



ASSEMBLY HARDWARE



G*GRASS®

ASSEMBLY HARDWARE

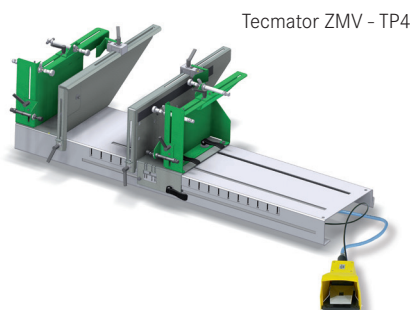
Installation and assembly hardware for professional efficiency.



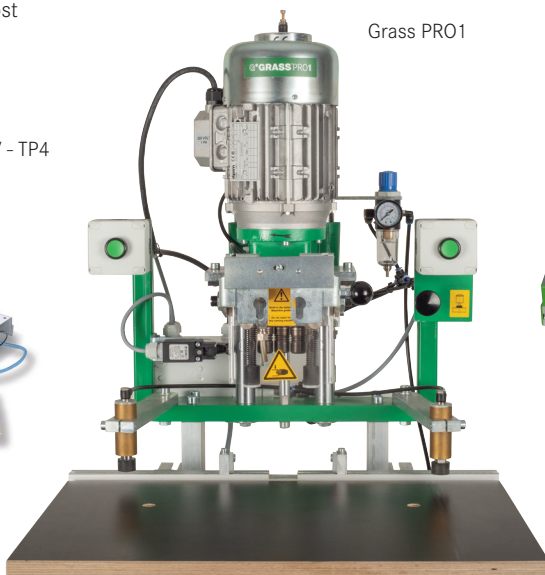


Installation and assembly aids for all product families -
designed to suit our customer's needs.

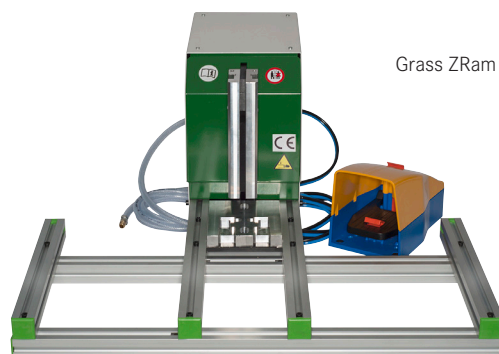
Whether you want to insert a hinge or assemble
a drawer - Grass machinery offers the most
economical solution.



Tecmator ZMV - TP4

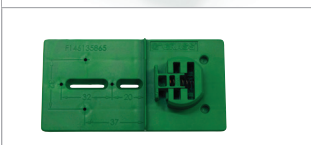
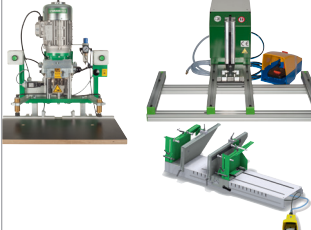


Grass PRO1



Grass ZRam

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	Rear Anti-Tip System - Prevents multiple drawers from opening at once, in compliance with the STURDY Act - Compatible with all common slide types, including soft-close and drawers without slides	22

Soft-close for doors



- Works for face frame cabinets on all door overlays
- Works for frameless cabinets on full overlay doors
- Brushed nickel look blends in well with hinge finish
- Non-handed with a low profile design
- Manually adjustable to desired closing speed
- Mounts independently from the hinge in the upper corner of the cabinet
- Instantly allows the cabinet door to close quietly and smoothly
- Scratch protector and front bumper with cushion for a quiet close

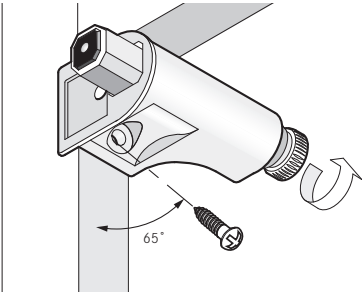
Unisoft Adapter



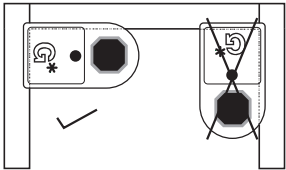
Description	Material	Item No.	PU
Unisoft, Polybag	Plastic, nickel	18971-37	1
Unisoft, Polybag Bulk	Plastic, nickel	18971-40	25
Unisoft, Bulk	Plastic, nickel	18971-14	250

Includes #6 x 3/4 Pan head screw

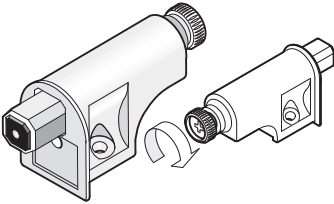
Installation Mounting Position Adjustment



Use a 65° angle for best base results. Pilot drill 2.3mm (Ø3/32") and 1/4" deep for a #6 x 3/4" Pan head screw recommended. Mount in upper corner on hinge side.

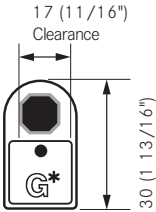
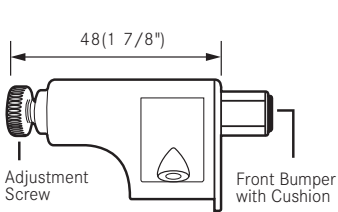


IMPORTANT The installation of our cabinetry hardware must comply with the Grass instructions that are stated on this catalog page.



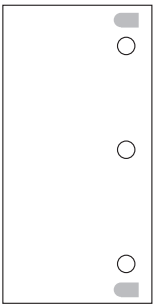
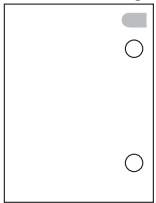
Turn adjustment screw to move damper in and out. Adjust in for heavier doors or out for light doors. Use Phillips or Pozidrive screwdriver or adjust manually.

Dimensions UniSoft per Door



Use one UniSoft for most applications. For heavier doors use two or more. Trial mount recommended.

UniSoft Hinges



PU - Packaging unit

For handle-free wooden doors

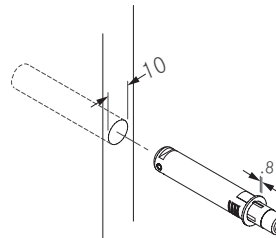


- Gently tapping the front causes the doors to open to a convenient angle
- Use with Tiomos Tipmatic Plus or with Nexis and Tiomos free-swinging hinges
- Large magnet catch range – holds door closed securely
- Gap adjustment from 2.5 to 5.5mm with integrated, self-locking and tool-free depth adjustment feature
- Mount on the front side of the cabinet or with an adapter plate

Tipmatic Pin



- Incl. Tipmatic mechanism:
 - Stick on strike plate
 - Screw on strike plate
- Hole drilled from the front
- Plastic RAL 7036, platinum grey



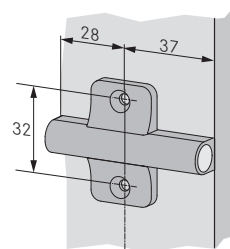
For Drilling

Item No.	PU
F069149391513	25

Adapter Plate for Line Boring



- Suitable for line boring 28 and 37mm
- Attach with Euro screws (6.3 x 13.5)
- Plastic RAL 7035, light grey



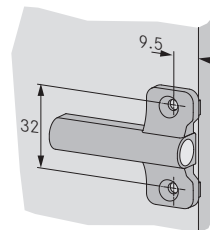
For Euro Screws

Item No.	PU
F069063310213	25

Face Frame or Standard Adapter Plate



- Quick upgrade installation
- Attach with wood screws (3.5 x 13)
- Plastic RAL 7035, light grey



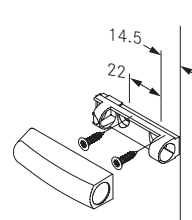
For Wood Screws

Item No.	PU
F069073697213	25

Linear Adapter Plate



- Design solution – also suitable for inset door applications
- Attach with wood screws (3.5 x 13)
- Plastic RAL 7035, light grey

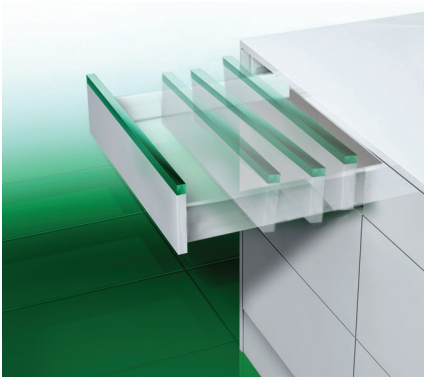


For Wood Screws

Item No.	PU
F069149398523	25

Soft-close Damper

Zargen



- Add-on damper creates a smooth soft-close action for Zargen drawers
- Liquid closing mechanism for improved performance
- Three options for various load capacities
- Height adjustment $\pm 2\text{mm}$ via elongated hole
- Secure striker plate engagement
- Actuator design allows for flush mounting
- Set includes: damper and actuator unit

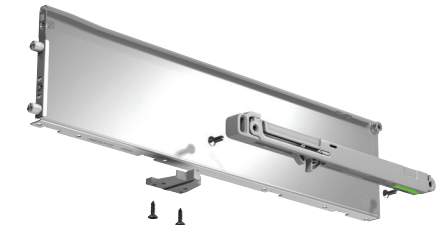
Soft-close Damper



Description	Load Capacity	Item No.	PU
15 kg Damper set	33 lb	02564-11	140
30 kg Damper set	66 lb	02572-11	140
70 kg Damper set	154 lb	02565-11	140

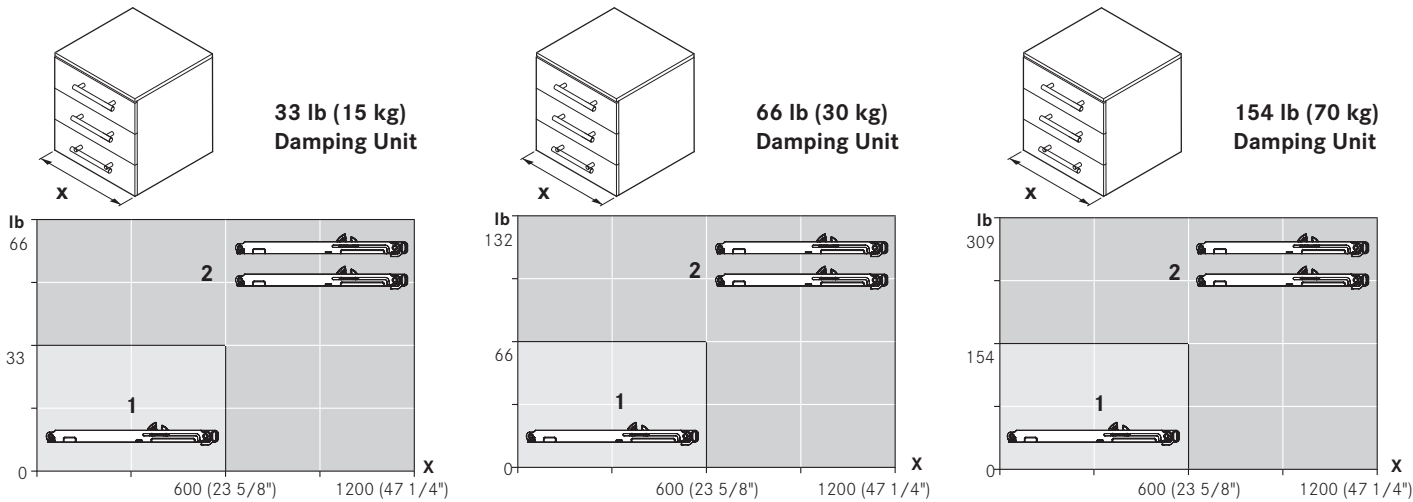
Note: Damper sets do not include screws.

Zargen with Soft-close



Note: Damper set does not include drawer components
For complete installation details, please see Zargen/ZBox catalog, pages 32-33

Dampers per Drawer

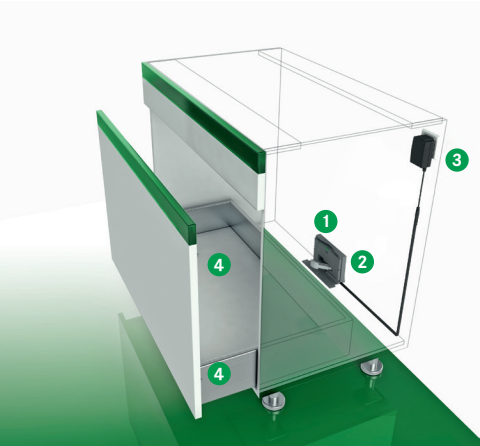


PU - Packaging unit

Sensomatic Opening System



For Dynapro, Vionaro, and Nova Pro Scala



Sensomatic, an electro-mechanical opening system with Soft-close, offers the advantages of handle free openings with the functionality of a soft-closing action. Sensomatic can be activated by a light touch on the surface of the drawer front. A simple installation process creates a drawer system that is steady, precise, and ingenious. Sensomatic, efficient regarding power consumption and occupied space, needs only one drive unit for cabinet widths up to 47 1/4" (1200mm) regardless of the weight. Accessories such as wire baskets, trash can receptacles, or roll-out trays can be fitted with the Sensomatic system without modification. Sensomatic offers drawer mounting options for a horizontal or vertical wooden stretcher, single drawer top mount, and waste bin kit for bottom mounting, as shown here.

More product information is available in individual Online Catalogs.

Sensomatic Kit



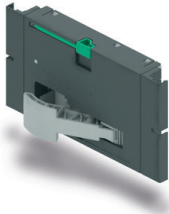
	Item No.	PU
Sensomatic Kit	F121100697201	1

PU = 1 set

Set contains:

- 1 - Opening unit
- 1 - Base frame
- 1 - Power supply unit
- 4 - Front bumpers
(front gap 2.2mm - F121100294223)

1



2



3



4



Accessories & Assembly Aids

Hinges and Lifters

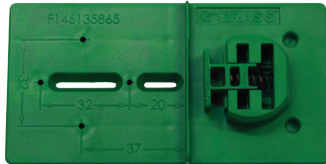
Cover Caps



Hole covers for 35mm cup drillings

Description	Item No.	PU
35mm cover cap, white	22227-42	100

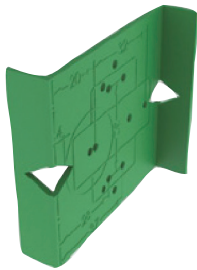
Tiemos Marking Jig



- Easy to use
- Cup distance 3-5mm
- Hinge cup positioning
- Straight base plate positioning
- Wing base plate positioning

Description	Item No.	PU
Tiemos marking jig	F146135865202	1

Tiemos Marking Template



Easy marking and pre-drilling for:

- 45mm pattern hinges
- Wing base plates
- Straight base plates

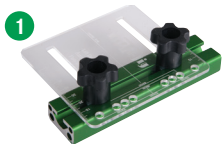
Description	Item No.	PU
Tiemos marking template	F146135787217	1

Hand Insertion Tool for TEC



Description	Item No.	PU
TEC Hand insertion tool	03987-01	1

Kinvaro Installation Templates



Drilling templates for the Kinvaro Lifter System. Each lifter has an individual template for easy installation. Order each drill jig with appropriate bit.

Example: Kinvaro F-20 order:

- 1** 1 - Kinvaro Door Template Drill Jig
- 2a** 1 - 5mm or 9/16" drill bit
- 2b** 1 - Kinvaro F-20 Drill Jig

Description	Item No.	PU
1 Kinvaro Door Template Drill Jig	00495-01	1
2a Kinvaro 5mm drill bit	00496-01	1
2b Kinvaro 9/64" drill bit	00497-01	1

Description	Item No.	PU
A Kinvaro L-80 Drill Jig	00490-01	1
B Kinvaro F-20 Drill Jig	00491-01	1
C Kinvaro T-65 Drill Jig	00492-01	1
D Kinvaro T-71/T-76 Drill Jig	00493-01	1
E Kinvaro T-57 Drill Jig	00494-01	1

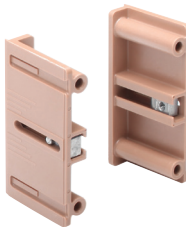
PU - Packaging unit

Drawers

Inset Bracket Set

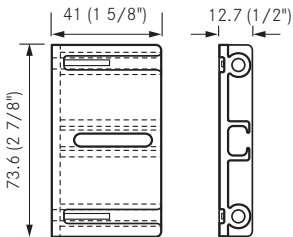


- For face frame inset applications
- Bracket mounts behind the face frame, minimum 12.7mm (1/2") frame offset required
- Slides attach easily with one screw
- Includes guide markings for proper setback



Description	Item No.	PU
Inset bracket set	13901-37	1
Inset bracket set	13901-08	50

- Polybag set consists of:**
- 2 - Universal Inset Bracket ABS Brown
 - 2 - 8 X 32 Tapped Insert for Inset bracket
 - 4 - #7 X 2" Mounting Screws
 - 2 - #8 - 32 X 1/2" Machine Screw FHP
 - 1 - Instructions



Interior Drawer Bracket

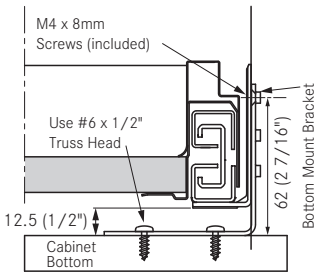


- Used to mount slides to a cabinet bottom or shelf for interior roll out trays
- Works with Dynapro, Elite Plus, and Nova Pro Scala drawer slides

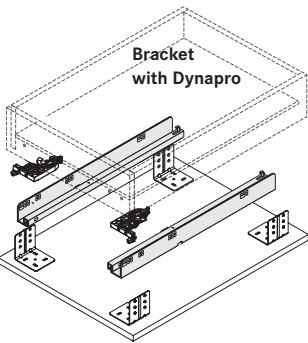
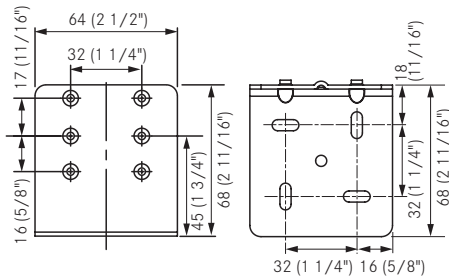
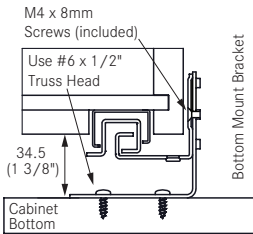
Description	Item No.	PU
Interior drawer bracket, set	00443-40	25

- Set consists of:**
- 4 - non-handed, zinc plated, steel brackets
 - 8 - M4 screws to attach slides to brackets
 - 8 - #8 x 5/8" PHP screws to mount brackets to cabinet

Nova Pro Scala



Dynapro



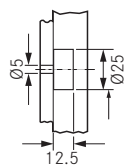
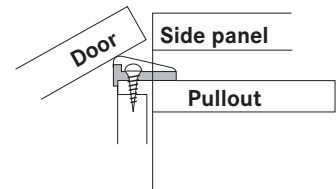
Drawers

	Description	Item No.	PU
①	6195 Spacer, 25mm	F145086478 111	20
②	6195 Spacer, 11mm	89104-39	20
③	6195 Spacer/pin, 25mm	13097-39	20

Technical drawing of a 3D-printed part. The drawing shows a side view of a rectangular block with a central rectangular cutout. The overall height is 46 (1 13/16"). The height of the central cutout is 20 (13/16"). The height of the top and bottom flanges is 25 (1"). The width of the part is 32 (1 1/4"). The diameter of the three circular holes is 6 (1/4"). The drawing also shows a top view of the part, which is a rectangle with a width of 25 (1") and a height of 5 (3/16"). The overall width of the part is 20 (13/16").

Technical drawing of a 1/2" x 1" x 1/2" plate. The front view (left) shows a rectangular plate with overall dimensions 20 (13/16") in width and 50 (2") in height. It features three circular holes: two small holes at the top with a diameter of Ø6 (1/4") and a larger central hole with a diameter of Ø4 (5/32"). The vertical spacing between the hole centers is 18 (11/16") from the top edge to the first small hole, and 32 (1 1/4") from the first small hole to the center of the large hole. The bottom edge has a width of Ø5 and a central feature with a diameter of Ø2.5. The side view (right) shows the plate's profile with a total height of 50 (2") and a base width of 25 (1"). A fillet is shown at the top corner, and a small rectangular feature is visible on the side face.

Description	Item No.		PU
Door/drawer protector	13096-43	white	500



Description	Item No.	PU
Plastic, black	13119-12	200

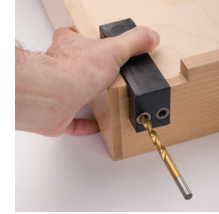
Includes 4 x 22mm screw

Drawers

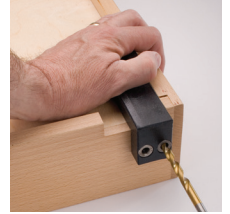
Drilling Template for Drawer Back



- Use to precisely bore holes in the drawer back
- Use with a standard 1/4" (6mm) drill bit and stop collar
- For use with Grass undermount slides



Left Side Drilling



Right Side Drilling

Description	Item No.	PU
Drilling template	02511-01	1

Cabinet Member Drilling Template



- Use to precisely bore holes in the cabinet member
- Color coded by product line:
Black - Dynapro
Blue - Dynanaeo*
Green - Nova Pro

Description	Item No.	PU
1 Drilling template - Cabinet member	F146134452507	1

*Dynanaeo not currently offered by Grass America

Assembly Aids



The non-flanged FLD drilling jig is used for mounting non-flange front locking devices to the drawer box for Dynapro, Elite Plus, and Maxcess.

The GRASS centering drill bit is used for pre-drilling countersink wood screws, Ø 2.5mm.

Description	Item No.	PU
1 Non-flanged FLD Drilling Jig	00004	1
2 Centering drill bit	35692-01	1



Drill Bits for Aluminum Front Pull Outs



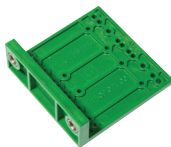
Description	Item No.	PU
Drill bit, 3mm, RH, for Vionaro	00156-01	1
Drill bit, 8mm, RH, for Vionaro	00158-01	1

Assembly Aids

Dynapro and Vionaro

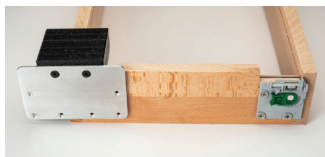
Dynapro Assembly Aids

1



Drawer Drilling Template for drilling front locking devices, drawer hole hook, or adjustment adapters.

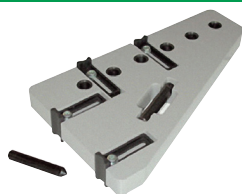
2



The Dynapro rear tilt adapter jigs are designed for locating the position of the tilt adapter on the drawer box back. The jigs are available for 16mm and 19mm drawer material.

Description	Item No.	PU
1 Drilling template - Drawer	F146133145507	1
2 Dynapro Rear Tilt Adapter Drilling Jig 16mm	00005	1
Dynapro Rear Tilt Adapter Drilling Jig 19mm	00006	1

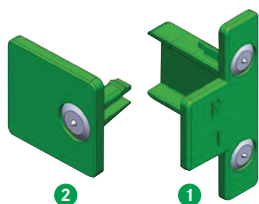
Drilling Jig



Front drilling jig for Vionaro front adapter

Description	Item No.	PU
Drilling jig	F146100562201	1

Marking Jig



For exact marking of the drilled holes for the Vionaro front adapter.

Set contains:

- 1 1 - marking jig for front connector
- 2 1 - marking jig for front stabilizer

Description	Item No.	PU
Marking jig	F146100545513	1

Punching Tool for Vionaro Front Stabilizer



Description	Item No.	PU
Front stabilizer punching tool	F146116216299	1

Front Adapter Tool for Vionaro



Description	Item No.	PU
Vionaro front adapter tool	F146116213299	1

Punching Tool for Vionaro Bottom Spike



Description	Item No.	PU
Bottom spike punching tool	F146116217299	1

PU - Packaging unit

Nova Pro Scala

Marking Jig Set



For exact marking of the drill holes for the Nova Pro Scala front brackets.

Description	Item No.	PU
Nova Pro Scala H63	F146094036513	1
Nova Pro Scala H90	F146092050513	1
Nova Pro Scala H186/H250	F146101908513	1

Front Drilling Jig



Front drilling jig for Nova Pro Scala front fastening, railing and add-on systems:

- Can be used for drilling drawer sides of all heights
- High-quality aluminum construction

Description	Item No.	PU
Front Drilling Jig	F146130983201	1

Punch-In Tool for Front Brackets



Position and install the front brackets for the Nova Pro Scala H63, H90, and H186.

Description	Item No.	PU
Nova Pro Scala H63	F146094035501	1
Nova Pro Scala H90/H186	F146091555501	1

Punch-In Tool for Front Clip



Position and install the front clip for Nova Pro Scala H186.

Description	Item No.	PU
Punch-in tool for front clip	F146102472101	1

Bottom Spike Punching Tool



- Position the punching tool on the bottom spike and punch in.
- Quick, Easy installation. The bottom spikes integrated into the drawer side ensure secure attachment between the drawer side and the bottom panel.

Description	Item No.	PU
Bottom spike punching tool	F146130853101	1

Punch-In Tool for Front-Bottom Connector



Position and install the front-bottom connector.

Description	Item No.	PU
Punch-in tool for front-bottom connector	F146083271101	1

Shelf Supports and Bumpers

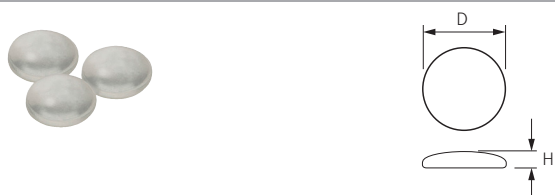
Shelf Supports



Description	Item No.	PU
1 Shelf support 7006/9.5, nickel	F069073460 253	2500
2 H-802 plastic, square, clear	00036-43	500

Bumper Pads

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	2.5mm	10mm	63407-99	288
Bumper pad, clear	2.5mm	10mm	63407-47	7200

AirSoft Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
AirSoft bumper pad, clear	5mm	12.7mm	63481-43	500
AirSoft bumper pad, clear	5mm	12.7mm	63483-30	5000

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	4mm	12mm	630.000.02.1250	5000

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	3mm	12.7mm	31002-43	500
Bumper pad, clear	1.5mm	12.7mm	31004-43	500

Door Stop

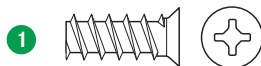


Description	Item No.	PU
H-950 door stop, clear	00068-43	500

PU - Packaging unit

Screws and Dowels

Euro Screw, Nickel-plated



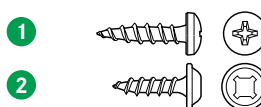
Description	Item No.	PU
1 13mm Euro Screw (1/2")	81015-43	500
18mm Euro Screw (11/16")	83000-43	500
7.5mm Euro Screw (5/16")	83001-43	500
2 Euro Screw 11mm (7/16") Pozi	499.360.61.1015	500
Euro Screw 13mm (1/2") Pozi	499.360.61.3015	500

Wood Screw, Nickel-plated



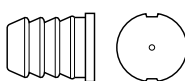
Description	Item No.	PU
#6 x 1/2" FHP, NI	81014-43	500
#6 x 5/8" FHP, NI	81001-43	500
#6 x 3/4" FHP, NI	81003-43	500
#6 x 1" FHP, NI	81004-43	500

Wood Screw, Nickel-plated



Description	Item No.	PU
1 #10 x 3/4" PHP	81007-43	500
2 #8 x 5/8" Quad Round	81017-43	500

Dowels, Plastic



Description		Item No.	PU
Dowel, TEC Hinge	8mm	00102-43	500
Spax screw for TEC Hinge Dowel		02445-43	500
Dowel, Nexis	8mm	F069073390 256	500
Dowel, Tiomos	8mm	F072135773 247	1000
Dowel, VZ Hinge Cup	8mm	04885-43	500
Dowel, Zargen / ZBox	10mm	05853-42	100
Dowel and screw set Zargen	10mm	12768-37	1
Dowel, base plate	10mm	05404-43	500
Dowel, pilaster dowel	8mm x 16mm	00395-43	500

Pozidrive Screwdriver



#2 Pozidrive screwdriver for hinges

Description	Item No.	PU
Pozidrive screwdriver	98000-01	1
Pozidrive screwdriver	98000-08	50

PU - Packaging unit

Machinery

Grass PRO1 drilling and insertion machine for 45mm boring pattern

Grass PRO1 for Hinge Drilling



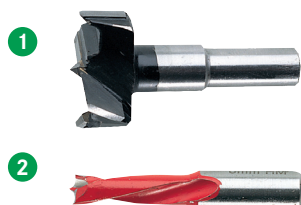
- Depth stop can be adjusted to material thickness
- Functional design
- Easy, fast and efficient operation
- Easy maintenance
- 45mm boring pattern

Description	Item No.	PU
220v single phase pneumatic	94559-01	1
220v three phase pneumatic	94560-01	1
110v single phase pneumatic	94561-01	1



Description	Item No.	PU
Extension fence 300mm to 1550mm	88612-01	1

Drill Bits

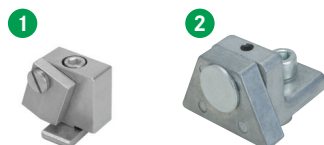


Description	Direction	Item No.	PU
1 35mm bit	RH	00077-01	1
2 8mm bit	LH	00160-01	1
American Bit Set for Hinge Drilling		00213-01	1

Set consists of:

- 1 - 35mm bit, RH
- 2 - 8mm bit, LH

Fence Stops



Description	Item No.	PU
1 Additional fence stop	949.200.21.0000	1
2 Additional fence stop, large	949.200.21.0100	1

Insertion Dies



Description	Item No.	PU
1 Tiomos Universal Insertion Die 110°/120°/160°	80039	1
2 TEC Insertion Die	92617	1
3 Nexis Insertion Die 110°/125°	04216-01	1
4 Nexis Insertion Die 170°	04218-01	1

PU - Packaging unit

Grass PRO1 and ZRam for ZBox and Zargen Assembly

Grass PRO1 for ZBox and Zargen

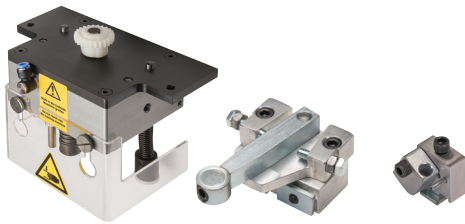


- Depth stop can be adjusted to material thickness
- Functional design
- Easy, fast and efficient operation
- Easy maintenance
- 3 spindle gear box

Description	Item No.	PU
220v single phase pneumatic	80131	1
220v three phase pneumatic	80132	1
110v single phase pneumatic	80068	1

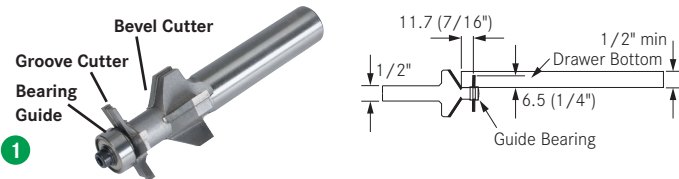
Note: Machine Item Numbers above include the three items in PRO1 Kit #80154

ZBox and Zargen Conversion Kit



Description	Item No.	PU
1 PRO1 Gear box	80151	1
2 PRO1 Side-to-side Stop	80153	1
3 PRO1 13mm Fence Stop	80152	1
PRO1 Kit (gear box, fence and side stops)	80154	1
4 Extension fence 300mm to 1550mm	88612-01	1

Bits



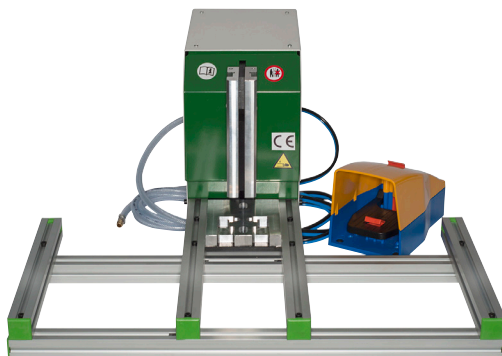
This bit is designed for grooving and beveling the drawer bottoms for the lipped version of the ZBox and Zargen drawer slide. The bit comes only with a 1/2" shank.

Description	Item No.	PU
1 Router bit	00197-01	1

Two 00222-01 bits are needed for the Zargen and ZBox Grass PRO1 setup.

Description	Item No.	PU
2 10mm Carbide counter sink drill bit, LH	00222-01	1

ZRam



- Designed for semi-automated assembly of ZBox and Zargen slides
- Operated by a foot pedal – air required
- No adjustment required when using various heights or when switching slide types
- Economical solution for drawer assembly

Description	Item No.	PU
ZRam	93250-01	1
ZRam Retrofit Kit	69401	1

PU - Packaging unit

Machinery & Assembly Aids

Grass PRO1 and Tecmator for Vionaro

Grass PRO1 for Vionaro



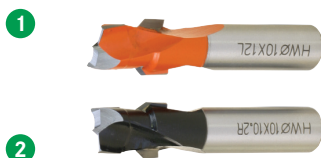
- Depth stop can be adjusted to material thickness
- Functional design
- Easy, fast and efficient operation
- Easy maintenance
- 3 spindle gear box

Description	Item No.	PU
220v single phase pneumatic	80063	1
220v three phase pneumatic	80064	1
110v single phase pneumatic	80065	1



Description	Item No.	PU
Extension fence 300mm to 1550mm	88612-01	1

Drill Bits



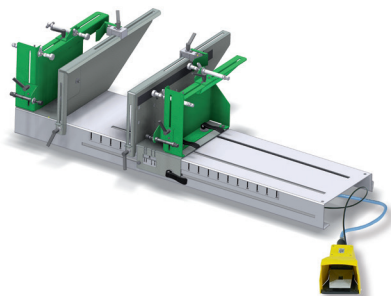
Description	Direction	Item No.	PU
1 10mm Carbide counter sink bit	LH	00222-01	1
2 10mm Carbide counter sink bit	RH	00229-01	1

Insertion Die



Description	Item No.	PU
Vionaro insertion die	30683-01	1

Tecmator ZMV - TP4



Note: Product lead time approximately 14 weeks

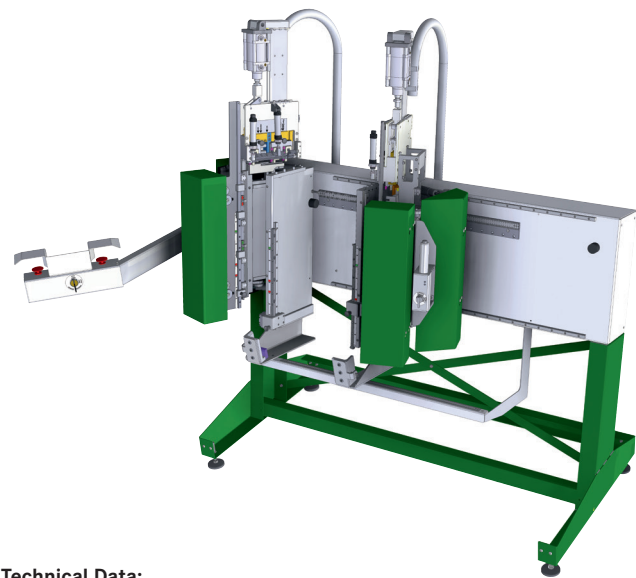
- Pneumatic table-top device for Vionaro
- The ZMV-TP can be used to assemble drawers for external cabinet widths of up to 1200mm
- Easy and straightforward handling
- Sturdy construction
- For small series production
- Pneumatic control system
- High performance

Description	Item No.	PU
Tecmator ZMV-TP4	F146108668 201	1

PU - Packaging unit

Tecmator for Nova Pro Scala

Tecmator ZP-N-E2



Technical Data:

- Pneumatic Connections: min 6 bar to max 10 bar
- Dimensions: 2.45m W x 1.0m D x 2.2m H
(96 7/16" W x 39 3/8" D x 86 5/8" H)
- Weight: 220 kg (485 lbs)

Machine Application:

- Suitable for assembling all Nova Pro Scala drawers heights – without having to change the press-in brackets
- Suitable for assembling wooden back panels
- Can be used to assemble wooden back panels with Nova Pro Scala H250 (3 dowels)
- For drawer widths up to 1200mm

Features:

- Nova Pro Scala drawers can be assembled in 10 seconds
- Easy handling of parts on the machine
- Sturdy frame construction
- Flexible adjustment of the drawer width using the wooden back panel template (as standard or can also be retrofitted)
- The width is easily adjustable using pneumatic clamping
- Fast operating sequences

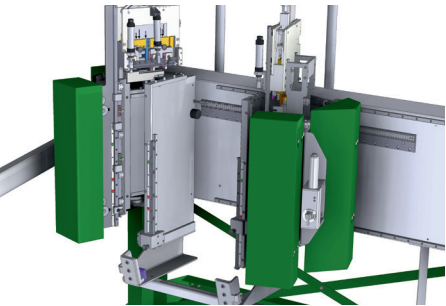
Standard Equipment:

- Bottom claw pressing for all nominal lengths
- Stop set for cabinet width 250 – 1200 (50 mm increments)
- Stops for wooden back panel heights

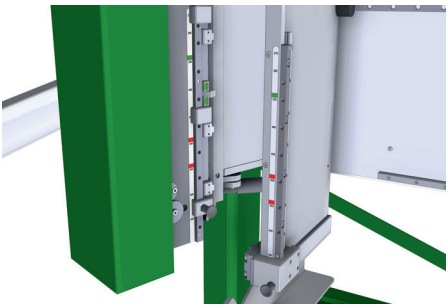
Description	Item No.	PU
Tecmator ZP-N-E2, type 1.2 m	F146131003299	1

Note: Product lead time approximately 14 weeks

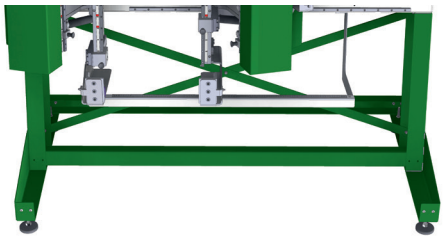
Tecmator Features



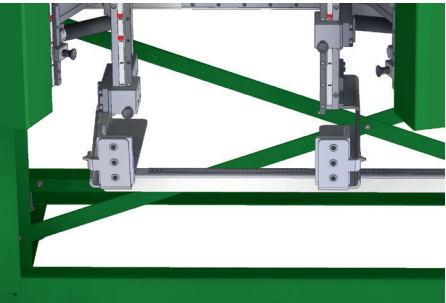
Easy width adjustment due to pneumatic clamping



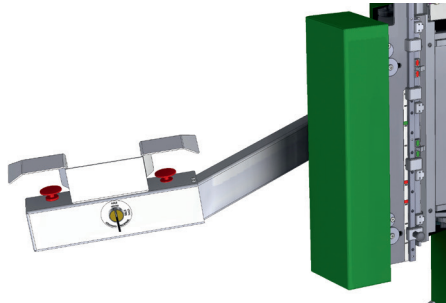
The individual components of the machine can be easily handled



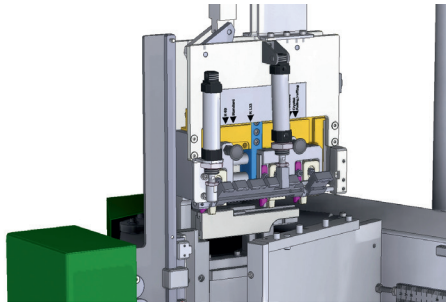
The frame structure ensures excellent stability



Customized cabinet width settings possible via the wooden back panel



Maximum safety based on two-handed switching

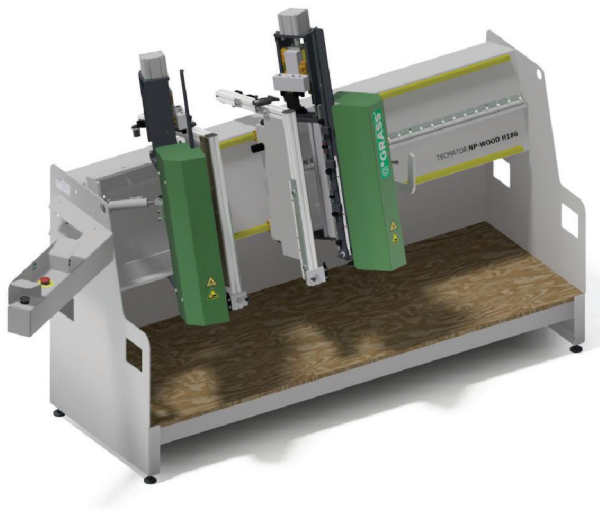


Press aggregate for wooden back panels up to 250mm with up to 3 dowels per side

PU – Packaging unit

Tecmator for Nova Pro Scala H186

Tecmator ZP-N-Wood H186



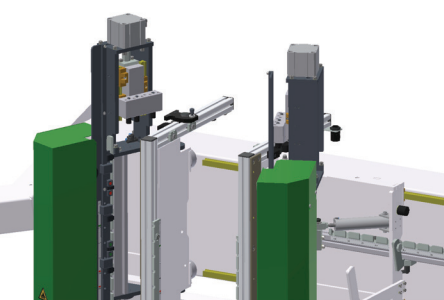
- Machine Application:**
- For Nova Pro Scala drawers with wooden backs
 - Assembles side heights up to 186mm
 - For cabinet widths 250mm -1200mm
- Features:**
- Easy and fast drawer assembly
 - Easy handling of parts on the machine
 - Sturdy frame construction
 - Suitable for rapid production
 - Flexible setting of the drawer width with a wooden back panel gauge
 - Easy width adjustment
- Standard Equipment:**
- Bottom claw pressing for all nominal lengths
 - Stop set for cabinet width 250 -1200 (50 mm increments)
 - Stops for the wooden back panel depth

- Technical Data:**
- Pneumatic Connections: min 6 bar to max 8 bar
 - Dimensions: 2.65m W x .92m D x 2.3m H
(104 5/16" W x 36 1/4" D x 90 9/16" H)
 - Weight: 249 kg (549 lbs)

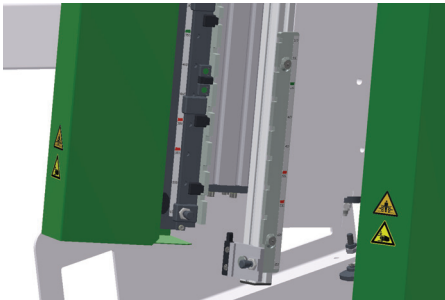
Description	Item No.	PU
Tecmator ZP-N-Wood H186	F146132089299	1

Note: Product lead time approximately 14 weeks

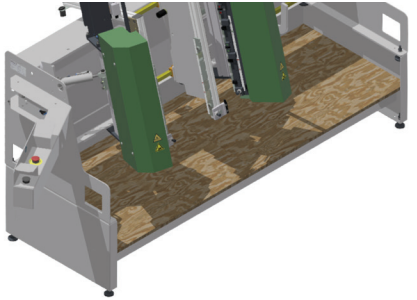
Tecmator Features



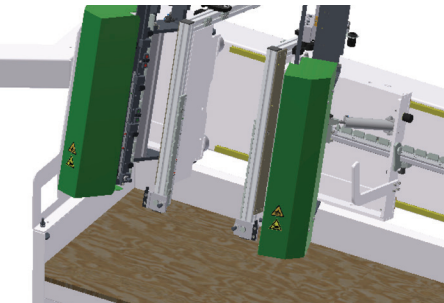
Simple width adjustment with defined grid and flexible clamping lever



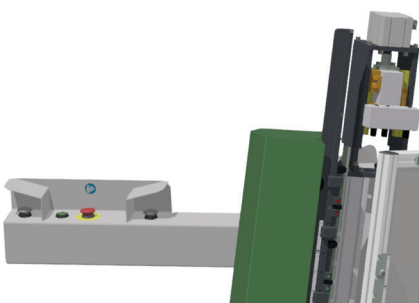
Machine stops can be easily set



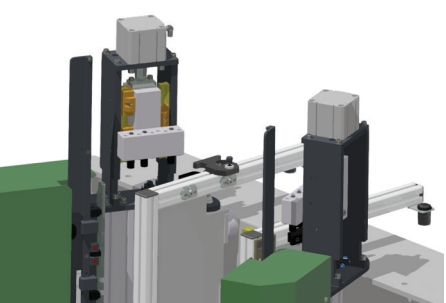
The frame structure ensures excellent stability



Customized cabinet width settings possible via the wooden back panel



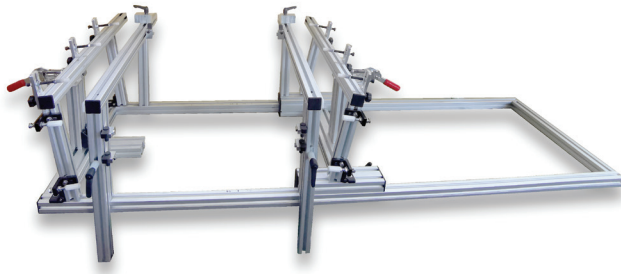
Maximum safety based on two-handed switching



Dowel press fitting for wooden back panels up to side height 186mm

PU - Packaging unit

ZMV-FIX H250



Machine Application:

- Tabletop drawer press suitable for pressing Grass double wall drawer systems including Nova Pro Scala
- For drawers with wooden back panels
- Drawer side heights of up to 250mm
- Variable drawer width up to 1200mm

Features:

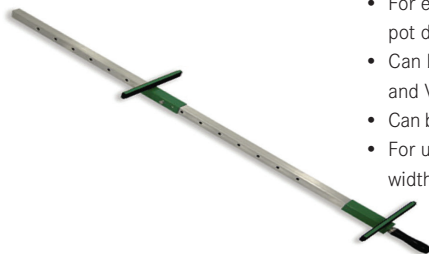
- Easy and straightforward handling of the individual parts on the machine
- Light frame construction 12 kg (26.5 lb)
- Suitable for individual production
- Flexible setting of the drawer width with a wooden back panel gauge (standard)
- Easy width adjustment

Standard Equipment:

- Flexible setting of the stops for the drawer depth
- Flexible setting of the stops for the wooden back panel heights
- Flexible setting of the drawer width with a wooden back panel gauge

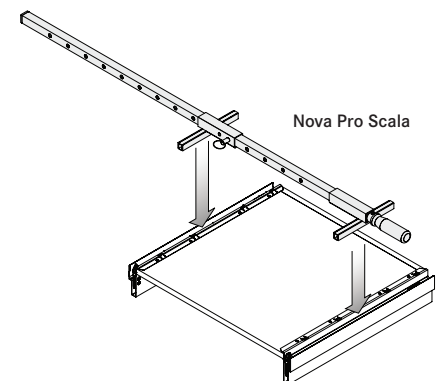
Description	Item No.	PU
ZMV-FIX H250	F146132388 201	1

Drawer Clamp



- For easy assembly of regular and pot drawers
- Can be used for Nova Pro and Vionaro
- Can be used for all drawer side heights
- For use with an outside cabinet width up to 1200mm (47 1/4")

Description	Item No.	PU
Drawer Clamp	F146108833 201	1



Insertion Die for Dowelled Front Brackets



- For use with Nova Pro Scala Front Brackets
- Works with Grass Ecopress machine

Description	Item No.	PU
Insertion Die for dowelled front brackets	94488-01	1

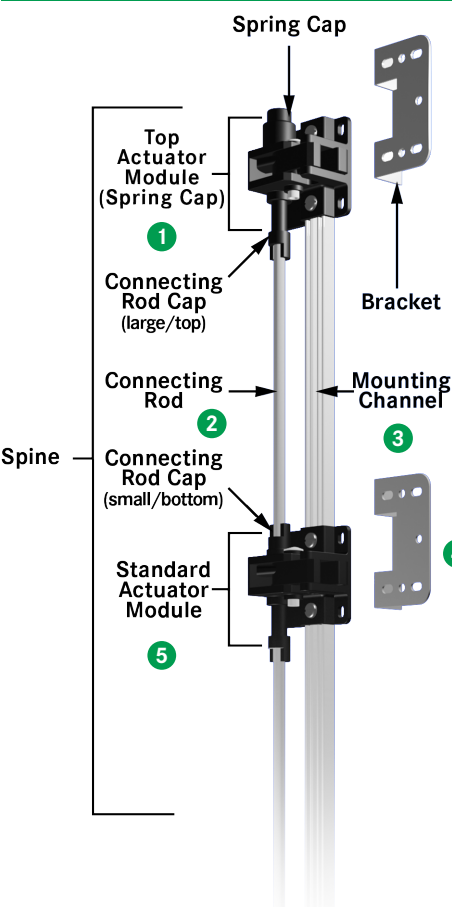
Rear Anti-Tip System

For all drawers



- Interconnected locking mechanism prevents multiple drawers from opening at once, in compliance with the STURDY Act
- Component kit provides unlimited mounting options for custom installation
- Compatible with all common slide types, including soft-close and drawers without slides
- Mounts in the gap between the drawer box and the carcass - 31.75mm (1 1/4") gap required
- Lightweight and durable materials
- Saves shipping costs over added counter-weight solutions
- Does not impact drawer extension or access
- Flexible installation during or after cabinet fabrication, with or without the aluminum spine
- Can be manually unlocked to remove drawers if needed
- Supports up to 50 lbs of pull force

Rear Anti-Tip System Kit

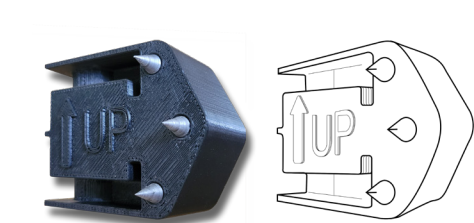


	Item No.	PU
2-Drawer Anti-Tip Kit	13144	20
3-Drawer Anti-Tip Kit	13145	20
4-Drawer Anti-Tip Kit	13146	20
5-Drawer Anti-Tip Kit	13147	20

- Kit contains:**
- 1 Top Actuator Module
 - 2 Connecting Rods
 - 3 Mounting Channel
 - 4 Brackets for each drawer
 - 5 Standard Actuator Modules (non-top drawers)

IMPORTANT Please note that Grass cannot accept any liability for damage or bodily harm resulting from unsuitable fastening, mounting, materials, or installation methods. Use of tip-over restraints may only reduce, but not eliminate, the risk of tip-over. Injury may result from tipping furniture. This restraint is not a substitute for proper adult supervision. Place heaviest items in the lowest drawers. Do not allow children to climb on furniture.

Anti-Tip System Rear Bracket Mounting Jig



	Item No.	PU
Anti-Tip System Rear Bracket Mounting Jig	13148	20

PU - Packaging unit



GRASS America Inc.
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Kernersville, NC 27284

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Fax: 1-800-525-8406

www.grassusa.com
info@grassusa.com





ROLLER SLIDE BALL BEARING



G*GRASS®

**ROLLER SLIDE SYSTEM
BALL BEARING SLIDE SYSTEM**

Standard slides and ball bearing slides offering a variety of top quality movement systems.





Roller slides: Tried-and-tested quality and functionality

Standard roller drawer slides for kitchen, commercial, and furniture applications.

Grass offers a variety of roller drawer slides to satisfy the needs of more traditional cabinetry applications. Ranging from a standard roller slide to a ball bearing slide, Grass can cover most applications with various load capacity ratings, all guaranteeing the highest quality product. Drawer slides from Grass are known for their self-closing action, premium quality, side stability, and a variety of sockets to meet your application needs.

Full program made in the USA.

Grass offers a selection of side mounted and bottom mounted slides made in the USA. The 6600 side mount slide and the 6610 bottom mount slide offer the parallel self-closing action and nylon rollers for a smooth gliding action. The double stop on the drawer member prevents the drawer from being overextended and allows the drawer to be locked in the open position. Both slides adapt to frame and frameless applications and offer extended lengths to accommodate face frame cabinet depth.

Features of the Grass roller slide and ball bearing program.

- Standard extension and full-extension ball bearing slides
- Wide variety of lengths
- For frame and frameless cabinetry
- Parallel closing with minimum gap
- Smooth ride with nylon rollers



Table of Content

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	6600 Roller Slide • Side mounted with bottom lip • Made in the USA	6
	6600 Extended Roller Slide • Accommodates face frame cabinetry • Made in the USA	6
	6610 Roller Slide • Bottom mounted • Made in the USA	8
	Ball Bearing Slides • Side mounted • Full extension	10
	Accessories and Assembly Aids • Assembly hardware • Screws and bumpers • Mounting aids	13

Features and Benefits

Roller Slides 6600 and 6610

Features



- Double stop
- 32mm system
- Support roller for uniform drawer front height
- Self-closing
- Variety of lengths
- Nylon rollers for smooth gliding action
- Bottom edge clearance for 6610 drawer member
- **Made in the USA**

60mm (2 5/8")
parallel self-closing action.

32mm system for
easy, accurate installation

Epoxy powder coated finish

Bottom mounting

Excellent slide stability

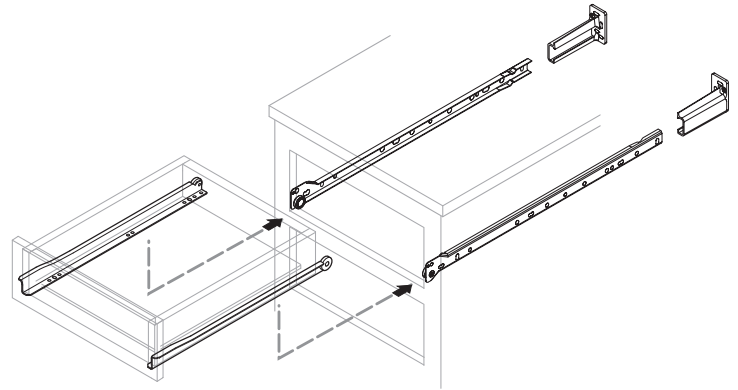
A wide variety of slides are available for face frame and frameless applications. Includes bottom mount and side mount.

Technical Information

Roller Slides 6600 and 6610

Features

- For drawer materials from 12.7mm (1/2") up to 19mm (3/4")
- For frameless or face frame cabinetry
- Use rear socket for face frame applications
- Side or bottom mounting available



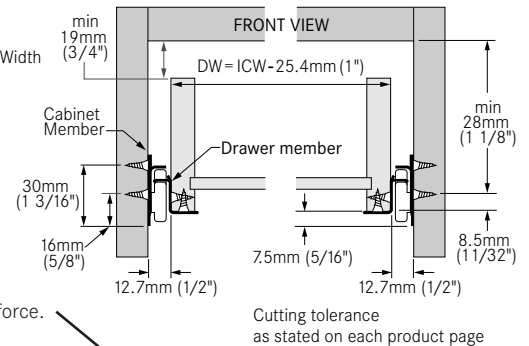
Captive Rollers

Manufacturing often is accompanied by tolerance problems.

To avoid this situation, Grass slides are designed to eliminate side movement of the drawer. After installation, the right drawer member blends perfectly with the right cabinet member for guidance; the left side allows for cutting tolerance of the drawer and the cabinet components.

TYPICAL INSTALLATION

DW = Drawer Width
ICW = Inside Cabinet Width



6610 Cabinet member

Nylon rollers

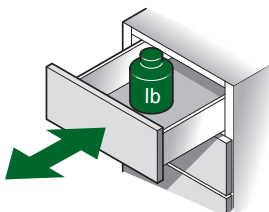
ensure the slide moves quietly, softly, and without force.

6610 Drawer member

Double stop

prevents the drawer from falling out while being extended and allows the drawer to be locked in the open position.

Weight Capacities Per Pair of Slides



Grass 6600: 75 lb dynamic load rating

Grass 6610: 75 lb dynamic load rating

Grass 6600 and 6610 Series Slides meet and exceed the minimum requirements of ANSI/BHMA A156.9 Standard, Grade 1

6600 Roller Slide - Standard and Extended Lengths

75 lb side mounted/bottom lip drawer slide



- Side mounted with bottom lip for easy location
- Higher side screws prevent drawer sides from splitting
- Features 86mm (3 3/8") self-closing action, stability washer behind captive roller
- Profiled to prevent contact with possible protruding screw heads
- Side clearance 12.7mm (1/2")
- Extended length accommodates face frame cabinet depth
- Features extended front to provide clearance for inset trays, no extra blocking required
- Ideal for 3/8" lipped drawer fronts
- Face frame screw hole centers at 3/8", can also be stapled
- **Made in the USA**

6600 Roller Slide, Standard and Extended Lengths, 75 lb

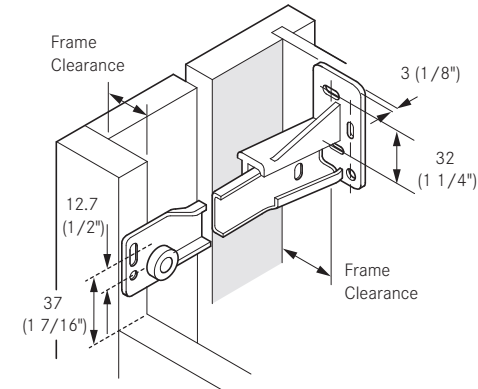


Description	Nominal Length	Color	Item No.	PU
Standard Length 6600/500, set	500 (20")	White	01505-05	20
Standard Length 6600/550, set	550 (22")	White	01507-05	20
Standard Length 6600/570, set	570 (22 1/2")	White	01510-05	20
Extended Length 6600/570, DML	570 (22 1/2")	White	01225-09	100
Extended Length 6600/570, DMR	570 (22 1/2")	White	01248-09	100
Extended Length 6600/582, CML	582 (23")	White	01376-09	100
Extended Length 6600/582, CMR	582 (23")	White	01415-09	100

Face Frame Socket

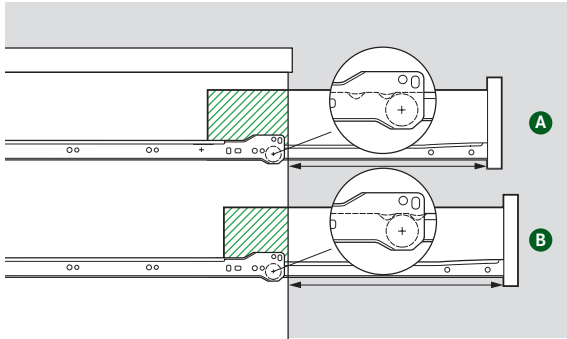


Description	Item No.	PU
6600 Socket, screw on, left	00693-17	500
6600 Socket, screw on, right	00694-17	500



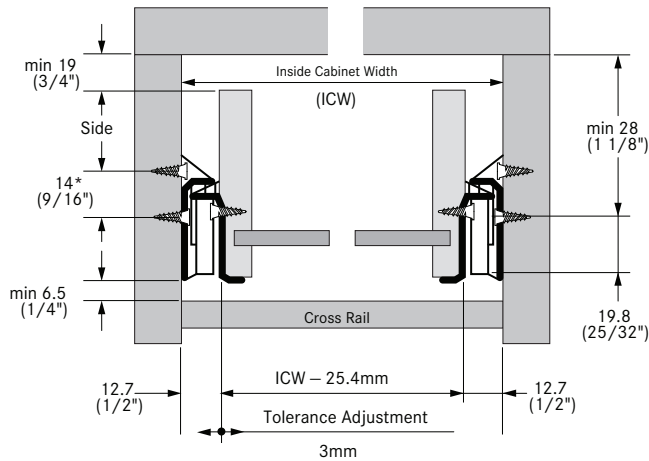
PU - Packaging unit

Drawer Extension



Slide Length	Single stop drawer extension (A)	Double stop drawer extension (B)
500 (20")	370 (14 9/16")	385 (15 3/16")
550 (22")	420 (16 9/16")	435 (17 1/8")
570 (22 1/2")	440 (17 5/16")	455 (17 15/16")

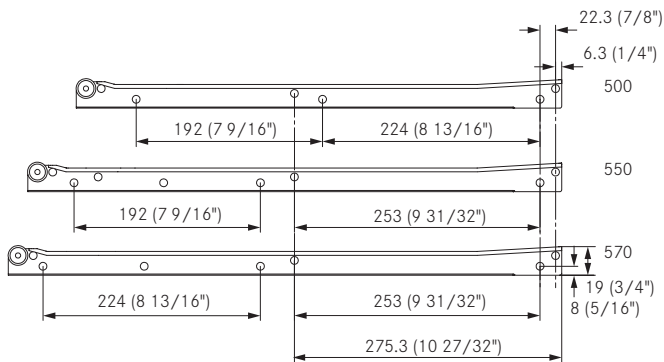
Drawer Installation Dimensions



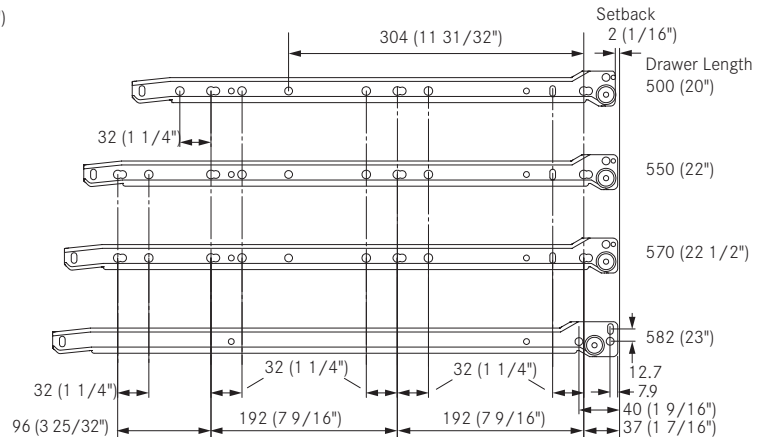
Manufacturing often is accompanied by tolerance problems. To avoid this situation, Grass slides are designed to eliminate side movement of the drawer. After installation, the right drawer member blends perfectly with the right cabinet member for guidance: the left side allows for cutting tolerance of the drawer and the cabinet components.

*For extended length (582mm), this dimension is 12.7mm (1/2")

Drawer Member Mounting Position



Cabinet Boring Specifications



6610 Roller Slide

75 lb bottom mounted drawer slide



- Bottom mounted with additional side mounting holes for convenience
- Features 60mm (2 5/8") parallel self-closing action
- Adapts to face frame or frameless construction
- Available in almond and white epoxy finish
- Side clearance 12.7mm (1/2")
- **Made in the USA**

6610 Roller Slide, 75 lb

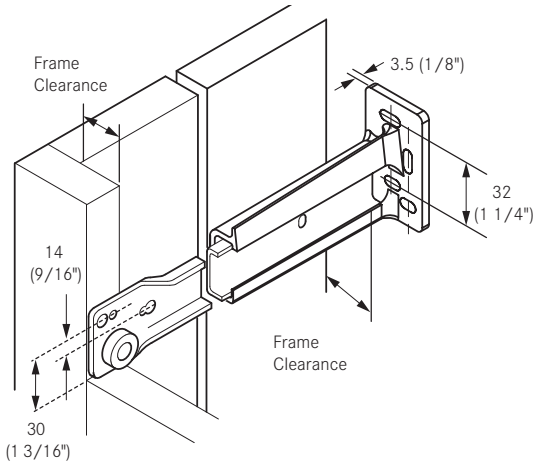


Description	Nominal Length	Color	Item No.	PU
Roller slide 6610/350	350 (14")	White	30750-05	20
Roller slide 6610/400	400 (16")	White	30751-05	20
Roller slide 6610/450	450 (18")	White	30752-05	20
Roller slide 6610/500	500 (20")	White	30753-05	20
Roller slide 6610/550	550 (22")	White	30754-05	20
Roller slide 6610/450	450 (18")	Almond	30757-05	20
Roller slide 6610/500	500 (20")	Almond	30758-05	20
Roller slide 6610/550	550 (22")	Almond	30759-05	20

Face Frame Socket

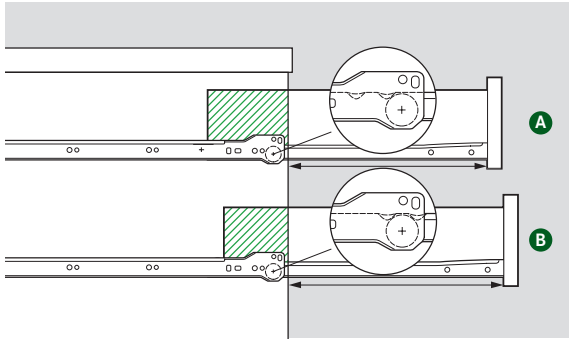


Description	Item No.	PU
6610 Socket, screw on, left	13156-17	500
6610 Socket, screw on, right	13157-17	500



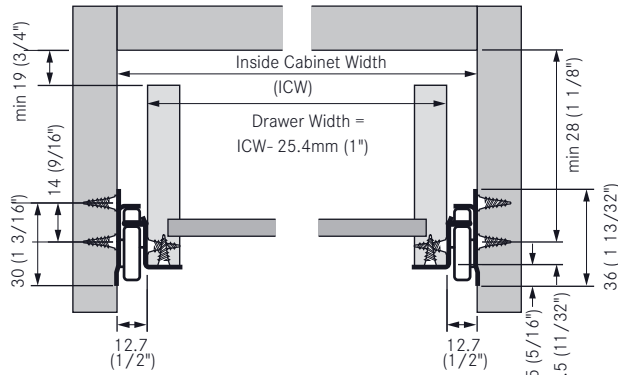
PU - Packaging unit

Drawer Extension

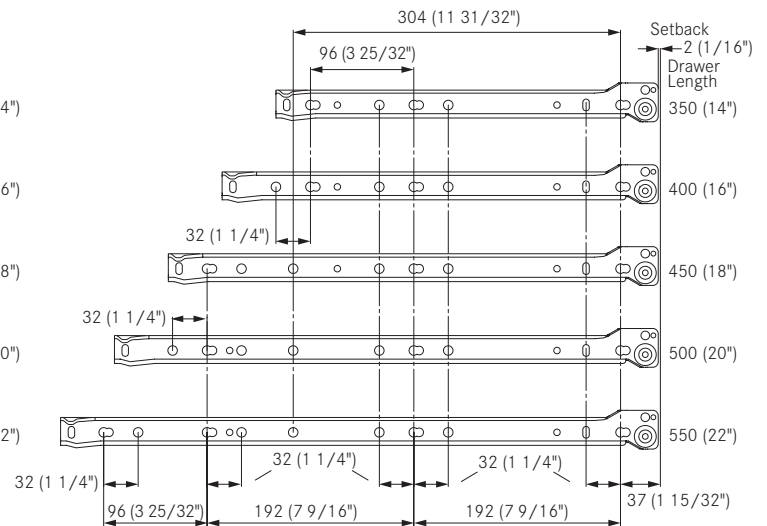
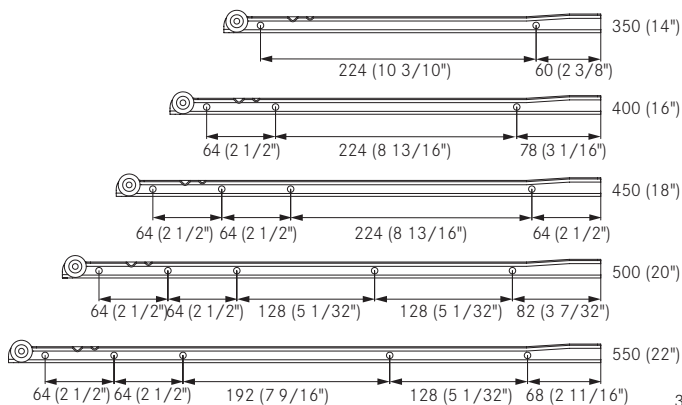
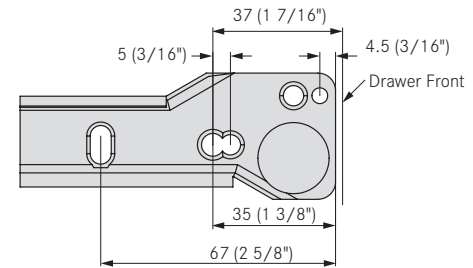


Slide Length	Single stop drawer extension (A)	Double stop drawer extension (B)
350 (14")	220 (8 11/16")	235 (9 1/4")
400 (16")	270 (10 5/8")	285 (11 1/4")
450 (18")	320 (12 5/8")	335 (13 3/16")
500 (20")	370 (14 9/16")	385 (15 3/16")
550 (22")	420 (16 9/16")	435 (17 1/8")

Drawer Installation Dimensions & Cabinet Boring Specifications



Manufacturing often is accompanied by tolerance problems. To avoid this situation, Grass slides are designed to eliminate side movement of the drawer. After installation, the right drawer member blends perfectly with the right cabinet member for guidance: the left side allows for cutting tolerance of the drawer and the cabinet components.



Ball Bearing Drawer Slide

100 lb full extension drawer slide



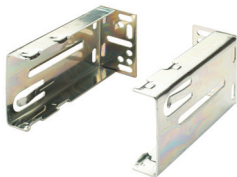
- Frameless or face frame application
- For drawer lengths 250mm (10") to 700mm (28")
- Full extension
- Manufactured from cold rolled steel
- 12.7mm (1/2") installation width
- Drawer member releases for easy installation
- 100 lb load rating

Ball Bearing Slide, 100 lb



Description	Nominal Length	Item No.	PU
Ball bearing slide 250	250 (10")	30180-04	10
Ball bearing slide 300	300 (12")	30181-04	10
Ball bearing slide 350	350 (14")	30182-04	10
Ball bearing slide 400	400 (16")	30183-04	10
Ball bearing slide 450	450 (18")	30184-04	10
Ball bearing slide 500	500 (20")	30185-04	10
Ball bearing slide 550	550 (22")	30186-04	10
Ball bearing slide 600	600 (24")	30187-04	10
Ball bearing slide 650	650 (26")	30188-04	10
Ball bearing slide 700	700 (28")	30189-04	10

Rear Mounting Brackets



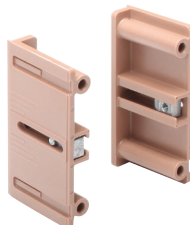
Description	Item No.	PU
Face frame rear bracket, 1 each left and right bracket	30200-09	100

Inset Bracket Set



For Ball Bearing face frame application, the inset bracket provides a simple solution to attach the cabinet member to the face frame without having to block out the cabinet.

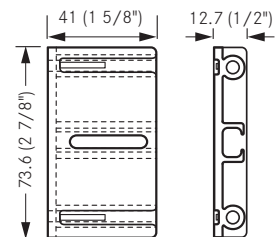
- Bracket mounts behind the face frame, minimum 12.7mm (1/2") frame required
- Includes guide markings for proper setback of 37mm



Description	Item No.	PU
Inset bracket set	13901-37	1
Inset bracket set	13901-08	50

Polybag set consists of:

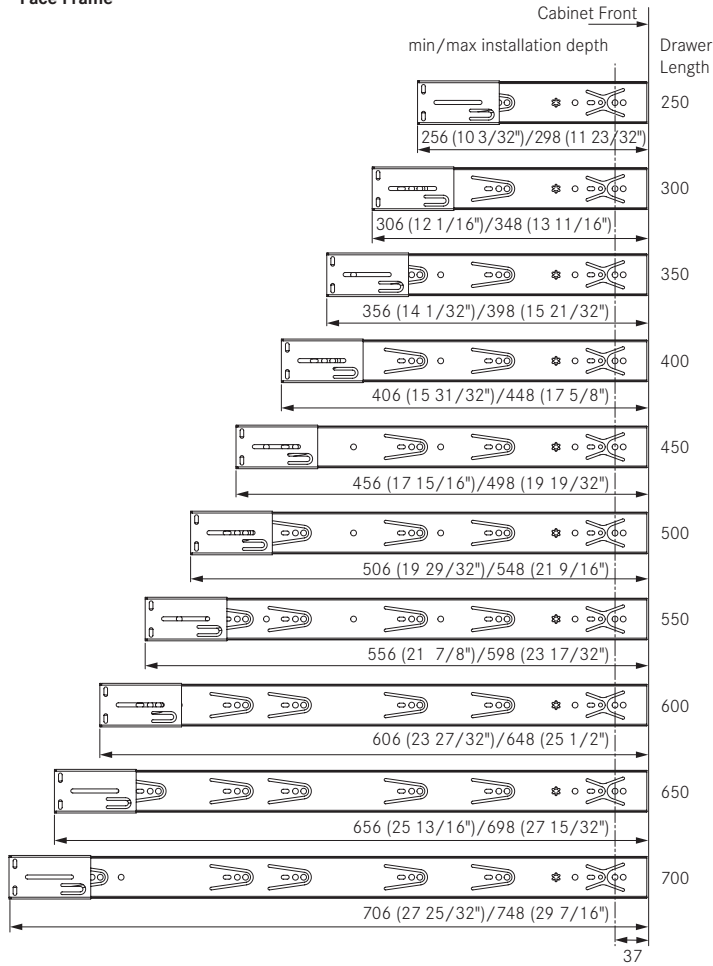
- 2 - Universal Inset Bracket ABS Brown
- 2 - 8 X 32 Tapped Insert for Inset bracket
- 4 - #7 X 2" mounting screws
- 2 - #8 - 32 X 1/2" Machine Screw FHP
- 1 - Instructions



PU - Packaging unit

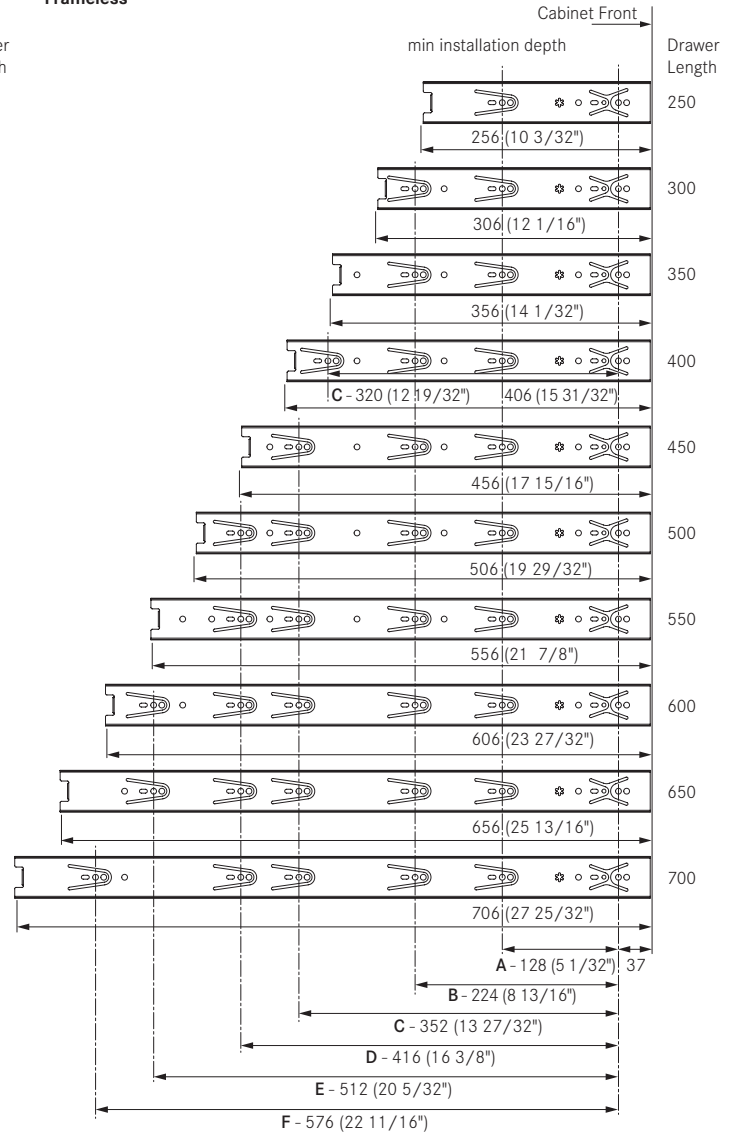
Cabinet Boring Specifications

Face Frame



Note: The recommendations for screw placement are guidelines only. Installers need to ensure that the cabinet wall is adequate.

Frameless



Drawer Length	Slide Travel	Screw Hole Locations						Face Frame		Frameless
		A	B	C	D	E	F	Min	Max	Min
250 (9 13/16")	250	128	-	-	-	-	-	256 (10 3/32")	298 (11 23/32")	256 (10 3/32")
300 (11 13/16")	300	128	224	-	-	-	-	306 (12 1/16")	348 (13 11/16")	306 (12 1/16")
350 (13 3/4")	350	128	224	-	-	-	-	356 (14 1/32")	398 (15 21/32")	356 (14 1/32")
400 (15 3/4")	400	128	224	320	-	-	-	406 (15 31/32")	448 (17 5/8")	406 (15 31/32")
450 (17 11/16")	450	128	224	352	-	-	-	456 (17 15/16")	498 (19 19/32")	456 (17 15/16")
500 (19 11/16")	500	128	224	352	416	-	-	506 (19 29/32")	548 (21 9/16")	506 (19 29/32")
550 (21 5/8")	550	128	224	352	416	-	-	556 (21 7/8")	598 (23 17/32")	556 (21 7/8")
600 (23 5/8")	600	128	224	352	416	512	-	606 (23 27/32")	648 (25 1/2")	606 (23 27/32")
650 (25 9/16")	650	128	224	352	416	512	-	656 (25 13/16")	698 (27 15/32")	656 (25 13/16")
700 (27 9/16")	700	128	224	352	416	-	576	706 (27 25/32")	748 (29 7/16")	706 (27 25/32")

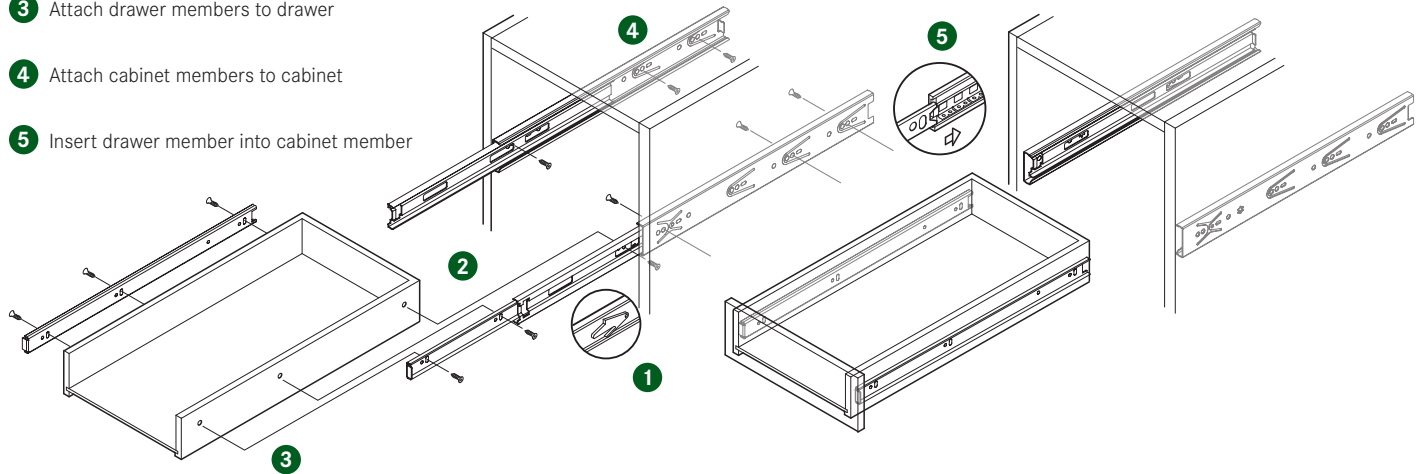
PU - Packaging unit

Ball Bearing Drawer Slide

100 lb full extension drawer slide

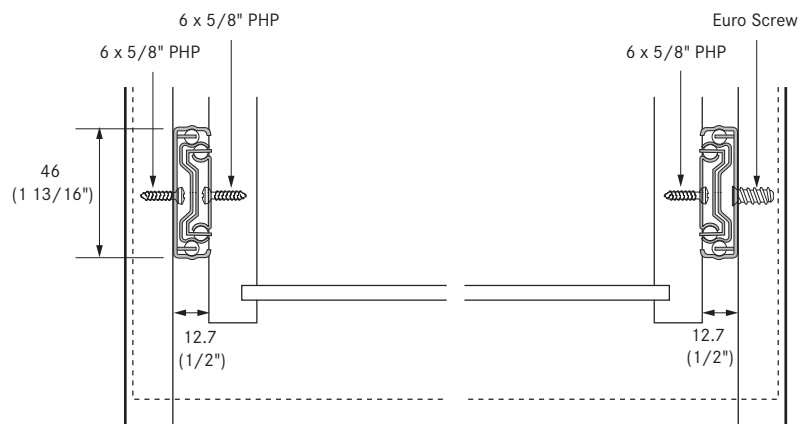
Installation

- 1 Dis-engage drawer members
- 2 Remove drawer members
- 3 Attach drawer members to drawer
- 4 Attach cabinet members to cabinet
- 5 Insert drawer member into cabinet member



Drawer Installation Dimensions

Pre-drilling recommended Ø2.5 mm (3/32")



Face Frame Installation

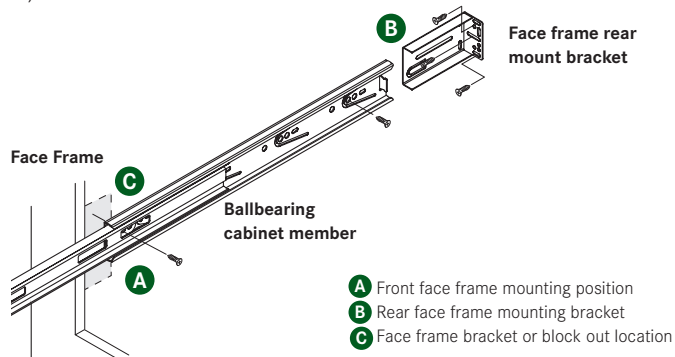
For Face Frame Cabinetry Use:

Back

- Attach face frame rear mounting brackets (Item # 30200-09) to slide

Front - Setback=37mm

- Use Inset bracket (Item # 13901-37) or
- Block out the face frame
- See page 10 for bracket installation instructions



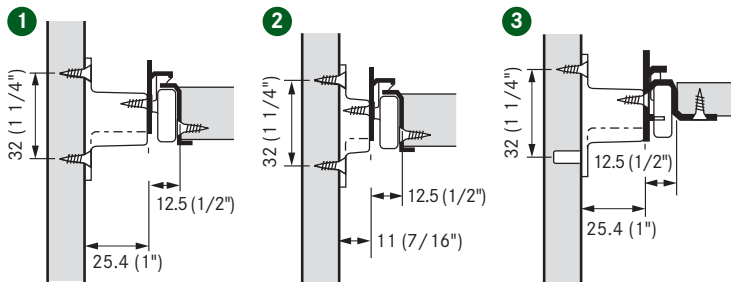
Roller Slides

6195 Spacers for Cabinet Members



Designed for doors protruding into the cabinet and for inset drawers.

Description	Item No.	PU
1 6195 Spacer, 25mm	F145086478111	20
2 6195 Spacer, 11mm	89104-39	20
3 6195 Spacer/pin, 25mm	13097-39	20

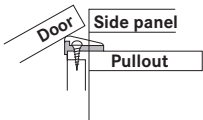


Door/Drawer Protector



Attaches to side of wooden pull-out. Designed for inset pull-out trays for face frame or frameless cabinetry.

Description	Item No.		PU
Door/drawer protector	13096-43	white	500

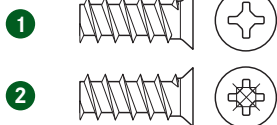


Accessories and Assembly Aids

Roller Slides

Screws

Euro Screw, Nickel-plated



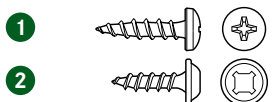
Description	Item No.	PU
1 13mm Euro Screw (1/2")	81015-43	500
18mm Euro Screw (11/16")	83000-43	500
7.5mm Euro Screw (5/16")	83001-43	500
2 Euro Screw 11mm (7/16") Pozi	499.360.61.1015	500
Euro Screw 13mm (1/2") Pozi	499.360.61.3015	500

Wood Screw, Nickel-plated



Description	Item No.	PU
#6 x 1 1/2" FHP, NI	81014-43	500
#6 x 7/16" FHP, NI	81016-43	500
#6 x 5/8" FHP, NI	81001-43	500
#6 x 3/4" FHP, NI	81003-43	500
#6 x 1" FHP, NI	81004-43	500

Wood Screw, Nickel-plated



Description	Item No.	PU
1 #10 x 3/4" PHP	81007-43	500
2 #8 x 5/8" Quad Round	81017-43	500

Pozidrive Screwdriver



#2 Pozidrive screwdriver for hinges

Description	Item No.	PU
Pozidrive screwdriver	98000-01	1
Pozidrive screwdriver	98000-08	50

6196 Bracket



- Attaches cabinet member of drawer slide if no side panel is available
- Bracket can be used for right or left
- Polybag includes 4 brackets with screws

Description	Item No.	PU
6196 Mounting Bracket	00432-08	50
6196 Mounting Bracket, polybag	00432-37	1

Polybag set consists of:

- 4 - Brackets
- 12 - Screws

PU - Packaging unit

Roller Slides

Shelf Supports



Description	Item No.	PU
Plastic, clear, with steel pin	499.582.50.0050	5000
Metal spoon, nickel plated	499.582.50.2050	2000
Shelf support 7006/9.5, nickel	F069073460 253	2500
H-802 plastic, square, clear	00036-43	500

Bumper Pads

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	2.5mm	10mm	63407-99	288
Bumper pad, clear	2.5mm	10mm	63407-47	7200

AirSoft Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
AirSoft Bumper pad, clear	5mm	12.7mm	63481-43	500
AirSoft Bumper pad, clear	5mm	12.7mm	63483-30	5000

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	1.5mm	7mm	630.000.03.0750	1088
Bumper pad, clear	4mm	12mm	630.000.02.1250	5000

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	3mm	12.7mm	31002-43	500
Bumper pad, clear	1.5mm	12.7mm	31004-43	500

Door Stop



Description	Item No.	PU
H-950 door stop, clear	00068-43	500



GRASS America Inc.
1202 NC Highway 66 South
Kernersville, NC 27284

Phone: 1-800-334-3512
Fax: 1-800-525-8406

www.grassusa.com
info@grassusa.com





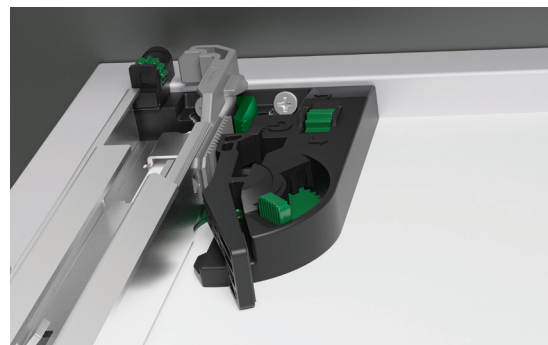
DYNAPRO

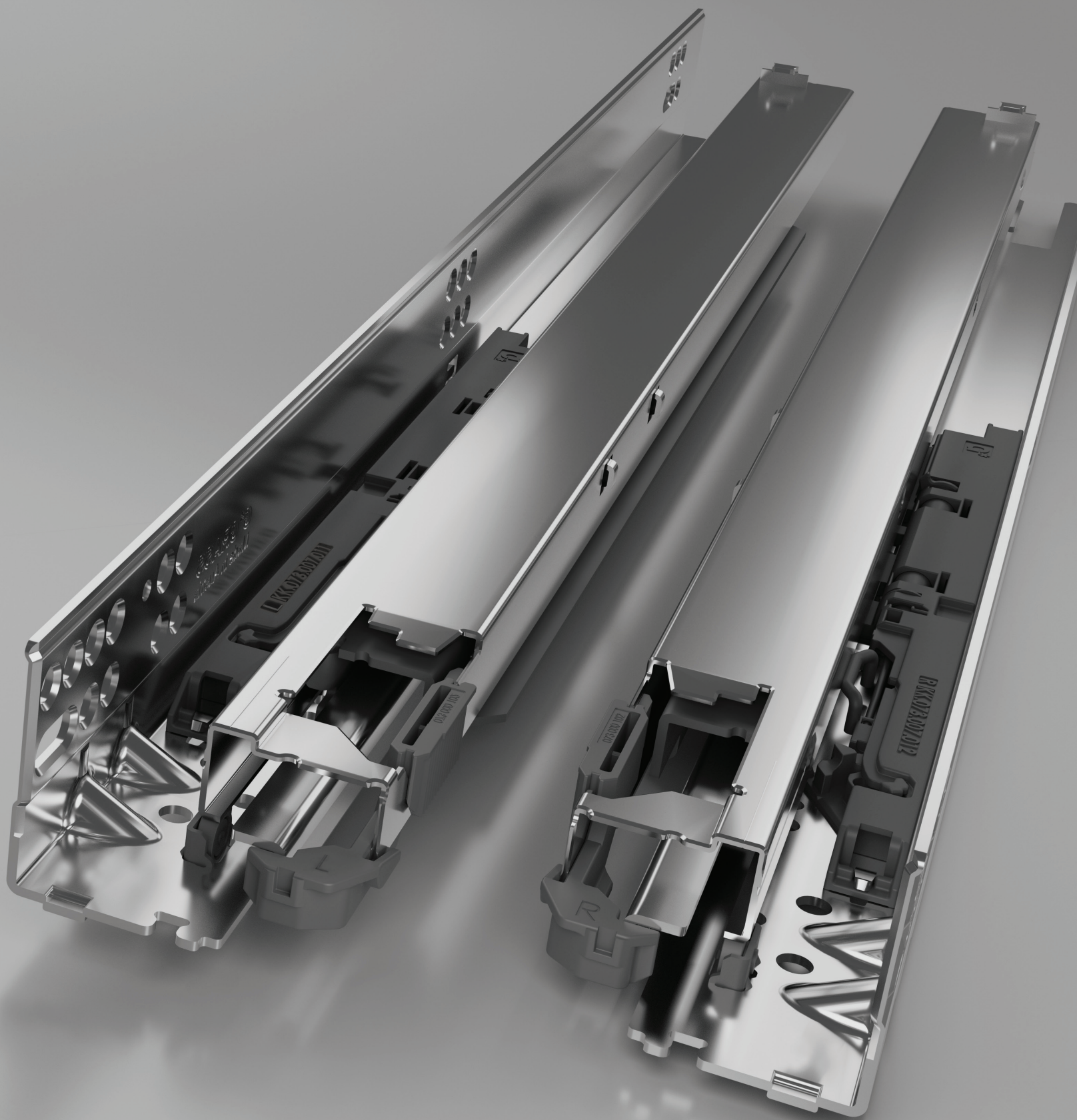


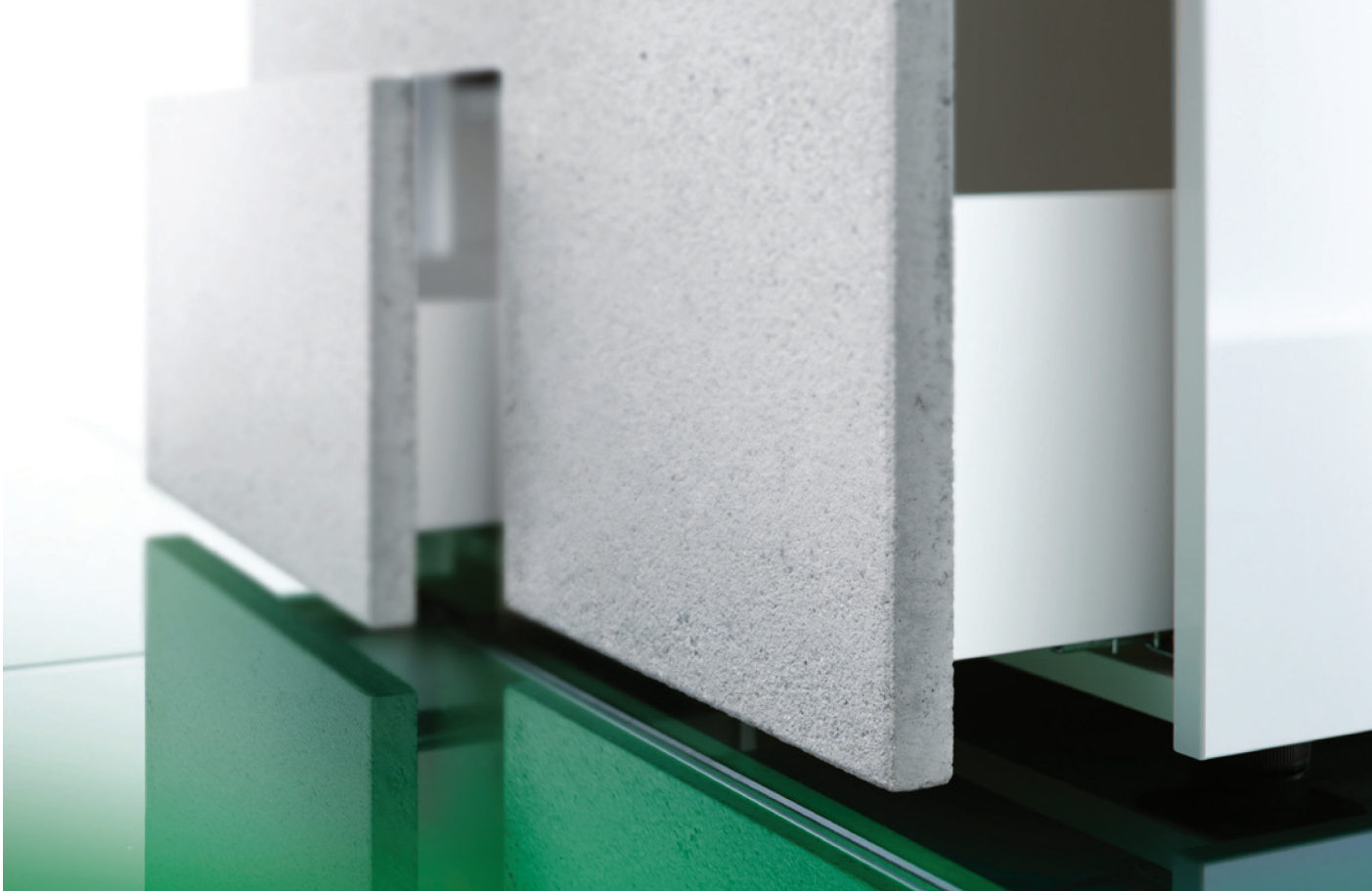
G*GRASS®

DYNAPRO SLIDE SYSTEM

Synchronized full extension concealed undermount slides.
Precision in movement, design, and comfort.







Made in Austria, Dynapro is not just an undermount slide; it represents a revolution in drawer systems. With its unrivaled combination of versatility, functionality, and comfort, Dynapro has set a new benchmark for concealed undermount slides.

A slight pull and a gentle push.

Synchronized, soft-close, and full extension: Dynapro slides move with a slight pull and gentle push, providing an efficient, effective, and concealed solution. Grass engineering has considered every aspect of the slide's operating motion. Dynapro, known for its smooth-running performance and quiet kinematics, utilizes an integrated rack and pinion system. This technology allows the slides to move in unison, improving glide, reducing noise, and preventing the drawer from binding when closing. Dynapro, rated for loads up to 132lbs with its heavy-duty model, is suitable for drawer applications up to 48" wide, with no additional synchronization hardware required.



DYNAPRO SLIDE SYSTEM

Efficient. Effective. Concealed.

Dynapro undermount slides for wood drawers and Vionaro drawers combine intelligent features plus superb gliding action for today's traditional and contemporary cabinetry.



Synchronization achieves smooth operation without a sound.

In contrast to conventional undermount slide systems, Dynapro features a synchronization mechanism. The mechanical synchronization of each individual slide ensures enhanced comfort and movement without annoying sounds or resistance. The operating function of Dynapro remains unchanged even when moving heavy loads of up to 132 lb. Abrasion-resistant nylon rollers ensure smooth and even operation. Available for drawer material ranging from 12.7mm (1/2") to 19mm (3/4").



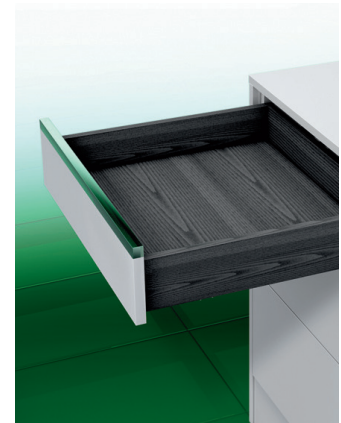
4D adjustment for perfect alignment: height, side, depth, and tilt adjustment

Dynapro undermount slides offer a variety of Front Locking Devices to provide two, three, or four-dimensional adjustments. The drawer can be adjusted side-to-side, height, depth, and tilt. With the option of 4-dimensional adjustment, precise alignment of the drawer fronts is extremely easy. All of the adjustments are simple operations and easily performed without the use of tools. With the Dynapro adjustments, you can achieve perfect alignment.



The Vionaro drawer combined with Dynapro is a perfect match for a metal drawer system.

When combined with the Vionaro Drawer System, Dynapro transcends its already exceptional capabilities. The integration with the slim 13mm double wall side drawer of the Vionaro system transforms Dynapro into a multifunctional powerhouse suitable for both wood and metal drawers. Two drawer types using the same concealed undermount slide makes Dynapro the universal choice for all your cabinetry needs.



Three options for closing comfort.

Dynapro features a liquid damper Soft-close technology for an exceptionally smooth closing action. Soft-close gently slows the drawers and pulls them to the fully closed position. Tipmatic Soft-close has the same opening action with the added benefit of the soft-closing action. The Sensomatic electronic touch-to-open system makes it possible to create large, handle-free drawers that open with a gentle push on the front and the closing is just as smooth with another gentle push.

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	Description	Adjustment	Page
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	Dynapro 16 (2D) - Optional 3-dimensional adjustment - Face frame or frameless - Integrated Soft-close, full extension - For 12.7mm (1/2") to 16mm (5/8") material	Front locking device selection provides: - Height adjustment (max +3.5mm) - Side adjustment (max ±1.5mm) - Depth adjustment (max 3.0mm forward)	14
	Dynapro 16 (3D) - Optional 4-dimensional adjustment - Face frame or frameless - With tilt adjustment - Integrated Soft-close, full extension - For 12.7mm (1/2") to 16mm (5/8") material	Front locking device selection provides: - Height adjustment (max +3.5mm) - Side adjustment (max ±1.5mm) - Tilt adjustment (max ±4.0mm) - Depth adjustment (max 3.0mm forward)	18
	Dynapro 16 (3D) Heavy Duty - Optional 4-dimensional adjustment - Face frame or frameless - With tilt adjustment - Extended lengths - Integrated Soft-close, full extension - For 12.7mm (1/2") to 16mm (5/8") material	Front locking device selection provides: - Height adjustment (max +3.5mm) - Side adjustment (max ±1.5mm) - Tilt adjustment (max ±4.0mm) - Depth adjustment (max 3.0mm forward)	22
	Dynapro Tipmatic Soft-close - For 12.7mm (1/2") to 16mm (5/8") material - Tool-free assembly - Works with all Dynapro 2D/3D types 16mm	3-tier adjustment for opening force	24
	Dynapro Base Panel and Pull Out Shelf - Frameless, for 16mm (5/8") material - Integrated Soft-close, full extension	Front locking device selection provides: Height adjustment (max +3.5mm)	26
	Dynapro 19 (2D) - Optional 3-dimensional adjustment - Face frame or frameless - Integrated Soft-close, full extension - For 16mm (5/8") to 19mm (3/4") material	Front locking device selection provides: - Height adjustment (max +3.5mm) - Side adjustment (max ±1.5mm) - Depth adjustment (max 3.0mm forward)	28
	Dynapro 19 (3D) - Optional 4-dimensional adjustment - Face frame or frameless - With tilt adjustment - Integrated Soft-close, full extension - For 16mm (5/8") to 19mm (3/4") material	Front locking device selection provides: - Height adjustment (max +3.5mm) - Side adjustment (max ±1.5mm) - Tilt adjustment (max ±4.0mm) - Depth adjustment (max 3.0mm forward)	32
	Dynapro 19 (3D) Heavy Duty - Optional 4-dimensional adjustment - Face frame or frameless 3-dimensional with tilt adjustment - Extended lengths - Integrated Soft-close, full extension - For 16mm (5/8") to 19mm (3/4") material	Front locking device selection provides: - Height adjustment (max +3.5mm) - Side adjustment (max ±1.5mm) - Tilt adjustment (max ±4.0mm) - Depth adjustment (max 3.0mm forward)	36
	Dynapro Tipmatic Soft-close - For 16mm (5/8") to 19mm (3/4") material - Tool-free assembly - Works with all Dynapro 2D/3D types 19mm	3-tier adjustment for opening force	38
	Accessories		40
	Sensomatic - Automatic soft touch drawer opening - Various mounting options	Adjustable opening strength More product information is available in the Online Catalog	43

Features and Benefits

Dynapro

Features



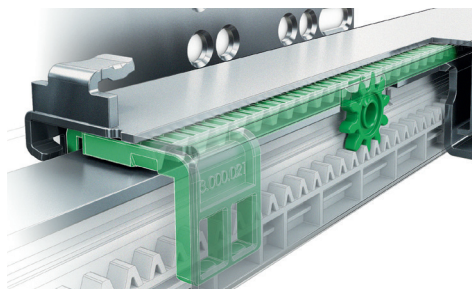
- Synchronization for smooth, silent operation
- Slide is concealed to give a full view of finely crafted drawers
- Self-latching front locking devices have comfortable release levers for drawer removal
- For drawer material thickness: 12.7mm (1/2") to 19mm (3/4")
- Support roller for uniform drawer front height
- Fully enclosed liquid damper softly glides drawers to a stop
- 3D and 4D adjustment - height, side, tilt, and depth (optional) - is simple, tool-free, and easily accessible
- Easy to open with a low pull-out force
- For drawers up to 48" wide
- Wide drawer member provides stability between cabinet and drawer member
- Meet and exceeds ANSI/BHMA A156.9 standard, Grade 1

Multiple cleats

connect immediately with front locking device at installation for maximum connection between the drawer slide and front locking device.



Dynapro's synchronization allows drawers to move quietly and without any resistance. Even with a load capacity of up to 132 lb with our heavy duty version, the running performance remains unchanged.

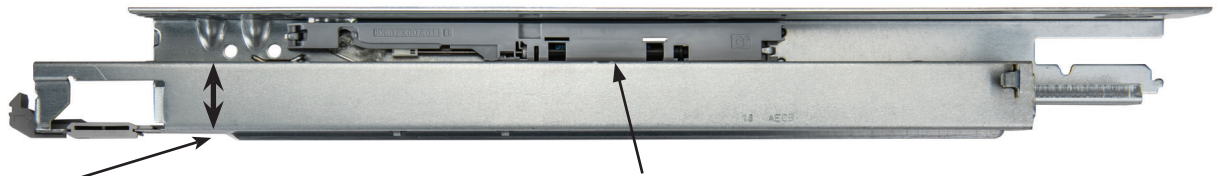


Synchronization

for smooth, silent operation, excellent running performance.

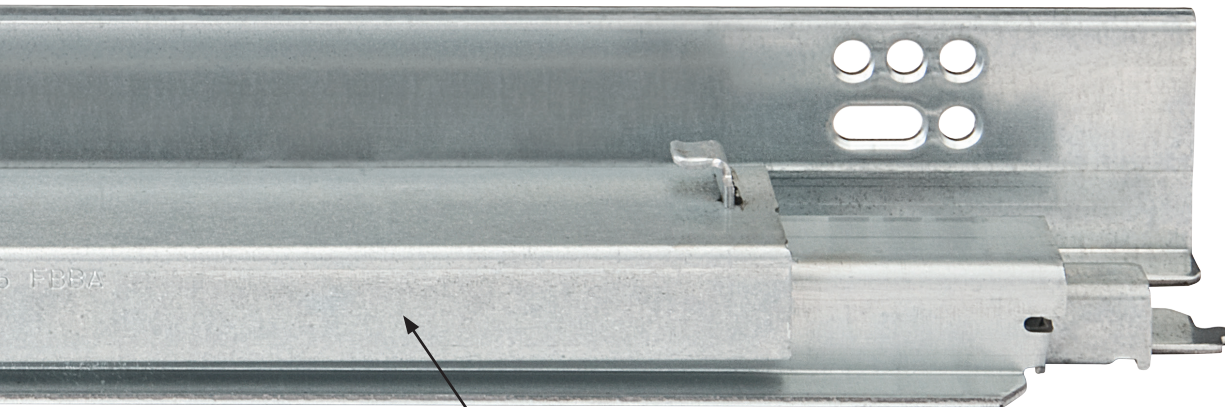
Features

- Wear resistant nylon rollers ensure quiet and precise running characteristics
- Synchronized full extension
- Face frame and frameless applications
- 100 lb dynamic load for Dynapro Standard
- 110 lb dynamic load for Dynapro 3D Extended lengths
- 132 lb dynamic load for Dynapro 3D Heavy Duty
- Minimal drawer front gap using adjustable front locking device
- Extended lengths for 24", 27", and 30" drawers



Wide drawer member
provides stability between cabinet
and drawer member.

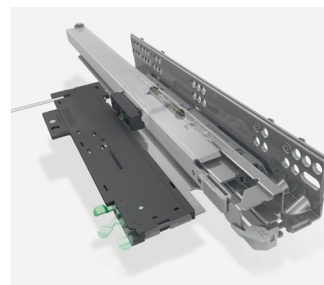
Enclosed liquid damper
offers the latest closing technology.



Abrasion resistant nylon rollers
ensure smooth and even operation.



Tilt Adjustment Adapter
provides tilt adjustment for drawer front
for 3D versions.



Tipmatic Soft-close and Sensomatic
opening systems available for
handle-free drawers.

Technical Information

Dynapro

2D/3D Front Locking Device with Height, Side, and Depth Adjustment

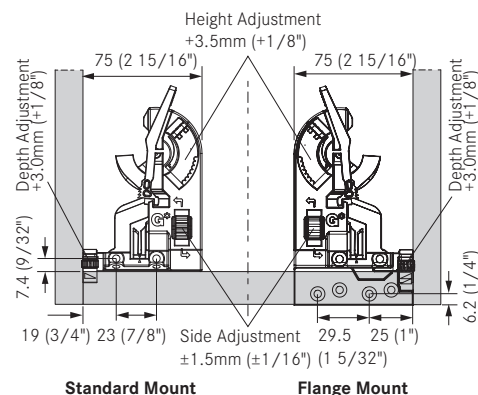
3D Locking Devices



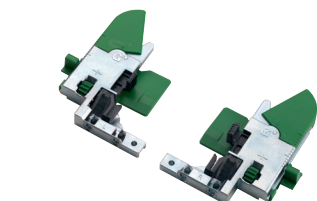
- Provides 2D or 3D adjustment for drawers
- For all drawer applications up to 48" in width
- Minimum inside drawer width 150mm (5 7/8")
- Lightweight, high strength material
- Height adjustment range: +3.5mm
- Side adjustment range: $\pm 1.5\text{mm}$
- Depth adjustment range: +3.0mm forward adjustment (3D version only)

Pre-drilling recommended $\varnothing 2.5\text{mm}$ (3/32")

2D Locking Devices

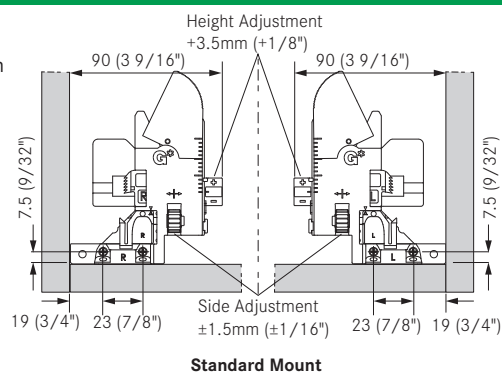


Front Locking Device with Height and Side Adjustment

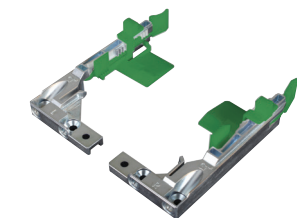


- Provides 2D adjustment for drawers
- For all drawer applications up to 48" in width
- Minimum inside drawer width 180mm (7 3/32")
- Height adjustment range: +3.5mm
- Side adjustment range: max $\pm 1.5\text{mm}$

Pre-drilling recommended $\varnothing 2.5\text{mm}$ (3/32")

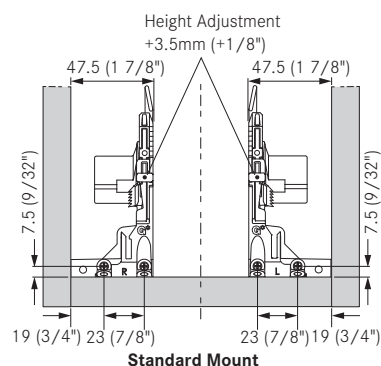


Narrow Front Locking Device with Height Adjustment

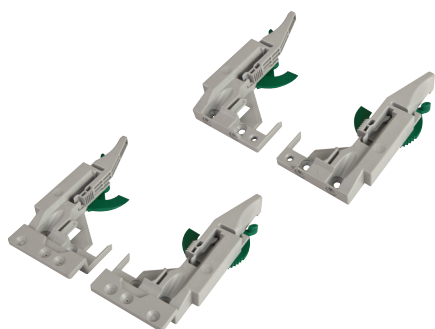


- Provides height adjustment for drawers
- For all narrow drawer applications
- Minimum inside drawer width 95mm (3 3/4")
- Height adjustment range: +3.5mm

Pre-drilling recommended $\varnothing 2.5\text{mm}$ (3/32")

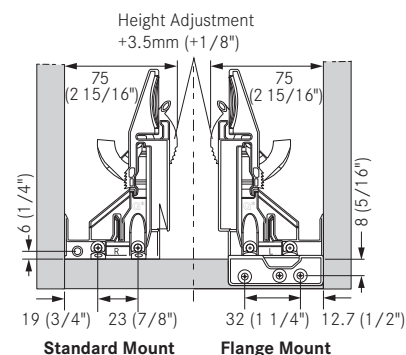


Eco Front Locking Device with Height Adjustment



- Provides height adjustment for drawers
- For all drawer applications up to 48" in width
- Minimum inside drawer width 150mm (5 7/8")
- Height adjustment range: +3.5mm

Pre-drilling recommended $\varnothing 2.5\text{mm}$ (3/32")

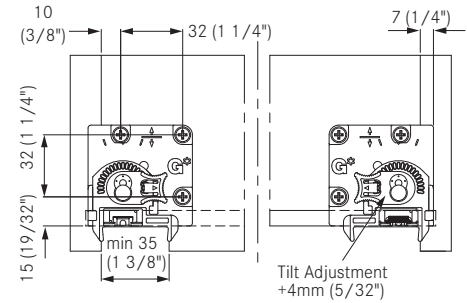


Tilt Adjustment Adapter



- Provides tilt adjustment for Dynapro 3D, Dynapro heavy duty 3D, and Dynapro extended lengths 3D
- Tilt adjustment range: +4mm (5/32")
- For frameless or face frame applications

Pre-drilling recommended Ø2.5mm (3/32")



Rear Mounting Brackets for Face Frame Applications

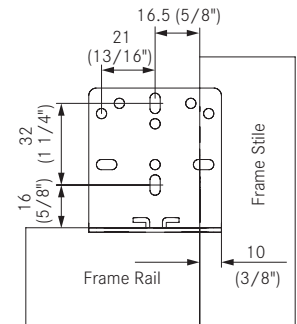
Rear Mounting Bracket for 12" - 21" Slides



- For 12" - 21" drawers
- For face frame application

Pre-drilling recommended Ø2.5mm (3/32")

Use a minimum of 3 screws per bracket,
#6 x 1/2" truss head screws.

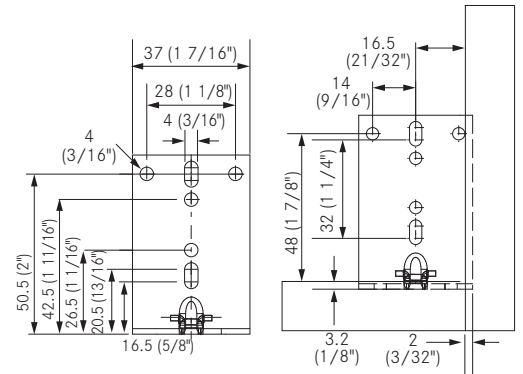


Narrow Rear Mounting Bracket for 12" - 21" Slides

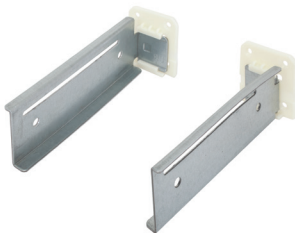


- For 12" - 21" drawers
- For face frame application with narrow recess of side panel

Pre-drilling recommended Ø2.5mm (3/32")

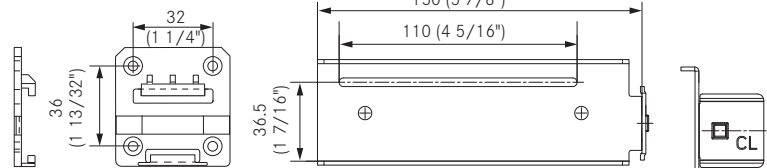


Rear Mounting Socket for 9" Slides



- For 9" drawer
- For face frame application
- For installation depth min 273mm (10 3/4") to 352mm (13 7/8")

Pre-drilling recommended Ø2.5mm (3/32")



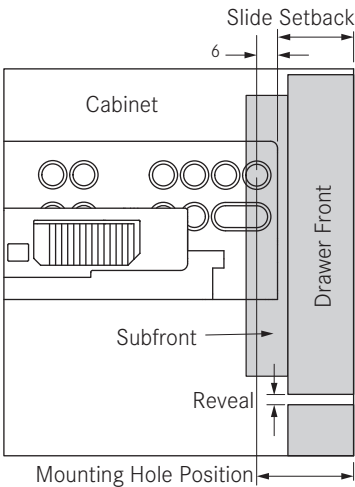
Technical Information

Inset drawer applications



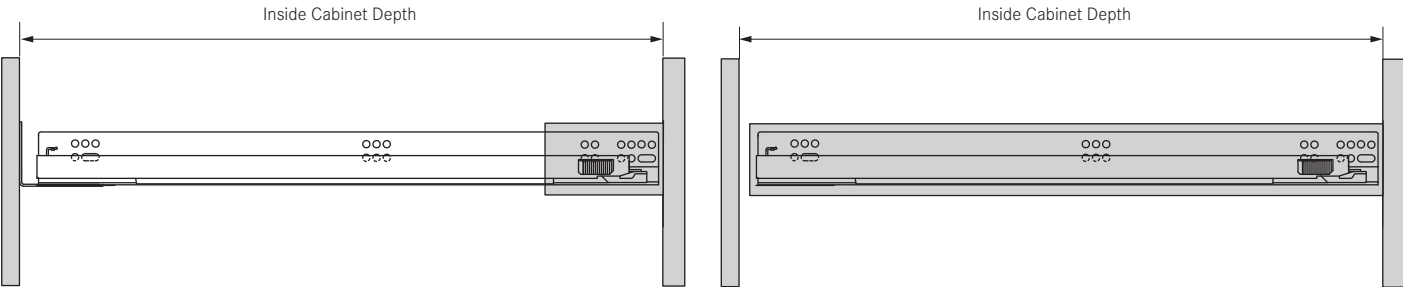
- For inset drawer application with subfronts
- For face frame and frameless applications
- Use corresponding charts based on front locking device to determine slide setback

IMPORTANT
To determine the correct application Grass strongly recommends a trial mounting for all slides.



Face Frame Inset Drawer with Partial Blockout

Frameless Inset Drawer with Full Blockout

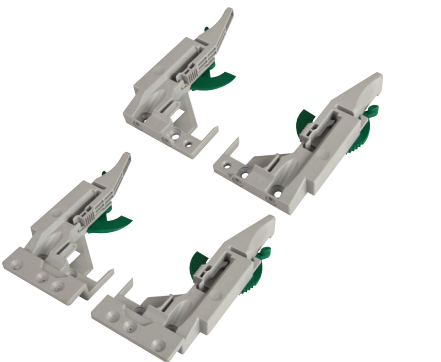
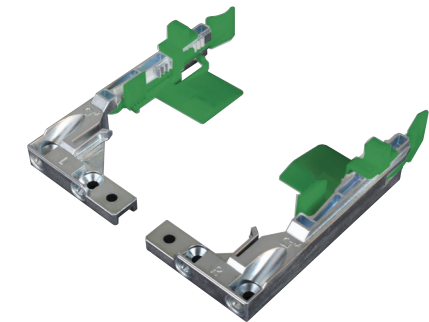
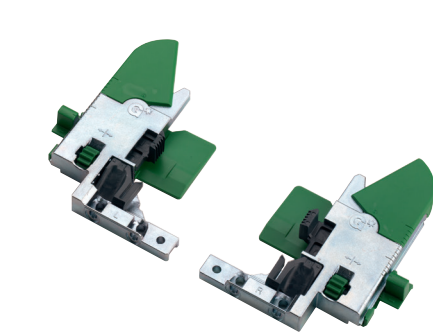


Slide Setback for Front Locking Devices

Front Locking Device

Narrow Front Locking Device

Eco Front Locking Devices



		Drawer Front Thickness				
		12.7	16	19	22	
		1/2"	5/8"	3/4"	7/8"	
Subfront Thickness	19	3/4"	18.2	21.5	24.5	27.5
	16	5/8"	15.7	19	22	25
	12.7	1/2"	15.7	19	22	25
			Slide Setback			

For Subfront 12,13,14,15,16:
Slide Setback = Drawer Front + 3mm

For Subfront 17,18,19:
Slide Setback = Drawer Front + Subfront - 13.5mm

		Drawer Front Thickness				
		12.7	16	19	22	
		1/2"	5/8"	3/4"	7/8"	
Subfront Thickness	19	3/4"	18.2	21.5	24.5	27.5
	16	5/8"	15.7	19	22	25
	12.7	1/2"	15.7	19	22	25
			Slide Setback			

For Subfront 12,13,14,15,16:
Slide Setback = Drawer Front + 3mm

For Subfront 17,18,19:
Slide Setback = Drawer Front + Subfront - 13.5mm

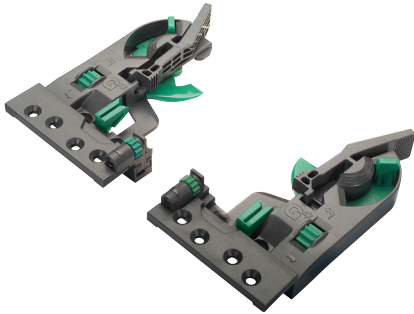
		Drawer Front Thickness				
		12.7	16	19	22	
		1/2"	5/8"	3/4"	7/8"	
Subfront Thickness	19	3/4"	18.2	21.5	24.5	27.5
	16	5/8"	15.7	19	22	25
	12.7	1/2"	15.7	19	22	25
			Slide Setback			

For Subfront 12,13,14,15,16:
Slide Setback = Drawer Front + 3mm

For Subfront 17,18,19:
Slide Setback = Drawer Front + Subfront - 13.5mm

Slide Setback for 2D/3D Front Locking Devices

3D Flanged Front Locking Device



		Drawer Front Thickness				
		12.7	16	19	22	
		1/2"	5/8"	3/4"	7/8"	
Subfront Thickness	19	3/4"	18.2	21.5	24.5	27.5
	16	5/8"	18.2	21.5	24.5	27.5
	12.7	1/2"	18.2	21.5	24.5	27.5
			Slide Setback			

Slide Setback = Drawer Front + 5.5mm (Based on depth adjuster fully retracted)

Slide setback for inset application based on depth adjuster fully retracted

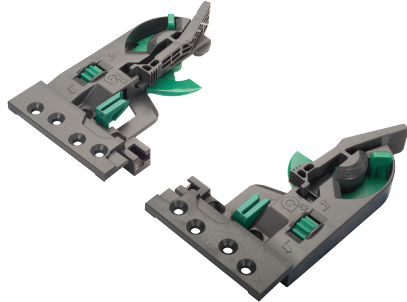
3D Front Locking Device



		Drawer Front Thickness				
		12.7	16	19	22	
		1/2"	5/8"	3/4"	7/8"	
Subfront Thickness	19	3/4"	19.7	23.0	26.0	29.0
	16	5/8"	16.7	20.0	23.0	26.0
	12.7	1/2"	16.7	20.0	23.0	26.0
			Slide Setback			

Slide setback for inset application based on depth adjuster fully retracted

2D Flanged Front Locking Device



		Drawer Front Thickness				
		12.7	16	19	22	
		1/2"	5/8"	3/4"	7/8"	
Subfront Thickness	19	3/4"	17.7	21.0	24.0	27.0
	16	5/8"	17.7	21.0	24.0	27.0
	12.7	1/2"	17.7	21.0	24.0	27.0
			Slide Setback			

Slide Setback = Drawer Front + 5mm

2D Front Locking Device



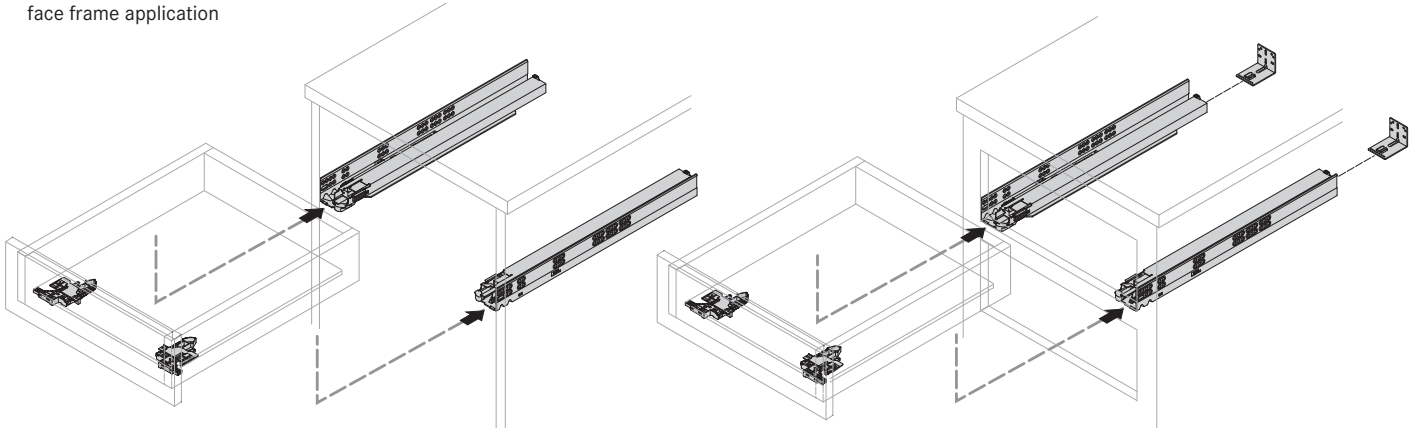
		Drawer Front Thickness				
		12.7	16	19	22	
		1/2"	5/8"	3/4"	7/8"	
Subfront Thickness	19	3/4"	17.2	20.5	23.5	26.5
	16	5/8"	16.7	20.0	23.0	26.0
	12.7	1/2"	16.7	20.0	23.0	26.0
			Slide Setback			

Technical Information

Dynapro

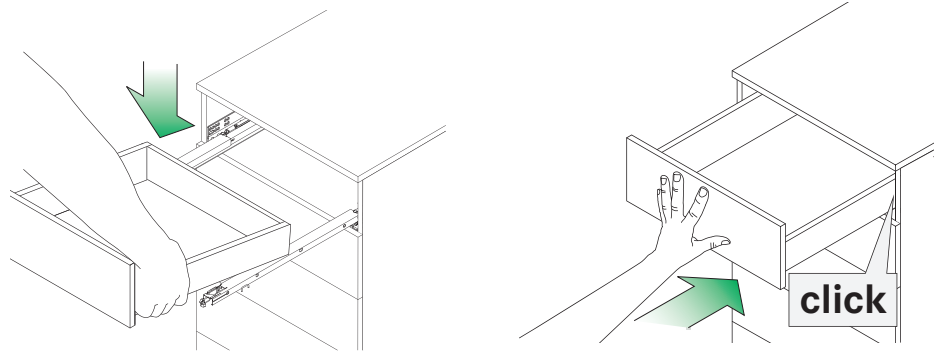
Dynapro Application

- For drawer material from 12.7mm (1/2") to 19mm (3/4")
- For frameless or face frame application
- Use rear bracket or blockout for face frame application
- Heavy duty and extended length slides must be blocked out for face frame application



Inserting the Drawer

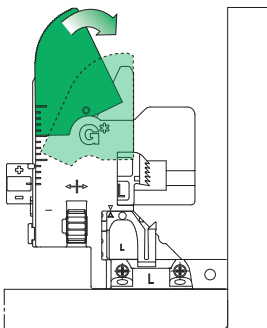
Place drawer on extended Dynapro slide and push in until it engages audibly



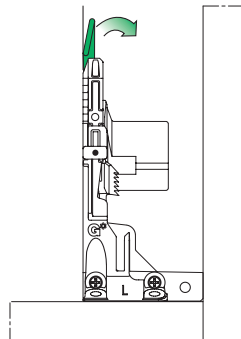
Disengaging the Drawer

Pull the drawer out, squeeze the locking device levers and lift drawer from the slide.

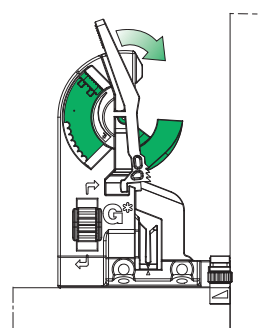
Front Locking Device



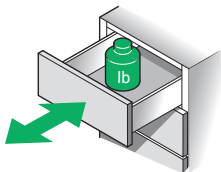
Narrow Front Locking Device



2D/3D Front Locking Devices



Weight Capacities per Pair of Slides



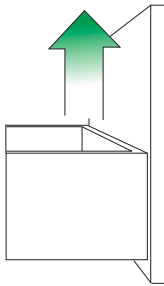
Dynapro (2D/3D): 100 lb dynamic load rating, 100 lb static load rating

Dynapro Heavy Duty 3D: 132 lb dynamic load rating, 150 lb static load rating

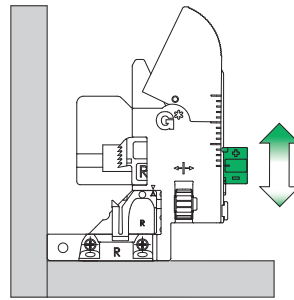
Dynapro Extended Lengths 3D: 110 lb dynamic load rating, 125 lb static load rating

Dynapro meets and exceeds the minimum requirements of ANSI/BHMA A156.9 Standard, Grade 1
Tested in frameless cabinetry using a minimum of 4 mounting screws

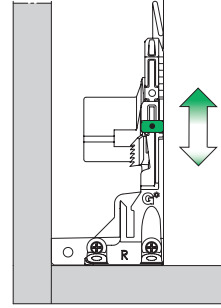
Height Adjustment (max +3.5mm)



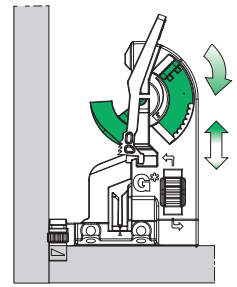
Front Locking Device



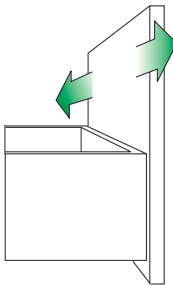
Narrow Front Locking Device



2D/3D Front Locking Devices



Side Adjustment (max ± 1.5 mm)

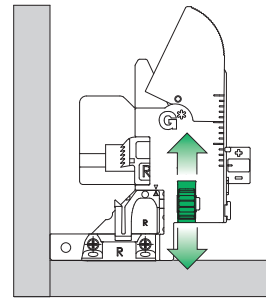


1. Adjust both wheels in the same direction

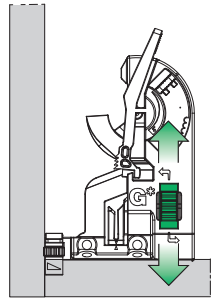
For 3D application only:

2. Disengage drawer
3. Re-attach drawer
4. Drawer perfectly aligned

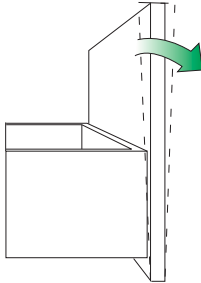
Front Locking Device



2D/3D Front Locking Devices

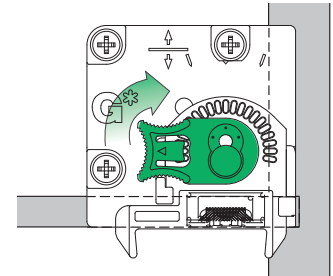


Tilt Adjustment (max +4.0mm)



For 3D application only:

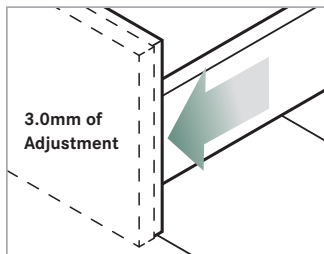
1. Adjust both levers in opposite directions
2. Disengage drawer
3. Re-attach drawer



Depth Adjustment

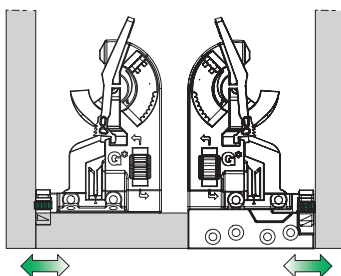
With 3D Front Locking Device (3.0mm forward)

Additional Option for Dynapro Heavy Duty & Extended Length (+4.5mm forward)



Adjustment

For up to 3.0mm of forward adjustment turn both adjustment wheels toward outside of drawer.



Removal & Insertion

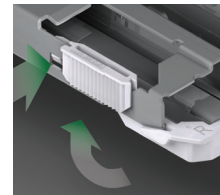
For heavy duty & extended length application only:

1. Removal: Press in on tab with screwdriver. Rotate and remove fitting.
2. Insertion: Insert depth fitting and rotate to lock. Fitting tab snaps into place.

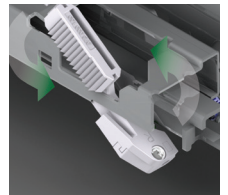
Adjustment

Adjust left and right adjustment screws simultaneously in opposite directions.

① Removal

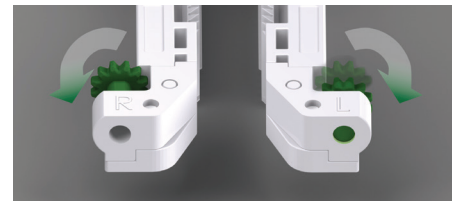


② Insertion



Screwdriver is required for removal of the standard fitting.

Adjustment



Dynapro 16, Full Extension Slide, 2D

Integrated Soft-close with optional 3-dimensional adjustment for 16mm (5/8") drawer material

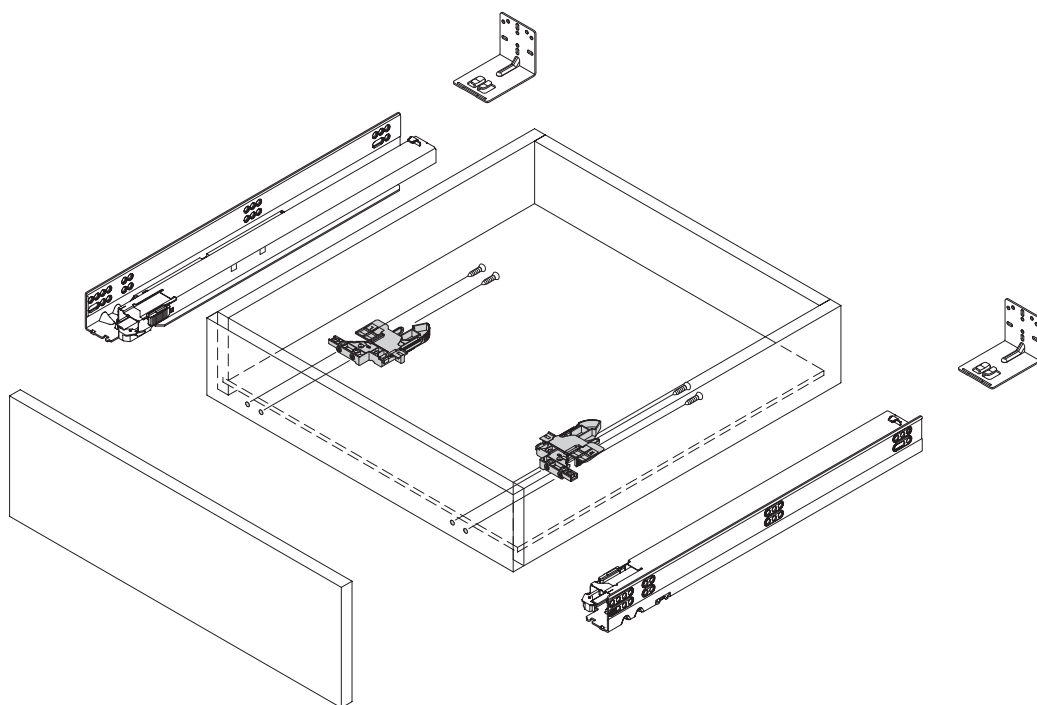


- Face frame or frameless applications from 12.7mm (1/2") up to 16mm (5/8") drawer material
- Full extension with a synchronized mechanism
- Fully enclosed soft-close liquid damping system
- Self-latching front locking devices have easy release levers for drawer removal and installation
- Height adjustment +3.5mm with suitable front locking device
- Side adjustment ± 1.5 mm with suitable front locking device
- Depth adjustment +3.0mm forward with suitable front locking device
- 100 lb load rating (45 kg)

Dynapro 16 Full Extension Slide 2D, 100 lb (45 kg)



Drawer Length	Nominal Length	Min Installation Depth	Max Installation Depth	Item No.	PU
229 (9")	262 (10 5/16")	273 (10 3/4")	352 (13 7/8")	F130135013604	5
305 (12")	323 (12 23/32")	327 (12 7/8")	370 (14 9/16")	F130135014204U	5
381 (15")	399 (15 23/32")	403 (15 7/8")	446 (17 9/16")	F130135015204U	5
457 (18")	475 (18 11/16")	479 (18 27/32")	522 (20 9/16")	F130135016204U	5
533 (21")	551 (21 11/16")	555 (21 27/32")	598 (23 17/32")	F130135019204U	5
381 (15") LH	399 (15 23/32")	403 (15 7/8")	446 (17 9/16")	F130141432299	364
381 (15") RH	399 (15 23/32")	403 (15 7/8")	446 (17 9/16")	F130141433299	364
457 (18") LH	475 (18 11/16")	479 (18 27/32")	522 (20 9/16")	F130135017299	364
457 (18") RH	475 (18 11/16")	479 (18 27/32")	522 (20 9/16")	F130135018299	364
533 (21") LH	551 (21 11/16")	555 (21 27/32")	598 (23 17/32")	F130135020299	364
533 (21") RH	551 (21 11/16")	555 (21 27/32")	598 (23 17/32")	F130135021299	364



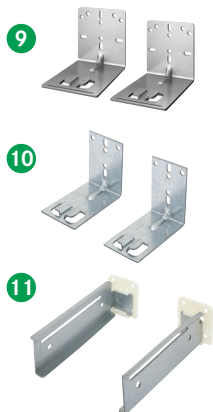
PU - Packaging unit

Front Locking Devices



Description	Adjustments	Item No.	PU
(Must order separately)			
1 Front locking device, left	height, side	F134125000 633	200
Front locking device, right	height, side	F134125001 633	200
Front locking device, set	height, side	F134101400 104	5
2 3D Flanged front locking device, left	height, side, depth	F134108942 233	200
3D Flanged front locking device, right	height, side, depth	F134108943 233	200
3 3D Front locking device, left	height, side, depth	F134108947 233	200
3D Front locking device, right	height, side, depth	F134108948 233	200
4 2D Flanged front locking device, left	height, side	F134108944 233	200
2D Flanged front locking device, right	height, side	F134108945 233	200
5 2D Front locking device, left	height, side	F134108950 233	200
2D Front locking device, right	height, side	F134108951 233	200
6 Narrow front locking device, left	height	F134100699 233	200
Narrow front locking device, right	height	F134100700 233	200
7 Eco front locking device, left	height	F134101221 233	200
Eco front locking device, right	height	F134101222 233	200
8 Eco flanged front locking device, left	height	F134116420 233	200
Eco flanged front locking device, right	height	F134116421 233	200

Rear Mounting Brackets

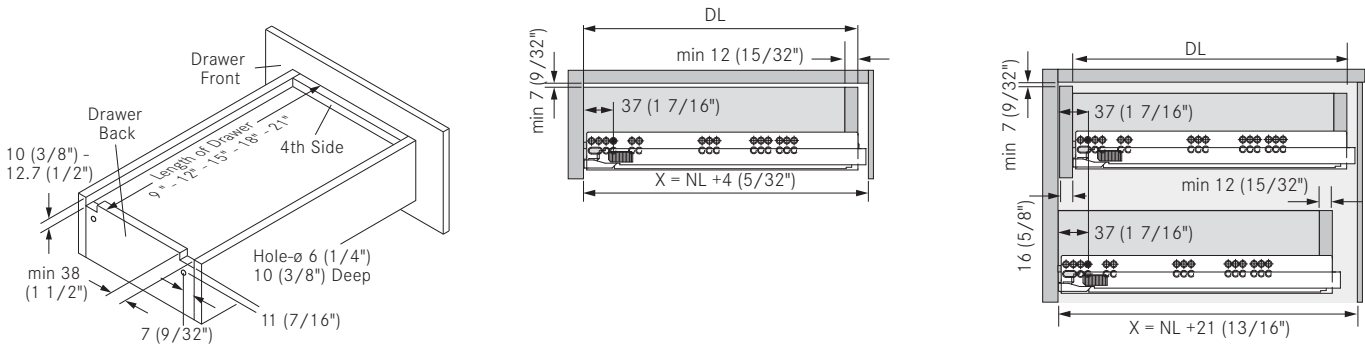


Description	Item No.	PU
(Must order separately)		
9 Rear mounting brackets, non-handed for 12"-21" slides, each	7950.VE300	300
10 Narrow rear mounting brackets, non-handed for 12"-21" slides, each	7951.VE300	300
11 Rear mounting sockets for 9" slides, set	00433-37	5
Set Includes: left and right sockets, (4) #M5 x 8 screw		

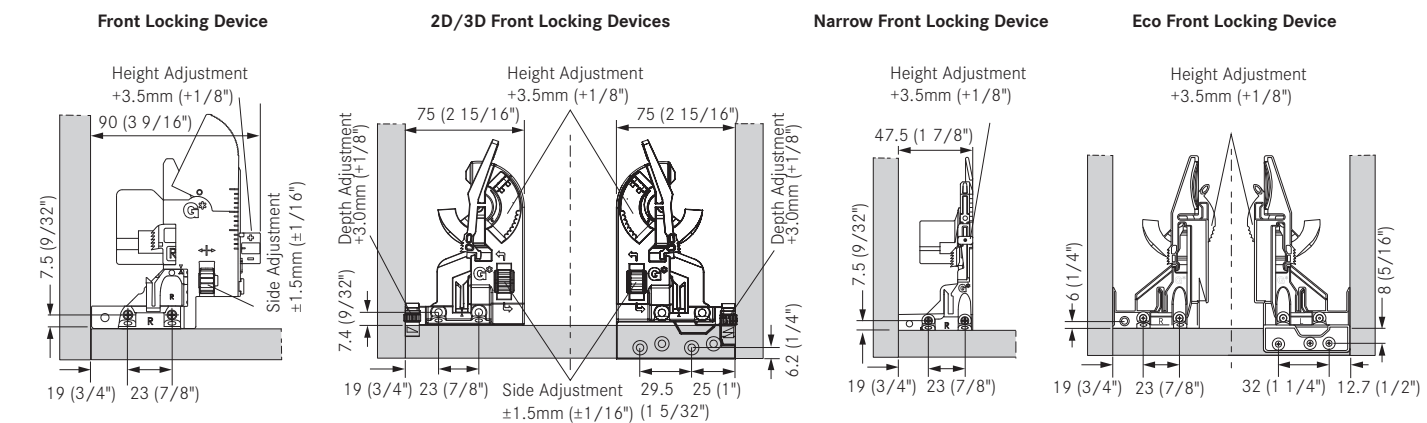
Dynapro 16, Full Extension Slide, 2D

Integrated Soft-close with optional 3-dimensional adjustment for 16mm (5/8") drawer material

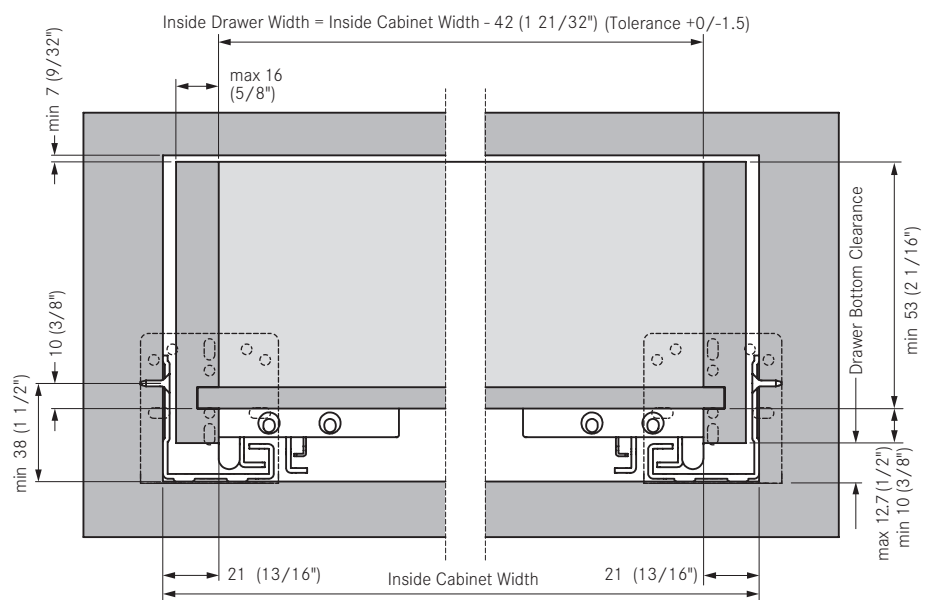
Drawer Measurements



Front Locking Device Installation



Drawer Installation Dimensions



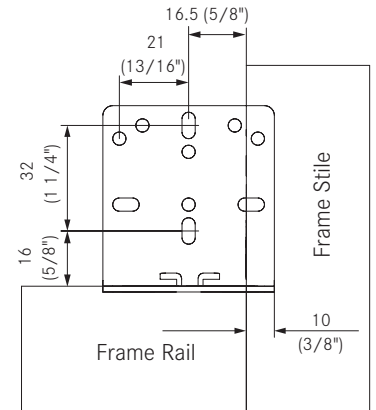
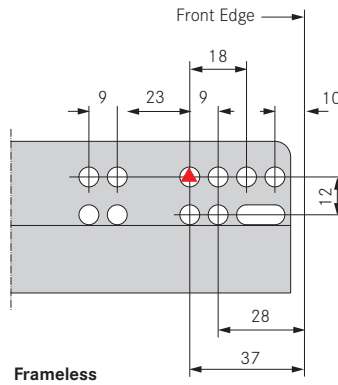
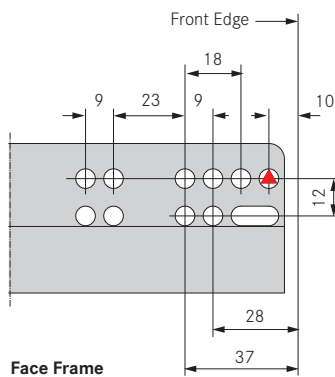
Minimum inside drawer width determined by front locking device. See page 8.

DL = drawer length
ICW = inside cabinet width
IDW = inside drawer width
NL = nominal length
X = minimum installation depth

Drawer Material Thickness	16mm (5/8")
Dynamic Load	100 lb (45 kg)
Static Load	100 lb (45 kg)

Mounting Position for Front Cabinet Profile

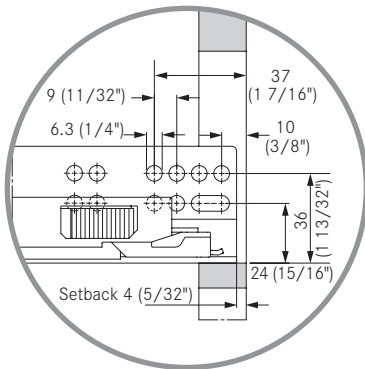
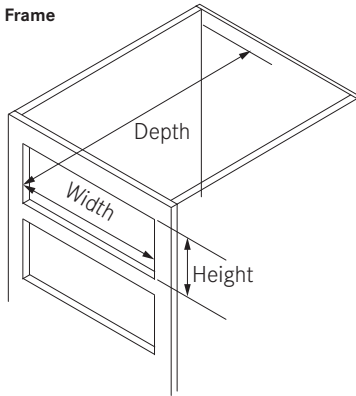
Rear Bracket for Face Frame



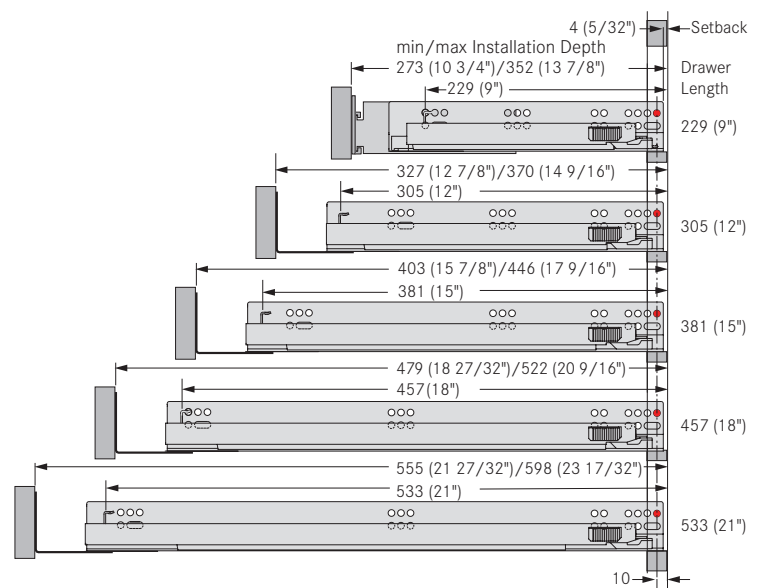
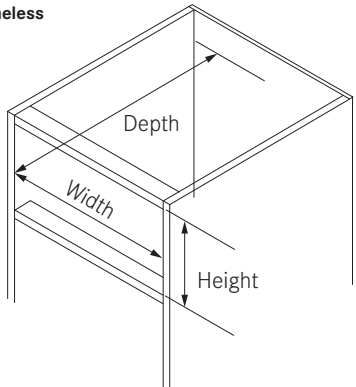
See page 9 for additional rear mounting brackets

Cabinet Boring Specifications

Face Frame

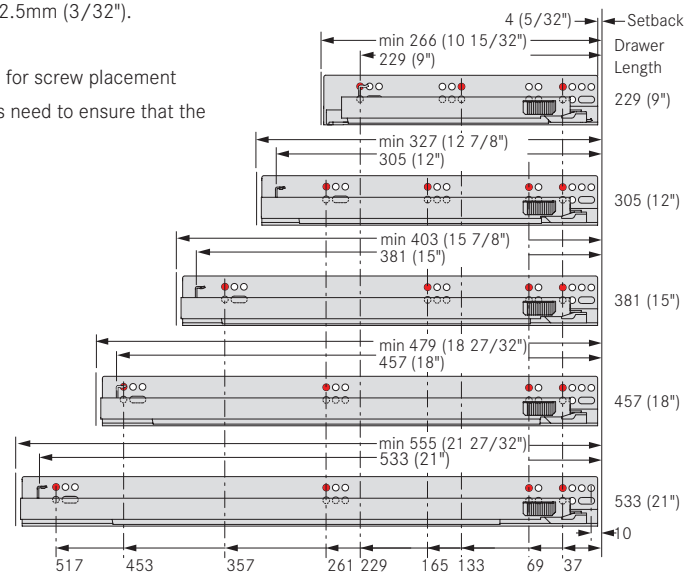


Frameless



Pre-drilling recommended Ø2.5mm (3/32").

Note: The recommendations for screw placement are guidelines only. Installers need to ensure that the cabinet wall is adequate.



Dynapro 16, Full Extension Slide, 3D

Integrated Soft-close with optional 4-dimensional adjustment for 16mm (5/8") drawer material

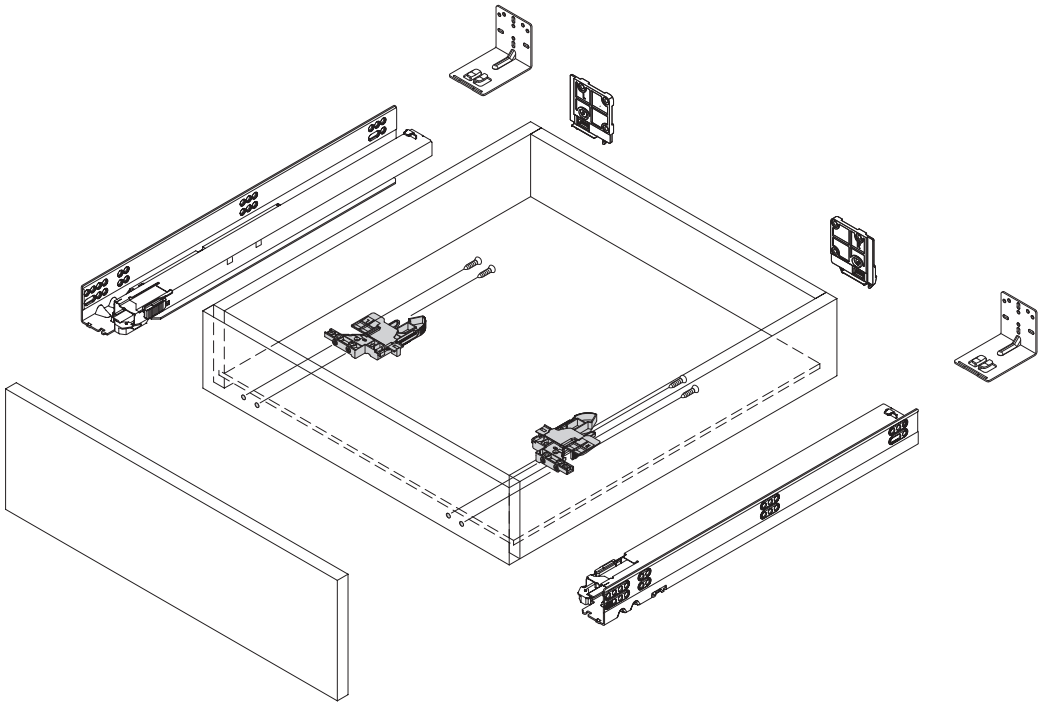


- Face frame or frameless applications from 12.7mm (1/2") to 16mm (5/8") drawer material
- Full extension with a synchronized mechanism
- Fully enclosed soft-close liquid damping system
- Self-latching front locking devices have comfortable release levers for drawer removal and installation
- Height adjustment +3.5mm with suitable front locking device
- Side adjustment ±1.5mm with suitable front locking device
- Tilt adjustment +4.0mm
- Depth adjustment +3.0mm forward with suitable front locking device
- 100 lb load rating (45 kg)

Dynapro 16 Full Extension Slide 3D, 100 lb (45 kg)

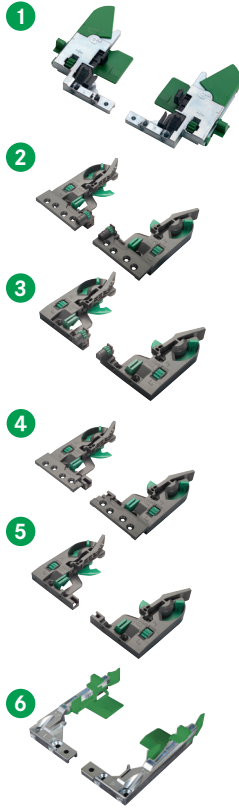


Drawer Length	Nominal Length	Min Installation Depth	Max Installation Depth	Item No.	PU
229 (9")	262 (10 5/16")	273 (10 3/4")	352 (13 7/8")	F130135003 604	5
305 (12")	323 (12 23/32")	327 (12 7/8")	370 (14 9/16")	F130135004 604	5
381 (15")	399 (15 23/32")	403 (15 7/8")	446 (17 9/16")	F130135005 604	5
457 (18")	475 (18 11/16")	479 (18 27/32")	522 (20 9/16")	F130135006 204U	5
533 (21")	551 (21 11/16")	555 (21 27/32")	598 (23 17/32")	F130135007 204U	5



PU - Packaging unit

Front Locking Devices



Description	Adjustments	Item No.	PU
(Must order separately)			
1 Front locking device, left	height, side	F134125000633	200
Front locking device, right	height, side	F134125001633	200
Front locking device, set	height, side	F134101400104	5
2 3D Flanged front locking device, left	height, side, depth	F134108942233	200
3D Flanged front locking device, right	height, side, depth	F134108943233	200
3 3D Front locking device, left	height, side, depth	F134108947233	200
3D Front locking device, right	height, side, depth	F134108948233	200
4 2D Flanged front locking device, left	height, side	F134108944233	200
2D Flanged front locking device, right	height, side	F134108945233	200
5 2D Front locking device, left	height, side	F134108950233	200
2D Front locking device, right	height, side	F134108951233	200
6 Narrow front locking device, left	height	F134100699233	200
Narrow front locking device, right	height	F134100700233	200

Rear Mounting Brackets and Adjustment Adapters

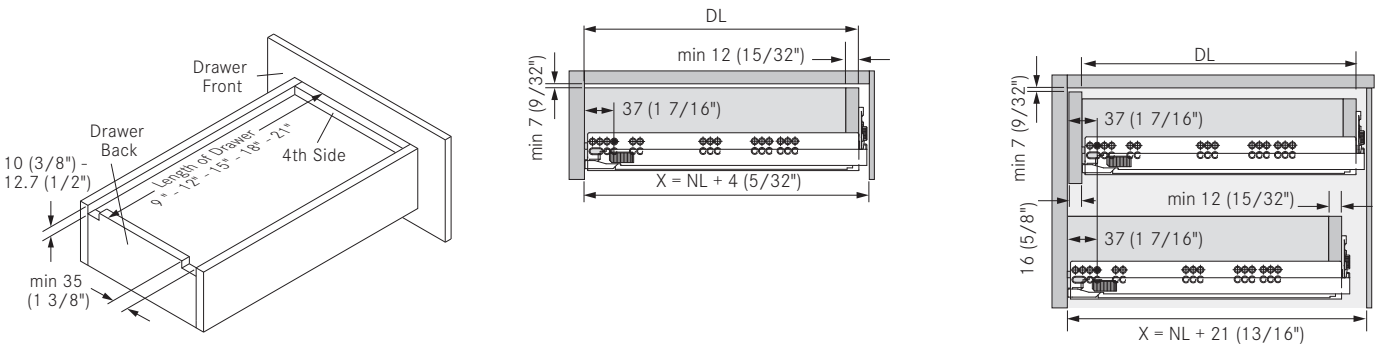


Description	Item No.	PU
(Must order separately)		
7 Rear mounting brackets, non-handed for 12"-21" slides, each	7950.VE300	300
8 Narrow rear mounting brackets, non-handed for 12"-21" slides, each	7951.VE300	300
9 Rear mounting sockets for 9" slides, set Set Includes: left and right sockets, (4) #M5 x 8 screw	00433-37	5
10 Tilt adjustment adapter, left	F134125002233	200
Tilt adjustment adapter, right	F134125003233	200
11 Front locking device and adjustment adapter set Set Includes: Front locking device set and tilt adjustment adapter set	F134125074517	1

Dynapro 16, Full Extension Slide, 3D

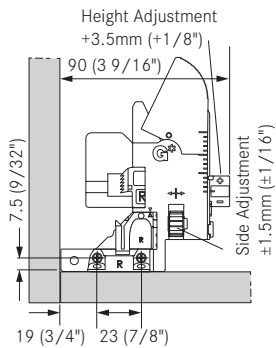
Integrated Soft-close with optional 4-dimensional adjustment for 16mm (5/8") drawer material

Drawer Measurements

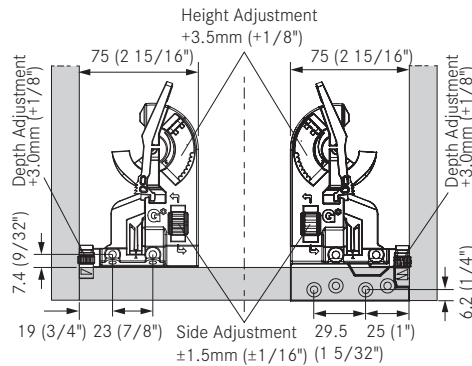


Front Locking Device Installation

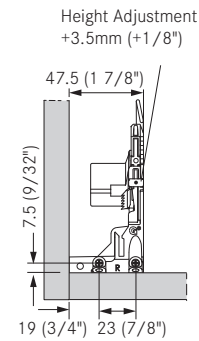
Front Locking Device



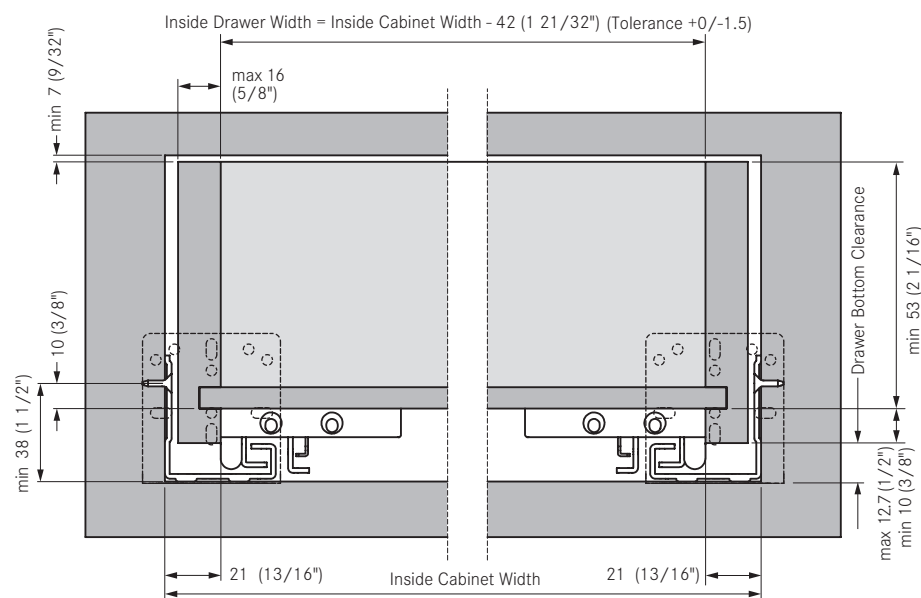
2D/3D Front Locking Devices



Narrow Front Locking Device

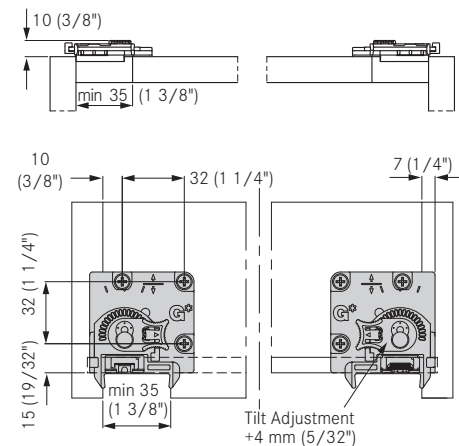


Drawer Installation Dimensions



Minimum inside drawer width determined by front locking device. See page 8.

Tilt Adjustment Adapter Installation



DL = drawer length

ICW = inside cabinet width

IDW = inside drawer width

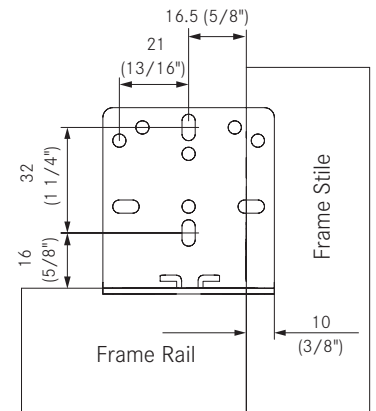
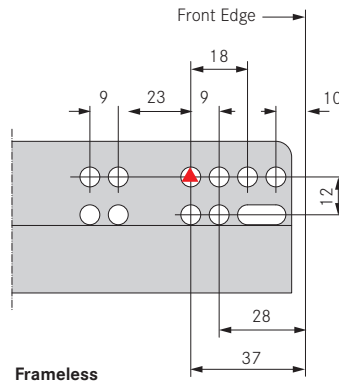
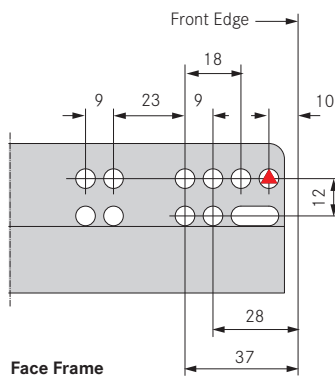
NL = nominal length

X = minimum installation depth

Drawer Material Thickness	16mm (5/8")
Dynamic Load	100 lb (45 kg)
Static Load	100 lb (45 kg)

Mounting Position for Front Cabinet Profile

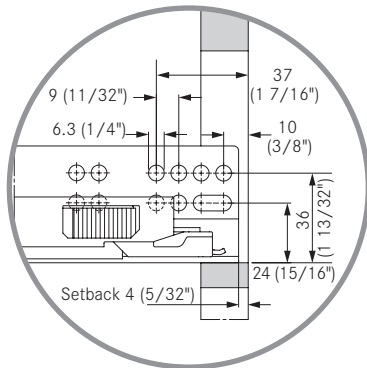
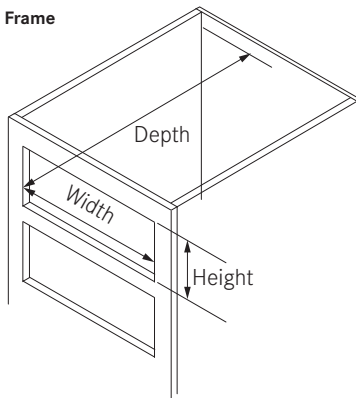
Rear Bracket for Face Frame



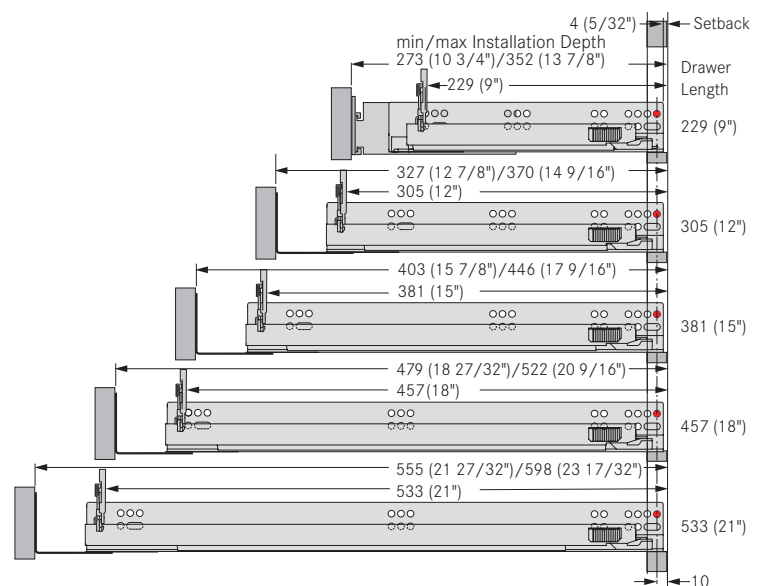
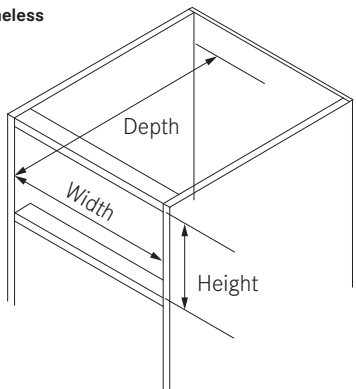
See page 9 for additional rear mounting brackets

Cabinet Boring Specifications

Face Frame

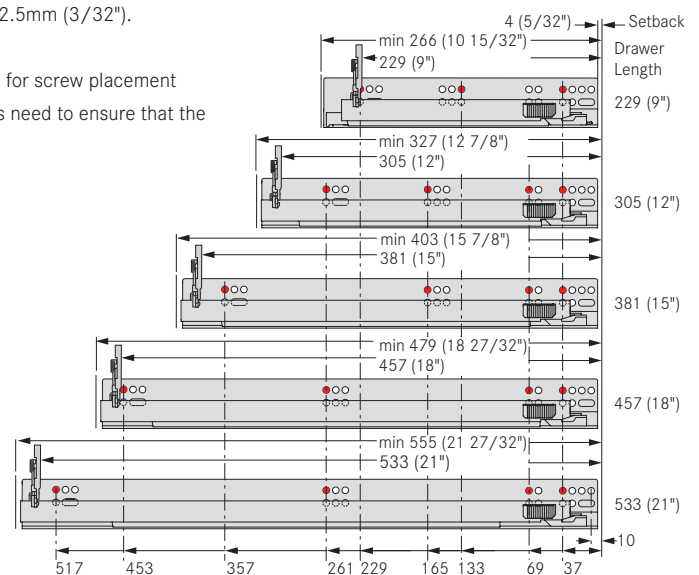


Frameless



Pre-drilling recommended Ø2.5mm (3/32").

Note: The recommendations for screw placement are guidelines only. Installers need to ensure that the cabinet wall is adequate.



Dynapro 16, Heavy Duty and Extended Length Slide, 3D

Integrated Soft-close with optional 4-dimensional adjustment for 16mm (5/8") drawer material



- Face frame or frameless applications from 12.7mm (1/2") to 16mm (5/8") drawer material
- Face frame application must be blocked out
- Full extension with a synchronized mechanism
- Fully enclosed soft-close liquid damping system
- Self-latching front locking devices have comfortable release levers for drawer removal and installation
- Height adjustment +3.5mm
- Side adjustment ±1.5mm
- Tilt adjustment +4.0mm
- Depth adjustment +4.5mm (optional)
- 132 lb load rating (60 kg) heavy duty
- 110 lb load rating (50 kg) extended length

Dynapro 16 Full Extension Slide 3D, 132 lb (60 kg) and 110 lb (50 kg)

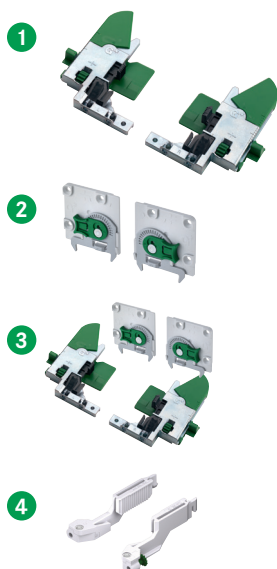


Drawer Length	Nominal Length	Min Installation Depth	Item No.	PU
457 (18")	475 (18 11/16")	479 (18 27/32")	F130135008 604	5
533 (21")	551 (21 11/16")	555 (21 27/32")	F130135009 604	5
610 (24")	628 (24 23/32")	632 (24 7/8")	F130135010 604	5
686 (27")*	704 (27 23/32")	708 (27 7/8")	F130135011 604	5
762 (30")*	780 (30 23/32")	784 (30 7/8")	F130135012 604	5

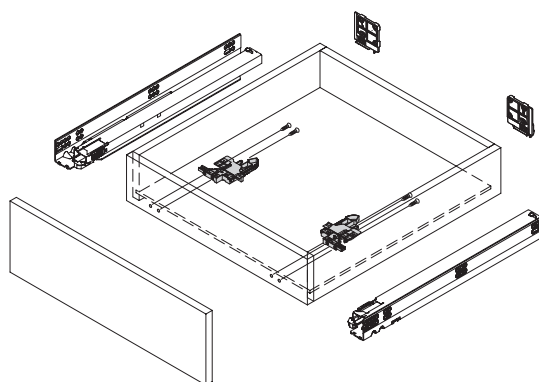
*Extended lengths, 110 lb (50 kg)

Note: Heavy duty and extended length slides must be blocked out for face frame application.

Front Locking Devices and Adjustment Adapters



Description	Adjustments	Item No.	PU
(Must order separately)			
1 Front locking device, left	height, side	F134125000 633	200
Front locking device, right	height, side	F134125001 633	200
Front locking device, set	height, side	F134101400 104	5
2 Tilt adjustment adapter, left		F134125002 233	200
Tilt adjustment adapter, right		F134125003 233	200
3 Front locking device and adjustment adapter set		F134125074 517	1
Set Includes: Front locking device set and tilt adjustment adapter set			
4 Depth adjustment for drawer front, left and right, set, optional		F134101002 104	5



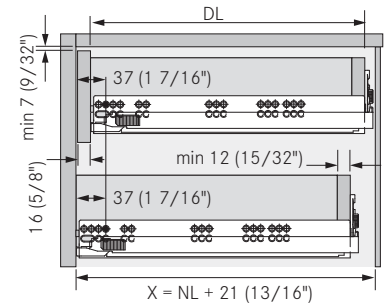
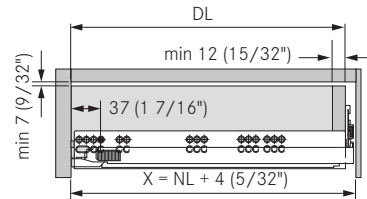
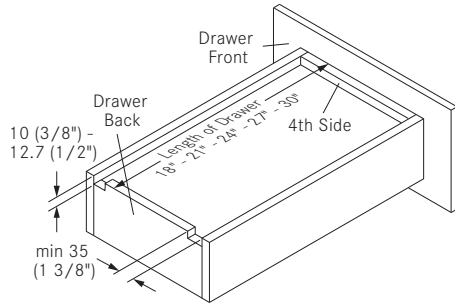
PU - Packaging unit

Drawer Material Thickness	16mm (5/8")
Dynamic Load	* 132 lb (60 kg)
Static Load	* 150 lb (70 kg)
Adjustment (depth optional)	Tilt & Depth

Drawer Measurements

Drawer

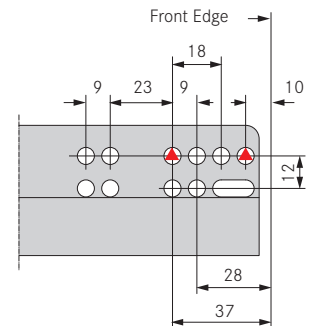
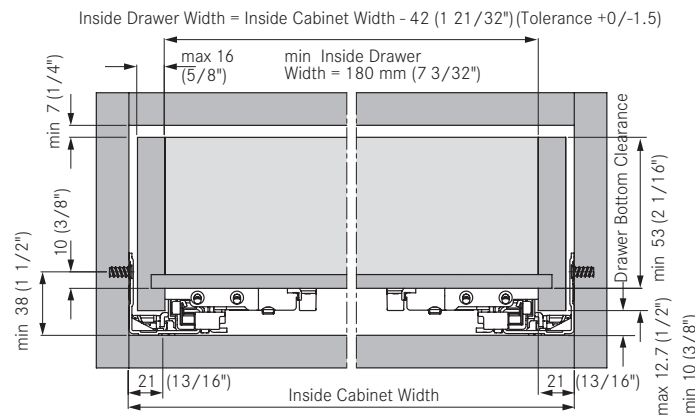
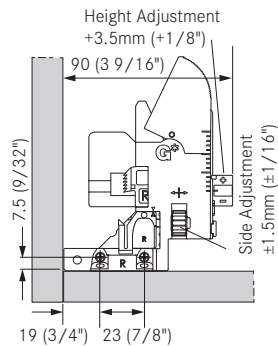
Inset Roll-out Drawer



Front Locking Device Installation

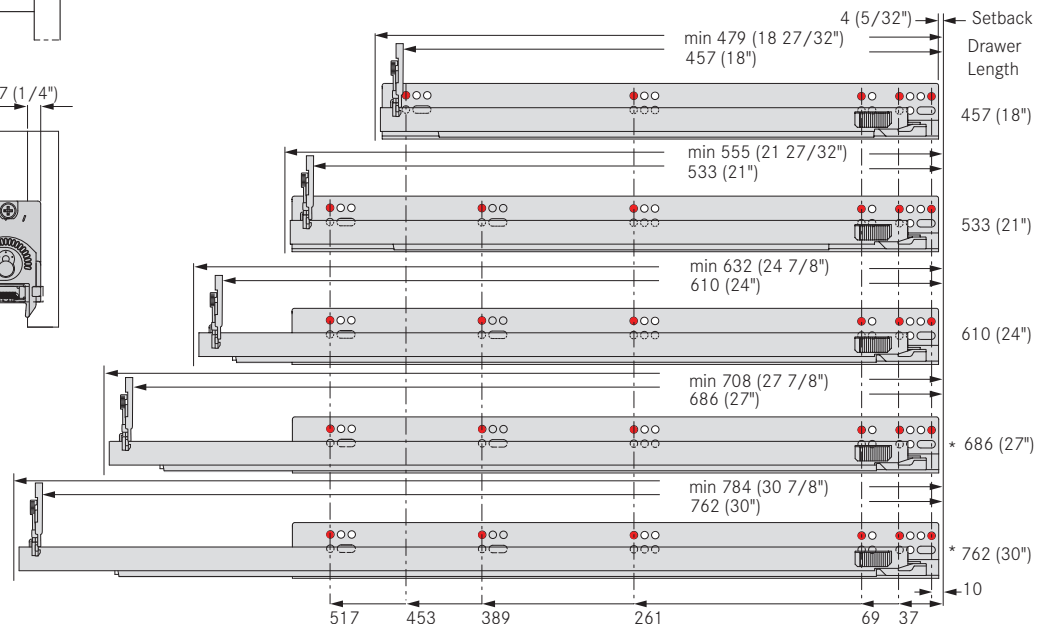
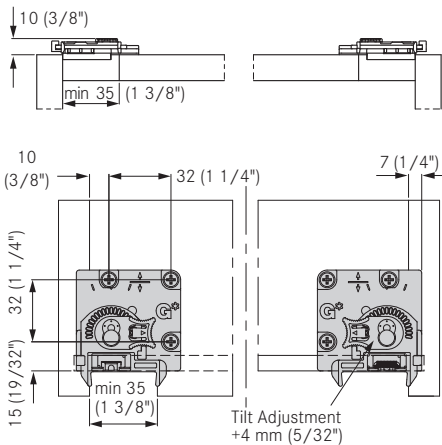
Drawer Installation Dimensions

Mounting Position for Front Cabinet Profile



Tilt Adjustment Adapter Installation

Cabinet Boring Specifications



Pre-drilling recommended Ø2.5mm (3/32").
Note: The recommendations for screw placement are guidelines only. Installers need to ensure that the cabinet wall is adequate.

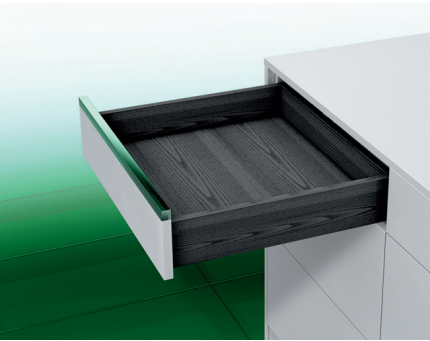
DL = drawer length
ICW = inside cabinet width
IDW = inside drawer width
NL = nominal length
X = minimum installation depth

* 110 lb dynamic load and 125 lb static load for extended lengths.

All dimensions in millimeters.

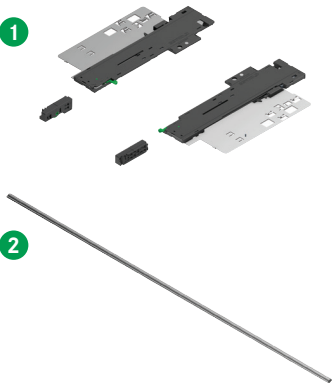
Dynapro Tipmatic Soft-close

For 16mm (5/8") drawer material



- Face frame or frameless applications from 12.7mm (1/2") to 16mm (5/8") drawer material
- Mechanical opening system for handle-free fronts
- Combines Tipmatic function with Soft-close damping
- Tool-free assembly of the Tipmatic Soft-close unit
- One Tipmatic Soft-close set for all slide lengths
- 3-tier adjustment for the opening force
- Wide activation zone due to synchronization bar
- Works with all Dynapro 2D/3D type slides including heavy duty
- Works with Vionaro drawers
- Dynapro Tipmatic Soft-close works with all Dynapro front locking devices
- For inside cabinet widths up to 1168mm (46")

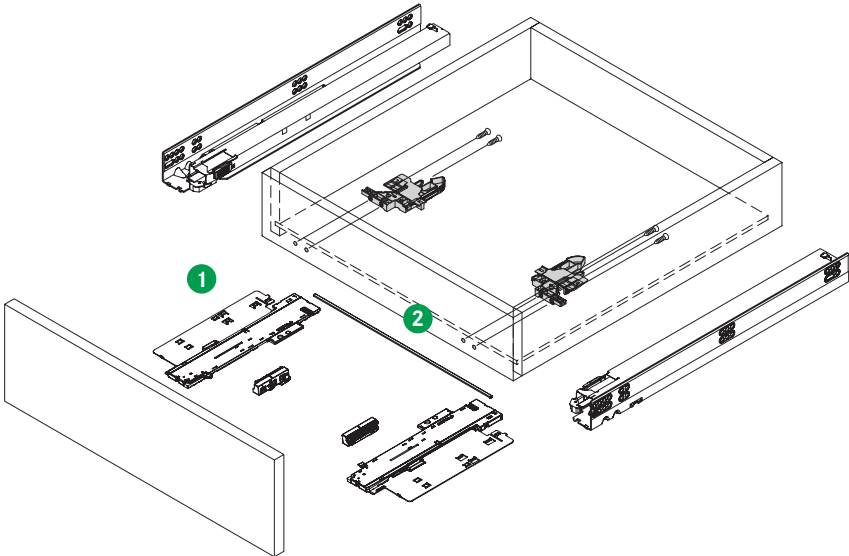
Tipmatic Soft-close for Dynapro 2D/3D



Description	Item No.	PU
(Must order separately)		
1 Tipmatic Soft-close set, unit and actuator	F134134420607	10
2 Tipmatic synchronization bar - cut to length, 952mm (37 1/2")	F134109410207	10

Note: Tipmatic Soft-close does not work with 9" slides.

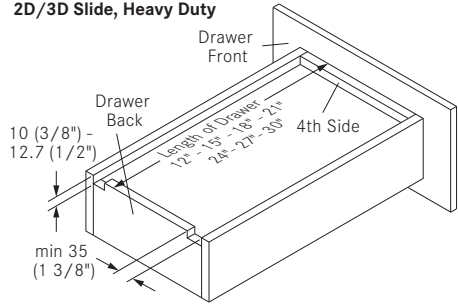
Drawer Length	Nominal Length	Min Inst. Depth	Max Inst. Depth
305 (12")	323 (12 23/32")	327 (12 7/8")	370 (14 9/16")
381 (15")	399 (15 23/32")	403 (15 7/8")	446 (17 9/16")
457 (18")	475 (18 11/16")	479 (18 27/32")	522 (20 9/16")
533 (21")	551 (21 11/16")	555 (21 27/32")	598 (23 17/32")
610 (24")	628 (24 23/32")	632 (24 7/8")	-
686 (27")	704 (27 23/32")	708 (27 7/8")	-
762 (30")	780 (24 23/32")	784 (30 7/8")	-



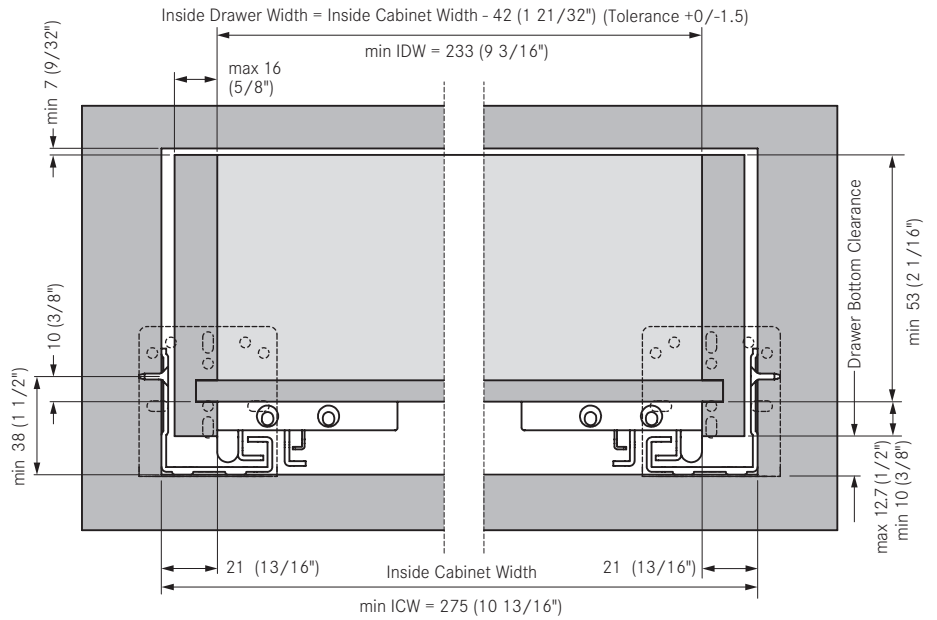
PU - Packaging unit

Drawer Measurements

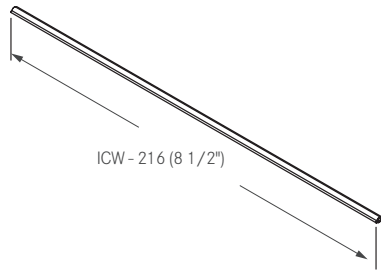
2D/3D Slide, Heavy Duty



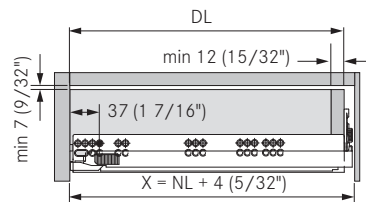
Drawer Installation Dimensions



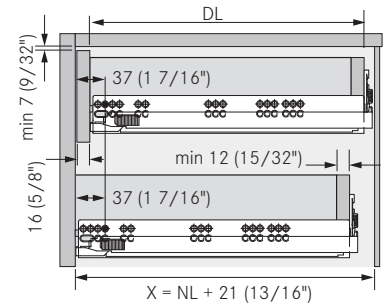
Synchronization Bar Cut for 16mm



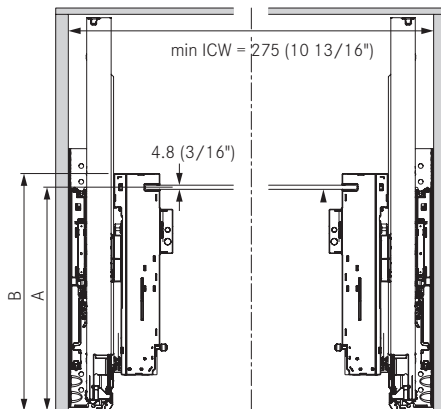
Drawer



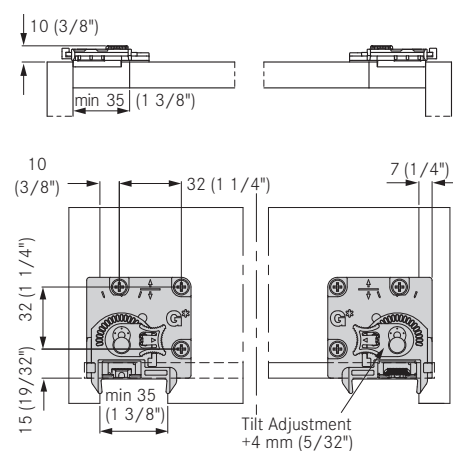
Inset Roll-out Drawer



Position of the Synchronization Bar



Tilt Adjustment Adapter Installation



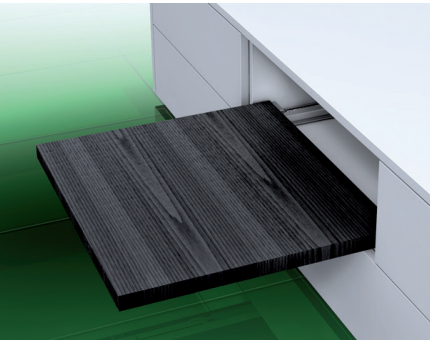
Drawer Length	A	B
305 (12")	261 (10 9/32")	278 (10 15/16")
381 - 762 (15 - 30")	296 (11 21/32")	313 (12 5/16")

DL = drawer length
 ICW = inside cabinet width
 IDW = inside drawer width
 NL = nominal length
 X = minimum installation depth

All dimensions in millimeters.

Dynapro Pull Out Shelf

Base Panel Mount Drawer Slides and 1D Front Locking Device Set



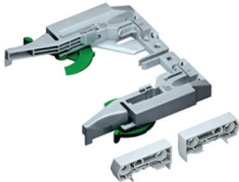
- Full extension with a synchronized mechanism
- Soft-close damping system
- Lower cabinet members allow for pull-out shelf
- Suitable for inset shelves
- Height adjustment +3.5mm with front locking device
- 88 lb load rating (40 kg)
- For frameless cabinetry

Dynapro Base Panel Mount Drawer Slides, 88 lb (40 kg)

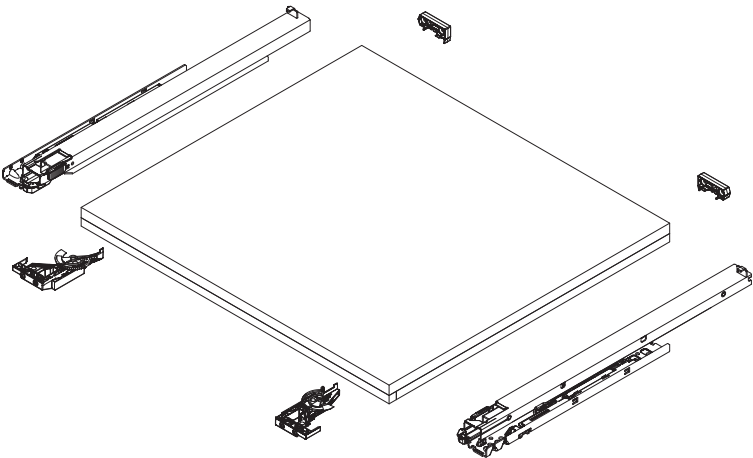


Drawer Length	Item No.	PU
450 (18")	F130107884 604	5
500 (20")	F130107890 604	5
550 (22")	F130107893 604	5

Front Locking Device



Description	Item No.	PU
(Must order separately)		
1D Front locking device & shelf holder, set	F134107411 517	50

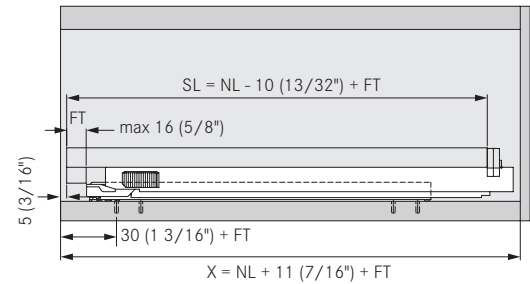
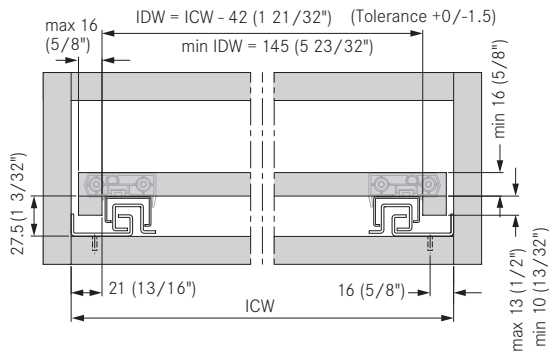


PU - Packaging unit

Dynamic Load	88 lb (40 kg)
Static Load	100 lb (45 kg)

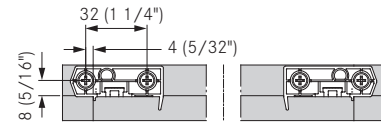
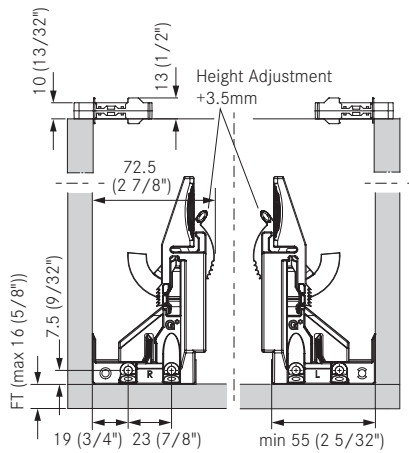
Shelf Measurements

Pull Out Shelf

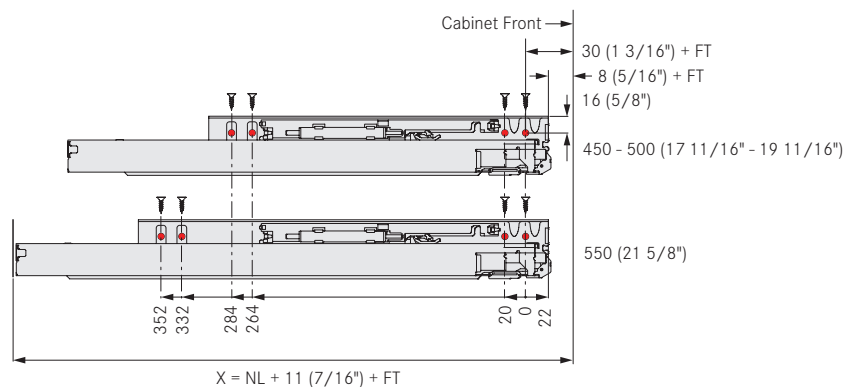


Front Locking Device Installation

Shelf Holder Installation



Cabinet Boring Specifications - Top View



FT = front thickness
 ICW = inside cabinet width
 IDW = inside drawer width
 NL = nominal length
 SL = shelf length
 X = minimum installation depth

All Dimensions in millimeters

Dynapro 19, Full Extension Slide, 2D

Integrated Soft-close with optional 3-dimensional adjustment for 19mm (3/4") drawer material

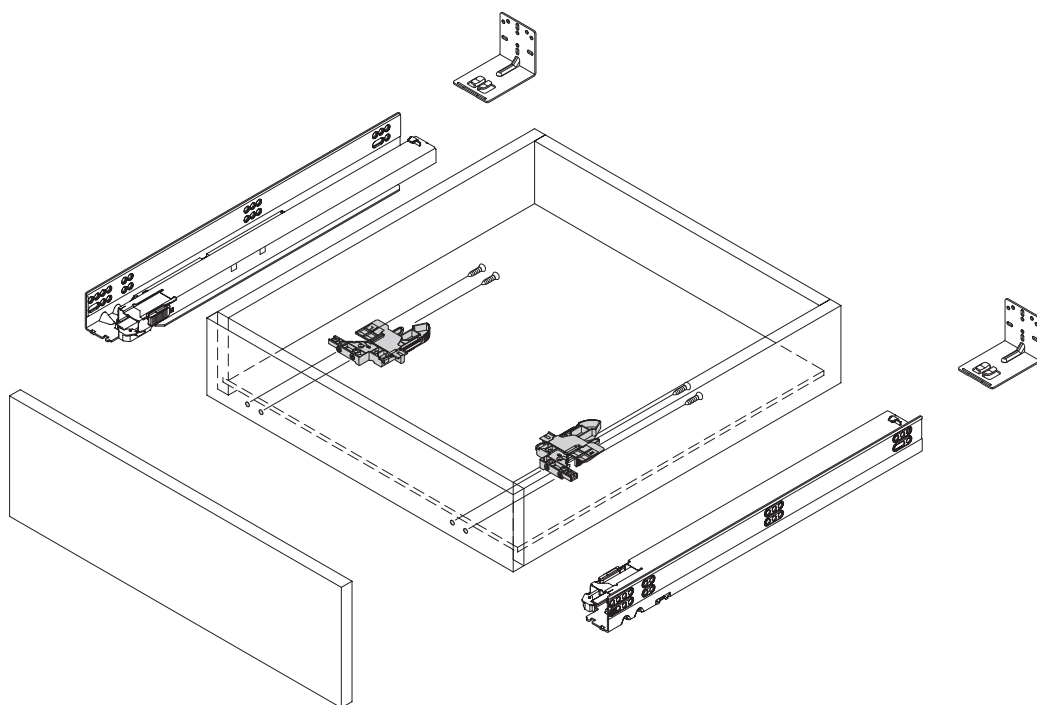


- Face frame or frameless applications from 16mm (5/8") up to 19mm (3/4") drawer material
- Full extension with a synchronized mechanism
- Fully enclosed soft-close liquid damping system
- Self-latching front locking devices have easy release levers for drawer removal and installation
- Integrated 2-dimensional adjustment for alignment
- Height adjustment +3.5mm with suitable front locking device
- Side adjustment ± 1.5 mm with suitable front locking device
- Depth adjustment +3.0mm forward with suitable front locking device
- 100 lb load rating (45 kg)

Dynapro 19 Full Extension Slide 2D, 100 lb (45 kg)



Drawer Length	Nominal Length	Min Installation Depth	Max Installation Depth	Item No.	PU
229 (9")	262 (10 5/16")	273 (10 3/4")	352 (13 7/8")	F130135030 604	5
305 (12")	323 (12 23/32")	327 (12 7/8")	370 (14 9/16")	F130135031 204U	5
381 (15")	399 (15 23/32")	403 (15 7/8")	446 (17 9/16")	F130135032 204U	5
457 (18")	475 (18 11/16")	479 (18 27/32")	522 (20 9/16")	F130135033 204U	5
533 (21")	551 (21 11/16")	555 (21 27/32")	598 (23 17/32")	F130135034 204U	5
381 (15") LH	399 (15 23/32")	403 (15 7/8")	446 (17 9/16")	F130141436 299	336
381 (15") RH	399 (15 23/32")	403 (15 7/8")	446 (17 9/16")	F130141437 299	336
457 (18") LH	475 (18 11/16")	479 (18 27/32")	522 (20 9/16")	F130141438 299	336
457 (18") RH	475 (18 11/16")	479 (18 27/32")	522 (20 9/16")	F130141439 299	336
533 (21") LH	551 (21 11/16")	555 (21 27/32")	598 (23 17/32")	F130141440 299	336
533 (21") RH	551 (21 11/16")	555 (21 27/32")	598 (23 17/32")	F130141441 299	336



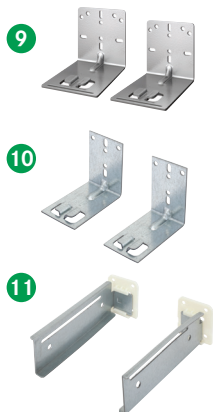
PU - Packaging unit

Front Locking Devices



Description	Adjustments	Item No.	PU
(Must order separately)			
1 Front locking device, left	height, side	F134125000633	200
Front locking device, right	height, side	F134125001633	200
Front locking device, set	height, side	F134101400104	5
2 3D Flanged front locking device, left	height, side, depth	F134108942233	200
3D Flanged front locking device, right	height, side, depth	F134108943233	200
3 3D Front locking device, left	height, side, depth	F134108947233	200
3D Front locking device, right	height, side, depth	F134108948233	200
4 2D Flanged front locking device, left	height, side	F134108944233	200
2D Flanged front locking device, right	height, side	F134108945233	200
5 2D Front locking device, left	height, side	F134108950233	200
2D Front locking device, right	height, side	F134108951233	200
6 Narrow front locking device, left	height	F134100699233	200
Narrow front locking device, right	height	F134100700233	200
7 Eco front locking device, left	height	F134101221233	200
Eco front locking device, right	height	F134101222233	200
8 Eco flanged front locking device, left	height	F134116420233	200
Eco flanged front locking device, right	height	F134116421233	200

Rear Mounting Brackets

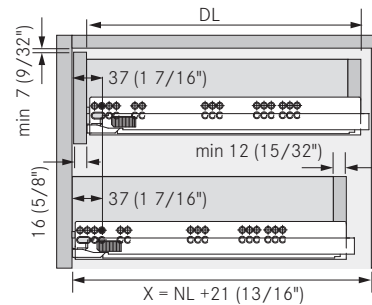
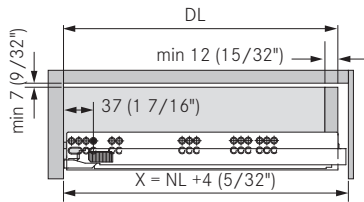
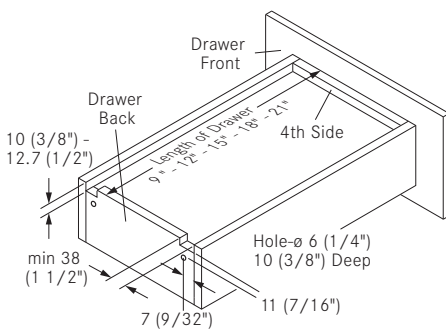


Description	Item No.	PU
(Must order separately)		
9 Rear mounting brackets, non-handed for 12"-21" slides, each	7950.VE300	300
10 Narrow rear mounting brackets, non-handed for 12"-21" slides, each	7951.VE300	300
11 Rear mounting sockets for 9" slides, set	00433-37	5
Set Includes: left and right sockets, (4) #M5 x 8 screw		

Dynapro 19, Full Extension Slide, 2D

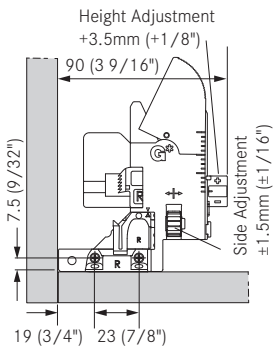
Integrated Soft-close with optional 3-dimensional adjustment for 19mm (3/4") drawer material

Drawer Measurements Drawer Inset Roll-out Drawer

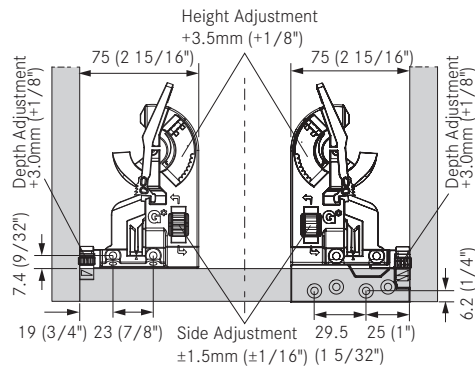


Front Locking Device Installation

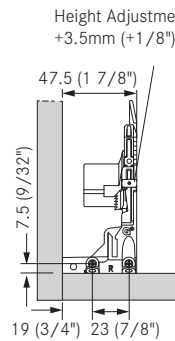
Front Locking Device



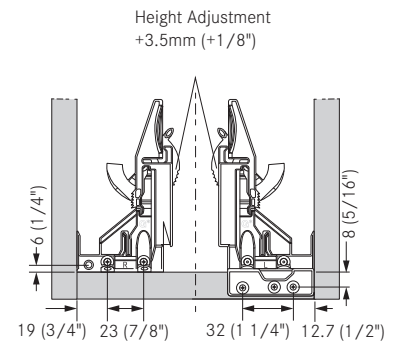
2D/3D Front Locking Devices



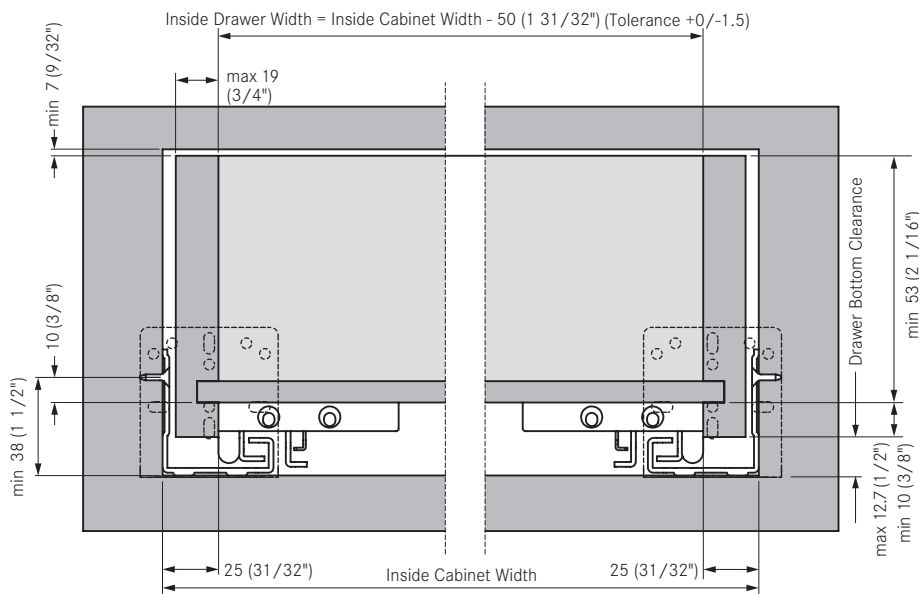
Narrow Front Locking Device



Eco Front Locking Device



Drawer Installation Dimensions



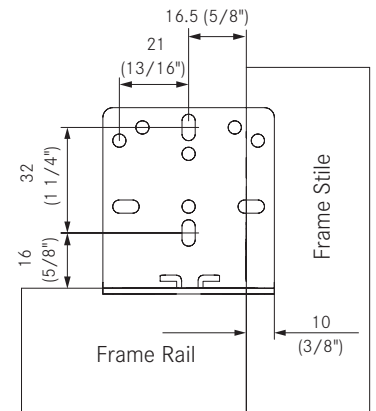
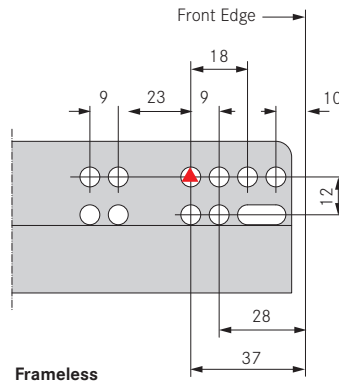
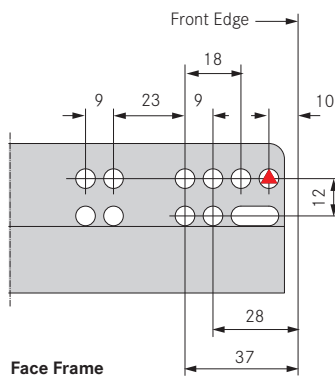
Minimum inside drawer width determined by front Locking device. See page 8.

DL = drawer length
ICW = inside cabinet width
IDW = inside drawer width
NL = nominal length
X = minimum installation depth

Drawer Material Thickness	19mm (3/4")
Dynamic Load	100 lb (45 kg)
Static Load	100 lb (45 kg)

Mounting Position for Front Cabinet Profile

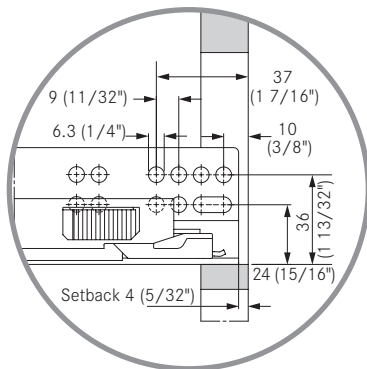
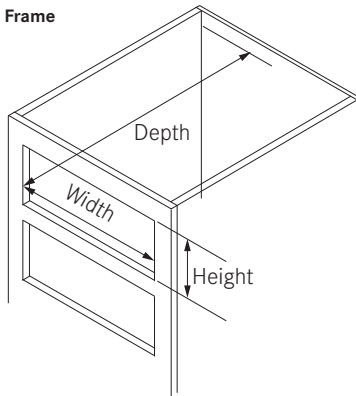
Rear Bracket for Face Frame



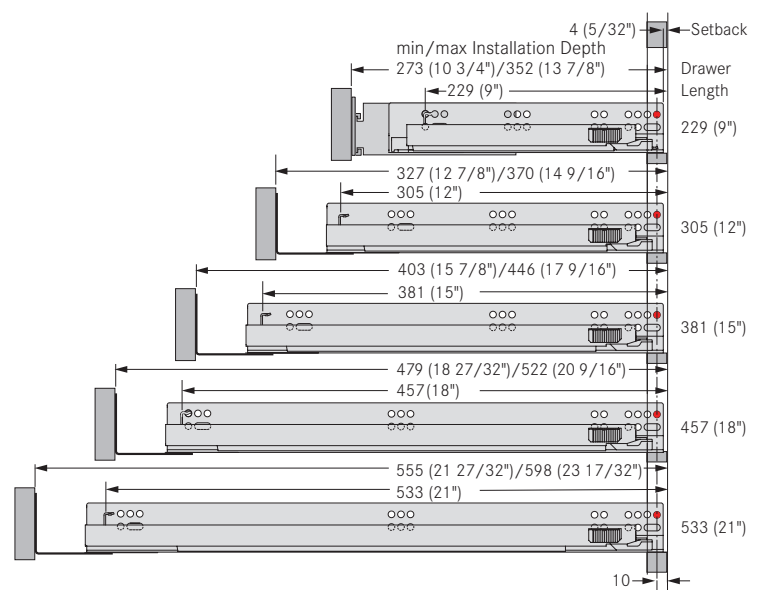
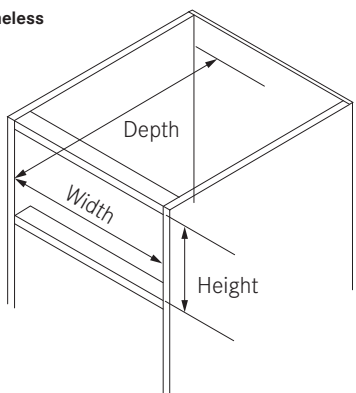
See page 9 for additional rear mounting brackets

Cabinet Boring Specifications

Face Frame

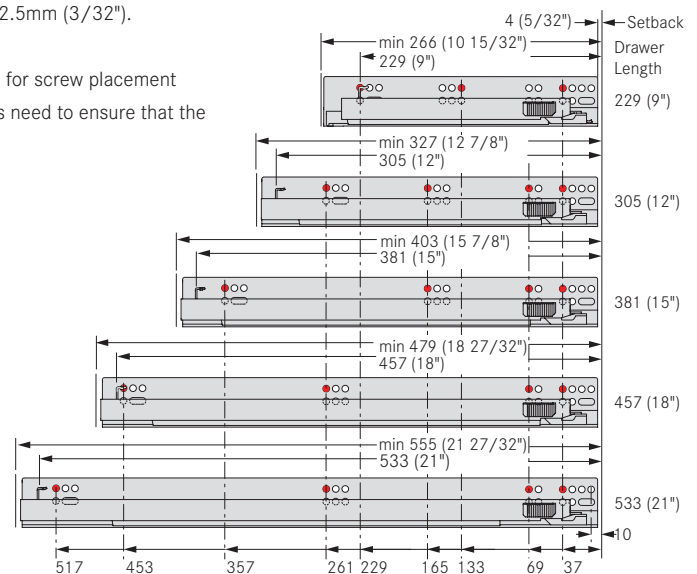


Frameless



Pre-drilling recommended Ø2.5mm (3/32").

Note: The recommendations for screw placement are guidelines only. Installers need to ensure that the cabinet wall is adequate.



Dynapro 19, Full Extension Slide, 3D

Integrated Soft-close with optional 4-dimensional adjustment for 19mm (3/4") drawer material

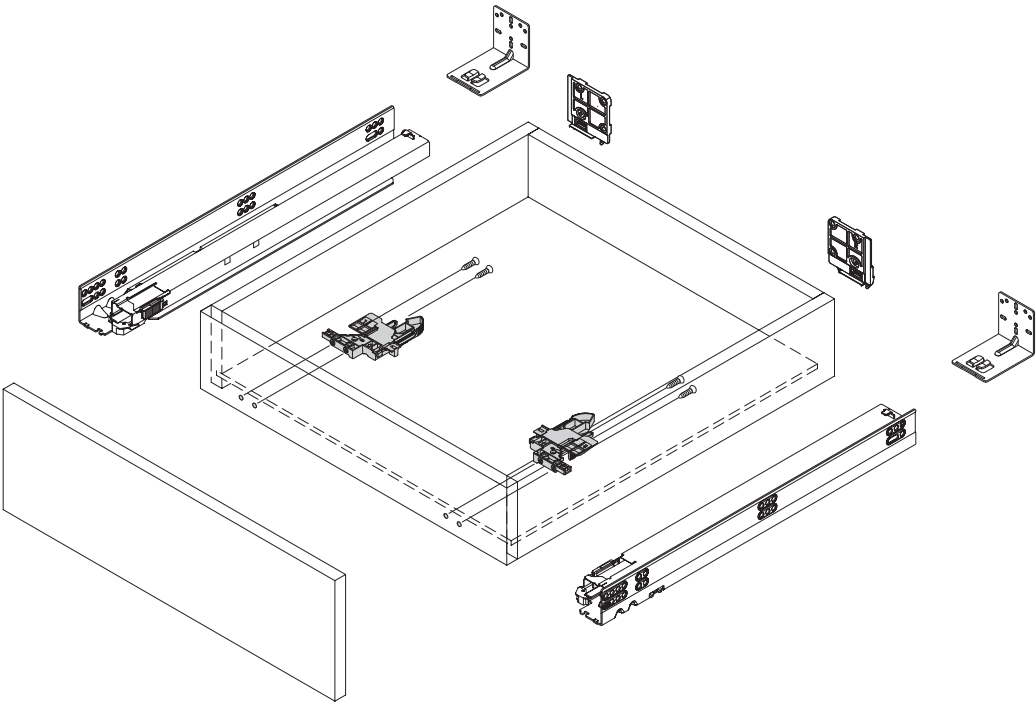


- Face frame or frameless applications from 16mm (5/8") to 19mm (3/4") drawer material
- Full extension with a synchronized mechanism
- Fully enclosed soft-close liquid damping system
- Self-latching front locking devices have comfortable release levers for drawer removal and installation
- Height adjustment +3.5mm with suitable front locking device
- Side adjustment ±1.5mm with suitable front locking device
- Tilt adjustment +4.0mm
- Depth adjustment +3.0mm forward with suitable front locking device
- 100 lb load rating (45 kg)

Dynapro 19 Full Extension Slide 3D, 100 lb (45 kg)

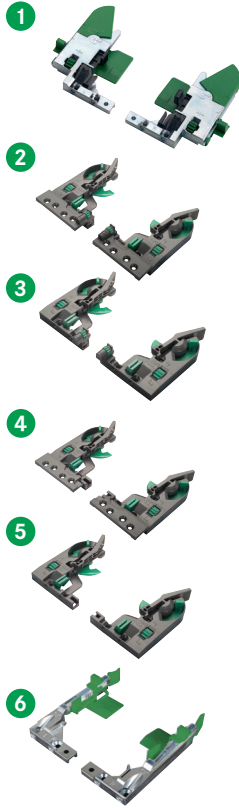


Drawer Length	Nominal Length	Min Installation Depth	Max Installation Depth	Item No.	PU
229 (9")	262 (10 5/16")	273 (10 3/4")	352 (13 7/8")	F130135022 204	5
305 (12")	323 (12 23/32")	327 (12 7/8")	370 (14 9/16")	F130135023 604	5
381 (15")	399 (15 23/32")	403 (15 7/8")	446 (17 9/16")	F130135024 604	5
457 (18")	475 (18 11/16")	479 (18 27/32")	522 (20 9/16")	F130135025 604	5
533 (21")	551 (21 11/16")	555 (21 27/32")	598 (23 17/32")	F130135026 604	5



PU - Packaging unit

Front Locking Devices



Description	Adjustments	Item No.	PU
(Must order separately)			
1 Front locking device, left	height, side	F134125000633	200
Front locking device, right	height, side	F134125001633	200
Front locking device, set	height, side	F134101400104	5
2 3D Flanged front locking device, left	height, side, depth	F134108942233	200
3D Flanged front locking device, right	height, side, depth	F134108943233	200
3 3D Front locking device, left	height, side, depth	F134108947233	200
3D Front locking device, right	height, side, depth	F134108948233	200
4 2D Flanged front locking device, left	height, side	F134108944233	200
2D Flanged front locking device, right	height, side	F134108945233	200
5 2D Front locking device, left	height, side	F134108950233	200
2D Front locking device, right	height, side	F134108951233	200
6 Narrow front locking device, left	height	F134100699233	200
Narrow front locking device, right	height	F134100700233	200

Rear Mounting Brackets and Adjustment Adapters

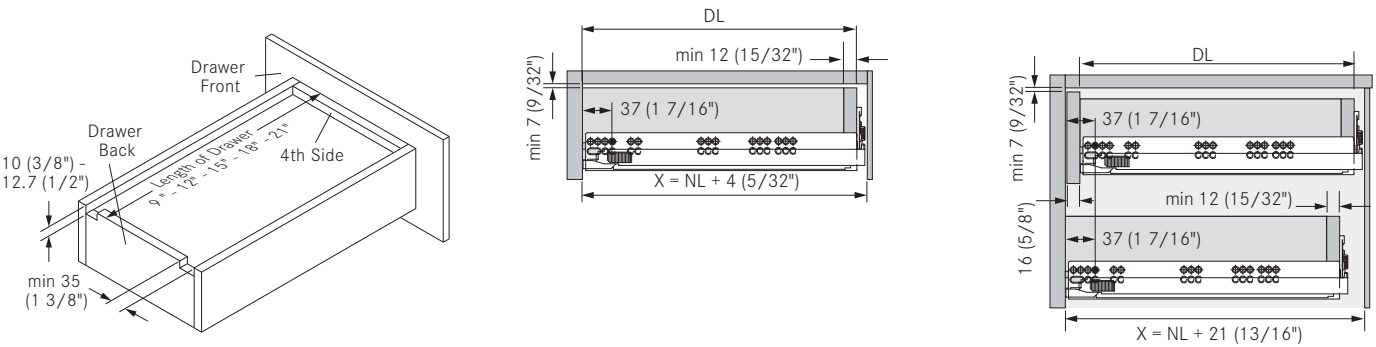


Description	Item No.	PU
(Must order separately)		
7 Rear mounting brackets, non-handed for 12"-21" slides, each	7950.VE300	300
8 Narrow rear mounting brackets, non-handed for 12"-21" slides, each	7951.VE300	300
9 Rear mounting sockets for 9" slides, set Set Includes: left and right sockets, (4) #M5 x 8 screw	00433-37	5
10 Tilt adjustment adapter, left	F134125002233	200
Tilt adjustment adapter, right	F134125003233	200
11 Front locking device and adjustment adapter set Set Includes: Front locking device set and tilt adjustment adapter set	F134125074517	1

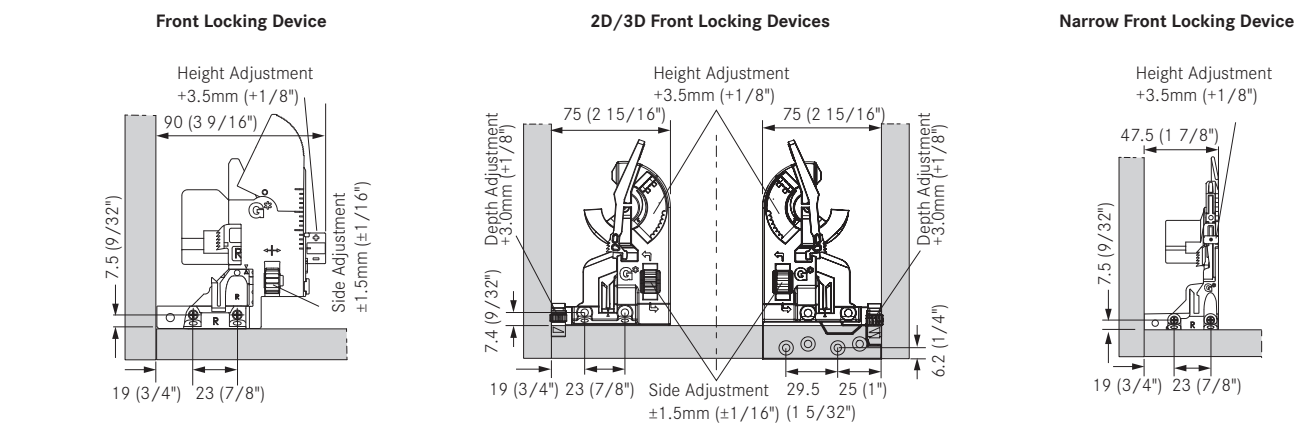
Dynapro 19, Full Extension Slide, 3D

Integrated Soft-close with optional 4-dimensional adjustment for 19mm (3/4") drawer material

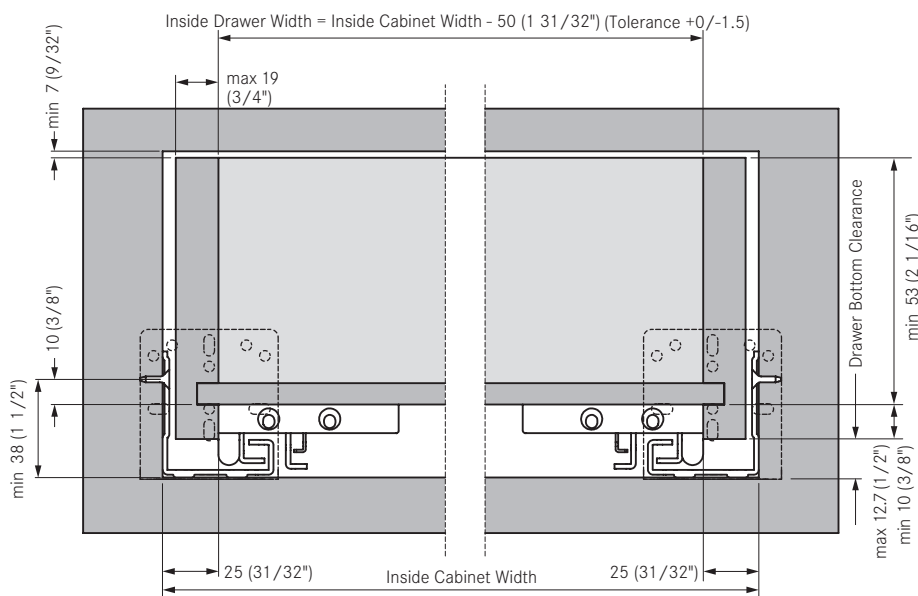
Drawer Measurements



Front Locking Device Installation

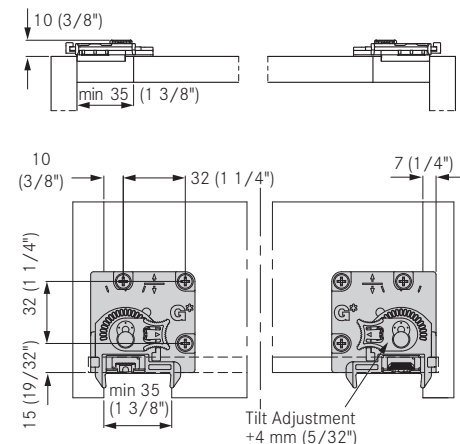


Drawer Installation Dimensions



Minimum inside drawer width determined by front Locking device. See page 8.

Tilt Adjustment Adapter Installation

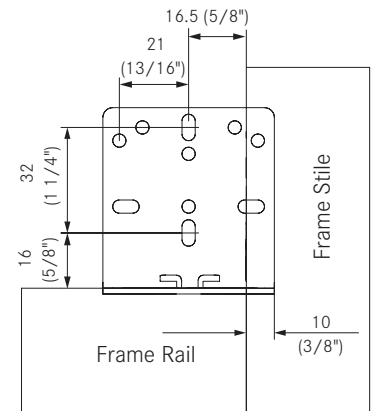
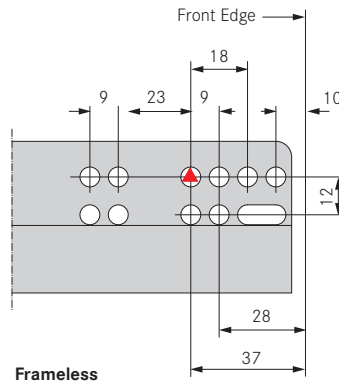
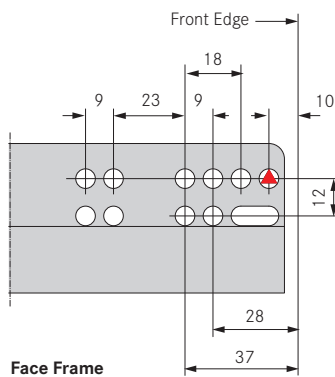


DL = drawer length
ICW = inside cabinet width
IDW = inside drawer width
NL = nominal length
X = minimum installation depth

Drawer Material Thickness	19mm (3/4")
Dynamic Load	100 lb (45 kg)
Static Load	100 lb (45 kg)

Mounting Position for Front Cabinet Profile

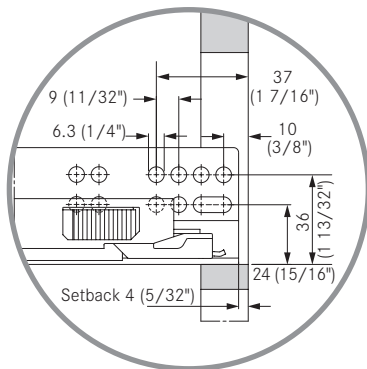
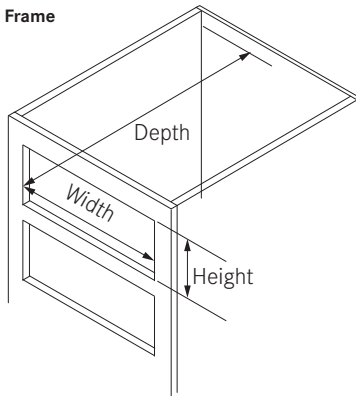
Rear Bracket for Face Frame



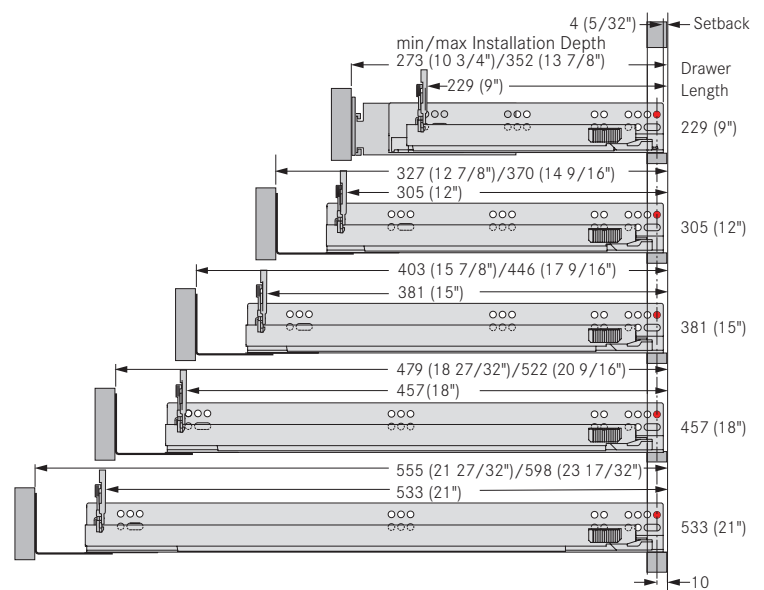
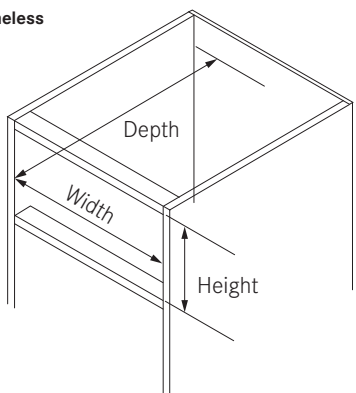
See page 9 for additional rear mounting brackets

Cabinet Boring Specifications

Face Frame

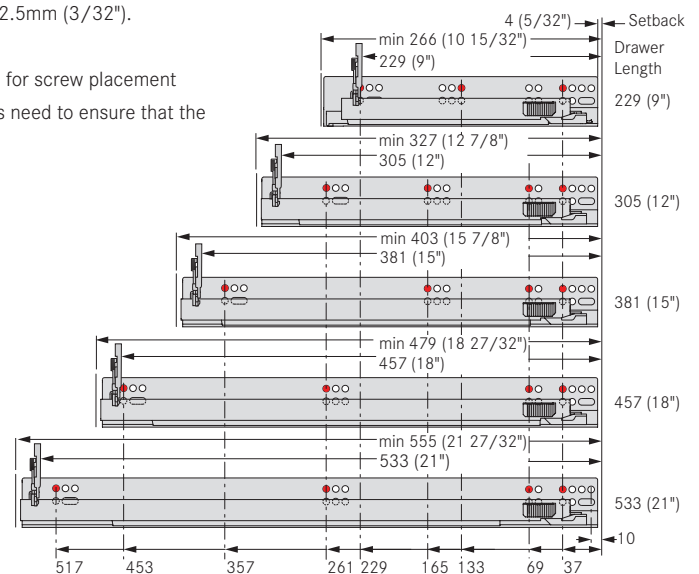


Frameless



Pre-drilling recommended Ø2.5mm (3/32").

Note: The recommendations for screw placement are guidelines only. Installers need to ensure that the cabinet wall is adequate.



Dynapro 19, Heavy Duty and Extended Length Slide, 3D

Integrated Soft-close with optional 4-dimensional adjustment for 19mm (3/4") drawer material



- Face frame or frameless applications from 16mm (5/8") to 19mm (3/4") drawer material
- Face frame application must be blocked out
- Full extension with a synchronized mechanism
- Fully enclosed soft-close liquid damping system
- Self-latching front locking devices have comfortable release levers for drawer removal and installation
- Height adjustment +3.5mm
- Side adjustment ±1.5mm
- Tilt adjustment +4.0mm
- Depth adjustment +4.5mm (optional)
- 132 lb load rating (60 kg) heavy duty
- 110 lb load rating (50 kg) extended length

Dynapro 19 Full Extension Slide 3D, 132 lb (60 kg) and 110 (50 kg)

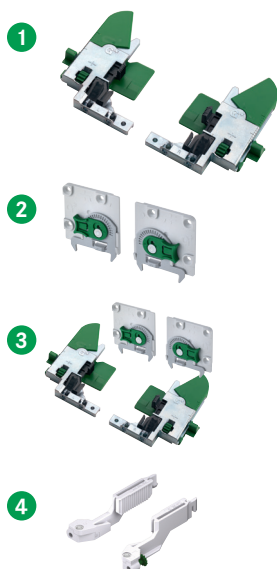


Drawer Length	Nominal Length	Min Installation Depth	Item No.	PU
457 (18")	475 (18 11/16")	479 (18 27/32")	F130135027 604	5
533 (21")	551 (21 11/16")	555 (21 27/32")	F130135028 604	5
610 (24")	628 (24 23/32")	632 (24 7/8")	F130135427 604	5
686 (27")*	704 (27 23/32")	708 (27 7/8")	F130136064 604	5
762 (30")*	780 (30 23/32")	784 (30 7/8")	F130135029 604	5

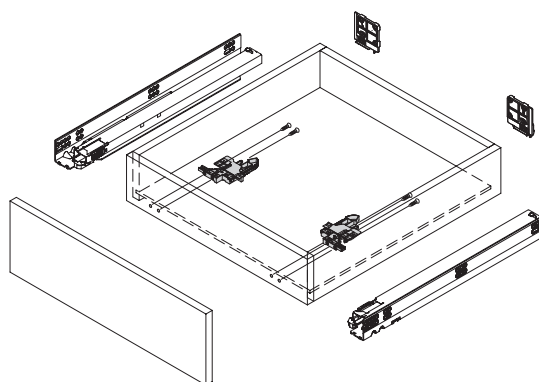
*Extended lengths, 110 lb (50 kg)

Note: Heavy duty and extended length slides must be blocked out for face frame application.

Front Locking Devices and Adjustment Adapters



Description	Adjustments	Item No.	PU
(Must order separately)			
1 Front locking device, left	height, side	F134125000 633	200
Front locking device, right	height, side	F134125001 633	200
Front locking device, set	height, side	F134101400 104	5
2 Tilt adjustment adapter, left		F134125002 233	200
Tilt adjustment adapter, right		F134125003 233	200
3 Front locking device and adjustment adapter set		F134125074 517	1
Set Includes: Front locking device set and tilt adjustment adapter set			
4 Depth adjustment for drawer front, left and right, set, optional		F134101002 104	5



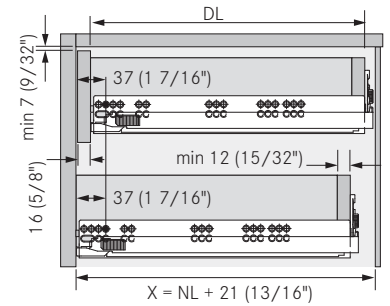
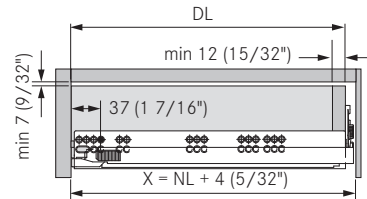
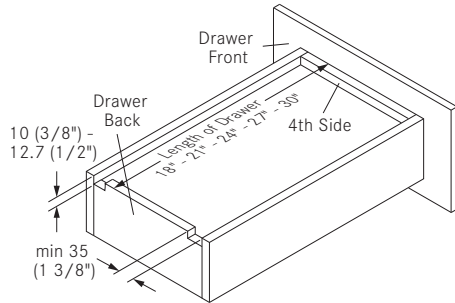
PU - Packaging unit

Drawer Material Thickness	19mm (3/4")
Dynamic Load	* 132 lb (60 kg)
Static Load	* 150 lb (70 kg)
Adjustment (depth optional)	Tilt & Depth

Drawer Measurements

Drawer

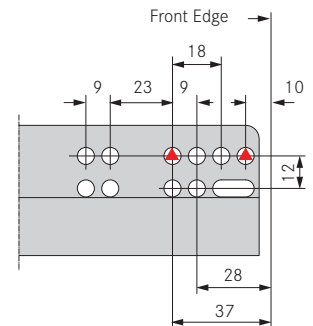
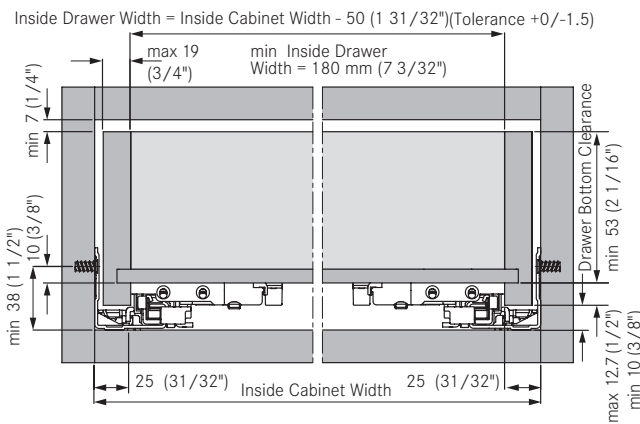
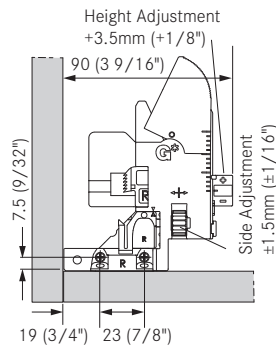
Inset Roll-out Drawer



Front Locking Device Installation

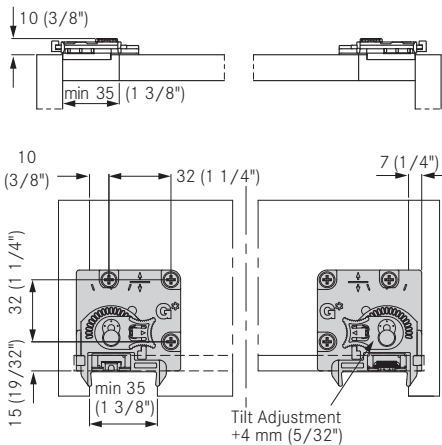
Drawer Installation Dimensions

Mounting Position for Front Cabinet Profile



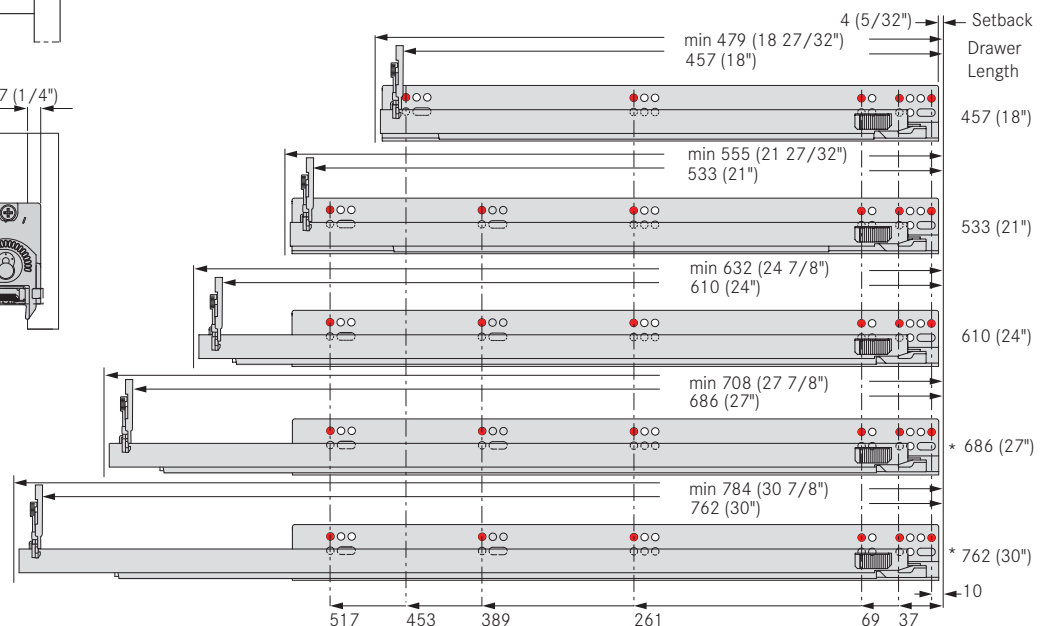
Tilt Adjustment Adapter Installation

Cabinet Boring Specifications



Pre-drilling recommended Ø2.5mm (3/32").
Note: The recommendations for screw placement are guidelines only. Installers need to ensure that the cabinet wall is adequate.

DL = drawer length
ICW = inside cabinet width
IDW = inside drawer width
NL = nominal length
X = minimum installation depth

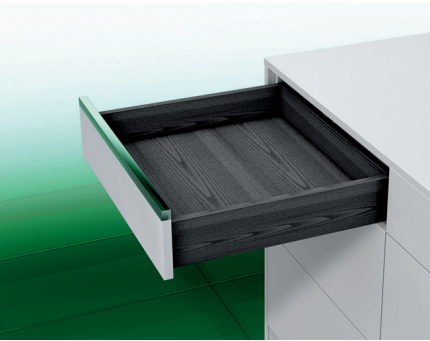


* 110 lb dynamic load and 125 lb static load for extended lengths.

All dimensions in millimeters.

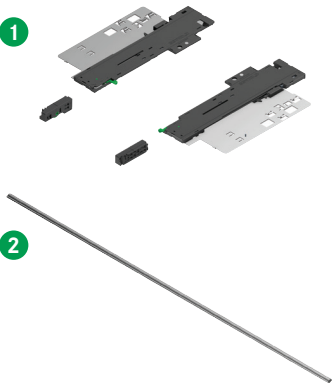
Dynapro Tipmatic Soft-close

For 19mm (3/4") drawer material



- Face frame or frameless applications from 16mm (5/8") to 19mm (3/4") drawer material
- Mechanical opening system for handle-free fronts
- Combines Tipmatic function with Soft-close damping
- Tool-free assembly of the Tipmatic Soft-close unit
- One Tipmatic Soft-close set for all slide lengths
- 3-tier adjustment for the opening force
- Wide activation zone due to synchronization bar
- Works with Dynapro 3D slides including heavy duty
- Works with Vionaro drawers
- Dynapro Tipmatic Soft-close works with all Dynapro front locking devices
- For inside cabinet widths up to 1168mm (46")

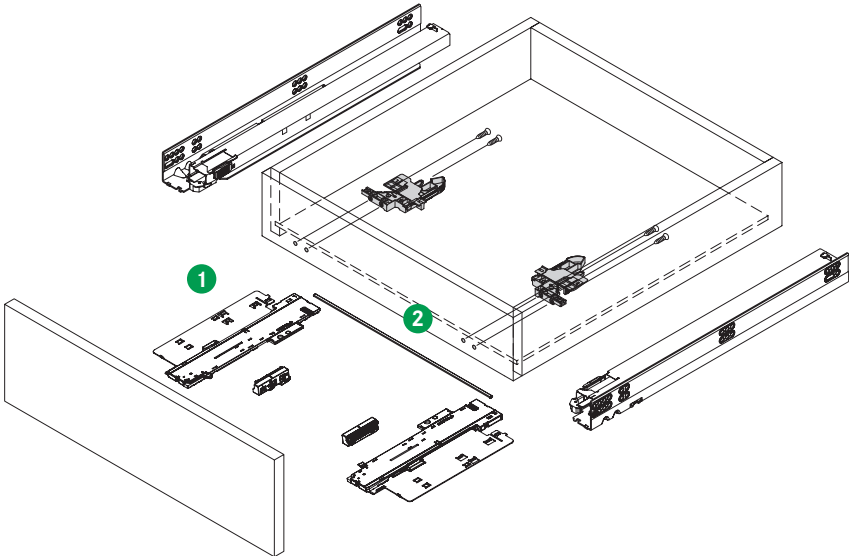
Tipmatic Soft-close for Dynapro 2D/3D



Description	Item No.	PU
(Must order separately)		
1 Tipmatic Soft-close set, unit and actuator	F134134420607	10
2 Tipmatic synchronization bar - cut to length, 952mm (37 1/2")	F134109410207	10

Note: Tipmatic Soft-close does not work with 9" slides.

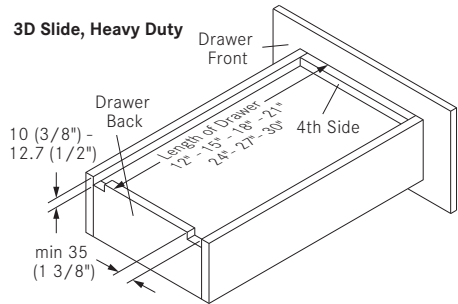
Drawer Length	Nominal Length	Min Inst. Depth	Max Inst. Depth
305 (12")	323 (12 23/32")	327 (12 7/8")	370 (14 9/16")
381 (15")	399 (15 23/32")	403 (15 7/8")	446 (17 9/16")
457 (18")	475 (18 11/16")	479 (18 27/32")	522 (20 9/16")
533 (21")	551 (21 11/16")	555 (21 27/32")	598 (23 17/32")
610 (24")	628 (24 23/32")	632 (24 7/8")	-
686 (27")	704 (27 23/32")	708 (27 7/8")	-
762 (30")	780 (24 23/32")	784 (30 7/8")	-



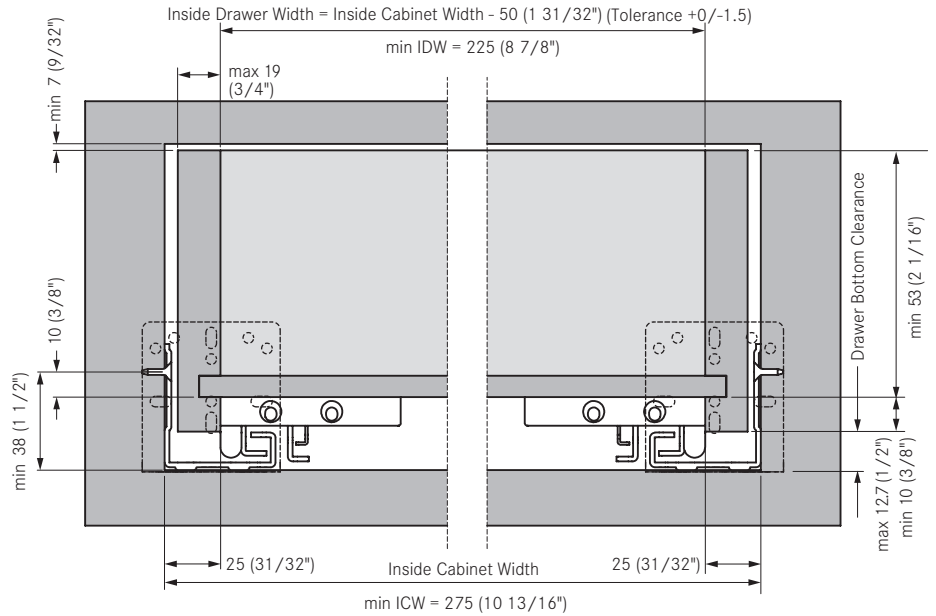
PU - Packaging unit

Drawer Measurements

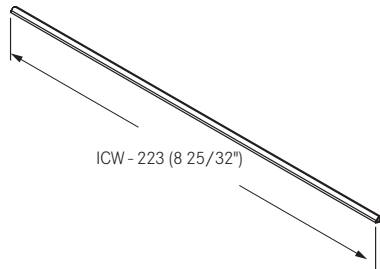
3D Slide, Heavy Duty



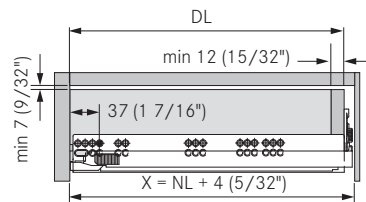
Drawer Installation Dimensions



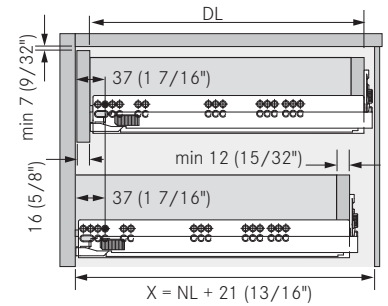
Synchronization Bar Cut for 19mm



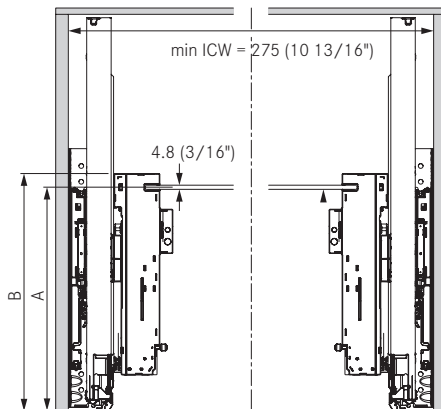
Drawer



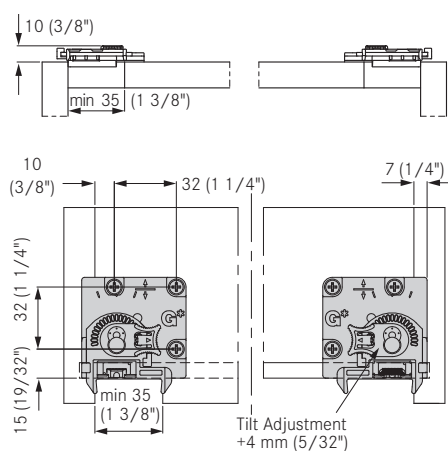
Inset Roll-out Drawer



Position of the Synchronization Bar



Tilt Adjustment Adapter Installation



Drawer Length	A	B
305 (12")	261 (10 9/32")	278 (10 15/16")
381 - 762 (15 - 30")	296 (11 21/32")	313 (12 5/16")

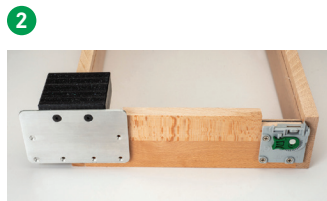
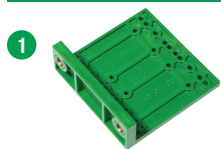
DL = drawer length
 ICW = inside cabinet width
 IDW = inside drawer width
 NL = nominal length
 X = minimum installation depth

All Dimensions in millimeters

Accessories and Assembly Aids

Dynapro

Dynapro Assembly Aids

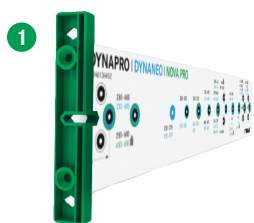


Drawer Drilling Template for drilling front locking devices, drawer hole hook, or adjustment adapters.

The Dynapro rear tilt adapter jigs are designed for locating the position of the tilt adapter on the drawer box back. The jigs are available for 16mm and 19mm drawer material.

Description	Item No.	PU
1 Drilling template - Drawer	F146133145507	1
2 Dynapro Rear Tilt Adapter Drilling Jig 16mm	00005	1
Dynapro Rear Tilt Adapter Drilling Jig 19mm	00006	1

Cabinet Member Drilling Template



- Use to precisely bore holes in the cabinet member
- Color coded by product line:
Black - Dynapro
Blue - Dynanaeo*
Green - Nova Pro

Description	Item No.	PU
1 Drilling template - Cabinet member	F146134452507	1

*Dynanaeo not currently offered by Grass America

Drilling Jig



The drilling template is designed to precisely bore holes in the drawer back with a standard 1/4" (6mm) drill bit and stop collar. Also works with Elite and Maxcess.



Left Side Drilling



Right Side Drilling

Description	Item No.	PU
Dynapro drilling jig	02511-01	1

Assembly Aids



The non-flanged FLD drilling jig is used for mounting non-flange front locking devices to the drawer box for Dynapro, Elite Plus, and Maxcess.

Description	Item No.	PU
1 Non-flanged FLD Drilling Jig	00004	1
2 Centering drill bit	35692-01	1



The Grass centering drill bit is used for pre-drilling countersink wood screws, Ø 2.5mm.

PU - Packaging unit

Dynapro

Inset Bracket Set

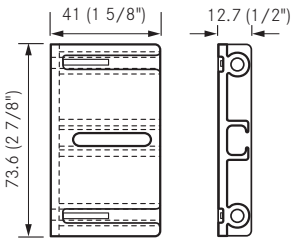


- For face frame inset applications with Dynapro
- Works with all inset applications
- Bracket mounts behind the face frame, minimum 12.7mm (1/2") frame offset required
- Slide attaches easily with one screw
- Includes guide markings for proper setback



Description	Item No.	PU
Inset bracket set	13901-37	1
Inset bracket set	13901-08	50

- Polybag set consists of:**
- 2 - Universal Inset Bracket ABS Brown
 - 2 - 8 X 32 Tapped Insert for Inset bracket
 - 4 - #7 X 2" mounting screws
 - 2 - #8 - 32 X 1/2" Machine Screw FHP
 - 1 - Instructions



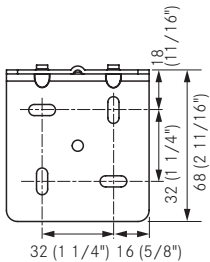
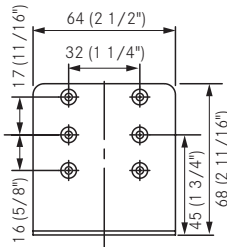
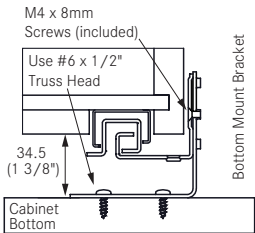
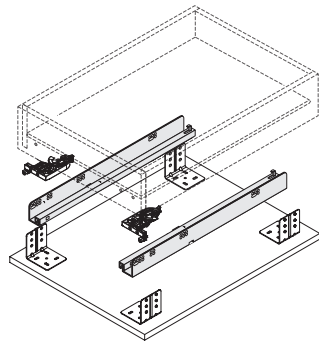
Interior Drawer Bracket



- Used to mount slides to a cabinet bottom or shelf for interior roll out trays
- Works with Dynapro and Nova Pro Scala drawer slides

Description	Item No.	PU
Interior drawer bracket, set	00443-40	25

- Set consists of:**
- 4 - non-handed, zinc plated, steel brackets
 - 8 - M4 screws to attach slides to brackets
 - 8 - #8 x 5/8" PHP screws to mount brackets to cabinet



Accessories and Assembly Aids

Dynapro

Screws

Euro Screw, Nickel-plated



Description	Item No.	PU
Euro Screw 11mm (7/16") Pozi	499.360.61.1015	500
Euro Screw 13mm (1/2") Pozi	499.360.61.3015	500

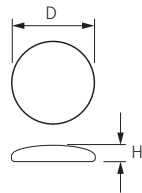
Wood Screw, Nickel-plated



Description	Item No.	PU
#6 x 5/8" FHP, NI	81001-43	500
#6 x 3/4" FHP, NI	81003-43	500

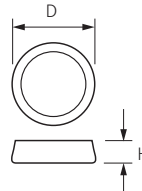
Bumper Pads

Bumper Pads, Self-adhesive



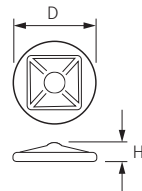
Description	Height	Diameter	Item No.	PU
Bumper pad, clear	2.5mm	10mm	63407-99	288
Bumper pad, clear	2.5mm	10mm	63407-47	7200

AirSoft Bumper Pads, Self-adhesive



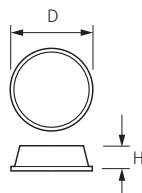
Description	Height	Diameter	Item No.	PU
AirSoft Bumper pad, clear	5mm	12.7mm	63481-43	500
AirSoft Bumper pad, clear	5mm	12.7mm	63483-30	5000

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	4mm	12mm	630.000.02.1250	5000

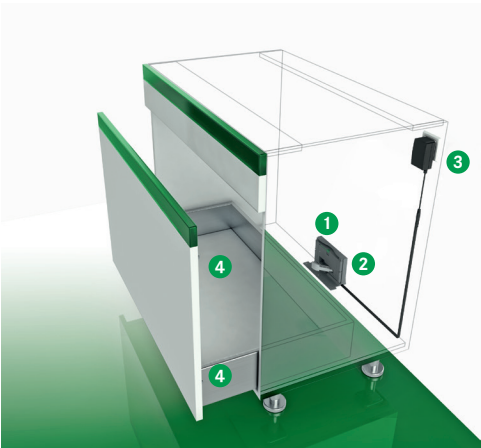
Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	3mm	12.7mm	31002-43	500
Bumper pad, clear	1.5mm	12.7mm	31004-43	500

PU - Packaging unit

For Dynapro Drawers



Sensomatic, an electro-mechanical opening system with Soft-close, offers the advantages of handle free openings with the functionality of a soft-closing action. Sensomatic can be activated by a light touch on the surface of the drawer front. A simple installation process creates a drawer system that is steady, precise, and ingenious. Sensomatic, efficient regarding power consumption and occupied space, needs only one drive unit for cabinet widths up to 47 1/4" (1200mm) regardless of the weight. Accessories such as wire baskets, trash can receptacles, or roll-out trays can be fitted with the Sensomatic system without modification. Sensomatic offers drawer mounting options for a horizontal or vertical wooden stretcher, single drawer top mount, and waste bin kit for bottom mounting, as shown here.

More product information is available in the Online Catalog.

Sensomatic Kit



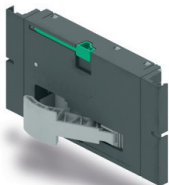
	Item No.	PU
For Dynapro	F121100697201	1

PU = 1 set

Set contains:

- 1 - Opening unit
- 1 - Base frame
- 1 - Power supply unit
- 4 - Front bumpers
(front gap 2.2mm - F121100294223)

1



2



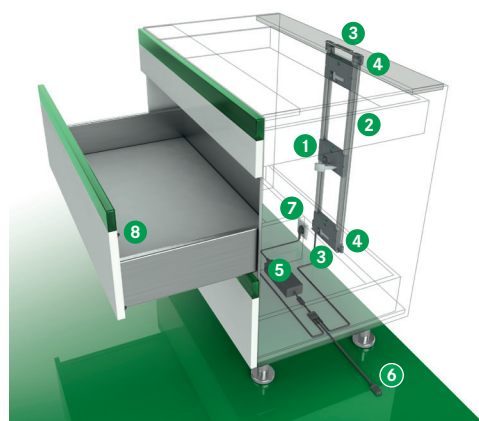
3



4

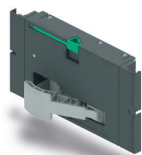


Standard cabinet with horizontal wooden stretcher



- Electro-mechanical opening system
- Sensomatic works with any Dynapro drawer design
- Activated by a light touch anywhere on the drawer front
- One drive unit for cabinets widths up to 47 1/4" (1200mm)
- Soft-closing action pulls the drawer closed
- Ideal for accessories such as wire baskets, waste bins, or roll-out trays
- Full extension for maximum access to drawer contents

1 Opening Unit



	Item No.	PU
For Dynapro	F12113975607	10

PU - 10 pieces, individually packaged

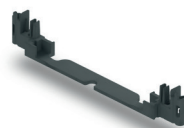
2 Frame Sides, Including Frame Side Cable



Length	Item No.	PU
750mm	F121100285207	10
1170mm	F121100286207	10

PU - 10 pairs

3 Frame Connector



	Item No.	PU
Frame connector	F121100282211	20

4 Fixing Bracket



	Item No.	PU
Fixing bracket	F121100270211	1

5 Power Supply Unit



	Item No.	PU
Power supply unit	F121109970607	10

PU = 10 pieces, individually packaged

One power supply operates up to 30 opening units

6 Connection Cable with 2-way-adapter



Length	Item No.	PU
1000mm	F121100289207	10
1600mm	F121100290207	10
2000mm	F121100291207	10

7 Power Cord, 1.8 m (6')



Type of plug	Item No.	PU
Power cord (USA, CA)	F120069760207	10

8 Spring-loaded Front Bumper

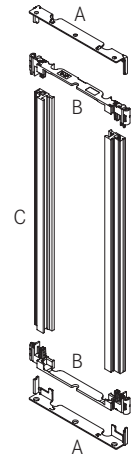
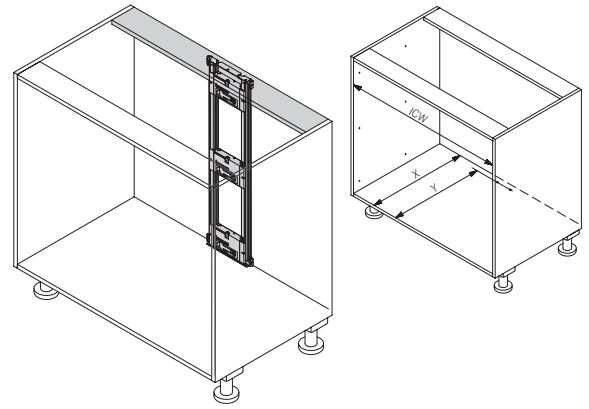
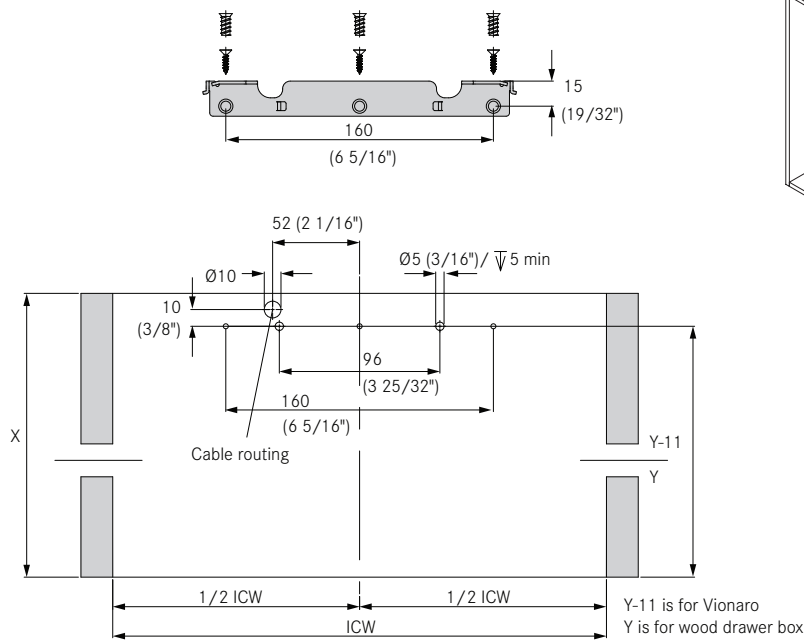


Ø 5mm	Item No.	PU
Front gap 2.2mm	F121100294223	100
Front gap 3mm	F121100295223	100

PU - Packaging unit

Mounting Dimensions

Fixing brackets positioned at top and bottom



Mounting dimensions Dynapro	X	Y	Min ICW
Wood back panel	NL + 15 (19/32")	NL	312 (12 9/32")

Legend

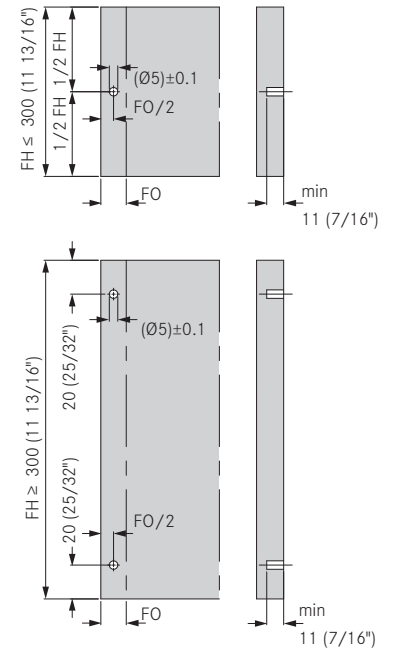
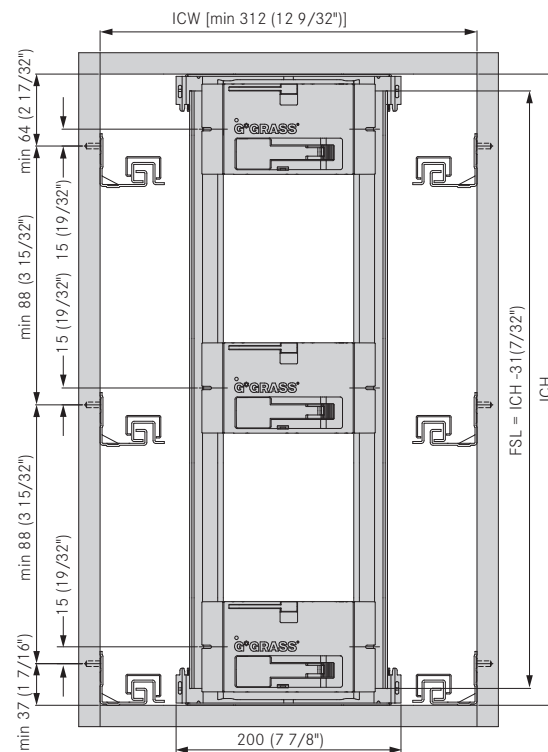
Position of Opening Unit for Dynapro

Position of Front Bumper

- A = fixing bracket used at top and bottom
- B = frame connector
- C = frame sides
- ICW = inside cabinet width
- NL = nominal length of cabinet slide
- X = min installation depth
- Y = depth of hole pattern

FSL = frame side length
ICH = inside cabinet height

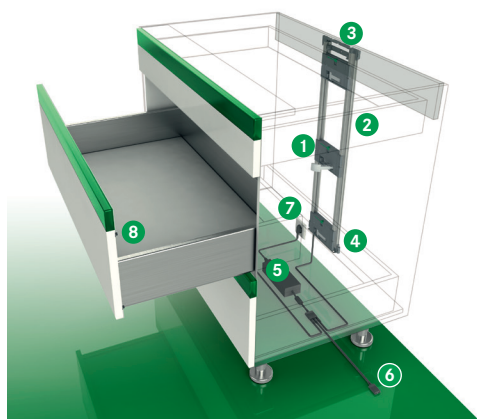
FH = front height
FO = front overlay



When mounting the heavy-duty slide (132 lbs.), it is necessary to insert 4 front bumpers into the drawer front.

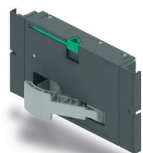
Sensomatic for Dynapro

Standard cabinet with vertical wooden stretcher



- Electro-mechanical opening system
- Sensomatic works with any Dynapro drawer design
- Activated by a light touch anywhere on the drawer front
- One drive unit for cabinets widths up to 47 1/4" (1200mm)
- Full extension for maximum access to drawer contents
- Soft-closing action pulls the drawer closed
- Ideal for accessories such as wire baskets, waste bins, or roll-out trays

1 Opening Unit



	Item No.	PU
For Dynapro	F121100268607	10

PU - 10 pieces, individually packaged

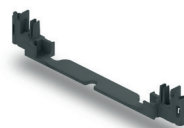
2 Frame Sides, Including Frame Side Cable



Length	Item No.	PU
750mm	F121100285207	10
1170mm	F121100286207	10

PU - 10 pairs

3 Frame Connector



	Item No.	PU
Frame connector	F121100282211	20

4 Fixing Bracket



	Item No.	PU
Fixing bracket	F121100270211	1

5 Power Supply Unit



	Item No.	PU
Power supply unit	F121109970607	10

PU = 10 pieces, individually packaged

One power supply operates up to 30 opening units

6 Connection Cable with 2-way-adapter



Length	Item No.	PU
1000mm	F121100289207	10
1600mm	F121100290207	10
2000mm	F121100291207	10

7 Power Cord, 1.8 m (6')



Type of plug	Item No.	PU
Power cord (USA, CA)	F120069760207	10

8 Spring-loaded Front Bumper

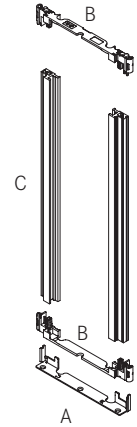
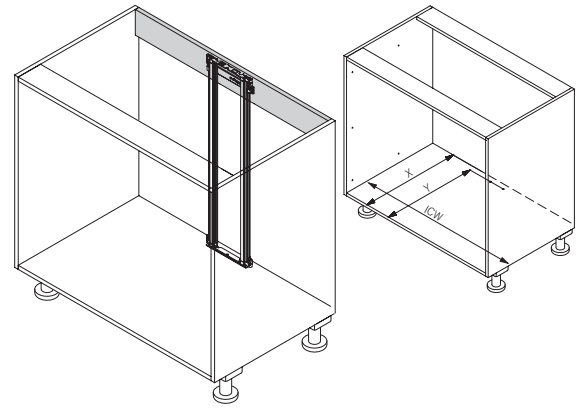
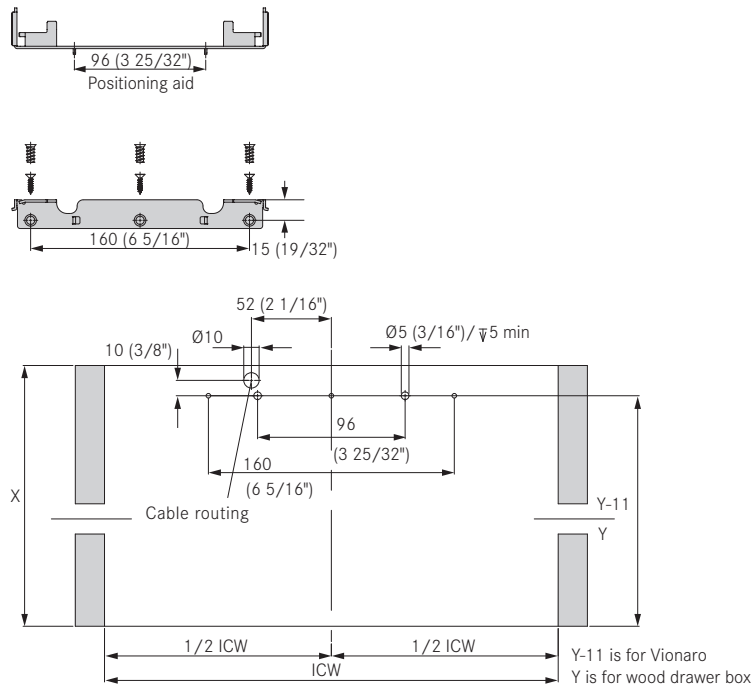


Ø 5mm	Item No.	PU
Front gap 2.2mm	F121100294223	100
Front gap 3mm	F121100295223	100

PU - Packaging unit

Mounting Dimensions

Fixing bracket positioned at bottom



Mounting dimensions Dynapro	X (inside)	Y	Min ICW
Wood back panel	NL + 15 (19/32")	NL	312 (12 9/32")

Legend

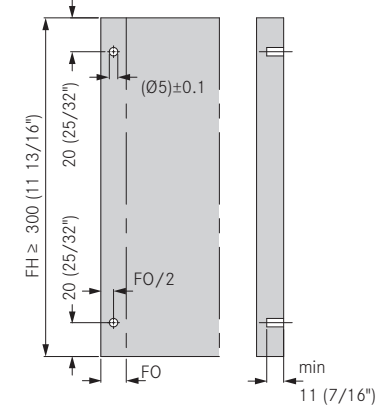
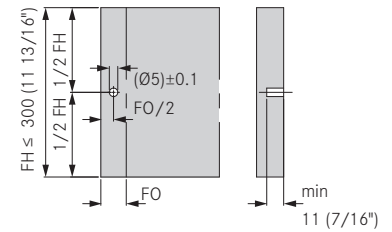
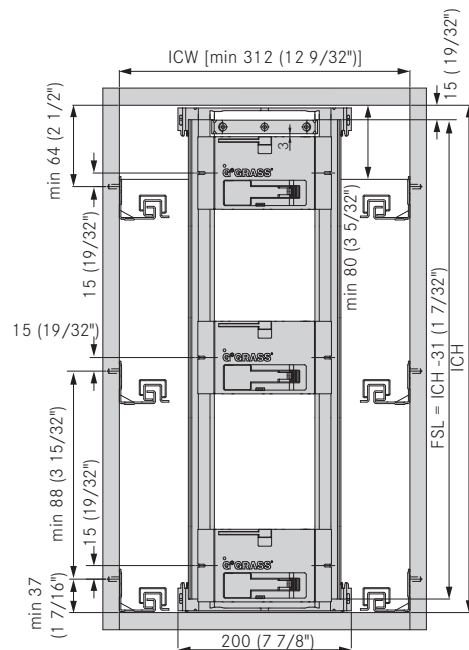
Position of Opening Unit for Dynapro

Position of Front Bumper

- A = fixing bracket used at top and bottom
- B = frame connector
- C = frame sides
- ICW = inside cabinet width
- NL = nominal length of cabinet slide
- X = min installation depth
- Y = depth of hole pattern

FSL = frame side length
ICH = inside cabinet height

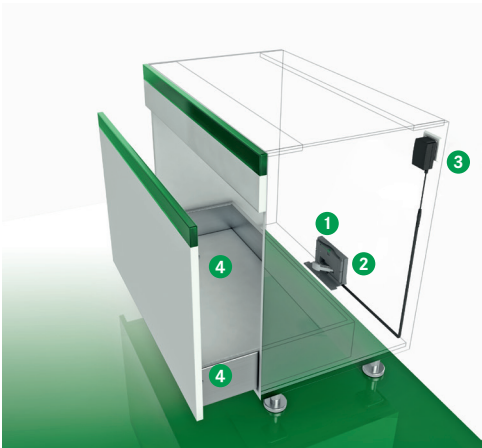
FH = front height
FO = front overlay



When mounting the heavy-duty slide (132 lbs.), it is necessary to insert 4 front bumpers into the drawer front.

Sensomatic for Dynapro

Waste bin cabinet with bottom panel frame mounting



- Electro-mechanical opening system
- Sensomatic works with any Dynapro drawer design
- Activated by a light touch anywhere on the drawer front
- One drive unit for cabinets widths up to 47 1/4" (1200mm)
- Full-extension for maximum access to drawer contents
- Soft-closing action pulls the drawer closed
- Ideal for accessories such as wire baskets, waste bins, or roll-out trays
- Sensomatic kit for easy ordering

Sensomatic Kit

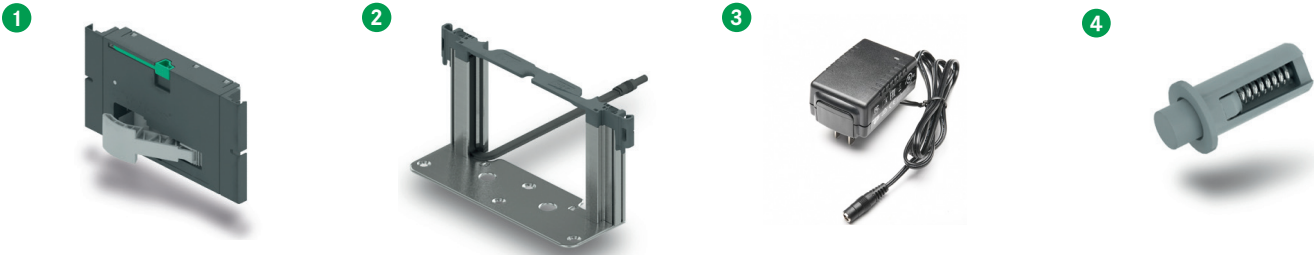


	Item No.	PU
For Dynapro	F121100697201	1

PU = 1 set

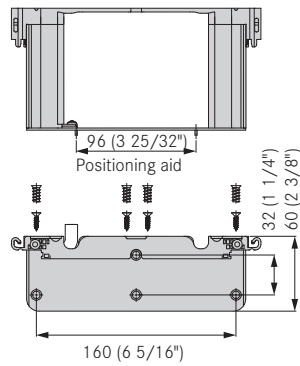
Set contains:

- 1 - Opening unit
- 1 - Base frame
- 1 - Power supply unit
- 4 - Front bumpers
(front gap 2.2mm - F121100294223)

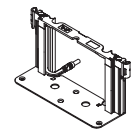
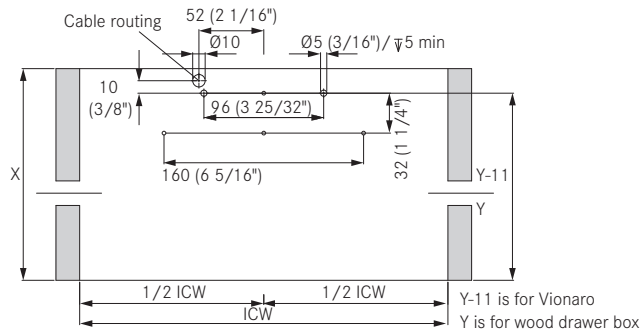
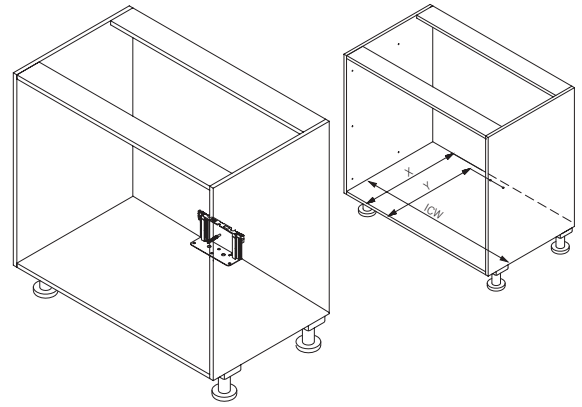


PU - Packaging unit

Mounting Dimensions



Base mounting



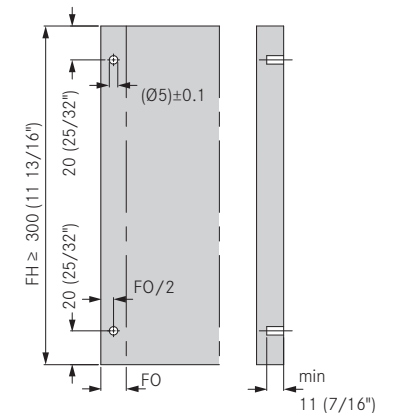
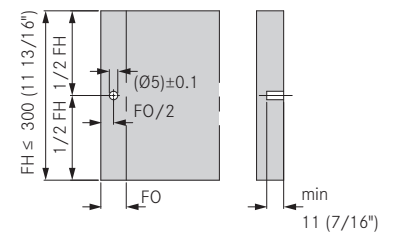
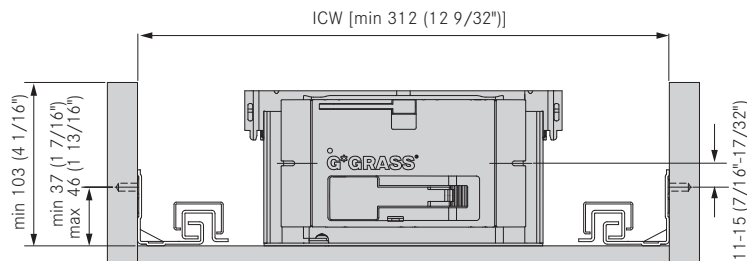
Base frame

Mounting dimensions Dynapro	X (inside)	Y	Min ICW
Wood back panel	NL + 15 (19/32")	NL	312 (12 9/32")

Legend

Position of Opening Unit for Dynapro

Position of Front Bumper



ICW = inside cabinet width
 NL = nominal length of cabinet slide
 X = min installation depth
 Y = depth of hole pattern

FH = front height
 FO = front overlay

When mounting the heavy-duty slide (132 lbs.), it is necessary to insert 4 front bumpers into the drawer front.

Notes



GRASS America Inc.
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Kernersville, NC 27284

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Fax: 1-800-525-8406

www.grassusa.com
info@grassusa.com





ELITE PLUS



G*GRASS®

ELITE PLUS SLIDE SYSTEM

Undermount drawer technology with advanced running performance and smooth soft-closing action





Bringing together fast installation, easy adjustment, and smooth running performance at a great value.

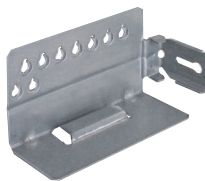
Designed for uncompromised performance

The exceptional design of Elite Plus drawer slide draws attention to the beauty of your cabinetry and leaves the mounted hardware completely out of sight. The Elite Plus brings together the advances of undermount technology with a precision roller carriage and features a liquid damper that is designed for a smoother closing transition.

Offered in a full range of lengths for frameless and face frame construction, the Elite Plus features full drawer extension for maximum use of interior space. It is a proven undermount slide with an ample load capacity of 100 lb that meets and exceeds ANSI/BHMA Grade 1 testing standards. The front locking devices offer 1D height adjustment or 2D height and side adjustment. Multiple cleats securely connect the drawer to the slide. Year after year, Elite Plus enables drawers to function quietly and flawlessly with the quality construction and Grass standard of excellence you have come to expect.



Table of Content

	Description	Adjustment	Page
	Features & Benefits		4
	Technical Information		6
	Elite Plus 16 • Integrated Soft-close • Full extension • For 16mm (5/8") material	Front locking device selection provides: • Height adjustment (max +2.5mm) • Side adjustment (max $\pm$ 1.5mm)	10
	Elite Plus 19 • Integrated Soft-close • Full extension • For 19mm (3/4") material	Front locking device selection provides: • Height adjustment (max +2.5mm) • Side adjustment (max $\pm$ 1.5mm)	12
	Accessories and Assembly Aids • V-notch Brackets • Drilling Template • Screws • Bumper Pads		14

Features and Benefits

Elite Plus

Features



- Slide is concealed to give full view of finely crafted drawers
- Self-latching front locking devices have easy release levers for drawer removal
- Liquid damper softly glides drawers to a stop
- For drawer material thickness: 12.7mm (1/2") to 19mm (3/4")
- Precision smooth running synthetic roller carriages
- Zinc plated roll formed steel composition
- Full extension for complete drawer access
- Height adjustment +2.5mm (3/32") with suitable front locking device
- Side adjustment $\pm 1.5\text{mm}$ (1/16") with suitable front locking device
- Weight capacity: 100 lb dynamic, 100 lb static
- Wide drawer member provides stability between the cabinet and drawer member
- Meet and exceeds ANSI/BHMA A156.9 Standard, Grade 1

Multiple cleats

For secure front locking.

Depth Adjustment

4mm (5/32") allows perfect alignment for the drawer front.



1D Front locking device

with height adjustment
+2.5mm (3/32")

The front locking device securely
connects the drawer to the slide.



2D Front locking device

with height adjustment
+2.5mm (3/32")
with side adjustment
 $\pm 1.5\text{mm}$ (1/16")

The front locking device securely
connects the drawer to the slide.



Features

- Soft-closing mechanism fully enclosed
- Precision German made liquid damper
- Face frame and frameless applications
- Uses same front locking devices as Maxcess
- Rear notch in back of box is 35mm for Maxcess and Elite Plus
- Patented technology

Wide drawer member

Provides superior stability.

Unique and integrated liquid damper

8mm damper offers advanced soft-closing technology.

Repositioned Soft-close damper

Gives the Elite Plus an improved closing action.

Depth adjustment

4mm (5/32") allows perfect alignment for the drawer front.

Tilt adjustment

4mm (5/32") allows tilting the drawer for perfect front alignment.

Self-aligning rear mount bracket

Brackets self-align the drawer when cabinets are out of square, ± 2 mm (3/32") adjustment range.

For additional rear mount brackets see page 14.



Technical Information

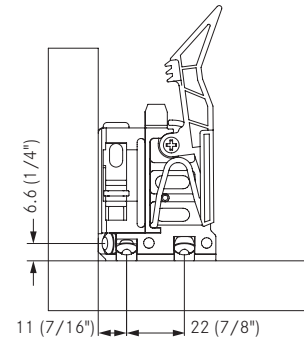
Elite Plus

Front Locking Device with Height Adjustment

7523 Front Locking Device, 1D



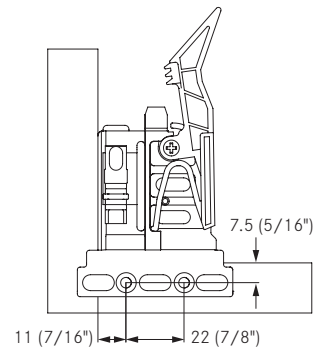
- Securely connects the drawer to the slide
- Height adjustment range: +2.5mm (3/32")
- For standard width drawers
- Minimum inside drawer width 125mm (4 15/16")
- Lightweight, high strength material



7523 Flanged Front Locking Device, 1D



- Securely connects the drawer to the slide
- Height adjustment range: +2.5mm (3/32")
- For standard width drawers
- Minimum inside drawer width 125mm (4 15/16")
- Lightweight, high strength material

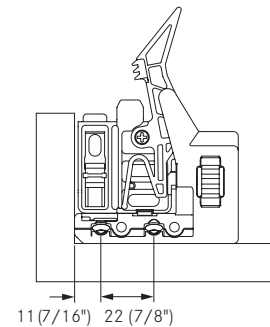


Front Locking Device with Height Adjustment and Side Adjustment

75X3 Front Locking Device, 2D



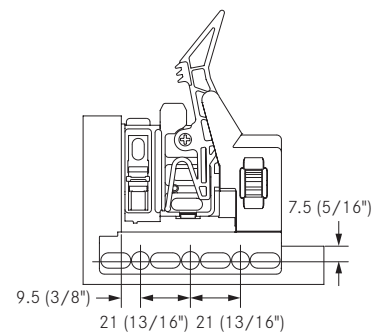
- Securely connects the drawer to the slide
- Height adjustment range: +2.5mm (3/32")
- Side adjustment range: ± 1.5 mm (1/16")
- For standard width drawers
- Minimum inside drawer width 140mm (5 1/4")
- Lightweight, high strength material



75X3 Flanged Front Locking Device, 2D



- Securely connects the drawer to the slide
- Height adjustment range: +2.5mm (3/32")
- Side adjustment range: ± 1.5 mm (1/16")
- For standard width drawers
- Minimum inside drawer width 140mm (5 1/4")
- Lightweight, high strength material



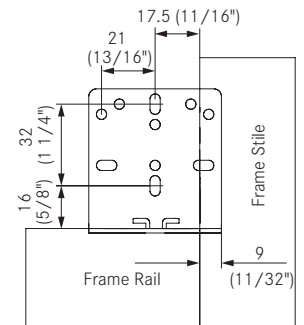
Rear Mounting Brackets

Universal Rear Mounting Bracket

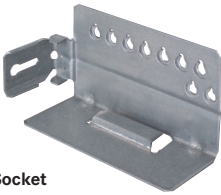


- For all Elite Plus drawers
- For face frame application

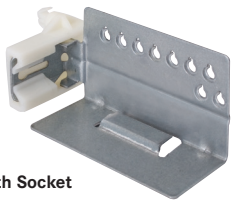
Pre-drilling recommended $\varnothing 2.5\text{mm}$ ($3/32"$)
Use a minimum of 3 screws per bracket,
#6 x $1/2"$ truss head screws.



V-notch Rear Mounting Brackets, 19mm

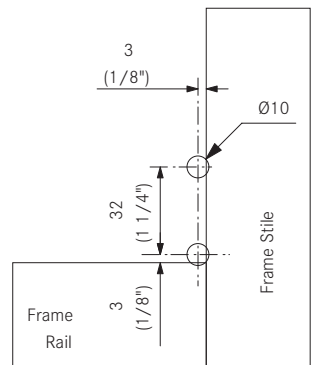


No Socket



With Socket

- For all Elite Plus drawers
- For face frame, v-notch application

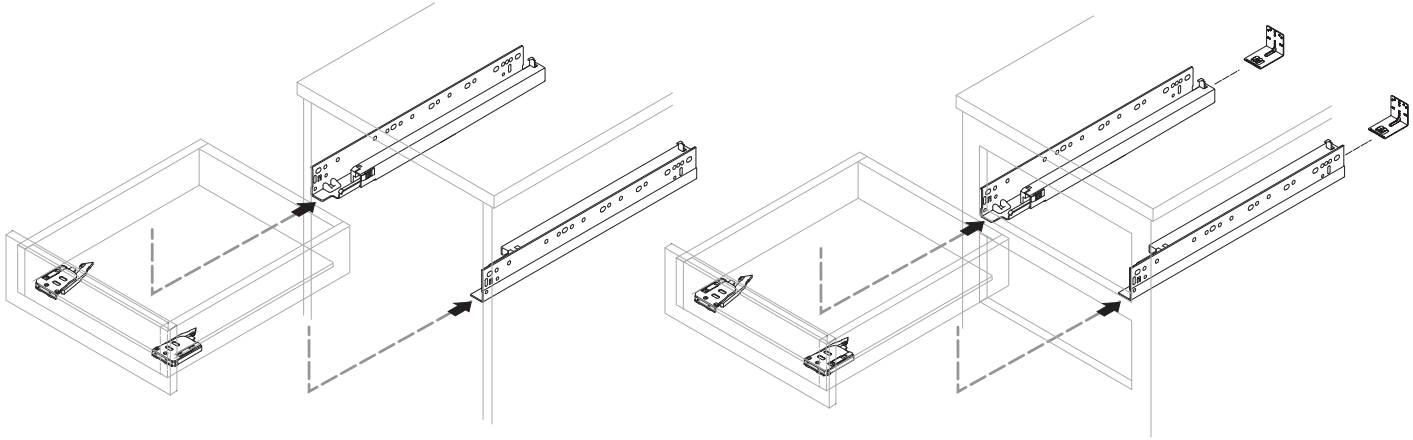


Technical Information

Elite Plus

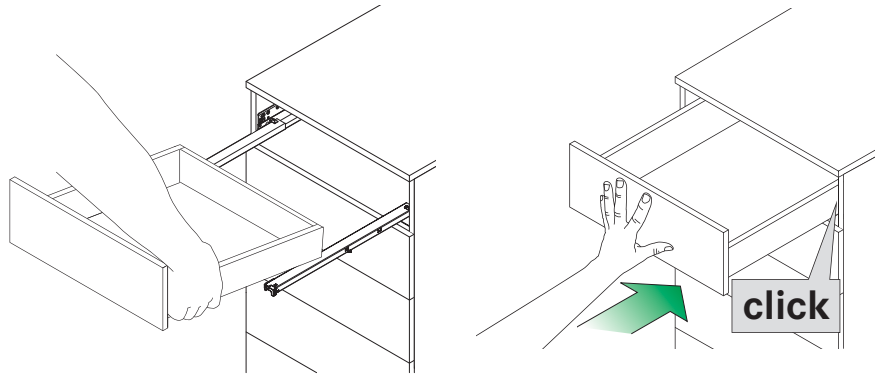
Elite Plus Application

- For drawer material from 12.7mm (1/2") up to 19mm (3/4")
- For frameless or face frame application
- Use rear bracket for face frame application



Inserting the Drawer

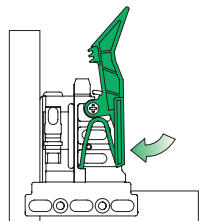
Place drawer on extended Elite Plus slide and push in until it engages audibly



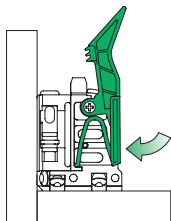
Disengaging the Drawer

Pull the drawer out, squeeze the locking device levers and lift drawer from the slide.

1D Front Locking Device

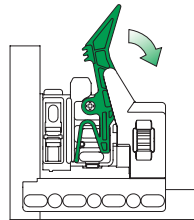


Flanged Front Locking Device

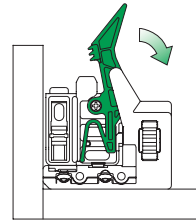


Front Locking Device

2D Front Locking Devices



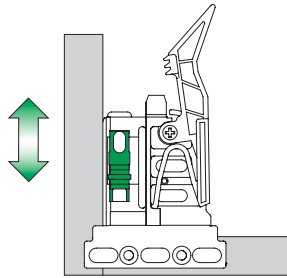
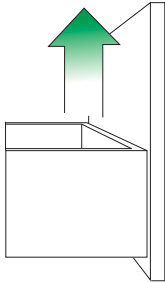
Flanged Front Locking Device



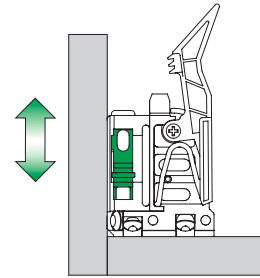
Front Locking Device

7523 Front Locking Device, 1D, Adjustment

Height Adjustment (max +2.5mm)



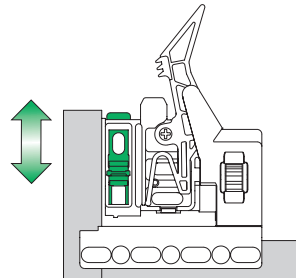
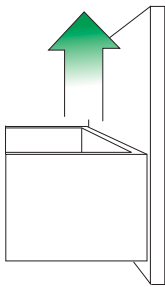
Flanged Front Locking Device



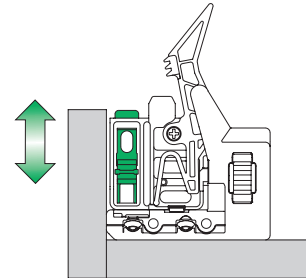
Front Locking Device

75X3 Front Locking Device, 2D, Adjustment

Height Adjustment (max +2.5mm)

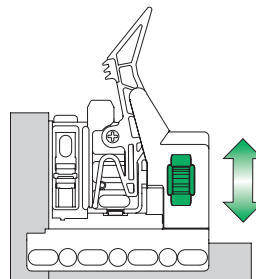
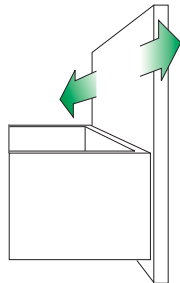


Flanged Front Locking Device

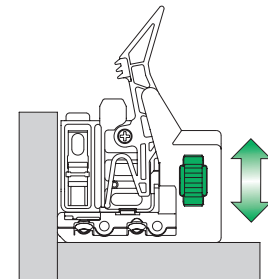


Front Locking Device

Side Adjustment (max ± 1.5 mm)

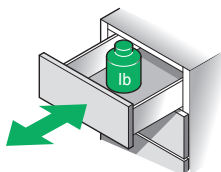


Flanged Front Locking Device



Front Locking Device

Weight Capacities per Pair of Slides



Elite Plus: 100 lb dynamic load rating; 100 lb static load rating

Elite Plus meets and exceeds the minimum requirements of ANSI/BHMA A156.9 Standard, Grade 1

Elite Plus 16

Full Extension Slide for 16mm (5/8") drawer material



- Zinc plated, roll formed steel components
- Precision, smooth-running synthetic roller carriages
- Liquid damper softly glides drawers to a stop
- Self-latching front locking devices have comfortable release levers for drawer removal and installation
- Full extension for complete drawer access
- Height adjustment +2.5mm (3/32") with suitable front locking device
- Side adjustment ±1.5mm (1/16") with suitable front locking device
- Positive tracked right side, ± 1.5mm (1/16") side tolerance on left side
- Self-closing mechanism engages 30mm (1 1/4") before closed position
- Weight capacity: 100 lb dynamic, 100 lb static
- Meets and exceeds ANSI/BHMA A156.9 Standard, Grade 1

Elite Plus 16



Drawer Length	Nominal length	Min Installation Depth	Max Installation Depth	Item No.	PU
240 (9 7/16")	250 (9 27/32")	259 (10 3/16")	296 (11 5/8")	13132-03	5
305 (12")	317 (12 15/32")	329 (12 15/16")	363 (14 5/16")	13133-03	5
381 (15")	394 (15 1/2")	407 (16")	440 (17 5/16")	13363-03	5
457 (18")	470 (18 1/2")	479 (18 7/8")	516 (20 5/16")	13364-03	5
533 (21")	550 (21 21/32")	562 (22 1/8")	596 (23 7/16")	13365-03	5
381 (15")	394 (15 1/2")	407 (16")	440 (17 5/16")	13363-12	200
457 (18")	470 (18 1/2")	479 (18 7/8")	516 (20 5/16")	13364-12	200
533 (21")	550 (21 21/32")	562 (22 1/8")	596 (23 7/16")	13365-12	200

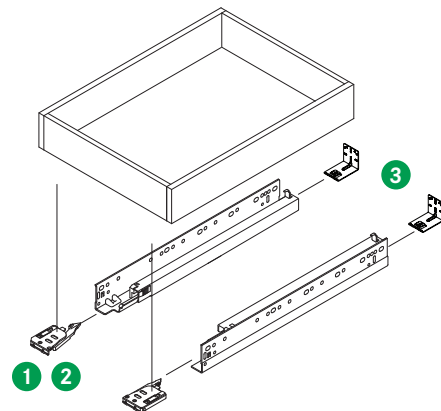
*For frameless applications, deduct 1.5mm (1/16") for minimum installation depth

Front Locking Devices and Rear Mounting Bracket



Description	Non-flanged Item No. (a)	Flanged Item No. (b)	PU
(Must order separately)			
1 7523 Front locking device, universal, 1D, kit*	02500-03	-	5
7523 Front locking device, universal, 1D, left	02498-12	02495-12	200
7523 Front locking device, universal, 1D, right	02499-12	02496-12	200
2 75X3 Front locking device, universal, 2D, left	80051-12	80053-12	200
75X3 Front locking device, universal, 2D, right	80052-12	80054-12	200
3 Universal rear mount bracket		7950.VE300	200

*Kit: Left/Right locking device, (4) #6 x 1/2" flat head Phillips screws, **Plug-in brackets available on page 14

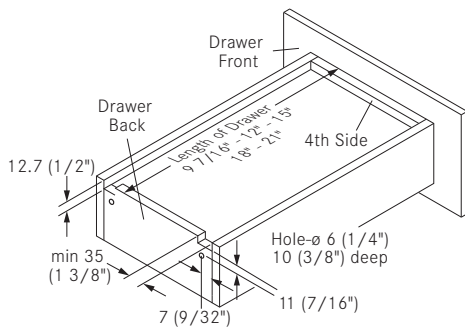


PU - Packaging unit

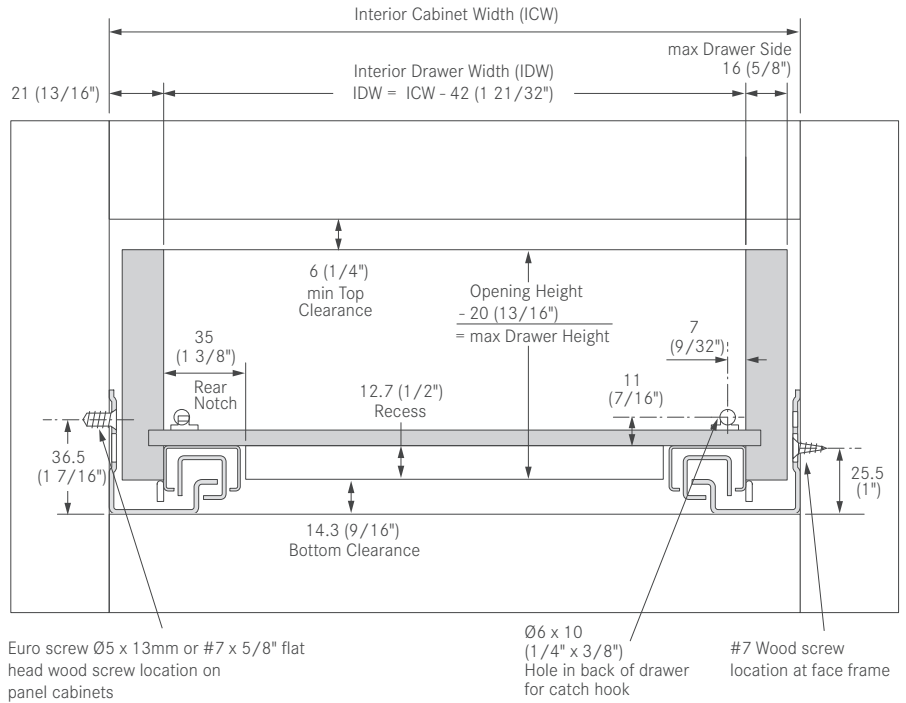
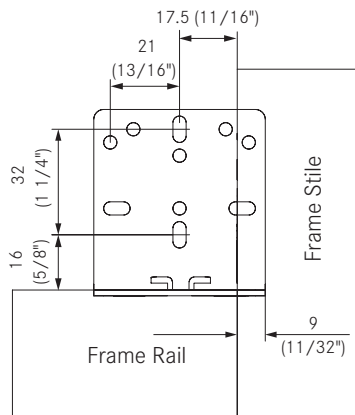
Drawer Measurements/Rear Bracket Position

Drawer Installation Dimensions

Drawer Measurements



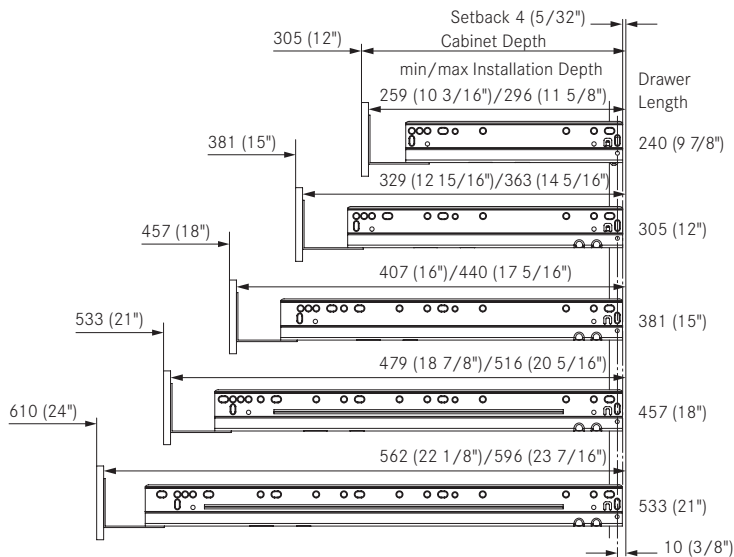
Rear Bracket for Face Frame



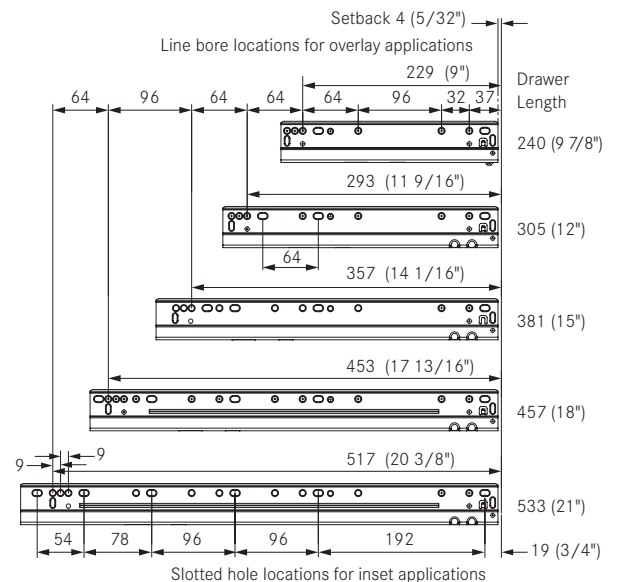
For face frame applications only. Use minimum of 3 screws per bracket, #6 x 1/2" truss head screws.

Cabinet Boring Specifications

Face Frame



Frameless



Elite Plus 19

Full Extension Slide for 19mm (3/4") drawer material



- Zinc plated, roll formed steel components
- Precision, smooth-running synthetic roller carriages
- Liquid damper softly glides drawers to a stop
- Self-latching front locking devices have comfortable release levers for drawer removal and installation
- Full extension for complete drawer access
- Height adjustment +2.5mm (3/32") with suitable front locking device
- Side adjustment $\pm 1.5\text{mm}$ (1/16") with suitable front locking device
- Positive tracked right side, $\pm 1.5\text{mm}$ (1/16") side tolerance on left side
- Self-closing mechanism engages 30mm (1 1/4") before closed position
- Weight capacity: 100 lb dynamic, 100 lb static
- Meets and exceeds ANSI/BHMA A156.9 Standard, Grade 1

Elite Plus 19



Drawer Length	Nominal length	Min Installation Depth	Max Installation Depth	Item No.	PU
240 (9 7/16")	250 (9 27/32")	259 (10 3/16")	296 (11 5/8")	13183-03	5
305 (12")	317 (12 15/32")	329 (12 15/16")	363 (14 5/16")	13184-03	5
381 (15")	394 (15 1/2")	407 (16")	440 (17 5/16")	13185-03	5
457 (18")	470 (18 1/2")	479 (18 7/8")	516 (20 5/16")	13186-03	5
533 (21")	550 (21 21/32")	562 (22 1/8")	596 (23 7/16")	13139-03	5
457 (18")	470 (18 1/2")	479 (18 7/8")	516 (20 5/16")	13186-12	200
533 (21")	550 (21 21/32")	562 (22 1/8")	596 (23 7/16")	13139-12	200

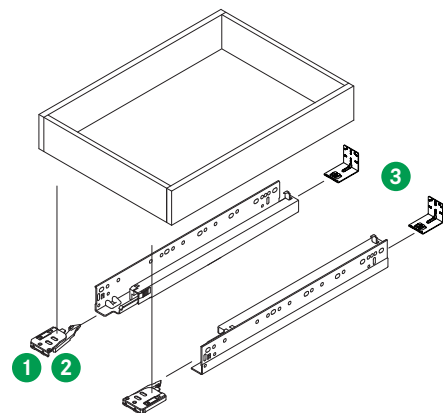
*For frameless applications, deduct 1.5mm (1/16") for minimum installation depth

Front Locking Devices and Rear Mounting Bracket



Description	Non-flanged Item No. (a)	Flanged Item No. (b)	PU
(Must order separately)			
1 7523 Front locking device, universal, 1D, kit*	02500-03	-	5
7523 Front locking device, universal, 1D, left	02498-12	02495-12	200
7523 Front locking device, universal, 1D, right	02499-12	02496-12	200
2 75X3 Front locking device, universal, 2D, left	80051-12	80053-12	200
75X3 Front locking device, universal, 2D, right	80052-12	80054-12	200
3 Universal rear mount bracket		7950.VE300	200

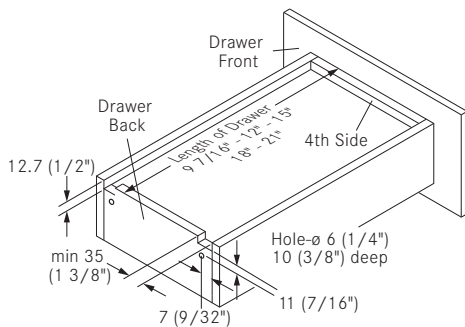
*Kit: Left/Right locking device, (4) #6 x 1/2" flat head Phillips screws, **Plug-in brackets available on page 14



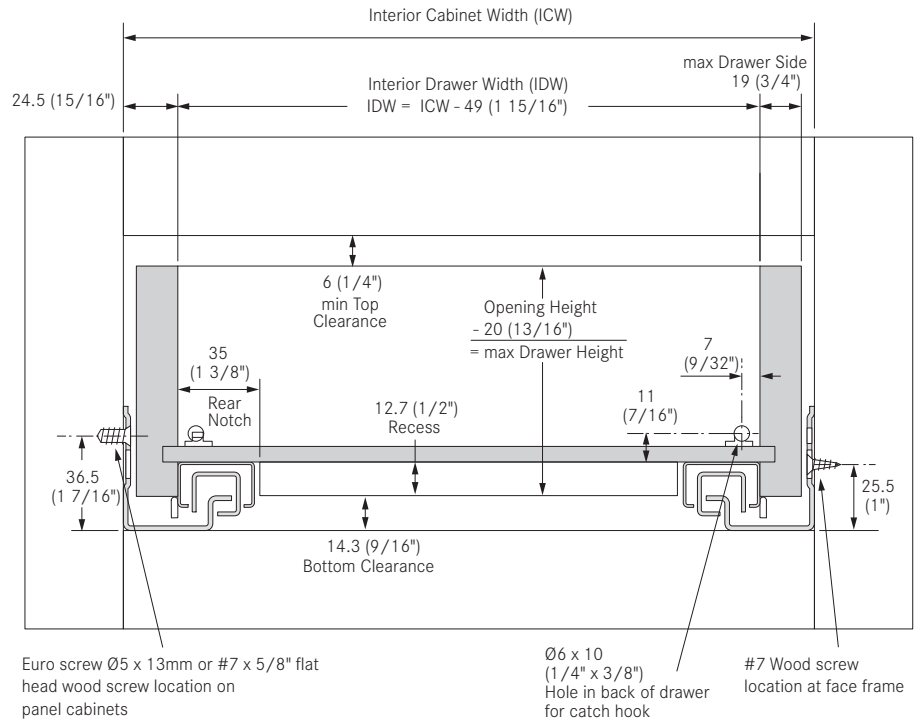
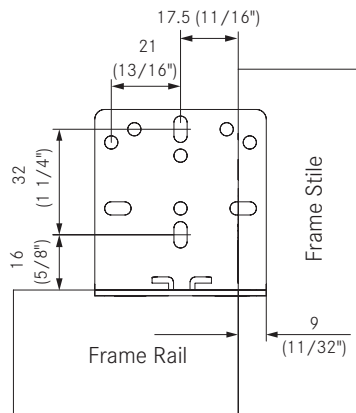
PU - Packaging unit

Drawer Measurements/Rear Bracket Position Drawer Installation Dimensions

Drawer Measurements



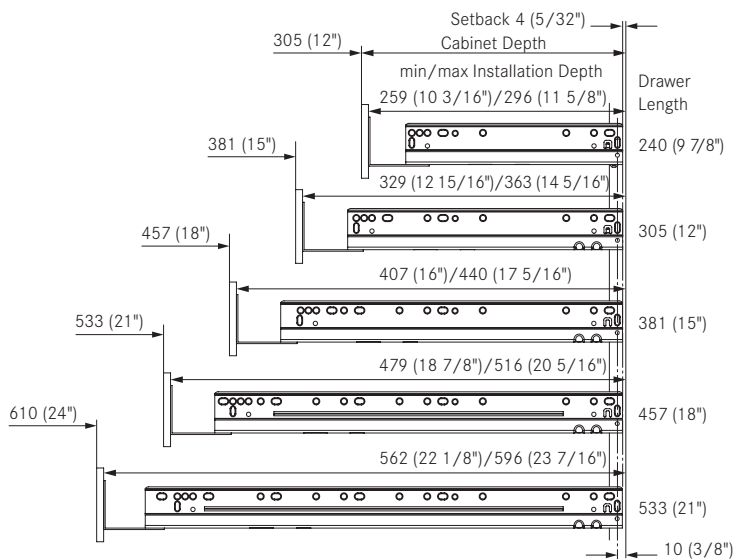
Rear Bracket for Face Frame



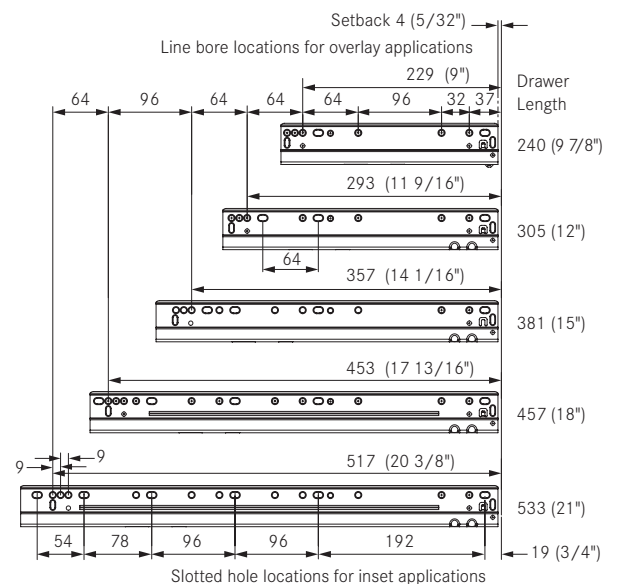
For face frame applications only. Use minimum of 3 screws per bracket, #6 x 1/2" truss head screws.

Cabinet Boring Specifications

Face Frame



Frameless



Accessories and Assembly Aids

Elite Plus

V-notch Rear Mounting Brackets, 19mm

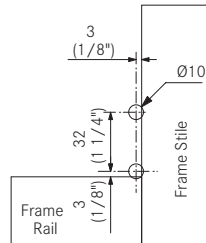


No Socket



With Socket

- 19mm rear mounting brackets
- Side-to-side adjustment $\pm 6\text{mm}$ ($1/4"$)
- Brackets attach to cabinet member with Euro screws

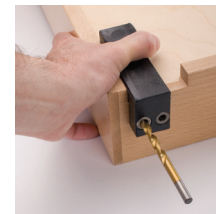


Description	Item No.	PU
1 V-notch, metal, no socket, left	02212-12	200
V-notch, metal, no socket, right	02213-12	200
2 V-notch, metal, with socket, left	02216-12	200
V-notch, metal, with socket, right	02217-12	200

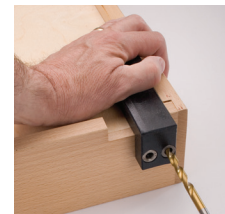
Drilling Template



- Use to precisely bore holes in the drawer back
- Use with a standard 6mm ($1/4"$) drill bit and stop collar



Left Side Drilling



Right Side Drilling

Description	Item No.	PU
Elite Plus drilling template	02511-01	1

Assembly Aids



The non-flanged FLD drilling jig is used for mounting non-flange front locking devices to the drawer box for Dynapro, Dynapro2.0, Elite Plus, and Maxcess.

The GRASS centering drill bit is used for pre-drilling countersink wood screws, $\varnothing 2.5\text{mm}$.



Description	Item No.	PU
1 Non-flanged FLD drilling jig	00004	1
2 Centering drill bit	35692-01	1

Elite Plus

Screws

Euro Screw, Nickel-plated



Description	Item No.	PU
Euro Screw 11mm (7/16") Pozi	499.360.61.1015	500
Euro Screw 13mm (1/2") Pozi	499.360.61.3015	500

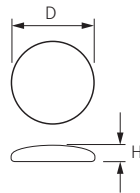
Wood Screw, Nickel-plated



Description	Item No.	PU
#6 x 5/8" FHP, NI	81001-43	500
#6 x 3/4" FHP, NI	81003-43	500

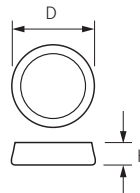
Bumper Pads

Bumper Pads, Self-adhesive



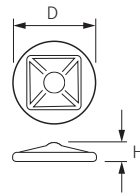
Description	Height	Diameter	Item No.	PU
Bumper pad, clear	2.5mm	10mm	63407-99	288
Bumper pad, clear	2.5mm	10mm	63407-47	7200

AirSoft Bumper Pads, Self-adhesive



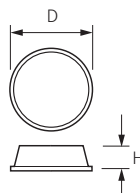
Description	Height	Diameter	Item No.	PU
AirSoft bumper pad, clear	5mm	12.7mm	63481-43	500
AirSoft bumper pad, clear	5mm	12.7mm	63483-30	5000

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	4mm	12mm	630.000.02.1250	5000

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	3mm	12.7mm	31002-43	500
Bumper pad, clear	1.5mm	12.7mm	31004-43	500



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1202 NC Highway 66 South
Kernersville, NC 27284

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info@grassusa.com





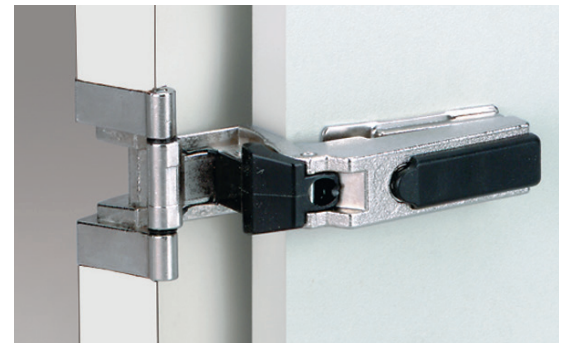
INSTITUTIONAL HINGES

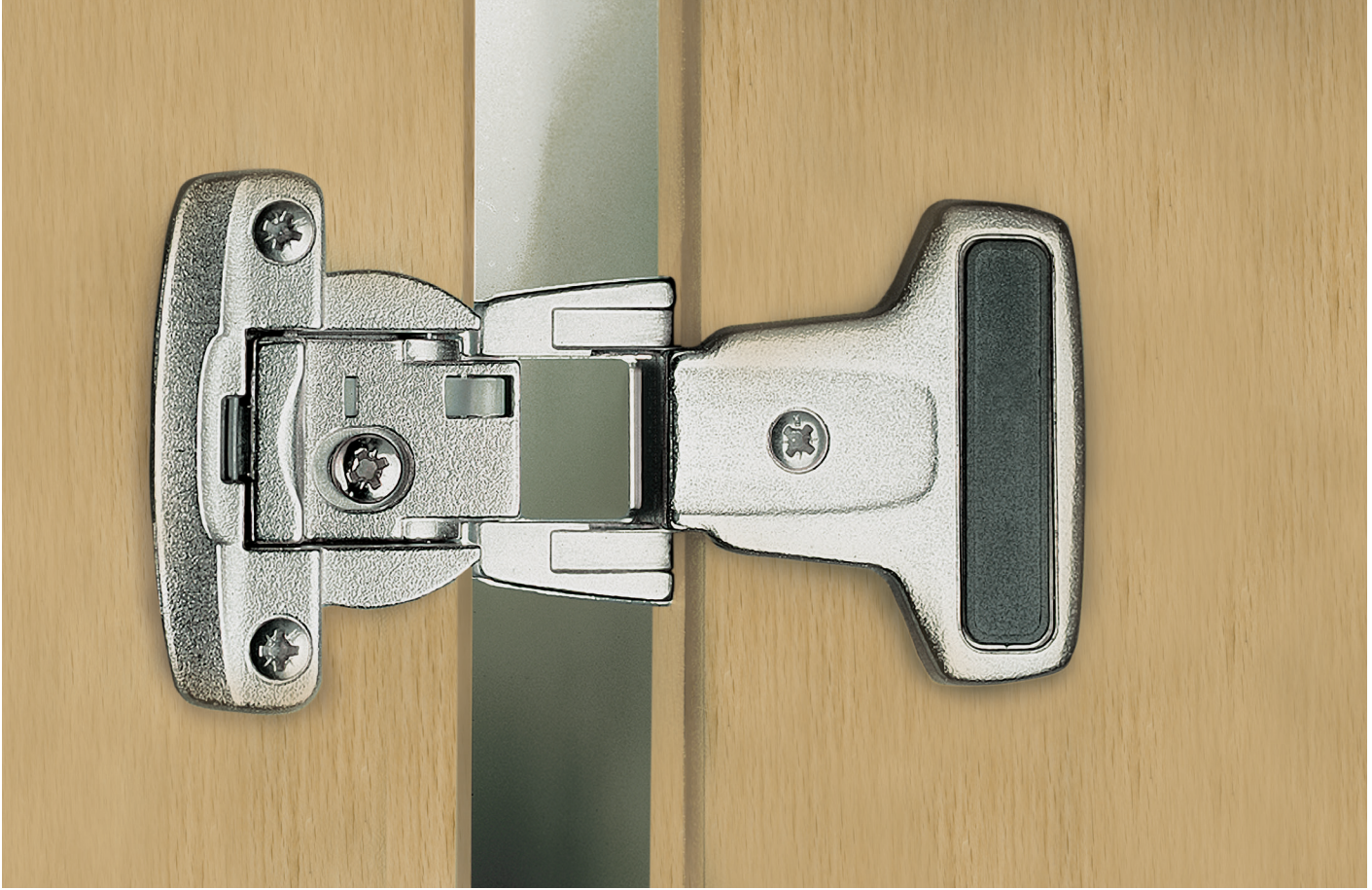


G*GRASS®

INSTITUTIONAL HINGES

The perfect solution for institutional casework.
Engineered to exceed your hardware expectations.





INSTITUTIONAL HINGES

Designed for high use environments

Grass Institutional Hinges offer the perfect solution for institutional casework in schools, hospitals, commercial, and furniture environments where the cabinetry has a considerable amount of use. This institutional hinge system is designed for frameless cabinetry and offers high load weight bearing capabilities.



Institutional Hinge

Technical Information

Hinge Insertion



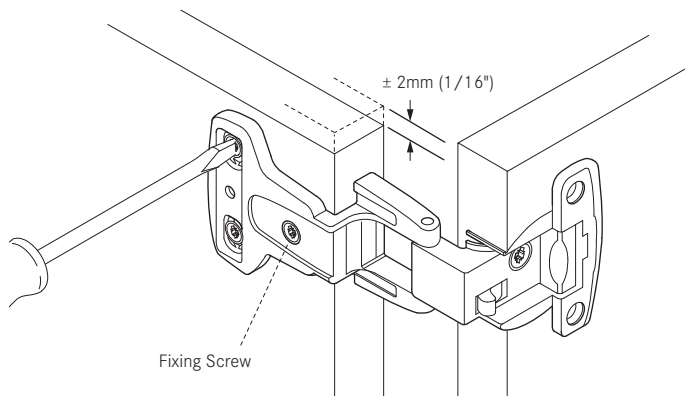
A slight press with the thumb securely connects the door with the cabinet.

Hinge Removal



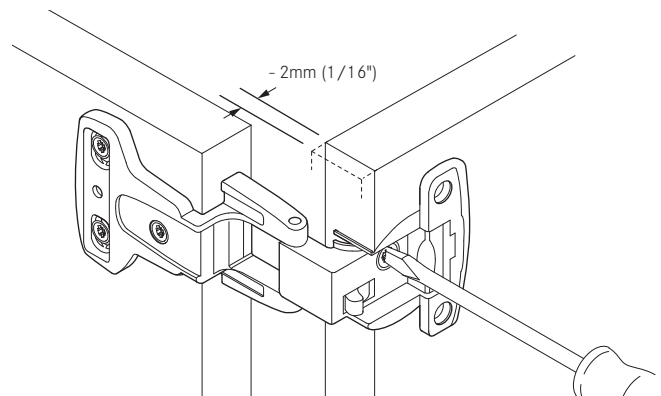
Use flathead screwdriver to remove hinge arm from hinge cup with a simple twist.

Adjustments



Height Adjustment

1. Loosen fixing screw
2. Adjust door $\pm 2\text{mm}$ up and down
3. Tighten fixing screw



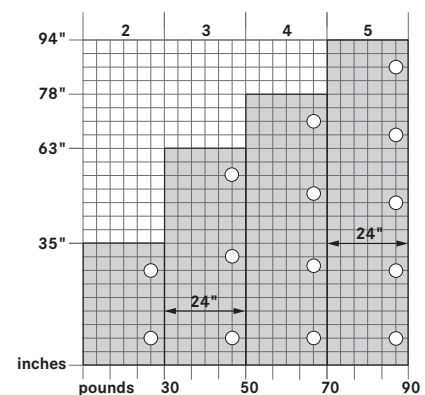
Side Adjustment

1. Adjust door 2mm out via Cam adjustment

Number of Hinges per Door

The number of hinges required depends on the size and weight of the door. The distance between the hinges should be spaced as wide as possible.

Use the diagram to determine the number of hinges needed. These recommendations are for doors without accessory attachments.

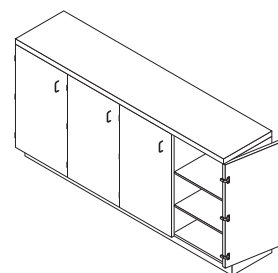


Institutional Hinge

MB series barrel hinge



- Hinges made of zinc die-cast construction for extreme durability
- Recommended for side panel thicknesses of 19mm (3/4")
- Tool-free snap-on mounting - quick and easy installation
- Side adjustment of - 2mm (1/16")
- Height adjustment of +/- 2mm (1/16")
- Cover cap conceals mounting screws
- Designed for frameless cabinet construction
- Opening angles range from 180° to 270°
- Meets ANSI/BHMA A156.9 - Grade I requirements



MB 8010 Hinge Cup

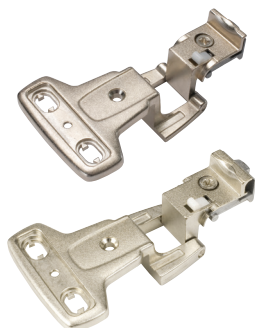
Screw-On

Dowelled

Hinge Cup	Pattern	Material	Item No.	Item No.	PU
MB 8010 Hinge Cup - 45mm pattern	45	Nickel Plated	F150000006233	F150000021233	200



Hinge Arms



	Material	Item No.	PU
MB 8310 Hinge Arm - Full Overlay -15mm (19/32")	diecast, nickel-plated	F150000014223	100

Description	Material	Item No.	PU
MB 8510 Hinge Arm - Half Overlay - 5.5mm (7/32")	diecast, nickel-plated	F150000015223	100

Euro Screws for Hinge Arm Mounting

Item No.

PU

6.3 x 13.5mm Nickel Plated
(two per hinge)

B405.000.51.25

100

Cover Cap



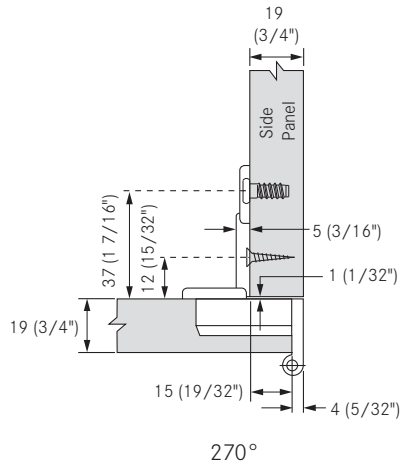
Cover cap included
with hinge arm

*Meets Grade I requirements when third screw and adjustment tabs are in place.

PU - Packaging unit

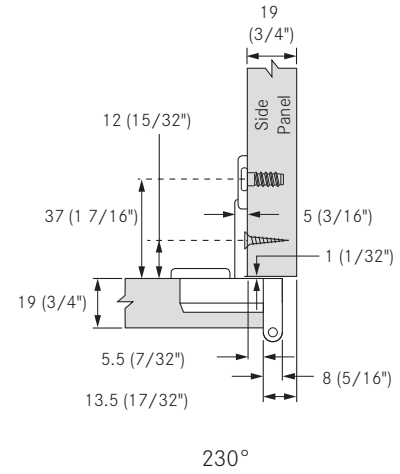
Full Overlay 270°

8310

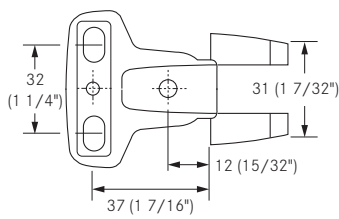


Half Overlay 230°

8510



Hinge Arm Dimensions

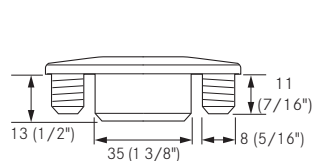


Institutional hinges are 32mm compatible.

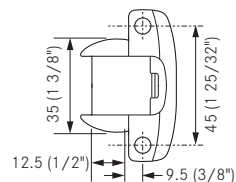
Specifications

	Reveal	Opening Angle	Overlay
Application			
Full Overlay	4mm (5/32")	270°	15mm (19/32")
Half Overlay	13.5mm (17/32")	230°	5.5mm (7/32")

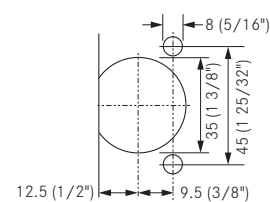
Cup Depth



Hinge Cup



Cup Drilling



IMPORTANT

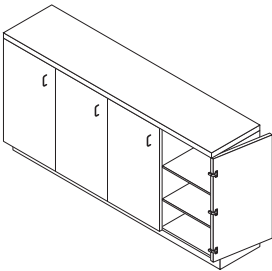
To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

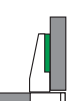
Nexis Slide-on 73

270° single-joint Institutional hinge

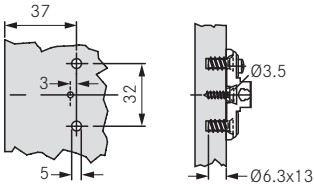


- 3-dimensional adjustment with suitable base plate
- For door thicknesses 15 to 21mm
- For door overlay up to 16mm (5/8")
- Automatic hold-closed function
- Meets ANSI/BHMA A156.9 - Grade II requirements



Nexis 73		Opening Angle 270°		Screw-On		Dowelled	
Full Overlay	Cranking 00	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: diecast, nickel-plated;	48	Hold-close	F016073084225	F016073094225	125	
	Hinge arm: diecast, nickel-plated						

Base Plates, 3-Point Fixing

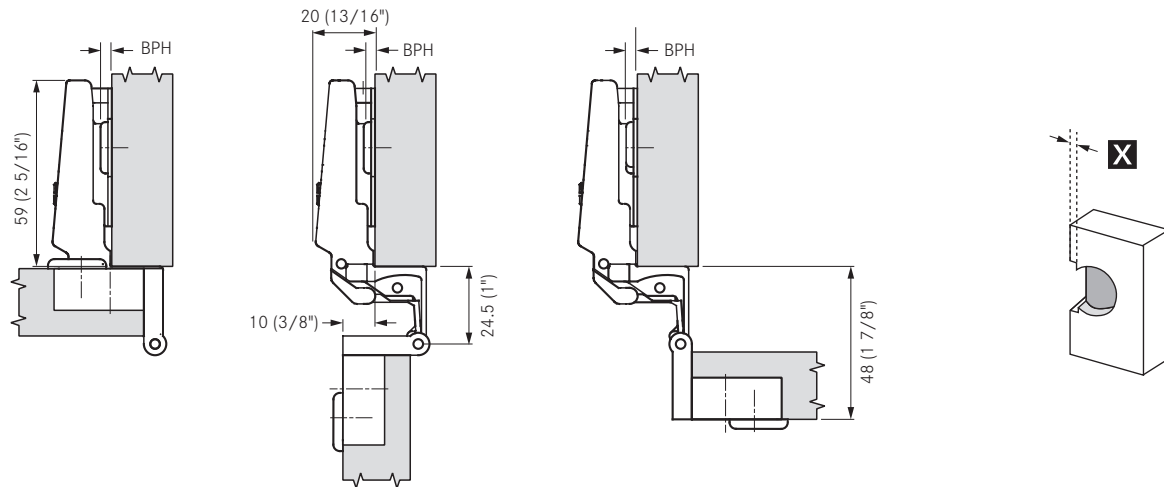


Height	Description	Item No.	PU
00	Steel, nickel plated with pre-attached Euro Screws	F062073316236	250

Cover Cap	For Nexis Hinges	Item No.	PU	Wood Screw, Nickel-plated	Item No.	PU
	Black plastic	F069073497261	1000	 #6 x 5/8" FHP, NI	81001-43	500

PU - Packaging unit

Full Overlay



Drawings show hinge with a base plate, **(BPH) 00**.

Door Overlay

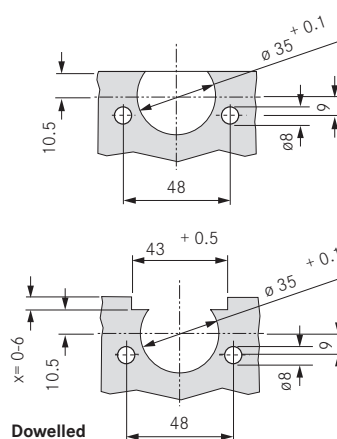
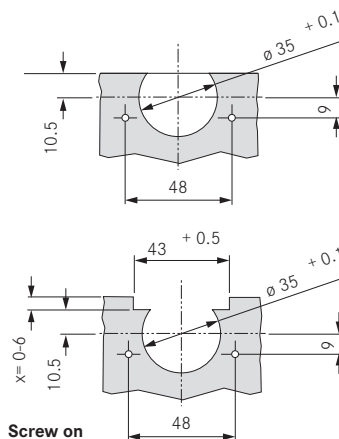
Door Overlay	Depth of cut-out (x)							
	6	5	4	3	2	1	0	
	16	0						
	15		0					
	14	2		0				
	13		2		0			
	12	4		2		0		
	11		4		2		0	
	10			4		2		0
	9				4		2	
	8					4		2
	7						4	
	6							4
	Base Plate Height (BPH)							

Note: Hinge dimensions and gap calculation based on factory setting.

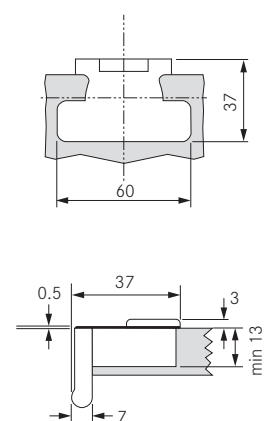
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Drilling Patterns



Cup Dimensions





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KINVARO LIFTER SYSTEMS

Modern design, innovative technology and ease of operation for wall cabinetry.







Exclusive lifter systems – Kinvaro provides the perfect solution for every application.
Parallel lifters. Bi-fold lifters. Lift-up systems. Drop-down systems.

Wall cabinets have become a popular storage solution for the kitchen and office area.

Our Kinvaro lifter systems redefine the principle of the classic wall cabinet. Stable and reliable in movement, easy and quiet in application, ergonomically well designed and comfortable to operate. Kinvaro represents innovative design and functional movement.



KINVARO LIFTER SYSTEMS

Easy to open with complete access to the cabinet contents and gentle, silent closing of the lift door.

These are the key features of the Kinvaro System.



Kinvaro L-80
Parallel Lifter System

The single panel front opens upwards in a smooth, even motion, with absolute precision and in parallel with the wall cabinet. The stay put feature holds the front in any required position - regardless of door weight and material. In closing: the integrated Soft-closing damper system is fully adjustable and ensures a smooth and uniform closing action for all door weights.



Kinvaro F-20
Bi-Fold Lifter System

In one effortless motion, the Bi-fold Lifter system is designed to move two horizontal doors together to offer maximum access to the cabinet's interior. Yet the lower door is still in easy reach for closing. Lifter doors can be built with flat or wood panels in a face frame or frameless application for the design look you want to achieve.



Kinvaro T-Series
Lift-Up Systems

Distinguished by its simplicity, the T-series Lifter opens a single door that pivots the door to the top of the wall cabinet. The integrated Soft-close and its stay put feature contribute to the functionality of these Lifters. Available for face frame and frameless applications.



Kinvaro D
Drop-down Systems

Kinvaro D flap system, paired with the Tiomos Flap hinge, revitalizes drop-down cabinet applications by creating aesthetically clean lines, a minimalistic look, and easy access into the cabinet contents.

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	Kinvaro D-M and Kinvaro D-S • Drop-down cabinet application • Opening angle adjustable • Installs horizontally and vertically • Works with Tiomos Flap hinge	32
	Tiomos Flap Hinge • 90° opening angle • 3-dimensional adjustment • Accommodates flap thickness up to 19mm • Works with Kinvaro D-M and D-S	40
	Kinvaro T-105 flap stay • Variable opening angle - holds flap securely at any angle between 45° and 105° • For wood and aluminum doors • Adjustable spring force • Convenient access, front lifts clear of the work area • Allows additional cabinet installation above	42
	Kinvaro Assembly Aids • Installation accessories for Kinvaro Lifters	45

Kinvaro F-20

Bi-Fold Lifter



- Holds flap securely in any position
- Extremely smooth movement
- Adjustable spring force
- Integrated adjustable closing damper
- Flap with 3-dimensional adjustment - height, side, angle: Direct adjustment $\pm 1.5\text{mm}$
- Hinge with 3-dimensional adjustment - height, side, depth
- Opening limiter adjustable to 90°
- Wide range of applications for many different flap materials
- Fast, tool-free clip fitting of the front
- Face frame adapter available
- Pre-assembled Euro screws and positioning pins for easy mounting of the fitting to the side wall
- Extremely strong
- Weight 9.7 to 42.3 lb (4.4 to 19.2 kg)
- Range of flaps:
Width: $15 \frac{3}{4}" - 47 \frac{1}{4}"$ (400 - 1200mm)
Height: $22 \frac{1}{16}" - 35 \frac{7}{16}"$ (560 - 900mm)
- Cover caps in grey

APPLICATION RANGE

Cabinet height	Guide lever	Flap weight incl. handle lb (kg)		
		Spring B	Spring C	Spring D
22 $\frac{1}{16}" - 23 \frac{19}{32}"$ (560 - 599)	Type 3	9.7 - 27.8 (4.4 - 12.6)	-	-
23 $\frac{5}{8}" - 25 \frac{9}{16}"$ (600 - 649)	Type 4	-	15.0 - 34.8 (6.8 - 15.8)	-
25 $\frac{19}{32}" - 27 \frac{17}{32}"$ (650 - 699)	Type 5	-	14.8 - 37.3 (6.7 - 16.9)	-
27 $\frac{9}{16}" - 29 \frac{1}{2}"$ (700 - 749)	Type 6	-	14.3 - 36.2 (6.5 - 16.4)	-
29 $\frac{17}{32}" - 31 \frac{15}{32}"$ (750 - 799)	Type 7	-	-	19.0 - 42.3 (8.6 - 19.2)
31 $\frac{1}{2}" - 33 \frac{7}{16}"$ (800 - 849)	Type 7	-	-	17.2 - 39.7 (7.8 - 18.0)
33 $\frac{15}{32}" - 35 \frac{7}{16}"$ (850 - 900)	Type 7	-	-	14.3 - 36.4 (6.5 - 16.5)

ORDER INFORMATION

Kinvaro F-20 set				
Cabinet height	Spring B	Spring C	Spring D	PU
560 - 599	F152145238201			1
600 - 649		F152145241201		1
650 - 699		F152145243201		1
700 - 749		F152145244201		1
750 - 900			F152145247201	1

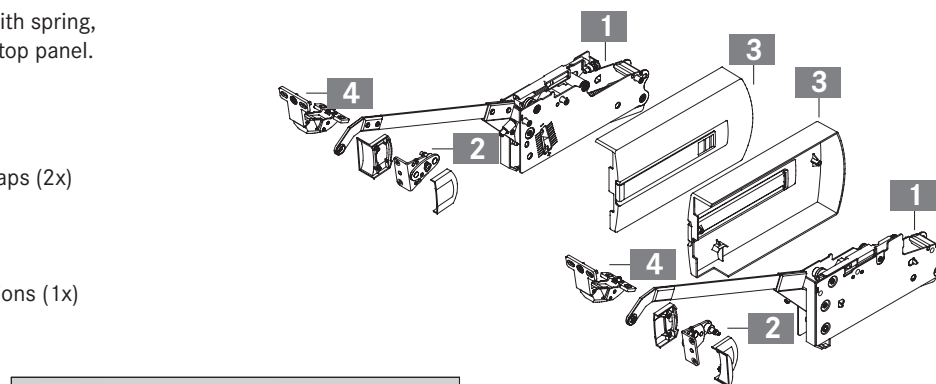
Face frame adapter, Kinvaro F-20 set			
Description	Overlay	Item No.	PU
Face frame adapter (2x) for wood frames with fixing screws (8x)	13 - 17	F151135906201	1

Note:

Please order separately: Tiomos 120° hinges with spring, without Soft-close, and Tiomos base plates for top panel.

Kinvaro F-20 set comprises:

- 1** Fitting, right and left (1x)
 - 2** Screw-on bracket for wood, incl. cover caps (2x)
 - 3** Cover caps on right and left (1x)
 - 4** Break away center hinges (2x)
- Paper template (1x), Installation instructions (1x)



Number of hinges at top panel
For cabinet widths $\geq 900\text{mm}$, 3 hinges are recommended.

PU - Packaging unit

ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR CABINET HEIGHT 560 – 799

Required space	Side wall drilling positions	Side wall drilling distance																																							
		<table> <tr> <th>KH</th><th>Type</th><th>B</th></tr> <tr><td>560 – 569</td><td>3</td><td>183</td></tr> <tr><td>570 – 579</td><td>3</td><td>168</td></tr> <tr><td>580 – 589</td><td>3</td><td>153</td></tr> <tr><td>590 – 599</td><td>3</td><td>138</td></tr> <tr><td>600 – 609</td><td>4</td><td>208</td></tr> <tr><td>610 – 619</td><td>4</td><td>198</td></tr> <tr><td>620 – 629</td><td>4</td><td>178</td></tr> <tr><td>630 – 639</td><td>4</td><td>168</td></tr> <tr><td>640 – 649</td><td>4</td><td>158</td></tr> <tr><td>650 – 699</td><td>5</td><td>225</td></tr> <tr><td>700 – 749</td><td>6</td><td>235</td></tr> <tr><td>750 – 799</td><td>7</td><td>250</td></tr> </table>	KH	Type	B	560 – 569	3	183	570 – 579	3	168	580 – 589	3	153	590 – 599	3	138	600 – 609	4	208	610 – 619	4	198	620 – 629	4	178	630 – 639	4	168	640 – 649	4	158	650 – 699	5	225	700 – 749	6	235	750 – 799	7	250
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WARNING Important! Caution - risk of injury! Fitting is spring-tensioned! Calculation of door width (all measurements in inches) $\frac{\text{Flap weight} - \text{handle weight}^{(3)}}{\text{Flap height} \times \text{flap thickness} \times \text{density}^{(2)}} = \text{Flap Width}$ Example: $\frac{9.9 \text{ lb} - 1.1 \text{ lb}}{15 \frac{3}{4}'' \times \frac{3}{4}'' \times .0307} = 24 \frac{9}{32}''$	Front: installation for wooden and frame flaps (min 45mm width) * Pre-drilling required - Ø 2mm	Front: drilling distance <table> <tr> <th>KH</th><th>Type</th><th>C</th></tr> <tr><td>560 – 569</td><td>3</td><td>145</td></tr> <tr><td>570 – 579</td><td>3</td><td>160</td></tr> <tr><td>580 – 589</td><td>3</td><td>175</td></tr> <tr><td>590 – 599</td><td>3</td><td>190</td></tr> <tr><td>600 – 609</td><td>4</td><td>138</td></tr> <tr><td>610 – 619</td><td>4</td><td>148</td></tr> <tr><td>620 – 629</td><td>4</td><td>168</td></tr> <tr><td>630 – 639</td><td>4</td><td>178</td></tr> <tr><td>640 – 649</td><td>4</td><td>188</td></tr> <tr><td>650 – 699</td><td>5</td><td>146</td></tr> <tr><td>700 – 749</td><td>6</td><td>156</td></tr> <tr><td>750 – 799</td><td>7</td><td>166</td></tr> </table>	KH	Type	C	560 – 569	3	145	570 – 579	3	160	580 – 589	3	175	590 – 599	3	190	600 – 609	4	138	610 – 619	4	148	620 – 629	4	168	630 – 639	4	178	640 – 649	4	188	650 – 699	5	146	700 – 749	6	156	750 – 799	7	166
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Calculation of flap weight Flap width x flap height x flap thickness x density ¹ + weight of handle ² = weight of flap ¹ Densities: MDF 0.85 kg/dm³, chipboard 0.65 kg/dm³, spruce/pine 0.45 kg/dm³ ² For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting																																									

Metric Conversions

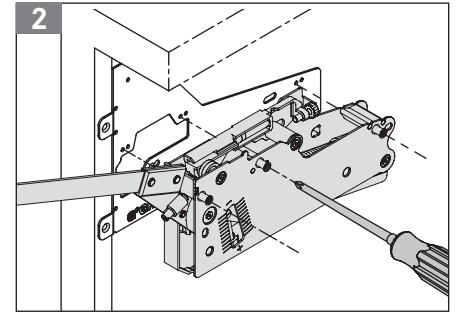
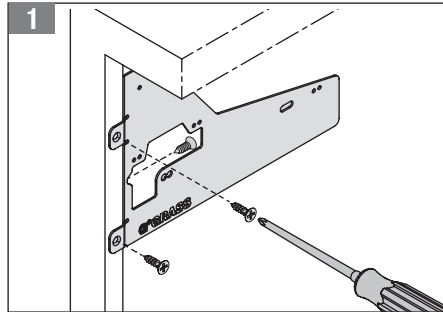
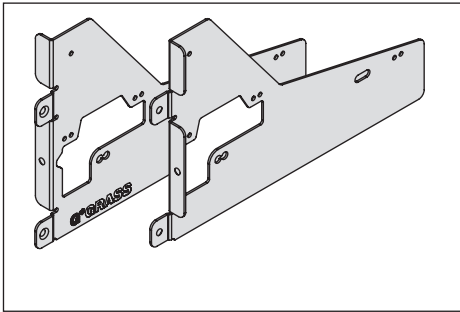
MM	2	3.5	4	5	8.5	9	10	11	13	14.5	15	16	17	19	25	31	32
INCH	$\frac{3}{32}$	$\frac{1}{8}$	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{11}{32}$	$\frac{11}{32}$	$\frac{13}{32}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{19}{32}$	$\frac{5}{8}$	$\frac{21}{32}$	$\frac{3}{4}$	$\frac{31}{32}$	$1 \frac{7}{32}$	$1 \frac{1}{4}$

MM	40	41	45	50	63	64	103	119	123	128	170	174	180	181	186	254	260
INCH	$1 \frac{9}{16}$	$1 \frac{5}{8}$	$1 \frac{3}{4}$	$1 \frac{31}{32}$	$2 \frac{15}{32}$	$2 \frac{1}{2}$	$4 \frac{1}{16}$	$4 \frac{11}{16}$	$4 \frac{27}{32}$	$5 \frac{1}{16}$	$6 \frac{11}{16}$	$6 \frac{27}{32}$	$7 \frac{3}{32}$	$7 \frac{1}{8}$	$7 \frac{5}{16}$	10	$10 \frac{1}{4}$

LEGEND

B	Drilling dimension - side wall
C	Drilling dimension - front
F	Reveal
FAS	Front overlay, side
KH	Cabinet height
FAO	Front overlay, top

ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR FACE FRAME CABINET



Required space	Side wall drilling positions	Side wall drilling distance		
		LHK	Type	B
		528 – 537	3	183
		538 – 547	3	168
		548 – 557	3	153
		558 – 567	3	138
		568 – 577	4	208
		578 – 587	4	198
		588 – 597	4	178
		598 – 607	4	168
		608 – 617	4	158
		618 – 627	5	225
		668 – 717	6	235
		718 – 767	7	250
Calculation of door width (all measurements in inches) $\frac{\text{Flap weight} - \text{handle weight}^{(3)}}{\text{Flap height} \times \text{flap thickness} \times \text{density}^{(2)}} = \text{Flap Width}$ Example: $\frac{9.9 \text{ lb} - 1.1 \text{ lb}}{15 \frac{3}{4}'' \times 3 \frac{3}{4}'' \times .0307} = 24 \frac{9}{32}''$	Front: installation for wooden and frame flaps (min. 45mm width)	Front: drilling distance		
		LHK	Type	C
		528 – 537	3	145
		538 – 547	3	160
		548 – 557	3	175
		558 – 567	3	190
		568 – 577	4	138
		578 – 587	4	148
		588 – 597	4	168
		598 – 607	4	178
		608 – 617	4	188
		618 – 627	5	146
		668 – 717	6	156
		718 – 767	7	166

* Pre-drilling required - Ø 2mm

Calculation of flap weight

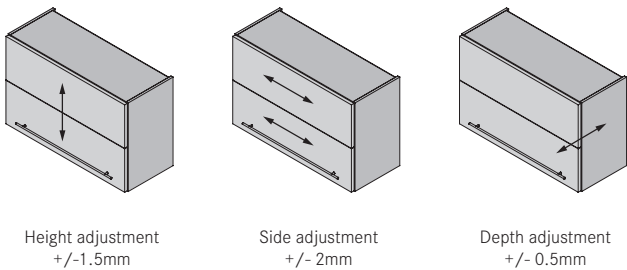
Flap width x flap height x flap thickness x density¹ + weight of handle² = weight of flap

¹ Densities: MDF 0.85 kg/dm³, chipboard 0.65 kg/dm³, spruce/pine 0.45 kg/dm³

² For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting

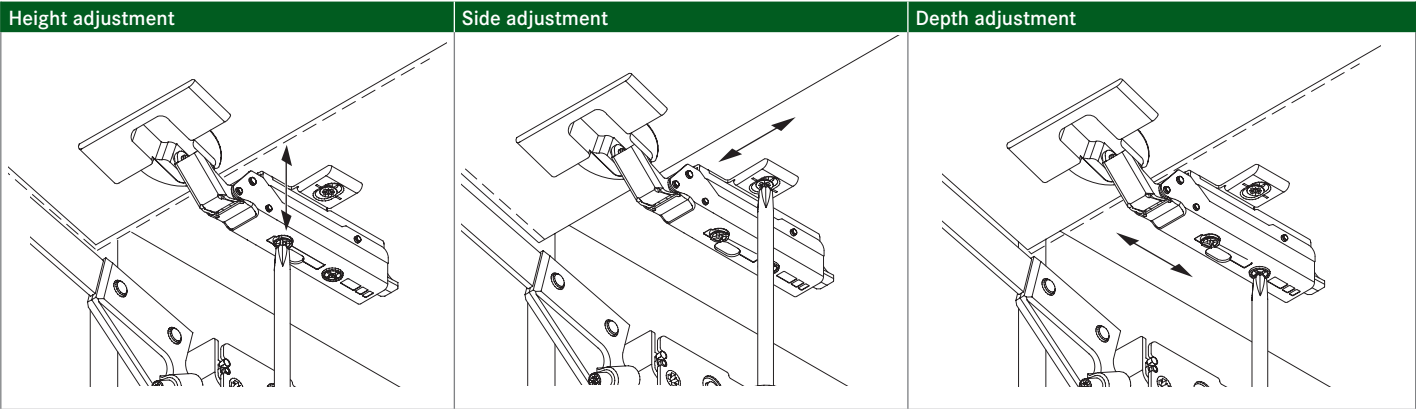
Kinvaro F-20

Bi-Fold Lifter

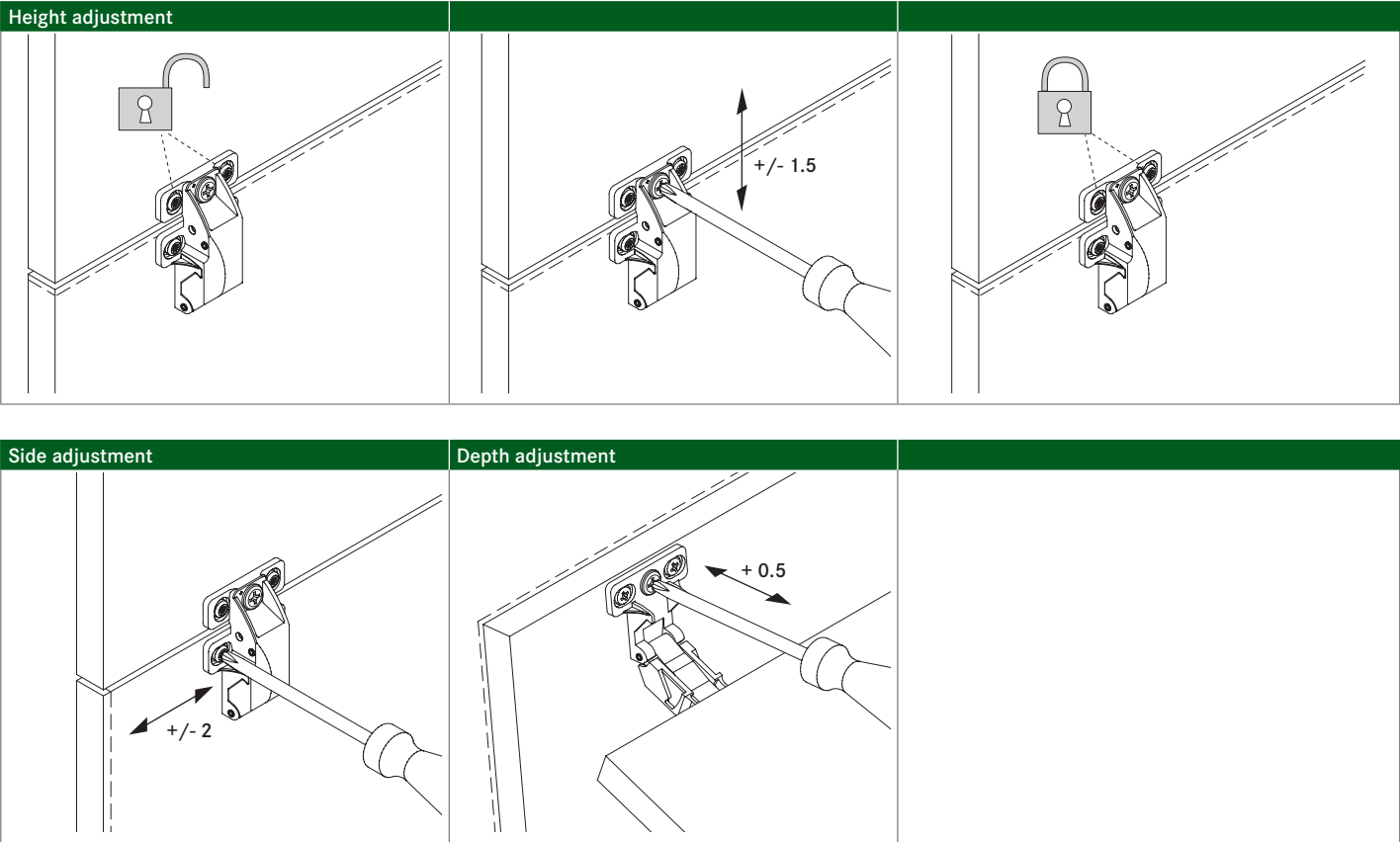


All adjustments can be carried out independently of each other.

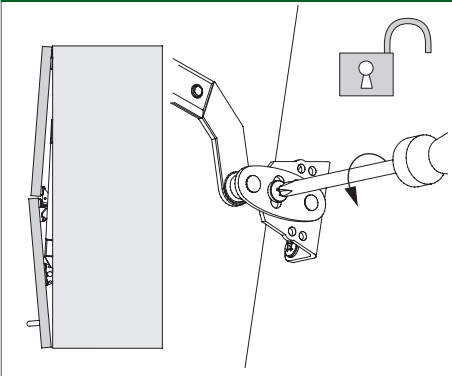
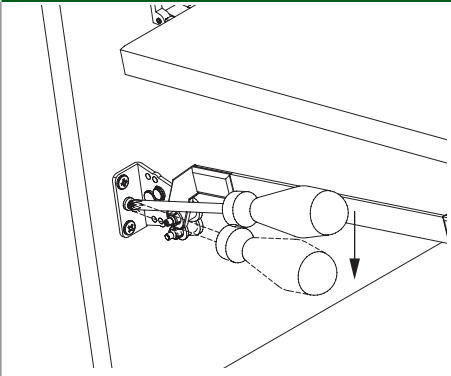
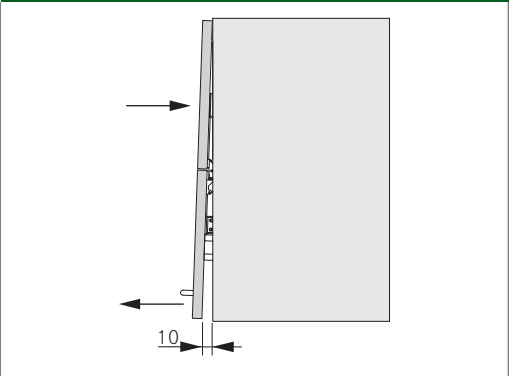
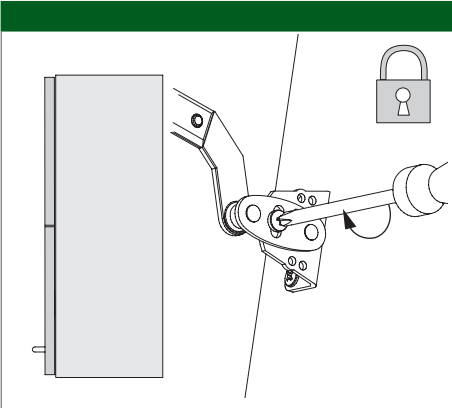
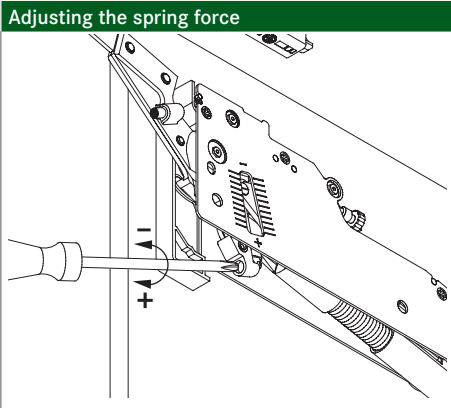
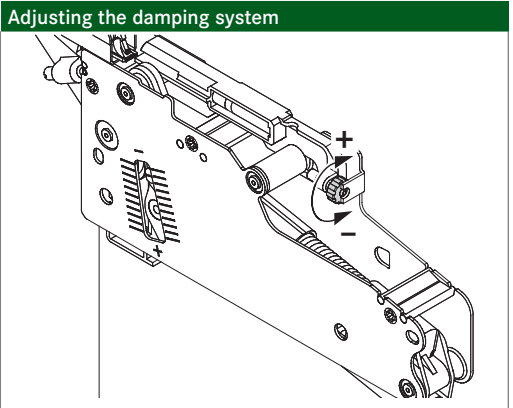
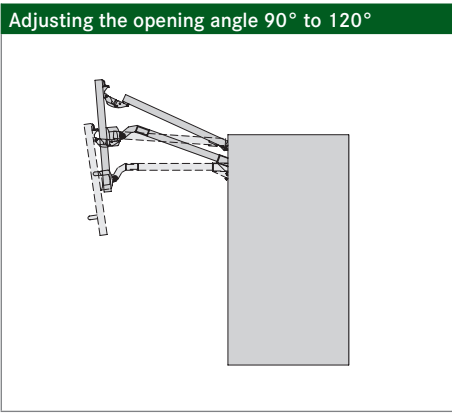
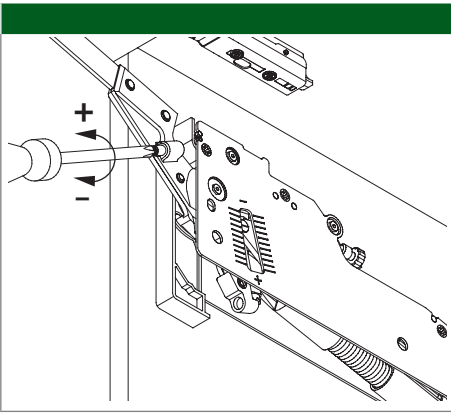
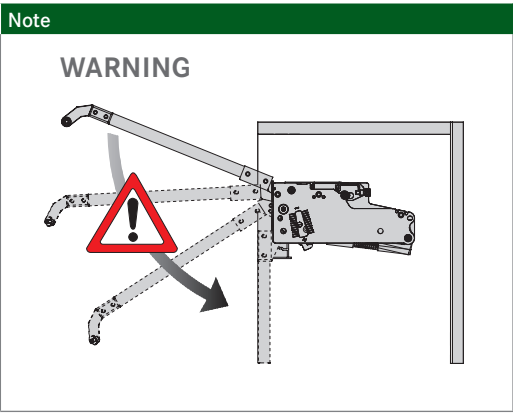
ADJUSTMENT OPTIONS FOR HINGE IN CABINET TOP PANEL



ADJUSTMENT OPTIONS FOR INTERMEDIATE HINGE



ADJUSTMENT OPTIONS

Adjusting the flap closing position		
		
Adjusting the spring force		
		
Adjusting the opening angle 90° to 120°		
		Note WARNING 

Kinvaro L-80

Parallel Lifter



- Holds flap securely in any position
- Extremely smooth movement
- Adjustable spring force
- Integrated adjustable closing damper
- Flap 3-dimensionally adjustable – height, side, angle: Direct adjustment $\pm 1.5\text{mm}$
- Allows the use of cornices, pelmets, and attached lights
- Wide range of applications for many different flap materials
- Fast, tool-free clip fitting of the front
- Face frame adapter available
- Pre-assembled Euro screws and positioning pins for easy mounting of the fitting to the side wall
- Extremely strong
- Weight 4 to 32 lb (1.9 to 14.6 kg)
- Range of flaps:
Width: $17 \frac{23}{32}" - 47 \frac{1}{4}"$ (450 – 1200mm)
Height: $13 \frac{25}{32}" - 23 \frac{5}{8}"$ (350 – 600mm)
- Cover caps in grey

APPLICATION RANGE

Cabinet height	Guide lever	Flap weight incl. handle lb (kg)		
		Spring A	Spring B	Spring C
$13 \frac{25}{32}" - 14 \frac{17}{32}"$ (350 – 369)	Type 1	5.5 – 14.3 (2.5 – 6.5)	13.2 – 20.9 (6.0 – 9.5)	–
$14 \frac{9}{16}" - 15 \frac{5}{16}"$ (370 – 389)	Type 2	5.1 – 13.2 (2.3 – 6.0)	12.1 – 19.8 (5.5 – 9.0)	18.7 – 21.2 (8.5 – 9.6)
$15 \frac{11}{32}" - 16 \frac{3}{32}"$ (390 – 409)	Type 3	4.6 – 12.1 (2.1 – 5.5)	11.0 – 18.7 (5.0 – 8.5)	17.6 – 22.3 (8.0 – 10.1)
$16 \frac{1}{8}" - 16 \frac{7}{8}"$ (410 – 429)	Type 4	4.2 – 11.0 (1.9 – 5.0)	9.9 – 17.6 (4.5 – 8.0)	16.5 – 32.2 (7.5 – 14.6)
$16 \frac{15}{16}" - 23 \frac{5}{8}"$ (430 – 600)	Type 5	4.4 – 9.9 (2.0 – 4.5)	8.8 – 16.5 (4.0 – 7.5)	15.4 – 32.2 (7.0 – 14.6)

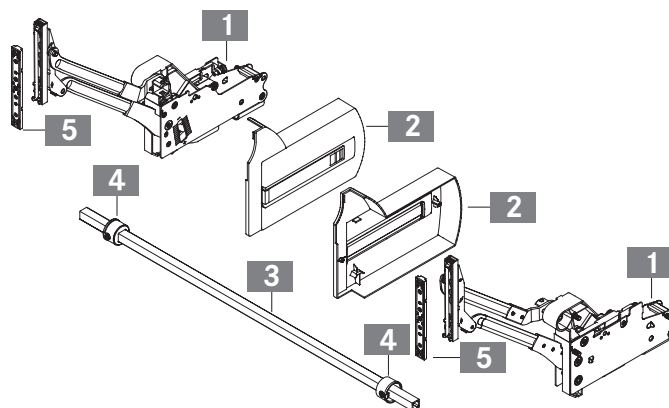
ORDER INFORMATION

Kinvaro L-80 set				
Cabinet height	Spring A	Spring B	Spring C	PU
350 – 369	F152145248201	F152147444201	–	1
370 – 389	–	–	–	–
390 – 409	F152147441201	F152145251201	F152145252201	1
410 – 429	F152147442201	F152145281201	–	1
430 – 600	F152147443201	F152145253201	F152145254201	1

Face Frame Adapter, Kinvaro L-80 set			
Description	Overlay	Item No.	PU
Face frame adapter, (2x) for wood screws with fixing screws (8x)	13 – 17	F151135906201	1

Kinvaro L-80 set comprises:

- 1 Fitting, right and left (1x)
 - 2 Cover caps on right and left (1x)
 - 3 1090mm cross bar for cutting to length (1x)
 - 4 Sliding sleeves (2x)
 - 5 Mounting plates (2x)
- Paper template (1x), Installation instructions (1x)



PU – Packaging unit

ASSEMBLY AND INSTALLATION INSTRUCTIONS

Required space

Side wall drilling positions

Side wall drilling distance

Type	min LHK	D1	D2
1	312	161	304
2	332	176	337
3	352	191	370
4	372	206	403
5	392	221	436

Cornice projection

F	KP max
2	22
3	35
4	39

Front: installation for wooden and frame flaps (min 45mm width)

Front: drilling distance

KH	Type	X
350 - 369	1	190
370 - 389	2	210
390 - 409	3	230
410 - 429	4	250
430 - 600	5	270

Cutting dimensions
Cross bar

WARNING

Important!
Caution - risk of injury!
Fitting is spring-tensioned!

Calculation of door width (all measurements in inches)

$$\frac{\text{Flap weight} - \text{handle weight}^{(3)}}{\text{Flap height} \times \text{flap thickness} \times \text{density}^{(2)}} = \text{Flap Width}$$

Example: $\frac{9.9 \text{ lb} - 1.1 \text{ lb}}{15 \frac{3}{4}'' \times \frac{3}{4}'' \times .0307} = 24 \frac{9}{32}''$

Calculation of flap weight

Flap width x flap height x flap thickness x density¹ + weight of handle² = weight of flap

¹ Densities: MDF 0.85 kg/dm³, chipboard 0.65 kg/dm³, spruce/pine 0.45 kg/dm³

² For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting

Metric Conversions

MM	2	3.5	5	8	8.5	10	12	12.5	13	15	17	18	19	22	32	36	37
INCH	$\frac{3}{32}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{13}{32}$	$\frac{15}{32}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{19}{32}$	$\frac{21}{32}$	$\frac{23}{32}$	$\frac{3}{4}$	$\frac{7}{8}$	$1 \frac{1}{4}$	$1 \frac{13}{32}$	$1 \frac{7}{16}$

MM	40	45	48	50	54	60	64	78	96	100	123	128	158	164	186	254	260
INCH	$1 \frac{9}{16}$	$1 \frac{3}{4}$	$1 \frac{7}{8}$	$1 \frac{31}{32}$	$2 \frac{1}{8}$	$2 \frac{3}{8}$	$2 \frac{1}{2}$	$3 \frac{1}{16}$	$3 \frac{25}{32}$	$3 \frac{15}{16}$	$4 \frac{27}{32}$	$5 \frac{1}{16}$	$6 \frac{1}{4}$	$6 \frac{15}{32}$	$7 \frac{5}{16}$	10	$10 \frac{1}{4}$

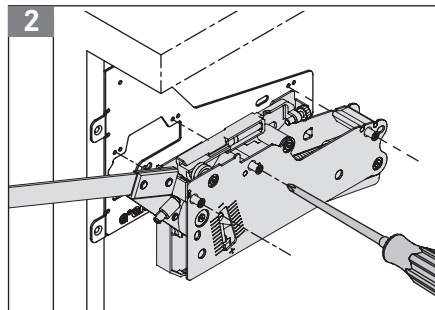
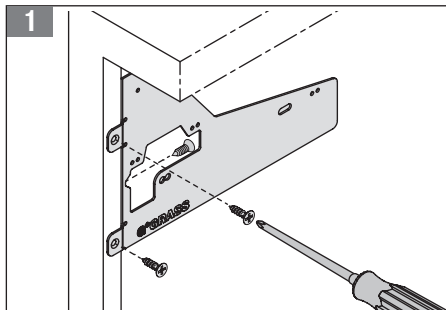
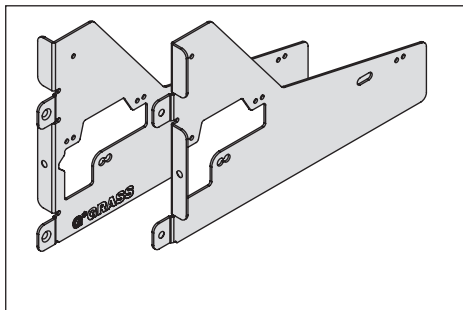
LEGEND

D	Distance
F	Reveal
FAO	Front overlay, top
FAS	Front overlay, side
KH	Cabinet height
KP	Cornice
LHK	Inside cabinet height
LWK	Inside cabinet width
X	Drilling distance

Kinvaro L-80

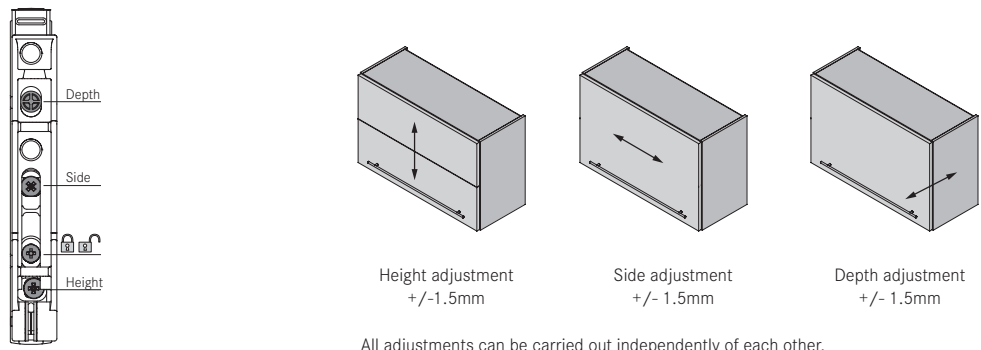
Parallel Lifter

ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR FACE FRAME CABINET



Required space	Side wall drilling positions	Side wall drilling distance																								
		<table><tr><th>Type</th><th>min LHK</th><th>D1</th><th>D2</th></tr><tr><td>1</td><td>312</td><td>161</td><td>304</td></tr><tr><td>2</td><td>332</td><td>176</td><td>337</td></tr><tr><td>3</td><td>352</td><td>191</td><td>370</td></tr><tr><td>4</td><td>372</td><td>206</td><td>403</td></tr><tr><td>5</td><td>392</td><td>221</td><td>436</td></tr></table>	Type	min LHK	D1	D2	1	312	161	304	2	332	176	337	3	352	191	370	4	372	206	403	5	392	221	436
Type	min LHK	D1	D2																							
1	312	161	304																							
2	332	176	337																							
3	352	191	370																							
4	372	206	403																							
5	392	221	436																							
Calculation of door weight (all measurements in inches) Flap width x flap height x flap thickness x density⁽²⁾ + handle weight⁽³⁾ = flap weight Example: 23 5⁄8" x 15 3⁄4" x 3⁄4" x .0307 lb/in³ + 1.1 lb = 9.67 lb	Front: installation for wooden and frame flaps (min 45mm width)	Cornice projection <table><tr><th>F</th><th>KP max</th></tr><tr><td>2</td><td>22</td></tr><tr><td>3</td><td>35</td></tr><tr><td>4</td><td>39</td></tr></table>	F	KP max	2	22	3	35	4	39																
		F	KP max																							
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		3	35																							
4	39																									
Front: drilling distance <table><tr><th>KH</th><th>Type</th><th>X</th></tr><tr><td>350 - 369</td><td>1</td><td>190</td></tr><tr><td>370 - 389</td><td>2</td><td>210</td></tr><tr><td>390 - 409</td><td>3</td><td>230</td></tr><tr><td>410 - 429</td><td>4</td><td>250</td></tr><tr><td>430 - 600</td><td>5</td><td>270</td></tr></table>	KH	Type	X	350 - 369	1	190	370 - 389	2	210	390 - 409	3	230	410 - 429	4	250	430 - 600	5	270								
KH	Type	X																								
350 - 369	1	190																								
370 - 389	2	210																								
390 - 409	3	230																								
410 - 429	4	250																								
430 - 600	5	270																								
		Cutting dimensions Cross bar																								
* Pre-drilling required - Ø 2mm																										
Calculation of flap weight Flap width x flap height x flap thickness x density¹ + weight of handle ² = weight of flap ¹ Densities: MDF 0.85 kg/dm³, chipboard 0.65 kg/dm³, spruce/pine 0.45 kg/dm³ ² For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting																										

Parallel Lifter



All adjustments can be carried out independently of each other.

ADJUSTMENT OPTIONS

Unlocking	Height adjustment	Side adjustment
Depth adjustment	Locking	
Adjusting the spring force	Adjusting the damping system	Note

Kinvaro T-65

Lift-up Flap Fitting



- Variable opening angle - holds flap securely at any angle between 45° and 100°
 - Extremely comfortable opening due to spring-supported opening mechanism
 - Adjustable spring force
 - Integrated adjustable closing damper
 - Adjustable flap height $\pm 3.0\text{mm}$
 - No hinges fitted to the top panel
 - Allows additional cabinet installation above
 - Can be used for wooden flaps or aluminum frames with glass insert
 - Face frame adapter available
 - Weight 1.3 to 16.3 lb (0.6 to 7.4 kg)
- Range of flaps:
Width: up to 47 1/4" (up to 1200mm)
Height: 9 27/32" - 23 5/8" (250 - 600mm)
- Cover caps in grey

APPLICATION RANGE

Cabinet height	Flap weight incl. handle lb(kg)		
	Spring on one side yellow	Spring on both sides yellow	Spring on both sides black
9 27/32" (250)	2.0 - 4.6 (0.9 - 2.1)	4.0 - 9.3 (1.8 - 4.2)	5.3 - 16.3 (2.4 - 7.4)
11 13/16" (300)	1.5 - 3.7 (0.7 - 1.7)	3.1 - 7.5 (1.4 - 3.4)	4.4 - 13.9 (2.0 - 6.3)
13 25/32" (350)	-	2.2 - 6.4 (1.0 - 2.9)	3.7 - 11.9 (1.7 - 5.4)
15 3/4" (400)	-	1.8 - 5.5 (0.8 - 2.5)	3.3 - 10.4 (1.5 - 4.7)
17 23/32" (450)	-	1.5 - 4.9 (0.7 - 2.2)	2.9 - 9.3 (1.3 - 4.2)
19 11/16" (500)	-	1.3 - 4.4 (0.6 - 2.0)	2.9 - 8.6 (1.3 - 3.9)
21 21/32" (550)	-	-	2.9 - 7.5 (1.3 - 3.4)
23 5/8" (600)	-	-	2.9 - 6.8 (1.3 - 3.1)

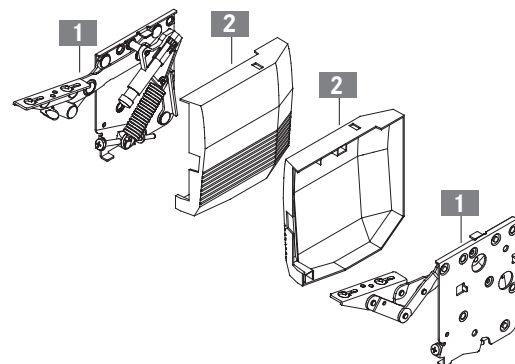
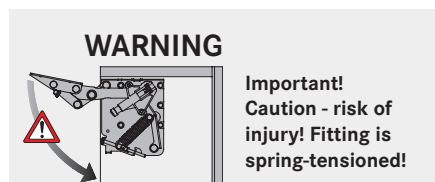
ORDER INFORMATION

Kinvaro T-65 set					
Description	Springs	Version for	Overlay	Item No.	PU
Kinvaro T-65 on right without damper and on left with damper, pre-assembled springs black, incl. cover caps, 2 loose yellow springs	Black/yellow	wood	variable	F151147682201	1

Face Frame Adapter, Kinvaro T-65 Kit			
Description	Overlay	Item No.	PU
Face frame adapter (2x) for wood frames with fixing screws (8x)	13 - 17	F151135905201	1

Kinvaro T-65 set includes:

- 1** Fitting on the right without and on the left with damper (1x)
 - 2** Cover caps on right and left (1x)
- Springs, yellow, loose (2x)
Paper template (1x)
Installation instructions (1x)



PU - Packaging unit

Lift-up Flap Fitting

ASSEMBLY AND INSTALLATION INSTRUCTIONS

Required space	Side wall drilling positions
Front: installation for flaps with narrow aluminum frame profiles (19mm)	Front: installation for wooden and frame flaps (min 45mm width)
* Narrow aluminum frame profile (19mm)	* Pre-drilling required - Ø 2mm

Calculation of flap weight

Flap width x flap height x flap thickness x density¹ + weight of handle² = weight of flap

¹ Densities: MDF 0.85 kg/dm³, chipboard 0.65 kg/dm³, spruce/pine 0.45 kg/dm³

² For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting

Calculation of door width (all measurements in inches)

Flap weight - handle weight⁽³⁾ = Flap Width

Flap height x flap thickness x density⁽²⁾

Example: $\frac{9.9 \text{ lb} - 1.1 \text{ lb}}{15 \frac{3}{4} \times \frac{3}{4} \times 0.0307} = 24 \frac{9}{32} \text{"}$

Metric Conversions

MM	2	3.2	6	7.5	8	8.5	12	12.5	13	14	17	18	19	20	29	30	31
INCH	$\frac{3}{32}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{15}{32}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{21}{32}$	$\frac{23}{32}$	$\frac{3}{4}$	$\frac{13}{16}$	$1 \frac{5}{32}$	$1 \frac{3}{16}$	$1 \frac{7}{32}$

MM	32	33	34	38	40	42	45	47.5	48	54	64	133	135	144	147	156	260
INCH	$1 \frac{1}{4}$	$1 \frac{5}{16}$	$1 \frac{11}{32}$	$1 \frac{1}{2}$	$1 \frac{9}{16}$	$1 \frac{21}{32}$	$1 \frac{3}{4}$	$1 \frac{7}{8}$	$1 \frac{7}{8}$	$2 \frac{1}{8}$	$2 \frac{1}{2}$	$5 \frac{1}{4}$	$5 \frac{5}{16}$	$5 \frac{11}{16}$	$5 \frac{13}{16}$	$6 \frac{5}{32}$	$10 \frac{1}{4}$

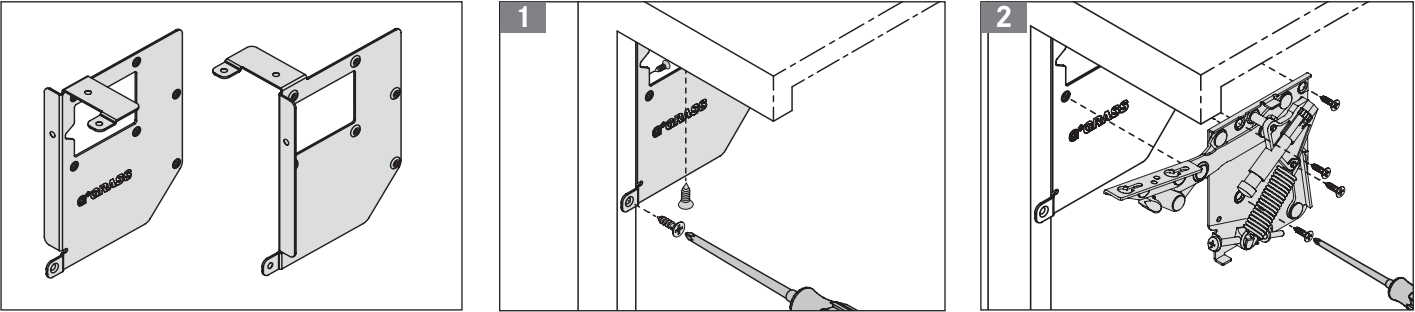
LEGEND

F Reveal
FAS Front overlay, side
FAO Front overlay, top

Kinvaro T-65

Lift-up Flap Fitting

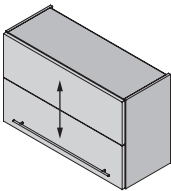
ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR FACE FRAME CABINET



Required space	Side wall drilling positions
Diagram showing the required space for the lift-up flap mechanism on the side wall. Dimensions include: 144, 133, min. 2, 135, 163.5, 32, 12.5, 19, and a 100° angle.	Diagram showing the required space for the lift-up flap mechanism on the side wall. Dimensions include: 156, 19, 8, 42, 7.5, 47.5, min 12.5, 8, and Ø 4 x 13.
Front: installation for flaps with narrow aluminum frame profiles (19mm)	Front: installation for wooden and frame flaps (min 45mm width)
Diagram showing the front installation for flaps with narrow aluminum frame profiles (19mm). Dimensions include: 34 + FAO, 48, 6, 2, 3.2, 19, FAS, and DIN7985 M4x10-Z.	Diagram showing the front installation for wooden and frame flaps (min 45mm width). Dimensions include: 18 + FAO, 48, 19 + FAS, FAS, and Ø 4 x 13.

Calculation of flap weight
Flap width x flap height x flap thickness x density¹ + weight of handle² = weight of flap ¹ Densities: MDF 0.85 kg/dm³, chipboard 0.65 kg/dm³, spruce/pine 0.45 kg/dm³ ² For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting

Lift-up Flap Fitting



Height adjustment
+/-3mm

ADJUSTMENT OPTIONS

All adjustments can be carried out independently of each other.

Height adjustment	Locking	
Adjusting the spring force	Adjusting the damping system	
		Note
		WARNING

Kinvaro T-71

Lift-up Fitting



- Variable opening angle - holds flap securely at any angle between 45° and 110°
- Extremely comfortable opening due to spring-supported opening mechanism
- Adjustable spring force
- Integrated adjustable closing damper
- Flap 3-dimensionally adjustable - height, side, angle: direct adjustment $\pm 1.5\text{mm}$
- No hinges fitted to the top panel
- Allows additional cabinet installation above
- For wooden flaps
- Fast, tool-free clip fitting of the front
- Face frame adapter available
- Weight 3.1 to 18.7 lb (1.4 to 8.5 kg)
- Range of flaps:
Width: up to 47 1/4" (up to 1200mm)
Height: 11 13/16" - 23 5/8" (300 - 600mm)
- Cover caps in grey

APPLICATION RANGE

Cabinet height	Flap weight incl. handle lb (kg)	
	Spring, white	Spring, orange
11 13/16" (300)	4.6 - 16.3 (2.1 - 7.4)	5.5 - 18.7 (2.5 - 8.5)
13 25/32" (350)	4.0 - 13.9 (1.8 - 6.3)	5.1 - 16.5 (2.3 - 7.5)
15 3/4" (400)	3.7 - 11.9 (1.7 - 5.4)	4.6 - 15.0 (2.1 - 6.8)
17 23/32" (450)	3.5 - 10.4 (1.6 - 4.7)	4.4 - 12.8 (2.0 - 5.8)
19 11/16" (500)	3.3 - 8.8 (1.5 - 4.0)	4.0 - 11.0 (1.8 - 5.0)
21 21/32" (550)	3.1 - 8.2 (1.4 - 3.7)	3.5 - 10.1 (1.6 - 4.6)
23 5/8" (600)	3.1 - 7.3 (1.4 - 3.3)	3.1 - 9.3 (1.4 - 4.2)

ORDER INFORMATION

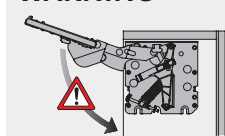
Kinvaro T-71 set					
Description	Springs	Version for	Overlay	Item No.	PU
Kinvaro T-71 on right without damper and on left with damper, pre-assembled springs white, incl. cover caps, 2 loose orange springs	white/ orange	wood	variable	F151147696201	1

Face frame adapter, Kinvaro T-71 set			
Description	Overlay	Item No.	PU
Face frame adapters (2x) for wood frames with fixing screws (8x)	13 - 17	F151135905201	1

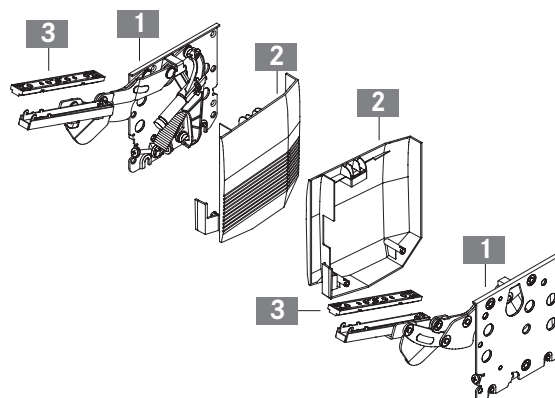
Kinvaro T-71 set includes:

- 1 Fitting on the right without and on the left with damper (1x)
- 2 Cover caps on right and left (1x)
- 3 Mounting plates (2x)
Springs, orange, loose (2x)
Paper template (1x), Installation instructions (1x)

WARNING



Important!
Caution - risk of injury! Fitting is spring-tensioned!



PU - Packaging unit

Lift-up Fitting

ASSEMBLY AND INSTALLATION INSTRUCTIONS

Required space	Side wall drilling positions
WARNING Important! Caution - risk of injury! Fitting is spring-tensioned! Calculation of door width (all measurements in inches) $\frac{\text{Flap weight} - \text{handle weight}^{(3)}}{\text{Flap height} \times \text{flap thickness} \times \text{density}^{(2)}} = \text{Flap Width}$ Example: $\frac{9.9 \text{ lb} - 1.1 \text{ lb}}{15 \frac{3}{4}'' \times \frac{3}{4}'' \times .0307} = 24 \frac{9}{32}''$	Front: installation for wooden and frame flaps (min 55mm width) * Pre-drilling required - Ø 2mm
Calculation of flap weight Flap width x flap height x flap thickness x density¹ + weight of handle² = weight of flap ¹ Densities: MDF 0.85 kg/dm³, chipboard 0.65 kg/dm³, spruce/pine 0.45 kg/dm³ ² For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting	

Metric Conversions

MM	2	3.5	5	7.5	8	8.5	10	12	12.5	13	17	19	20	25	29	32	40
INCH	$\frac{3}{32}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{13}{32}$	$\frac{15}{32}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{21}{32}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{31}{32}$	$1 \frac{5}{32}$	$1 \frac{1}{4}$	$1 \frac{9}{16}$

MM	42	43	47.5	50	55	64	70	80	100	128	133	135	144	147	156	158	185
INCH	$1 \frac{21}{32}$	$1 \frac{11}{16}$	$1 \frac{7}{8}$	$1 \frac{31}{32}$	$2 \frac{5}{32}$	$2 \frac{1}{2}$	$2 \frac{3}{4}$	$3 \frac{1}{8}$	$3 \frac{15}{16}$	$5 \frac{1}{16}$	$5 \frac{1}{4}$	$5 \frac{5}{16}$	$5 \frac{11}{16}$	$5 \frac{13}{16}$	$6 \frac{5}{32}$	$6 \frac{1}{4}$	$7 \frac{1}{4}$

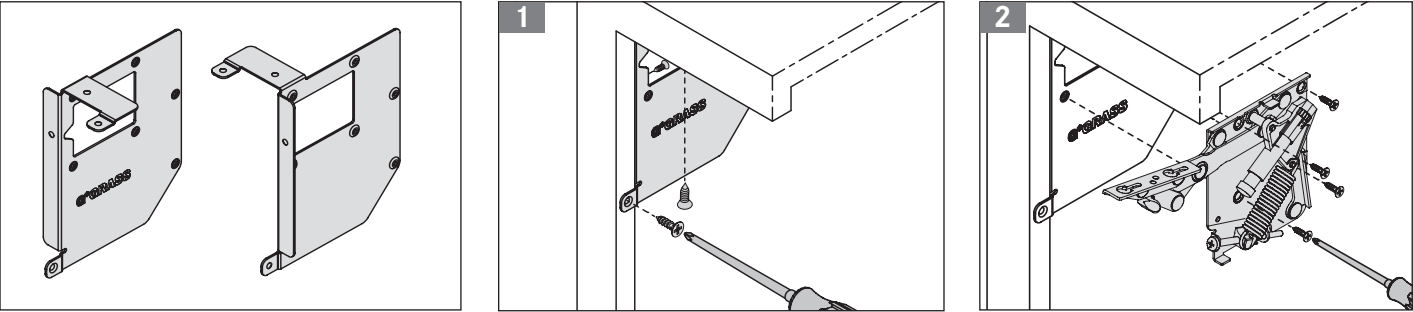
LEGEND

F Reveal
FAS Front overlay, side
FAO Front overlay, top

Kinvaro T-71

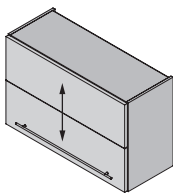
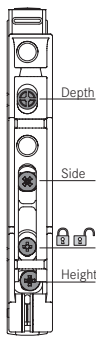
Lift-up Fitting

ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR FACE FRAME CABINETS

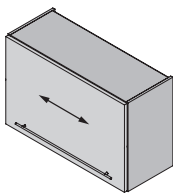


Required space	Side wall drilling positions
Calculation of door weight (all measurements in inches) Flap width x flap height x flap thickness x density⁽²⁾ + handle weight⁽³⁾ = flap weight Example: 23 5⁄8" x 15 3⁄4" x 3⁄4" x .0307 lb/in³ + 1.1 lb = 9.67 lb	Front: installation for wooden and frame flaps (min 55mm width) * Predrilling required - Ø 2mm
Calculation of flap weight Flap width x flap height x flap thickness x density¹ + weight of handle ² = weight of flap ¹ Densities: MDF 0.85 kg/dm³, chipboard 0.65 kg/dm³, spruce/pine 0.45 kg/dm³ ² For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting	

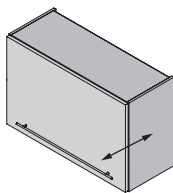
Lift-up Fitting



Height adjustment
+/-1.5mm



Side adjustment
+/- 1.5mm



Depth adjustment
+/- 1.5mm

All adjustments can be carried out independently of each other.

ADJUSTMENT OPTIONS

Unlocking	Height adjustment	Side adjustment
Depth adjustment	Locking	
Adjusting the spring force	Adjusting the damping system	Note
		WARNING

Kinvaro T-76

Lift-up Fitting



- Variable opening angle - holds flap securely at any angle between 45° and 110°
- Extremely comfortable opening due to spring-supported opening mechanism
- Adjustable spring force
- Integrated adjustable closing damper
- Flap 3-dimensionally adjustable - height, side, angle: direct adjustment ±1.5mm
- No hinges fitted to the top panel
- Allows additional cabinet installation above
- For wooden flaps
- Fast, tool-free clip fitting of the front
- Face frame adapter available
- Weight 11.5 to 24.25 lb (5.2 to 11.0 kg)
- Range of flaps:
Width: up to 47 1/4" (up to 1200mm)
Height: 15 3/4" - 23 5/8" (400 - 600mm)
- Cover caps in grey

APPLICATION RANGE

Cabinet height		Flap weight incl. handle lb (kg)
		Spring, standard
15 3/4"	(400)	15.4 - 24.3 (7.0 - 11.0)
17 23/32"	(450)	14.8 - 21.2 (6.7 - 9.6)
19 11/16"	(500)	12.8 - 18.7 (5.8 - 8.5)
21 21/32"	(550)	12.3 - 16.8 (5.6 - 7.6)
23 5/8"	(600)	11.5 - 15.4 (5.2 - 7.0)

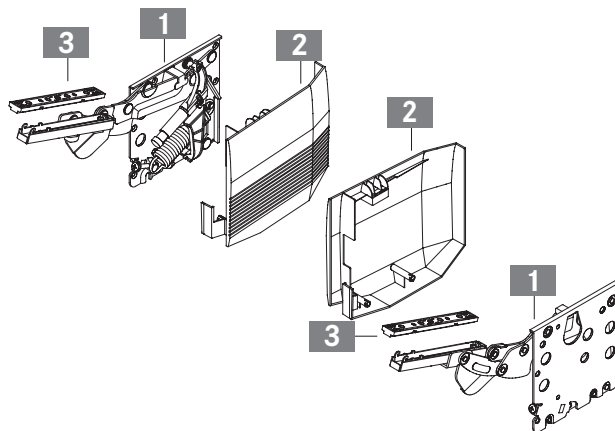
ORDER INFORMATION

Kinvaro T-76 set					
Description	Springs	Version for	Overlay	Item No.	PU
Kinvaro T-76 on right without damper and on left with damper, pre-assembled springs standard, incl. cover caps	standard	wood	variable	F151147706201	1

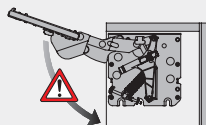
Face frame adapter, Kinvaro T-76 set			
Description	Overlay	Item No.	PU
Face frame adapter (2x) for wood frames with fixing screws (8x)	13 - 17	F151135905201	1

Kinvaro T-76 set includes:

- 1** Fitting on the right without and on the left with damper (1x)
- 2** Cover caps on right and left (1x)
- 3** Mounting plates (2x)
Paper template (1x)
Installation instructions (1x)



WARNING



Important!
Caution - risk of injury! Fitting is spring-tensioned!

PU - Packaging unit

Lift-up Fitting

ASSEMBLY AND INSTALLATION INSTRUCTIONS

Required space	Side wall drilling positions
WARNING Important! Caution - risk of injury! Fitting is spring-tensioned! Calculation of door width (all measurements in inches) $\frac{\text{Flap weight} - \text{handle weight}^{(3)}}{\text{Flap height} \times \text{flap thickness} \times \text{density}^{(2)}} = \text{Flap Width}$ Example: $\frac{9.9 \text{ lb} - 1.1 \text{ lb}}{15 \frac{3}{4}'' \times \frac{3}{4}'' \times .0307} = 24 \frac{9}{32}''$	Front: installation for wooden and frame flaps (min 55mm width) *Pre-drilling required - Ø 2mm
Calculation of flap weight Flap width x flap height x flap thickness x density¹ + weight of handle² = weight of flap ¹ Densities: MDF 0.85 kg/dm³, chipboard 0.65 kg/dm³, spruce/pine 0.45 kg/dm³ ² For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting	

Metric Conversions

MM	2	3.5	5	7.5	8	8.5	10	12.5	13	17	19	20	25	29	32	40	42
INCH	³ / ₃₂	¹ / ₈	³ / ₁₆	⁹ / ₃₂	⁵ / ₁₆	¹¹ / ₃₂	¹³ / ₃₂	¹ / ₂	¹ / ₂	²¹ / ₃₂	³ / ₄	¹³ / ₁₆	³¹ / ₃₂	¹ ⁵ / ₃₂	¹ ¹ / ₄	¹ ⁹ / ₁₆	¹ ²¹ / ₃₂

MM	43	47.5	50	55	64	70	80	128	133	135	138	144	156	158	181	185	
INCH	¹ ¹¹ / ₁₆	¹ ⁷ / ₈	¹ ³¹ / ₃₂	² ⁵ / ₃₂	² ¹ / ₂	² ³ / ₄	³ ¹ / ₈	⁵ ¹ / ₁₆	⁵ ¹ / ₄	⁵ ⁵ / ₁₆	⁵ ⁷ / ₁₆	⁵ ¹¹ / ₁₆	⁶ ⁵ / ₃₂	⁶ ¹ / ₄	⁷ ¹ / ₈	⁷ ¹ / ₄	

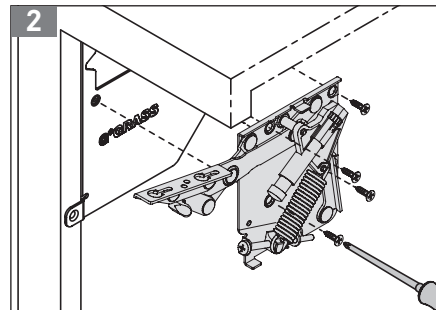
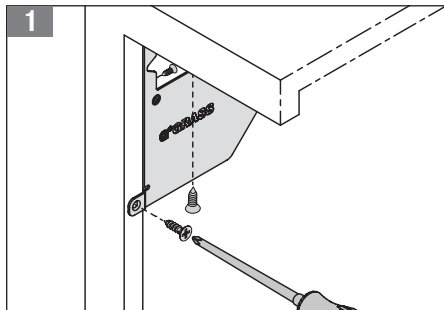
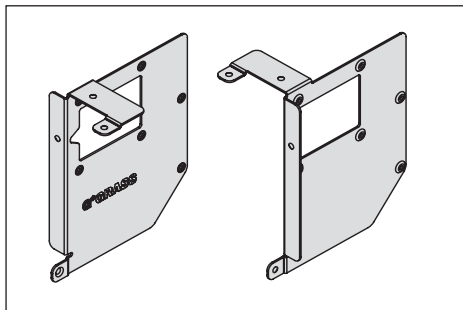
LEGEND

F Reveal
FAS Front overlay, side
FAO Front overlay, top

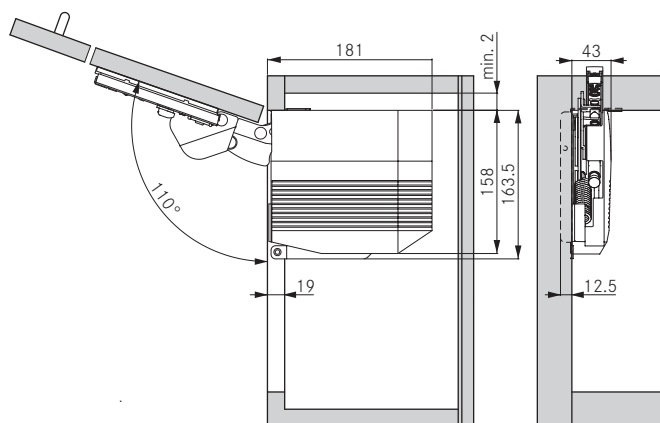
Kinvaro T-76

Lift-up Fitting

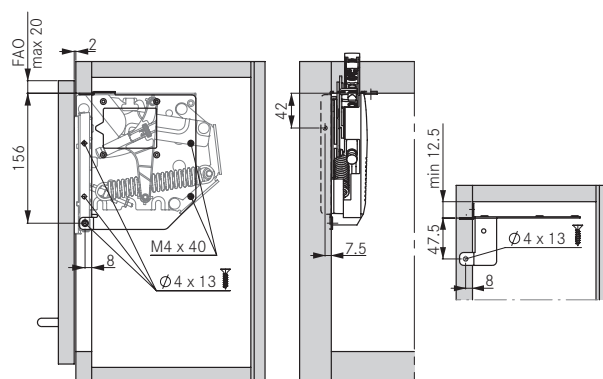
ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR FACE FRAME CABINET



Required space



Side wall drilling positions

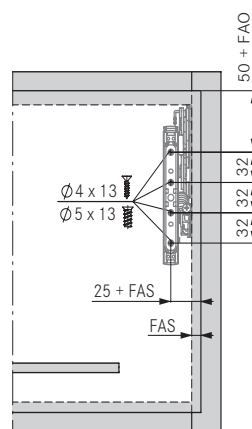


Front: installation for wooden and frame flaps (min 55mm width)

Calculation of door weight (all measurements in inches)

Flap width x flap height x flap thickness x density⁽²⁾ + handle weight⁽³⁾ = flap weight

Example: 23 5/8" x 15 3/4" x 3/4" x .0307 lb/in³ + 1.1 lb = 9.67 lb



* Predrilling required - Ø 2mm

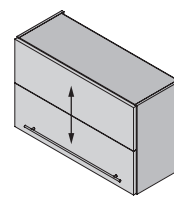
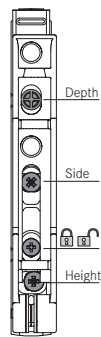
Calculation of flap weight

Flap width x flap height x flap thickness x density¹ + weight of handle² = weight of flap

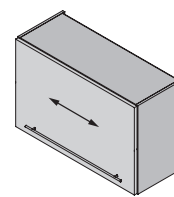
¹ Densities: MDF 0.85 kg/dm³, chipboard 0.65 kg/dm³, spruce/pine 0.45 kg/dm³

² For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting

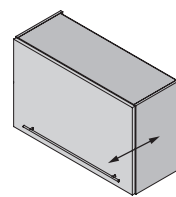
Lift-up Fitting



Height adjustment
+/- 1.5mm



Side adjustment
+/- 1.5mm



Depth adjustment
+/- 1.5mm

All adjustments can be carried out independently of each other.

ADJUSTMENT OPTIONS

Unlocking	Height adjustment	Side adjustment
Depth adjustment	Locking	
Adjusting the spring force	Adjusting the damping system	Note WARNING

Kinvaro T-57

Lift-up Fitting



- Opening angle adjustable to 75° or 90°
- Easy to fit
- Adjustable spring force
- Adjustable flap height ±1.0mm
- No hinges fitted to the top panel
- Allows additional cabinet installation above
- For wooden flaps
- Weight 2.2 to 13.7 lb (1.0 to 6.2 kg)
- Range of flaps:
Width: up to 47 1/4" (up to 1200mm)
Height: 11 13/16" - 23 5/8" (300 - 600mm)
- High-quality finish, nickel-plated

APPLICATION RANGE

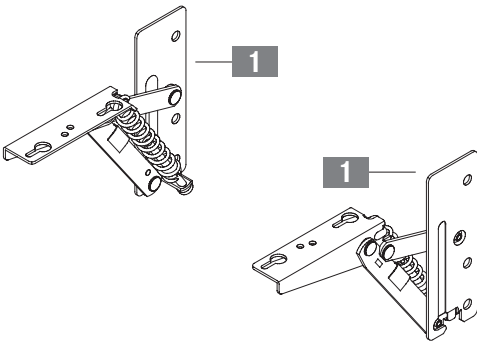
Cabinet height	Flap weight incl. handle lb (kg)	
	min.	max.
11 13/16" (300)	2.2 (1.0)	13.7 (6.2)
13 25/32" (350)	2.6 (1.2)	10.8 (4.9)
15 3/4" (400)	3.1 (1.4)	8.4 (3.8)
17 23/32" (450)	3.3 (1.5)	7.9 (3.6)
19 11/16" (500)	3.7 (1.7)	6.4 (2.9)
21 21/32" (550)	4.2 (1.9)	6.0 (2.7)
23 5/8" (600)	4.6 (2.1)	5.5 (2.5)

ORDER INFORMATION

Kinvaro T-57 set				
Description	Version for	Overlay	Item No.	PU
Kinvaro T-57, nickel-plated adjustable springs on right and left	wood	variable	F151145224517	1

Kinvaro T-57 set includes:

- 1 Fitting, right and left (1x)
- Paper template (1x)
- Installation instructions (1x)



WARNING

Important!
Caution - risk of injury! Fitting is spring-tensioned!

PU - Packaging unit

Lift-up Fitting

ASSEMBLY AND INSTALLATION INSTRUCTIONS

Required space	Side wall drilling positions
WARNING Important! Caution - risk of injury! Fitting is spring-tensioned! Calculation of door width (all measurements in inches) $\frac{\text{Flap weight} - \text{handle weight}^{(3)}}{\text{Flap height} \times \text{flap thickness} \times \text{density}^{(2)}} = \text{Flap Width}$ Example: $\frac{9.9 \text{ lb} - 1.1 \text{ lb}}{15 \frac{3}{4}'' \times \frac{3}{4}'' \times .0307} = 24 \frac{9}{32}''$	Front: installation for wooden and frame flaps (min 55mm width) *Pre-drilling required - Ø 2mm
Calculation of flap weight Flap width x flap height x flap thickness x density¹ + weight of handle² = weight of flap ¹ Densities: MDF 0.85 kg/dm³, chipboard 0.65 kg/dm³, spruce/pine 0.45 kg/dm³ ² For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting	

Metric Conversions

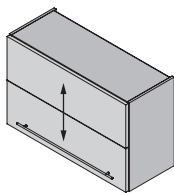
MM	.5	1	1.5	2	3	3.2	3.5	5	7.5	8	8.5	13	19	25	27	29	30
INCH	1/32	1/16	1/16	3/32	1/8	1/8	1/8	3/16	9/32	5/16	11/32	1/2	3/4	31/32	1 1/16	1 5/32	1 3/16
MM	32	34	37	46	47.5	50	55	64	100	135	138	144	164	169	170	180	181
INCH	1 1/4	1 11/32	1 7/16	1 13/16	1 7/8	1 31/32	2 5/32	2 1/2	3 15/16	5 5/16	5 7/16	5 11/16	6 15/32	6 21/32	6 11/16	7 3/32	7 1/8

LEGEND

F Reveal
 FAO Front overlay, top
 FAS Front overlay, side

Kinvaro T-57

Lift-up Fitting



Height adjustment
+/-1mm

All adjustments can be carried out independently of each other.

ADJUSTMENT OPTIONS

Height adjustment	Locking	
Adjusting to 75° opening angle	Adjusting to 90° opening angle	Adjusting the spring force
		Note
		WARNING



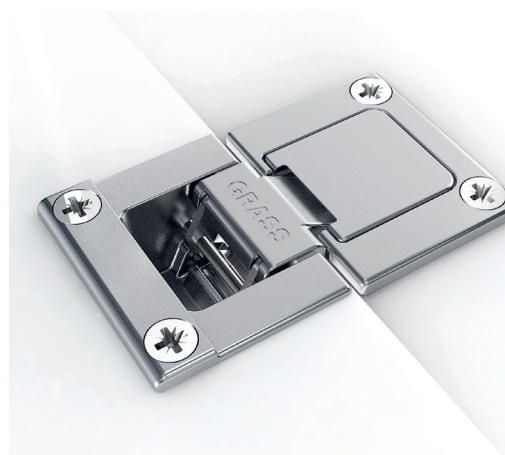
KINVARO Flap System

Drop-down flap system for an elegant style

Kinvaro D flap system, paired with the Tiomos Flap hinge, revitalizes drop-down cabinet applications by creating aesthetically clean lines, a minimalistic look, and easy access to the cabinet contents.

The modern Kinvaro D provides a drop-down flap solution for the classic wall cabinet. Functional and comfortable the Kinvaro D offers an integrated damping system providing a gentle opening that rests at 90° with the assistance of the Tiomos Flap hinge. Kinvaro D-M flap system is offered in White, Night, and Smoke with a flap door weight capacity up to 22.5 pounds. The Kinvaro D-S is offered in White and Night with a flap door weight capacity up to 13.5 pounds.

Kinvaro D and Tiomos Flap hinge, the perfect combination for a fold down system that ensures the open flap is flush with the base panel every time.



Tiomos Flap hinge offering a 90° opening angle and 3-dimensional adjustment

Kinvaro D

D-M flap stay with pull cable



- Gentle opening
- Opening angle adjustable (length of cable)
- Spring force adjustment
- Can be used with shallow cabinets from 110mm (4 5/16") depth
- Flap weight up to 10 kg (22 lb)
- Flap height 200mm - 480mm (7 7/8" - 18 7/8")
- Can be used on left/right side of cabinet
- Easy to install horizontally or vertically
- In White, Night, and Smoke finish
- Works perfectly with Tiomos flap hinge

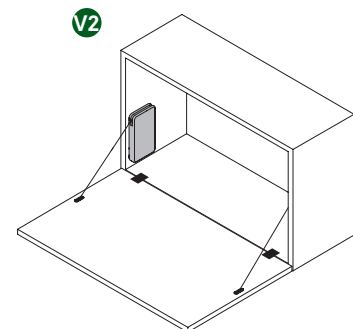
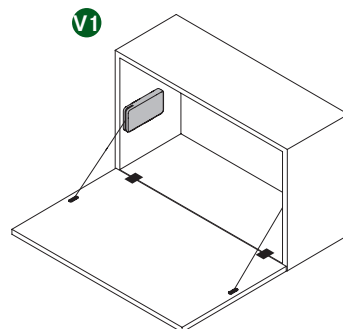
Application Range

Flap Height (FH)	Horizontal Installation (V1)				Vertical Installation (V2)			
	Flap weight including handle in lb (kg)				Flap weight including handle in lb (kg)			
	Spring 60N		Spring 100N		Spring 60N		Spring 100N	
	1X	2X	1X	2X	1X	2X	1X	2X
7 7/8" - 9 1/16" (200 - 230)	8.82 - 10.58 (4.0 - 4.8)	-	9.25 - 13.66 (4.2 - 6.2)	-	9.03 - 13.00 (4.1 - 5.9)	-	11.68 - 16.09 (5.3 - 7.3)	-
9 1/16" - 10 5/8" (230 - 270)	6.61 - 9.70 (3.0 - 4.4)	13.22 - 18.51 (6.0 - 8.4)	7.93 - 11.46 (3.6 - 5.2)	14.99 - 21.16 (6.8 - 9.6)	7.27 - 10.58 (3.3 - 4.8)	14.99 - 21.16 (6.8 - 9.6)	9.25 - 13.22 (4.2 - 6.0)	21.16 - 28.21 (9.6 - 12.8)
10 5/8" - 13" (270 - 330)	6.39 - 8.37 (2.9 - 3.8)	12.34 - 17.19 (5.6 - 7.8)	6.61 - 10.14 (3.0 - 4.6)	14.10 - 19.40 (6.4 - 8.8)	7.05 - 9.92 (3.2 - 4.5)	13.88 - 17.85 (6.3 - 8.1)	8.37 - 11.24 (3.8 - 5.1)	17.41 - 24.47 (7.9 - 11.1)
13" - 14 15/16" (330 - 380)	5.95 - 8.15 (2.7 - 3.7)	11.02 - 17.63 (5.0 - 8.0)	7.05 - 9.47 (3.2 - 4.3)	14.33 - 18.73 (6.5 - 8.5)	5.73 - 7.49 (2.6 - 3.4)	11.02 - 14.33 (5.0 - 6.5)	7.27 - 9.92 (3.3 - 4.5)	16.09 - 18.73 (7.3 - 8.5)
14 15/16" - 16 15/16" (380 - 430)	6.39 - 7.93 (2.9 - 3.6)	9.92 - 13.44 (4.5 - 6.1)	6.83 - 8.59 (3.1 - 3.9)	12.56 - 16.09 (5.7 - 7.3)	5.15 - 7.49 (2.5 - 3.4)	11.02 - 13.66 (5.0 - 6.2)	7.05 - 9.25 (3.2 - 4.2)	13.66 - 18.07 (6.2 - 8.2)
16 15/16" - 18 1/8" (430 - 460)	5.95 - 6.83 (2.7 - 3.1)	9.47 - 13.44 (4.3 - 6.1)	5.95 - 8.59 (2.7 - 3.9)	13.00 - 18.29 (5.9 - 8.3)	5.07 - 6.61 (2.3 - 3.0)	10.14 - 13.66 (4.6 - 6.2)	6.61 - 8.37 (3.0 - 3.8)	13.66 - 17.19 (6.2 - 7.8)
18 1/8" - 18 7/8" (460 - 480)	5.51 - 6.39 (2.5 - 2.9)	9.03 - 12.56 (4.1 - 5.7)	6.17 - 8.37 (2.8 - 3.8)	11.68 - 16.97 (5.3 - 7.7)	5.29 - 7.05 (2.4 - 3.2)	10.14 - 13.22 (4.6 - 6.0)	6.17 - 8.81 (2.8 - 4.0)	12.34 - 17.19 (5.6 - 7.8)

Kinvaro D-M

	Description	Springs	Color	Item No.	PU
	Kinvaro D-M flap stay including front holder and fixing screws	60N	Grey	F053139661 607	10
		100N	Grey	F053139662 607	10

	Description	Color	Item No.	PU
	Cover cap for Kinvaro D-M	White	F053139668 507	10
		Night	F053139669 507	10
		Smoke	F053139670 507	10



Note: Please order Tiomos flap hinges separately

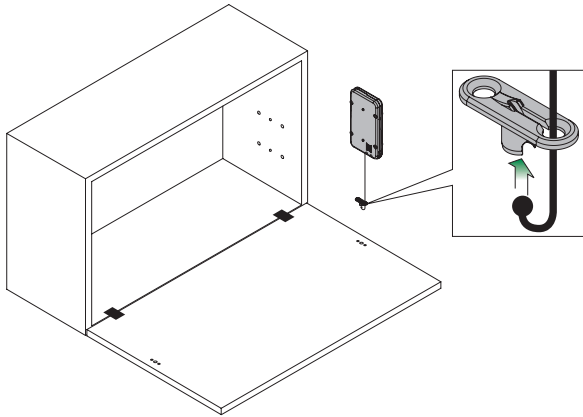
PU - Packaging unit

Assembly Instructions

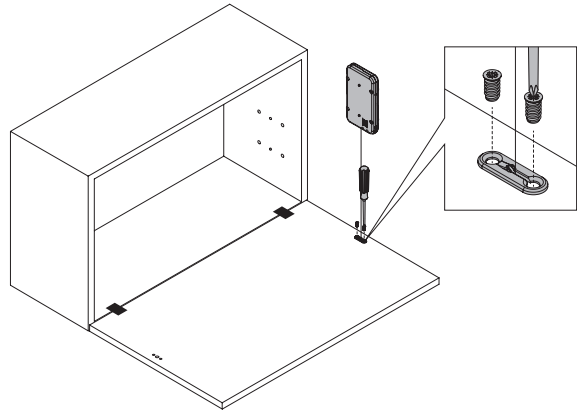
Kinvaro D-M flap stay with pull cable

Assembly Instructions

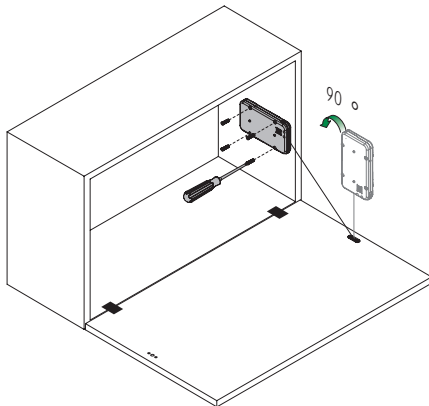
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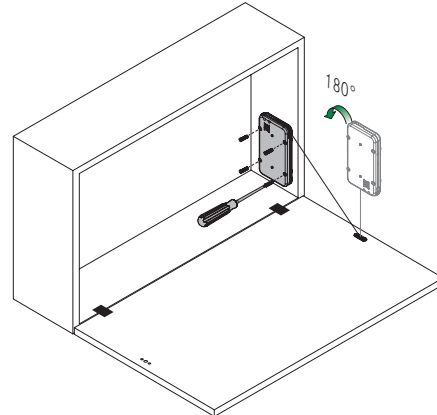
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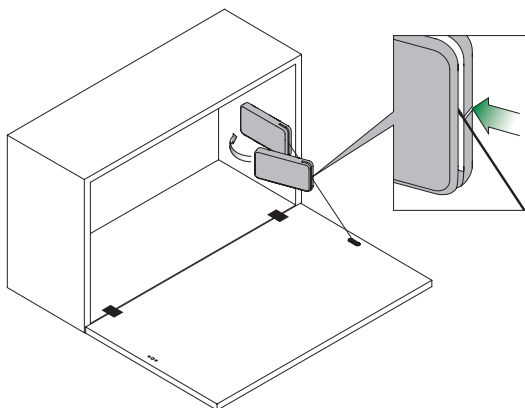
3(V1)



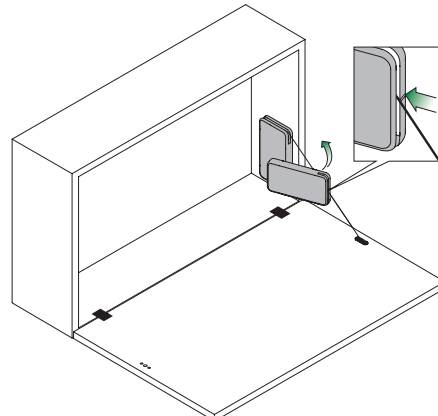
3(V2)



4(V1)

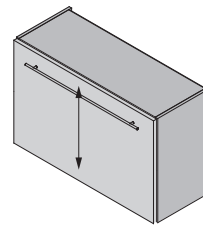


4(V2)

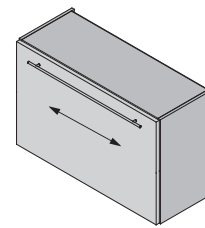


Assembly Instructions

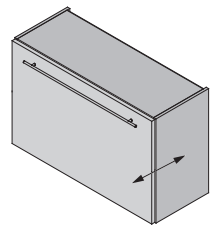
Kinvaro D-M flap stay with pull cable



Height adjustment
+2/-3mm



Side Adjustment
±1mm

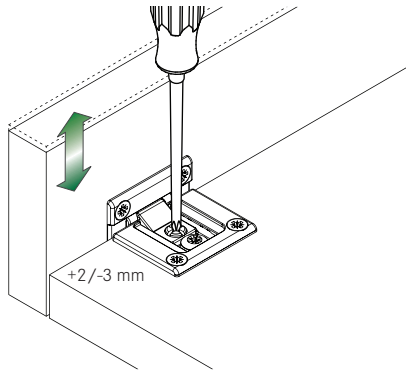


Depth adjustment
+5/-0mm

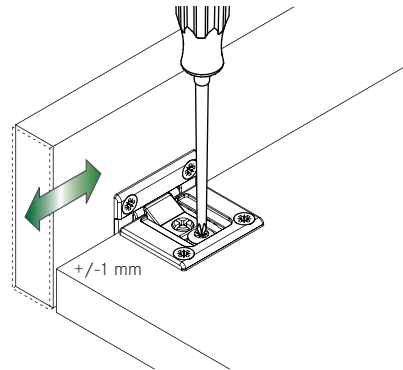
All adjustment options can be made independently of one another

Adjustment Options, When Used with the Tiomos Flap Hinge

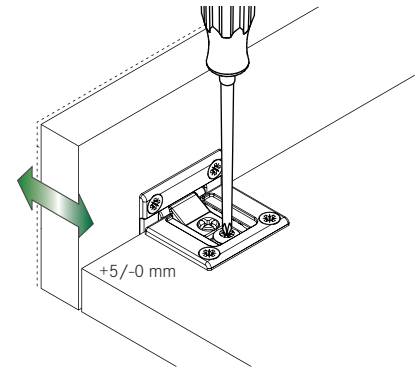
Height Adjustment



Side Adjustment

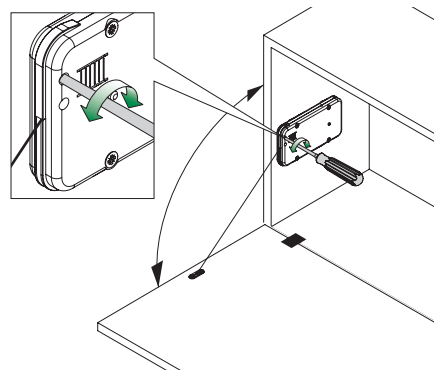
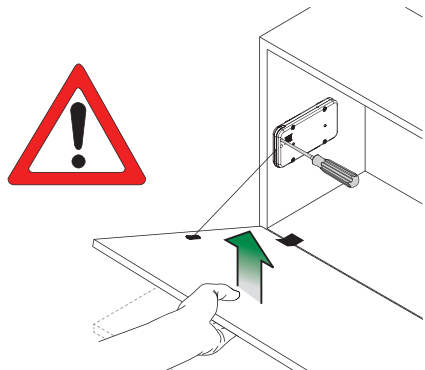


Depth Adjustment

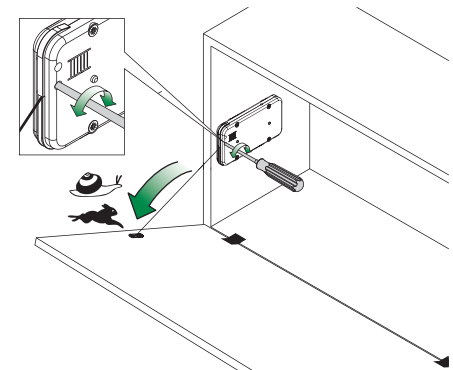


Note: The adjustments shown are for the Tiomos flap hinge shown on page 40.

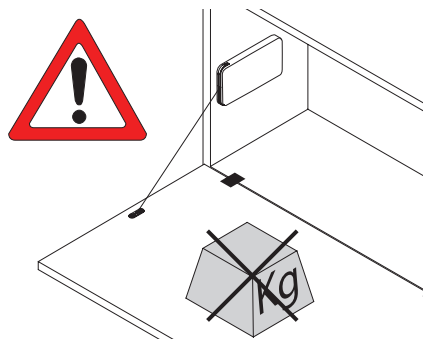
Adjusting the Opening Angle



Adjusting the Opening Speed



Note



Kinvaro D

D-S flap stay with pull cable



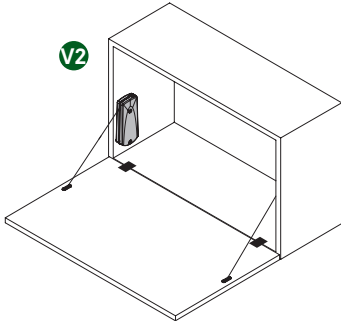
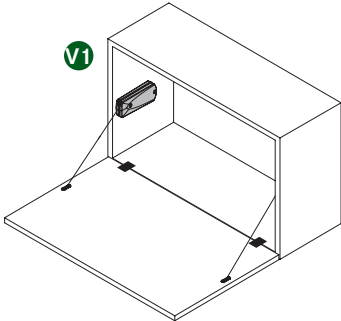
- Gentle opening
- Opening angle adjustable (length of cable)
- Can be used with shallow cabinets from 82mm (3 1/4") depth
- Flap height 200mm – 480mm (7 7/8" - 18 7/8")
- Can be used on left/right side of cabinet
- Easy to install horizontally or vertically
- In White or Night finish
- Works perfectly with Tiomos flap hinge

Application Range

Flap Height (FH)	Horizontal Installation (V1) or Vertical Installation (V2)			
	Flap weight including handle in lb (kg)			
	Spring 40N		Spring 60N	
	1X	2X	1X	2X
7 7/8" - 10 5/8" (200 - 270)	3.74 - 6.61 (1.7 - 3.0)	8.59 - 9.92 (3.9 - 4.5)	6.83 - 8.81 (3.1 - 4.0)	16.53 - 17.63 (7.5 - 8.0)
10 5/8" - 13" (270 - 330)	3.74 - 6.61 (1.7 - 3.0)	7.27 - 9.92 (3.3 - 4.5)	6.83 - 8.81 (3.1 - 4.0)	13.44 - 16.31 (6.1 - 7.4)
13" - 14 15/16" (330 - 380)	3.74 - 4.18 (1.7 - 1.9)	7.05 - 7.71 (3.2 - 3.5)	6.39 - 7.71 (2.9 - 3.5)	11.24 - 14.99 (5.1 - 6.8)
14 15/16" - 16 15/16" (380 - 430)	3.30 - 3.96 (1.5 - 1.8)	5.95 - 7.27 (2.7 - 3.3)	5.51 - 7.27 (2.5 - 3.3)	10.58 - 14.55 (4.8 - 6.6)
16 15/16" - 18 1/8" (430 - 460)	2.64 - 3.74 (1.2 - 1.7)	5.51 - 6.83 (2.5 - 3.1)	5.07 - 7.27 (2.3 - 3.3)	10.14 - 13.22 (4.6 - 6.0)
18 1/8" - 18 7/8" (460 - 480)	-	-	4.85 - 6.17 (2.2 - 2.8)	9.70 - 11.68 (4.4 - 5.3)

Kinvaro D-S

	Description	Springs	Color	Item No.	PU
	Kinvaro D-S flap stay including front holder and fixing screws	40N	White	F053139664607	10
			Night	F053139665607	10
		60N	White	F053139666607	10
			Night	F053139667607	10

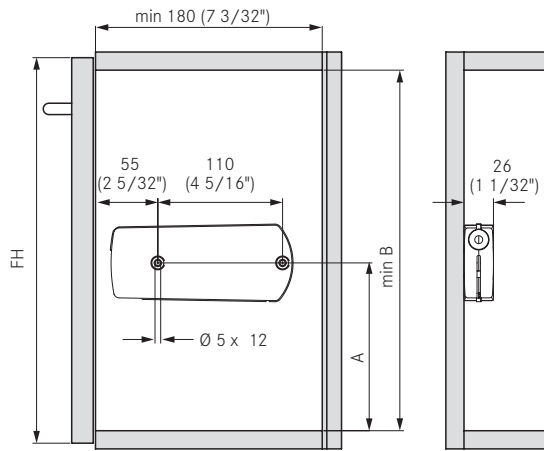


Note: Please order Tiomos flap hinges separately

PU - Packaging unit

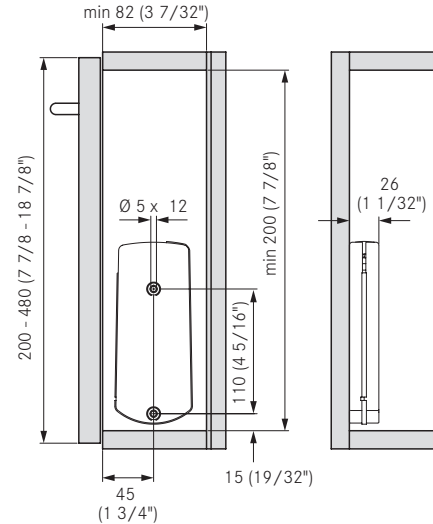
D-S flap stay with pull cable

Side Panel Drilling, V1 - Horizontal Installation

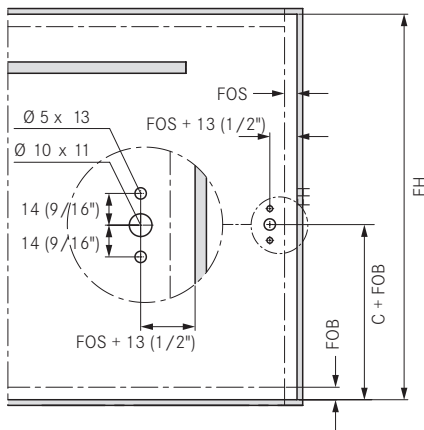


FH	A	B
200 - 270 (7 7/8" - 10 5/8")	135 (5 5/16")	173 (6 13/16")
270 - 480 (10 5/8" - 18 7/8")	148 (5 13/16")	186 (7 5/16")

Side Panel Drilling, V2 - Vertical Installation



Flap Drilling



FH	C (V1)	C (V2)
200 - 270 (7 7/8" - 10 5/8")	123 (4 27/32")	-
270 - 480 (10 5/8" - 22 13/16")	144 (5 21/32")	-
230 - 480 (9 1/16" - 18 7/8")	-	123 (4 13/16")

Calculation of Flap Weight

Flap width x flap height x flap thickness x density* + weight of handle** = weight of flap

*Densities: MDF 0.85 kg (1.9 lb)/dm³, chipboard 0.65 kg (1.4 lb) /dm³, spruce/pine 0.45 kg (1lb)/dm³

**For bar handles allow 0.1 kg (.2 lb) for each 100mm handle width.

IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting.

Minimum gap and flap protrusion depend on the hinge used.

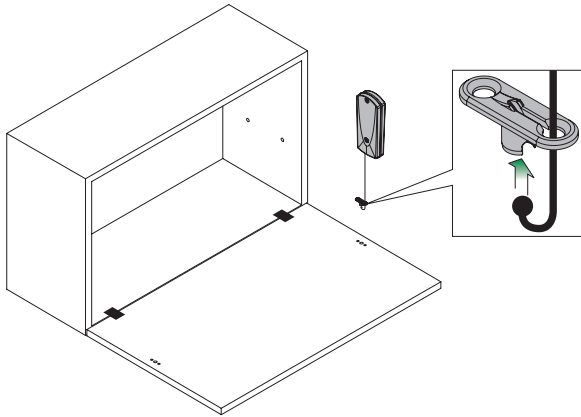
FOB = Front overlay, bottom
FOS = Front overlay, side
FH = Flap height

Assembly Instructions

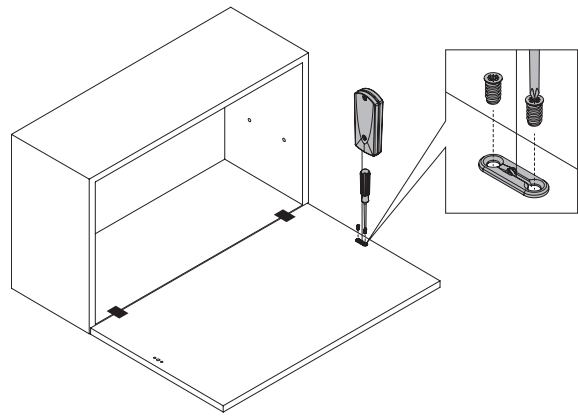
Kinvaro D-S flap stay with pull cable

Assembly Instructions

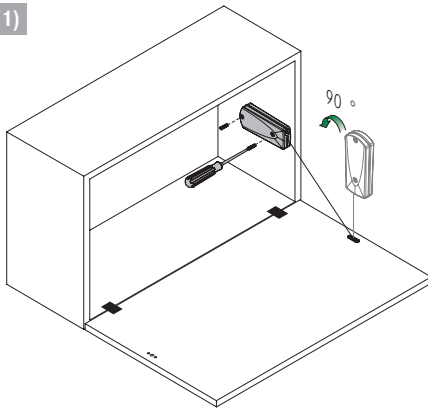
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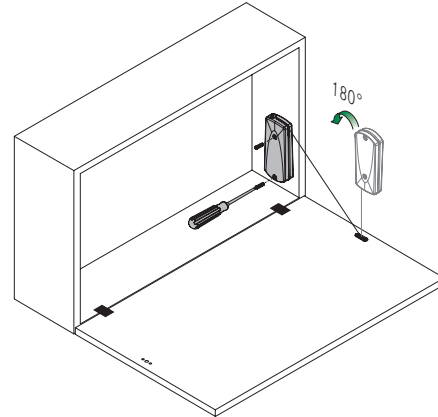
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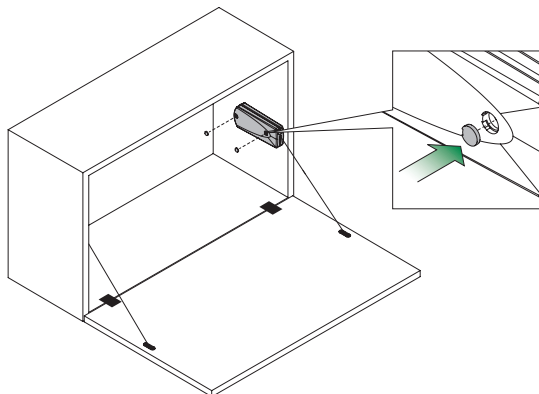
3(V1)



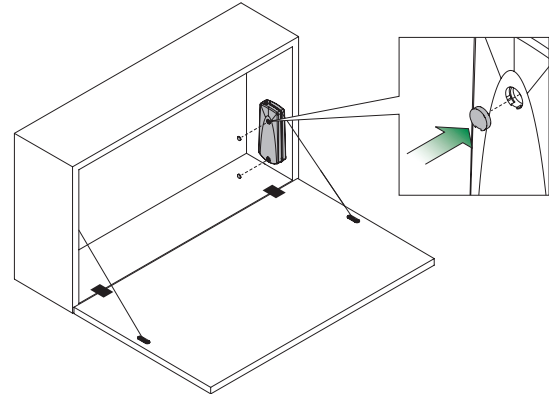
3(V2)



4(V1)

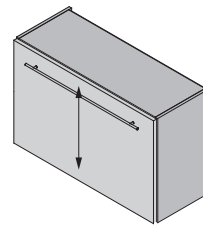


4(V2)

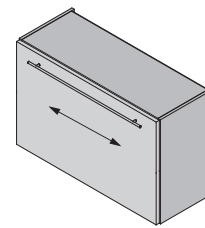


Assembly Instructions

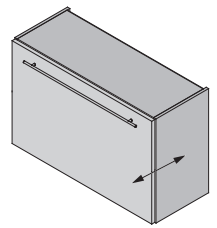
Kinvaro D-S flap stay with pull cable



Height adjustment
+2/-3mm



Side Adjustment
±1mm

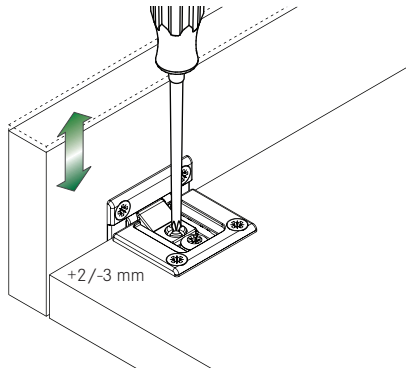


Depth adjustment
+5/-0mm

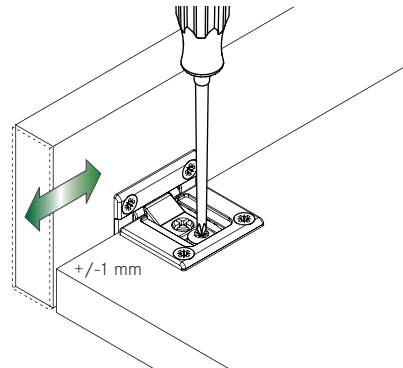
All adjustment options can be made independently of one another

Adjustment Options, When Used with the Tiomos Flap Hinge

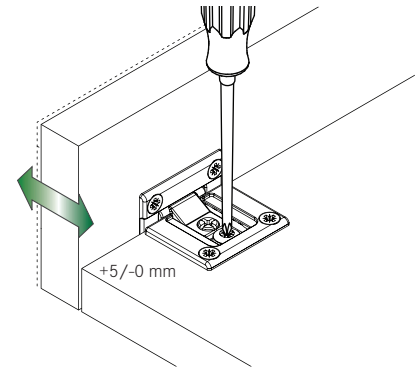
Height Adjustment



Side Adjustment

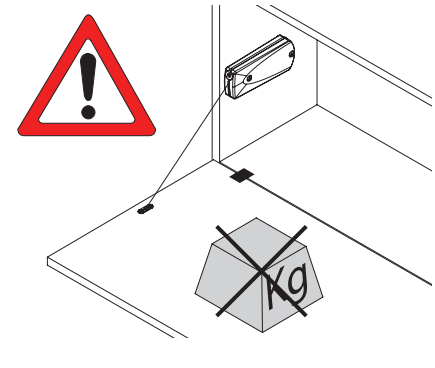
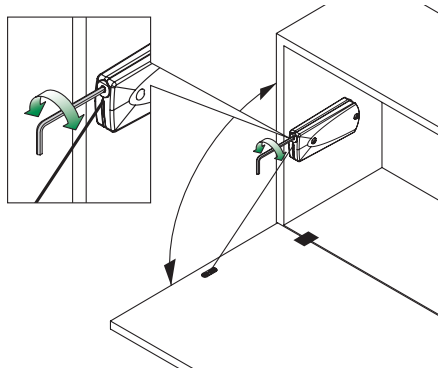
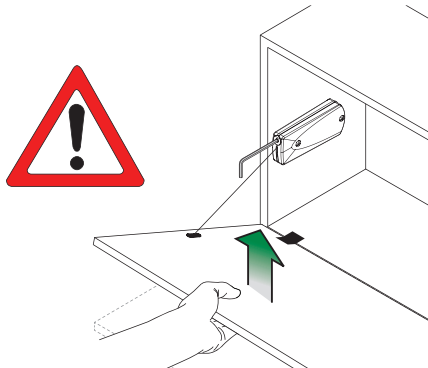


Depth Adjustment



Note: The adjustments shown are for the Tiomos flap hinge shown on page 40.

Adjusting the Opening Angle



Tiomos Flap Hinge

90° hinge for flap door



- Sleek modern design
- 90° opening angle
- For flap thicknesses of up to 30mm (1 3/16")
- Narrow joint
- Large overlay of up to 19mm (3/4")
- 3-dimensional adjustment
- Compatible with Tipmatic pin system
- Compatible with Kinvaro D-M/D-S flap system



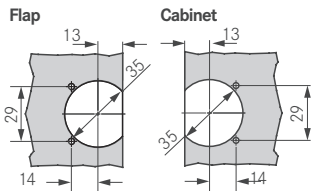
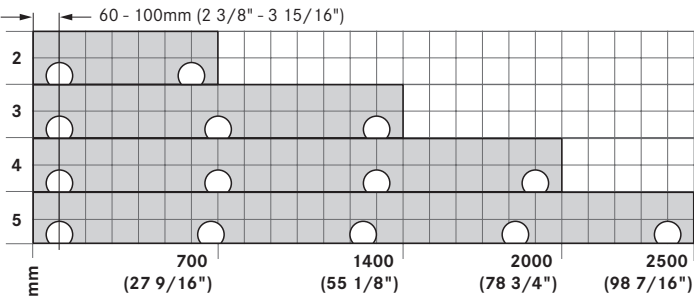
Tiomos Flap Hinge Opening Angle 90°			Screw-On		
--	--	--	----------	--	--

Overlay	For Flap Thickness 14-21mm	Color	Cup Depth	Item No.	PU
	Hinge: zinc die-cast, nickel-plated	Nickel	12mm	F053139671223	100
	Hinge: zinc die-cast, night	Night	12mm	F053139677223	100

Overlay	For Flap Thickness 22-28mm	Color	Cup Depth	Item No.	PU
	Hinge: zinc die-cast, nickel-plated	Nickel	17mm	F053139672223	100
	Hinge: zinc die-cast, night	Night	17mm	F053139678223	100

Cover Cap for Flap Hinge			Item No.	PU	1.5mm Spacer for Tiomos Flap Hinge			Item No.	PU
	Steel, nickel plated		F053139675 223	100		Steel, nickel plated		F053139676 223	100
	Steel, night		F053139683 223	100		Steel, night		F053139684 223	100

Number of Hinges per Door	Drilling Pattern
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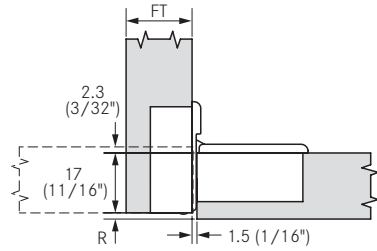


PU - Packaging unit

Tiemos Flap Hinge

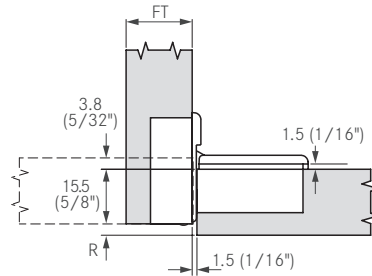
90° hinge for flap door

Overlay, Without Spacer, 12mm Cup Depth



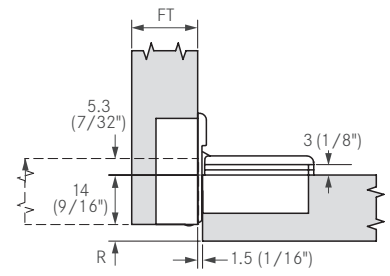
Flap Thickness (FT)		21	20	19	18	17	16	15	14
Min Reveal (R)		2.5	1.5	1	1	1	1	1	1

Overlay, with 1 Spacer, 12mm Cup Depth



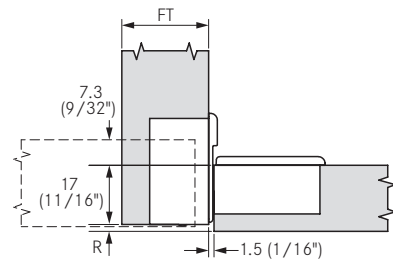
Flap Thickness (FT)		21	20	19	18	17	16	15	14
Min Reveal (R)		2.5	1.5	1	1	1	1	1	1

Overlay, with 2 Spacers, 12mm Cup Depth



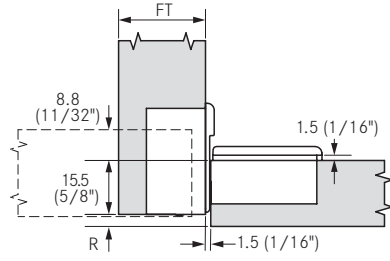
Flap Thickness (FT)		21	20	19	18	17	16	15	14
Min Reveal (R)		2.5	1.5	1	1	1	1	1	1

Overlay, Without Spacer, 17mm Cup Depth



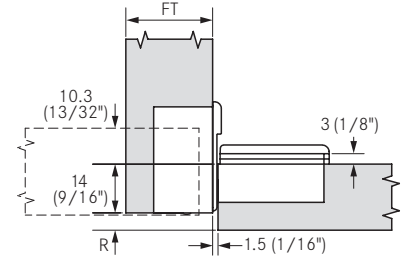
Flap Thickness (FT)		30	29	28	27	26	25	24	23	22
Min Reveal (R)		6.5	5.5	4.5	3.5	2.5	1.5	1	1	1

Overlay, with 1 Spacer, 17mm Cup Depth



Flap Thickness (FT)		30	29	28	27	26	25	24	23	22
Min Reveal (R)		6.5	5.5	4.5	3.5	2.5	1.5	1	1	1

Overlay, with 2 Spacers, 17mm Cup Depth

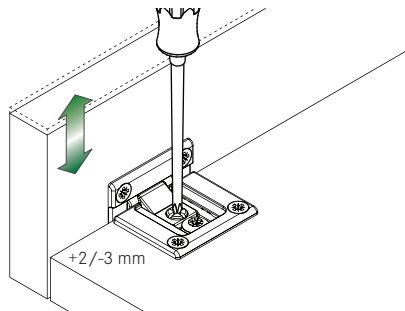


Flap Thickness (FT)		30	29	28	27	26	25	24	23	22
Min Reveal (R)		6.5	5.5	4.5	3.5	2.5	1.5	1	1	1

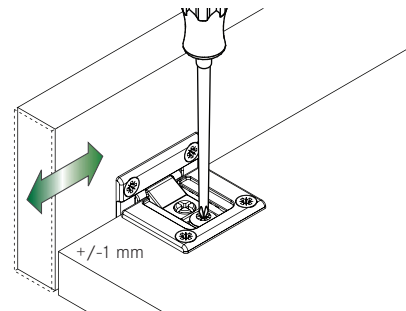
Note: Hinge dimensions and reveal calculation based on factory setting.

IMPORTANT
To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

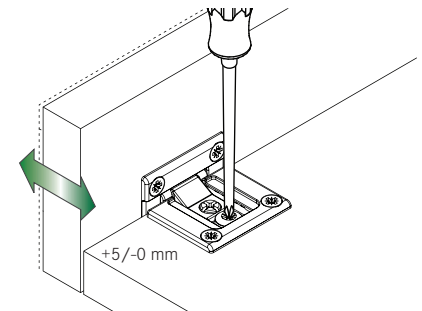
Height Adjustment



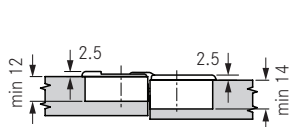
Side Adjustment



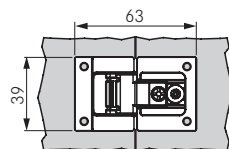
Depth Adjustment



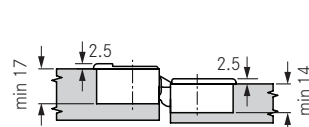
Cup Dimensions, 12mm cup depth



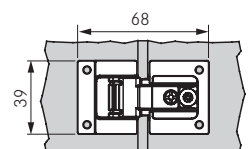
Hinge Dimensions, 12mm cup depth



Cup Dimensions, 17mm cup depth



Hinge Dimensions, 17mm cup depth



Kinvaro T-105

Flap Stay



- Variable opening angle, holds flaps securely from 45° to 105°
- Spring-supported opening function
- Convenient access, flap lifts clear of the work area
- For wooden flaps
- Allows additional cabinet installation above
- Maintenance-free, no re-adjustment required
- High-quality zinc diecasting, nickel-plated
- Range of flaps:
Width: up to 47 1/4" (up to 1200mm)
Height: 9 27/32" - 19 11/16" (250 - 500mm)

APPLICATION RANGE

Cabinet height	Number of flap stays	Flap weight incl. handle lb (kg)	
		Spring, standard	
9 27/32" (250)	1	3.1 - 9.7	(1.4 - 4.4)
	2	7.5 - 19.6	(3.4 - 8.9)
11 13/16" (300)	1	3.5 - 9.5	(1.6 - 4.3)
	2	7.1 - 19.0	(3.2 - 8.6)
13 25/32" (350)	1	2.9 - 9.0	(1.3 - 4.1)
	2	5.7 - 17.9	(2.6 - 8.1)
15 3/4" (400)	1	2.9 - 7.5	(1.3 - 3.4)
	2	5.7 - 15.0	(2.6 - 6.8)
17 23/32" (450)	1	2.6 - 6.6	(1.2 - 3.0)
	2	5.3 - 13.4	(2.4 - 6.1)
19 11/16" (500)	1	2.4 - 6.4	(1.1 - 2.9)
	2	4.9 - 12.8	(2.2 - 5.8)

ORDER INFORMATION

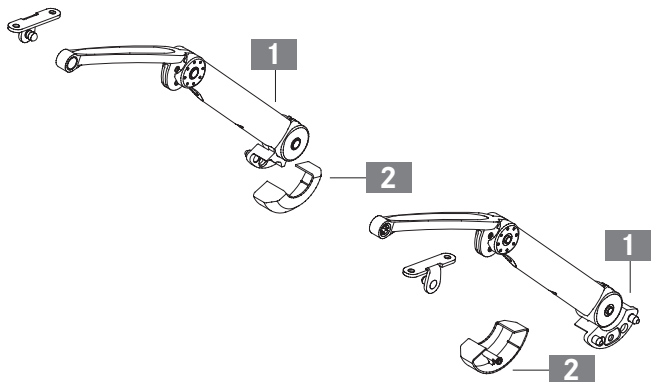
Kinvaro T-105 set						
Description	Springs	Version for	Overlay	Left	Right	PU
Kinvaro T-105 right, adjustable standard springs, incl. black cover cap	standard	wood	variable	F151145220513	F151145221513	1

Kinvaro Installation Template		
Description	Item No.	PU
Kinvaro T-105 Drill Jig	00489-01	1
Kinvaro Door Template Drill Jig	00495-01	1
Kinvaro 5mm drill bit	00496-01	1
Kinvaro 9/64" drill bit	00497-01	1

Note:
Please order separately: Tiomos 120° hinges with spring, without Soft-close, and respective base plates for top panel.

Kinvaro T-105 set includes:

- 1** Fitting, right or left (1x)
- 2** Cover caps, right or left, in black (1x)
- Paper template (1x)
- Installation instructions (1x)



PU - Packaging unit

Flap Stay

ASSEMBLY AND INSTALLATION INSTRUCTIONS

Required space

Side wall drilling positions

* Pre-drilling required - Ø 2mm

Opening angle	A	B	C
95°	169 + MH	174 + MH	118 + MH
≥ 105°	164 + MH	169 + MH	113 + MH

The installation dimensions apply to hinges with 0 cranking and the respective base plate height.

The opening angle can vary depending on the type of hinge and application method between 95° and approx. 105°.

Minimum reveal and door protrusion depend on the fitted hinge.

For suitable hinges please refer to the Tiomos or Nexis Grass hinge catalog.

Where cup hinges with different opening angles are used in a combination of wooden flap, the smaller opening angle of the hinges used determines the installation dimensions for **both** flaps.

Calculation of door width (all measurements in inches)

$$\frac{\text{Flap weight} - \text{handle weight}^{(3)}}{\text{Flap height} \times \text{flap thickness} \times \text{density}^{(2)}} = \text{Flap Width}$$

Example: $\frac{9.9 \text{ lb} - 1.1 \text{ lb}}{15 \frac{3}{4}'' \times \frac{3}{4}'' \times .0307} = 24 \frac{9}{32}''$

Front: installation for wooden and frame flaps (min 45mm width)

* Pre-drilling required - Ø 2mm

Calculation of flap weight

Flap width x flap height x flap thickness x density¹ + weight of handle² = weight of flap

¹ Densities: MDF 0.85 kg/dm³, chipboard 0.65 kg/dm³, spruce/pine 0.45 kg/dm³

² For bar handles allow 0.1 kg for each 100mm handle width. We recommend a trial fitting

Metric Conversions

MM	2	3	3.2	3.5	4	8	8.5	11	13	17	19	20	21	22	27	32	45
INCH	³ / ₃₂	¹ / ₈	¹ / ₈	¹ / ₈	⁵ / ₃₂	⁵ / ₁₆	¹¹ / ₃₂	⁷ / ₁₆	¹ / ₂	²¹ / ₃₂	³ / ₄	¹³ / ₁₆	¹³ / ₁₆	⁷ / ₈	¹ / ₁₆	¹ / ₄	¹ / ₃

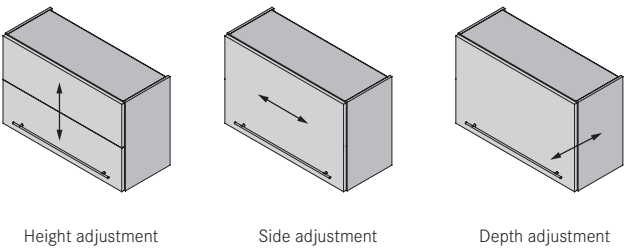
MM	90	100	113	118	119	164	169	170	174	180							
INCH	³ / ₁₆	³ / ₁₆	⁴ / ₁₆	⁴ / ₁₆	⁴ / ₁₆	⁶ / ₁₆	⁶ / ₁₆	⁶ / ₁₆	⁶ / ₁₆	⁷ / ₁₆							

LEGEND

- A Side wall fastening dimension
- B Side wall fastening dimension
- C Front fastening dimension
- FAO Front overlay, top
- FAS Front overlay, side
- MH Base plate height

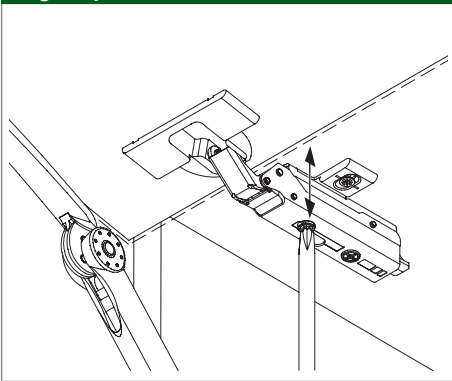
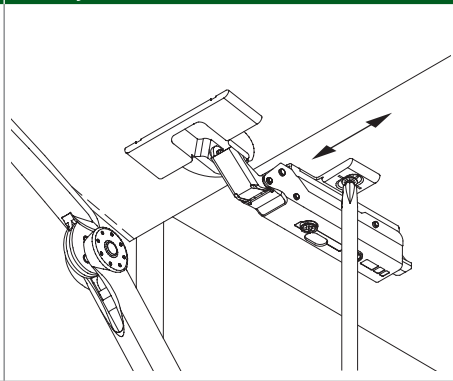
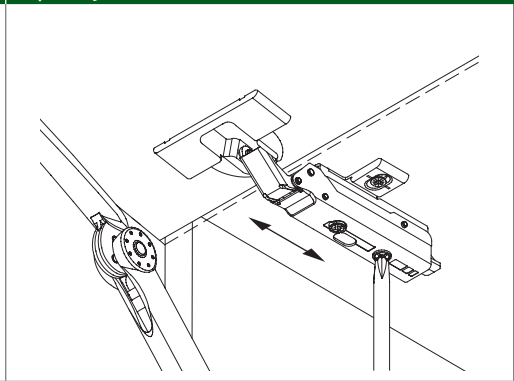
Kinvaro T-105

Flap Stay

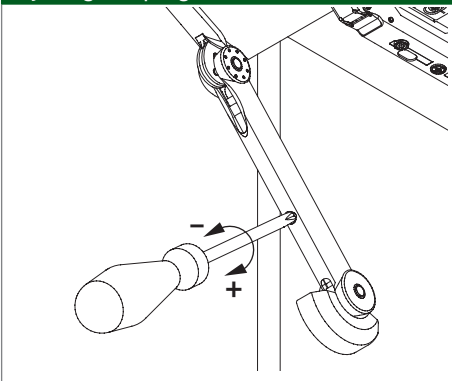


All adjustments are on the hinge and can be carried out independently of each other.

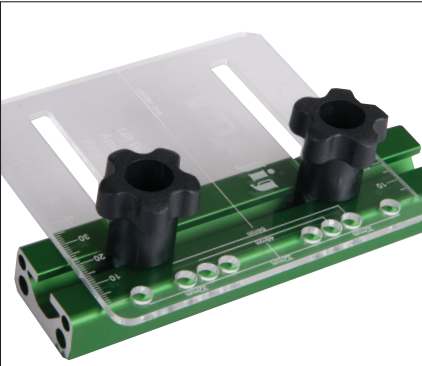
ADJUSTMENT OPTIONS FOR HINGE IN CABINET TOP PANEL

Height adjustment	Side adjustment	Depth adjustment
		

ADJUSTMENTS

Adjusting the spring force		
		

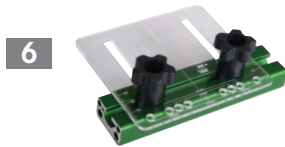
Kinvaro



Drilling templates for the Kinvaro Lifter System. Each lifter has an individual template for easy installation. Order each drill jig with appropriate bit.

ORDER INFORMATION

KINVARO Installation Templates			
Description	Item No.	PU	
1 Kinvaro L-80 Drill Jig	00490-01	1	
2 Kinvaro F-20 Drill Jig	00491-01	1	
3 Kinvaro T-65 Drill Jig	00492-01	1	
4 Kinvaro T-71/T-76 Drill Jig	00493-01	1	
5 Kinvaro T-57 Drill Jig	00494-01	1	
6 Kinvaro Door Template Drill Jig	00495-01	1	
7 Kinvaro 5mm drill bit	00496-01	1	
8 Kinvaro 9/64" drill bit	00497-01	1	



Example: Kinvaro F-20 Lifter Order

- (1x) F-20 Drill Jig 2
- (1x) Door Template Drill Jig 6
- (1x) 5mm or 9/64"drill bit 7 or 8

Notes



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Fax: 1-800-525-8406

www.grassusa.com
info@grassusa.com





KINVARO T-SLIM



G*GRASS®

KINVARO T-SLIM

Super slim lifter mechanism with clean lines and simple shape created for maximum storage







Kinvaro T-Slim unites aesthetics, maximum stability, and the art of movement into one.

Inspiring classic design

The Kinvaro T-Slim is another development from Grass that embodies the vision of a minimalist look with stable construction and perfect motion. The T-Slim provides a horizontal wall cabinet mechanism that offers two mounting options.

It can be integrated into the cabinet's sidewall or screwed on directly to the sidewall. In either application, there is just a thin view of hardware seen in the opened position. The slim 12mm mechanism allows for even more room for storing your favorite things.

The Kinvaro T-Slim combines convenient functionality, the highest quality materials, and precision through to the last detail. All properties that you can expect from a Grass product. The Kinvaro T-Slim is a classic design that will be a great source of inspiration for kitchen and furniture designers alike.



reddot winner 2020



KINVARO T-SLIM LIFTER SYSTEMS

The right choice, for many reasons.
Safe. Precise. Reliable.



See It – Now you don't

Kinvaro T-Slim is the thinnest movement system created for maximum storage space. This doesn't only sound good – it looks good.

With the extremely slim design of the Kinvaro T-Slim, all functional components of the flap fitting can be entirely milled into the cabinet wall. The result is a hardware application with invisible technology and maximum space. In short, the Kinvaro T-Slim ensures full use of the storage room available.



Kinvaro T-Slim also offers a classic surface-mount type that can be mounted on the sidewall of the cabinet with the addition of a simple adapter. Kinvaro T-Slim offers a cover cap that is fitted over the mechanism. The caps are available in Stone, Ice, and Silver but can also be painted to the color of your choice.



T-Slim is the right choice

There are a lot of good reasons to choose Kinvaro T-Slim.

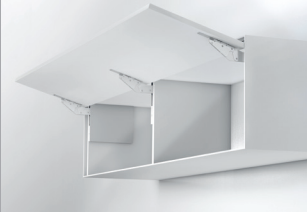
Heavy fronts can be connected with a clip – quickly, safely, and without tools. The Kinvaro T-Slim offers 3-dimensional adjustment in height, side, and gap correction. The stay-put action allows you to open the flap at any angle and will stay put in that position.

Let your creativity run wild with applications for the Kinvaro T-Slim, a new functional movement system with a lot of heart.

A strong trio for a broader span

Wall cabinets with front lifters provide storage space at an ergonomically perfect height. They are easy to reach, and items are quickly accessible. For this reason, wall cabinets are gaining in popularity for a new type of storage system. Wide fronts for cabinetry are as popular as ever. Their advantages are apparent. Wide fronts avoid gaps and, when opened, reveal much more storage space. With Kinvaro T-Slim, for cabinet widths of more than 1,200mm (47 1/4"), simply add an additional flap fitting. This creates a powerful trio that increases the load capacity by 50 percent.

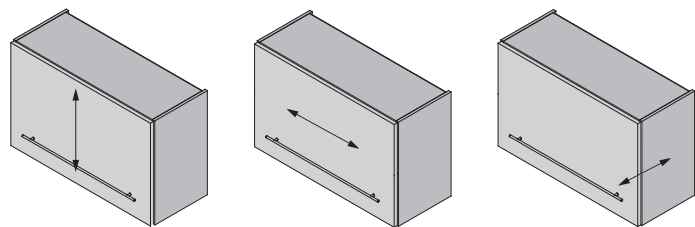
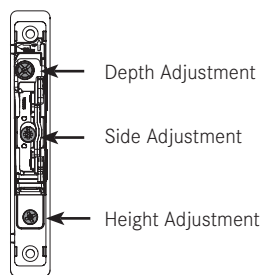
Table of Content

	Description	Adjustment	Page
	Technical Information		6
	Kinvaro T-Slim for Wooden Fronts - Slim, screw-on flap fitting for high design requirements and more storage space in the wall cabinet - Holds flap securely in any position - Adjustable spring force	- Height adjustment $\pm 2.5\text{mm}$ - Side adjustment $\pm 2.0\text{mm}$ - Depth adjustment $+3.0\text{mm}/-1.0\text{mm}$	8
	Kinvaro T-Slim for Wide Wooden Fronts - Slim, screw-on flap fitting for high design requirements and more storage space in the wall cabinet - Holds flap securely in any position - Adjustable spring force	- Height adjustment $\pm 2.5\text{mm}$ - Side adjustment $\pm 2.0\text{mm}$ - Depth adjustment $+3.0\text{mm}/-1.0\text{mm}$	10
	Kinvaro T-Slim for Wooden Fronts, Inset - Flush inset flap fitting for high design requirements and maximum storage space - Holds flap securely in any position - Adjustable spring force	- Height adjustment $\pm 2.5\text{mm}$ - Side adjustment $\pm 2.0\text{mm}$ - Depth adjustment $+3.0\text{mm}/-1.0\text{mm}$	12
	Kinvaro T-Slim for Wide Wooden Fronts, Inset - Flush inset flap fitting for high design requirements and maximum storage space - Holds flap securely in any position - Adjustable spring force	- Height adjustment $\pm 2.5\text{mm}$ - Side adjustment $\pm 2.0\text{mm}$ - Depth adjustment $+3.0\text{mm}/-1.0\text{mm}$	14

Metric Conversions														
mm	1	1.5	2	2.5	3	5	5.5	6	7	8	10.7	12	13.6	14.2
in	1/16	1/16	1/16	1/8	1/8	3/16	3/16	1/4	1/4	5/16	7/16	1/2	9/16	9/16
mm	15	17	18	19	20	21	22	24	25	26	30.2	32	33	38
in	9/16	11/16	11/16	3/4	13/16	13/16	7/8	15/16	1	1	1 3/16	1 1/4	1 5/16	1 1/2
mm	40	43	46	47	50	53	54	56	57	59.5	60	63	64	66
in	1 9/16	1 11/16	1 13/16	1 7/8	1 15/16	2 1/16	2 1/16	2 3/16	2 1/4	2 5/16	2 3/8	2 1/2	2 1/2	2 5/8
mm	67	69	70	73	74	76	77	80	84	87	89	94	100	119
in	2 5/8	2 11/16	2 3/4	2 3/4	2 15/16	3	3 1/16	3 1/8	3 5/16	3 7/16	3 1/2	3 11/16	3 15/16	4 11/16
mm	129.9	147.7	155	177.5	185									
in	5 1/8	5 13/16	6 1/8	7	7 5/16									

Technical Information

Kinvaro T-Slim



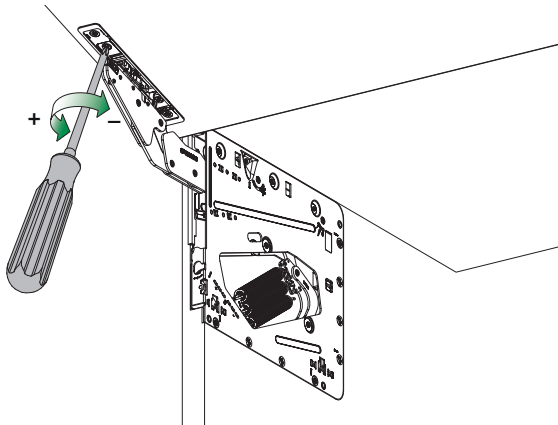
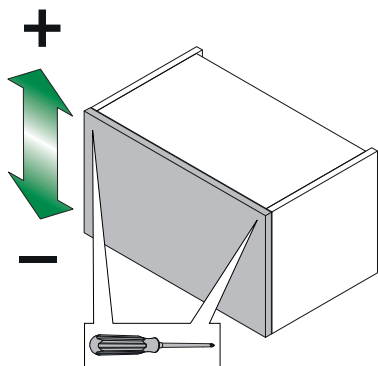
Height adjustment
 $\pm 2.5\text{mm}$

Side Adjustment
 $\pm 2\text{mm}$

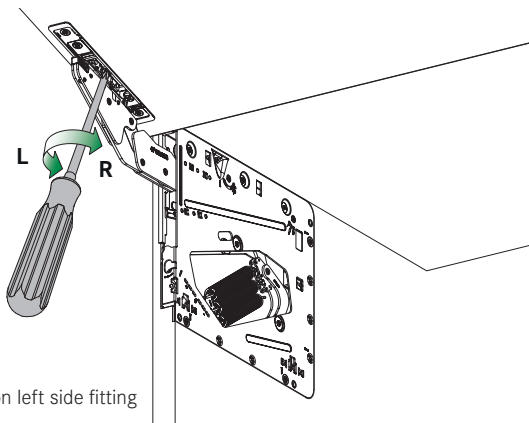
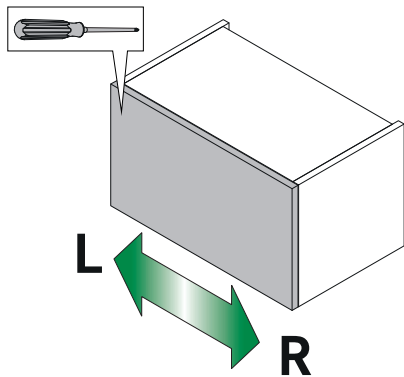
Depth adjustment
 $+3/-1\text{mm}$

All adjustment options can be made independently of one another

Height Adjustment

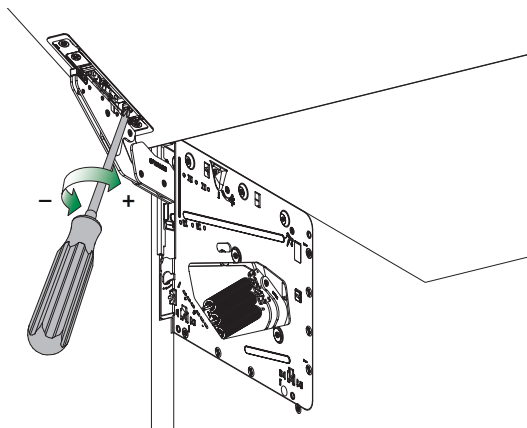
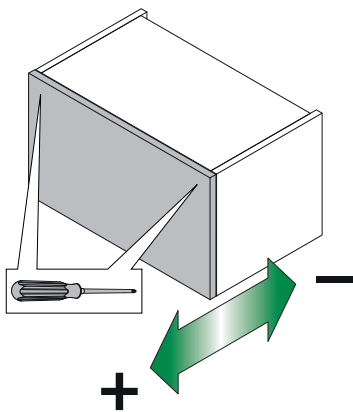


Side Adjustment

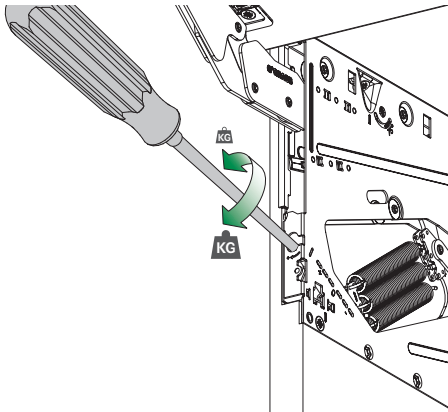


Note:
Side adjustment only made on left side fitting

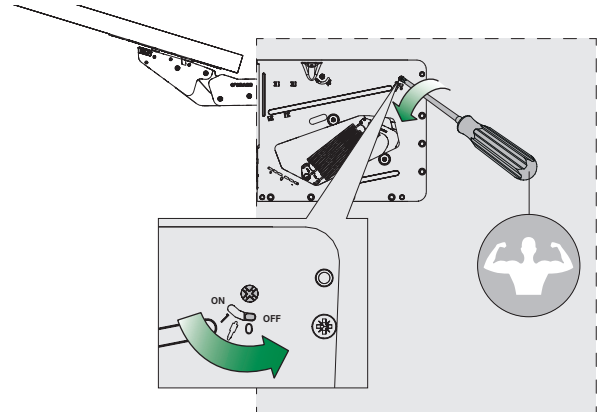
Depth Adjustment



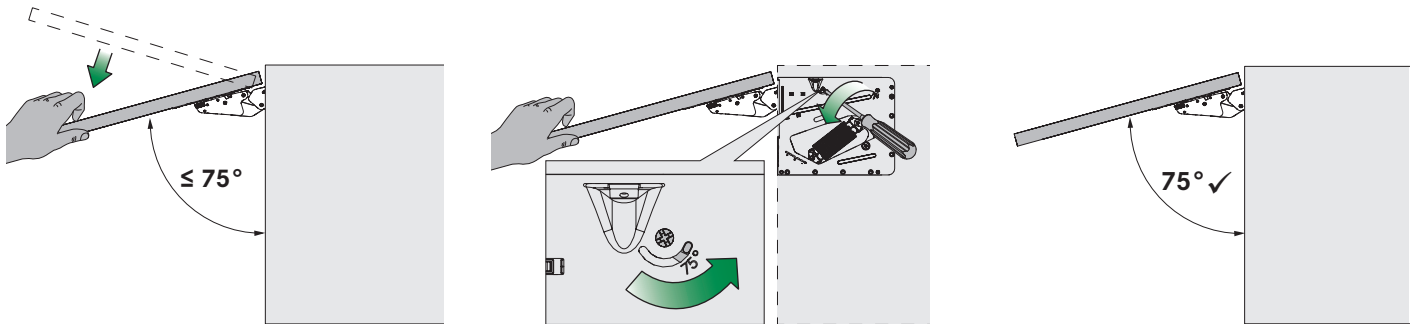
Adjusting the Spring Force



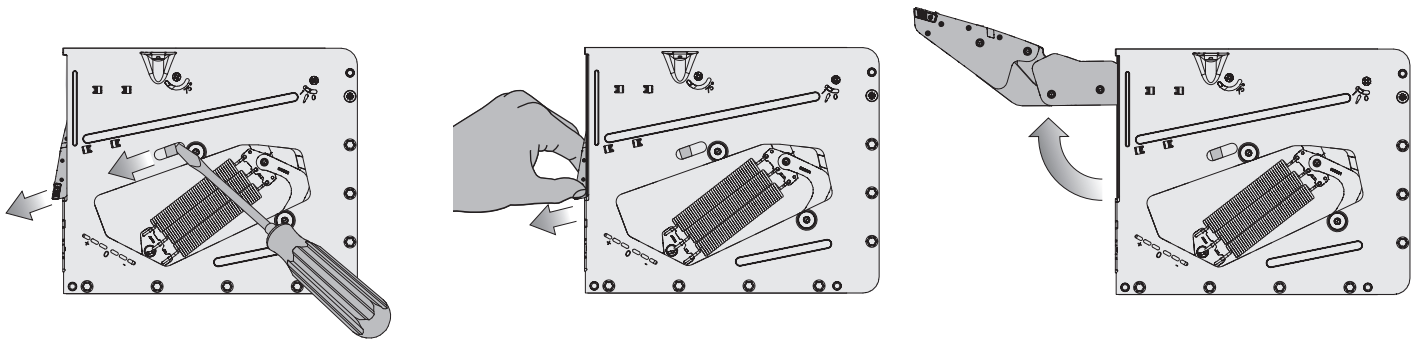
Deactivating the Closing Damper



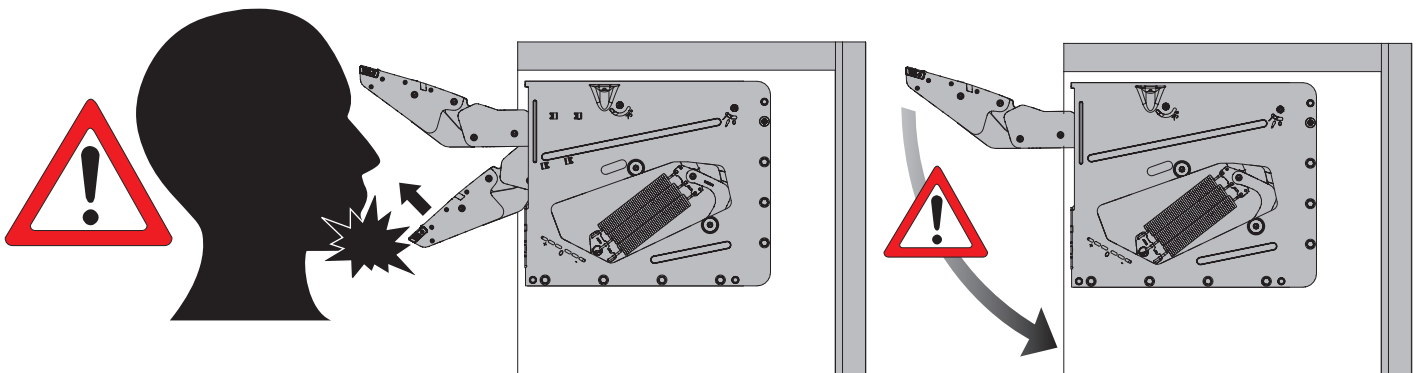
Activating the Opening Angle Limiting Stay



Emergency Opening When the Fitting is Closed

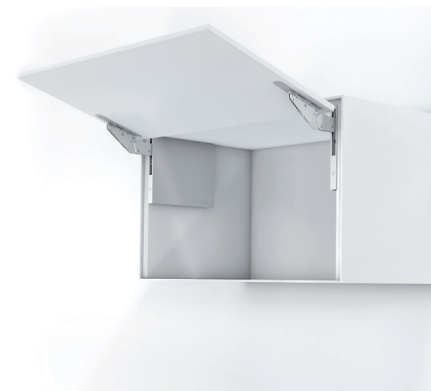


Warning



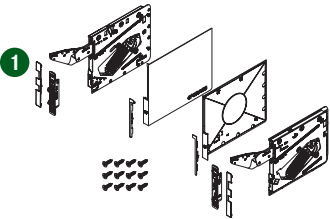
Kinvaro T-Slim

T-Slim lift-up flap fitting for wooden fronts (surface-mount)



- Slim flap fitting for high design requirements and more storage space in the wall cabinet
- Holds flap securely in any position
- Adjustable spring force
- Fast, tool-free clip fitting of the front
- Flap with 3-dimensional adjustment:
height ± 2.5 mm, side ± 2.0 mm,
depth $+3.0$ mm / -1.0 mm
- 107° opening angle
- Integrated, opening angle reduction clip with optional activation (75°)
- Three different power factors
- Can be used for flaps made from wood and wood-based products
- Cover caps and adapters in Stone, Ice, and Silver (all cover caps can be painted)
- Integrated Soft-close damper (Soft-close damper can be switched on/off)

Kinvaro T-Slim Set for Wood Fronts

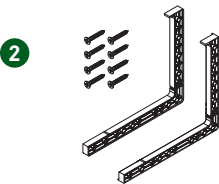


Power Factor (LF)	Item No. Stone	Item No. Silver	Item No. Ice	PU
250 - 550	F151149002201	F151149003201	F151149004201	1
500 - 1100	F151149005201	F151149006201	F151149007201	1
1000 - 2250	F151149008201	F151149009201	F151149010201	1

Set consists of:

- 1a 1 - Fitting Set, left/right
- 1b 1 - Front Connector Set, left/right
- 1c 12 - Screws
- 1d 3 - Cover Caps, 3 left/3 right
- 1e 1 - Installation Instructions

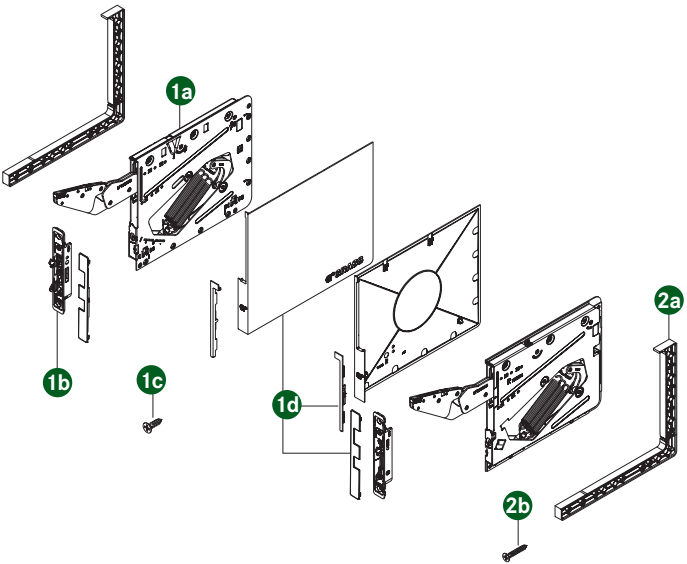
Adapter Set



Description	Item No. Stone	Item No. Silver	Item No. Ice	PU
Adapter set for screw-mounting	F161149020204	F161149021204	F161149022204	5

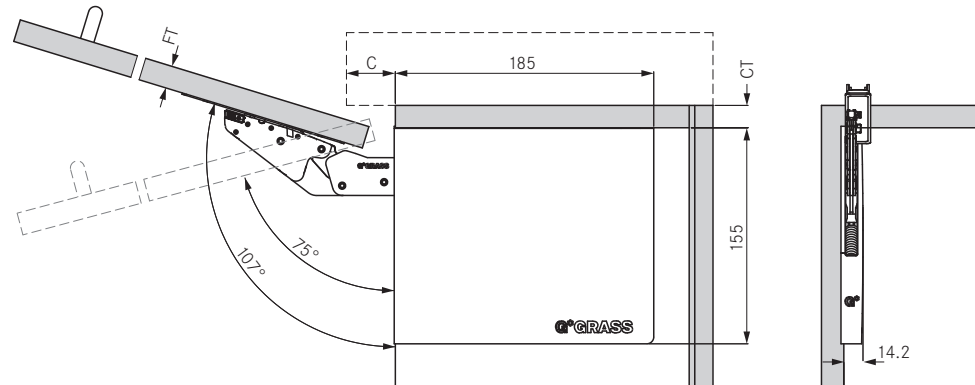
Set consists of:

- 2a 1 - Adapter, left/right
- 2b 8 - Screws



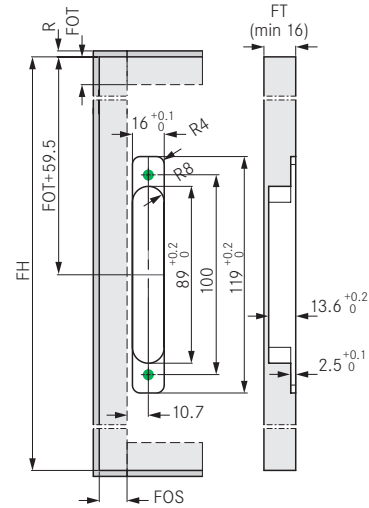
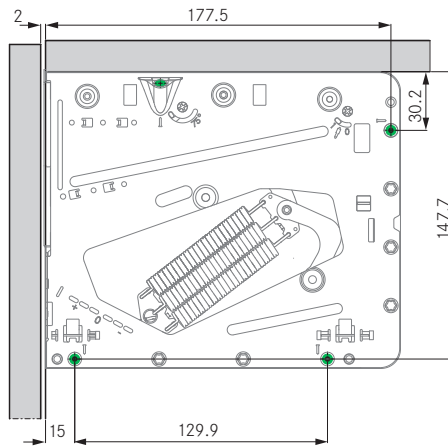
PU - Packaging unit

Required Space



Side Wall Screw-on Position

Front Milling Position



Cornice

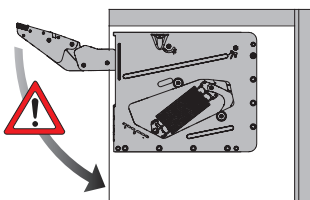
Reveal

Flap Weight

Cabinet Top Panel (CT)		16	18	19	20	22	24
Flap Thickness (FT)	16	67	74	77	80	87	94
	18	60	67	70	73	80	87
	19	57	64	67	70	77	84
	20	54	60	63	67	73	80
	21	50	56	60	63	69	76
	22	47	53	57	60	66	73
	24	40	46	50	53	60	67
	26	33	40	43	46	53	60
	32	12	19	22	25	32	38
Cornice (C)							

Front Overlay Top (FOT)		15	17	19	21	22
Flap Thickness (FT)	16	1	1	1	1	1
	18	1	1	1	1	1
	19	1	1	1	1	1
	20	1	1	1	1	1
	21	1	1	1	1	1
	22	1	1	1	1	1
	24	1.5	1	1	1	1
	26	3	2.5	1.5	1	1
	32	8	7	6	5.5	5
Reveal (R)						

Power Factor (LF)		250 - 550	500 - 1100	1000 - 2250
Flap Height (FH)	7 7/8" (200)	2.9 - 6.2 (1.3 - 2.8)	5.5 - 12.1 (2.5 - 5.5)	11.0 - 24.9 (5.0 - 11.3)
	9 13/16" (250)	2.2 - 4.9 (1.0 - 2.2)	4.4 - 9.7 (2.0 - 4.4)	8.8 - 19.8 (4.0 - 9.0)
	11 13/16" (300)	1.8 - 4.0 (0.8 - 1.8)	(3.7 - 8.2 (1.7 - 3.7)	7.3 - 16.5 (3.3 - 7.5)
	13 3/4" (350)	1.5 - 3.5 (0.7 - 1.6)	3.1 - 6.8 (1.4 - 3.1)	6.4 - 14.1 (2.9 - 6.4)
	15 3/4" (400)	1.3 - 3.1 (0.6 - 1.4)	2.9 - 6.2 (1.3 - 2.8)	5.5 - 12.3 (2.5 - 5.6)
	17 11/16" (450)	1.3 - 2.6 (0.6 - 1.2)	2.4 - 5.3 (1.1 - 2.4)	4.9 - 11.0 (2.2 - 5.0)
	19 11/16" (500)	1.1 - 2.4 (0.5 - 1.1)	2.2 - 4.9 (1.0 - 2.2)	4.4 - 9.9 (2.0 - 4.5)
	21 5/8" (550)	1.1 - 2.2 (0.5 - 1.0)	2.0 - 4.4 (0.9 - 2.0)	4.0 - 9.0 (1.8 - 4.1)
Flap Weight in lb(kg)				



Calculation of Power Factor (LF):

$$\{(\text{Flap weight (kg)} + 2 \times \text{handle weight (kg)}) \times \text{Flap Height (mm)}\} = \text{LF}$$

Note: Power factor can only be calculated in metric

WARNING

Caution - risk of injury!

Fitting is spring-tensioned!

CT = Cabinet top panel

C = Cornice

FH = Flap height

FOB = Front overlay, bottom

FOS = Front overlay, side

FOT = Front overlay, top

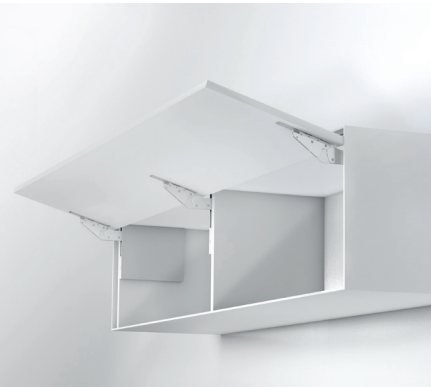
FT = Flap thickness

LF = Power factor

R = Reveal

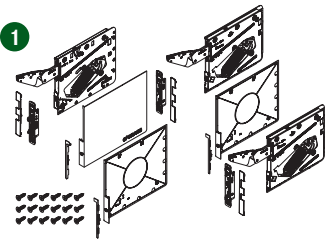
Kinvaro T-Slim

T-Slim lift-up flap fitting for wide wooden fronts (surface-mount)



- Slim flap fitting for high design requirements and more storage space in the wall cabinet
- Additional fitting for wide fronts
- Holds flap securely in any position
- Adjustable spring force
- Fast, tool-free clip fitting of the front
- Flap with 3-dimensional adjustment:
height ± 2.5 mm, side ± 2.0 mm,
depth $+3.0$ mm / -1.0 mm
- 107° opening angle
- Can be used for flaps made from wood and wood-based products
- Integrated, opening angle reduction clip with optional activation (75°)
- Cover caps and adapters in Stone, Ice, and Silver (all cover caps can be painted)
- Integrated Soft-close damper (Soft-close damper can be switched on/off)

Kinvaro T-Slim Set for Wide Wood Fronts

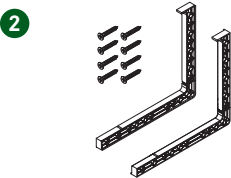


Power Factor (LF)	Item No. Stone	Item No. Silver	Item No. Ice	PU
1500 - 3375	F151149027201	F151149028201	F151149029201	1

Set consists of:

- 1a 1 - Fitting Set, 1 left/2 right
- 1b 1 - Front Connector Set, 1 left/2 right
- 1c 18 - Screws
- 1d 3 - Cover Caps, 3 left/6 right
- 1e 1 - Installation Instructions

Adapter Set

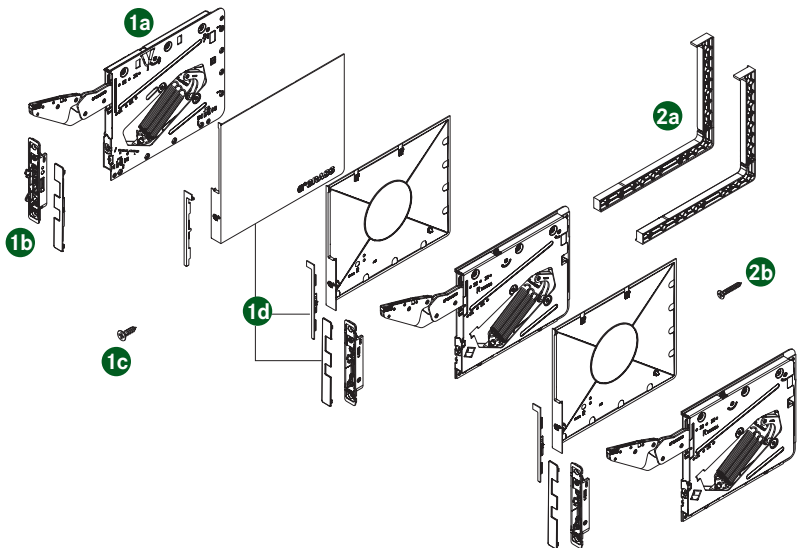


Description	Item No. Stone	Item No. Silver	Item No. Ice	PU
Adapter set for screw-mounting	F161149020204	F161149021204	F161149022204	5

Set consists of:

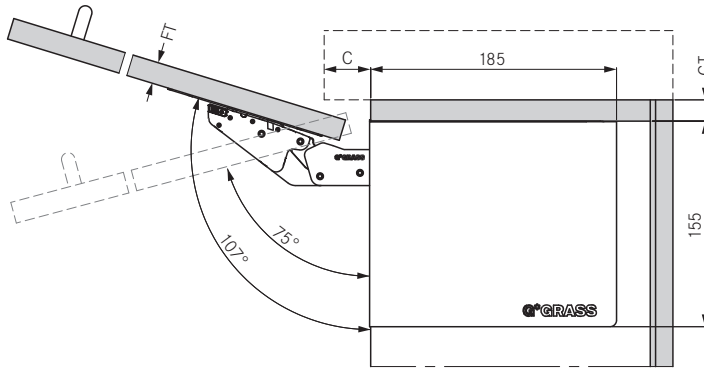
- 2a 1 - Adapter, left/right
- 2b 8 - Screws

Note: 2 adapter sets are required for mounting wide flap

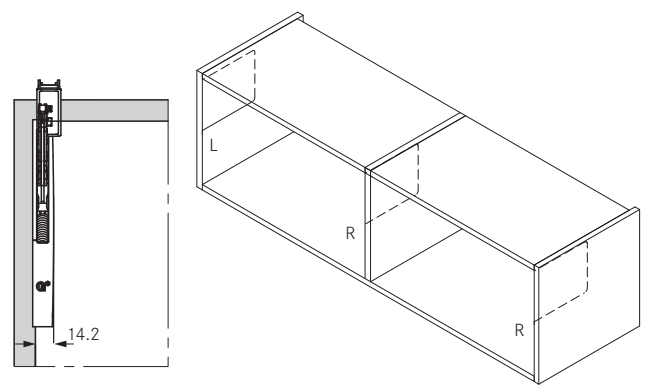


PU - Packaging unit

Required Space



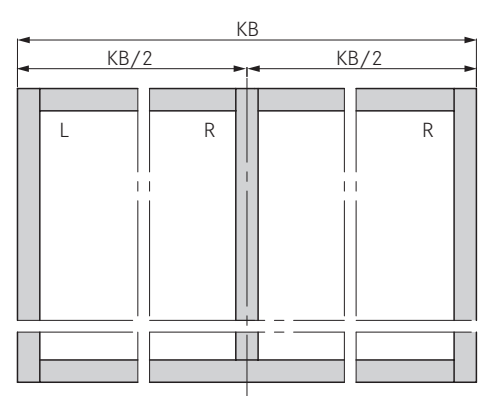
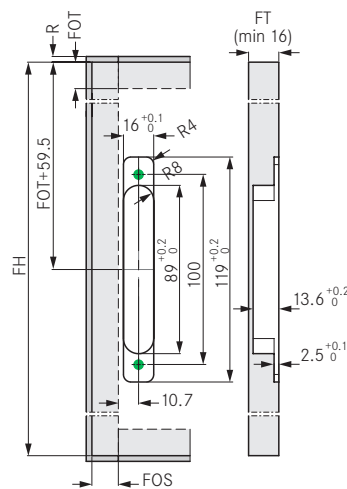
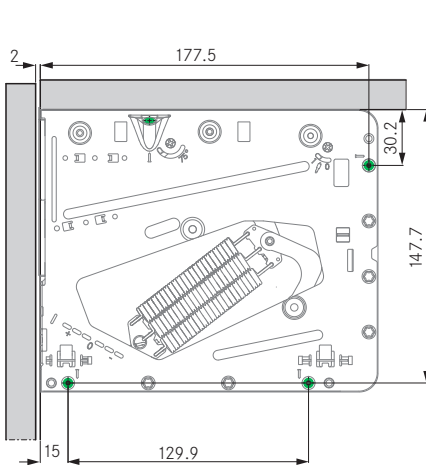
Position for Third Fitting



Side Wall Screw-on Position

Front Milling Position

Position for Third Fitting



Cornice

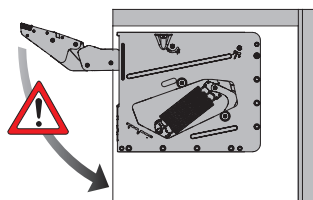
Reveal

Flap Weight

Cabinet Top Panel (CT)		16	18	19	20	22	24
Flap Thickness (FT)	16	67	74	77	80	87	94
	18	60	67	70	73	80	87
	19	57	64	67	70	77	84
	20	54	60	63	67	73	80
	21	50	56	60	63	69	76
	22	47	53	57	60	66	73
	24	40	46	50	53	60	67
Flap Thickness (FT)	26	33	40	43	46	53	60
	32	12	19	22	25	32	38
Cornice (C)							

Front Overlay Top (FOT)		15	17	19	21	22
Flap Thickness (FT)	16	1	1	1	1	1
	18	1	1	1	1	1
	19	1	1	1	1	1
	20	1	1	1	1	1
	21	1	1	1	1	1
	22	1	1	1	1	1
	24	1.5	1	1	1	1
Flap Thickness (FT)	26	3	2.5	1.5	1	1
	32	8	7	6	5.5	5
Reveal (R)						

Power Factor (LF)		1500 - 3375
Flap Height (FH)	7 7/8" (200)	15.5 - 37.3 (7.5 - 16.9)
	9 13/16" (250)	13.2 - 29.8 (6.0 - 13.5)
	11 13/16" (300)	11.0 - 24.9 (5.0 - 11.3)
	13 3/4" (350)	9.5 - 21.2 (4.3 - 9.6)
	15 3/4" (400)	8.4 - 18.5 (3.8 - 8.4)
	17 11/16" (450)	7.3 - 16.5 (3.3 - 7.5)
	19 11/16" (500)	6.6 - 15.0 (3.0 - 6.8)
Flap Height (FH)	21 5/8" (550)	6.0 - 13.4 (2.7 - 6.1)
	Flap Weight in lb(kg)	



Calculation of Power Factor (LF):

$$((\text{Flap weight (kg)} + 2 \times \text{handle weight (kg)}) \times \text{Flap Height (mm)}) = \text{LF}$$

Note: Power factor can only be calculated in metric

WARNING

Caution - risk of injury!

Fitting is spring-tensioned!

CT = Cabinet top panel

C = Cornice

FH = Flap height

FOB = Front overlay, bottom

FOS = Front overlay, side

FOT = Front overlay, top

FT = Flap thickness

LF = Power factor

R = Reveal

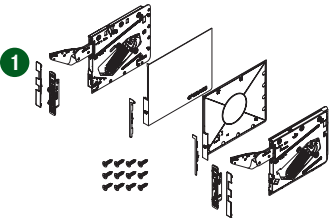
Kinvaro T-Slim

T-Slim lift-up flap fitting for wooden fronts (inset)



- Flush inset flap fitting for high design requirements and maximum storage space
 - Holds flap securely in any position
 - Adjustable spring force
 - Fast, tool-free clip fitting of the front
 - Flap with 3-dimensional adjustment: height ± 2.5 mm, side ± 2.0 mm, depth $+3.0$ mm / -1.0 mm
 - 107° opening angle
 - Integrated, opening angle reduction clip with optional activation (75°)
 - Three different power factors
- Can be used for flaps made from wood and wood-based products
 - Cover caps and adapters in Stone, Ice, and Silver (all cover caps can be painted)
 - Integrated Soft-close damper (Soft-close damper can be switched on/off)

Kinvaro T-Slim Set for Wood Fronts



Power Factor (LF)	Item No. Stone	Item No. Silver	Item No. Ice	PU
250 - 550	F151149002201	F151149003201	F151149004201	1
500 - 1100	F151149005201	F151149006201	F151149007201	1
1000 - 2250	F151149008201	F151149009201	F151149010201	1

Set consists of:

- 1a

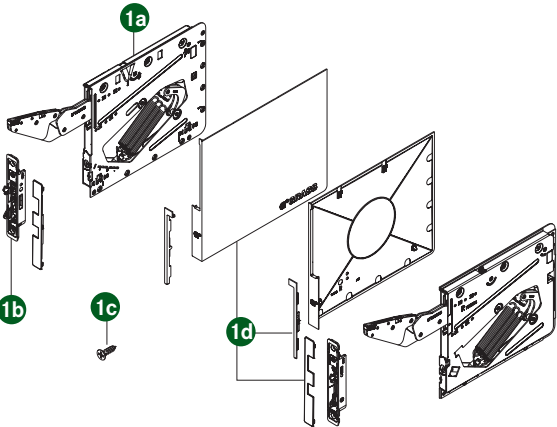
1 - Fitting Set, left/right
- 1b

1 - Front Connector Set, left/right
- 1c

12 - Screws
- 1d

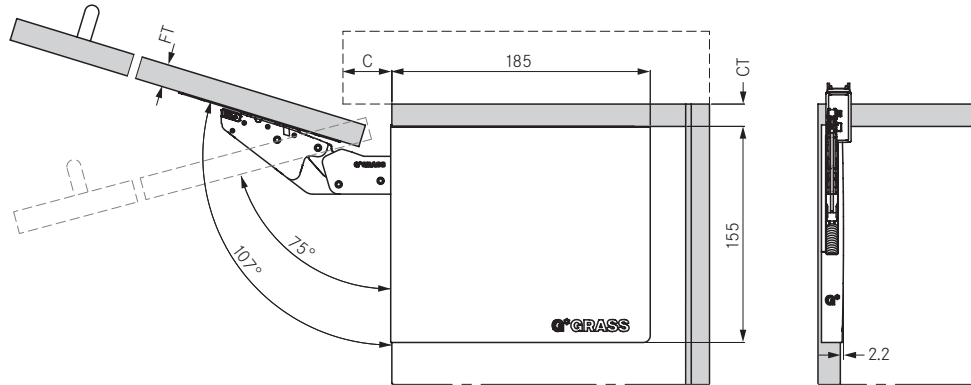
3 - Cover Caps, 3 left/3 right
- 1e

1 - Installation Instructions

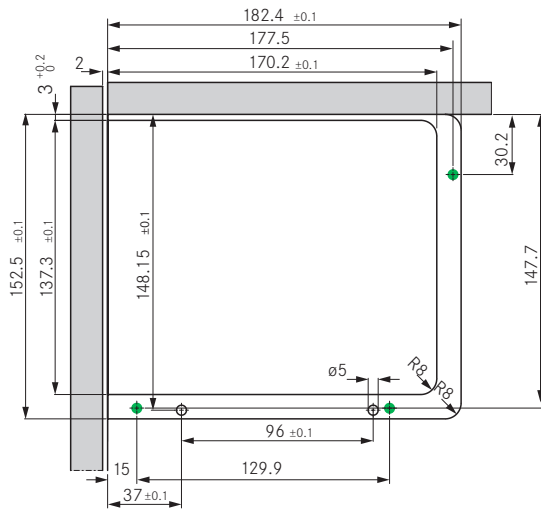


PU - Packaging unit

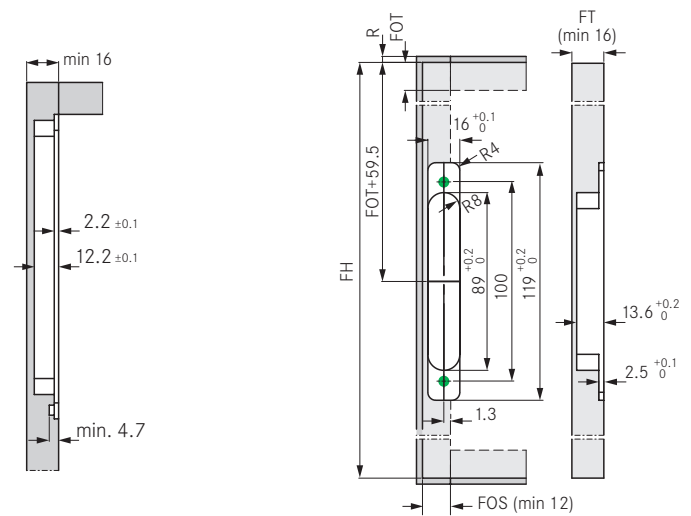
Required Space



Side Wall Screw-on Position



Front Milling Position



Cornice

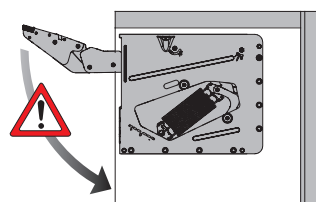
Reveal

Flap Weight

Cabinet Top Panel (CT)						
	16	18	19	20	22	24
16	67	74	77	80	87	94
18	60	67	70	73	80	87
19	57	64	67	70	77	84
20	54	60	63	67	73	80
21	50	56	60	63	69	76
22	47	53	57	60	66	73
24	40	46	50	53	60	67
26	33	40	43	46	53	60
32	12	19	22	25	32	38
Cornice (C)						

Front Overlay Top (FOT)					
	15	17	19	21	22
16	1	1	1	1	1
18	1	1	1	1	1
19	1	1	1	1	1
20	1	1	1	1	1
21	1	1	1	1	1
22	1	1	1	1	1
24	1.5	1	1	1	1
26	3	2.5	1.5	1	1
32	8	7	6	5.5	5
Reveal (R)					

	Power Factor (LF)		
	250 - 550	500 - 1100	1000 - 2250
7 7/8" (200)	2.9 - 6.2 (1.3 - 2.8)	5.5 - 12.1 (2.5 - 5.5)	11.0 - 24.9 (5.0 - 11.3)
9 13/16" (250)	2.2 - 4.9 (1.0 - 2.2)	4.4 - 9.7 (2.0 - 4.4)	8.8 - 19.8 (4.0 - 9.0)
11 13/16" (300)	1.8 - 4.0 (0.8 - 1.8)	(3.7 - 8.2 (1.7 - 3.7)	7.3 - 16.5 (3.3 - 7.5)
13 3/4" (350)	1.5 - 3.5 (0.7 - 1.6)	3.1 - 6.8 (1.4 - 3.1)	6.4 - 14.1 (2.9 - 6.4)
15 3/4" (400)	1.3 - 3.1 (0.6 - 1.4)	2.9 - 6.2 (1.3 - 2.8)	5.5 - 12.3 (2.5 - 5.6)
17 11/16" (450)	1.3 - 2.6 (0.6 - 1.2)	2.4 - 5.3 (1.1 - 2.4)	4.9 - 11.0 (2.2 - 5.0)
19 11/16" (500)	1.1 - 2.4 (0.5 - 1.1)	2.2 - 4.9 (1.0 - 2.2)	4.4 - 9.9 (2.0 - 4.5)
21 5/8" (550)	1.1 - 2.2 (0.5 - 1.0)	2.0 - 4.4 (0.9 - 2.0)	4.0 - 9.0 (1.8 - 4.1)
Flap Weight in lb(kg)			



Calculation of Power Factor (LF):

$$\{(\text{Flap weight (kg)} + 2 \times \text{handle weight (kg)}) \times \text{Flap Height (mm)} = \text{LF}\}$$

Note: Power factor can only be calculated in metric

WARNING

Caution - risk of injury!

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CT = Cabinet top panel

C = Cornice

FH = Flap height

FOB = Front overlay, bottom

FOS = Front overlay, side

FOT = Front overlay, top

FT = Flap thickness

LF = Power factor

R = Reveal

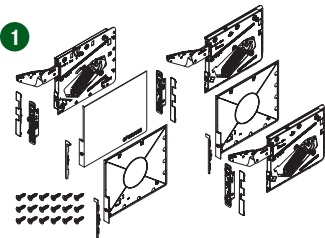
Kinvaro T-Slim

T-Slim lift-up flap fitting for wide wooden fronts (inset)



- Flush inset flap fitting for high design requirements and maximum storage space
- Additional fitting for wide fronts
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depth $+3.0$ mm / -1.0 mm
- 107° opening angle
- Can be used for flaps made from wood and wood-based products
- Integrated, opening angle reduction clip with optional activation (75°)
- Cover caps and adapters in Stone, Ice, and Silver (all cover caps can be painted)
- With integrated Soft-close damper (Soft-close damper can be switched on/off)

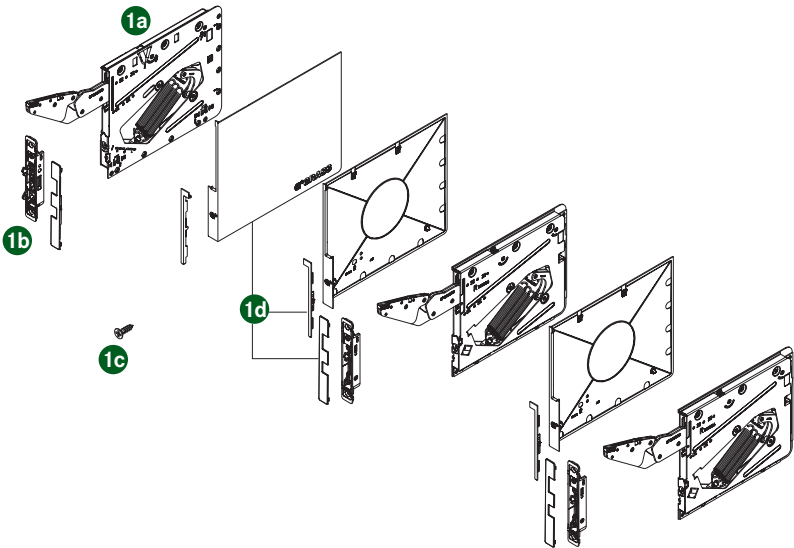
Kinvaro T-Slim Set for Wide Wood Fronts



Power Factor (LF)	Item No. Stone	Item No. Silver	Item No. Ice	PU
1500 - 3375	F151149027201	F151149028201	F151149029201	1

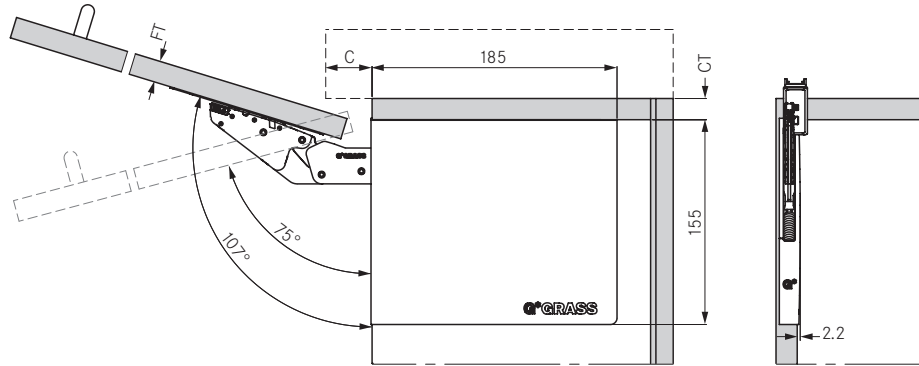
Set consists of:

- 1a 1 - Fitting Set, 1 left/2 right
- 1b 1 - Front Connector Set, 1 left/2 right
- 1c 18 - Screws
- 1d 3 - Cover Caps, 3 left/6 right
- 1e 1 - Installation Instructions

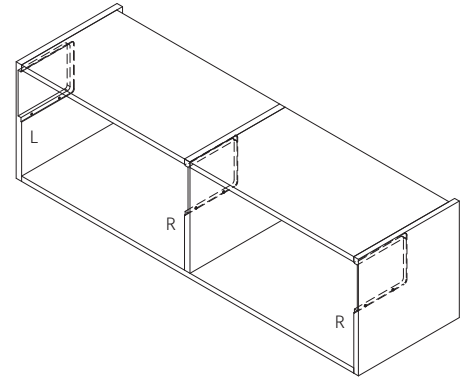


PU - Packaging unit

Required Space



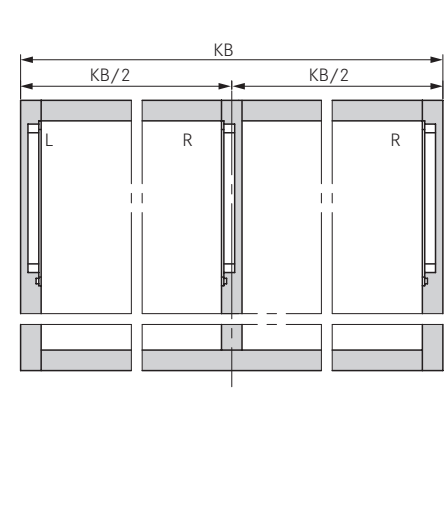
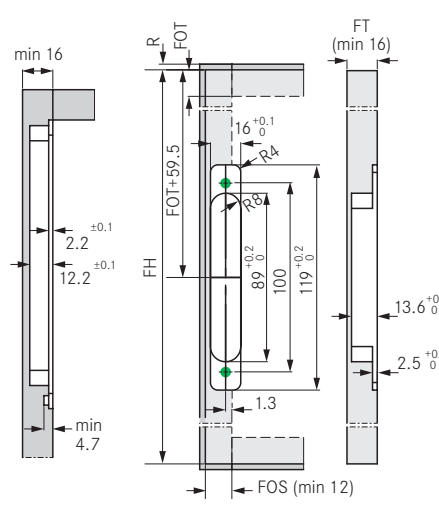
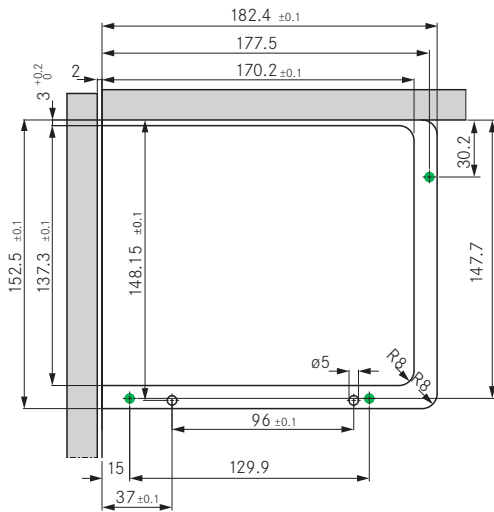
Position for Third Fitting



Side Wall Screw-on Position

Front Milling Position

Position for Third Fitting



Cornice

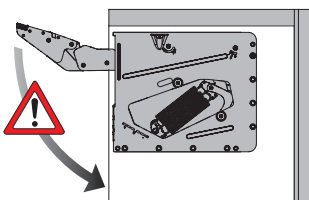
Reveal

Flap Weight

Cabinet Top Panel (CT)		16	18	19	20	22	24
Flap Thickness (FT)	16	67	74	77	80	87	94
	18	60	67	70	73	80	87
	19	57	64	67	70	77	84
	20	54	60	63	67	73	80
	21	50	56	60	63	69	76
	22	47	53	57	60	66	73
	24	40	46	50	53	60	67
		26	33	40	43	46	53
		32	12	19	22	25	32
		Cornice (C)					

Front Overlay Top (FOT)		15	17	19	21	22
Flap Thickness (FT)	16	1	1	1	1	1
	18	1	1	1	1	1
	19	1	1	1	1	1
	20	1	1	1	1	1
	21	1	1	1	1	1
	22	1	1	1	1	1
	24	1.5	1	1	1	1
	26	3	2.5	1.5	1	1
	32	8	7	6	5.5	5
		Reveal (R)				

Power Factor (LF)		1500 - 3375	
Flap Height (FH)	7 7/8" (200)	15.5 - 37.3 (7.5 - 16.9)	
	9 13/16" (250)	13.2 - 29.8 (6.0 - 13.5)	
	11 13/16" (300)	11.0 - 24.9 (5.0 - 11.3)	
	13 3/4" (350)	9.5 - 21.2 (4.3 - 9.6)	
	15 3/4" (400)	8.4 - 18.5 (3.8 - 8.4)	
	17 11/16" (450)	7.3 - 16.5 (3.3 - 7.5)	
	19 11/16" (500)	6.6 - 15.0 (3.0 - 6.8)	
	21 5/8" (550)	6.0 - 13.4 (2.7 - 6.1)	
		Flap Weight in lb(kg)	



Calculation of Power Factor (LF):

$$\{(\text{Flap weight (kg)} + 2 \times \text{handle weight (kg)}) \times \text{Flap Height (mm)}\} = \text{LF}$$

Note: Power factor can only be calculated in metric

WARNING

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CT = Cabinet top panel

C = Cornice

FH = Flap height

FOB = Front overlay, bottom

FOS = Front overlay, side

FOT = Front overlay, top

FT = Flap thickness

LF = Power factor

R = Reveal



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KINVARO D AND TIOMOS FLAP DOOR SYSTEM



G*GRASS®

KINVARO D/TIOMOS FLAP DOOR SYSTEM

The Kinvaro D paired with the Tiomos Flap hinge, revitalizes drop-down cabinet applications by creating an aesthetically clean, minimalist look and easy access to the cabinet contents.



Kinvaro D

D-M flap stay with pull cable



- Gentle opening
- Opening angle adjustable (length of cable)
- Spring force adjustment
- Can be used with shallow cabinets from 110mm (4 5/16") depth
- Flap weight up to 10 kg (22 lb)
- Flap height 200mm – 480mm (7 7/8" - 18 7/8")
- Can be used on left/right side of cabinet
- Easy to install horizontally or vertically
- In White, Night, and Smoke finish
- Works perfectly with Tiomos flap hinge

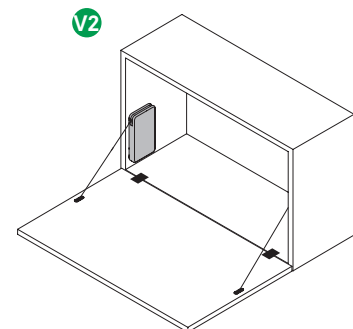
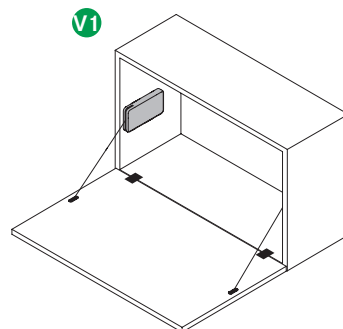
Application Range

Flap Height (FH)	Horizontal Installation (V1)				Vertical Installation (V2)			
	Flap weight including handle in lb (kg)				Flap weight including handle in lb (kg)			
	Spring 60N		Spring 100N		Spring 60N		Spring 100N	
	1X	2X	1X	2X	1X	2X	1X	2X
7 7/8" - 9 1/16" (200 - 230)	8.82 - 10.58 (4.0 - 4.8)	-	9.25 - 13.66 (4.2 - 6.2)	-	9.03 - 13.00 (4.1 - 5.9)	-	11.68 - 16.09 (5.3 - 7.3)	-
9 1/16" - 10 5/8" (230 - 270)	6.61 - 9.70 (3.0 - 4.4)	13.22 - 18.51 (6.0 - 8.4)	7.93 - 11.46 (3.6 - 5.2)	14.99 - 21.16 (6.8 - 9.6)	7.27 - 10.58 (3.3 - 4.8)	14.99 - 21.16 (6.8 - 9.6)	9.25 - 13.22 (4.2 - 6.0)	21.16 - 28.21 (9.6 - 12.8)
10 5/8" - 13" (270 - 330)	6.39 - 8.37 (2.9 - 3.8)	12.34 - 17.19 (5.6 - 7.8)	6.61 - 10.14 (3.0 - 4.6)	14.10 - 19.40 (6.4 - 8.8)	7.05 - 9.92 (3.2 - 4.5)	13.88 - 17.85 (6.3 - 8.1)	8.37 - 11.24 (3.8 - 5.1)	17.41 - 24.47 (7.9 - 11.1)
13" - 14 15/16" (330 - 380)	5.95 - 8.15 (2.7 - 3.7)	11.02 - 17.63 (5.0 - 8.0)	7.05 - 9.47 (3.2 - 4.3)	14.33 - 18.73 (6.5 - 8.5)	5.73 - 7.49 (2.6 - 3.4)	11.02 - 14.33 (5.0 - 6.5)	7.27 - 9.92 (3.3 - 4.5)	16.09 - 18.73 (7.3 - 8.5)
14 15/16" - 16 15/16" (380 - 430)	6.39 - 7.93 (2.9 - 3.6)	9.92 - 13.44 (4.5 - 6.1)	6.83 - 8.59 (3.1 - 3.9)	12.56 - 16.09 (5.7 - 7.3)	5.15 - 7.49 (2.5 - 3.4)	11.02 - 13.66 (5.0 - 6.2)	7.05 - 9.25 (3.2 - 4.2)	13.66 - 18.07 (6.2 - 8.2)
16 15/16" - 18 1/8" (430 - 460)	5.95 - 6.83 (2.7 - 3.1)	9.47 - 13.44 (4.3 - 6.1)	5.95 - 8.59 (2.7 - 3.9)	13.00 - 18.29 (5.9 - 8.3)	5.07 - 6.61 (2.3 - 3.0)	10.14 - 13.66 (4.6 - 6.2)	6.61 - 8.37 (3.0 - 3.8)	13.66 - 17.19 (6.2 - 7.8)
18 1/8" - 18 7/8" (460 - 480)	5.51 - 6.39 (2.5 - 2.9)	9.03 - 12.56 (4.1 - 5.7)	6.17 - 8.37 (2.8 - 3.8)	11.68 - 16.97 (5.3 - 7.7)	5.29 - 7.05 (2.4 - 3.2)	10.14 - 13.22 (4.6 - 6.0)	6.17 - 8.81 (2.8 - 4.0)	12.34 - 17.19 (5.6 - 7.8)

Kinvaro D-M

	Description	Springs	Color	Item No.	PU
	Kinvaro D-M flap stay including front holder and fixing screws	60N	Grey	F053139661 607	10
		100N	Grey	F053139662 607	10

	Description	Color	Item No.	PU
	Cover cap for Kinvaro D-M	White	F053139668 507	10
		Night	F053139669 507	10
		Smoke	F053139670 507	10

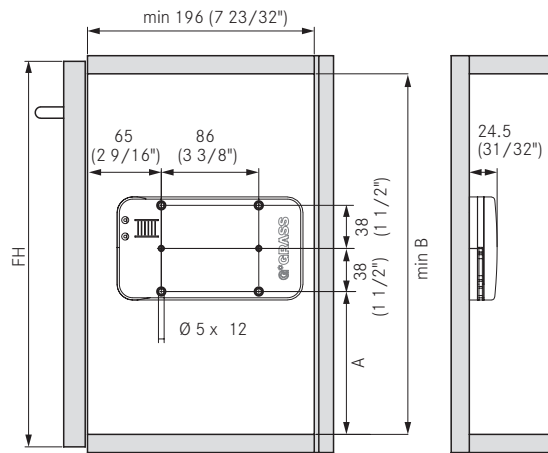


Note: Tiomos flap hinges sold separately

PU - Packaging unit

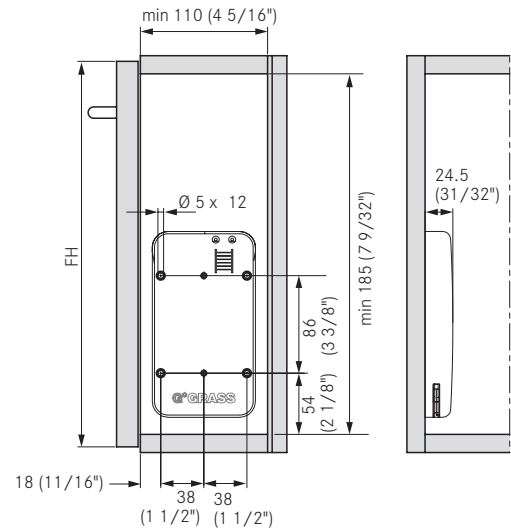
D-M flap stay with pull cable

Side Panel Drilling, V1 - Horizontal Installation

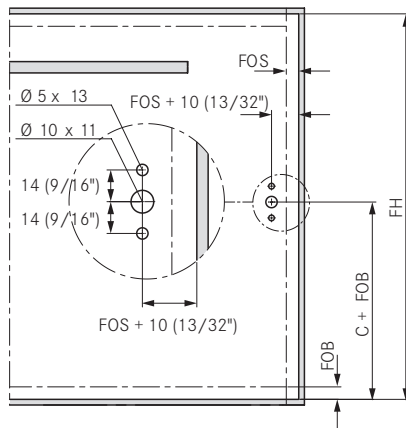


FH	A	B
200-330 (7 7/8" - 13")	102 (4")	194 (7 5/8")
330-430 (13" - 16 15/16")	126 (4 15/16")	218 (8 9/16")
430-480 (16 15/16" - 18 7/8")	136 (5 3/8")	228 (9")

Side Panel Drilling, V2 - Vertical Installation



Flap Drilling



FH	C (V1)	C (V2)
200-330 (7 7/8" - 13")	137 (5 3/8")	161 (6 5/16")
330-430 (13" - 16 15/16")	161 (6 5/16")	161 (6 5/16")
430-480 (16 15/16" - 18 7/8")	171 (6 3/4")	161 (6 5/16")

Calculation of Flap Weight

Flap width x flap height x flap thickness x density* + weight of handle** = weight of flap

*Densities: MDF 0.85 kg (1.9 lb)/dm³, chipboard 0.65 kg (1.4 lb) /dm³, spruce/pine 0.45 kg (1lb)/dm³

**For bar handles allow 0.1 kg (.2 lb) for each 100mm handle width.

IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting.

Minimum gap and flap protrusion depend on the hinge used.

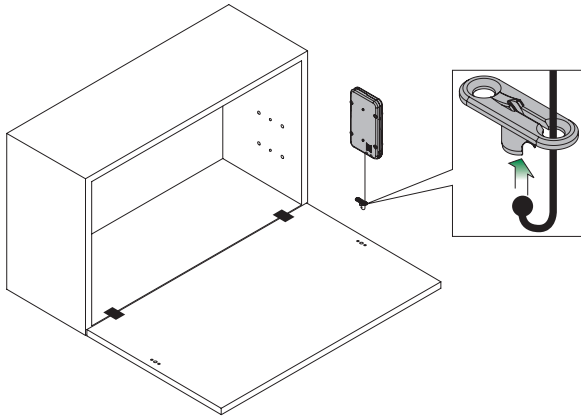
FOB = Front overlay, bottom
FOS = Front overlay, side
FH = Flap height

Assembly Instructions

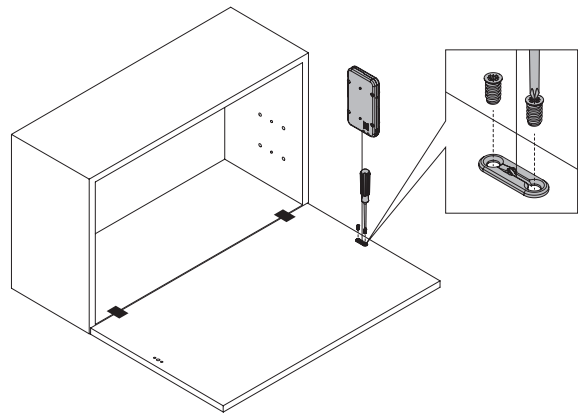
Kinvaro D-M flap stay with pull cable

Assembly Instructions

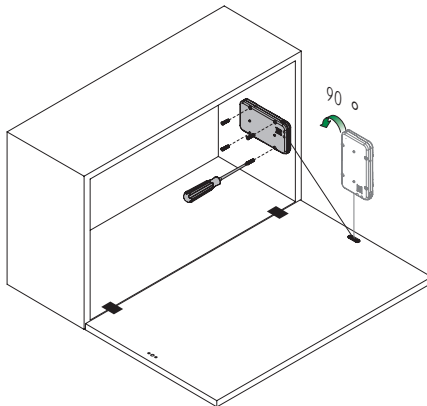
1



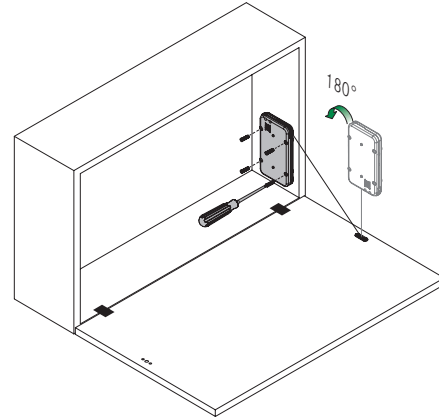
2



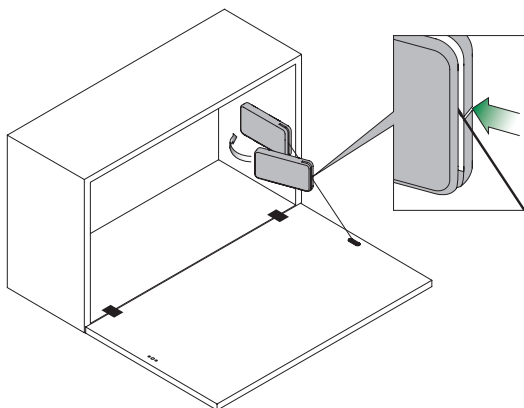
3(V1)



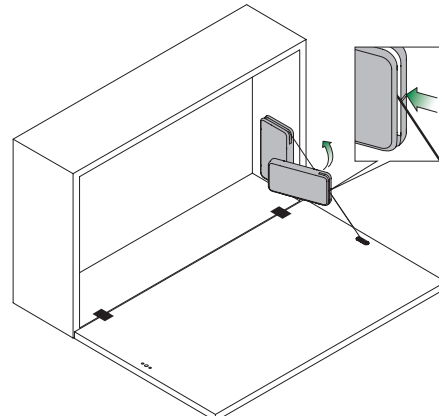
3(V2)



4(V1)



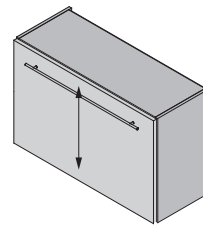
4(V2)



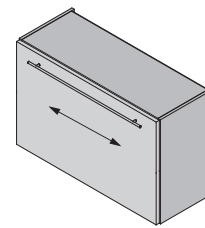
PU - Packaging unit

Assembly Instructions

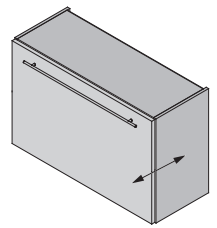
Kinvaro D-M flap stay with pull cable



Height adjustment
+2/-3mm



Side Adjustment
±1mm

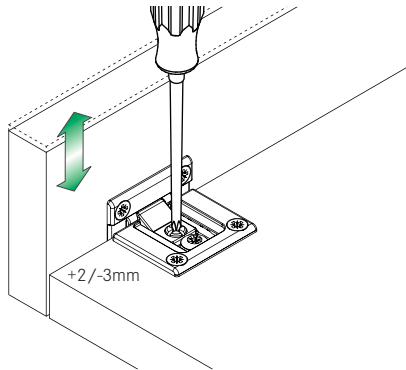


Depth adjustment
+5/-0mm

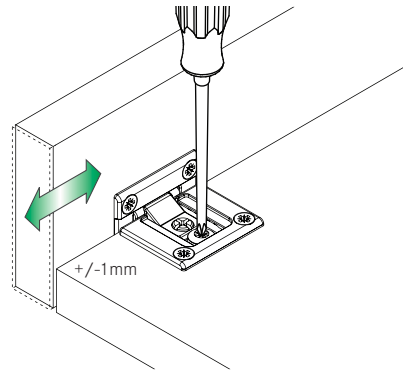
All adjustment options can be made independently of one another.

Adjustment Options, When Used with the Tiomos Flap Hinge

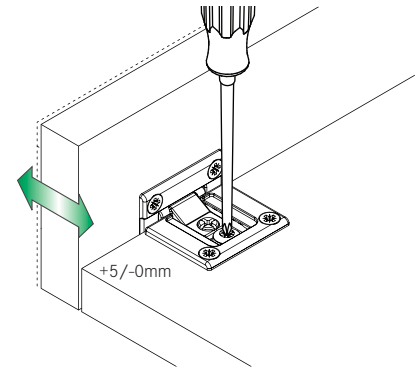
Height Adjustment



Side Adjustment

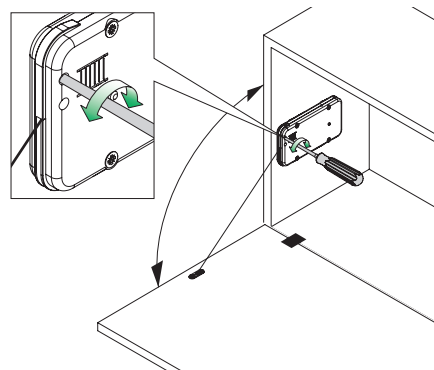
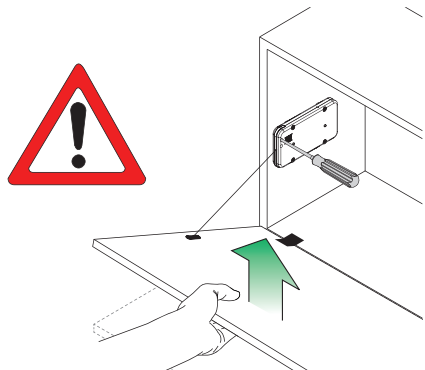


Depth Adjustment

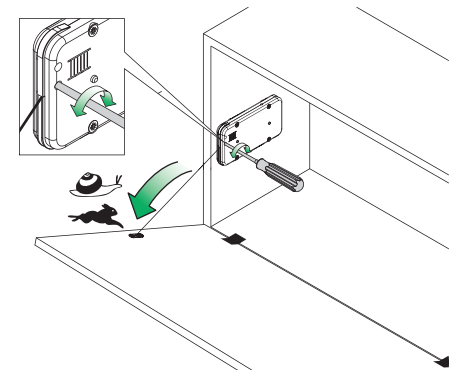


Note: The adjustments shown are for the Tiomos flap hinge shown on page 10.

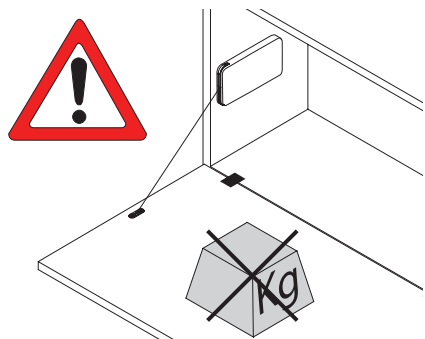
Adjusting the Opening Angle



Adjusting the Opening Speed



Note



Kinvaro D

D-S flap stay with pull cable



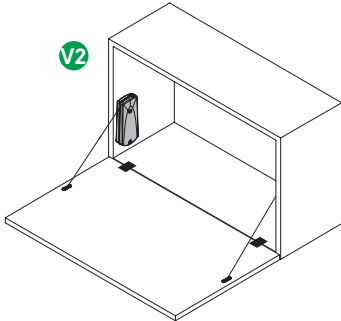
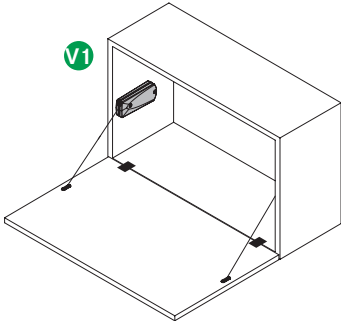
- Gentle opening
- Opening angle adjustable (length of cable)
- Can be used with shallow cabinets from 82mm (3 1/4") depth
- Flap height 200mm – 480mm (7 7/8" - 18 7/8")
- Can be used on left/right side of cabinet
- Easy to install horizontally or vertically
- In White or Night finish
- Works perfectly with Tiomos flap hinge

Application Range

Flap Height (FH)	Horizontal Installation (V1) or Vertical Installation (V2)			
	Flap weight including handle in lb (kg)			
	Spring 40N		Spring 60N	
	1X	2X	1X	2X
7 7/8" - 10 5/8" (200 - 270)	3.74 - 6.61 (1.7 - 3.0)	8.59 - 9.92 (3.9 - 4.5)	6.83 - 8.81 (3.1 - 4.0)	16.53 - 17.63 (7.5 - 8.0)
10 5/8" - 13" (270 - 330)	3.74 - 6.61 (1.7 - 3.0)	7.27 - 9.92 (3.3 - 4.5)	6.83 - 8.81 (3.1 - 4.0)	13.44 - 16.31 (6.1 - 7.4)
13" - 14 15/16" (330 - 380)	3.74 - 4.18 (1.7 - 1.9)	7.05 - 7.71 (3.2 - 3.5)	6.39 - 7.71 (2.9 - 3.5)	11.24 - 14.99 (5.1 - 6.8)
14 15/16" - 16 15/16" (380 - 430)	3.30 - 3.96 (1.5 - 1.8)	5.95 - 7.27 (2.7 - 3.3)	5.51 - 7.27 (2.5 - 3.3)	10.58 - 14.55 (4.8 - 6.6)
16 15/16" - 18 1/8" (430 - 460)	2.64 - 3.74 (1.2 - 1.7)	5.51 - 6.83 (2.5 - 3.1)	5.07 - 7.27 (2.3 - 3.3)	10.14 - 13.22 (4.6 - 6.0)
18 1/8" - 18 7/8" (460 - 480)	-	-	4.85 - 6.17 (2.2 - 2.8)	9.70 - 11.68 (4.4 - 5.3)

Kinvaro D-S

	Description	Springs	Color	Item No.	PU
	Kinvaro D-S flap stay including front holder and fixing screws	40N	White	F053139664607	10
			Night	F053139665607	10
		60N	White	F053139666607	10
			Night	F053139667607	10

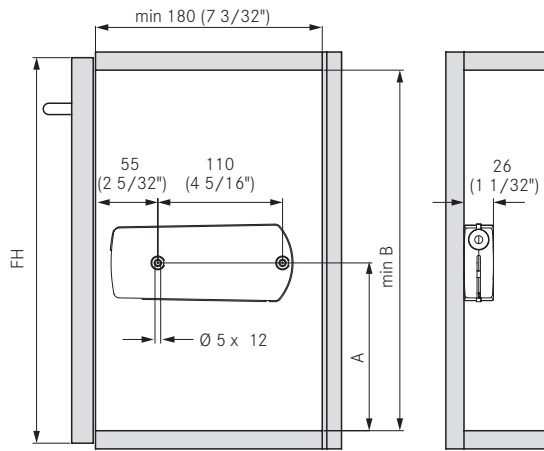


Note: Tiomos flap hinges sold separately

PU - Packaging unit

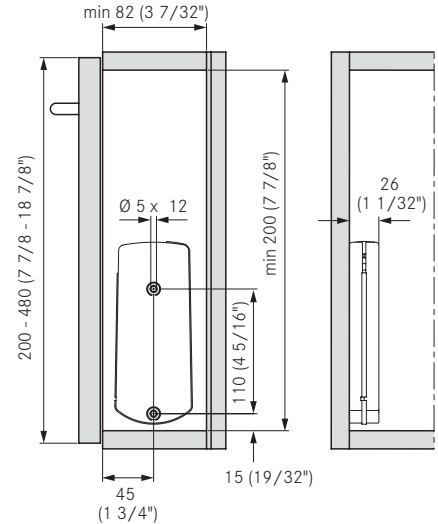
D-S flap stay with pull cable

Side Panel Drilling, V1 - Horizontal Installation

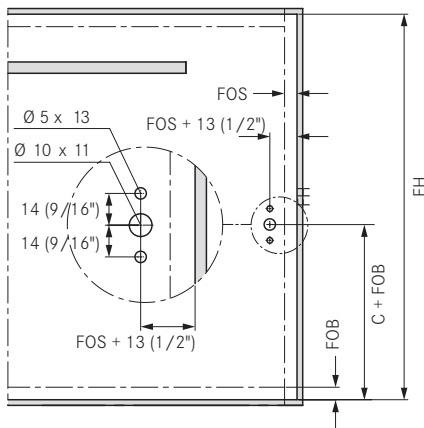


FH	A	B
200 - 270 (7 7/8" - 10 5/8")	135 (5 5/16")	173 (6 13/16")
270 - 480 (10 5/8" - 18 7/8")	148 (5 13/16")	186 (7 5/16")

Side Panel Drilling, V2 - Vertical Installation



Flap Drilling



FH	C (V1)	C (V2)
200 - 270 (7 7/8" - 10 5/8")	123 (4 27/32")	-
270 - 480 (10 5/8" - 22 13/16")	144 (5 21/32")	-
230 - 480 (9 1/16" - 18 7/8")	-	123 (4 13/16")

Calculation of Flap Weight

Flap width x flap height x flap thickness x density* + weight of handle** = weight of flap

*Densities: MDF 0.85 kg (1.9 lb)/dm³, chipboard 0.65 kg (1.4 lb) /dm³, spruce/pine 0.45 kg (1lb)/dm³

**For bar handles allow 0.1 kg (.2 lb) for each 100mm handle width.

IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting.

Minimum gap and flap protrusion depend on the hinge used.

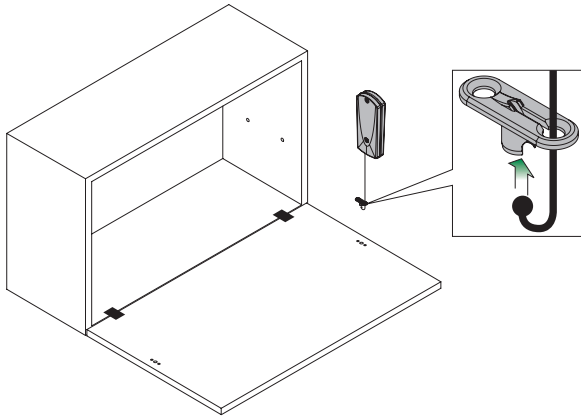
FOB = Front overlay, bottom
FOS = Front overlay, side
FH = Flap height

Assembly Instructions

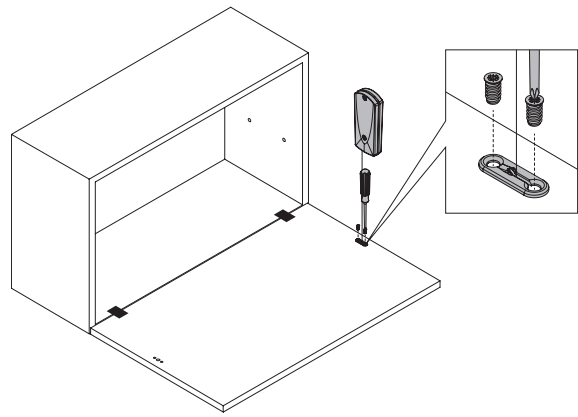
Kinvaro D-S flap stay with pull cable

Assembly Instructions

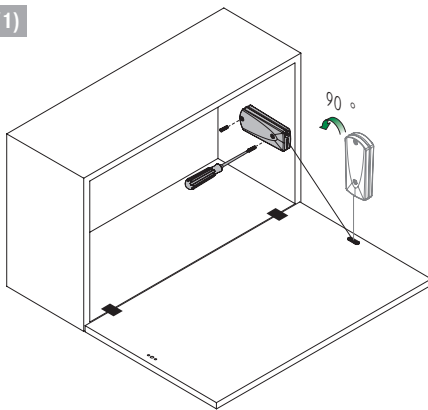
1



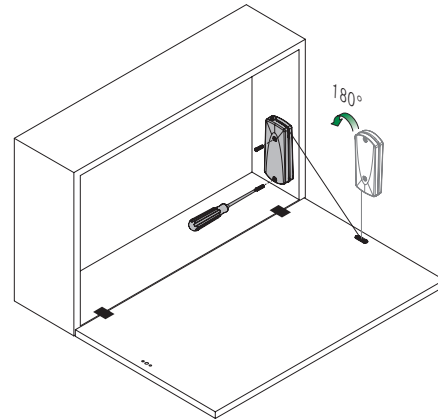
2



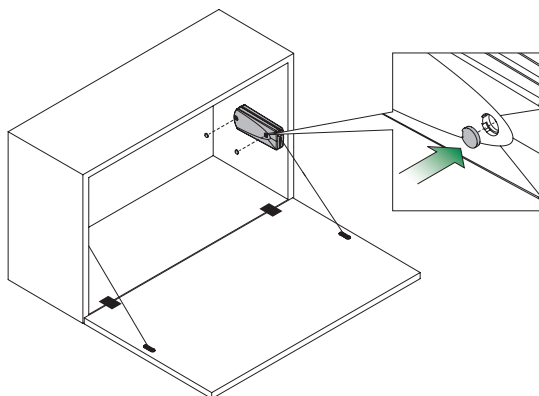
3(V1)



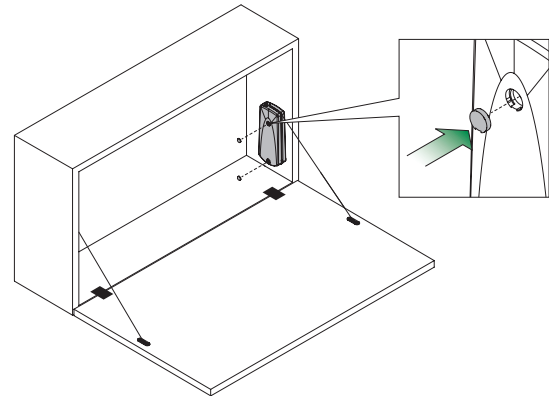
3(V2)



4(V1)



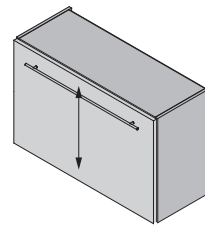
4(V2)



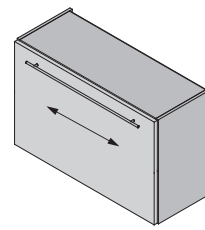
PU - Packaging unit

Assembly Instructions

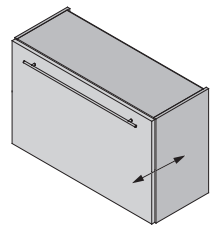
Kinvaro D-S flap stay with pull cable



Height adjustment
+2/-3mm



Side Adjustment
±1mm

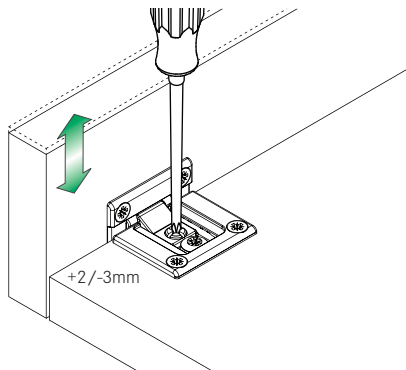


Depth adjustment
+5/-0mm

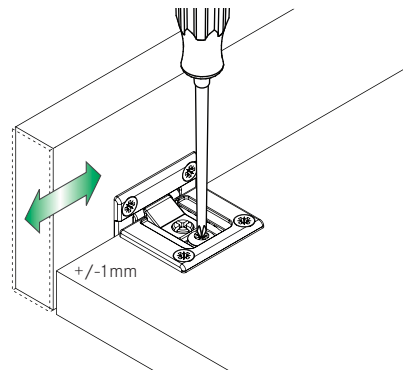
All adjustment options can be made independently of one another.

Adjustment Options, When Used with the Tiomos Flap Hinge

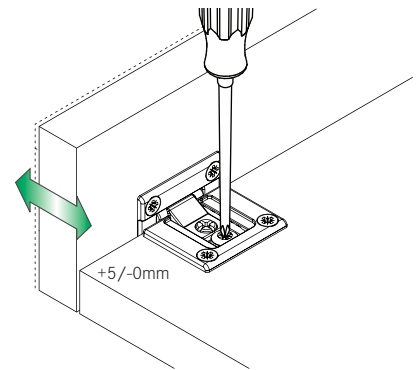
Height Adjustment



Side Adjustment

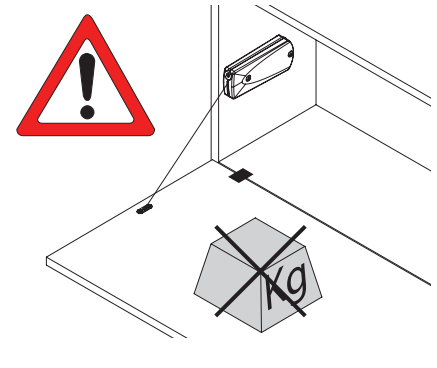
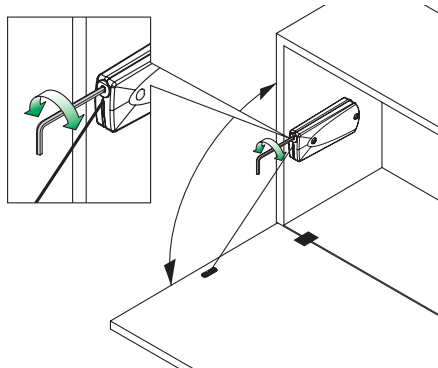
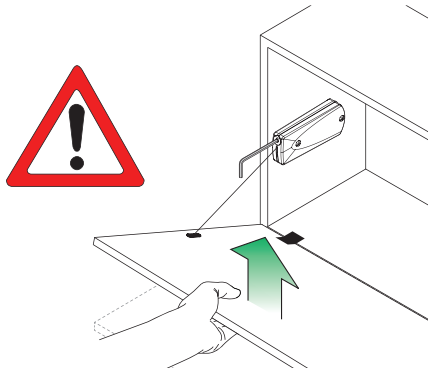


Depth Adjustment



Note: The adjustments shown are for the Tiomos flap hinge shown on page 40.

Adjusting the Opening Angle

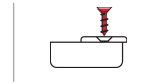


Tiomos Flap Hinge

90° hinge for flap door



- Sleek modern design
- 90° opening angle
- For flap thicknesses of up to 30mm (1 3/16")
- Narrow joint
- Large overlay of up to 19mm (3/4")
- 3-dimensional adjustment
- Compatible with Tipmatic pin system
- Compatible with Kinvaro D-M/D-S flap system



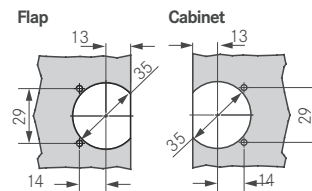
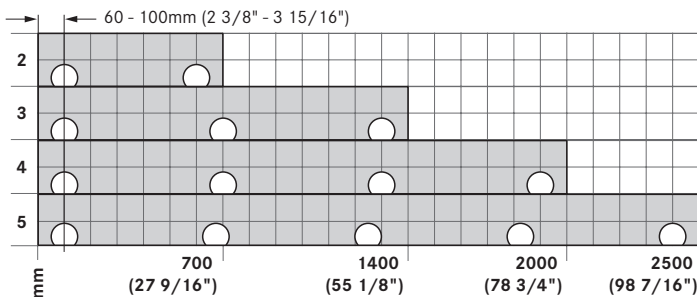
Tiomos Flap Hinge Opening Angle 90° Screw-On

Overlay	For Flap Thickness 14-21mm	Color	Cup Depth	Item No.	PU
	Hinge: zinc die-cast, nickel-plated	Nickel	12mm	F053139671223	100
	Hinge: zinc die-cast, night	Night	12mm	F053139677223	100

Overlay	For Flap Thickness 22-28mm	Color	Cup Depth	Item No.	PU
	Hinge: zinc die-cast, nickel-plated	Nickel	17mm	F053139672223	100
	Hinge: zinc die-cast, night	Night	17mm	F053139678223	100

Cover Cap for Flap Hinge		Item No.	PU	1.5mm Spacer for Tiomos Flap Hinge		Item No.	PU
	Steel, nickel plated	F053139675223	100		Steel, nickel plated	F053139676223	100
	Steel, night	F053139683223	100		Steel, night	F053139684223	100

Number of Hinges per Door Drilling Pattern

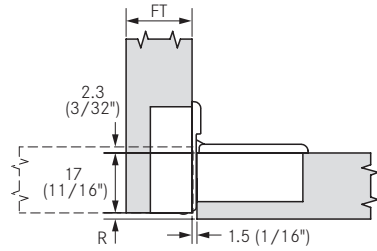


PU - Packaging unit

Tiemos Flap Hinge

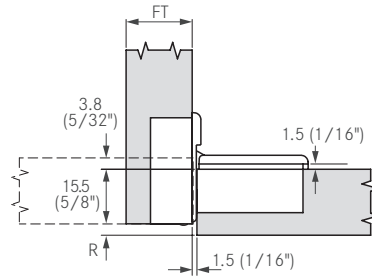
90° hinge for flap door

Overlay, Without Spacer, 12mm Cup Depth



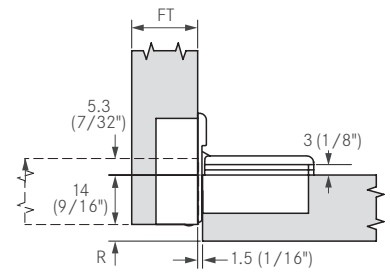
Flap Thickness (FT)		21	20	19	18	17	16	15	14
Min Reveal (R)		2.5	1.5	1	1	1	1	1	1

Overlay, with 1 Spacer, 12mm Cup Depth



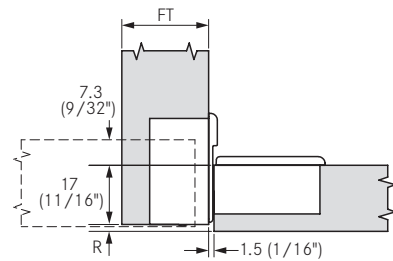
Flap Thickness (FT)		21	20	19	18	17	16	15	14
Min Reveal (R)		2.5	1.5	1	1	1	1	1	1

Overlay, with 2 Spacers, 12mm Cup Depth



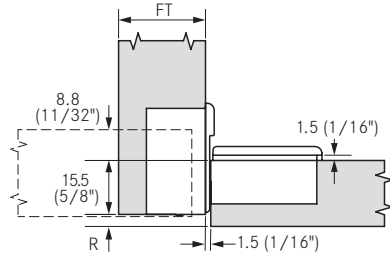
Flap Thickness (FT)		21	20	19	18	17	16	15	14
Min Reveal (R)		2.5	1.5	1	1	1	1	1	1

Overlay, Without Spacer, 17mm Cup Depth



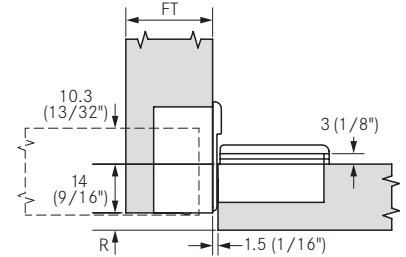
Flap Thickness (FT)		30	29	28	27	26	25	24	23	22
Min Reveal (R)		6.5	5.5	4.5	3.5	2.5	1.5	1	1	1

Overlay, with 1 Spacer, 17mm Cup Depth



Flap Thickness (FT)		30	29	28	27	26	25	24	23	22
Min Reveal (R)		6.5	5.5	4.5	3.5	2.5	1.5	1	1	1

Overlay, with 2 Spacers, 17mm Cup Depth



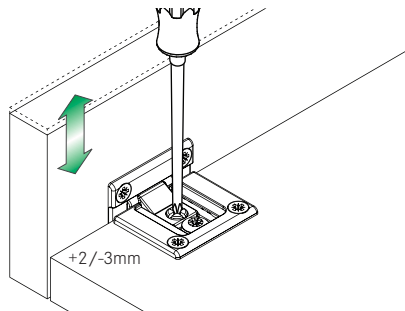
Flap Thickness (FT)		30	29	28	27	26	25	24	23	22
Min Reveal (R)		6.5	5.5	4.5	3.5	2.5	1.5	1	1	1

Note: Hinge dimensions and reveal calculation based on factory setting.

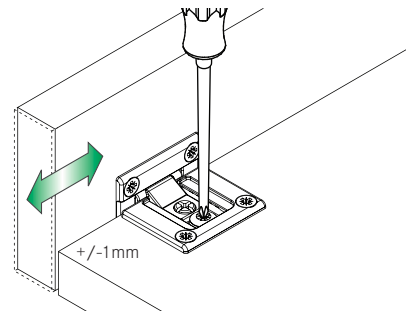
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

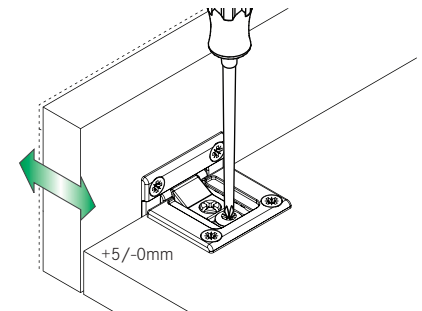
Height Adjustment



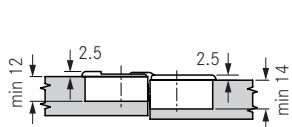
Side Adjustment



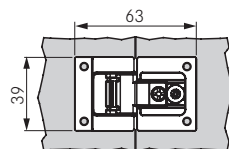
Depth Adjustment



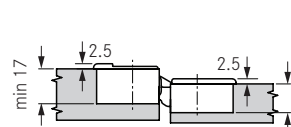
Cup Dimensions, 12mm Cup Depth



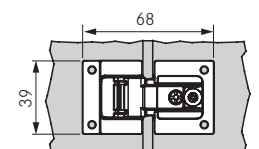
Hinge Dimensions, 12mm Cup Depth



Cup Dimensions, 17mm Cup Depth



Hinge Dimensions, 17mm Cup Depth





GRASS America Inc.
1202 NC Highway 66 South
Kernersville, NC 27284

Phone: 1-800-334-3512
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www.grassusa.com
info@grassusa.com

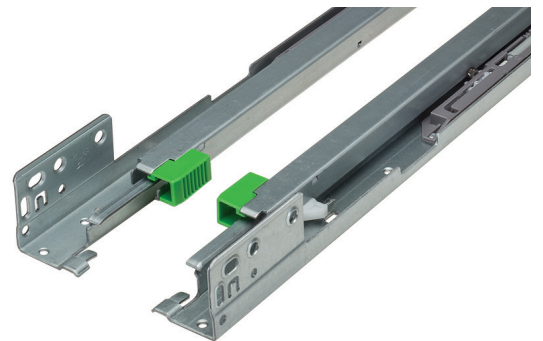




G*GRASS®

MAXCESS SLIDE SYSTEM

Full access, soft-close slide. An economical undermount that offers a high degree of convenience and satisfaction with minimal extension loss.





Maxcess is the economical undermount alternative to achieve full access into your drawer interior.

Maximize your drawer space

If you can imagine a full access slide with features such as higher quality and better value, then you have the power to see Maxcess, Grass' full access concealed undermount slide. Maxcess is an economical, soft-close, undermount slide that offers a high degree of convenience and satisfaction.

Designed for face frame and frameless cabinetry, the Maxcess easily fits conventional drawer construction with material thickness ranging from 12.7mm (1/2") to 16mm (5/8").

A liquid damper, created with German technology, is integrated into the slide and provides a continuous smooth, easy close. The front locking devices offer 1D height adjustment or 2D height and side adjustment. Multiple cleats securely connect the drawer to the slide. Maxcess features an ample load capacity of 75 pounds that meets and exceeds ANSI/BHMA A156.9, Grade 1 testing standard and features a minimal extension loss. A new option in undermount slides built with the Grass standard of excellence you have come to expect.



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	Maxcess 16 • Frameless application • Integrated Soft-close • 7/8 extension • For 12.7mm (1/2") to 16mm (5/8") material	Front locking device selection provides: • Height adjustment (max +2.5mm) • Side adjustment (max ± 1.5mm)	12
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Features and Benefits

Maxcess

Features



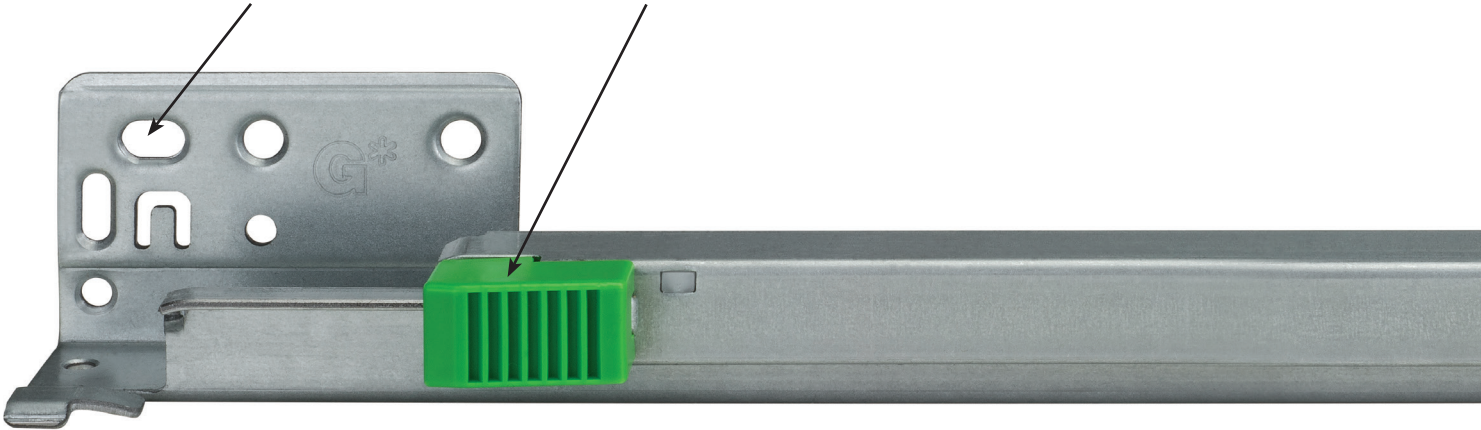
- Slide is concealed to give full view of finely crafted drawers
- Self-latching front locking devices have easy release levers for drawer removal
- 7/8 extension with minimal extension loss on a 21" drawer
- Liquid damper softly glides drawers to a stop
- For drawer material thickness: 12.7mm (1/2") to 16mm (5/8")
- For face frame and frameless construction
- Patented load bearing support roller minimizes deflection
- Height adjustment +2.5mm (3/32") with suitable front locking device
- Side adjustment $\pm 1.5\text{mm}$ (1/16") with suitable front locking device
- Weight capacity: 75 lb dynamic, 100 lb static
- Meet and exceeds ANSI/BHMA A156.9 Standard, Grade 1

Depth adjustment

4mm (5/32") allows perfect alignment for the drawer front.

Multiple cleats

for secure front locking.



1D Front locking device

with height adjustment
+2.5mm (3/32")

The front locking device securely connects the drawer to the slide.



2D Front locking device

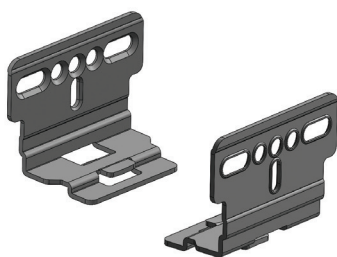
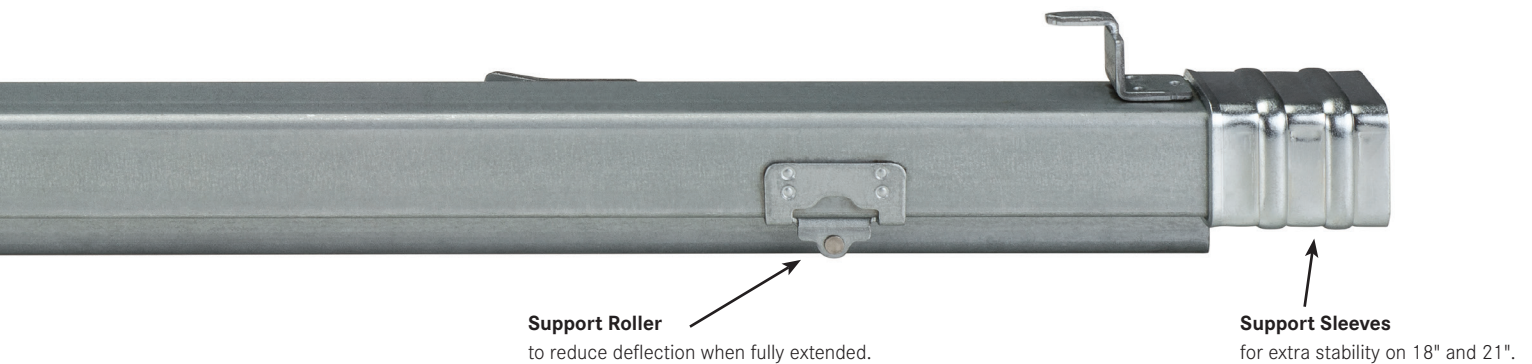
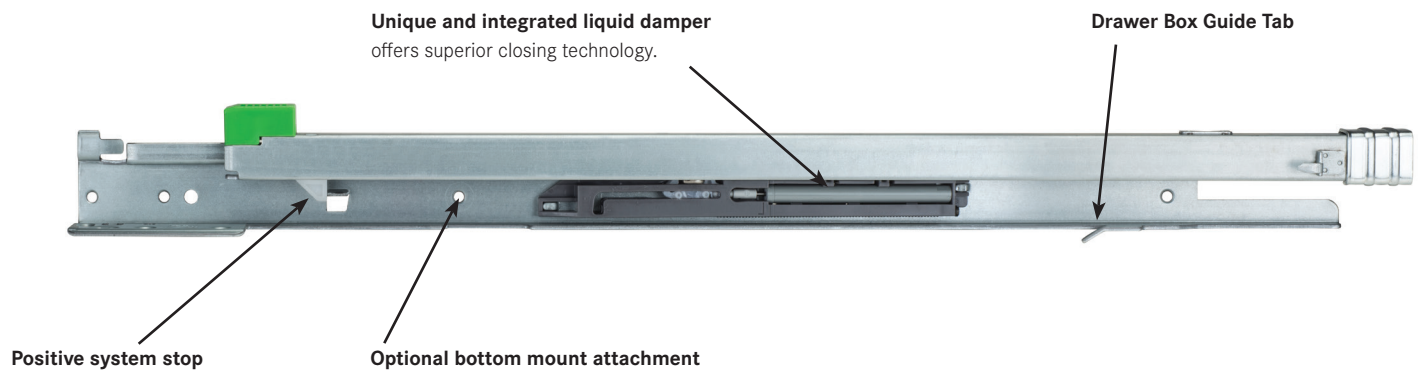
with height adjustment
+2.5mm (3/32")
with side adjustment
 $\pm 1.5\text{mm}$ (1/16")

The front locking device securely connects the drawer to the slide.



Features

- Precision smooth running roller carriage
- German technology liquid damper with smooth closing action
- Uses same front locking devices as Elite Plus
- Rear notch in back of box is 35mm for Maxcess and Elite Plus
- Patented design



Technical Information

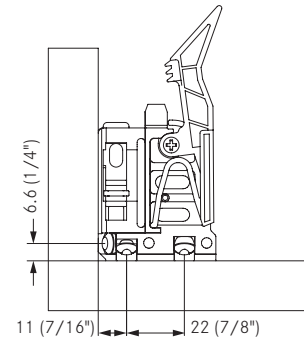
Maxcess

Front Locking Device with Height Adjustment

7523 Front Locking Device, 1D



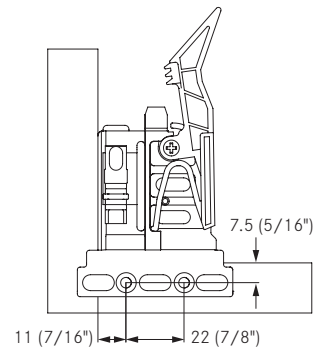
- Securely connects the drawer to the slide
- Height adjustment range: +2.5mm (3/32")
- For standard width drawers
- Minimum inside drawer width 125mm (4 15/16")
- Lightweight, high strength material



7523 Flanged Front Locking Device, 1D



- Securely connects the drawer to the slide
- Height adjustment range: +2.5mm (3/32")
- For standard width drawers
- Minimum inside drawer width 125mm (4 15/16")
- Lightweight, high strength material

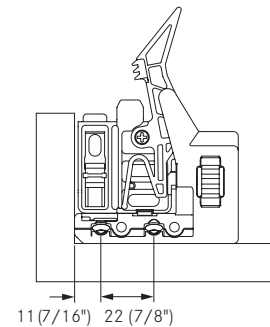


Front Locking Device with Height Adjustment and Side Adjustment

75X3 Front Locking Device, 2D



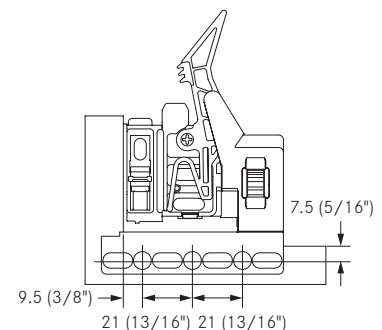
- Securely connects the drawer to the slide
- Height adjustment range: +2.5mm (3/32")
- Side adjustment range: ± 1.5 mm (1/16")
- For standard width drawers
- Minimum inside drawer width 140mm (5 1/4")
- Lightweight, high strength material



75X3 Flanged Front Locking Device, 2D



- Securely connects the drawer to the slide
- Height adjustment range: +2.5mm (3/32")
- Side adjustment range: ± 1.5 mm (1/16")
- For standard width drawers
- Minimum inside drawer width 140mm (5 1/4")
- Lightweight, high strength material



Rear Mounting Brackets

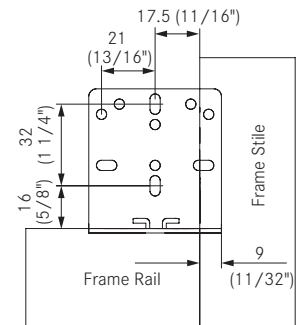
Universal - Rear Mounting Bracket



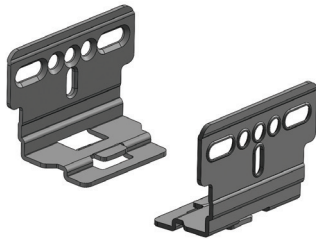
- For all Maxcess drawers
- For face frame application

Pre-drilling recommended Ø2.5mm (3/32")

Use a minimum of 3 screws per bracket,
#6 x 1/2" truss head screws.

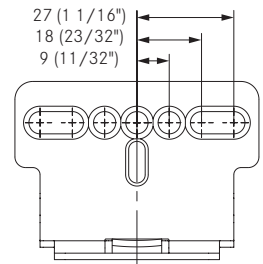


Euro - Rear Mounting Bracket



- For all Maxcess drawers
- For frameless application

Pre-drilling recommended Ø2.5mm (3/32")

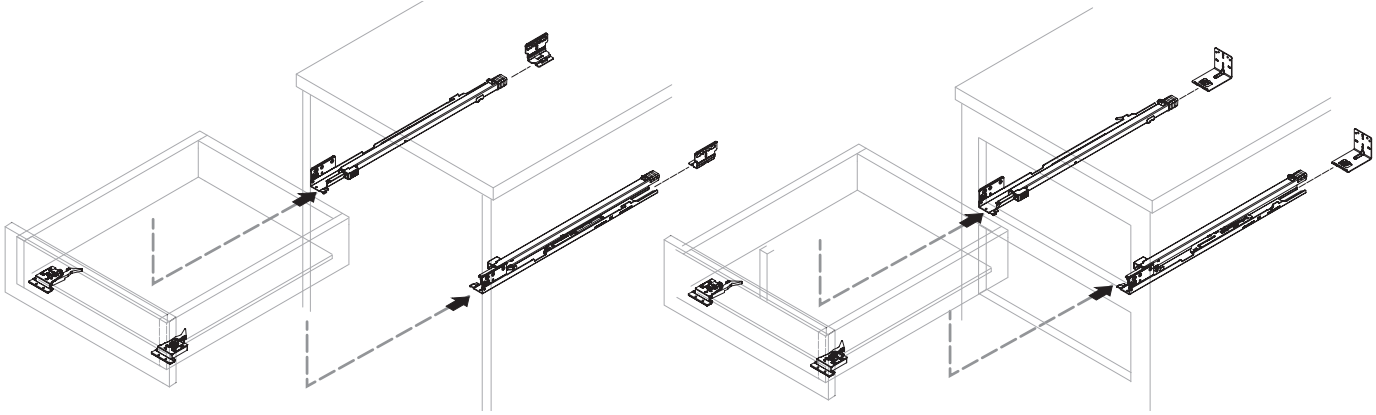


Technical Information

Maxcess

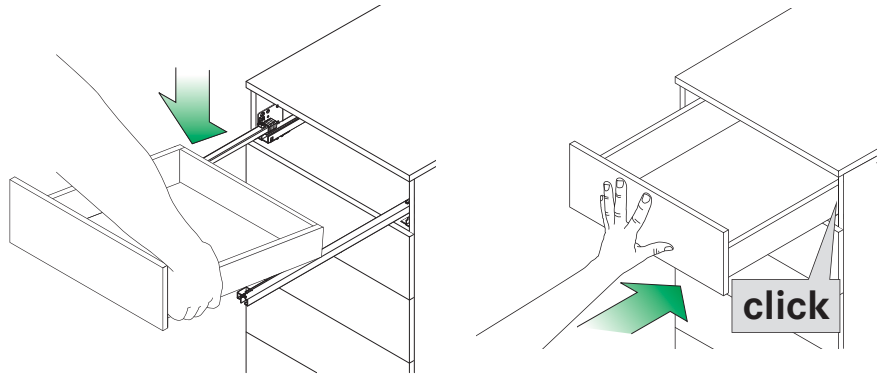
Maxcess Application

- For drawer material from 12.7mm (1/2") up to 16mm (5/8")
- For frameless or face frame application
- Rear brackets for frameless and face frame applications



Inserting the Drawer

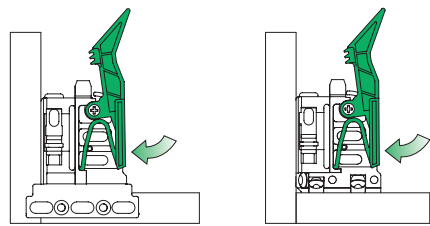
Place drawer on extended Maxcess slide and push in until it engages audibly.



Disengaging the Drawer

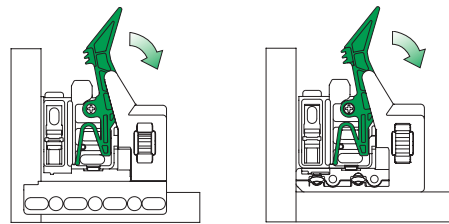
Pull the drawer out, squeeze the locking device levers and lift drawer from the slide.

1D Front Locking Device



Flanged Front Locking Device Front Locking Device

2D Front Locking Devices

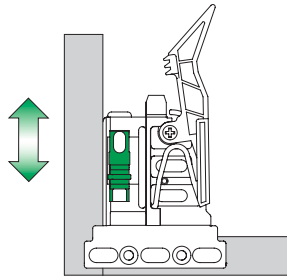
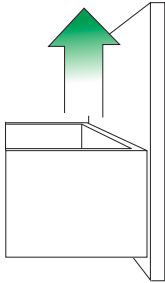


Flanged Front Locking Device Front Locking Device

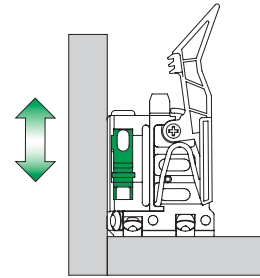
Maxcess

7523 Front Locking Device, 1D, Adjustment

Height Adjustment (max +2.5mm)



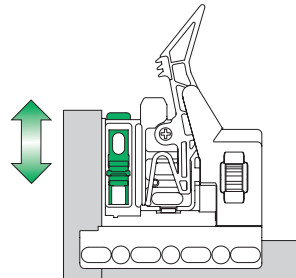
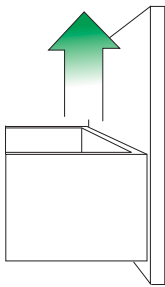
Flanged Front Locking Device



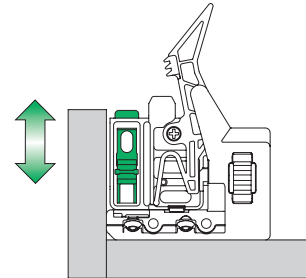
Front Locking Device

75X3 Front Locking Device, 2D, Adjustment

Height Adjustment (max +2.5mm)

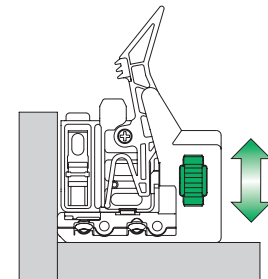
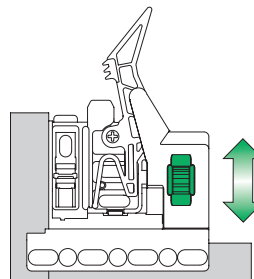
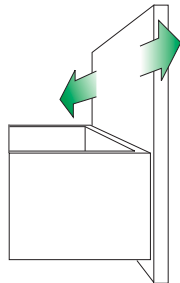


Flanged Front Locking Device

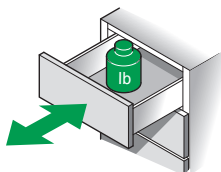


Front Locking Device

Side Adjustment (max ± 1.5 mm)



Weight Capacities per Pair of Slides



Maxcess: 75 lb dynamic load rating; 100 lb static load rating

Maxcess meets and exceeds the minimum requirements of ANSI/BHMA A156.9 Standard, Grade 1

Maxcess 16, Face Frame

Full Access for 16mm (5/8") drawer material



- Face frame applications from 12.7mm (1/2") up to 16mm (5/8") drawer material
- Zinc plated, roll formed steel components
- Precision, smooth-running synthetic roller carriages
- German technology liquid damper with smooth closing action
- Self-latching front locking devices have easy release levers for drawer removal and installation
- Height adjustment +2.5mm (3/32") with suitable front locking device
- Side adjustment $\pm 1.5\text{mm}$ (1/16") with suitable front locking device
- Weight capacity: 75 lb dynamic; 100 lb static
- Meets and exceeds ANSI/BHMA A156.9 Standard, Grade 1

Maxcess 16, Face Frame



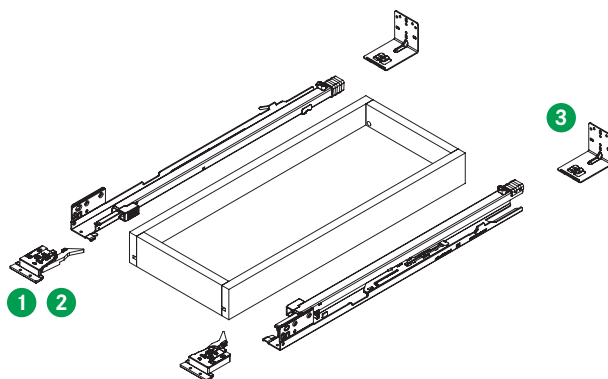
Drawer Length	Cab Mem Length	Min Installation Depth	Max Installation Depth	Item No.	PU
229 (9")	256 (10 3/32")	273 (10 3/4")	300 (11 13/16")	13301-03	5
305 (12")	316 (12 7/16")	349 (13 3/4")	360 (14 3/16")	13302-03	5
381 (15")	392 (15 7/16")	426 (16 25/32")	436 (17 5/32")	13303-03	5
457 (18")	468 (18 7/16")	502 (19 3/4")	512 (20 5/32")	13304-03	5
533 (21")	545 (21 15/32")	578 (22 3/4")	589 (23 3/16")	13305-03	5
381 (15")	392 (15 7/16")	426 (16 25/32")	436 (17 5/32")	13303-12	200
457 (18")	468 (18 7/16")	502 (19 3/4")	512 (20 5/32")	13304-12	200
533 (21")	545 (21 15/32")	578 (22 3/4")	589 (23 3/16")	13305-12	200

Front Locking Devices and Rear Mounting Bracket



Description	Non-flanged Item No. (a)	Flanged Item No. (b)	PU
(Must order separately)			
1 7523 Front locking device, universal, 1D, kit*	02500-03	-	5
7523 Front locking device, universal, 1D, left	02498-12	02495-12	200
7523 Front locking device, universal, 1D, right	02499-12	02496-12	200
2 75X3 Front locking device, universal, 2D, left	80051-12	80053-12	200
75X3 Front locking device, universal, 2D, right	80052-12	80054-12	200
3 Universal rear mount bracket		7950.VE300	200

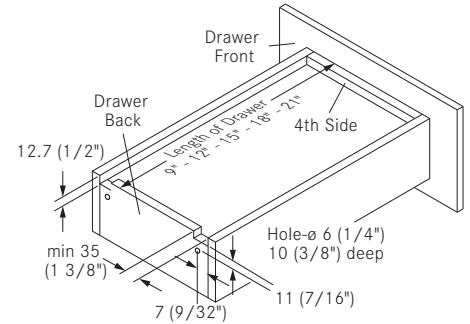
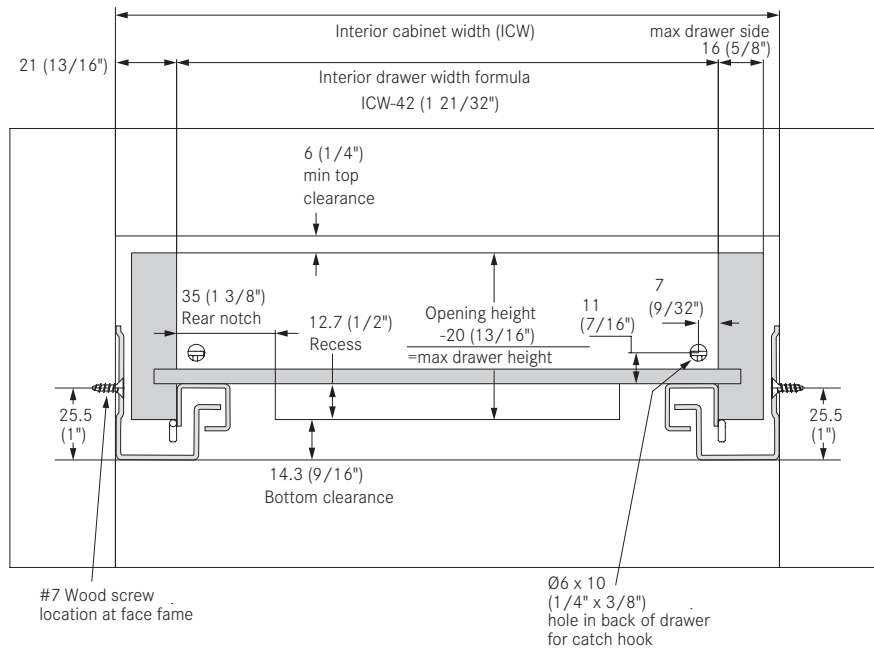
*Kit: Left/Right locking device, (4) #6 x 1/2" flat head Phillips screws



PU - Packaging unit

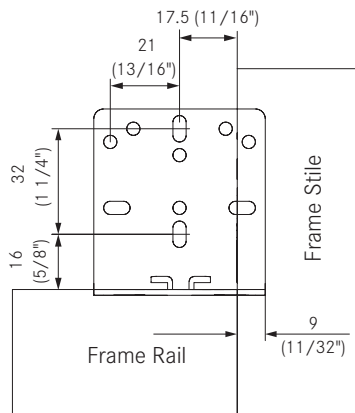
Drawer Installation Dimensions

Drawer Measurements



Rear Bracket for Face Frame

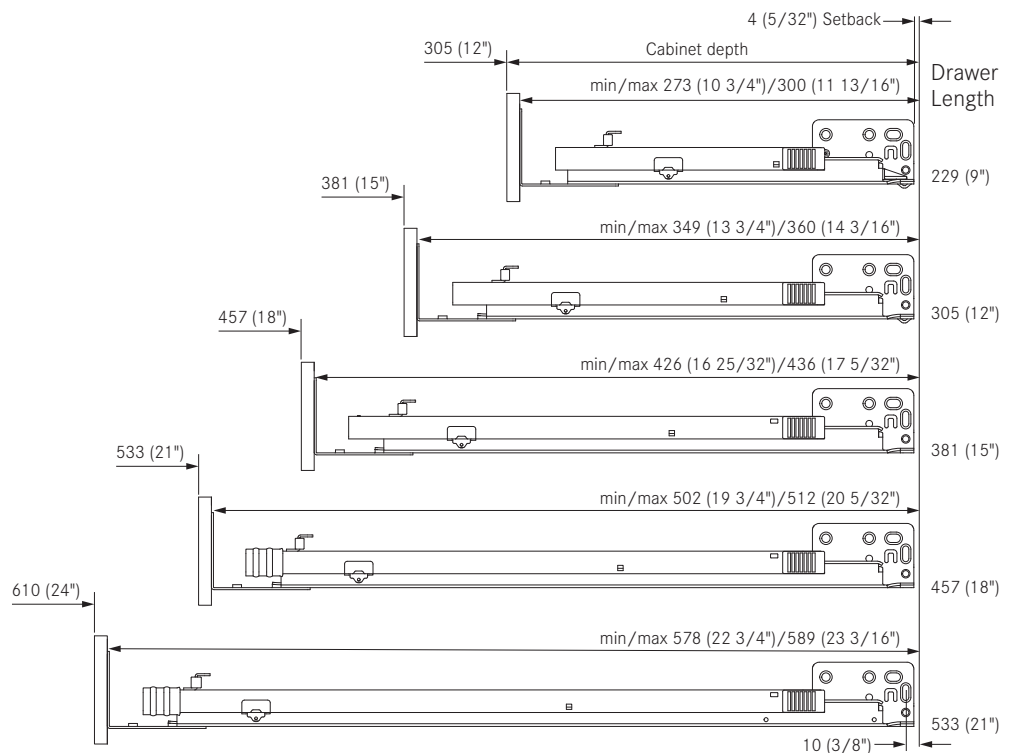
Cabinet Boring Specifications



For face frame applications only. Use a minimum of 3 screws per bracket, #6 x 1/2" truss head screws.

Pre-drilling recommended Ø2.5mm (3/32").
Note: The recommendations for screw placement are guidelines only. Installers need to ensure that the cabinet wall is adequate.

min/max = minimum/maximum installation depth



Maxcess 16, Frameless

Full Access for 16mm (5/8") drawer material



- Frameless applications from 12.7mm (1/2") up to 16mm (5/8") drawer material
- Zinc plated, roll formed steel components
- Precision, smooth-running synthetic roller carriages
- German technology liquid damper with smooth closing action
- Self-latching front locking devices have easy release levers for drawer removal and installation
- Height adjustment +2.5mm (3/32") with suitable front locking device
- Side adjustment ±1.5mm (1/16") with suitable front locking device
- Weight capacity: 75 lb dynamic; 100 lb static
- Meets and exceeds ANSI/BHMA A156.9 Standard, Grade 1

Maxcess 16, Frameless



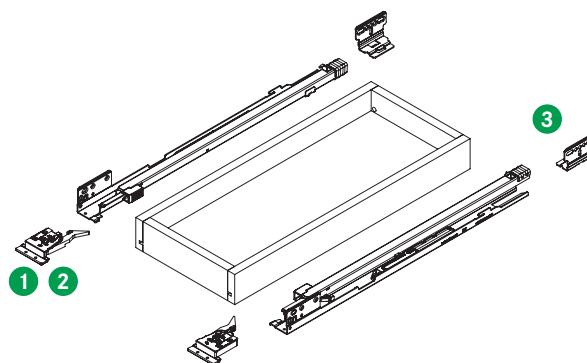
Drawer Length	Cab Mem Length	Min Installation Depth	Item No.	PU
381 (15")	392 (15 7/16")	426 (16 25/32")	13333-03	5
457 (18")	468 (18 7/16")	502 (19 3/4")	13334-03	5
533 (21")	545 (21 15/32")	578 (22 3/4")	13335-03	5
381 (15")	392 (15 7/16")	426 (16 25/32")	13333-12	200
457 (18")	468 (18 7/16")	502 (19 3/4")	13334-12	200
533 (21")	545 (21 15/32")	578 (22 3/4")	13335-12	200

Front Locking Devices and Rear Mounting Bracket



Description	Non-flanged Item No. (a)	Flanged Item No. (b)	PU
(Must order separately)			
1 7523 Front locking device, universal, 1D, kit*	02500-03	-	5
7523 Front locking device, universal, 1D, left	02498-12	02495-12	200
7523 Front locking device, universal, 1D, right	02499-12	02496-12	200
2 75X3 Front locking device, universal, 2D, left	80051-12	80053-12	200
75X3 Front locking device, universal, 2D, right	80052-12	80054-12	200
3 Maxcess - Euro rear mounting bracket, non-handed		13380-03	10
Maxcess - Euro rear mounting bracket, non-handed		13380-12	200

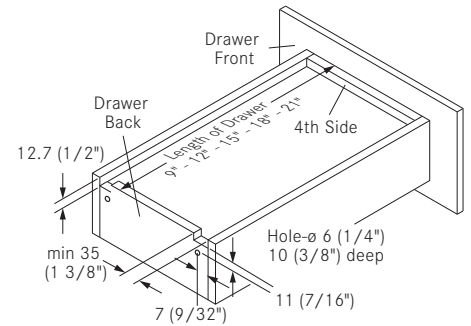
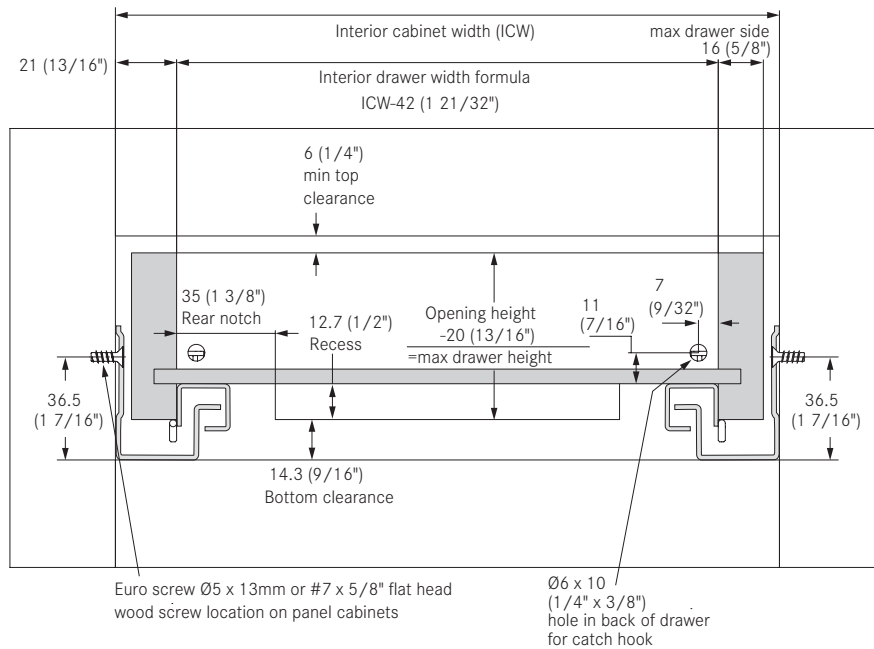
*Kit: Left/Right locking device, (4) #6 x 1/2" flat head Phillips screws



PU - Packaging unit

Drawer Installation Dimensions

Drawer Measurements

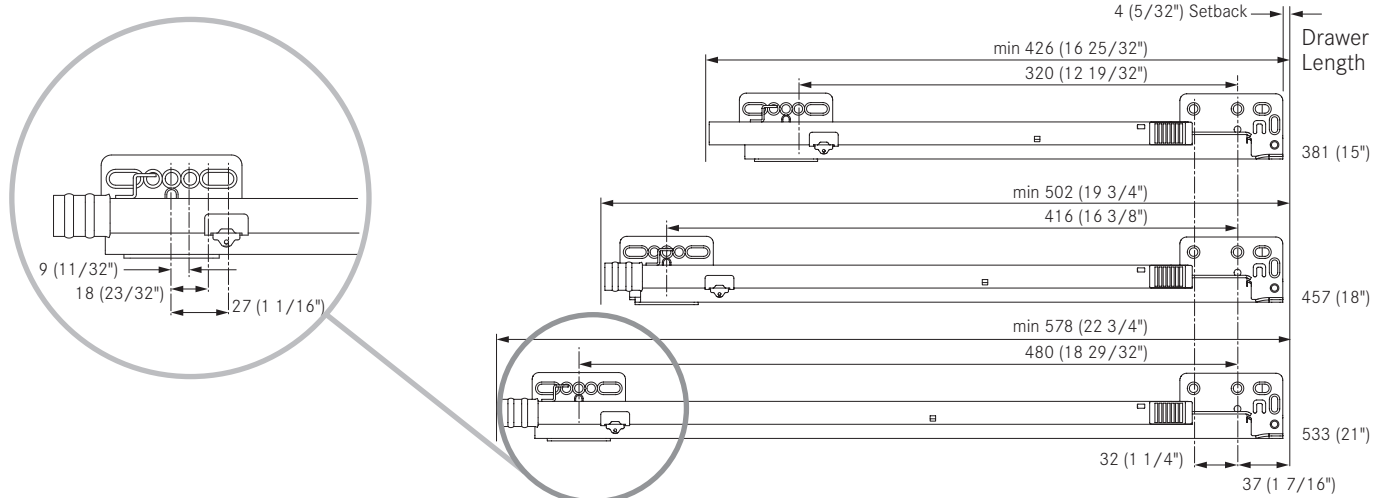


Cabinet Boring Specifications

Pre-drilling recommended Ø2.5mm (3/32").

Note: The recommendations for screw placement are guidelines only. Installers need to ensure that the cabinet wall is adequate.

min = minimum installation depth



Accessories and Assembly Aids

Maxcess

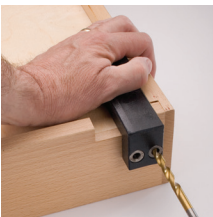
Drilling Template



- Use to precisely bore holes in the drawer back
- Use with a standard 6mm (1/4") drill bit and stop collar
- For use with Maxcess and Elite Plus



Left Side Drilling



Right Side Drilling

Description	Item No.	PU
Maxcess drilling template	02511-01	1

Assembly Aids



The non-flanged FLD drilling jig is used for mounting non-flange front locking devices to the drawer box for Dynapro, Dynapro2.0, Elite Plus, and Maxcess.

The Grass centering drill bit is used for pre-drilling countersink wood screws, Ø 2.5mm.



Description	Item No.	PU
1 Non-flanged FLD Drilling Jig	00004	1
2 Centering drill bit	35692-01	1

Maxcess

Screws

Euro Screw, Nickel-plated



Description	Item No.	PU
Euro Screw 11mm (7/16") Pozi	499.360.61.1015	500
Euro Screw 13mm (1/2") Pozi	499.360.61.3015	500

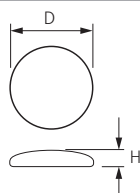
Wood Screw, Nickel-plated



Description	Item No.	PU
#6 x 5/8" FHP, NI	81001-43	500
#6 x 3/4" FHP, NI	81003-43	500

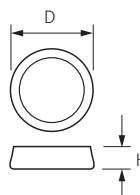
Bumper Pads

Bumper Pads, Self-adhesive



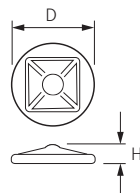
Description	Height	Diameter	Item No.	PU
Bumper pad, clear	2.5mm	10mm	63407-99	288
Bumper pad, clear	2.5mm	10mm	63407-47	7200

AirSoft Bumper Pads, Self-adhesive



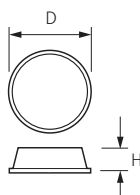
Description	Height	Diameter	Item No.	PU
AirSoft Bumper pad, clear	5mm	12.7mm	63481-43	500
AirSoft Bumper pad, clear	5mm	12.7mm	63483-30	5000

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	4mm	12mm	630.000.02.1250	5000

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	3mm	12.7mm	31002-43	500
Bumper pad, clear	1.5mm	12.7mm	31004-43	500

PU - Packaging unit



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www.grassusa.com
info@grassusa.com





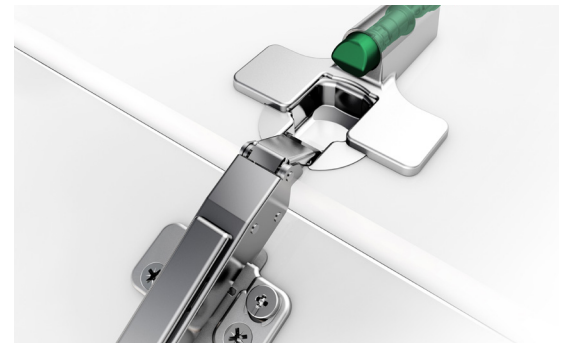
NEXIS

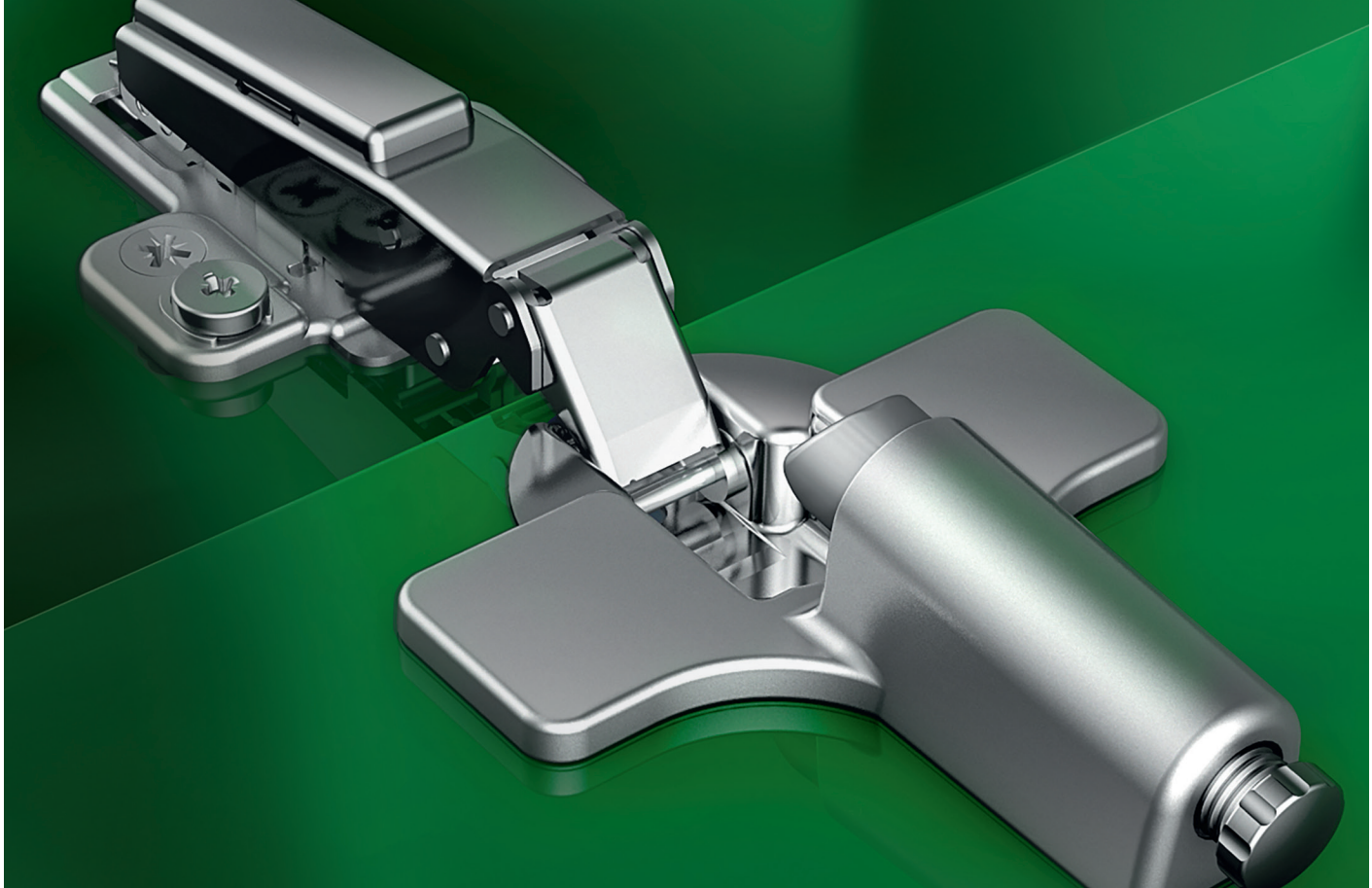


G*GRASS®

NEXIS HINGE SYSTEMS

Our versatile hinge systems offer added value through a number of design solutions, proven technology, functionality, and operating comfort.





The versatile Nexis hinge system offers snap-on installation technology for a variety of cabinetry applications with a Soft-close or Self-close closing action.

Reliable Snap-on hinges with opening angles from 95° to 170° for long-lasting everyday service.

The Nexis hinge series offers a wide variety of hinges for standard door applications, specialty door applications, and frame and frameless applications. Opening angle ranging from 95° to 170°, Nexis is offered in a screw-on and dowelled versions in 42mm, 45mm, 48mm boring patterns. The Nexis Impresso, tool-free installation, is offered in 42/45mm and 45/48mm boring patterns.

Nexis Snap-on hinges attach to Nexis base plates with an audible click. Installation is user-friendly and reliable. Just pressing down the hinge with a finger is enough to attach it to the base plate. The hinge can be detached from the Snap-on base plate by simply releasing it with the lever at the back of the hinge arm.



NEXIS HINGE SYSTEM

Snap-on technology:
Quick mounting, efficient, secure.



Nexis Impresso **Quick, simple, and reliable** **hardware without tools.**

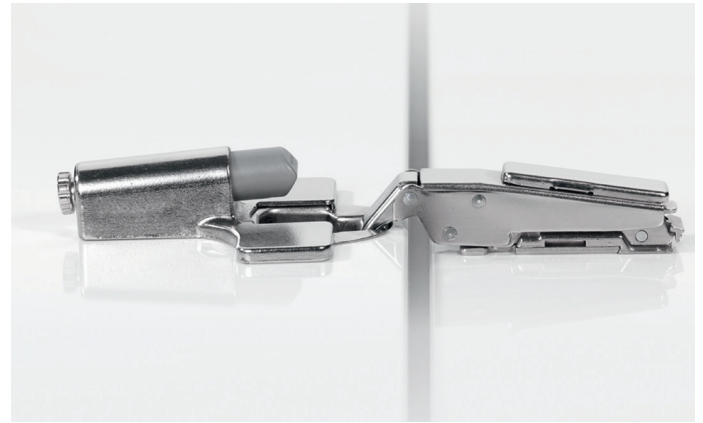
The Nexis Impresso hinge series is designed to assemble quickly and easily without tools. This is especially useful in cabinetry that is flat-packed and shipped unassembled with pre-drilled doors.

The Nexis Impresso hinge can be installed quickly and accurately on site. Simply insert the Nexis Impresso hinge into the bored door and close the hinge flap to engage. The hinge sits firmly and securely in the door and does not allow for twisting due to a 3 point connection of the hinge cup to the door.



Hinge cup with 'combination' **drilling pattern.**

All Impresso hinges are offered in a combination drilling pattern. Available combinations include a 42mm/45mm pattern and a 45mm/48mm pattern. Any Nexis Impresso hinge cup is suitable for at least two drilling patterns and covers all boring patterns offered in today's market.



Nexis - Proven technology **makes Nexis the classic choice** **among hinge systems.**

The Nexis hinge series offers added value through a number of design solutions that will meet any application requirements whether it be face frame or frameless. Choose from hinge opening angles ranging from 95° to 170° and from hinges designed for special applications such as blind corner and Pie-cut corner applications.

The Nexis series is available in a screw-on or dowelled version and is offered in a 42mm, 45mm, and 48mm boring pattern. The Nexis base plates offer cam adjustment,

3 point fixing, screw-on or Euro screw versions for face frame and frameless cabinetry. The plates mount easily in a user friendly snap-on method. Just one push connects the hinge to the plate.

Add a touch of innovation with **the unique Soft-close controlled** **closing device to bring a calming** **quiet to closing doors.**

During the closing action, the Soft-close creates a cushion that controls and slows the door to a gentle stop. The Soft-close device attaches easily without tools for a simple installation.

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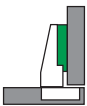
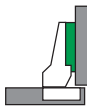
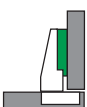
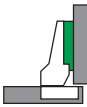
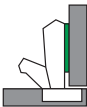
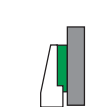
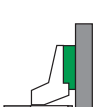
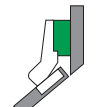
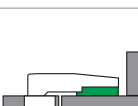
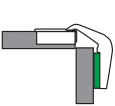
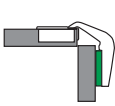
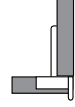
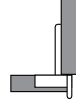
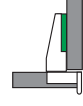
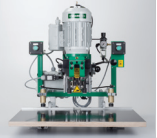
Opening Angle		Description	Full Overlay	Half Overlay	Inset	Page
		Features & Benefits				6
		Technical Information				8
110°		Nexis 110 - For standard doors - Soft-close compatible				14
125°		Nexis 125 - For standard doors - Soft-close compatible				16
170°		Nexis 170 - Wide-angle hinge with Zero protrusion - Soft-close compatible				18
95°		Nexis 95 - Designed for profile doors or thicker doors - Soft-close compatible				20
95°		Nexis 95/40 - Designed for profile doors - For thick doors up to 35mm thickness - Excellent load-bearing capacity 40mm cup drilling diameter				22
95°		Nexis 95/+45° - For +45° angle corner cabinet - Soft-close compatible		Corner Angle 		24
95°		Nexis 95/90 - For blind corner application - Soft-close compatible				26
110°		Nexis PCC - For Pie-cut corner application - For door thicknesses 16 to 22mm				28
110°		Nexis 21 PCC - For Pie-cut corner application - For door thicknesses 14 to 24mm - Full cup recess				30

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Opening Angle		Description	Full Overlay	Half Overlay	Inset	Page
		Nexis base plates For Nexis Impresso and Nexis hinges				32
		Soft-close Systems - Nexis Impresso - Nexis				36
		UniSoft - For all face frame applications - For full overlay frameless applications				39
		Institutional & Specialty Hinge Items				40
		Institutional hinge - For side panel thicknesses of 19mm (3/4") - Opening angles from 180° - 270°				42
270°		Nexis Slide-on 73 Institutional hinge - For door thicknesses 15 to 21mm - With wide-angle opening				44
		975 VZ PCC Pie-cut corner hinge				46
		Machinery GRASS PRO 1				48
		Accessories				50

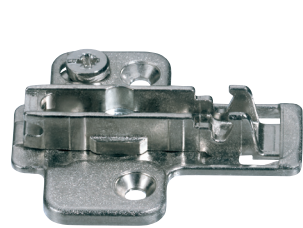
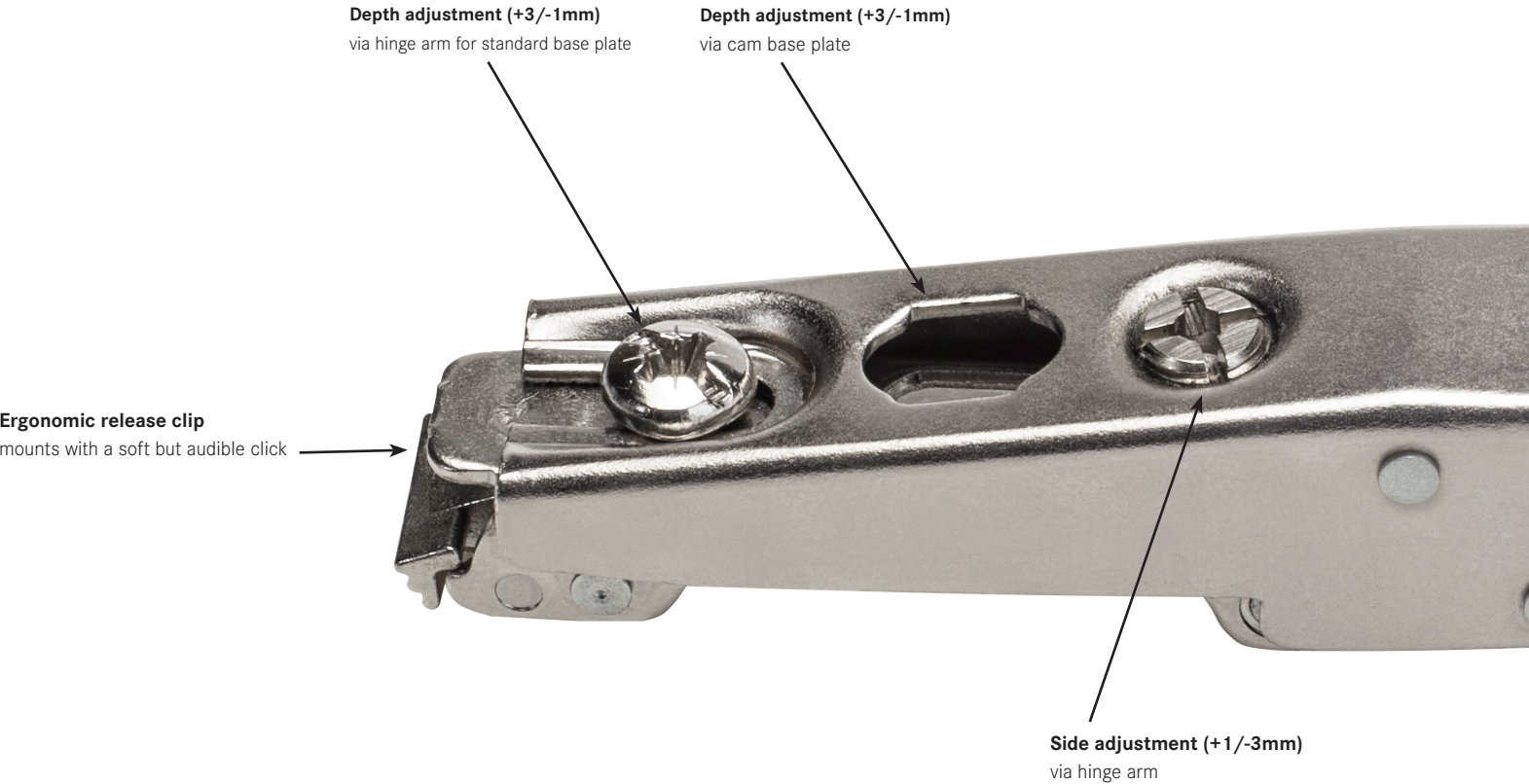
Features and Benefits

Nexis

Features



- Opening angles from 95° to 170°
- Self closing with tool-free Soft-close option
- Combination drilling patterns for Impresso
- Specialty applications for angled and Pie-cut doors



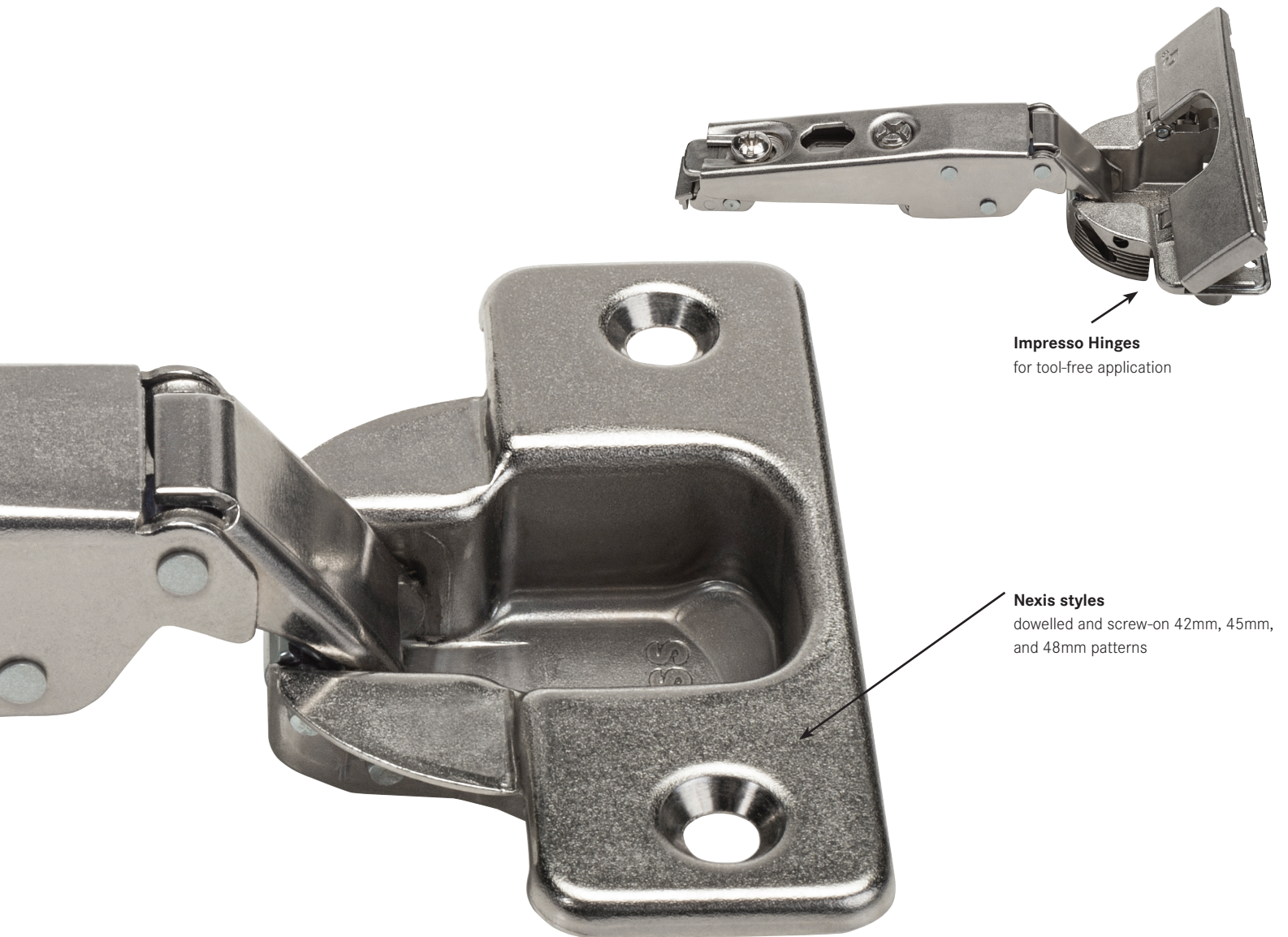
Height adjustment ($\pm 2\text{mm}$)
via cam base plate



Tool-free Soft-close option
cushion control for a slow gentle stop

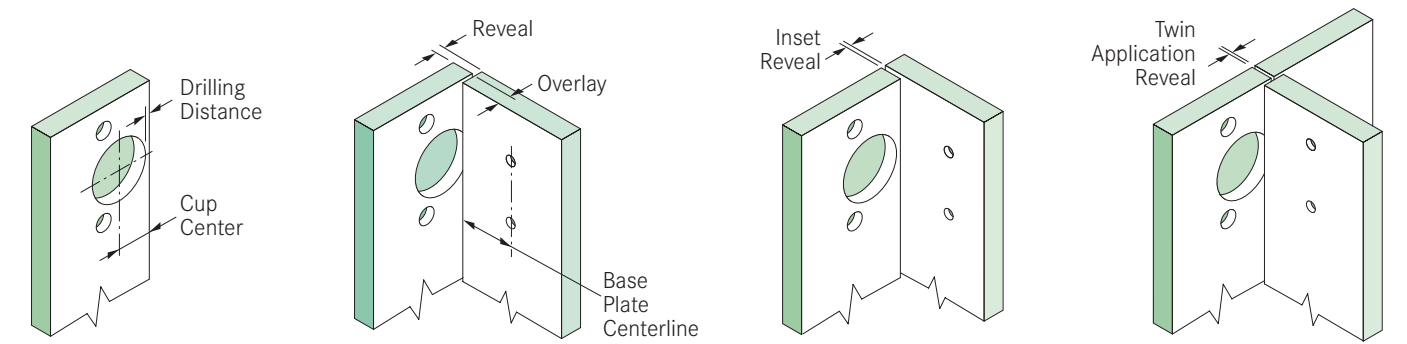
Features

- 3-dimensional adjustment with suitable base plate
 - Depth adjustment $\pm 3/-1$ mm
 - Height adjustment ± 2 mm
 - Side adjustment $\pm 1/-3$ mm
- For face frame or frameless cabinets
- Impresso for tool-free application
- 42mm, 45mm, and 48mm boring patterns



Technical Information

Nexis



Number of Hinges per Door

The number of hinges is determined by the door height, door weight, quality of the door material, and the fixing of the cup and base plate.

The load and height data refer to 24" standard door widths.

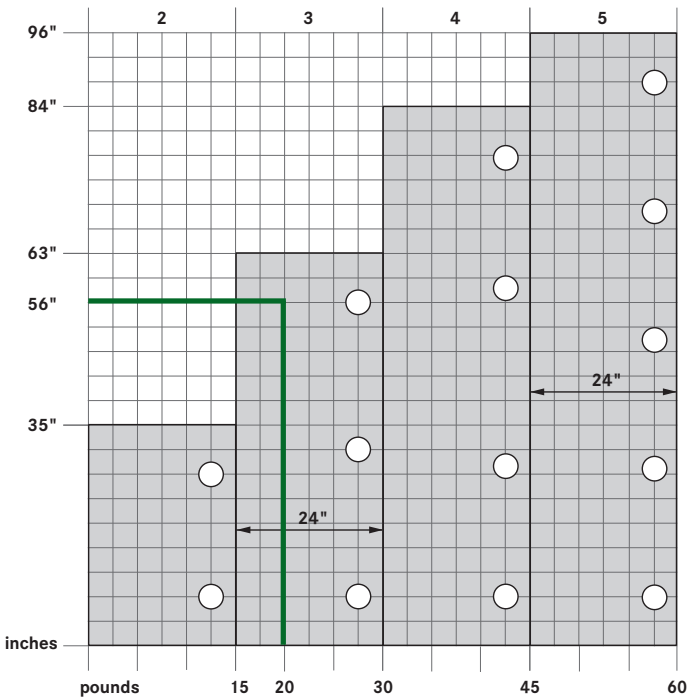
The table refers to hinges with and without integrated dampers. Grass strongly recommends a trial mount for all hinges and base plates.

Attach base plates using all available screw holes.

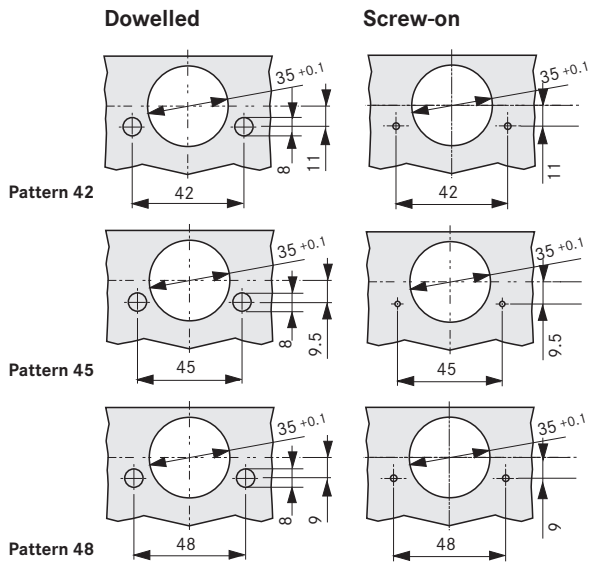
Example:
For doors measuring 56" x 24" and weighing 19 lb, Grass recommends the installation of 3 hinges.

Note: The distance between the top and bottom hinge must be greater than the width of the door.

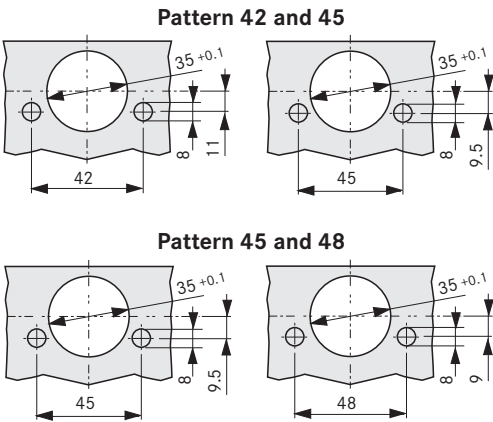
The **Nexis** hinge meets and exceeds the minimum requirements of ANSI/BHMA A156.9 Standard, Grade II unless otherwise specified.



Nexis Drilling Patterns Nexis Impresso Drilling Patterns



Impresso 42/45 hinges accommodate cup drilling patterns of both 42mm and 45mm.
Impresso 45/48 hinges accommodate cup drilling patterns of both 45mm and 48mm.



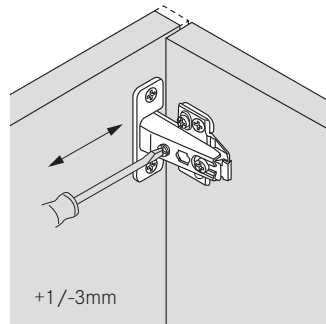
Adjustments

The options for height adjustment depend on the type of base plate. All adjustments can be made independent of one another.

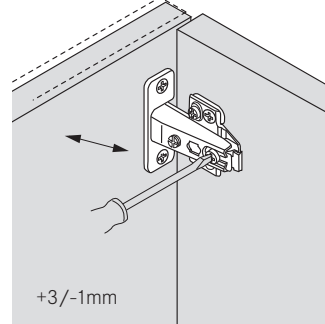
For depth adjustment, select base plates have cam adjustment access through the hinge arm.

Use a #2 POZI drive screwdriver for hinge adjustments.

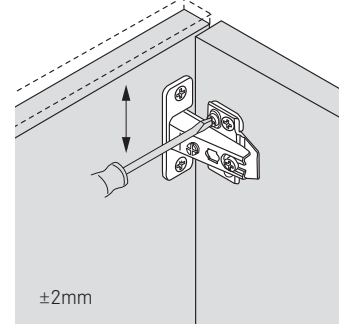
Attach base plates using all available screw holes.



Side adjustment



Depth adjustment



Height adjustment

Reveal

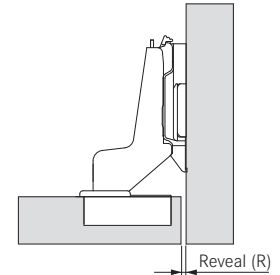
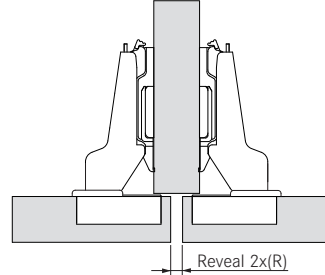
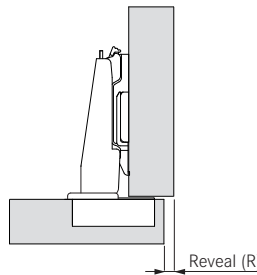
Full Overlay Door

Half Overlay Door

Inset Door

The reveal (R) is the distance required between two doors or between the door and side wall of the cabinet to allow sufficient space for opening the door. The required reveal width (R) depends on the thickness of the door.

Most cabinet makers prefer a reveal (R) of between 3mm and 6mm.



Reveal for Overlay and Half Overlay Doors

The table shows the reveal necessary between two doors or between door and side wall to allow enough space for opening the door.

Example:

For a door thickness of 18mm and a drilling distance of 6mm, a gap of 0.2mm is needed.

	Drilling Distance (DD)				
	3	4	5	6	
16	0.1	0.1	0.1	0.1	
18	0.2	0.2	0.2	0.2	
19	0.3	0.3	0.3	0.3	
20	0.4	0.4	0.4	0.4	
22	0.7	0.7	0.7	0.7	
24	1.0	1.0	1.0	1.0	
26	1.4	1.4	1.4	1.4	
28	1.9	1.9	1.9	1.9	
30	3.8	2.9	2.6	2.5	
Minimum Reveal (R)					

Reveal for Inset Door

The table shows the minimum reveal for an inset door, depending on the drilling distance and base plate height.

Example: A drilling distance of 4mm results from using a base plate with height 04 in a reveal of 2mm.

	Drilling Distance (DD)				
	3	4	5	6	
0		2		4	
1	2		4		
2		4			
Base Plate Height (BPH)					

Note:

Reveal dimensions were determined with a door edge radius of 1mm. Hinge dimensions and calculation of gap with factory setting.

IMPORTANT

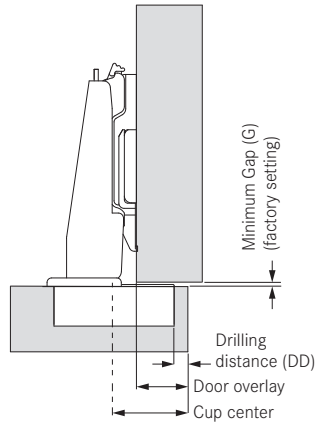
To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Technical Information

Nexis

Minimum GapDrilling Distance

The **Minimum Gap** is the gap between the closed door and the front of the cabinet.



Drilling Distance (DD)		Cup Center (CC)	
1/8"	3	13/16"	20.5
5/32"	4	27/32"	21.5
3/16"	5	7/8"	22.5
1/4"	6	15/16"	23.5
9/32"	7	31/32"	24.5
5/16"	8	1"	25.5

The **Drilling Distance (DD)** is the distance between the edge of the door and the edge of the cup hole.

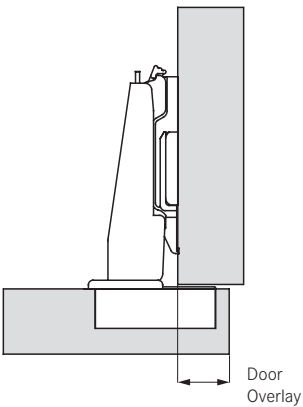
The **Cup Center** is the distance of the cup drilling distance plus 1/2 of the cup diameter.

Example:
For a door thickness (DT) of 26mm and a drilling distance (DD) of 6mm a minimum gap of 0.7mm is needed.

	Drilling Distance (DD)					
	3	4	5	6		
Door Thickness (DT)	16	0.5	0.5	0.5	0.5	
	18	0.5	0.5	0.5	0.5	
	19	0.5	0.5	0.5	0.5	
	20	0.0	0.0	0.0	0.5	
	22	1.4	2.4	3.4	0.5	
	24	0.5	0.5	0.5	0.5	
	26	0.5	0.5	0.5	0.7	
	28	0.5	0.5	0.5	0.9	
	30	0.5	0.5	1.1	1.1	
						Minimum Gap (G)

Door Overlay

The **door overlay** is the part of the cabinet side wall or face frame that is covered by the door on the hinge side.

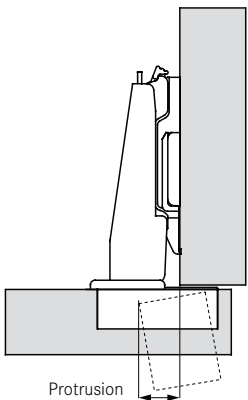


Example:
For a hinge with a cranking of 00, a base plate height (BPH) of 2mm, and a drilling distance (DD) of 4mm, the door overlay is 15mm.

	Drilling Distance (DD)					
	*3	4	5	6	7	
Door Overlay	20				0	
	19			0		
	18		0		2	
	17	0		2		
	16	0	2		4	
	15		2	4		
	14	2	4			
	13	4				
	12	4				
						Base Plate Height (BPH)

Door Edge Protrusion

The **door edge protrusion** is the amount by which the edge of the open door protrudes into the opening and varies depending on the type of hinge and method of fixing. It is stated on the respective catalog page and refers to the stated base plate for the factory setting. It can be changed by changing the height of the base plate and adjusting the lateral adjustment.

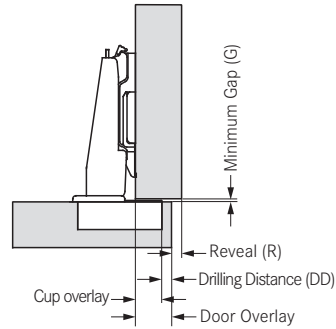


Door Positions

Achieve overlay with hinge cranking

Full Overlay (Cranking 00)

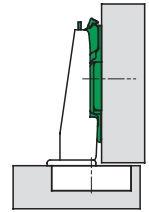
The cup overlay (factory setting) plus drilling distance determine the door overlay. Dimensions can be found in a table on the respective page of the catalog.



Achieve overlay with base plate

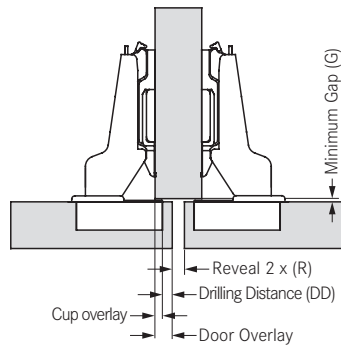
Full Overlay

Using a hinge with a cranking of 00 and a base plate height (BPH) 00



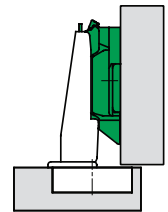
Half Overlay (Cranking 08)

The cup overlay (factory setting) plus drilling distance determine the door overlay. Dimensions can be found in a table on the respective page of the catalog.



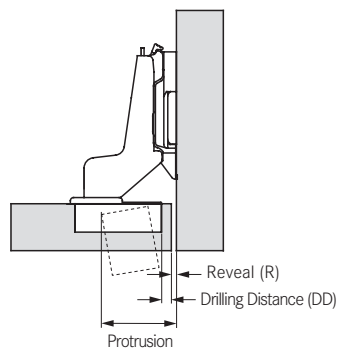
Half Overlay

Using a hinge with a cranking of 00 and a base plate height (BPH) 8.0



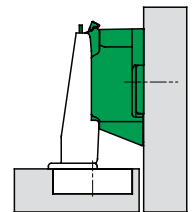
Inset (Cranking 15)

There is no door overlay. The reveal between the side of the cabinet and the door depends on the base plate height (BPH) and the drilling distance (DD). Dimensions can be found in a table on the respective page of the catalog.



Inset

Using a hinge with a cranking of 00 and a base plate height (BPH) 18



Insertion Instructions

Nexis 85° Reduction Clip

Instructions for 85° Angle Reduction Clip

Begin with hinge in the open position and not mounted on door.

With needle-nosed pliers grip sides of clip.



Insert clip over the roll pin.



Push clip in as you start to close hinge.
Clip will snap into place.

Hinge opening angle is reduced to 85°.



85° Reduction Clip



Description	Material	Item No.	PU
85° angle reduction clip	Black plastic	F069135032547	1000

Note: Nexis 85° Reduction Clip for standard 110° full and half overlay hinges. PU - Packaging unit

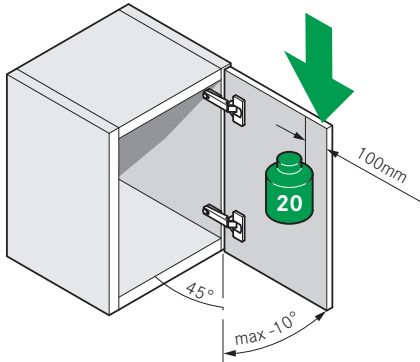
Testing Information

Nexis

Functional Test

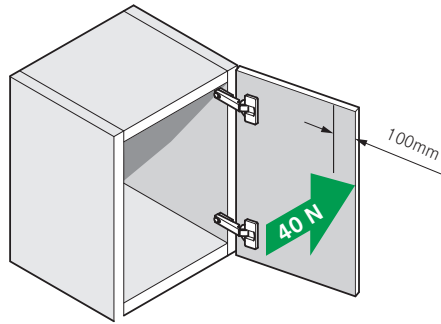
Static Load - vertical

Additional load: 44 lb (20 kg)
Opening angle: max -10°



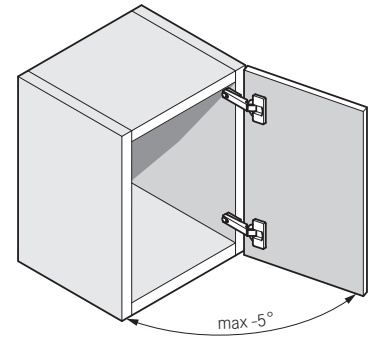
Static Load - horizontal

Force: 40 N



Endurance Test

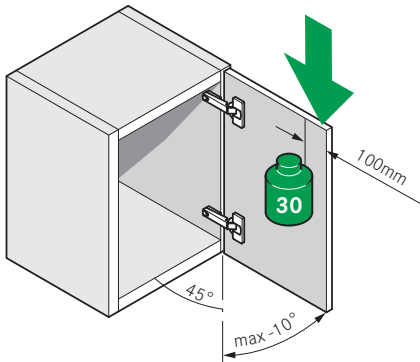
Opening angle: max -5°
Open and close movements: 100,000



Overload Testing

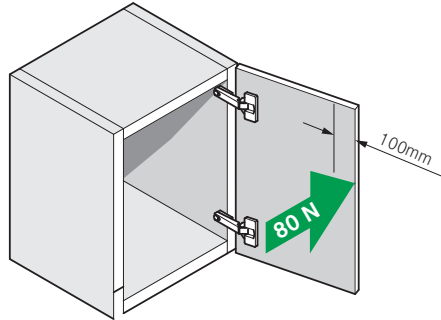
Vertical

Additional load: 66 lb (30 kg)
Opening angle: max -10°



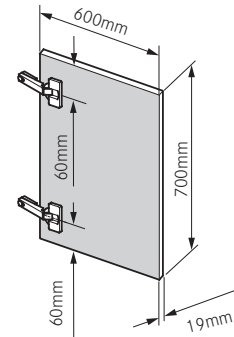
Horizontal

Force: 80 N



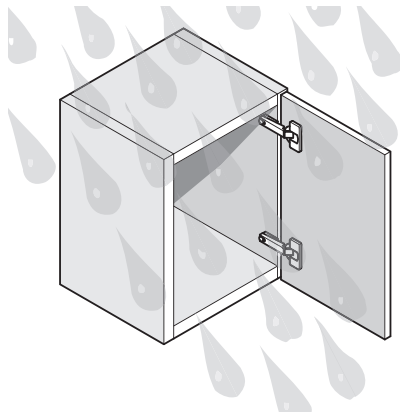
Test Door

Weight approximately 11.5 lb (5.2 kg)



Salt Spray and Humidity Test

Based on DIN ISO 9227 and DIN 6270-2

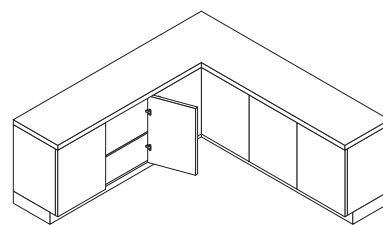


Nexis 110

110° hinge for standard doors



- 3-dimensional adjustment with suitable base plate
- Soft-close ad-on available
- Shallow cup depth
 - Nexis Impresso 11.5mm
 - Nexis 11mm
- Accommodates overlays up to 20mm (25/32")
- For face frame and frameless cabinets
- Combination drilling pattern for Nexis Impresso



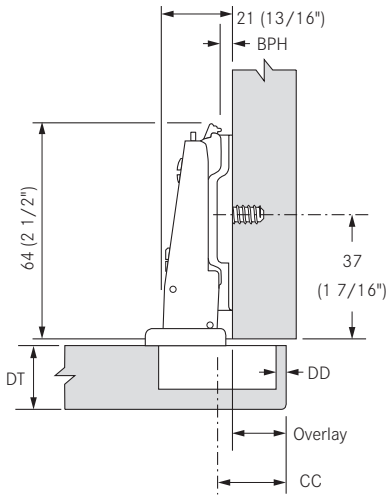
Nexis 110 Opening Angle 110°		Impresso				Screw-On		Dowelled		
Full Overlay	Cranking 00	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU
	Nexis Impresso:	42/45	Self-close	F014072544 225	125	42	Self-close	F015072926 236	F015072925 236	250
	Hinge cup: diecast, nickel-plated	45/48	Self-close	F014072520 225	125	45	Self-close	F015072632 236	F015072631 236	250
	Hinge arm: steel, nickel-plated					48	Self-close	F015072811 236	F015072810 236	250
	Nexis:									
	Hinge cup: steel, nickel-plated									
	Hinge arm: steel, nickel-plated									
Half Overlay	Cranking 08	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU
	Nexis Impresso:	42/45	Self-close	F014072547 225	125	42	Self-close	-	F015072933 236	250
	Hinge cup: diecast, nickel-plated	45/48	Self-close	F014072522 225	125	45	Self-close	148.322.53.0815	F015072633 236	250
	Hinge arm: steel, nickel-plated					48	Self-close	F015072818 236	-	250
	Nexis:									
	Hinge cup: steel, nickel-plated									
	Hinge arm: steel, nickel-plated									

Cover Cap	Cranking 00	Item No.	PU	85° Angle Reduction Clip	Item No.	PU	
	Steel, nickel-plated	F069073683 247	1000		Black plastic for full and	F069135032 547	1000

Cover Cap	For Nexis Hinges	Item No.	PU	Wood Screw, Nickel-plated	Item No.	PU
	Black plastic	F069073497 261	1000		#6 x 5/8" FHP, NI 81001-43	500

PU - Packaging unit

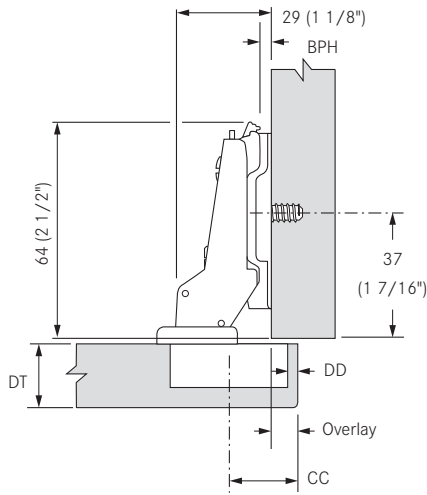
Full Overlay



Drawings show Nexis with a base plate, (BPH) 02.

Door Overlay	Drilling Distance (DD)					
	*3	4	5	6	7	
	20				0	
	19			0		
	18		0		2	
	17	0		2		
	16	0	2		4	
	15	2		4		
	14	2	4			
	13	4				
	12	4				
Base Plate Height (BPH)						

Half Overlay



Drawings show Nexis with a base plate, (BPH) 02.

Door Overlay	Drilling Distance (DD)					
	*3	4	5	6	7	
	12				0	
	11			0		
	10		0		2	
	9	0		2		
	8	0	2		4	
	7	2		4		
	6	2	4			
	5	4				
	4	4				
Base Plate Height (BPH)						

Note:

*3mm drilling distance for Nexis only.

Minimum Gaps

Door Thickness (DT)	Drilling Distance (DD)					
	*3	4	5	6	7	
	16	0.5	0.6	1.6	2.6	3.6
	18	0.5	1.2	2.2	3.2	4.2
	19	0.5	1.5	2.5	3.5	4.5
	20	0.8	1.8	2.8	3.8	4.8
	22	1.4	2.4	3.4	4.4	5.4
Minimum Gap (G)						

Minimum Reveal

Door Thickness (DT)	Drilling Distance (DD)					
	*3	4	5	6	7	
	16	0.5	0.5	0.5	0.5	0.5
	18	1.0	1.0	1.0	1.0	1.0
	19	1.2	1.2	1.2	1.2	1.2
	20	2.2	1.5	1.5	1.5	1.5
	22	4.7	3.7	2.8	2.1	2.1
Minimum Reveal (R)						

Note: Reveal dimensions were determined with an edge radius (of the door) of 1mm. Hinge dimensions and reveal calculation based on factory setting.

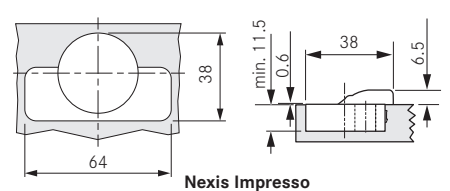
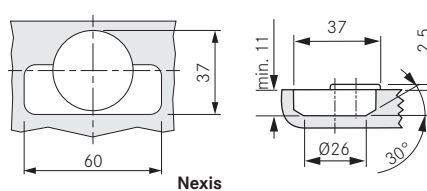
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
R = Reveal

Cup Dimensions

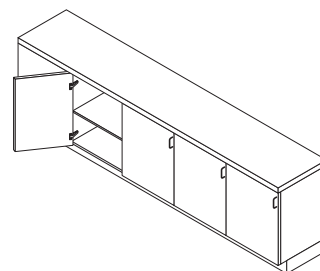


Nexis 125

125° hinge for standard doors



- 3-dimensional adjustment with suitable base plate
- Soft-close add-on available
- Accommodates overlays up to 19mm (3/4")
- For door thickness up to 19mm (3/4")
- Alternative solution for wide angle application
- For face frame and frameless cabinets
- Combination drilling pattern for Nexis Impresso



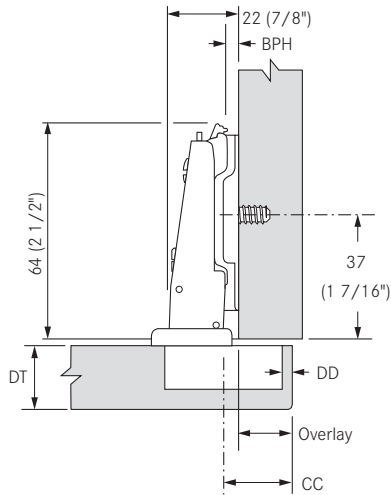
Nexis 125 Opening Angle 125°		Impresso				Screw-On		Dowelled		
Full Overlay	Cranking 00	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU
 Nexis Impresso: Hinge cup: diecast, nickel-plated Hinge arm: steel, nickel-plated Nexis: Hinge cup: steel, nickel-plated Hinge arm: steel, nickel-plated		45/48	Self-close	F014072524 225	125	42	Self-close	-	F015072937 236	250
						45	Self-close	148.329.31.0015	F015072636 236	250

Cover Cap	Cranking 00	Item No.	PU
	Steel, nickel-plated	F069073683 247	1000

Cover Cap	For Nexis Hinges	Item No.	PU	Wood Screw, Nickel-plated	Item No.	PU
	Black plastic	F069073497 261	1000	 #6 x 5/8" FHP, NI	81001-43	500

PU - Packaging unit

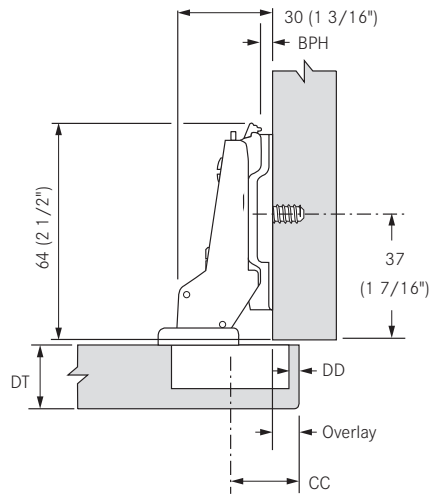
Full Overlay



Drawings show Nexis with a base plate, (BPH) 02.

	Drilling Distance (DD)				
	*3	4	5	6	
19				0	
18			0		
17		0		2	
16	0		2		
15		2		4	
14	2		4		
13		4			
12	4				
	Base Plate Height (BPH)				

Half Overlay



Drawings show Nexis with a base plate, (BPH) 02.

	Drilling Distance (DD)				
	*3	4	5	6	
9		0		2	
8	0		2		
7		2		4	
6	2		4		
5		4			
4	4				
	Base Plate Height (BPH)				

Note:

*3mm drilling distance for Nexis only.

Minimum Gaps

	Drilling Distance (DD)				
	*3	4	5	6	
16	0.5	0.6	1.6	2.6	
18	1.3	2.1	2.9	3.7	
19	1.9	2.7	3.5	4.3	
20	2.4	3.2	4.0	4.8	
	Minimum Gap (G)				

The minimum gap is the gap between the closed door and the front of the cabinet.

Minimum Reveal

	Drilling Distance (DD)				
	*3	4	5	6	
16	1.9	1.9	1.9	1.9	
18	2.8	2.6	2.5	2.5	
19	4.6	3.6	3.0	2.9	
20	6.5	5.5	4.5	3.5	
	Minimum Reveal (R)				

Note: Reveal dimensions were determined with an edge radius (of the door) of 1mm. Hinge dimensions and reveal calculation based on factory setting.

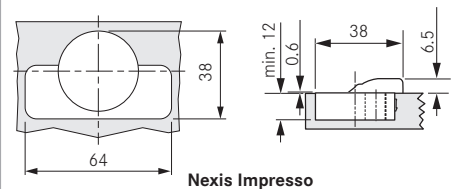
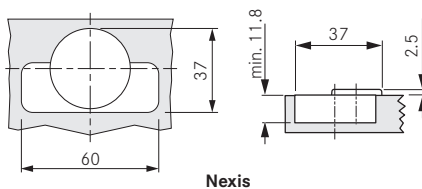
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
R = Reveal

Cup Dimensions

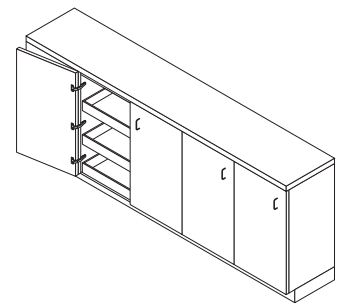


Nexis 170

170° wide-angle hinge



- 3-dimensional adjustment with suitable base plate
- Soft-close add-on available
- Accommodates overlays up to 19mm (3/4")
- Shallow cup depth (11mm) for Nexis and Nexis Impresso
- Zero protrusion when door opened 90°
- Finger protection
- For face frame and frameless cabinets
- Combination drilling pattern for Nexis Impresso



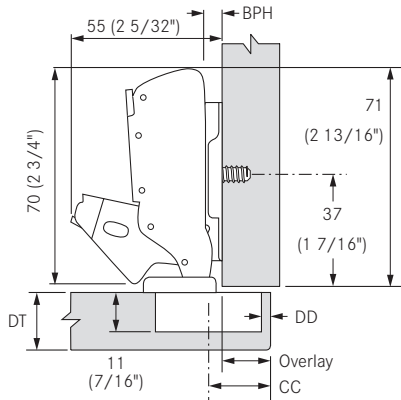
Nexis 170 Opening Angle 170°		Impresso				Screw-On		Dowelled		
Full Overlay	Cranking 00	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU
	Nexis Impresso:	42/45	Self-close	F014072550217	50	42	Self-close	F015072951217	F015072949217	50
	Hinge cup: diecast, nickel-plated	45/48	Self-close	F014072530217	50	45	Self-close	F015072648217	F015072647217	50
	Nexis:					48	Self-close	F015072842217	F015072840217	50
	Hinge cup: diecast, nickel-plated									
	Hinge arm: diecast, nickel-plated									
Half Overlay	Cranking 08	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU
	Nexis:					45	Self-close	-	F015072651217	50
	Hinge cup: diecast, nickel-plated									
	Hinge arm: diecast, nickel-plated									

120° Angle Reduction Clip	Item No.	PU	Wood Screw, Nickel-plated	Item No.	PU
	F069073402236	250		81001-43	500
	F069073401253	2500			
Black plastic. Opening angle reduction to 120°. Prevents doors from bumping with the cabinet side in inset applications and mitered corner applications.			#6 x 5/8" FHP, NI		

Zero Protrusion	Special Applications with Angle Reduction Clip	
	Zero protrusion for application with inset drawers. With 00 cranking and 00 height of base plate, the door is flush with the cabinet at 90°.	
	3/8" Lip Base plate 08 Hinge cranking 08	Mitered Corner Base plate 08 Hinge cranking 08

PU - Packaging unit

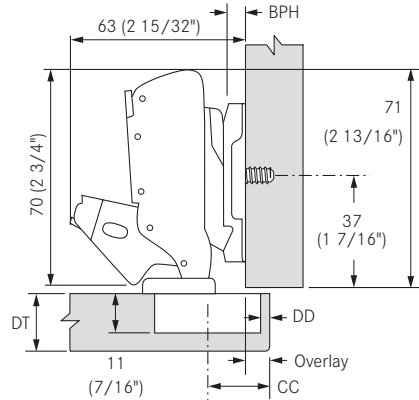
Full Overlay



Drawings show Nexis with a base plate, (BPH) 02.

Door Overlay	Drilling Distance (DD)					
	3	4	5	6	7	8
	21					0
	20				0	
	19			0		2
	18		0		2	
	17	0		2		4
	16	0	2		4	
	15	2		4		
	14	2	4			
	13	4				
	12	4				
	Base Plate Height (BPH)					

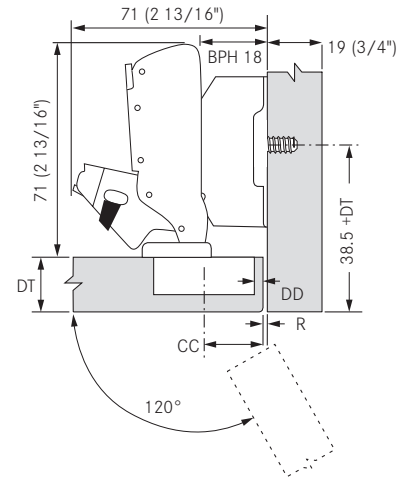
Half Overlay



Drawings show Nexis with a base plate, (BPH) 02.

Door Overlay	Drilling Distance (DD)					
	3	4	5	6	7	8
	13					0
	12				0	
	11			0		2
	10		0		2	
	9	0		2		4
	8	0	2		4	
	7	2		4		
	6	2	4			
	5	4				
	Base Plate Height (BPH)					

Inset



Drawings show Nexis with a base plate, (BPH) 18. and angle reduction clip

Reveal (R)	Drilling Distance (DD)			
	3	4	5	
	0		18	
	1	18		
	2	18		
	Base Plate Height (BPH)			

Note:

Drilling distance 3mm for Nexis and Nexis Impresso
A door stop is needed to prevent over close.

Minimum Gaps

Door Thickness (DT)	Drilling Distance (DD)					
	3	4	5	6	8	10
	16	0.7	0.7	0.7	0.7	0.7
	18	0.7	0.7	0.7	0.7	0.7
	19	0.7	0.7	0.7	0.7	0.7
	20	0.7	0.7	0.7	0.7	0.7
	22	0.7	0.7	0.7	0.7	0.7
	23	0.7	0.7	0.7	0.7	0.7
	24	0.7	0.7	0.7	0.7	0.7
	25	0.7	0.7	0.7	0.7	0.7
	26	0.7	0.7	0.7	0.7	0.7
	Minimum Gap (G)					

The minimum gap is the gap between the closed door and the front of the cabinet.

Minimum Reveal

Door Thickness (DT)	Drilling Distance (DD)					
	3	4	5	6	7	8
	16	0.0	0.0	0.0	0.0	0.0
	18	0.0	0.0	0.0	0.0	0.0
	19	0.0	0.0	0.0	0.0	0.0
	20	0.0	0.0	0.0	0.0	0.0
	22	0.0	0.0	0.0	0.0	0.0
	23	0.0	0.0	0.0	0.0	0.0
	24	0.0	0.0	0.5	1.8	2.0
	25	6.5	6.5	6.0	5.5	4.8
	26	10.5	9.5	8.5	7.5	6.5
	Minimum Reveal (R)					

Note: Reveal dimensions were determined with an edge radius (of the door) of 1mm.
Hinge dimensions and reveal calculation based on factory setting.

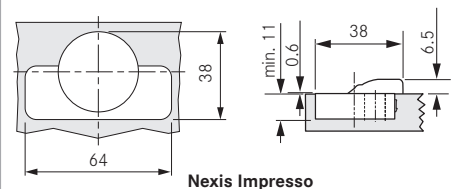
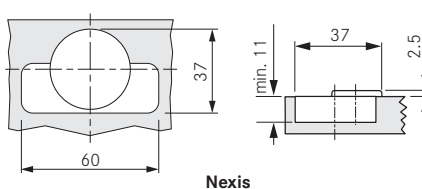
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
R = Reveal

Cup Dimensions

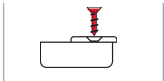
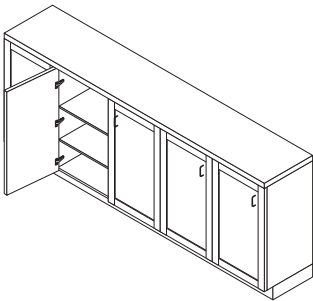


Nexis 95

95° hinge for thick or profile doors



- 3-dimensional adjustment with suitable base plate
- Soft-close add-on available
- Accommodates overlays up to 19mm (3/4")
- Minimal gap dimensions on thick doors
- For door thickness up to 30mm (1 3/16")
- Self-close or free-swing hinges available
- For face frame and frameless cabinets



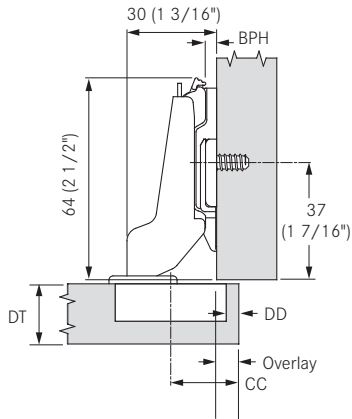
Nexis 95		Opening Angle 95°		Screw-On		
Half Overlay	Cranking 08	Pattern	Type	Item No.	PU	
	Hinge cup: steel, nickel-plated Hinge arm: steel, nickel-plated	48	Self-close	F015072760236	250	
		48	Free-swing	F015072762236	250	

Cover Cap	Cranking 00	Item No.	PU
	Steel, nickel-plated	F069073683247	1000

Cover Cap	For Nexis Hinges	Item No.	PU	Wood Screw, Nickel-plated	Item No.	PU
	Black plastic	F069073497261	1000	 #6 x 5/8" FHP, NI	81001-43	500

PU - Packaging unit

Half Overlay



	Drilling Distance (DD)				
	*3	4	5	6	
11				0	
10			0		
9		0		2	
8	0		2		
7		2		4	
6	2		4		
5		4			
4	4				
	Base Plate Height (BPH)				

Note:

*3mm drilling distance for Nexis only.

Minimum Gaps

	Drilling Distance (DD)				
	3	4	5	6	
16	0.5	0.5	0.5	0.5	
18	0.5	0.5	0.5	0.5	
19	0.5	0.5	0.5	0.5	
20	0.5	0.5	0.5	0.5	
22	0.5	0.5	0.5	0.5	
23	0.5	0.5	0.5	0.5	
24	0.5	0.5	0.5	0.5	
26	0.5	0.5	0.5	0.7	
28	0.5	0.5	0.5	0.9	
30	0.5	0.5	1.1	1.1	
	Minimum Gap (G)				

The minimum gap is the gap between the closed door and the front of the cabinet.

Minimum Reveal

	Drilling Distance (DD)				
	3	4	5	6	
16	0.1	0.1	0.1	0.1	
18	0.2	0.2	0.2	0.2	
19	0.3	0.3	0.3	0.3	
20	0.4	0.4	0.4	0.4	
22	0.7	0.7	0.7	0.7	
24	1.0	1.0	1.0	1.0	
26	1.4	1.4	1.4	1.4	
28	1.9	1.9	1.9	1.9	
30	3.8	2.9	2.6	2.5	
	Minimum Reveal (R)				

Note: Reveal dimensions were determined with an edge radius (of the door) of 1mm. Hinge dimensions and reveal calculation based on factory setting.

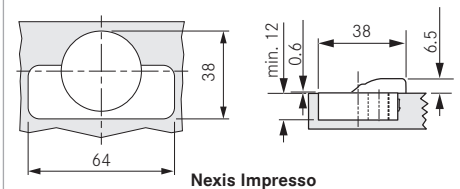
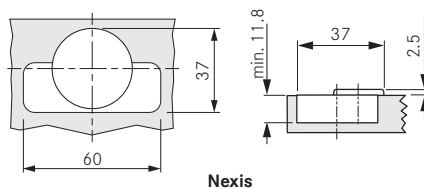
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
R = Reveal

Cup Dimensions

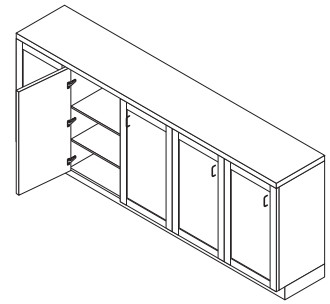


Nexis 95/40

95° hinge with 40mm cup for profile doors

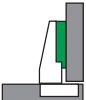


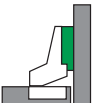
- 3-dimensional adjustment with suitable base plate
- Accommodates door overlays up to 23mm (7/8")
- Minimal gap dimensions on thick doors
- Excellent weight capacity for heavy profile doors
- For profile or frame doors up to 36mm thick
- Special spring mechanism ensures excellent closing force - even with large doors
- Not Soft-close compatible
- For face frame and frameless cabinets



Nexis 95/40 Opening Angle 95°

Screw-On

Full overlay	Cranking 00	Pattern	Type	Item No.	PU
	Hinge cup: steel, nickel-plated Hinge arm: steel, nickel-plated	48	Self-close	F015072820225	125

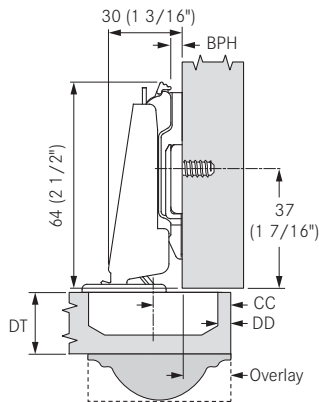
Inset	Cranking 15	Pattern	Type	Item No.	PU
	Hinge cup: steel, nickel-plated Hinge arm: steel, nickel-plated	48	Self-close	F015072823225	125

Cover Cap	Cranking 00	Item No.	PU
	Steel, nickel-plated	F069073683247	1000

Cover Cap	For Nexis Hinges	Item No.	PU	Wood Screw, Nickel-plated	Item No.	PU
	Black plastic	F069073497261	1000	 #6 x 5/8" FHP, NI	81001-43	500

PU - Packaging unit

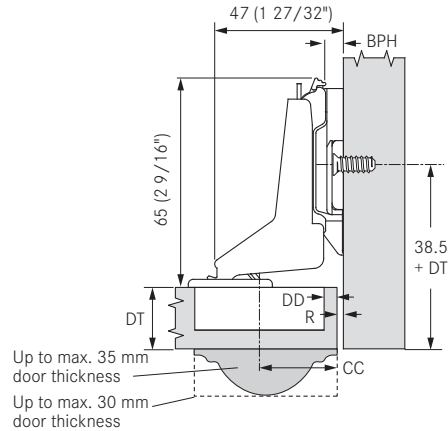
Full Overlay



Drawings show Nexis with a base plate, (BPH) 02.

Drilling Distance (DD)		3	4	5	6	7	8	9	10	11
Door Overlay	23								0	
	22							0		2
	21						0		2	
	20					0		2		4
	19				0		2		4	
	18			0		2		4		
	17		0		2		4			
	16	0		2		4				
	15		2		4					
	14	2		4						
	13		4							
		Base Plate Height (BPH)								

Inset



Drawings show Nexis with a base plate, (BPH) 04.

Drilling Distance (DD)		3	4	5	6
Reveal (R)	0		2		4
	1	2		4	
	2		4		
	Base Plate Height (BPH)				

Note:

A door stop is needed to prevent over close.

Minimum Gaps

Drilling Distance (DD)		3-10			
Door Thickness (DT)	20	0.0	0.0	0.0	0.0
	22	0.0	0.0	0.0	0.0
	23	0.0	0.0	0.0	0.0
	24	0.0	0.0	0.0	0.0
	26	0.0	0.0	0.0	0.0
	28	0.0	0.0	0.0	0.0
	30	0.0	0.0	0.0	0.0
	32	0.0	0.0	0.0	0.0
	34	0.0	0.0	0.0	0.0
	36	0.0	0.0	0.0	0.0
	Minimum Gap (G)				

The minimum gap is the gap between the closed door and the front of the cabinet.

Minimum Reveal

Drilling Distance (DD)		3	4	5	6	8	10
Door Thickness (DT)	20	0.1	0.1	0.1	0.1	0.1	0.1
	22	0.2	0.2	0.2	0.2	0.2	0.2
	24	0.3	0.3	0.3	0.3	0.3	0.3
	26	0.4	0.4	0.4	0.4	0.4	0.4
	28	0.6	0.6	0.6	0.6	0.6	0.6
	30	0.8	0.8	0.8	0.8	0.8	0.8
	32	2.1	1.1	1.1	1.1	1.1	1.1
	34	4.2	3.1	2.3	1.6	1.4	1.4
	36	6.5	5.2	4.2	3.5	2.2	1.7
	Minimum Reveal (R)						

Note: Reveal dimensions were determined with an edge radius (of the door) of 1mm. Hinge dimensions and reveal calculation based on factory setting.

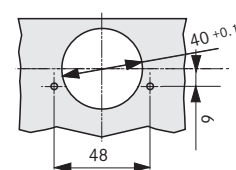
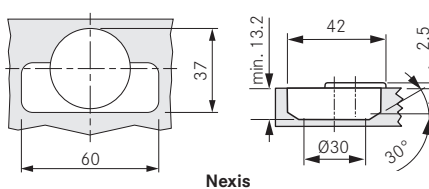
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
R = Reveal

Cup Dimensions

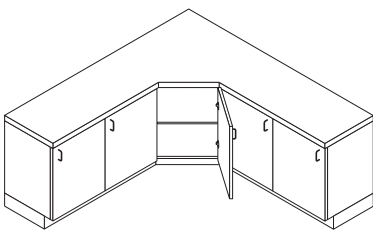


Nexis 95/+45°

+45° angle corner cabinet hinge



- 3-dimensional adjustment with suitable base plate
- Soft-close add-on available
- Minimal gap dimensions on door thickness of up to 30mm
- For 45° angle corner cabinets
- Combination drilling pattern for Nexis Impresso

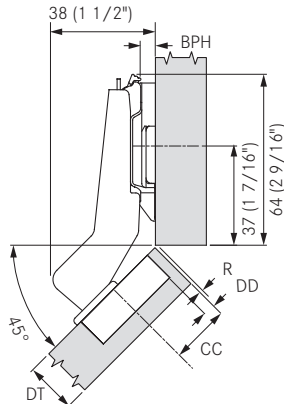


+45° Angle Opening Angle 95°		Impresso		Screw-On	Dowelled	
Inset		Pattern	Type	Item No.	Item No.	PU
	Nexis Impresso: Hinge cup: diecast, nickel-plated Hinge arm: diecast, nickel-plated	45	Self-close	F015072613225	-	125
		48	Self-close	F015072751225	F015072750225	125

Cover Cap	For Nexis Hinges	Item No.	PU	Wood Screw, Nickel-plated	Item No.	PU
	Black plastic	F069073497261	1000		#6 x 5/8" FHP, NI 81001-43	500

PU - Packaging unit

Corner Angle

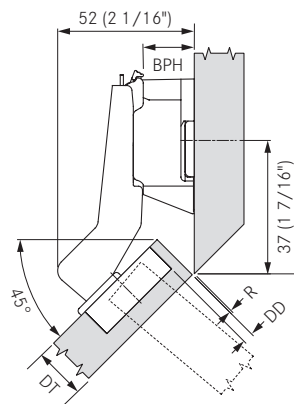


Drawings show Nexis with a base plate, (BPH) 04.

Drilling Distance (DD)

*3	4	5	6	
	2		4	
Base Plate Height (BPH)				

Inset



Drawings show Nexis with a base plate, (BPH) 18.

Note:

*3mm drilling distance for Nexis only.

Minimum Gaps

	Drilling Distance (DD)				
	3	4	5	6	
16	0.5	0.5	0.5	0.5	
18	0.5	0.5	0.5	0.5	
19	0.5	0.5	0.5	0.5	
20	0.5	0.5	0.5	0.5	
22	0.5	0.5	0.5	0.5	
23	0.5	0.5	0.5	0.5	
24	0.5	0.5	0.5	0.5	
26	0.5	0.5	0.5	0.7	
28	0.5	0.5	0.5	0.9	
30	0.5	0.5	1.1	1.1	
	Minimum Gap (G)				

The minimum gap is the gap between the closed door and the front of the cabinet.

Minimum Reveal

	Drilling Distance (DD)			
	3	4	5	6
16	0.1	0.1	0.1	0.1
18	0.2	0.2	0.2	0.2
19	0.3	0.3	0.3	0.3
20	0.4	0.4	0.4	0.4
22	0.7	0.7	0.7	0.7
24	1.0	1.0	1.0	1.0
26	1.4	1.4	1.4	1.4
28	1.9	1.9	1.9	1.9
30	3.8	2.9	2.6	2.5
	Minimum Reveal (R)			

Note: Reveal dimensions were determined with an edge radius (of the door) of 1mm. Hinge dimensions and reveal calculation based on factory setting.

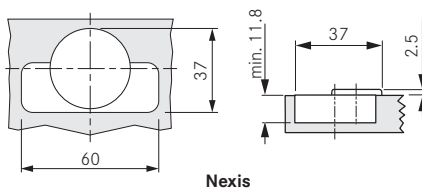
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

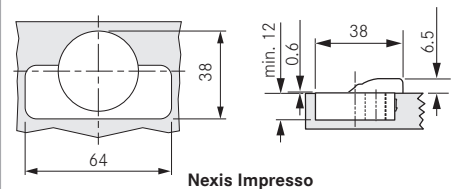
Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
R = Reveal

Cup Dimensions



Nexis



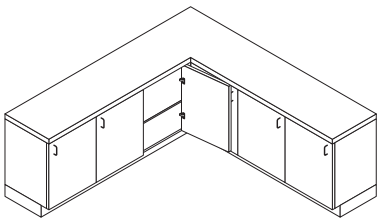
Nexis Impresso

Nexis 95/90°

95° post hinge for blind corner cabinet



- 3-dimensional adjustment with suitable base plate
- Soft-close add-on available
- Minimal gap dimensions on door thickness of up to 30mm
- For blind corner cabinets

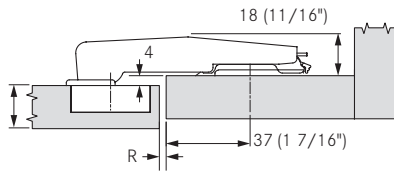


Blind Corner Opening Angle 95°		Screw-On		Dowelled		
Overlay		Pattern	Type	Item No.	Item No.	PU
	Hinge cup: steel, nickel-plated Hinge arm: diecast, nickel-plated	45	Self-close	F015072622 225	148.405.54.1915	125

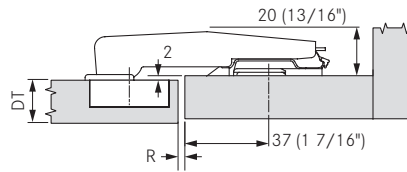
Cover Caps	For Nexis Hinges	Item No.	PU	Wood Screw, Nickel-plated	Item No.	PU
	Black plastic	F069073497 261	1000		#6 x 5/8" FHP, NI 81001-43	500

PU - Packaging unit

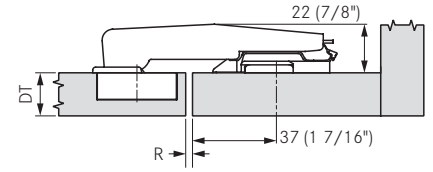
Inset



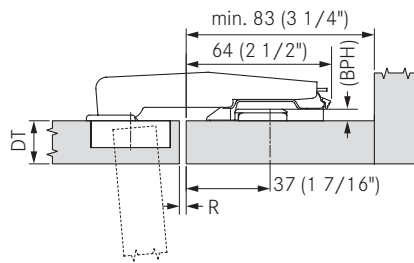
Drawings show Nexis with a base plate, **(BPH) 00**.



Drawings show Nexis with a base plate, **(BPH) 02**.



Drawings show Nexis with a base plate, **(BPH) 04**.



	Drilling Distance (DD)				
	*3	4	5	6	
Door Thickness (DT)	16	0.1	0.1	0.1	0.1
	18	0.2	0.2	0.2	0.2
	19	0.3	0.3	0.3	0.3
	20	0.4	0.4	0.4	0.4
	22	0.7	0.7	0.7	0.7
	24	1.0	1.0	1.0	1.0
	26	1.4	1.4	1.4	1.4
	28	1.9	1.9	1.9	1.9
	30	3.8	2.9	2.6	2.5
Minimum Reveal (R)					

Note:

*3mm drilling distance for Nexis only.

A door stop is needed to prevent over close.

Note: Reveal dimensions were determined with an edge radius (of the door) of 1mm. Hinge dimensions and reveal calculation based on factory setting.

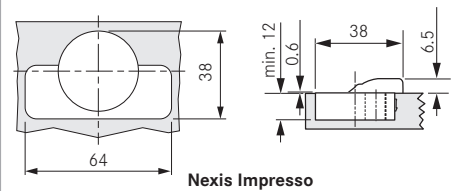
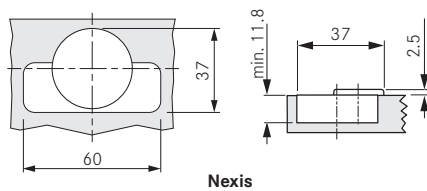
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

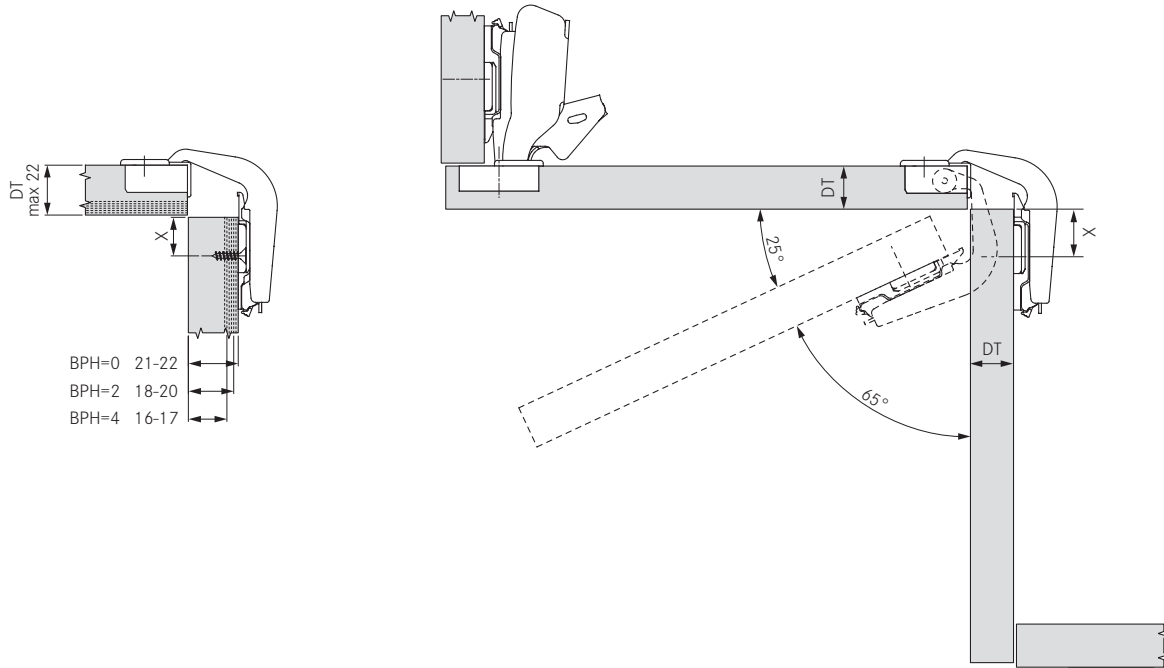
Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
R = Reveal
S = Post Thickness

Cup Dimensions



Hinge Application



Drawings show Nexis with a base plate, (BPH) 02.

Note: Reveal dimensions were determined with an edge radius (of the door) of 1 mm.
Hinge dimensions and reveal calculation based on factory setting.

Door thickness (DT)	16	17	18	19	20	21	22
Distance (X)	25	24	22	21	20	18	17
Base Plate Height (BPH)	04		02		00		

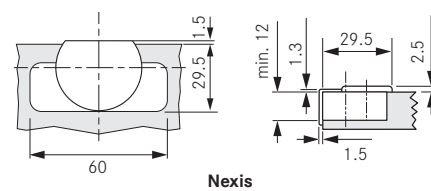
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
R = Reveal
X = Distance

Cup Dimensions

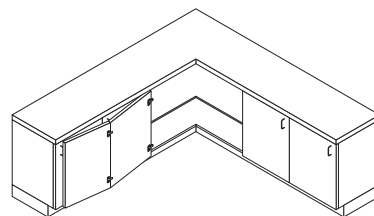


Nexis 21 PCC

Pie-cut corner hinge with full cup recess



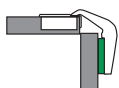
- 3-dimensional adjustment with suitable base plate
- Self-close hinge
- Designed for folding doors in corner cabinets
- For door thicknesses Max. 24mm, factory setting 19mm door thickness with 4mm drilling distance
- Used in conjunction with Nexis 170 hinges
- Shallow cup depth of 10.8mm



Nexis 21 Pie-cut Corner Hinge

Screw-On

Dowelled



Nexis:

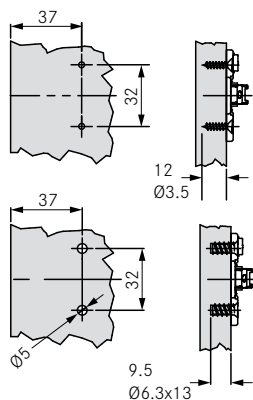
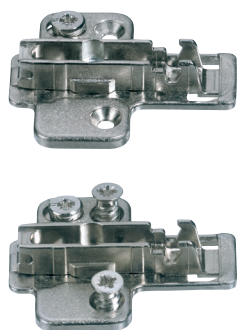
Hinge cup: steel, nickel-plated

Hinge arm: diecast, nickel-plated

Pattern	Type	Item No.	Item No.	PU
42	Self-close	F015070139225	F015070140225	125
42	Self-close	F015070139213	F015070140213	25
45	Self-close	-	F015135477225	125

Base Plates for PCC

Cam Base Plate, 2-Point Fixing



Door Thickness	Screws	Height	Item No.	PU
18mm-24mm	For wood screws	00	F061073253236	250
14mm-17mm	For wood screws	02	F061073254236	250
18mm-24mm	With pre-mounted Euro screws	00	F061073236236	250
14mm-17mm	With pre-mounted Euro screws	02	F061073237236	250

Cover Cap

For Nexis Hinges

Item No.

PU

Wood Screw, Nickel-plated

Item No.

PU



Black plastic

F069073497261

1000



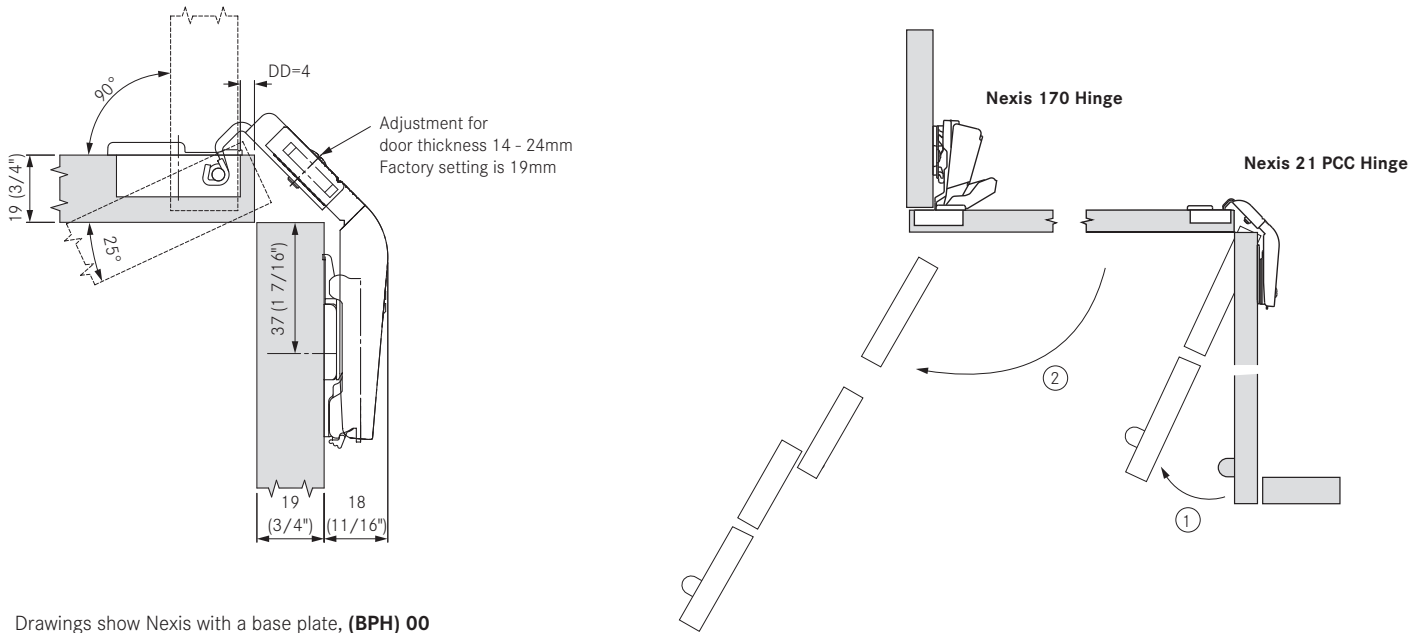
#6 x 5/8" FHP, NI

81001-43

500

PU - Packaging unit

Hinge Application



Drawings show Nexis with a base plate, (BPH) 00
for door thickness 19mm, Factory setting.
Drilling distance range 3mm - 6mm.

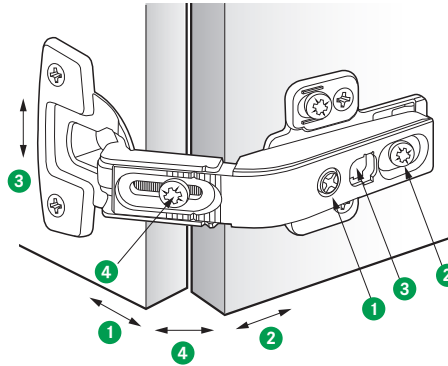
Adjustment

Adjustment in the hinge arm

1. Side adjustment $\pm 2\text{mm}$
2. Depth adjustment $\pm 2\text{mm}$
4. door thickness 14 to 24mm,
factory setting 19mm

Adjustment via base plate

3. Height adjustment $\pm 2\text{mm}$



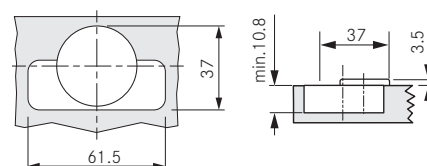
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Legend

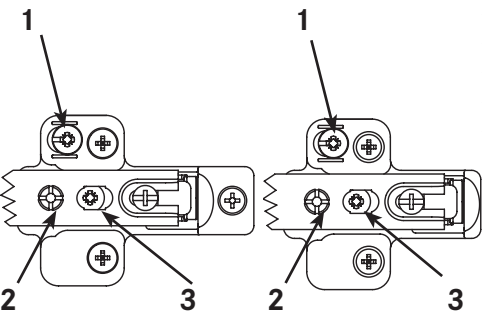
BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
R = Reveal

Cup Dimensions

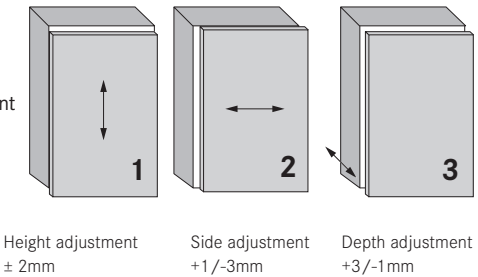


Base Plates

Nexis



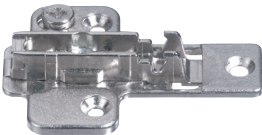
- Steel, nickel plated
- Depth and height adjustment via eccentric cam
- Side adjustment via hinge
- Use a #2 Pozi drive screwdriver for hinge adjustment
- Attach base plates using all available screw holes



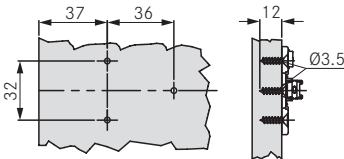
All adjustment options can be made independently of one another.

Cam Base Plate, 3 Point Fixing

For Wood Screw



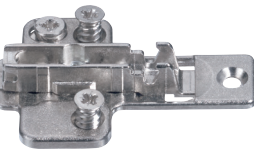
- Height adjustment via eccentric cam



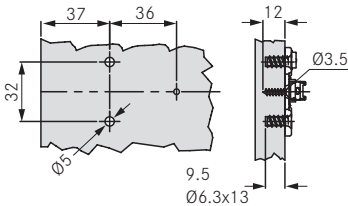
Height	Item No.	PU
00	F06 1073214 236	250
02	F06 1073215 236	250
04	F06 1073216 236	250
08	F06 1073218 236	250

Cam Base Plate, 3 Point Fixing

With Pre-mounted Euro Screws



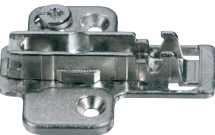
- Height adjustment via eccentric cam



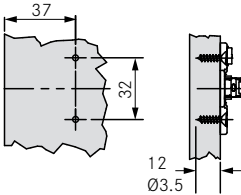
Height	Item No.	PU
00	F06 1073232 236	250
02	F06 1073233 236	250
08	F06 1073235 236	250

Cam Base Plate, 2 Point Fixing

For Wood Screw



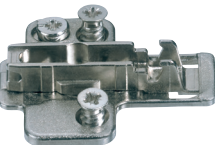
- Height adjustment via eccentric cam



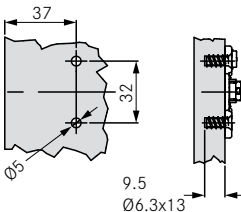
Height	Item No.	PU
00	F06 1073253 236	250
02	F06 1073254 236	250
04	F06 1073255 236	250
08	F06 1073223 236	250

Cam Base Plate, 2 Point Fixing

With Pre-mounted Euro Screws



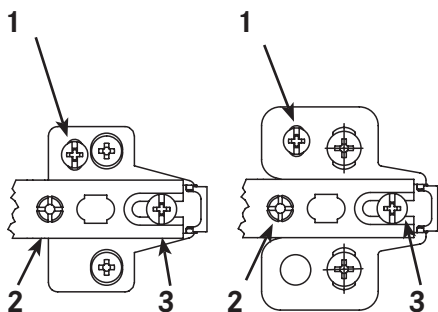
- Height adjustment via eccentric cam



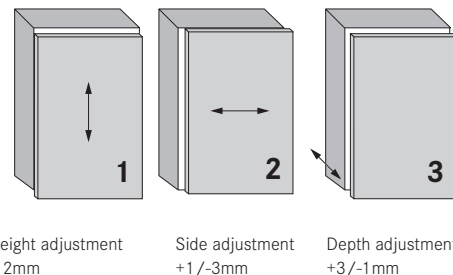
Height	Item No.	PU
00	F06 1073236 236	250
02	F06 1073237 236	250
04	F06 1073238 236	250
06	F06 1073239 236	250
08	F06 1073240 236	250

PU - Packaging unit

Nexis



- Height adjustable
- Depth adjustment via hinge arm
- Side adjustment via hinge
- Use a #2 Pozidrive screwdriver for hinge adjustment
- Attach base plates using all available screw holes



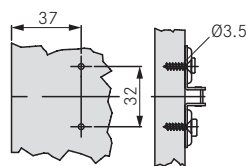
All adjustment options can be made independently of one another.

Cam Height Adjustable Base Plate, 2 Point Fixing

For Wood Screw



- Height adjustment via eccentric cam
- Steel, nickel-plated



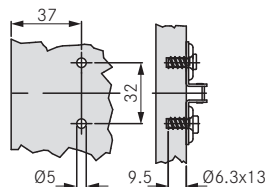
Height	Item No.	PU
00	F060073142 236	250

Cam Height Adjustable Base Plate, 2 Point Fixing

With Pre-mounted Euro Screws



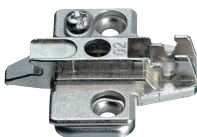
- Height adjustment via eccentric cam
- Steel, nickel-plated



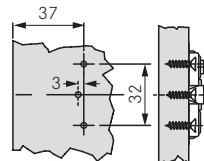
Height	Item No.	PU
00	F060073176 236	250
02	F060073177 236	250

2 Piece Height Adjustable Base Plate, 3 Point Fixing

For Wood Screw



- Height adjustment via screw
- Steel/die-cast, nickel-plated



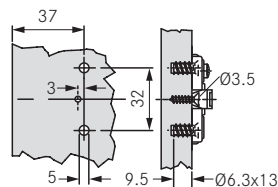
Height	Item No.	PU
00	F060073148 236	250
02	F060073150 236	250
04	F060073151 236	250
08	F060073152 236	250

2 Piece Height Adjustable Base Plate, 3 Point Fixing

For Euro Screws



- Height adjustment via screw
- Steel/die-cast, nickel-plated

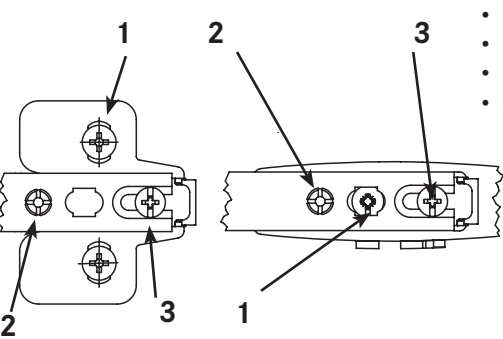


Height	Item No.	PU
00	F060073156 236	250
08	F060073159 236	250
18*	F060073175 236	250

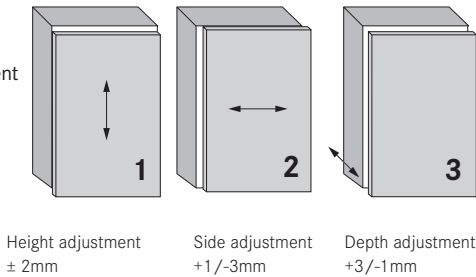
*with Pre-mounted Euro Screws

Base Plates

Nexis



- Steel, nickel plated
- Side adjustment via elongated hole
- Use a #2 Pozi drive screwdriver for hinge adjustment
- Attach base plates using all available screw holes



Height adjustment
± 2mm

Side adjustment
+1/-3mm

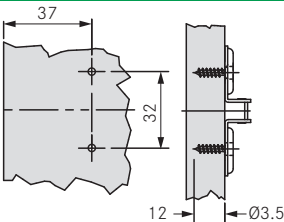
Depth adjustment
+3/-1mm

All adjustment options can be made independently of one another.

Wing Steel Base Plate, 2 Point Fixing



- Height adjustment via elongated screw holes



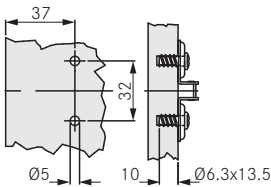
For Wood Screw

Height	Item No.	PU
00	F060073144 236	250

Wing Steel Base Plate, 2 Point Fixing



- Height adjustment via elongated screw holes



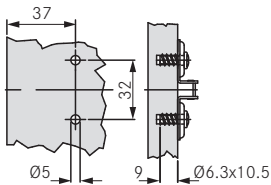
With Pre-mounted Euro Screws

Height	Item No.	PU
00	F060073179 236	250
02	F060073180 236	250
04	F060073181 236	250

Wing Steel Base Plate, 2 Point Fixing



- For common panel application
- Pre-mounted 10.5mm Euro screws
- Height adjustment via elongated screw holes



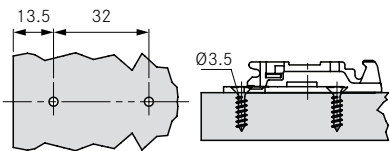
With Pre-mounted Euro Screws

Height	Item No.	PU
00	F060073201 236	250

Linear Base Plate, 2 Point Fixing



- Height adjustment via cam
- Zinc-diecast



For Wood Screws

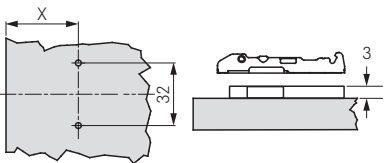
Height	Item No.	PU
00	F060073129 236	250

3mm Universal Spacer

37/32



- For use with Nexis or Tiomos base plate applications
- Snap-to-fit breakaway section for Nexis applications
- For placing under wing mounting plates
- Can be stacked (max. 2)

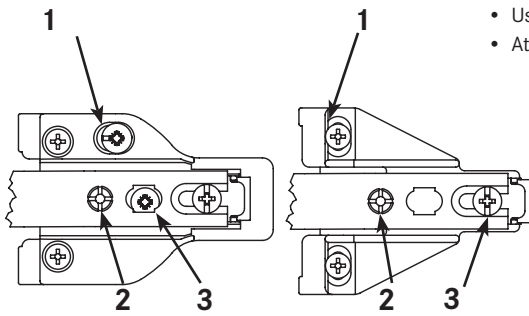


Height	Item No.	PU
3	13461-41	50

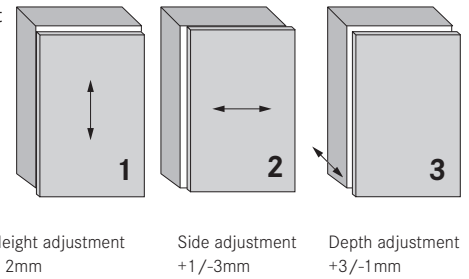
PU - Packaging unit

Base Plates

Nexis



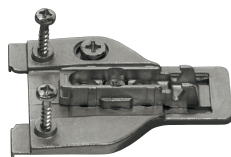
- Use a #2 Pozidrive screwdriver for hinge adjustment
- Attach base plates using all available screw holes



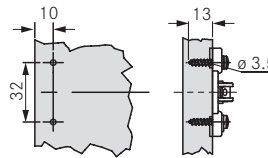
All adjustment options can be made independently of one another.

FFA Cam Base Plate

With Pre-mounted Wood Screws



- Height and depth adjustment via eccentric cam



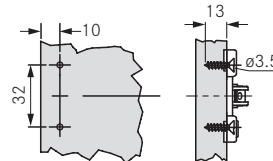
Height	Item No.	PU
00	F06 1073283 236	250
04	F06 1073285 236	250

FFA Cam Base Plate

For Wood Screw



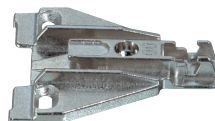
- Height and depth adjustment via eccentric cam



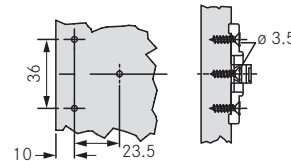
Height	Item No.	PU
00	F06 1073279 236	250
02	F06 1073280 236	250
04	F06 1073281 236	250

FFA Base Plate

For Wood Screw



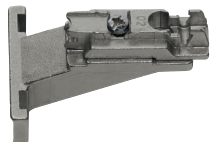
- Height adjustment via elongated hole



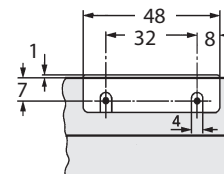
Height	Item No.	PU
00	F06 1073275 236	250
04	F06 1073277 236	250

Inset FFA Base Plate

For Wood Screw



- For Inset doors
- To be used with half overlay (cranking 08) hinges
- Height adjustment via screw



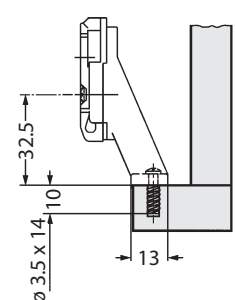
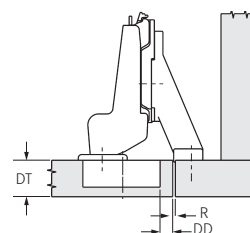
Height	Item No.	PU
02	F06 1073278 236	250

110° Standard Half Overlay hinge

Door Thickness (DT)	Drilling Distance (DD)				Minimum Reveal (R)
	3	4			
22					
21	2.0*				
20	2.0				
19	2.0	1.0*			
18	2.0	1.0			
16	2.0	1.0			

95° Thick Door Half Overlay Hinge

Door Thickness (DT)	Drilling Distance (DD)				Minimum Reveal (R)
	3	4			
24					
22	2.0*				
20	2.0				
19	2.0	1.0*			
18	2.0	1.0			
16	2.0	1.0			



Hinge dimensions and reveal calculation based on factory setting.

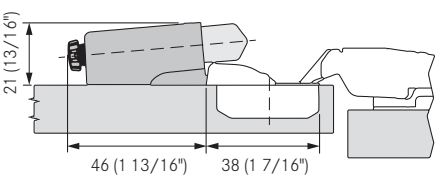
*Minimum reveal for doors with beveled edges (R= 1 mm) (factory setting).

Soft-close Nexis Impresso

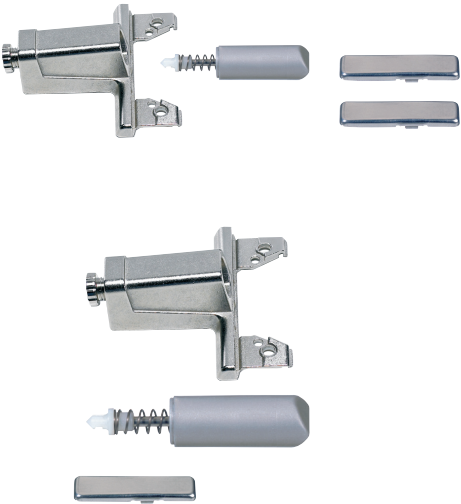
For Nexis Impresso 95°, 100°, 110°, and 125° hinges



- Soft-close adapter for Nexis Impresso hinges
- Slows door action to close quietly
- Quick and easy to attach
- Completely tool-free
- Damping force can be individually adjusted
- Best suited for flat panel doors



Soft-close Impresso



Description	Material	Item No.	PU
Soft-close Impresso Set		F069073728525	125

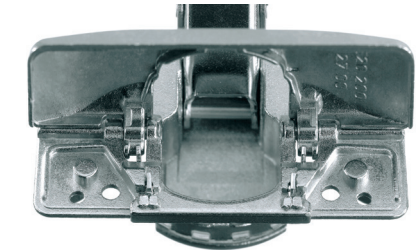
- 1 set consists of:**
- 1 Soft-close adapter for Nexis Impresso hinges
 - 1 Soft-close damper
 - 2 cover caps

Description	Material	Item No.	PU
Soft-close Impresso adapter		F069073726225	125
Soft-close damper		F069073701225	125
Cover cap for hinges - cranking 00	Steel, nickel-plated	F069073683247	1000

Cover caps Soft-close compatible.

Installation Instructions for Soft-close Impresso

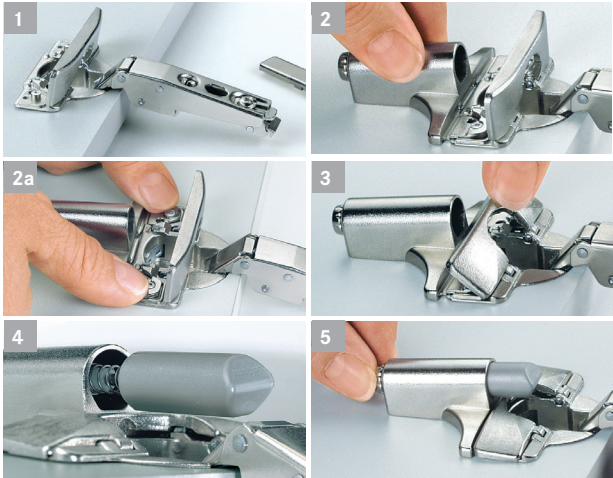
Soft-close Impresso



Check for locator pins to verify Soft-close compatibility.

The installation of our cabinetry hardware must comply with the Grass instructions that are stated in our available sales brochures; otherwise, Grass cannot be held liable. The company cannot accept any liability in the case of incorrect handling. If further information regarding installation and assembly is needed, please contact our factory directly.

NOTE: For recommended position of Soft-close, please see page 38.



- For flat panel doors.
1. Take door off the cabinet, remove cover cap (if installed) on 00 cranking hinges, open flap of hinge cup.
 2. Insert Soft-close Impresso adapter onto locator pins which are attached to the hinge cup.
 3. Close Impresso flap of hinge cup completely.
 4. Insert Soft-close damper completely into Soft-close adapter with the flattened side pointing down. Mount cabinet door to base plates. Mount cover cap on hinge if desired (cover cap is included in set).
 5. Adjust Soft-close Impresso if necessary via adjustment screw.

PU - Packaging unit

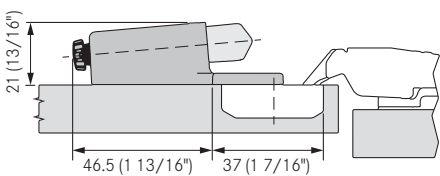
Soft-close Nexis



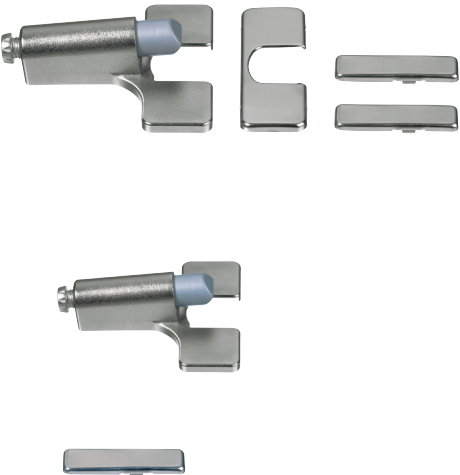
For Nexis 95°, 100°, 110°, and 125° hinges



- Soft-close adapter for Nexis hinges
- Slows door action to close quietly
- Quick and easy to attach
- Completely tool-free
- Damping force can be individually adjusted
- Perfect retrofit solution



Soft-close Nexis



Description	Material	Item No.	PU
Soft-close Nexis Set		F069073714525	125

- 1 set consists of:**
- 1 Soft-close adapter with pre-mounted Soft close damper for Nexis hinges
 - 1 cover cap for hinge cup
 - 2 cover caps for hinge arm

Description	Material	Item No.	PU
Soft-close adapter		F069073715225	125
Cover cap for hinges - cranking 00	Steel, nickel-plated, without imprint	F069073683247	1000

Cover caps Soft-close compatible.

Installation Instructions for Soft-close

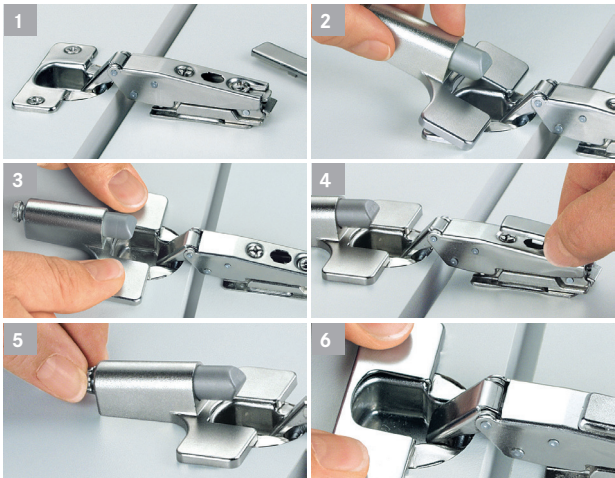
Soft-close Nexis



Check for notches to verify Soft-close compatibility.

The installation of our cabinetry hardware must comply with the Grass instructions that are stated in our available sales brochures; otherwise, Grass cannot be held liable. The company cannot accept any liability in the case of incorrect handling. If further information regarding installation and assembly is needed, please contact our factory directly.

NOTE: For recommended position of Soft-close, please see page 38.



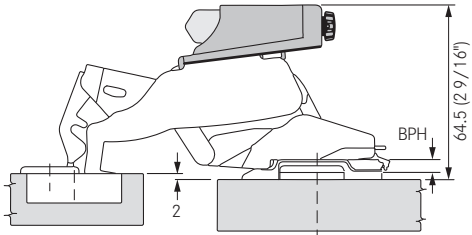
1. Remove cover cap (if installed) on 00 cranking hinges.
2. Insert Soft-close Nexis adapter into notches located on the sides of the hinge cup and attach adapter.
3. Press both sides of the adapter downward until you hear a noticeable "click".
4. Mount cover cap on hinge if desired (cover cap is included in set).
5. Adjust Soft-close Nexis if necessary via adjustment screw.
6. Use cover for hinge cup (included in set) for the hinge without Soft-close Nexis to achieve a uniform appearance.

Soft-close 170°

For Nexis Impresso 170° and Nexis 170° wide-angle hinges



- Soft-close adapter for 170° wide-angle hinges
- Slows door action to close quietly
- Simply snap in place
- Completely tool-free
- Perfect retrofit solution



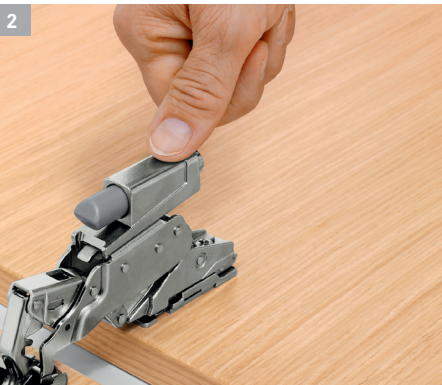
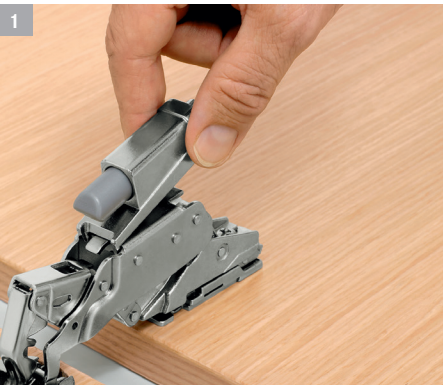
Soft-close 170°



Soft-close adapter for Nexis Impresso 170° and Nexis 170° wide-angle hinges

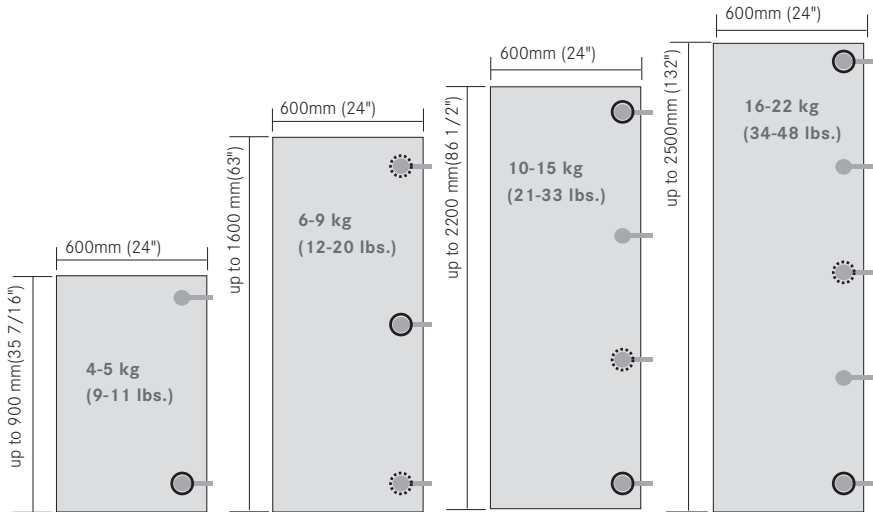
Item No.	PU
F069073729225	125

Installation



1. Insert Soft-close Nexis adapter prongs into opening located on top of the hinge arm.
2. Press adapter downward until locked in place. You will hear an audible "click".

Recommended Position for Soft-close Nexis



- Recommended position for Soft-close
- ⦿ Position for additional Soft-close (where required)

IMPORTANT NOTE

The installation of our cabinetry hardware must comply with the Grass instructions that are stated in our available sales brochures; otherwise, Grass cannot be held liable. The company cannot accept any liability in the case of incorrect installation handling. If further information regarding installation and assembly is needed, please contact our factory directly.

PU - Packaging unit

Soft-close for doors



- Works for face frame cabinets on all door overlays
- Works for frameless cabinets on full overlay doors
- Brushed nickel look blends in well with hinge finish
- Non-handed with a low profile design
- Manually adjustable to desired closing speed
- Mounts independently from the hinge in the upper corner of the cabinet
- Instantly allows the cabinet door to close quietly and smoothly
- Scratch protector and front bumper with cushion for a quiet close

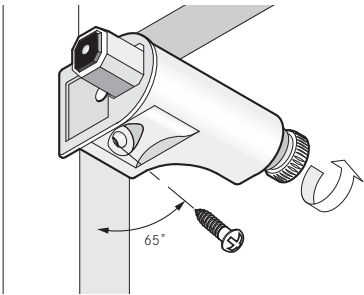
UniSoft Adapter



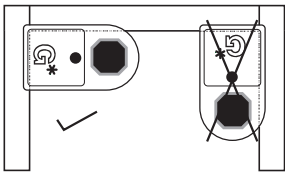
Description	Material	Item No.	PU
UniSoft, Polybag	Plastic, chrome	18971-37	1
UniSoft, Polybag Bulk	Plastic, chrome	18971-40	25
UniSoft, Bulk	Plastic, chrome	18971-14	250

Includes #6 x 3/4 Pan head screw

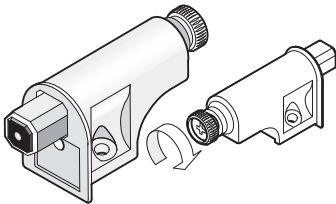
Installation Mounting Position Adjustment



Use a 65° angle for best base results. Pilot drill 2.3mm (Ø3/32") and 1/4" deep for a #6 x 3/4" Pan head screw recommended. Mount in upper corner on hinge side.

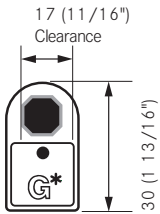
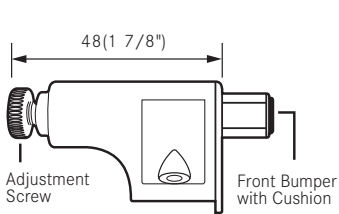


IMPORTANT The installation of our cabinetry hardware must comply with the Grass instructions that are stated on this catalog page.



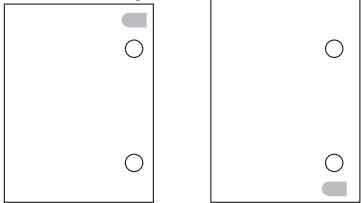
Turn adjustment screw to move damper in and out. Adjust in for heavier doors or out for light doors. Use Phillips or Pozidrive screwdriver or adjust manually.

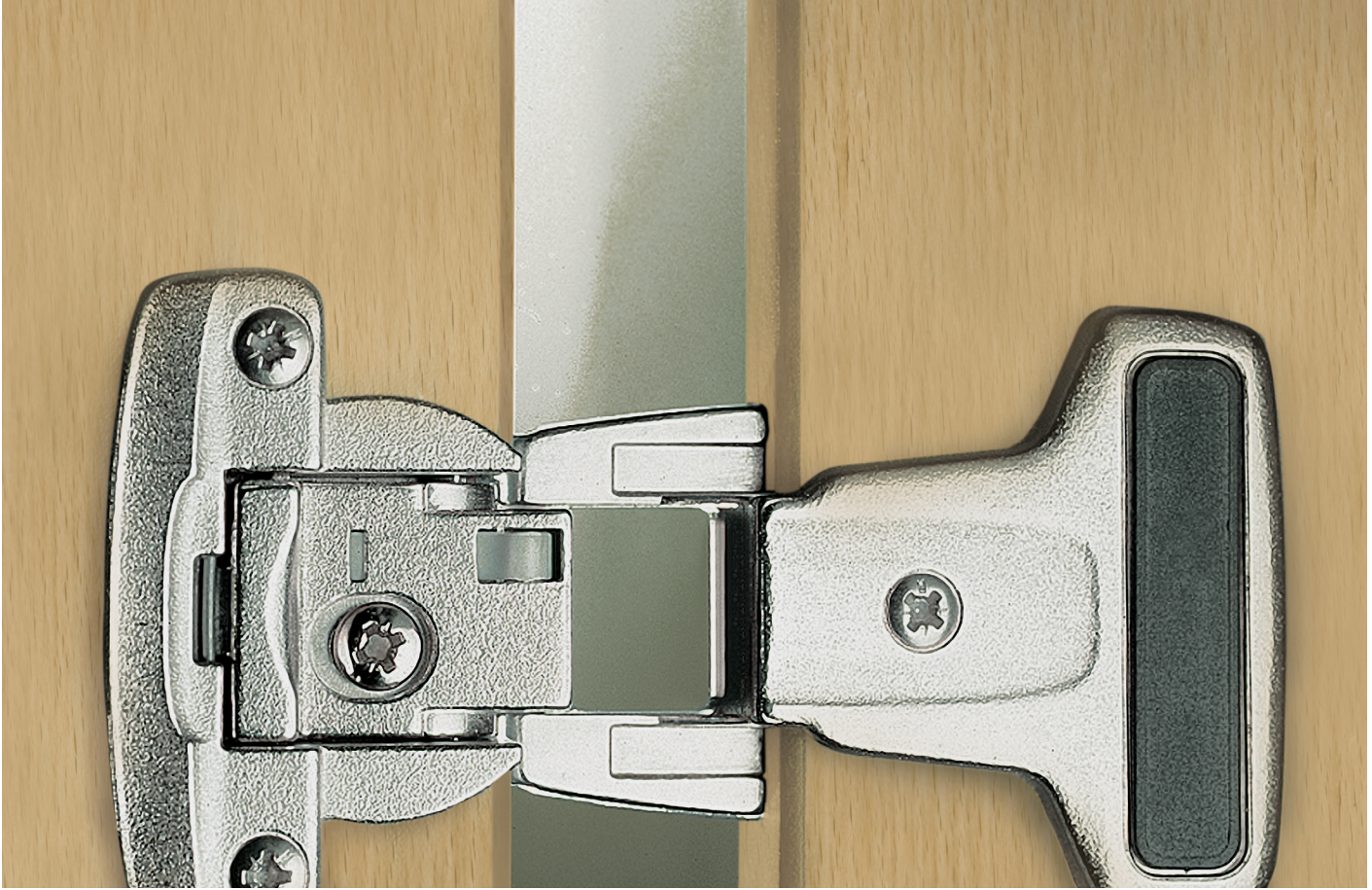
Dimensions UniSoft per Door



Use one UniSoft for most applications. For heavier doors use two or more. Trial mount recommended.

UniSoft Hinges





INSTITUTIONAL & SPECIALTY HINGE ITEMS

Designed for high use environments

Grass Institutional Hinges offer the perfect solution for institutional casework in schools, hospitals, commercial, and furniture environments where the cabinetry has a considerable amount of use. This institutional hinge system is designed for frameless cabinetry and offers high load weight bearing capabilities.

The tried and proved 975 Pie-cut corner hinge for lazy susan applications accommodates doors up to 24mm thick.



Institutional Hinge

Technical Information

Hinge Insertion



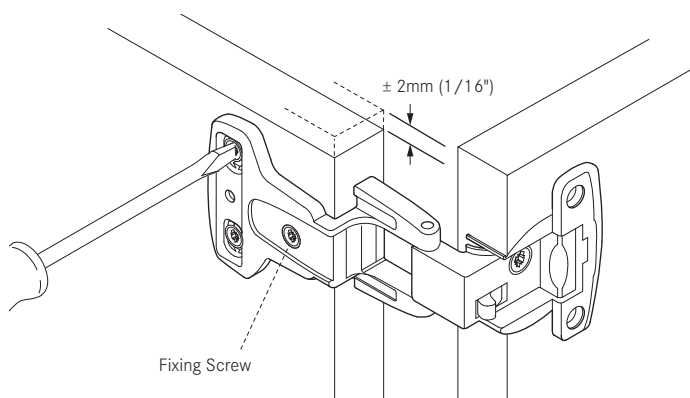
A slight press with the thumb securely connects the door with the cabinet.

Hinge Removal



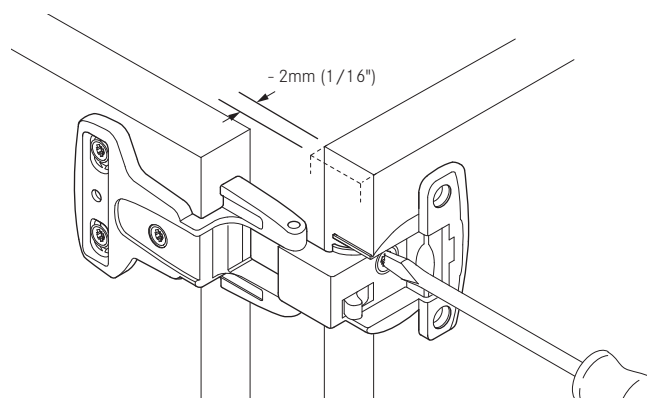
Use flathead screwdriver to remove hinge arm from hinge cup with a simple twist.

Adjustments



Height Adjustment

1. Loosen fixing screw
2. Adjust door $\pm 2\text{mm}$ up and down
3. Tighten fixing screw



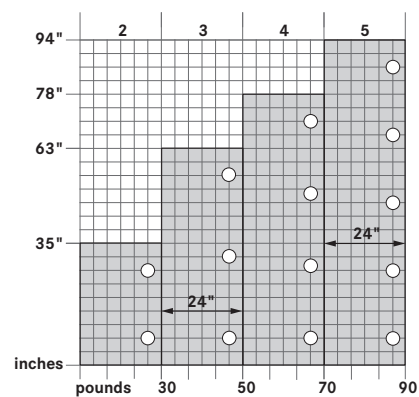
Side Adjustment

1. Adjust door 2mm out via Cam adjustment

Number of Hinges per Door

The number of hinges required depends on the size and weight of the door. The distance between the hinges should be spaced as wide as possible.

Use the diagram to determine the number of hinges needed. These recommendations are for doors without accessory attachments.

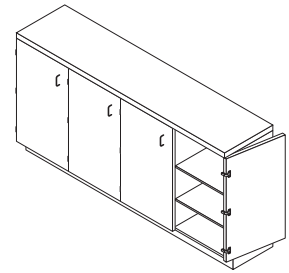


Institutional Hinge

MB series barrel hinge



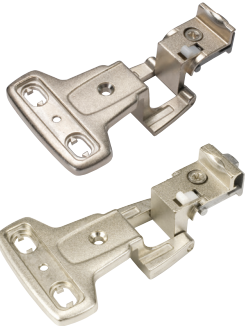
- Hinges made of zinc die-cast construction for extreme durability
- Recommended for side panel thicknesses of 19mm (3/4")
- Tool-free snap-on mounting - quick and easy installation
- Side adjustment of - 2mm (1/16")
- Height adjustment of +/- 2mm (1/16")
- Cover cap conceals mounting screws
- Designed for frameless cabinet construction
- Opening angles range from 180° to 270°
- Meets ANSI/BHMA A 156.9 - Grade I requirements



MB 8010 Hinge Cup		Screw-On		Dowelled	
Hinge Cup	Pattern	Material	Item No.	Item No.	PU
MB 8010 Hinge Cup - 45mm pattern	45	Nickel Plated	F150000006233	F150000021233	200



Hinge Arms



Description	Material	Item No.	PU
MB 8310 Hinge Arm - Full Overlay -15mm (19/32")	Nickel Plated	F150000014223	100

Description	Material	Item No.	PU
MB 8510 Hinge Arm - Half Overlay - 5.5mm (7/32")	Nickel Plated	F150000015223	100

Euro Screws for Hinge Arm Mounting	Item No.	PU
6.3 x 13.5mm Nickel Plated (two per hinge)	B405.000.51.25	100

Cover Cap



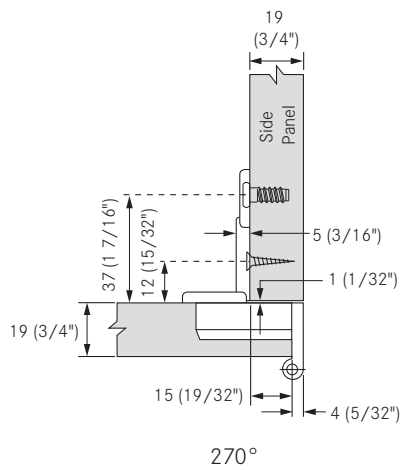
Cover cap included with hinge arm

*Meets Grade I requirements when third screw and adjustment tabs are in place.

PU - Packaging unit

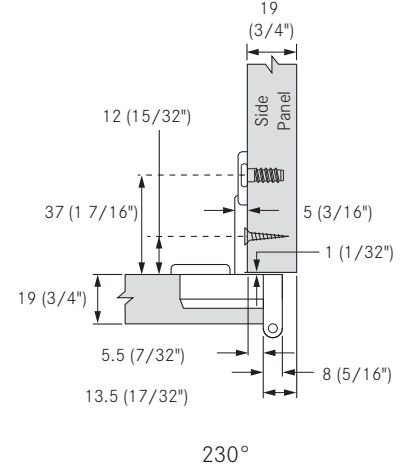
Full Overlay 270°

8310

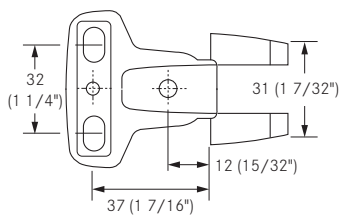


Half Overlay 230°

8510



Hinge Arm Dimensions

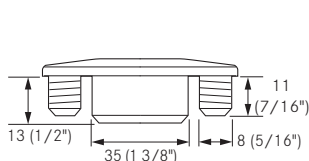


Institutional hinges are 32mm compatible.

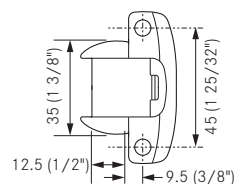
Specifications

	Reveal	Opening Angle	Overlay
Application			
Full Overlay	4mm (5/32")	270°	15mm (19/32")
Half Overlay	13.5mm (17/32")	230°	5.5mm (7/32")

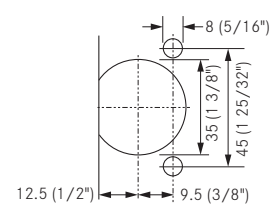
Cup Depth



Hinge Cup



Cup Drilling



IMPORTANT

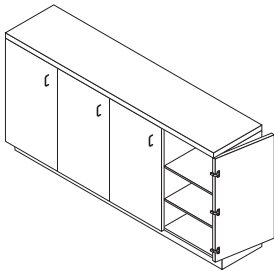
To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Nexis Slide-on 73

270° single-joint Institutional hinge

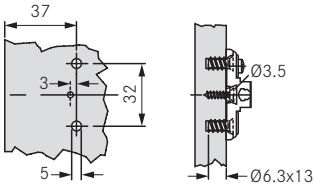


- 3-dimensional adjustment with suitable base plate
- For door thicknesses 15 to 21mm
- For door overlay up to 16mm (5/8")
- Automatic hold-closed function
- Meets ANSI/BHMA A156.9 - Grade II requirements



Nexis 73		Opening Angle 270°		Screw-On		Dowelled	
Full Overlay	Cranking 00	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: diecast, nickel-plated;	48	Hold-close	F016073084225	F016073094225	125	
	Hinge arm: diecast, nickel-plated						

Base Plates, 3-Point Fixing

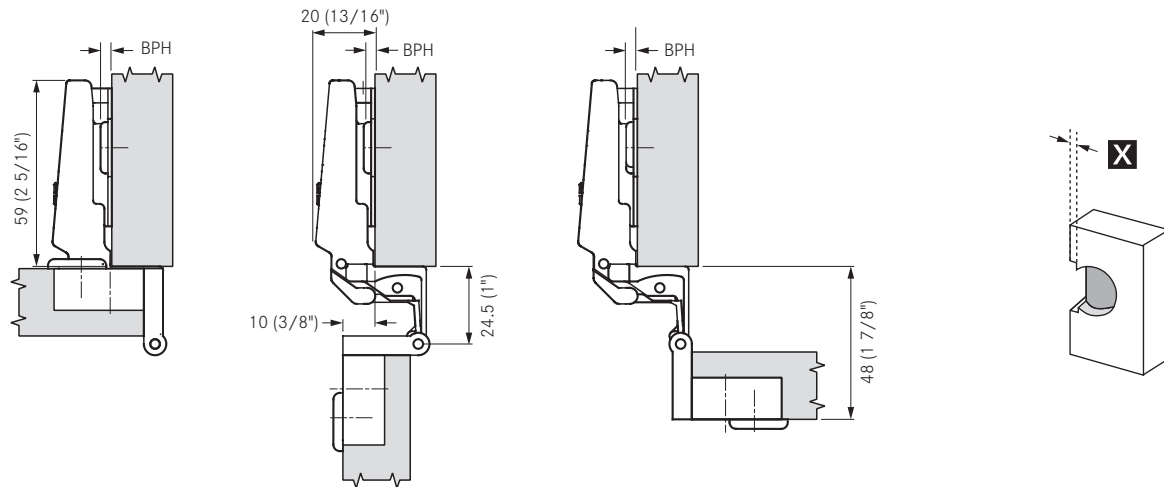


Height	Description	Item No.	PU
00	Steel, nickel plated with pre-attached Euro Screws	F062073316236	250

Cover Cap	For Nexis Hinges	Item No.	PU	Wood Screw, Nickel-plated	Item No.	PU
	Black plastic	F069073497261	1000	 #6 x 5/8" FHP, NI	81001-43	500

PU - Packaging unit

Full Overlay



Drawings show hinge with a base plate, **(BPH) 00**.

Door Overlay

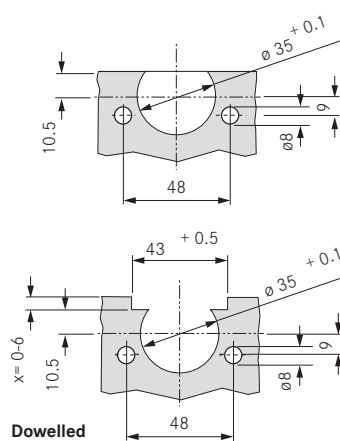
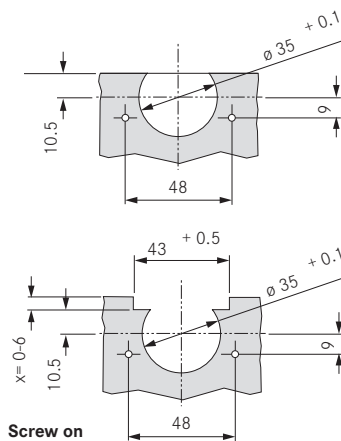
Door Overlay max.	Depth of Cut-out (X)							
	6	5	4	3	2	1	0	
	16	0						
	15		0					
	14	2		0				
	13		2		0			
	12	4		2		0		
	11		4		2		0	
	10			4		2	0	
	9				4		2	
	8					4	2	
	7						4	
	6							4
	Base Plate Height (BPH)							

Note: Hinge dimensions and gap calculation based on factory setting.

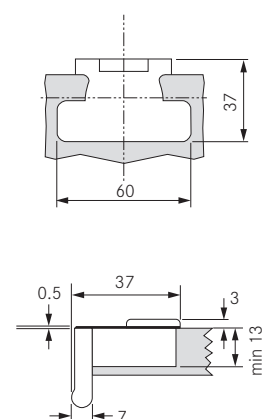
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Drilling Patterns



Cup Dimensions

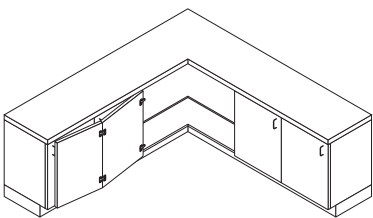


975 VZ PCC

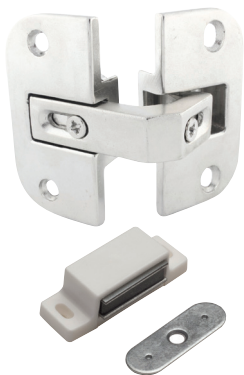
Pie-cut Corner Hinge



- Small or large gap between door
- Shallow profile does not interfere with lazy susans
- Same drilling on both doors
- Height adjustable
- Accommodates doors 15 to 24mm thick



975 VZ Pie-cut Corner Hinge



Description	Material	Item No.	PU
975 VZ Pie-cut Corner Hinge kit	Hinge: Zinc, nickel-plated	13128-37	1
975 VZ Pie-cut Corner Hinge	Hinge: Zinc, nickel-plated	13127-09	100

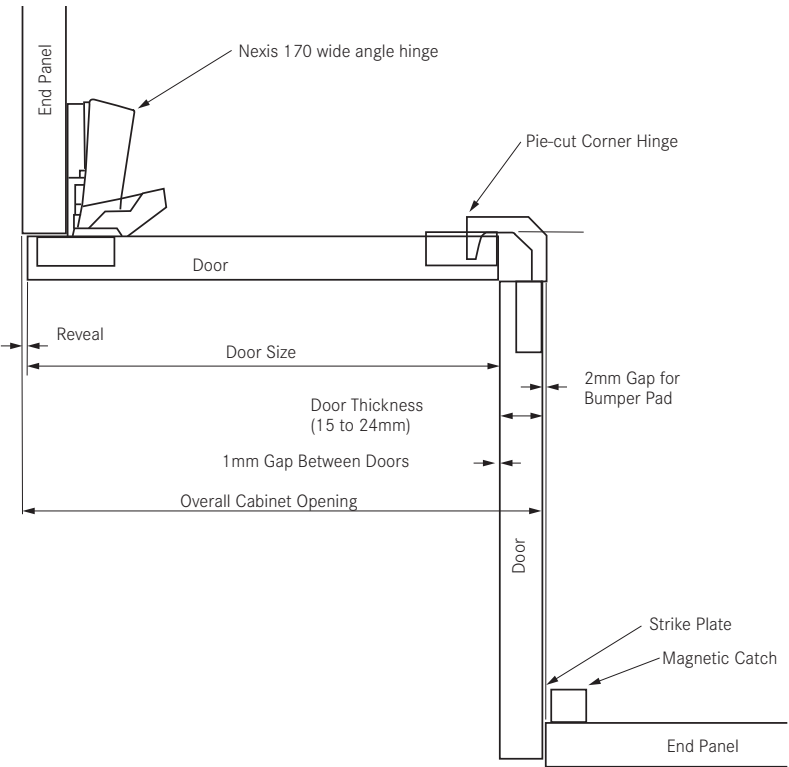
- 1 kit consists of:
- | | |
|-------------------------|---------------------|
| 2 PCC hinges (13127-09) | 1 strike plate |
| 1 magnetic catch | 1 instruction sheet |

Door Sizing Example

Door Sizing Example	
Overall cabinet opening	305mm
-Reveal	3mm
	=302mm
-2mm gap for bumper pad	2mm
	=300mm
- Door Thickness	19mm
	=281mm
-1mm Gap between doors	1mm
Door Size	= 280mm

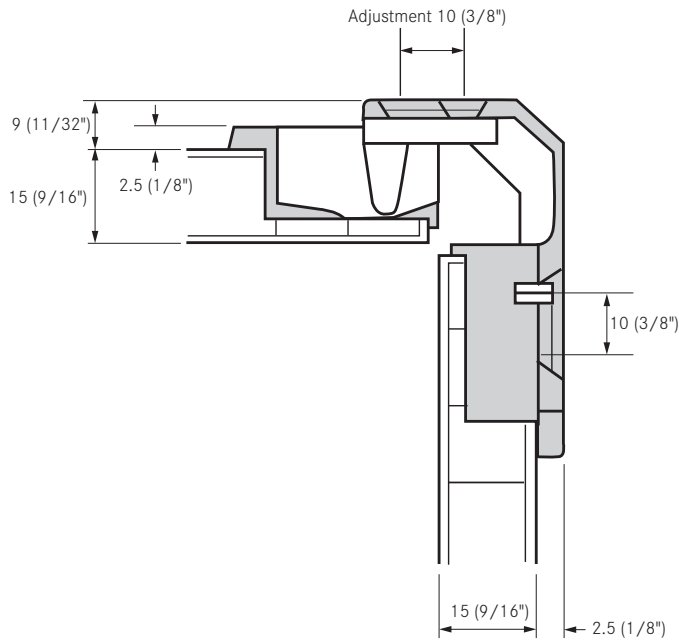
Note:
Use a POZdrive screwdriver for hinge adjustment.
Fastening screws for hinge: #6 x 5/8" FHP (not included).
Fastening screws for catch: #4 x 5/8" FHP (not included).

IMPORTANT
To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

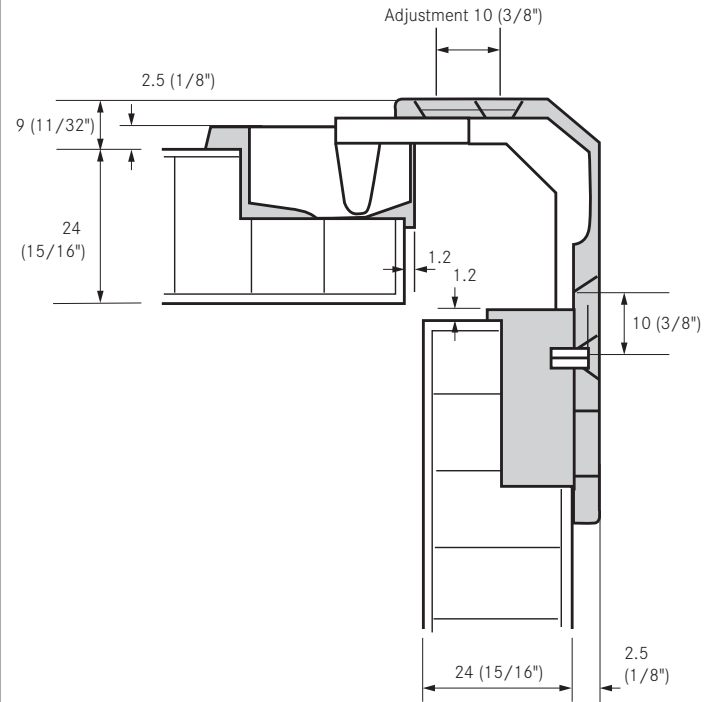


PU - Packaging unit

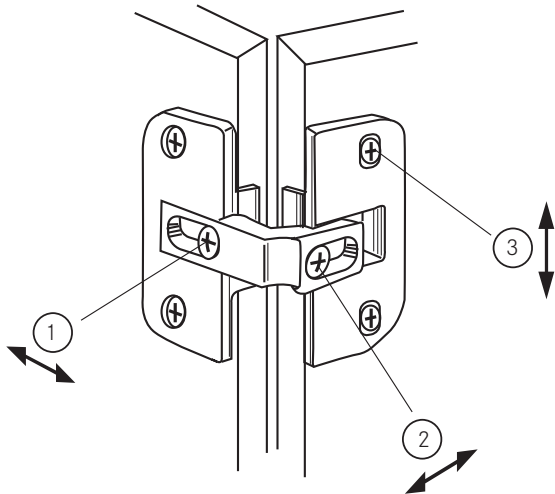
5/8" Door Thickness Application



1" Door Thickness Application

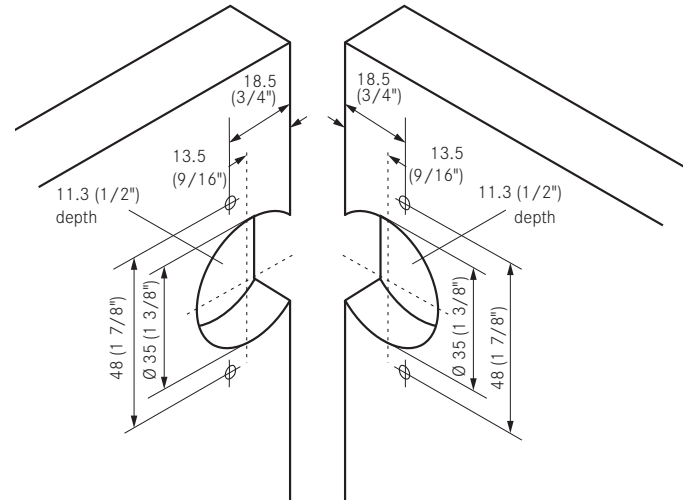


Adjustment



1. Side Adjustment up to 10mm
2. Depth Adjustment up to 10mm
3. Height Adjustment ± 1mm

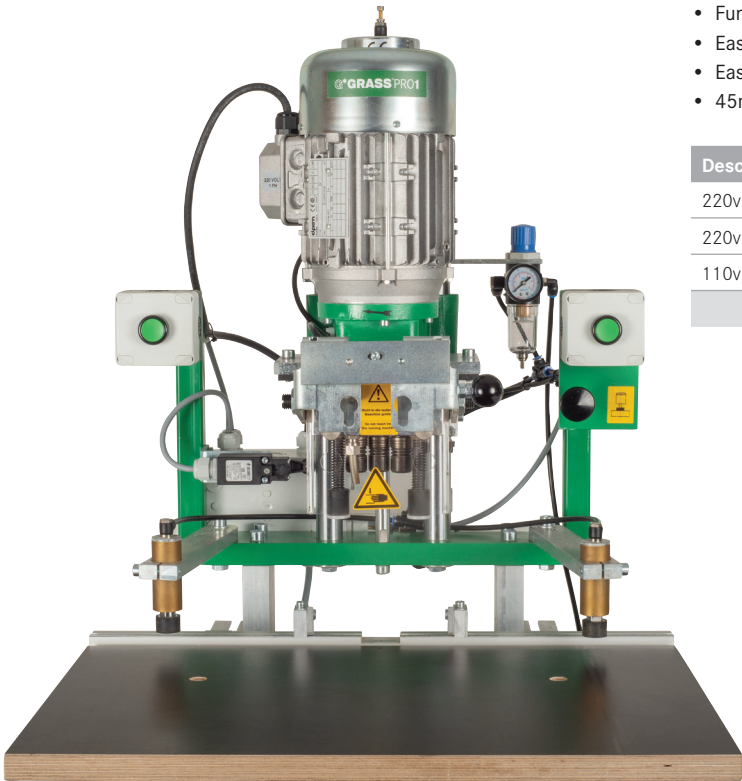
Cup Dimensions



Machinery

GRASS PRO1 drilling and insertion machine for 45mm boring pattern

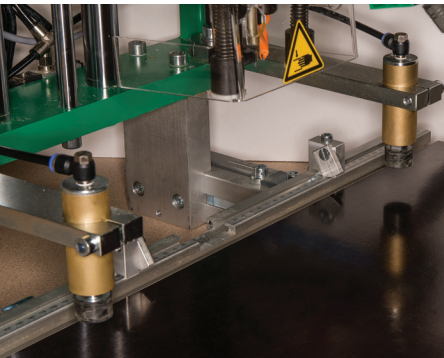
GRASS PRO1



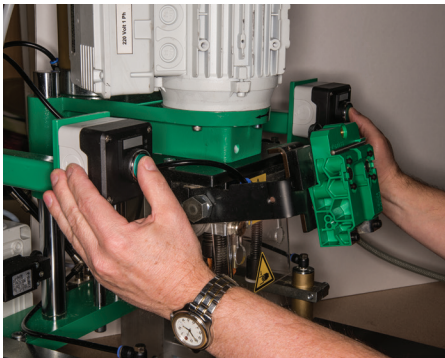
- Depth stop can be adjusted to material thickness
- Functional design
- Easy, fast and efficient operation
- Easy maintenance
- 45mm boring pattern

Description	Item No.	PU
220v single phase pneumatic	94559-01	1
220v three phase pneumatic	94560-01	1
110v single phase pneumatic	94561-01	1

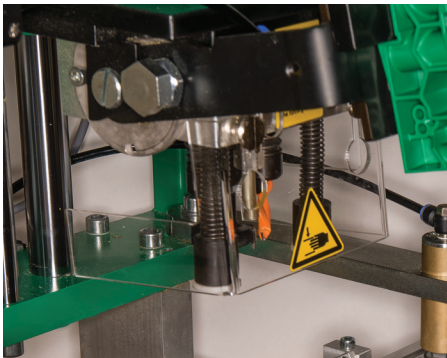
GRASS PRO1 Features



Adjustable hold-down devices
Adjustable hold-down devices are suitable for a wide range of material thicknesses.
Holds door firmly in place for drilling and insertion and features manual release.



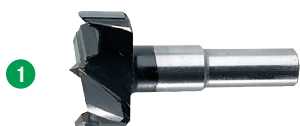
Pneumatic controls
Two-hand start button controls for safe drilling and insertion functions.



Quick change chucks
Easy drill bit removal and insertion using quick change chucks.

PU - Packaging unit

Drill Bits

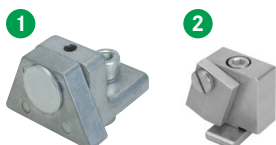


Description	Direction	Item No.	PU
1 35mm bit	RH	00077-01	1
2 8mm bit	LH	00160-01	1
American Bit Set for Hinge Drilling		00213-01	1

Set consists of:

- 1 - 35mm bit, RH
- 2 - 8mm bit, LH

Fence Stops



Description	Item No.	PU
1 Additional fence stop	949.200.21.0000	1
2 Universal fence stop	949.200.21.0100	1

Insertion Dies



Description	Item No.	PU
1 Tiomos Universal Insertion Die 110°/120°/160°	80039	1
2 TEC Insertion Die	92617	1
3 Nexis Insertion Die 110°/125°	04216-01	1
4 Nexis Insertion Die 170°	04218-01	1

Extension Fence



Description	Item No.	PU
Extension fence 300mm to 1550mm	88612-01	1

Nexis Accessories

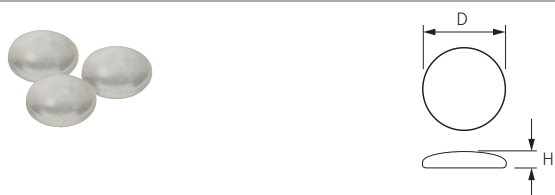
Shelf Supports



Description	Item No.	PU
1 Shelf support 7006/9.5, nickel	F069073460 253	2500
2 H-802 plastic, square, clear	00036-43	500

Bumper Pads

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	2.5mm	10mm	63407-99	288
Bumper pad, clear	2.5mm	10mm	63407-47	7200

AirSoft Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
AirSoft bumper pad, clear	5mm	12.7mm	63481-43	500
AirSoft bumper pad, clear	5mm	12.7mm	63483-30	5000

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	4mm	12mm	630.000.02.1250	5000

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	3mm	12.7mm	31002-43	500
Bumper pad, clear	1.5mm	12.7mm	31004-43	500

Door Stop



Description	Item No.	PU
H-950 door stop, clear	00068-43	500

PU - Packaging unit



GRASS America Inc.
1202 NC Highway 66 South
Kernersville, NC 27284

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Fax: 1-800-525-8406

www.grassusa.com
info@grassusa.com





NOVA PRO SCALA



G*GRASS®

NOVA PRO SCALA DRAWER SYSTEM

Inspiration in the right angle.
Maximum functionality. Timeless design. Aesthetic appeal.







Nova Pro was the original. Nova Pro Scala is a step into the future.

Over the years, Nova Pro has become synonymous with double-wall drawer systems.

Proven a million times over in practical use, this drawer system remains unparalleled in terms of quality, stability, and running performance. True to its predecessors' reputation, Nova Pro Scala is designed flawlessly down to the last detail with a performance that exceeds all other drawer systems.

With Nova Pro Scala, an integrated drawer concept was developed as a design and functional solution to meet a wide range of requirements for various markets. Every customer is different, pursues their own philosophy, and has individual requirements, ideas, and needs. Thanks to its modular versatility, Nova Pro Scala can satisfy these varied requests. Whether contemporary or classical, Nova Pro Scala offers each customer a functional, added value product which turns the act of opening and closing drawers into an artistic experience.





NOVA PRO SCALA DRAWER SYSTEM

Versatile. Creative. Concealed.

Nova Pro Scala embodies exceptional ease of opening, outstanding running performance, and impressive Soft-closing action.



Nova Pro Scala's innovative design has an elegant, slim edge that never interrupts the drawer's outline. The construction of the interior double-wall sides offers optimum space utilization with the 90° inside surface.

With a wide range of options in colors, heights, and lengths the Nova Pro Scala satisfies the most discerning of cabinet manufacturers. Three timeless colors of Silver, Stone, and Ice are elegant and represent the modern design of cabinetry. The drawer side heights are offered in 63mm and 90mm as well as deep drawers with heights of 186mm and 250mm.



The deep drawers add a new element of variety when working with the system. Pairing a short drawer side with our railing system also achieves a deep drawer application.

For Nova Pro Scala, a new rectangular railing system has been developed that optimizes all components of the system and has been restyled to create a harmonized look. From the front bracket to the back-panel connector, everything is aligned, snug, and coordinates to provide an elegant impression.



For interior organization, Nova Pro Scala offers the Tavinea Optima system. The system is made of steel and is available in the same powder coated finishes as Nova Pro Scala for a coordinated drawer. The Tavinea Optima system is simple with two frame elements and one divider rail to create the organization you need.

A unique feature of Nova Pro Scala is the ability to change the total look and design of the drawer by adding decorative panels in your choice of material type and color. These panels fit snug against the Scala drawer's side and are easy to install with Scala's magnetic tape.



The opening and closing systems that are synonymous with Grass are also present in the Nova Pro Scala. The Soft-close action gently slows the drawer and pulls it to the fully closed position. The Tipmatic Soft-close opening system combines the advantages of the mechanical opening mechanism with the comfort of the Soft-close damping system. With Sensomatic's automatic touch-sensitive function, a gentle push is enough to start the movement of the Nova Pro Scala drawers while a second gentle push closes the drawer with the same smooth action.

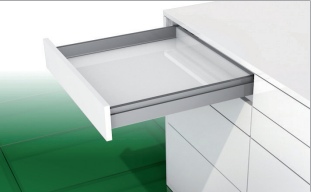
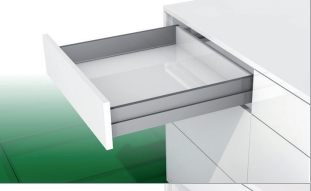
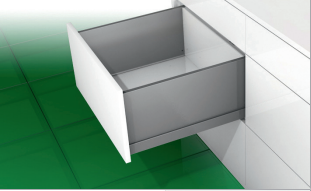
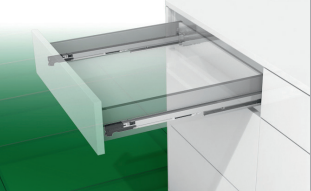
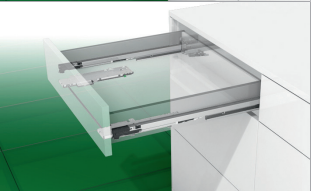
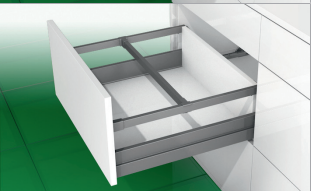
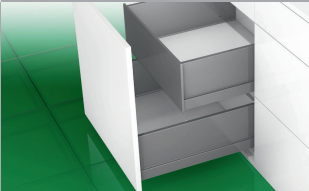
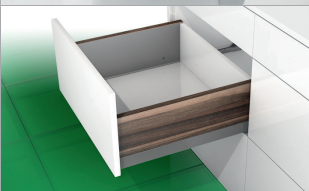
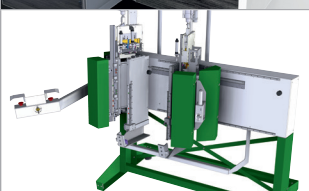
	Description	Adjustment	Page
	Features & Benefits		6
	Technical Information		8
	Shallow Drawer H63 - Height 63mm (2 1/2") - Integrated 2-dimensional adjustment - Soft-close	- Height adjustment (max ± 2.0mm via cam) - Side adjustment (max ± 1.5mm)	12
	Standard Drawer H90 - Height 90mm (3 1/2") - Integrated 2-dimensional adjustment - Soft-close	- Height adjustment (max ± 2.0mm via cam) - Side adjustment (max ± 1.5mm)	16
	Standard Drawer H122 - Height 122mm (4 13/16") - Integrated 2-dimensional adjustment - Soft-close	- Height adjustment (max ± 2.0mm via cam) - Side adjustment (max ± 1.5mm) - Tilt adjustment (max +2.0mm)	18
	Deep Drawer H186 - Height 186mm (7 5/16") - Integrated 3-dimensional adjustment - Soft-close	- Height adjustment (max +2.0mm via cam) - Side adjustment (max ± 1.5mm) - Tilt adjustment (max +2.0mm)	20
	Deep Drawer H250 - Height 250mm (9 13/16") - Integrated 3-dimensional adjustment - Soft-close	- Height adjustment (max ± 2.0mm via cam) - Side adjustment (max ± 1.5mm) - Tilt adjustment (max +2.0mm)	22
	Nova Pro Cabinet Members - Full extension - Integrated Soft-close		24
	Tipmatic Soft-close - Tool free assembly - Works with all Nova Pro Scala lengths and heights		26
	Nova Pro Scala Rectangular Railing - Complete set packaging - Simple installation		28

Table of Content

	Description	Adjustment	Page
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	Tavinea Optima • Dividing system for deep drawers • Tool-free adjustment		31
	Designer Options • Magnetic adhesive tape for custom made panels		32
	Sink Back Panels		34
	Accessories, Assembly Aids, & Machinery		36
	Sensomatic • Automatic soft touch drawer opening • Various mounting options	• Adjustable opening strength	42

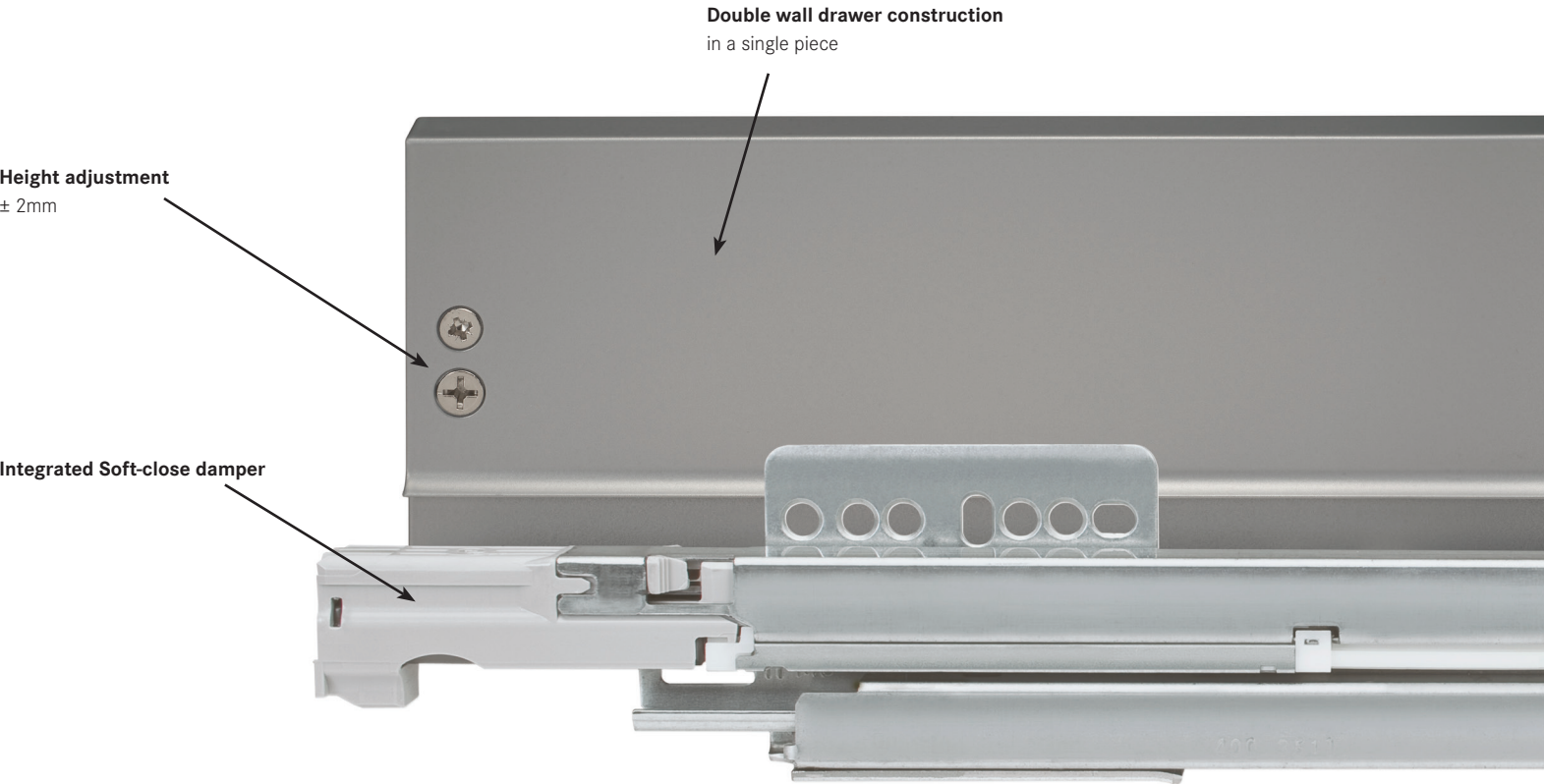
Features and Benefits

Nova Pro Scala

Features



- Elegant continuous design formed from a single piece of high quality steel
- Synchronized full extension drawer slide
- Smooth Soft-closing action with state-of-the-art soft-close technology
- Drawer front can be installed or removed without tools
- Works with Tipmatic Soft-close and Sensomatic touch-to-open systems
- Width of the bottom and back panel is the same
- 2 and 3 dimensional adjustments



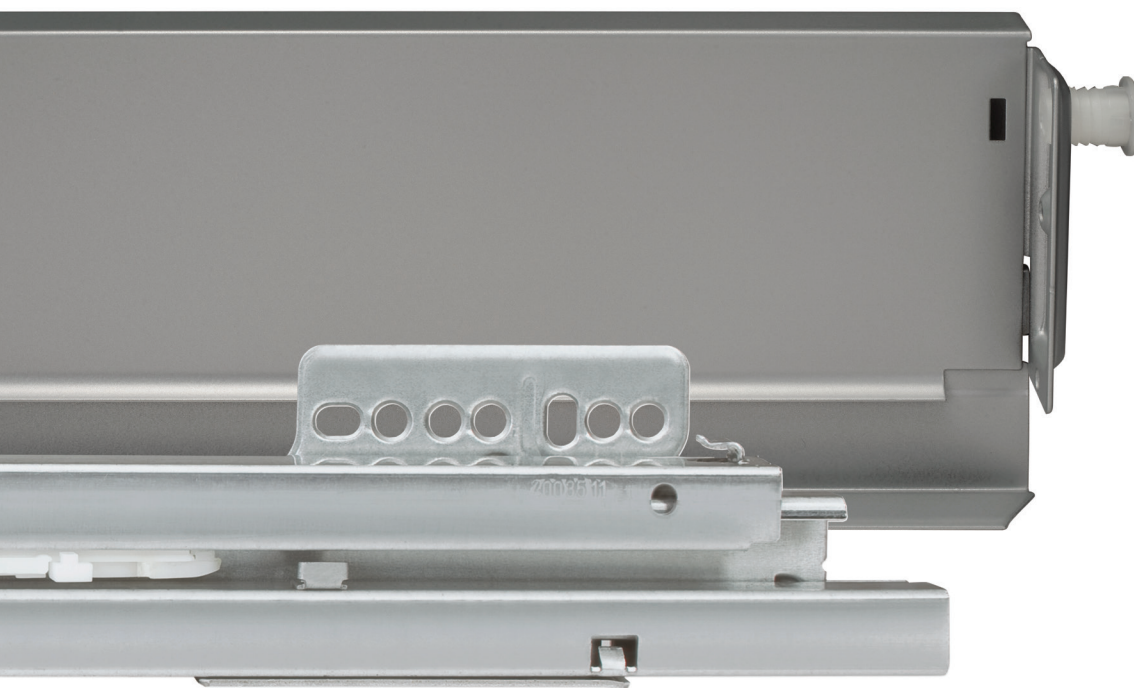
- Optimum space**
with 90° inside surface
- Combination drawer front release
and side adjustment lever**
± 1.5mm



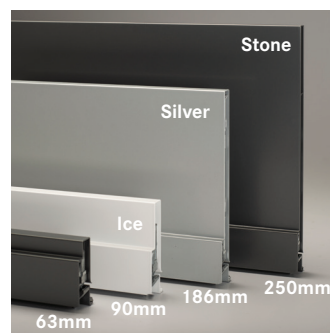
- Designer options**
with rectangular railing and custom
side panels

Features

- Vertical interior walls for optimum use of interior space
- Available in Silver, Stone, and Ice finishes
- Drawer side heights of 63mm, 90mm, 186mm, 250mm
- Carrying load ratings offered in 88 lb and 154 lb capacities
- Interior organization possible for deep drawers
- Side and divider railing available for all drawer heights
- Designer panels can be added to offer new design possibilities
- Sink back panel holder designed for use underneath sink drain trap
- Assembly aids for easy installation
- Works with Sensomatic (see online Nova Pro Scala catalog)
- Tilt adjustment on 186mm and 250mm deep drawers



Tipmatic Soft-close
for handle free drawers

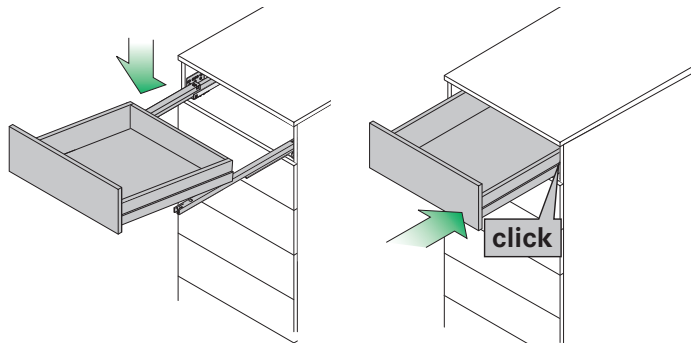


Technical Information

Nova Pro Scala

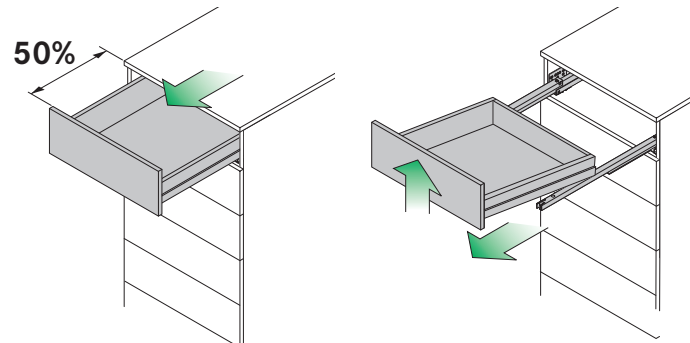
Inserting Drawer

Place drawer on extended Nova Pro slide and push in until it engages audibly.

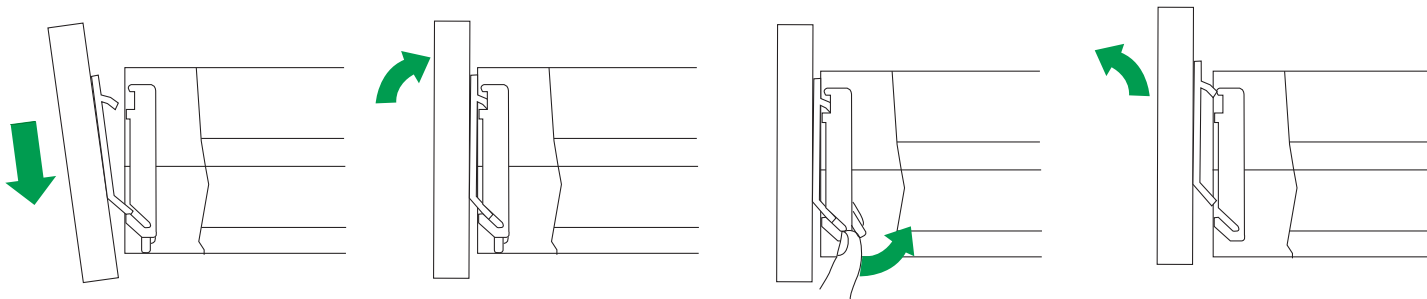


Removing Drawer

Extend drawer 50% open, grab drawer box and lift up and out.



Drawer Front Assembly



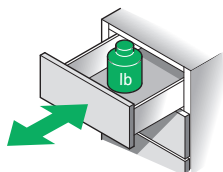
Front Assembly

1. Angle the front panel with the installation hooks into the lower slanted slot (0-positioning with the installation hooks).
2. Tilt the front in
3. Press down

Front Removal

1. Press the lever
2. Remove front panel

Weight Capacities per Pair of Slides

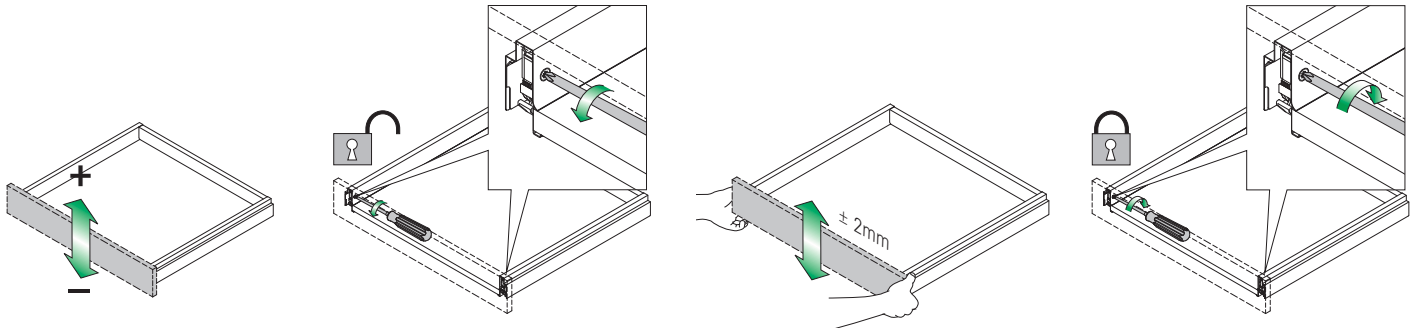


Nova Pro Scala is available in two load ratings: 88 lb (standard) and 154 lb (heavy duty) dynamic load rating

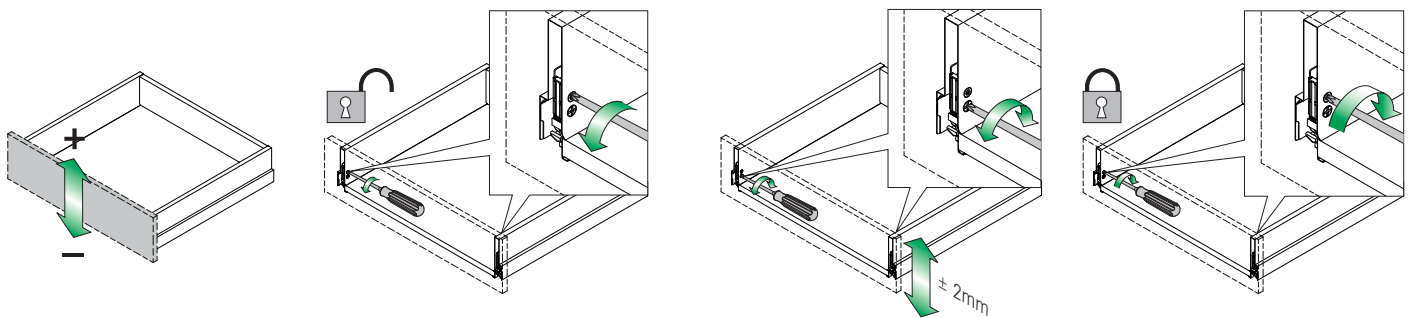
Nova Pro Scala meets and exceeds the minimum requirements of ANSI/BHMA A156.9 Standard, Grade 1

Height Adjustment $\pm 2\text{mm}$

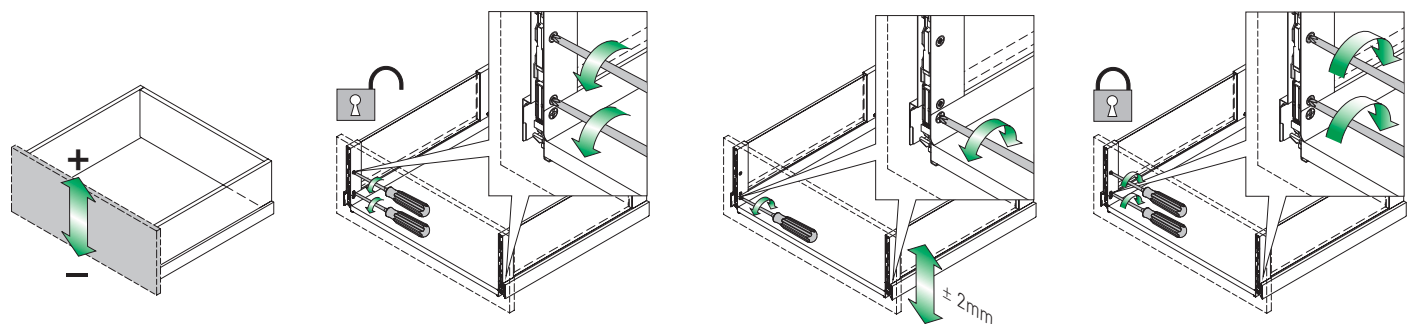
H63



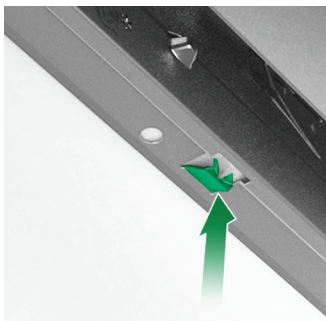
H90



H186 & H250



Knock-in Spikes - Fast Assembly



Fast and simple assembly.

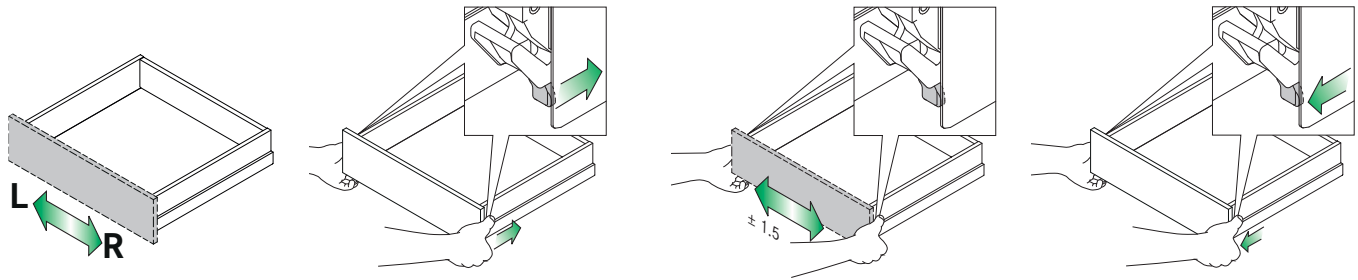
Knock-in spikes integrated into the drawer side ensure secure fastening between bottom panel and drawer side.

No machining of bottom panel required.

Technical Information

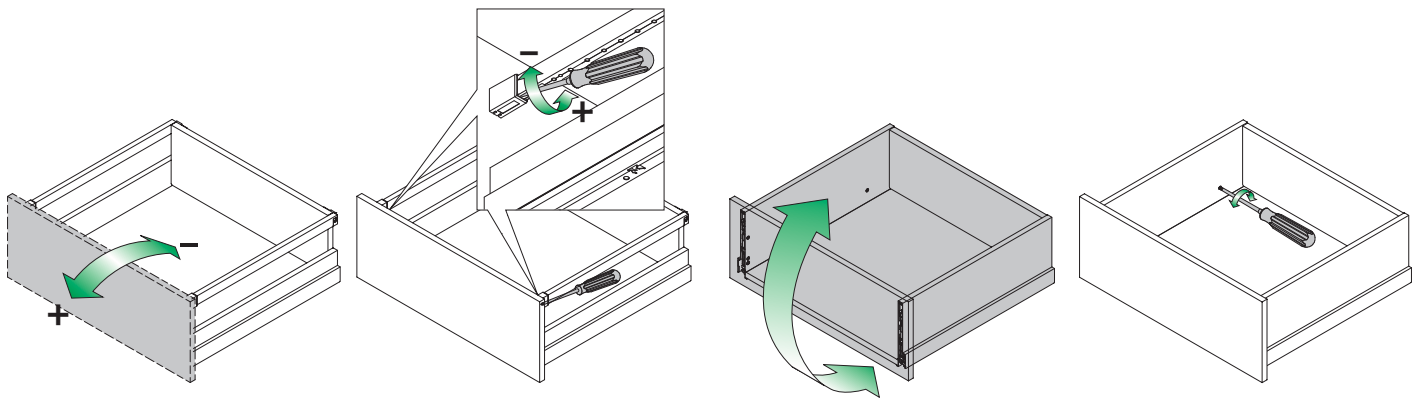
Nova Pro Scala

Side Adjustment $\pm 1.5\text{mm}$

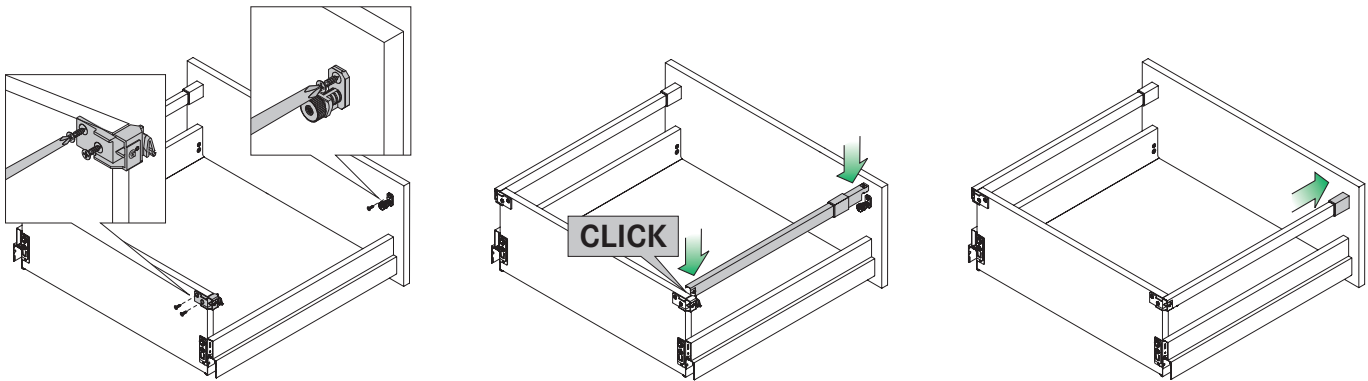


Tilt Adjustment - H90 with Rectangular Railing

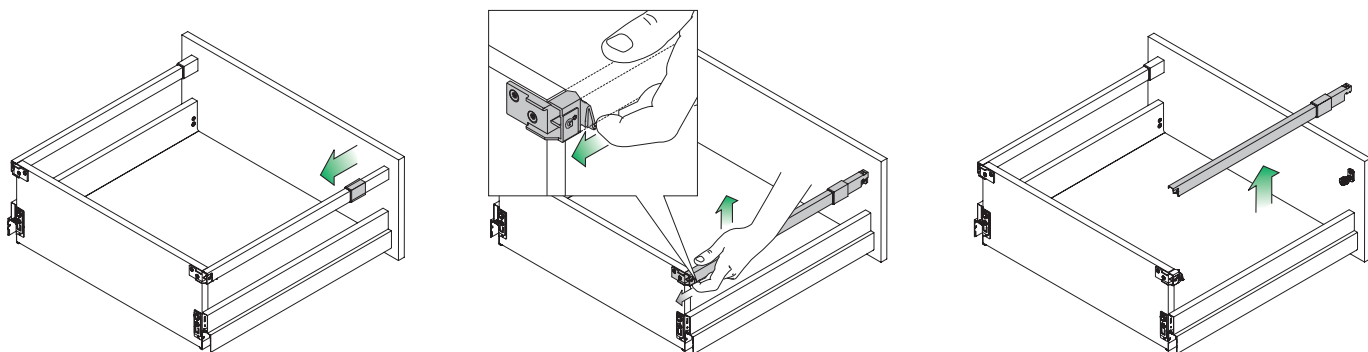
Tilt Adjustment - H122, H186 and H250 +2mm



Rectangular Railing Installation

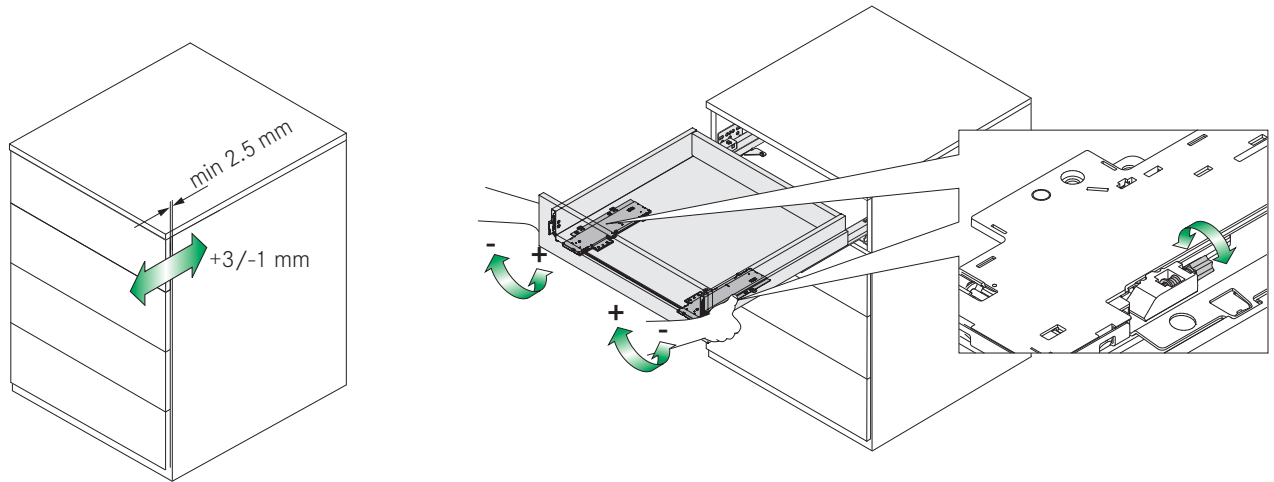


Rectangular Railing Dismounting

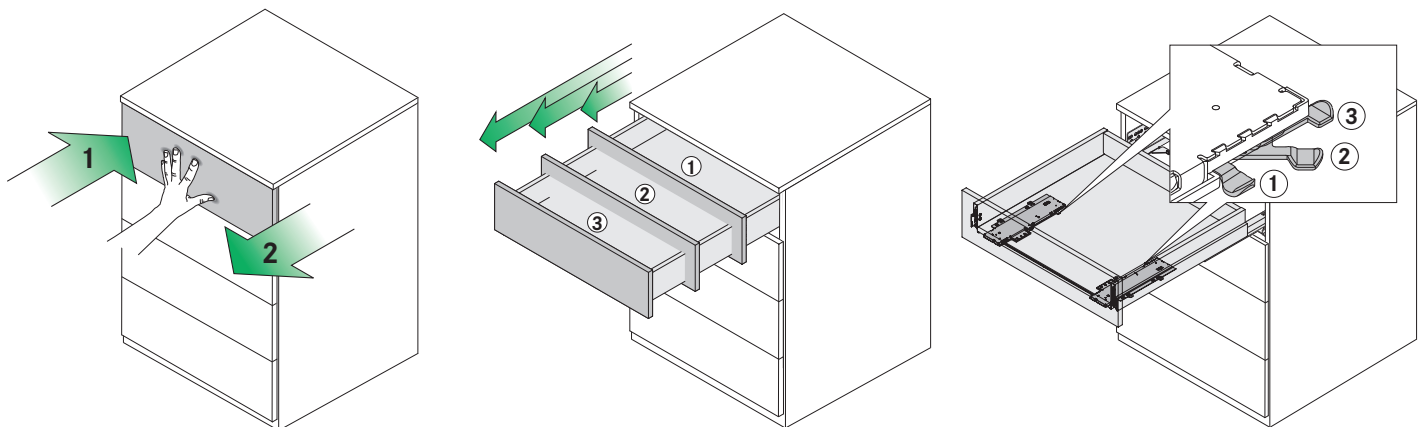


Tipmatic Soft-close Installation and Adjustment

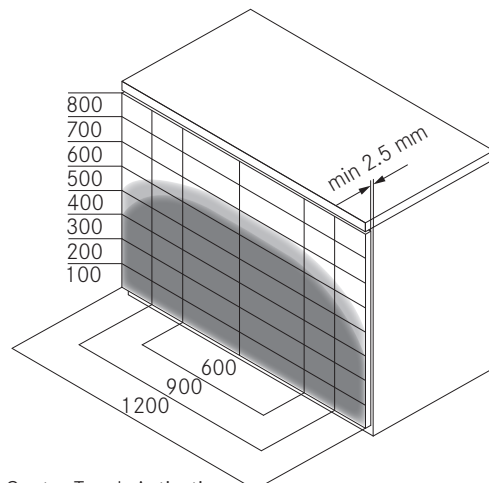
Front Gap Adjustment (+3mm/-1mm)



Opening Force Adjustment



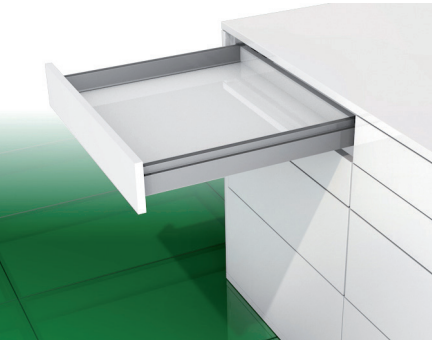
Tipmatic Activation Range



Center Touch Activation
All measurements are in millimeters

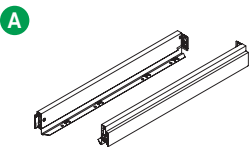
Nova Pro Scala, Shallow Drawer

H63 Series - 63mm (2 1/2") side height drawer system



- Extremely shallow drawer for limited heights
- Full extension for maximum access to drawer contents
- Integrated height and side adjustment
- Compatible with Tipmatic Soft-close
- Tool-free drawer front removal and installation
- Available load capacities: 88 lb (40kg) and 154 lb (70kg) dynamic
- Fully-synchronized slide technology
- Soft-close damping system

Drawer Member Set



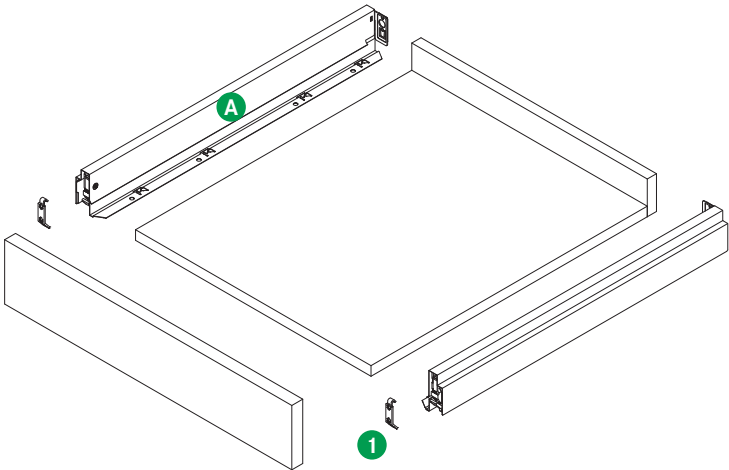
Description	Slide Length	Item No. Stone	Item No. Ice	Item No. Silver	PU
A Nova Pro Scala H63/400 Drawer Member Set	400 (16")	F100103009 211	F100103036 211	F100103063 211	10
Nova Pro Scala H63/450 Drawer Member Set	450 (18")	F100103012 211	F100103039 211	F100103066 211	10
Nova Pro Scala H63/500 Drawer Member Set	500 (20")	F100103015 211	F100103042 211	F100103069 211	10
Nova Pro Scala H63/550 Drawer Member Set	550 (22")	F100103018 211	F100103045 211	F100103072 211	10

Front Brackets



Description	Item No.	PU
1 Screw-on H63 Bracket	F102038330 123	100
Dowelled H63 Bracket, 10mm	F102038331 123	100

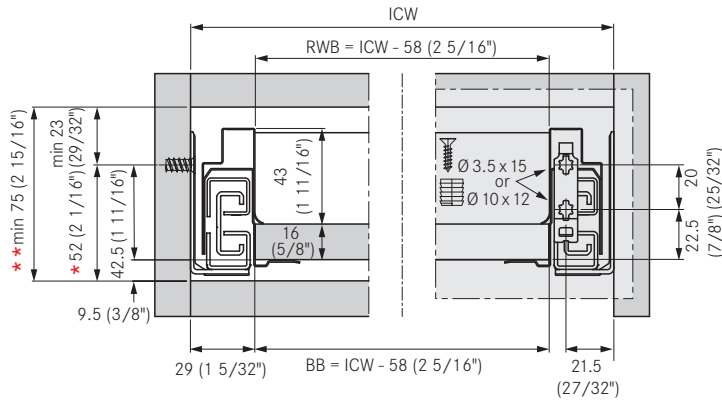
Note: Two brackets are required per drawer



PU - Packaging unit

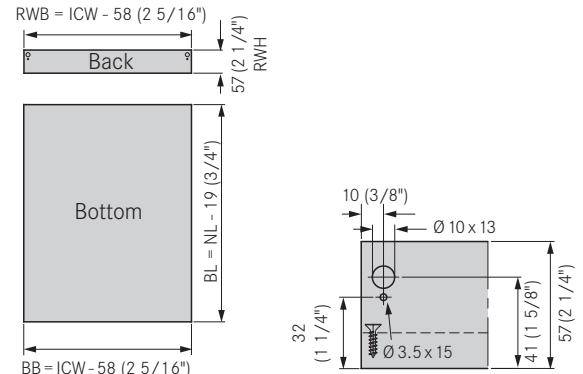
Drawer Installation Dimensions

Drawer Back and Bottom Measurements



** Recommendation/Minimum Dimension: Soft-Close: 72.5mm (2 7/8")
 Tipmatic Soft-close: 81mm (3 3/16")

* Recommendation/Minimum Dimension: Soft-Close: 49.5mm (1 15/16")
 Tipmatic Soft-close: 58mm (2 5/16")

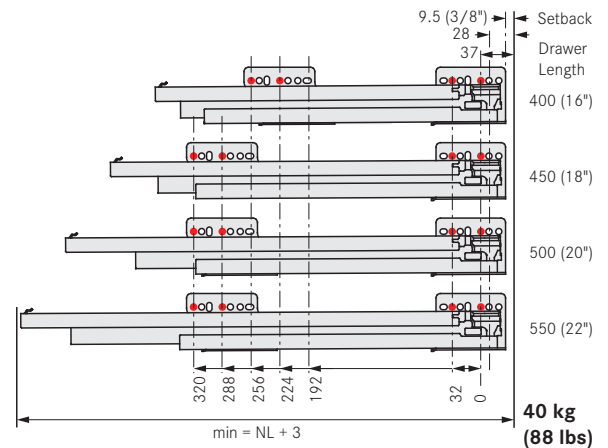
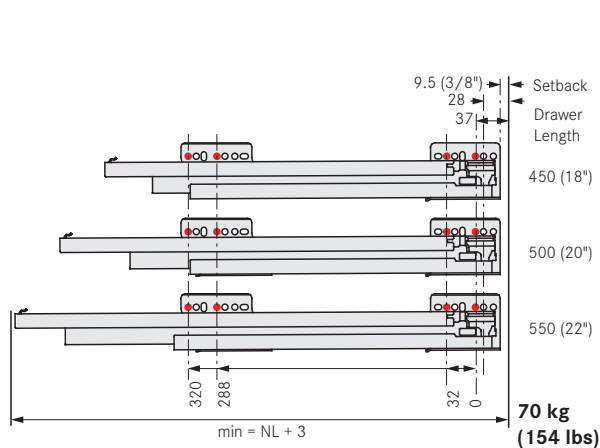


Note: Cutting dimensions for back and bottom based on 16mm material

Bottom Panel Length			
Nominal Length	16mm (5/8") Back Panel	Nominal Length	16mm (5/8") Back Panel
400 (15 3/4")	381 (15")	500 (19 11/16")	481 (18 15/16")
450 (17 23/32")	431 (16 31/32")	550 (21 21/32")	531 (20 29/32")

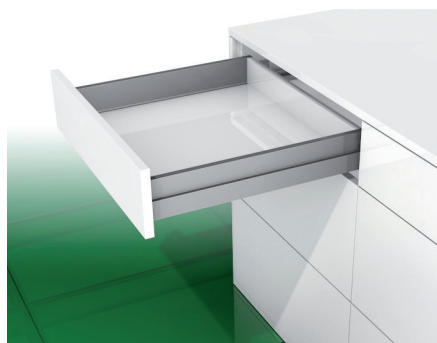
Cabinet Boring Specifications

BB = Bottom Panel Width
 BL = Bottom Panel Length
 ICW = Inside Cabinet Width
 NL = Nominal Length
 RWB = Back Panel Width
 RWH = Back Panel Height



Nova Pro Scala, Standard Drawer

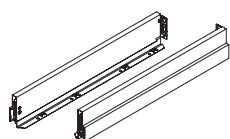
H90 Series - 90mm (3 1/2") side height drawer system



- The practical standard drawer for all applications
- Full extension for maximum access to drawer contents
- Integrated height and side adjustment
- Compatible with Tipmatic Soft-close
- Tool-free drawer front removal and installation
- Available load capacities: 88 lb (40kg) and 154 lb (70kg) dynamic
- Fully-synchronized slide technology
- Soft-close damping system

Drawer Member Set

A



Description	Slide Length	Item No. Stone	Item No. Ice	Item No. Silver	PU
A Nova Pro Scala H90/270 Drawer Member Set	270 (11")	F100103108211	F100103135211	F100103162211	10
Nova Pro Scala H90/300 Drawer Member Set	300 (12")	F100103111211	F100103138211	F100103165211	10
Nova Pro Scala H90/350 Drawer Member Set	350 (14")	F100103114211	F100103141211	F100103168211	10
Nova Pro Scala H90/400 Drawer Member Set	400 (16")	F100103117211	F100103144211	F100103171211	10
Nova Pro Scala H90/450 Drawer Member Set	450 (18")	F100103120211	F100103147211	F100103174211	10
Nova Pro Scala H90/500 Drawer Member Set	500 (20")	F100103123211	F100103150211	F100103177211	10
Nova Pro Scala H90/550 Drawer Member Set	550 (22")	F100103126211	F100103153211	F100103180211	10
Nova Pro Scala H90/600 Drawer Member Set	600 (24")	F100103129211	F100103156211	F100103183211	10
Nova Pro Scala H90/650 Drawer Member Set	650 (26")	F100103132211	F100103159211	F100103186211	10

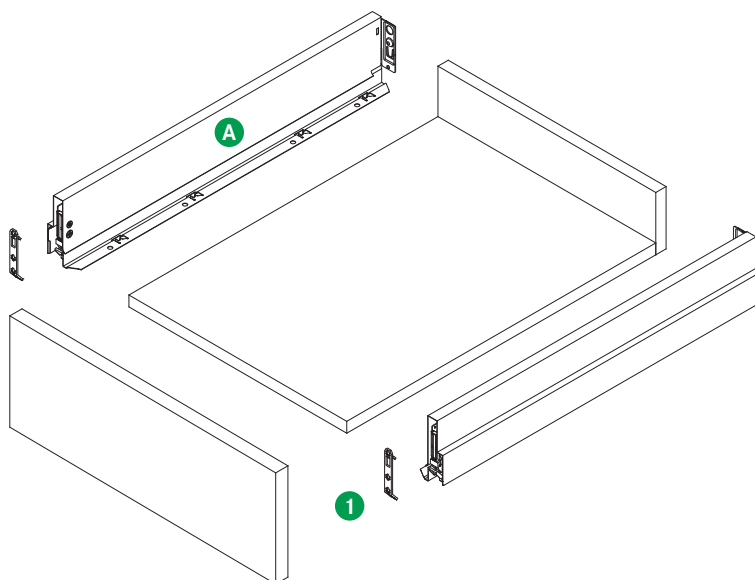
Front Brackets

1



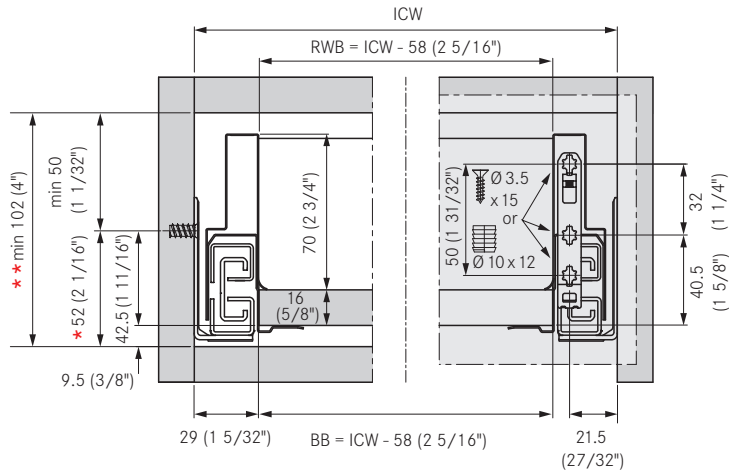
Description	Item No.	PU
1 Screw-on Bracket	F102021855123	100
Dowelled Bracket, 10mm	F102021854123	100

Note: Two brackets are required per drawer



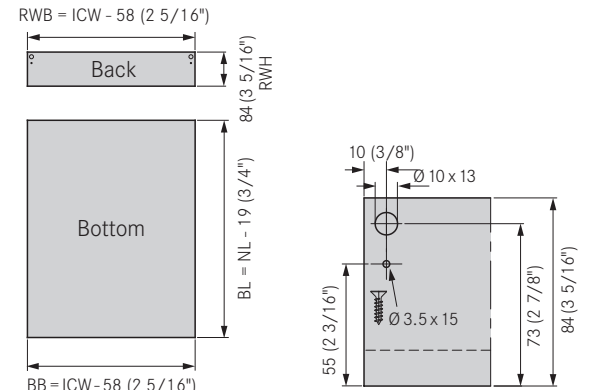
PU - Packaging unit

Drawer Installation Dimensions



** Recommendation/Minimum Dimension: Soft-Close: 99.5mm (3 15/16")
 Tipmatic Soft-close: 108mm (4 1/4")

Drawer Back and Bottom Measurements

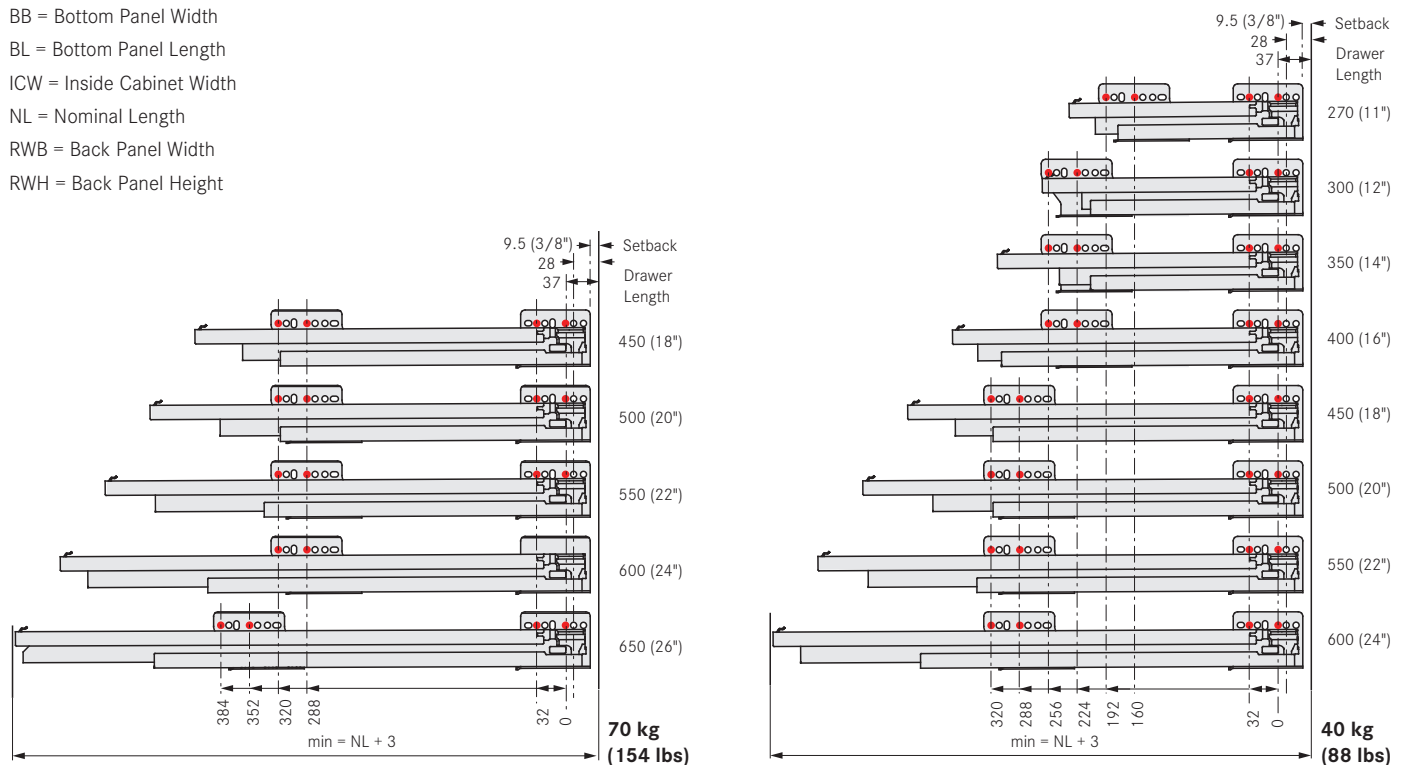


Note: Cutting dimensions for back and bottom based on 16mm material

Bottom Panel Length			
Nominal Length	16mm (5/8") Back Panel	Nominal Length	16mm (5/8") Back Panel
270 (10 5/8")	251 (9 7/8")	500 (19 11/16")	481 (18 15/16")
300 (11 13/16")	281 (11 1/16")	550 (21 21/32")	531 (20 29/32")
350 (13 25/32")	331 (13 1/32")	600 (23 5/8")	581 (22 7/8")
400 (15 3/4")	381 (15")	650 (25 19/32")	631 (24 27/32")
450 (17 23/32")	431 (16 31/32")		

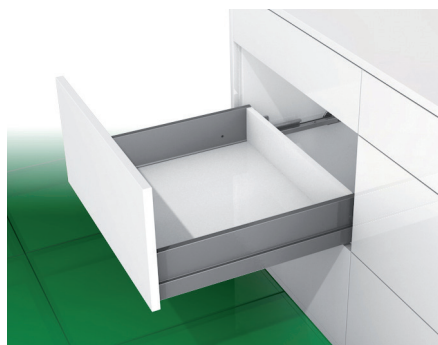
Cabinet Boring Specifications

BB = Bottom Panel Width
 BL = Bottom Panel Length
 ICW = Inside Cabinet Width
 NL = Nominal Length
 RWB = Back Panel Width
 RWH = Back Panel Height



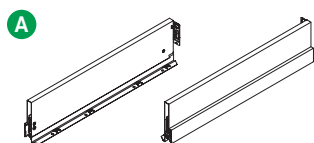
Nova Pro Scala, Deep Drawer

H122 Series - 122mm (4 13/16") side height drawer system



- Slim, deep drawer side
- Full extension for maximum access to drawer contents
- Integrated height, side and tilt adjustment
- Compatible with Tipmatic Soft-close
- Tool-free drawer front removal and installation
- Available load capacities: 88 lb (40kg) and 154 lb (70kg) dynamic
- Fully-synchronized slide technology
- Soft-close damping system

Drawer Member Set



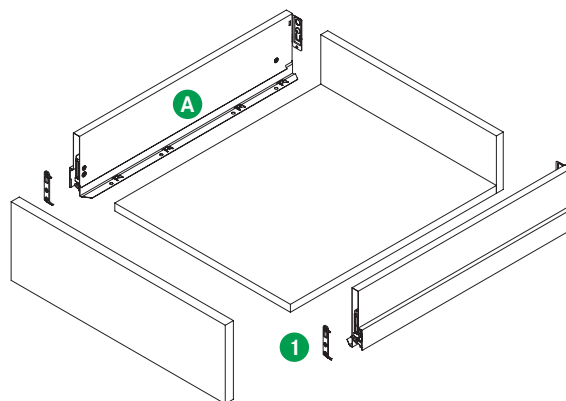
Description	Slide Length	Item No. Stone	Item No. Ice	PU
A Nova Pro Scala H122/350 Drawer Member Set	350 (14")	F100103222 211	F100103249 211	10
Nova Pro Scala H122/400 Drawer Member Set	400 (16")	F100103225 211	F100103252 211	10
Nova Pro Scala H122/450 Drawer Member Set	450 (18")	F100103228 211	F100103255 211	10
Nova Pro Scala H122/500 Drawer Member Set	500 (20")	F100103231 211	F100103258 211	10
Nova Pro Scala H122/550 Drawer Member Set	550 (22")	F100103234 211	F100103261 211	10

Front Brackets



Description	Item No.	PU
1 Screw-on Bracket	F102021855 123	100
Dowelled Bracket, 10mm	F102021854 123	100

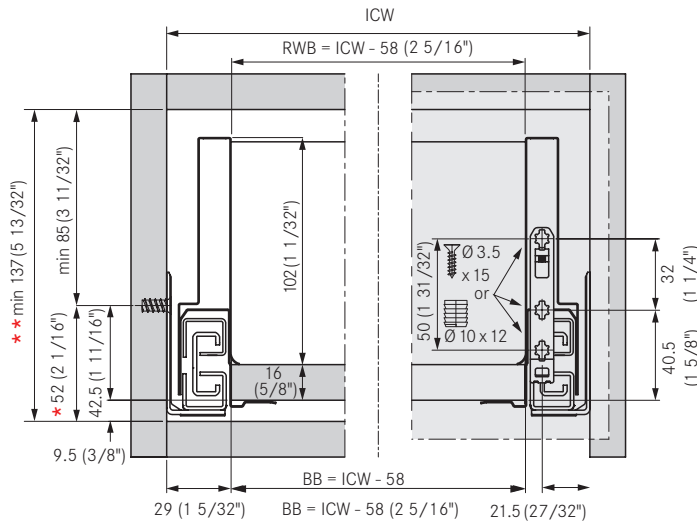
Note: Two brackets are required per drawer



PU - Packaging unit

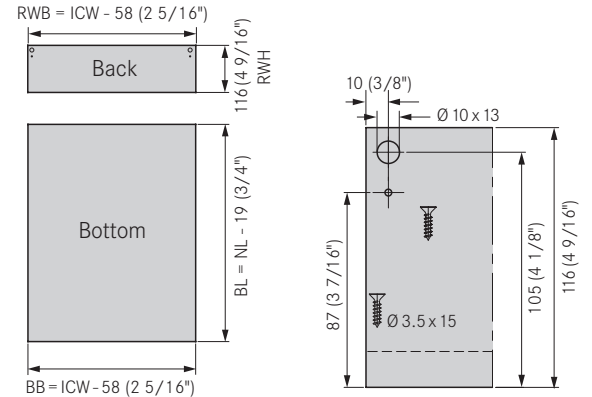
Drawer Installation Dimensions

Drawer Back and Bottom Measurements



*** Recommendation/Minimum Dimension:
Soft-Close: 134.5mm (5 9/32")
Tipmatic Soft-close: 143mm (5 5/8")

*** Recommendation/Minimum Dimension:
Soft-Close: 49.5mm (1 15/16")
Tipmatic Soft-close: 58mm (2 5/16")

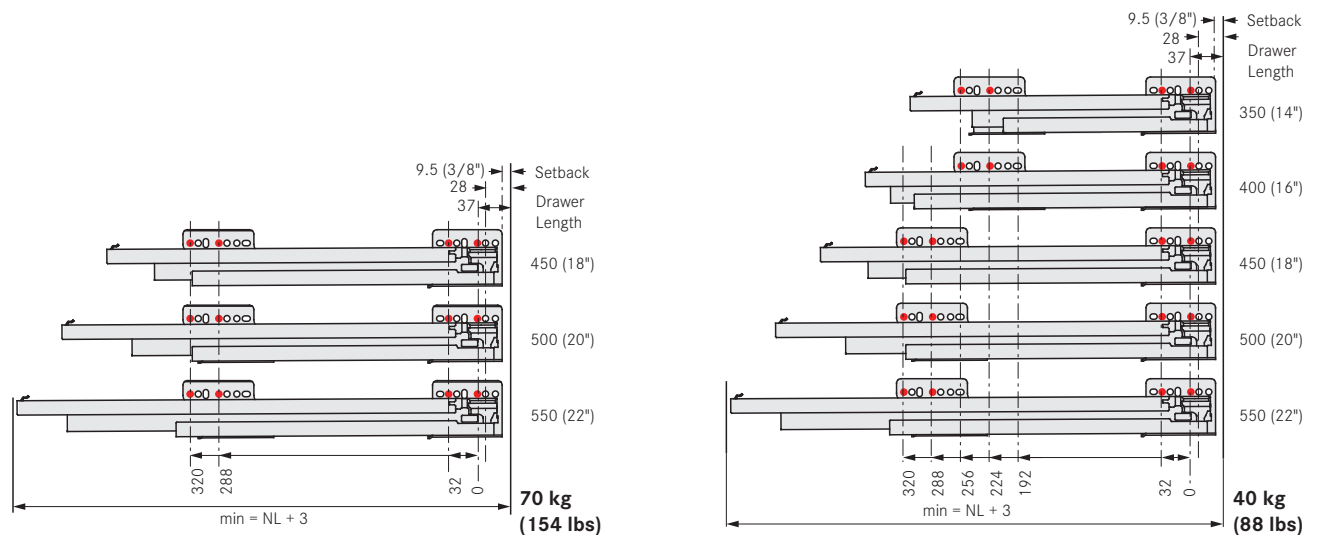


Note: Cutting dimensions for back and bottom based on 16mm material

Bottom Panel Length			
Nominal Length	16mm (5/8") Back Panel	Nominal Length	16mm (5/8") Back Panel
350 (13 25/32")	331 (13 1/32")	500 (19 11/16")	481 (18 15/16")
400 (15 3/4")	381 (15")	550 (21 21/32")	531 (20 29/32")
450 (17 23/32")	431 (16 31/32")		

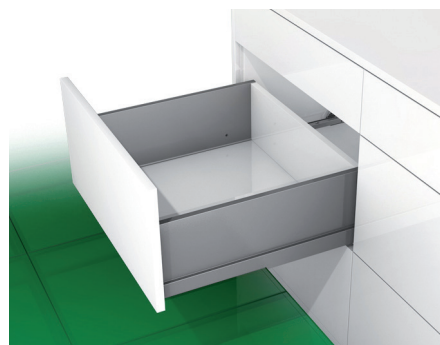
Cabinet Boring Specifications

BB = Bottom Panel Width
BL = Bottom Panel Length
ICW = Inside Cabinet Width
NL = Nominal Length
RWB = Back Panel Width
RWH = Back Panel Height



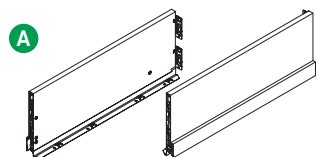
Nova Pro Scala, Deep Drawer

H186 Series - 186mm (7 5/16") side height drawer system



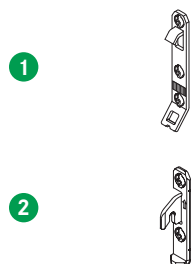
- Slim, deep drawer side
- High stability up to a drawer front height of 780mm (30 11/16")
- Full extension for maximum access to drawer contents
- Integrated height, side and tilt adjustment
- Compatible with Tipmatic Soft-close
- Tool-free drawer front removal and installation
- Available load capacities: 88 lb (40kg) and 154 lb (70kg) dynamic
- Fully-synchronized slide technology
- Soft-close damping system

Drawer Member Set



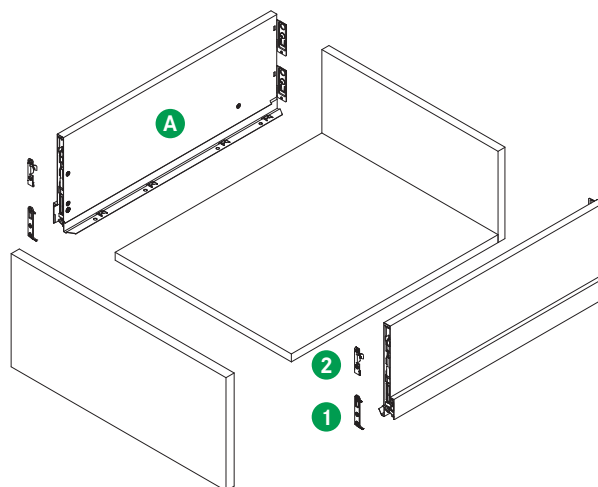
Description	Slide Length	Item No. Stone	Item No. Ice	Item No. Silver	PU
A Nova Pro Scala H186/270 Drawer Member Set	270 (11")	F100103300 211	F100103327 211	F100103354 211	10
Nova Pro Scala H186/300 Drawer Member Set	300 (12")	F100103303 211	F100103330 211	F100103357 211	10
Nova Pro Scala H186/350 Drawer Member Set	350 (14")	F100103306 211	F100103333 211	F100103360 211	10
Nova Pro Scala H186/400 Drawer Member Set	400 (16")	F100103309 211	F100103336 211	F100103363 211	10
Nova Pro Scala H186/450 Drawer Member Set	450 (18")	F100103312 211	F100103339 211	F100103366 211	10
Nova Pro Scala H186/500 Drawer Member Set	500 (20")	F100103315 211	F100103342 211	F100103369 211	10
Nova Pro Scala H186/550 Drawer Member Set	550 (22")	F100103318 211	F100103345 211	F100103372 211	10
Nova Pro Scala H186/600 Drawer Member Set	600 (24")	F100103321 211	F100103348 211	F100103375 211	10
Nova Pro Scala H186/650 Drawer Member Set	650 (26")	F100103324 211	F100103351 211	F100103378 211	10

Front Brackets



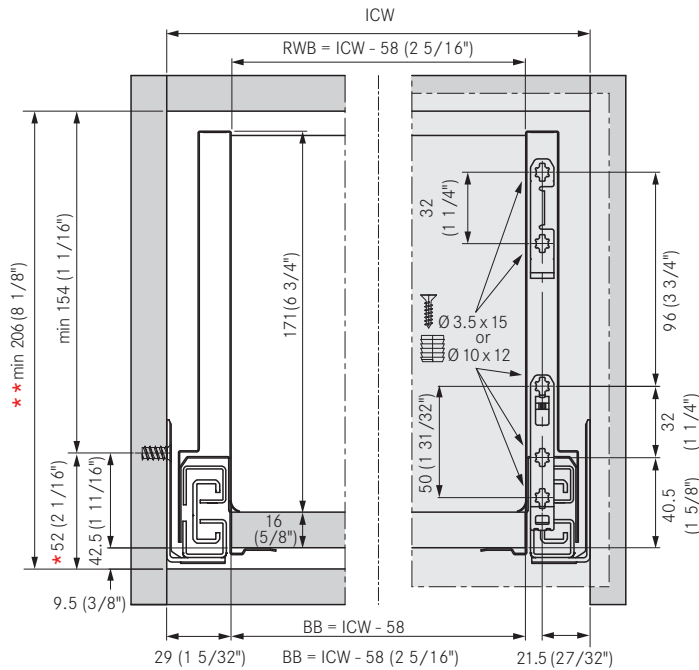
Description	Item No.	PU
1 Screw-on Bracket	F102021855 123	100
Dowelled Bracket, 10mm	F102021854 123	100
2 Screw-on Front Clip	F102104833 123	100
Dowelled Front Clip, 10mm	F102104834 123	100

Note: Two brackets and two front clips are required per drawer



PU - Packaging unit

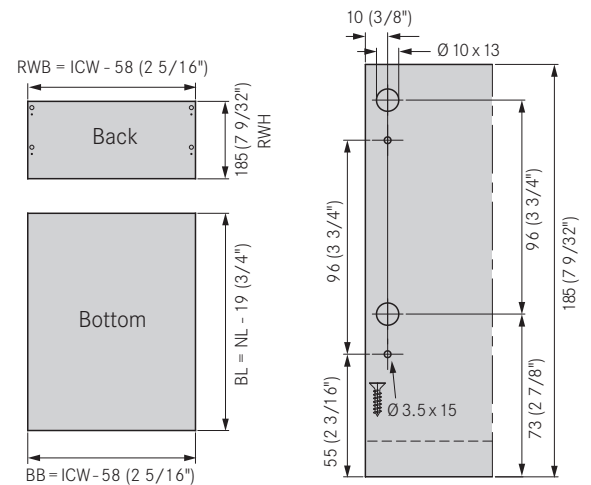
Drawer Installation Dimensions



***Recommendation/Minimum Dimension:
Soft-Close: 203.5mm (8")
Tipmatic Soft-close: 212mm (8 3/8")

***Recommendation/Minimum Dimension:
Soft-Close: 49.5mm (1 15/16")
Tipmatic Soft-close: 58mm (2 5/16")

Drawer Back and Bottom Measurements

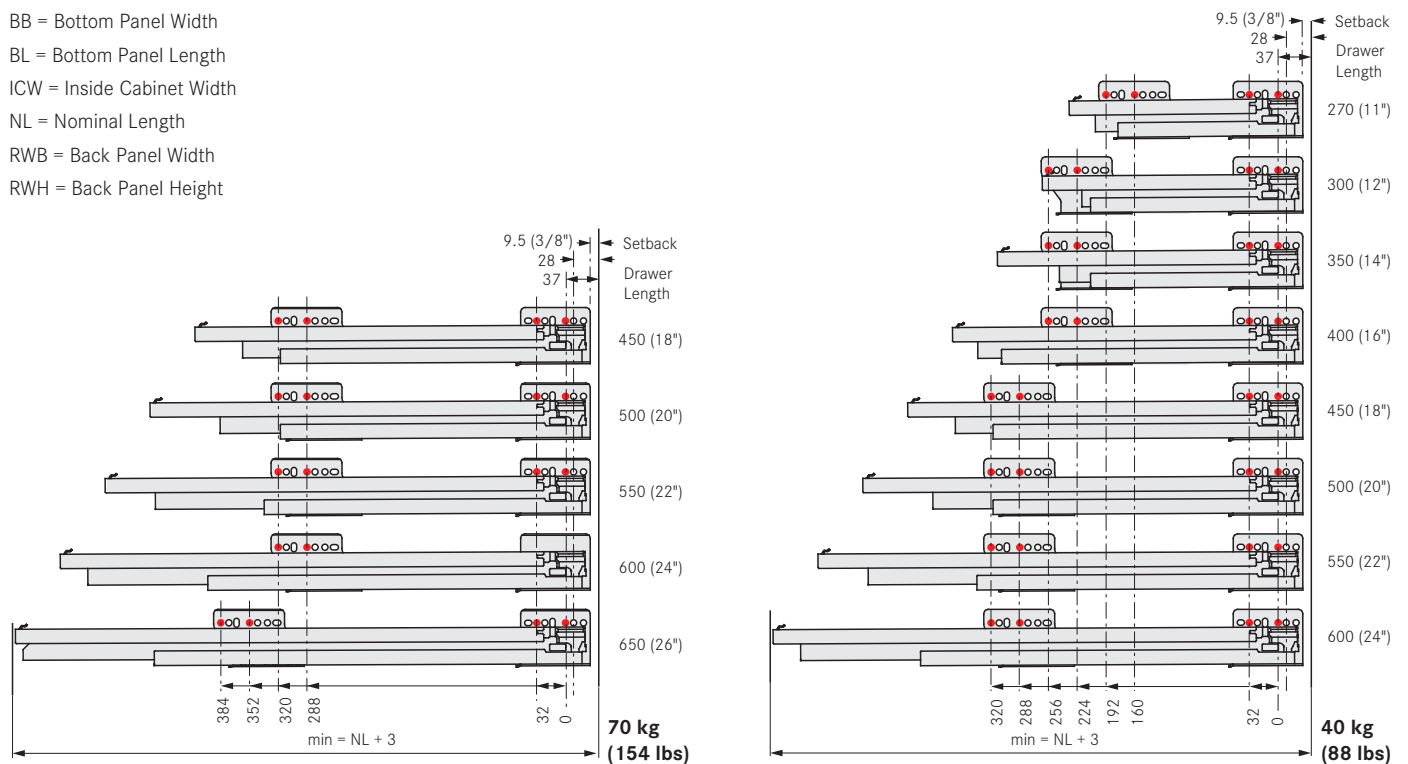


Note: Cutting dimensions for back and bottom based on 16mm material

Bottom Panel Length			
Nominal Length	16mm (5/8") Back Panel	Nominal Length	16mm (5/8") Back Panel
270 (10 5/8")	251 (9 7/8")	500 (19 11/16")	481 (18 15/16")
300 (11 13/16")	281 (11 1/16")	550 (21 21/32")	531 (20 29/32")
350 (13 25/32")	331 (13 1/32")	600 (23 5/8")	581 (22 7/8")
400 (15 3/4")	381 (15")	650 (25 19/32")	631 (24 27/32")
450 (17 23/32")	431 (16 31/32")		

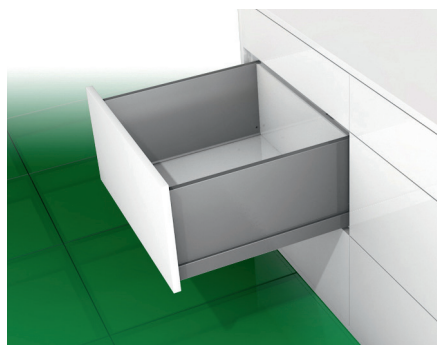
Cabinet Boring Specifications

BB = Bottom Panel Width
BL = Bottom Panel Length
ICW = Inside Cabinet Width
NL = Nominal Length
RWB = Back Panel Width
RWH = Back Panel Height



Nova Pro Scala, Deep Drawer

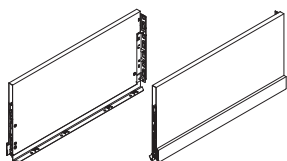
H250 Series - 250mm (9 13/16") side height drawer system



- Slim, deep drawer side
- High stability up to a drawer front height of 780mm (30 11/16")
- Full extension for maximum access to drawer contents
- Integrated height and side adjustment and tilt adjustment
- Compatible with Tipmatic Soft-close
- Tool-free drawer front removal and installation
- Available load capacities: 88 lb (40kg) and 154 lb (70kg) dynamic
- Fully-synchronized slide technology
- Soft-close damping system

Drawer Member Set

A



Description	Slide Length	Item No. Stone	Item No. Ice	Item No. Silver	PU
A Nova Pro Scala H250/300 Drawer Member Set	300 (12")	F100131031207	F100131058207	F100131085207	5
Nova Pro Scala H250/350 Drawer Member Set	350 (14")	F100131034207	F100131061207	F100131088207	5
Nova Pro Scala H250/400 Drawer Member Set	400 (16")	F100131037207	F100131064207	F100131091207	5
Nova Pro Scala H250/450 Drawer Member Set	450 (18")	F100131040207	F100131067207	F100131094207	5
Nova Pro Scala H250/500 Drawer Member Set	500 (20")	F100131043207	F100131070207	F100131097207	5
Nova Pro Scala H250/550 Drawer Member Set	550 (22")	F100131046207	F100131073207	F100131100207	5
Nova Pro Scala H250/600 Drawer Member Set	600 (24")	F100131049207	F100131076207	F100131103207	5

Front Brackets

1



2

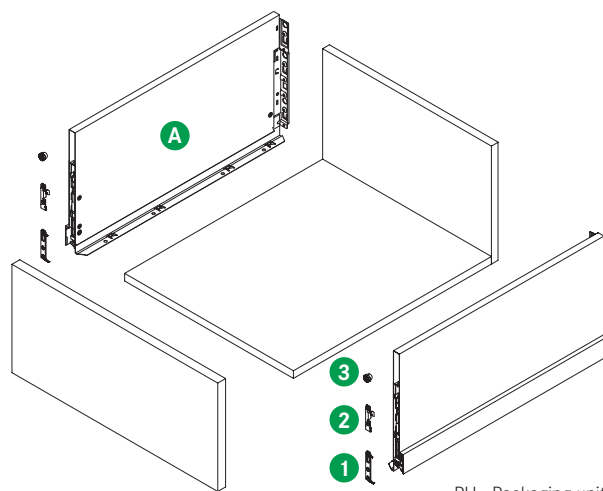


3



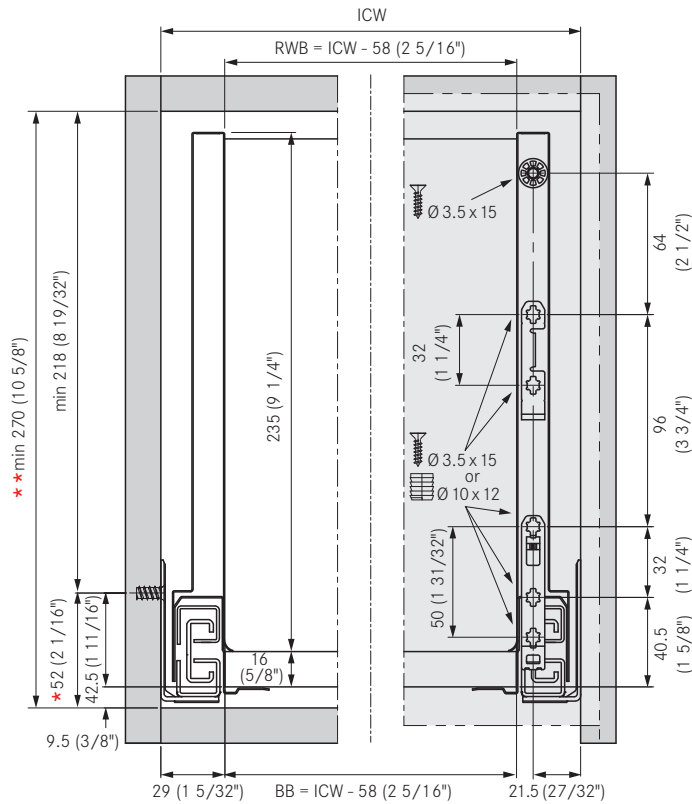
Description	Item No.	PU
1 Screw-on Bracket	F102021855123	100
Dowelled Bracket, 10mm	F102021854123	100
2 Screw-on Front Clip	F102104833123	100
Dowelled Front Clip, 10mm	F102104834123	100
3 Front Stabilizer	F102109564123	100

Note: Two brackets, two front clips, and two front stabilizers are required per drawer



PU - Packaging unit

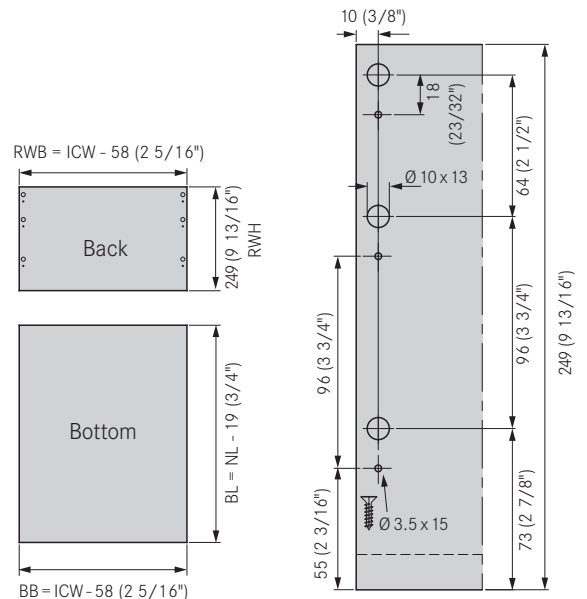
Drawer Installation Dimensions



*** Recommendation/Minimum Dimension:
Soft-Close: 267.5mm (10 9/16")
Tipmatic Soft-close: 276mm (10 7/8")

*** Recommendation/Minimum Dimension:
Soft-Close: 49.5mm (1 15/16")
Tipmatic Soft-close: 58mm (2 5/16")

Drawer Back and Bottom Measurements

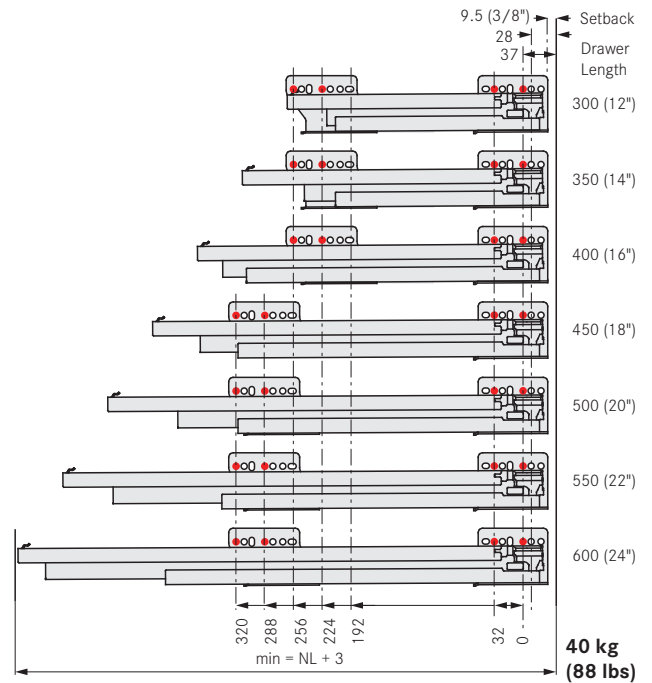
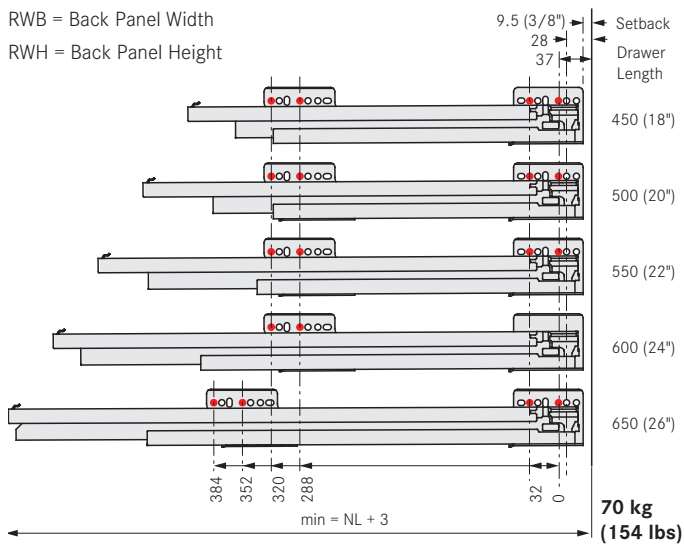


Note: Cutting dimensions for back and bottom based on 16mm material

Bottom Panel Length			
Nominal Length	16mm (5/8") Back Panel	Nominal Length	16mm (5/8") Back Panel
300 (11 13/16")	281 (11 1/16")	500 (19 11/16")	481 (18 15/16")
350 (13 25/32")	331 (13 1/32")	550 (21 21/32")	531 (20 29/32")
400 (15 3/4")	381 (15")	600 (23 5/8")	581 (22 7/8")
450 (17 23/32")	431 (16 31/32")		

Cabinet Boring Specifications

BB = Bottom Panel Width
BL = Bottom Panel Length
ICW = Inside Cabinet Width
NL = Nominal Length
RWB = Back Panel Width
RWH = Back Panel Height



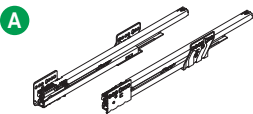
Nova Pro Scala, Cabinet Members, Soft-Close

Full extension slide 88/154 lb (40/70kg)

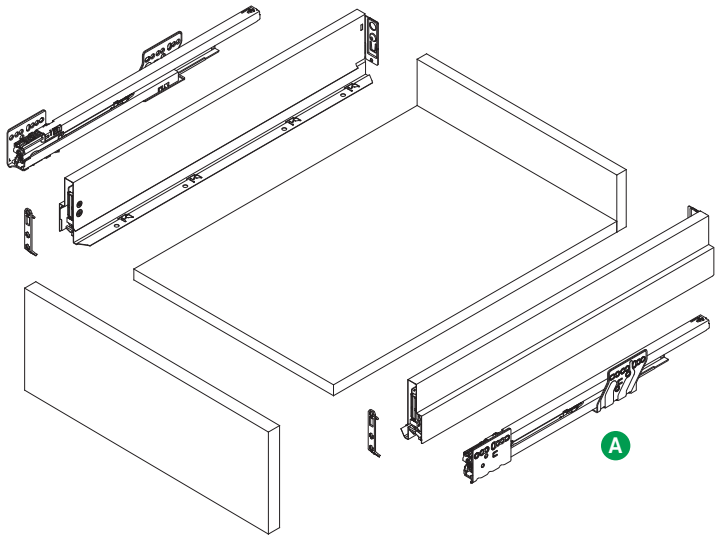


- Standard drawer slide for all applications
- Full extension for maximum access to drawer contents
- Available load capacities: 88 lb (40kg) and 154 lb (70kg) dynamic
- Fully-synchronized slide technology
- Soft-close damping system

Cabinet Member Set

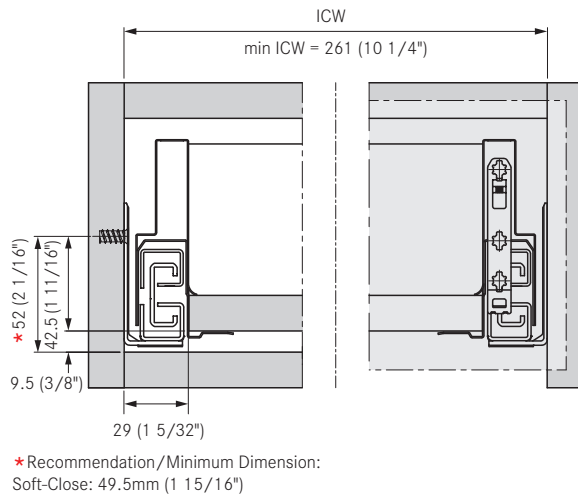


Description	Length	40kg (88 lb) capacity	70kg (154 lb) capacity	PU
A Nova Pro Scala Cabinet Member Set	270 (11")	F101108261507	-	5
Nova Pro Scala Cabinet Member Set	300 (12")	F101108264507	-	5
Nova Pro Scala Cabinet Member Set	350 (14")	F101108267507	-	5
Nova Pro Scala Cabinet Member Set	400 (16")	F101108270507	-	5
Nova Pro Scala Cabinet Member Set	450 (18")	F101108273507	F101108285507	5
Nova Pro Scala Cabinet Member Set	500 (20")	F101108276507	F101108288507	5
Nova Pro Scala Cabinet Member Set	550 (22")	F101108279507	F101108291507	5
Nova Pro Scala Cabinet Member Set	600 (24")	F101108282507	F101108294507	5
Nova Pro Scala Cabinet Member Set	650 (26")	-	F101108297507	5
Nova Pro Scala Cabinet Member Set	270 (11")	F101108261211	-	10
Nova Pro Scala Cabinet Member Set	300 (12")	F101108264211	-	10
Nova Pro Scala Cabinet Member Set	350 (14")	F101108267211	-	10
Nova Pro Scala Cabinet Member Set	400 (16")	F101108270211	-	10
Nova Pro Scala Cabinet Member Set	450 (18")	F101108273211	-	10
Nova Pro Scala Cabinet Member Set	500 (20")	F101108276211	-	10
Nova Pro Scala Cabinet Member Set	550 (22")	F101108279211	-	10
Nova Pro Scala Cabinet Member Set	600 (24")	F101108282211	-	10



PU - Packaging unit

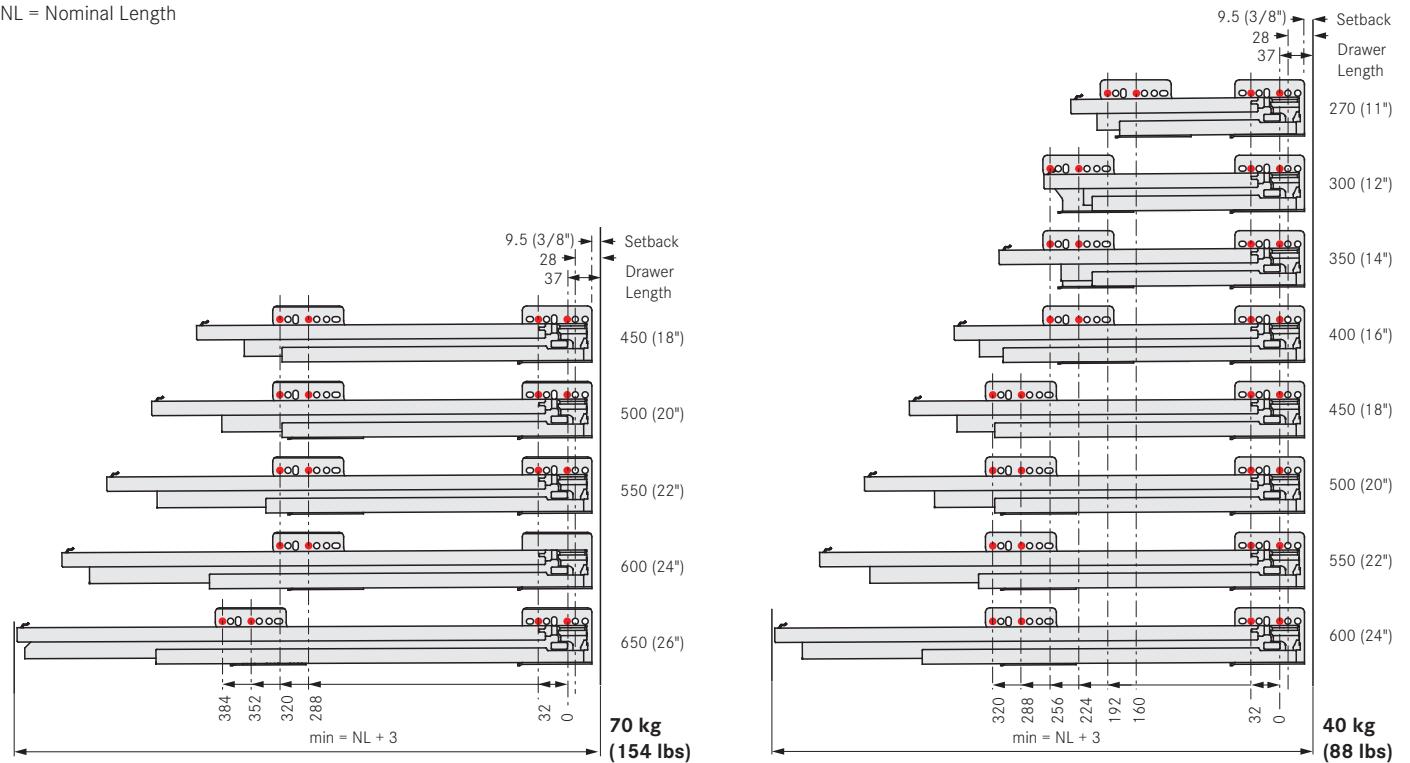
Drawer Installation Dimensions



Cabinet Boring Specifications

ICW = Inside Cabinet Width

NL = Nominal Length



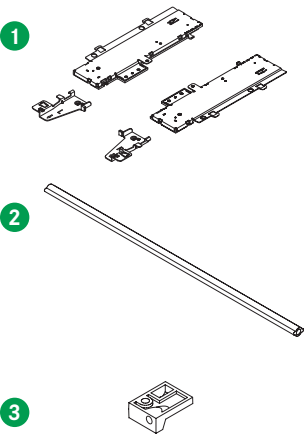
Nova Pro Scala Tipmatic Soft-close

Tipmatic full extension with soft-close action

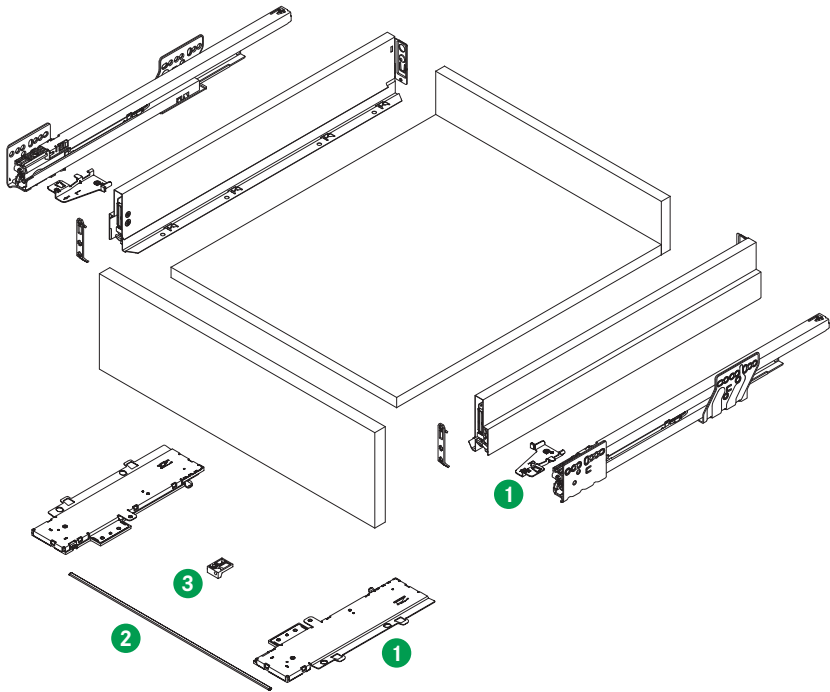


- Mechanical opening system for handle-free fronts
- Combines Tipmatic function with Soft-close damping
- Tool-free assembly
- Universal for all Nova Pro Scala lengths and weight classes
- 3-tier opening force adjustment
- Wide activation zone due to synchronization bar

Tipmatic Soft-close

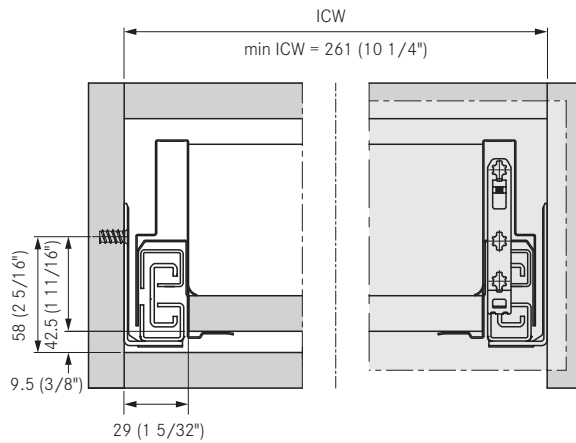


Description	Item No.	PU
(Must order separately)		
1 Tipmatic Soft-close set, unit and activator	F102134456607	10
2 Tipmatic synchronization bar - cut to length, 962mm (37 7/8")	F102109393207	10
3 Tipmatic synchronization bar support - Screw-on	F102108021207	10

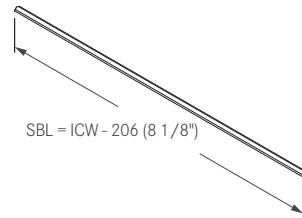


PU - Packaging unit

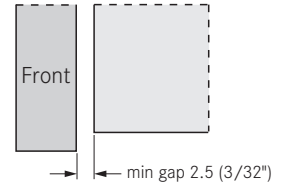
Drawer Installation Dimensions



Synchronization Bar



Minimum Front Gap



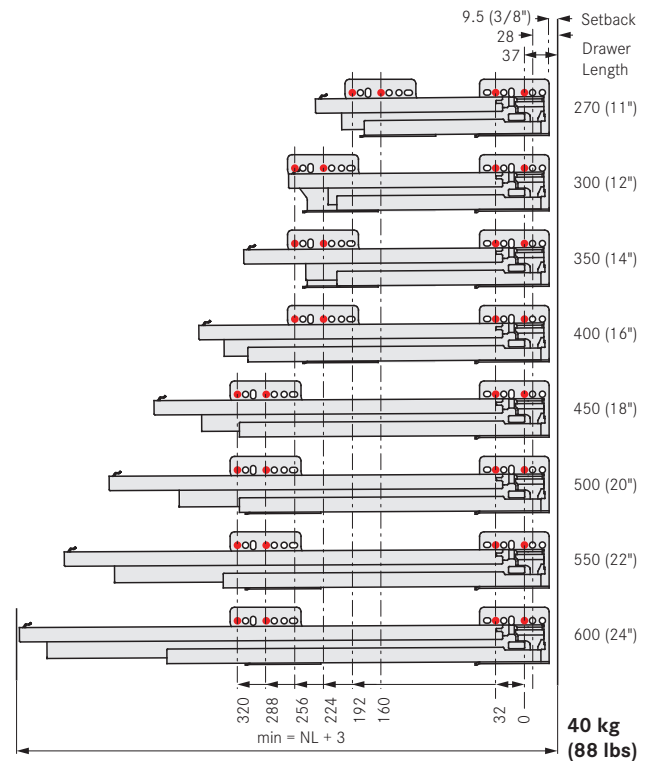
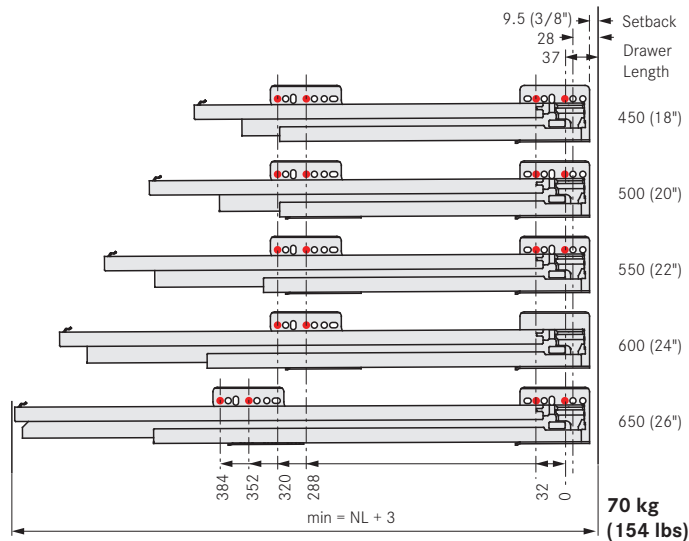
Cabinet Boring Specifications

ICW = Inside Cabinet Width

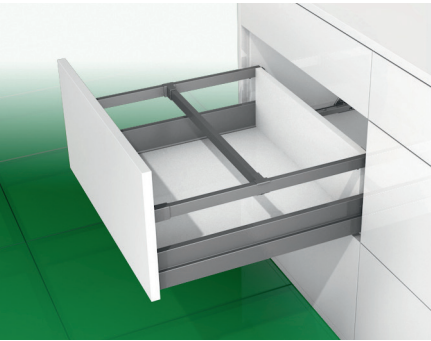
IDW = Inside Drawer Width

NL = Nominal Length

SBL = Synchronization Bar Length

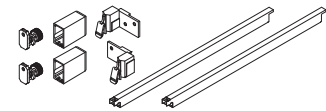


Nova Pro Scala Rectangular Railing



- Snug-fitting rectangular railing
- Flush-fitting back panel adapter
- Easy installation
- Easy tilt adjustment
- For use with Nova Pro Scala drawer sides
- Complete set packaging

Rectangular Railing Set

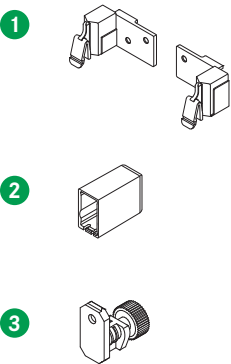


Set consists of:

- 2 Railings
- 2 Cover caps
- Railing bracket front left & right
- Railing bracket back left & right

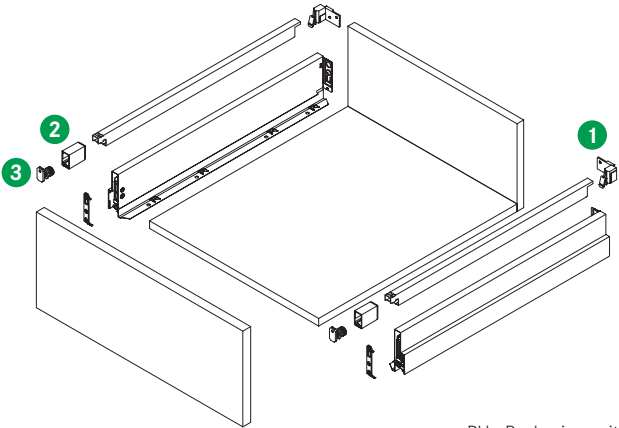
Description	Slide Length	Item No. Stone	Item No. Ice	Item No. Silver	PU
Nova Pro Scala 270 Railing Set	270 (11")	F102103516507	F102103525507	F102103534507	10
Nova Pro Scala 300 Railing Set	300 (12")	F102103517507	F102103526507	F102103535507	10
Nova Pro Scala 350 Railing Set	350 (14")	F102103518507	F102103527507	F102103536507	10
Nova Pro Scala 400 Railing Set	400 (16")	F102103519507	F102103528507	F102103537507	10
Nova Pro Scala 450 Railing Set	450 (18")	F102103520507	F102103529507	F102103538507	10
Nova Pro Scala 500 Railing Set	500 (20")	F102103521507	F102103530507	F102103539507	10
Nova Pro Scala 550 Railing Set	550 (22")	F102103522507	F102103531507	F102103540507	10
Nova Pro Scala 600 Railing Set	600 (24")	F102103523507	F102103532507	F102103541507	10
Nova Pro Scala 650 Railing Set	650 (26")	F102103524507	F102103533507	F102103542507	10

Rectangular Railing Components



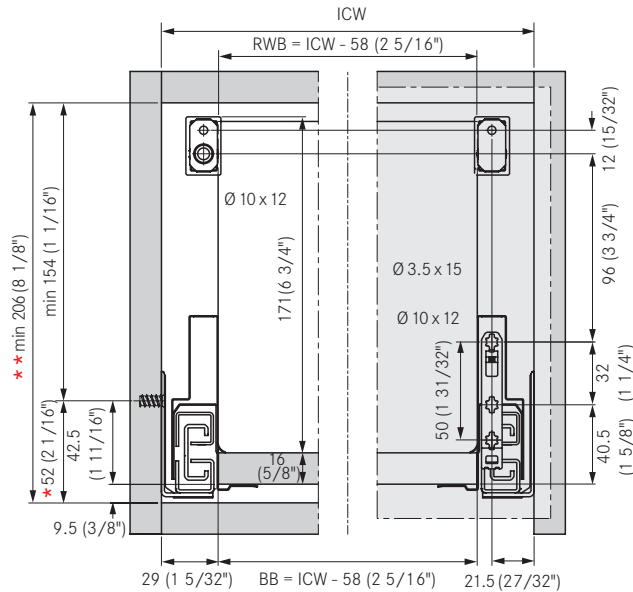
Description	Item No. Stone	Item No. Ice	Item No. Silver	PU
1 Railing Clip - back panel - Left	F102104670223	F102104681223	F102104692223	100
Railing Clip - back panel - Right	F102104671223	F102104682223	F102104693223	100
2 Railing cover cap	F102104676233	F102104687233	F102104698233	100

Description	Item No.	PU
3 Railing Clip - front panel - Screw-on	F102104668133	200
Railing Clip - front panel - Dowelled, 10mm	F102104669133	200



PU - Packaging unit

Drawer Installation Dimensions

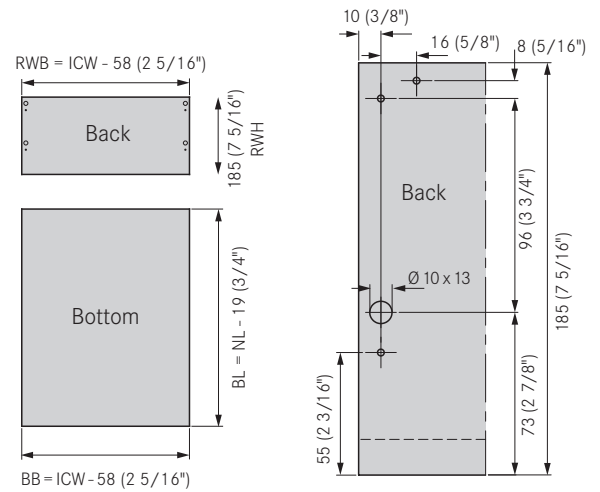


** min 206 (8 1/8")
 min 154 (1 1/16")
 52 (2 1/16")
 42.5 (1 11/16")
 9.5 (3/8")
 29 (1 5/32")
 21.5 (27/32")
 12 (15/32")
 96 (3 3/4")
 32 (1 1/4")
 40.5 (1 5/8")
 50 (1 31/32")
 16 (5/8")
 Ø 10 x 12
 Ø 3.5 x 15
 Ø 10 x 12
 171 (6 3/4")

** Recommendation/Minimum Dimension:
 Soft-Close: 203.5mm (8")
 Tipmatic Soft-close: 212mm (8 3/8")

** Recommendation/Minimum Dimension:
 Soft-Close: 49.5mm (1 15/16")
 Tipmatic Soft-close: 58mm (2 5/16")

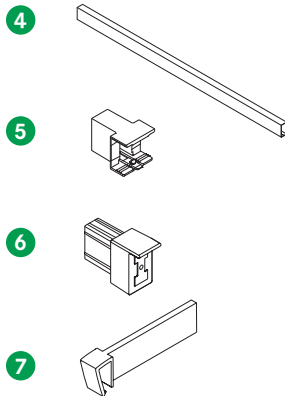
Drawer Back and Bottom Measurements



Note: Cutting dimensions for back and bottom based on 16mm material

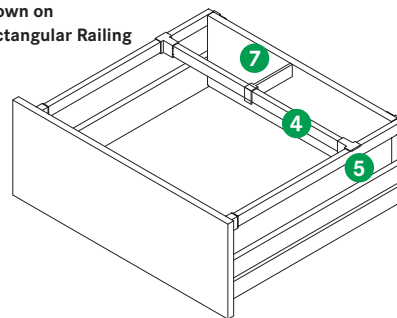
BB = Bottom Panel Width
 BL = Bottom Panel Length
 ICW = Inside Cabinet Width
 NL = Nominal Length
 RWB = Back Panel Width
 RWH = Back Panel Height

Divider Railing Components for Rectangular Railing

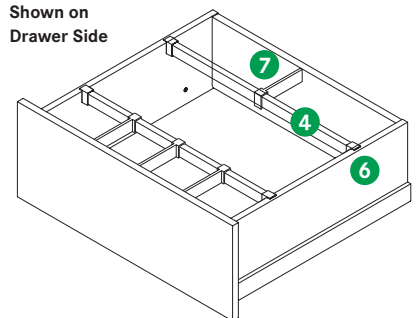


Description	Item No. Stone	Item No. Ice	Item No. Silver	PU
4 Divider Railing, can be cut to length - 1150mm (45 1/2")	F102108653207	F102108654207	F102108655207	100
5 Divider Railing Clip - for railing	F102104677233	F102104688233	F102104699233	100
6 Divider Railing Clip - for drawer side	F102108835233	F102108834233	F102108836233	100
7 Cross Divider for Railing	F102109962233	F102109963233	F102109964233	100

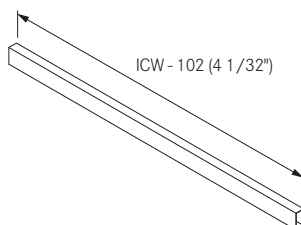
Shown on Rectangular Railing



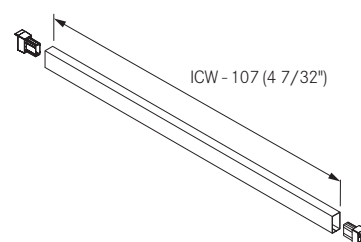
Shown on Drawer Side



Cutting Dimensions for Divider Railing on Rectangular Railing



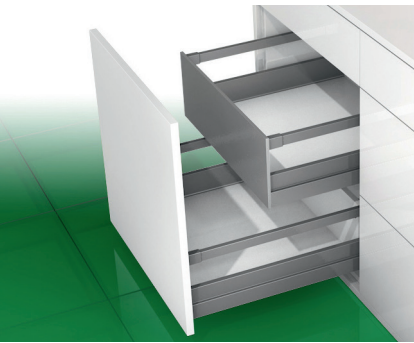
Cutting Dimensions for Divider Railing on Drawer Side



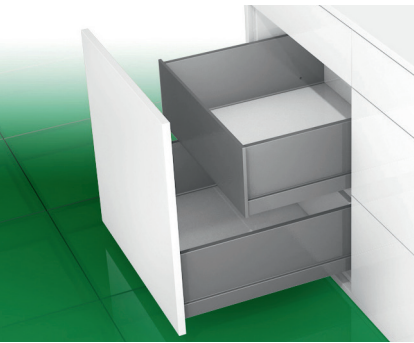
PU - Packaging unit

Nova Pro Scala Inset Drawer System

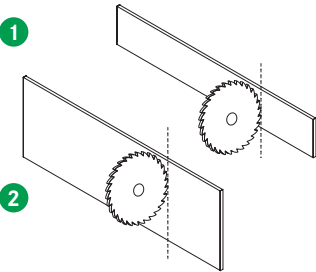
H90/H90 with railing/H186



- Color-coordinated aluminum front panel profile
- For 90mm (3 1/2") and 186mm (7 5/16") side heights

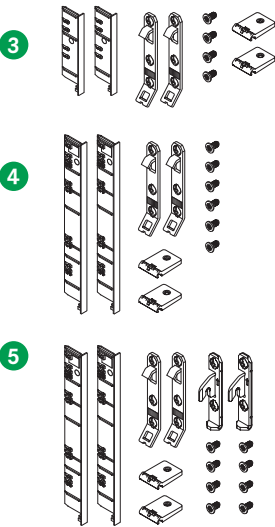


Inset Panels - Cut to Length



Description	Length	Item No. Stone	Item No. Ice	Item No. Silver	PU
1 Inset Panel for H90	1160 (45 11/16")	F102101371511	F102105357511	F102105069511	20
2 Inset Panel for H186 or H90 with railing	1160 (45 11/16")	F102101379507	F102105358507	F102105070507	10

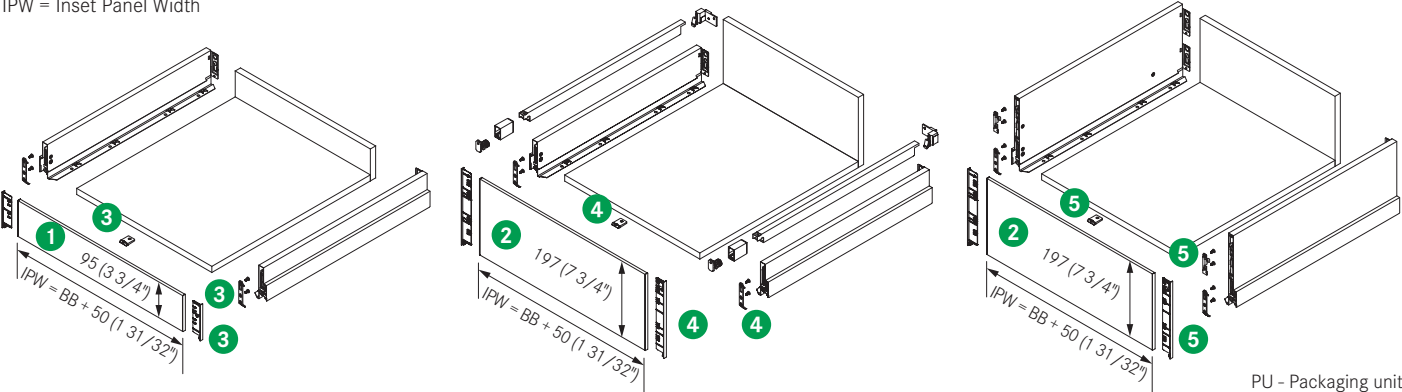
Accessory Sets



Description	Item No. Stone	Item No. Ice	Item No. Silver	PU
3 Accessory set - Inset Panel H90	F102109510517	F102109511517	F102109512517	50
4 Accessory set - Inset Panel H90 with railing	F102109516517	F102109517517	F102109518517	50
5 Accessory set - Inset Panel H186	F102109513517	F102109514517	F102109515517	50

- H90 Accessory Set consists of:**
 - 2 Cover Caps
 - 2 Installation brackets
 - 4 Special screws
 - 2 front-bottom connectors
- H186/H90 with Railing Accessory Set consists of:**
 - 2 Cover Caps
 - 2 Installation brackets
 - 6 Special screws
 - 2 front-bottom connectors
- H186 Set consists of:**
 - 2 Cover Caps
 - 2 Installation brackets
 - 2 Front Clips
 - 8 Special screws
 - 2 front-bottom connectors

BB = Bottom Panel Width
IPW = Inset Panel Width



PU - Packaging unit

Dividing System for Nova Pro Scala



- Dividing system for Nova Pro Scala deep drawers
- Organizes storage space for better drawer utilization
- Tool-free and adjustable for a variety of storage space arrangements
- Can be retrofitted at any time
- Color-coordinated with the drawer side
- Tavinea Optima also works with Vionaro drawer system

Tavinea Optima Profile Clip



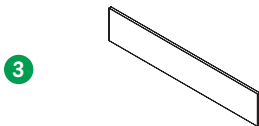
Description	Item No. Graphite/Stone	Item No. White/Ice	Item No. Silver Grey	PU
Profile Clip (Left or Right)	F007130228 511	F007130229 511	F007130230 511	20

Tavinea Optima Smartboard



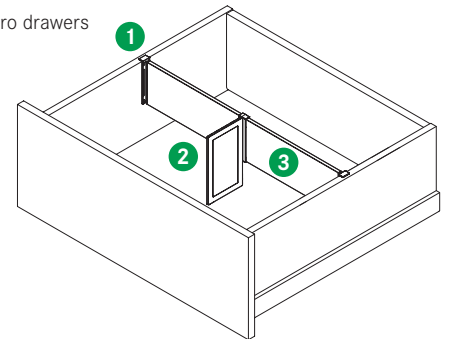
Description	Item No. Graphite/Stone	Item No. White/Ice	Item No. Silver Grey	PU
Smartboard	F007130245 211	F007130246 211	F007130247 211	20

Tavinea Optima Divider, cut to length

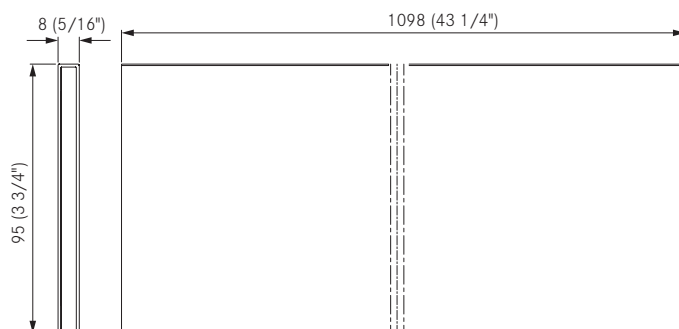


Description	Length	Item No. Stone	Item No. Ice	Item No. Silver	PU
Divider	1098 (43 1/4")	F007130234 507	F007130235 507	F007130236 507	10

Note: Tavinea Optima colors coordinate with Nova Pro Scala and Vionaro drawers

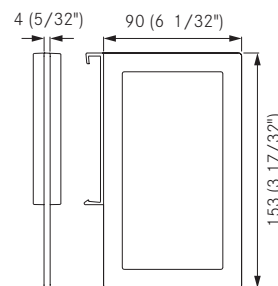


Divider Dimensions

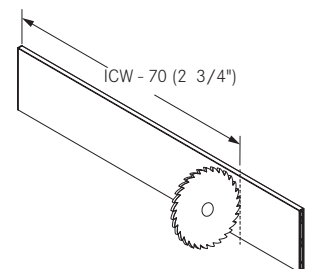


ICW = inside cabinet width

Smartboard Dimensions



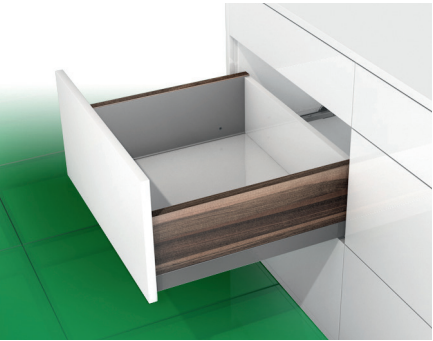
Cutting Dimensions of Divider Profile



PU - Packaging unit

Nova Pro Scala, Designer Panels

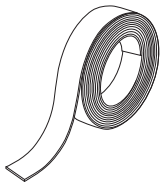
Magnetic Adhesive Tape for Panels



- Magnetic adhesive tape is used to affix custom designer panels onto Nova Pro Scala
- Panels can be fitted with either magnetic tape or adhesive bonding
- Panels should be attached after the production process
- Tape Roll is 3/4" wide x 131' long

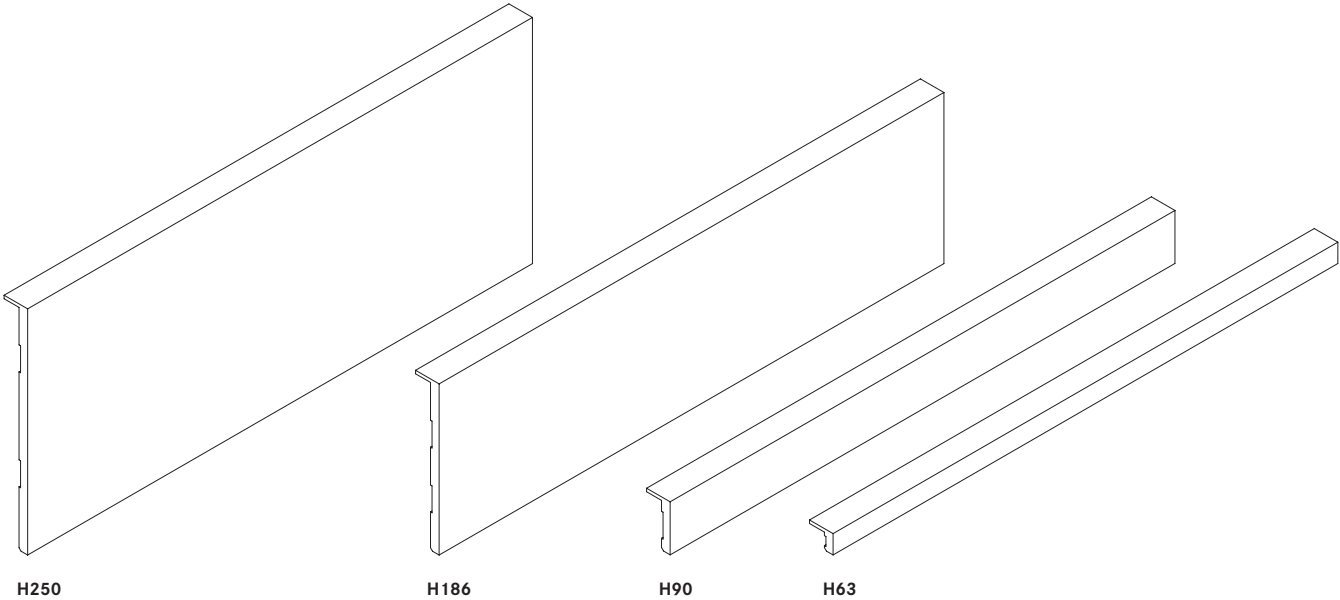
Note: Designer panels are not available from Grass

Designer Panel Magnetic Adhesive Tape



Description	Item No.	PU
Magnetic adhesive tape - Roll	F102108509501	1

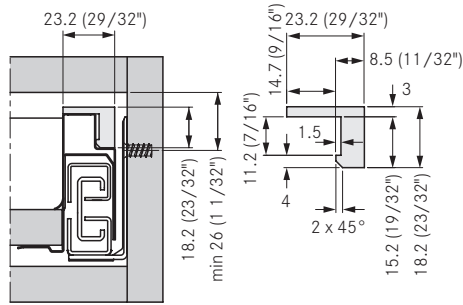
Note: For designer panel H63 the magnetic tape must be halved to 3/8" wide.



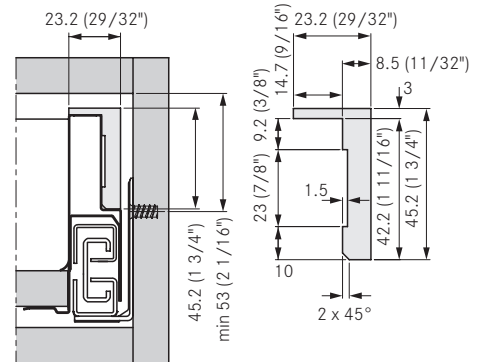
PU - Packaging unit

Designer Panel Installation Dimensions

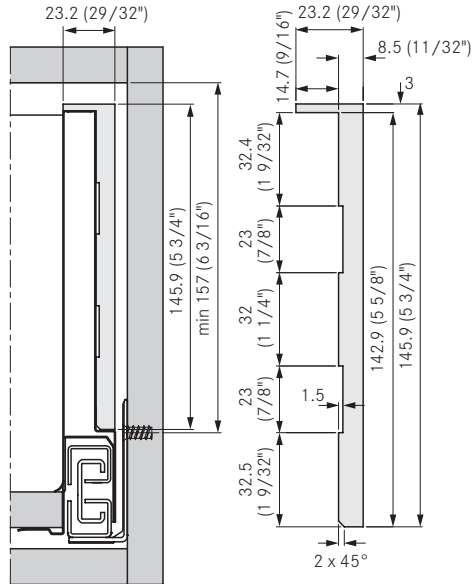
H63



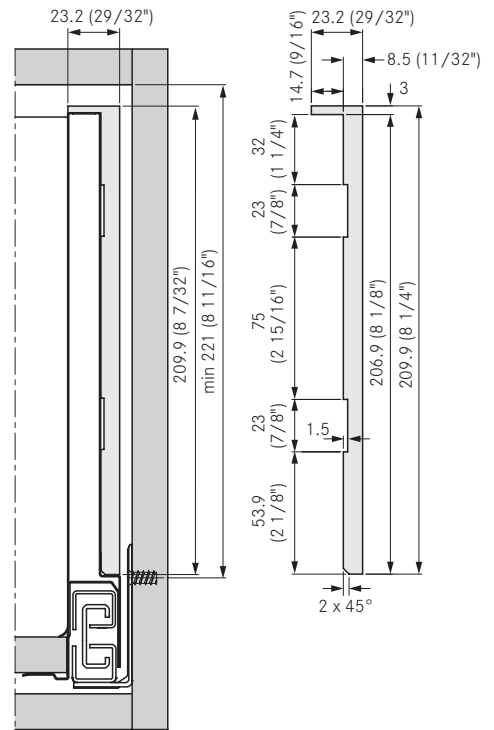
H90



H186



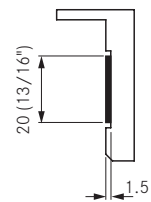
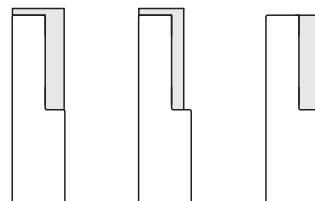
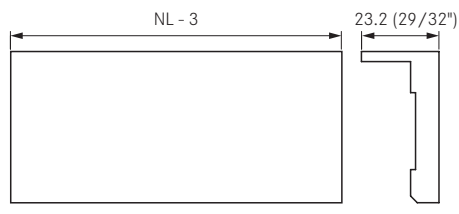
H250



Drawer Measurements

Design Options

Magnetic Tape



NL = Nominal Length

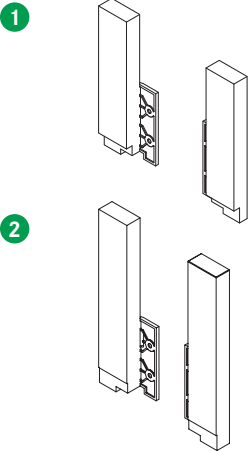
Nova Pro Scala, Sink Back Panel Holder

H90 with railing or H186

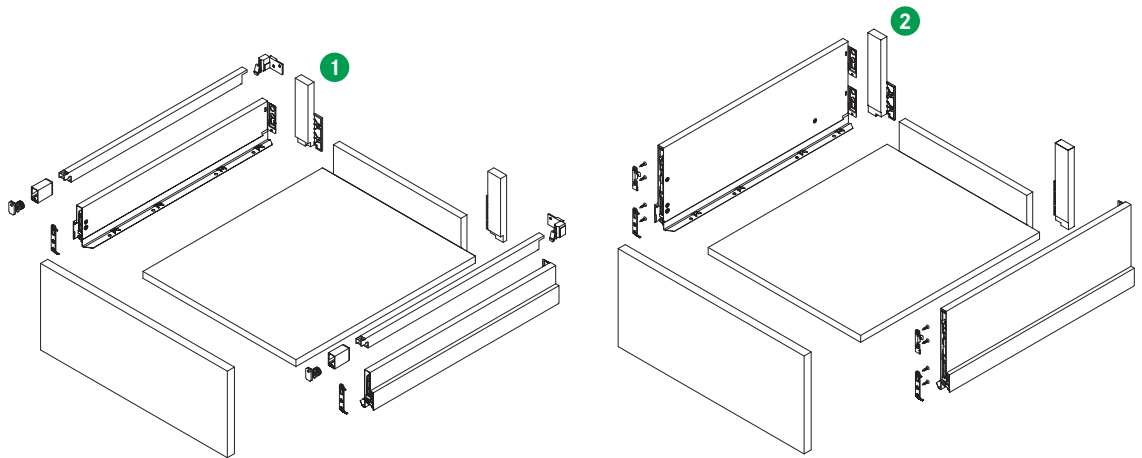


- Sink back panel holder for Nova Pro Scala H90 with rectangular railing and H186 drawer sides
- Easy and quick production of drawers
- Provides a trap cut-out using rectangular wooden back panel
- Color-coordinated with all Nova Pro Scala drawer sides

Sink Back Panel Holders



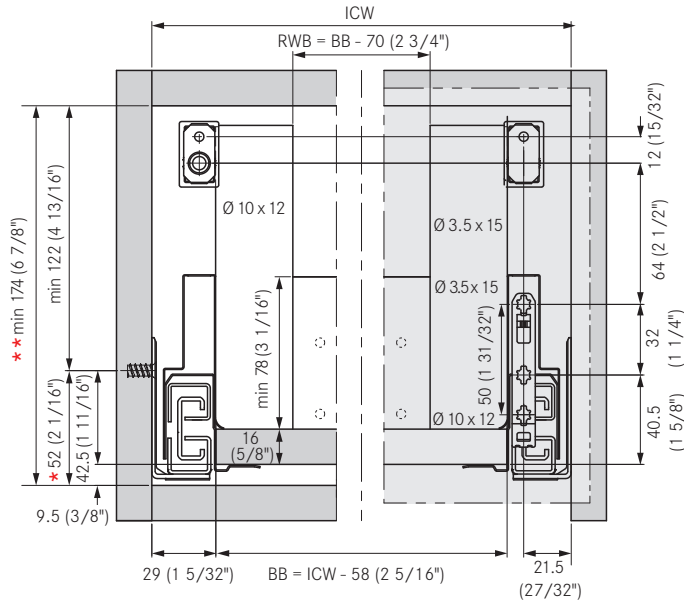
Description	Item No. Stone	Item No. Ice	Item No. Silver	PU
1 Sink back panel holder for H90 with railing - left	F102130601217	F102131199217	F102131201217	50
Sink back panel holder for H90 with railing - right	F102130602217	F102131200217	F102131202217	50
2 Sink back panel holder for H186 - set	F102131004507	F102131006507	F102131005507	10



PU - Packaging unit

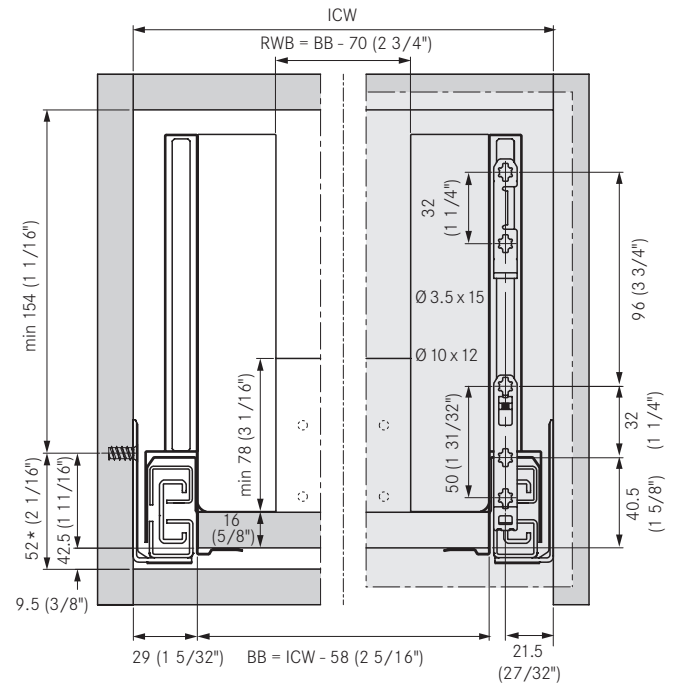
H90 with Railing Front Installation Dimensions

H186 Front Installation Dimensions



** Recommendation/Minimum Dimension: Soft-Close: 171.5mm (6 3/4")
 Tipmatic Soft-close: 180mm (7 1/16")

* Recommendation/Minimum Dimension: Soft-Close: 49.5mm (1 15/16")
 Tipmatic Soft-close: 58mm (2 5/16")

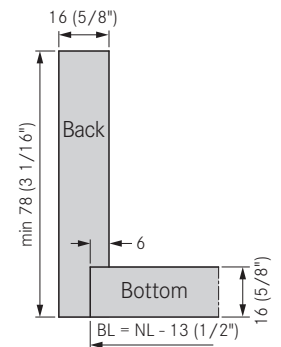
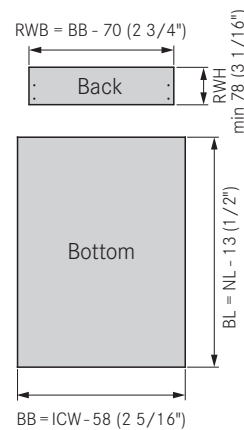
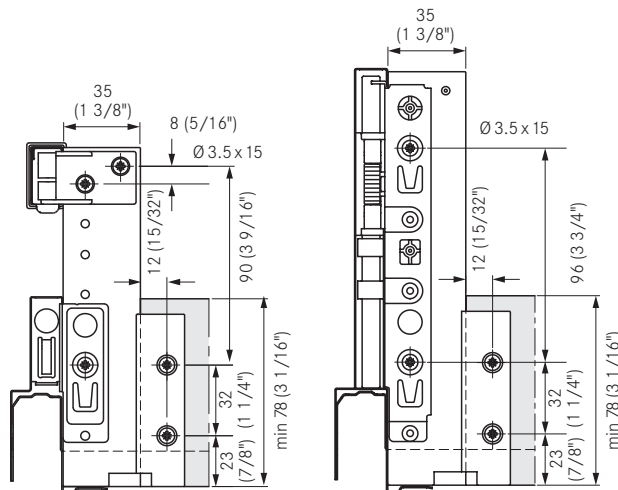


Back Panel H90 Dimensions

Back Panel H186 Dimensions

Back Bottom Dimensions

Back Panel Rebate Application



BB = Bottom Panel Width
 ICW = Inside Cabinet Width
 RWB = Back Panel Width

Accessories

Nova Pro Scala

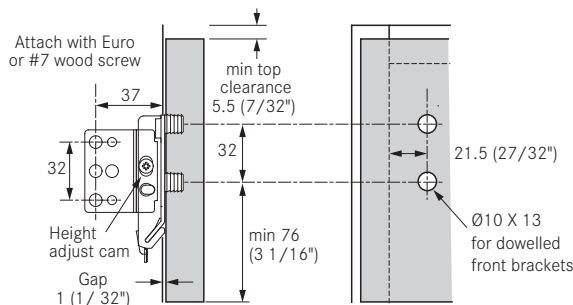
Blind Panel Snap-on Bracket



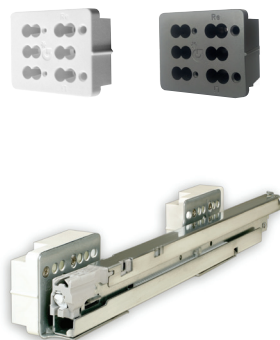
- For mounting blind panels to the cabinet side
- Snap-on quick mounting and removal of the front
- Side adjustment +/- 1.5 mm
- Height adjustment +/- 2 mm
- Depth adjustment +/- 1.5 mm
- Uses Nova Pro Front brackets, screw-on or dowelled (order separately)

Note: If a cross rail beneath the false front is used, clearance for release triggers must be provided.

Description	Item No.	PU
Blind Panel Snap-on Bracket	F102108430217	50



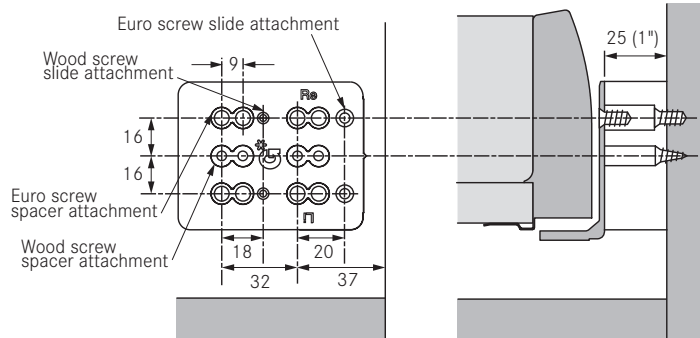
Cabinet Member Spacer



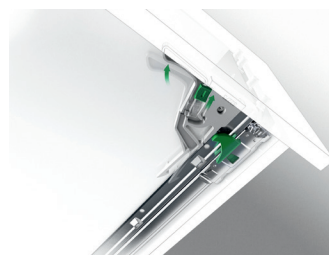
Used to space slides away from the cabinet sides for interior drawer applications.

- Thickness 25 mm (1")
- Universal, non-handed
- Can be mounted with Euro or wood screws
- Use two (2) per side

Description	Item No.	PU
Nova Pro Spacer - White	F102062616211	20
Nova Pro Spacer - Stone	F102131359211	20



Child Lock



When the child lock is activated the drawer opening is limited to a small gap. By releasing the lock's lever the drawer opens fully.

- Use of the drawer storage space is unrestricted
- Can also be retrofitted
- Can be deactivated without tools
- Unit is fitted to the bottom panel and it can be used with all Nova Pro Scala add-on systems

Description	Item No.	PU
Nova Pro Scala Child Lock	F102108857523	100

Note: Cannot be used in combination with Tipmatic Soft-close

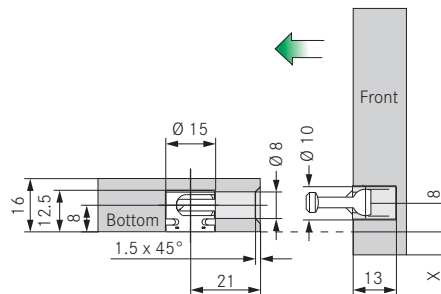
PU - Packaging unit

Front-Bottom Connector



For wide drawers with a cabinet width of over 800mm (31 1/2").

Description	Item No.	PU
Front-Bottom Connector	F148026744 107	10

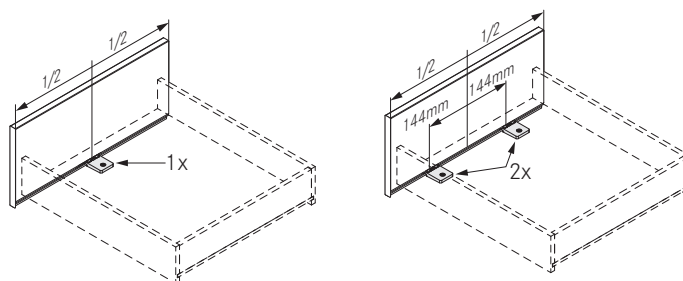


Front-Bottom Connector for Inset Panel

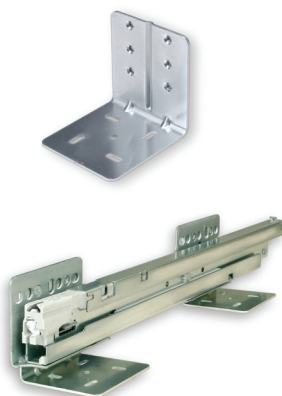


For wide drawers with a cabinet width of over 600mm (23 5/8").

Description	Item No.	PU
Front-Bottom Connector for Inset Panel	F145117993 223	200



Bottom Mount Bracket

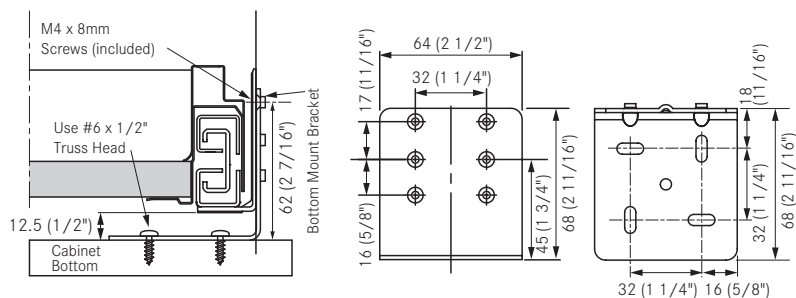


- Used to mount slides to a cabinet bottom of shelf for interior roll out trays.
- Works with Dynapro and Nova Pro Scala drawer slides

Description	Item No.	PU
Interior Drawer Bracket, Set	00443-40	25

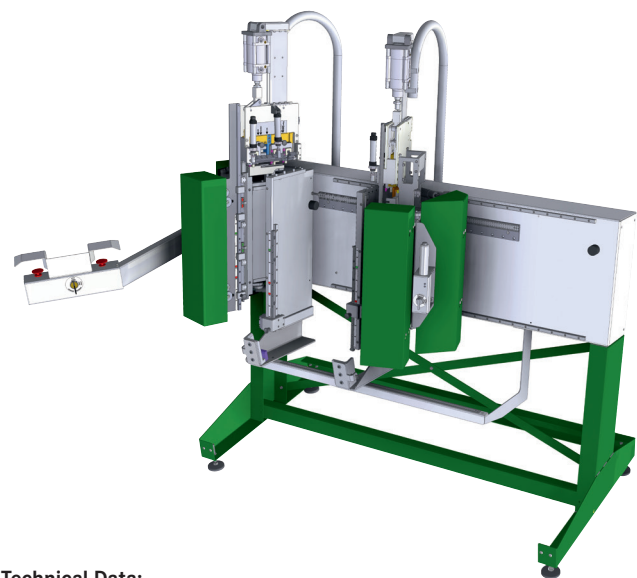
Set consists of:

- 4 - non-handed, zinc plated, steel brackets
- 8 - M4 screws to attach slides to brackets
- 8 - #8 x 5/8" PHP screws to mount brackets to cabinet



PU - Packaging unit

Tecmator ZP-N-E2



Technical Data:

- Pneumatic Connections: min 6 bar to max 10 bar
- Dimensions: 2.45m W x 1.0m D x 2.2m H
(96 7/16" W x 39 3/8" D x 86 5/8" H)
- Weight: 485 lbs (220 kg)

Machine Application:

- Suitable for assembling all Nova Pro Scala drawer heights – without having to change the press-in brackets
- Suitable for assembling wooden back panels
- Can be used to assemble wooden back panels with Nova Pro Scala H250 (3 dowels)
- For drawer widths up to 1200mm

Features:

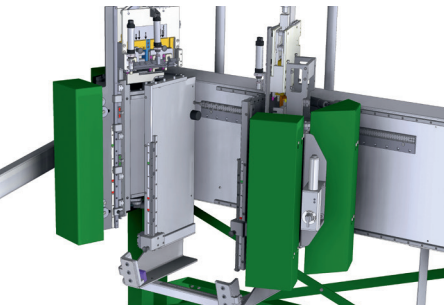
- Pneumatic Operation
- Nova Pro Scala drawers can be assembled in 10 seconds
- Easy handling of parts on the machine
- Sturdy frame construction
- Flexible adjustment of the drawer width using the wooden back panel template (as standard or can also be retrofitted)
- The width is easily adjustable using pneumatic clamping
- Fast operating sequences

Standard Equipment:

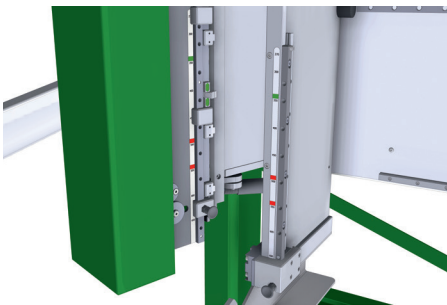
- Bottom claw pressing for all nominal lengths
- Stop set for cabinet width 250 – 1200 (50mm increments)
- Stops for wooden back panel heights

Description	Item No.	PU
Tecmator ZP-N-E2, type 1.2 m	F146131003299	1

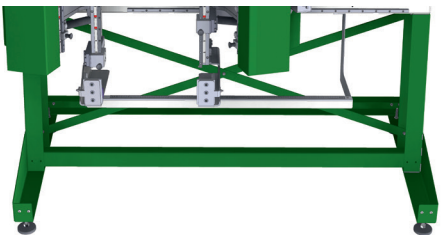
Tecmator Features



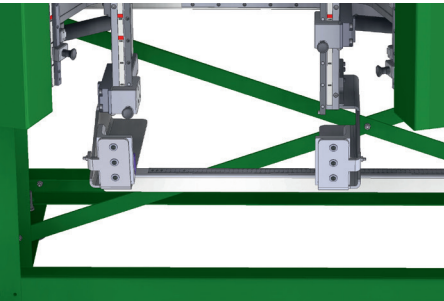
Easy width adjustment due to pneumatic clamping



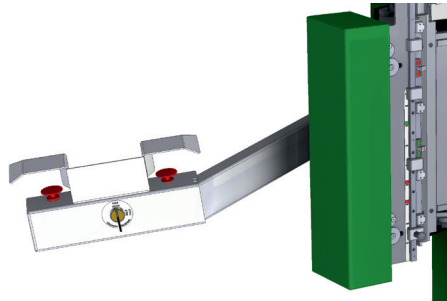
The individual components of the machine can be easily handled



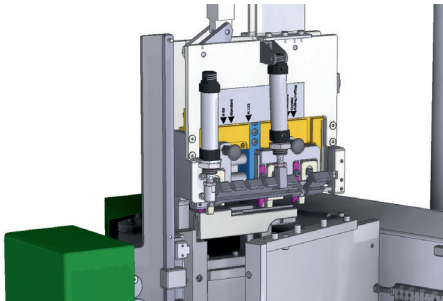
The frame structure ensures excellent stability



Customized cabinet width settings possible via the wooden back panel



Maximum safety based on two-handed switching

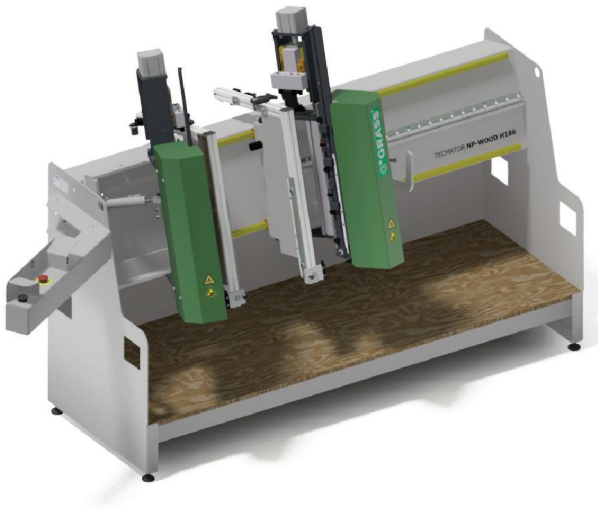


Press aggregate for wooden back panels up to 250mm with up to 3 dowels per side

PU – Packaging unit

Tecmator for Nova Pro Scala H186

Tecmator ZP-N-Wood H186



- Machine Application:**
- For Nova Pro Scala drawers with wooden backs
 - Assembles side heights up to 186mm
 - For cabinet widths 250mm - 1200mm

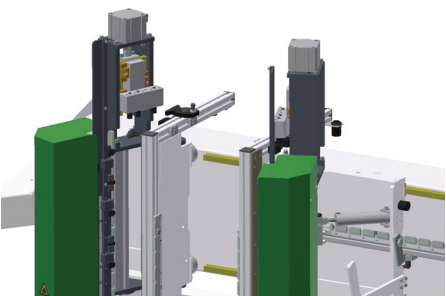
- Features:**
- Pneumatic Operation
 - Easy and fast drawer assembly
 - Easy handling of parts on the machine
 - Sturdy frame construction
 - Suitable for rapid production
 - Flexible setting of the drawer width with a wooden back panel gauge
 - Easy width adjustment

- Standard Equipment:**
- Bottom claw pressing for all nominal lengths
 - Stop set for cabinet width 250 - 1200 (50mm increments)
 - Stops for the wooden back panel depth

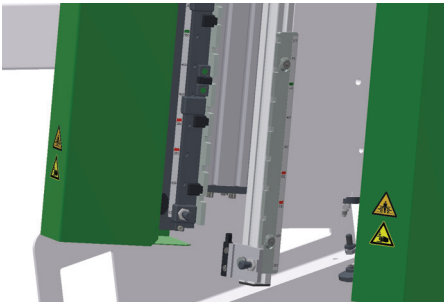
- Technical Data:**
- Pneumatic Connections: min 6 bar to max 8 bar
 - Dimensions: 2.65m W x .92m D x 2.3m H (104 5/16" W x 36 1/4" D x 90 9/16" H)
 - Weight: 549 lbs (249 kg)

Description	Item No.	PU
Tecmator ZP-N-Wood H186	F146132089299	1

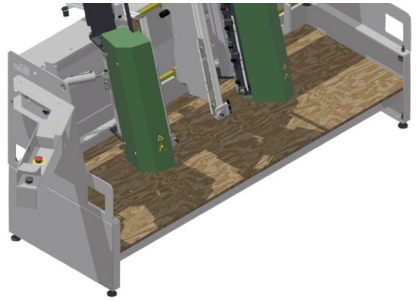
Tecmator Features



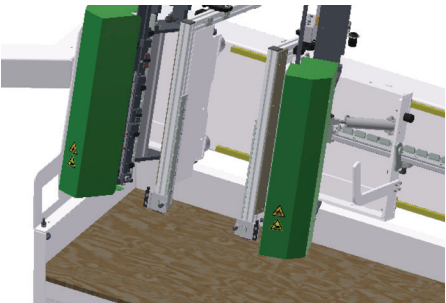
Simple width adjustment with defined grid and flexible clamping lever



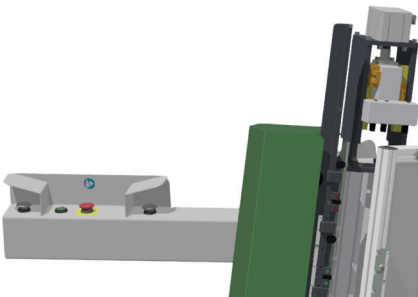
Machine stops can be easily set



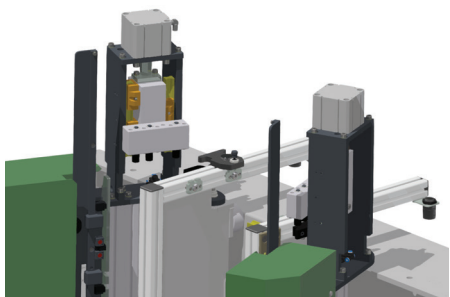
The frame structure ensures excellent stability



Customized cabinet width settings possible via the wooden back panel



Maximum safety based on two-handed switching

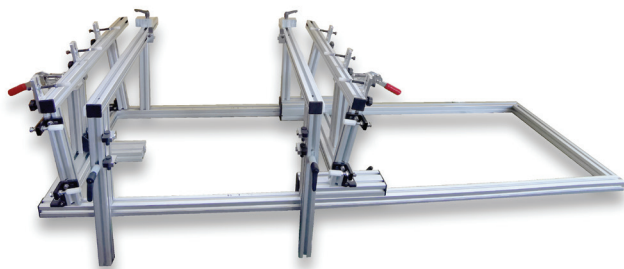


Dowel press fitting for wooden back panels up to side height 186mm

Assembly Aids

Nova Pro Scala

ZMV-FIX H250



Machine Application:

- Tabletop drawer press suitable for pressing Grass double wall drawer systems including Nova Pro Scala and Vionaro
- For drawers with wooden back panels
- Drawer side heights of up to 250mm
- Variable drawer width up to 1200mm

Features:

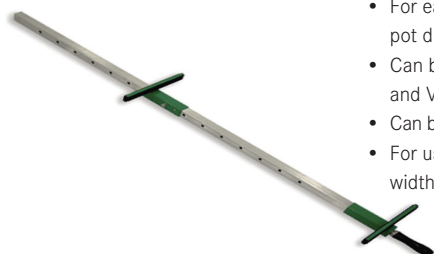
- Easy and straightforward handling of the individual parts on the machine
- Light frame construction 12 kg (26.5 lb)
- Suitable for individual production
- Flexible setting of the drawer width with a wooden back panel gauge (standard)
- Easy width adjustment

Standard Equipment:

- Flexible setting of the stops for the drawer depth
- Flexible setting of the stops for the wooden back panel heights
- Flexible setting of the drawer width with a wooden back panel gauge

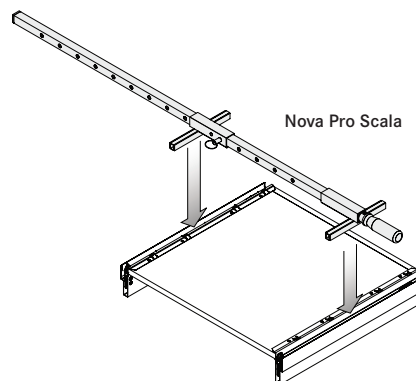
Description	Item No.	PU
ZMV-FIX H250	F146132388201	1

Drawer Clamp



- For easy assembly of regular and pot drawers
- Can be used for Nova Pro and Vionaro
- Can be used for all drawer side heights
- For use with an outside cabinet width up to 1200mm (47 1/4")

Description	Item No.	PU
Drawer Clamp	F146108833201	1



Insertion Die for Dowelled Front Brackets



- For use with Nova Pro Scala Front Brackets
- Works with Grass Ecopress machine

Description	Item No.	PU
Insertion Die for dowelled front brackets	94488-01	1

Cabinet Member Drilling Template



- Use to precisely bore holes in the cabinet member
- Color coded by product line:
Black - Dynapro
Blue - Dynanaeo*
Green - Nova Pro

Description	Item No.	PU
Drilling template - Cabinet member	F146134452507	1

*Dynanaeo not currently offered by Grass America

PU - Packaging unit

Nova Pro Scala

Marking Jig Set



For exact marking of the drill holes for the Nova Pro Scala front brackets.

Description	Item No.	PU
Nova Pro Scala H63	F146094036513	1
Nova Pro Scala H90	F146092050513	1
Nova Pro Scala H186/H250	F146101908513	1

Front Drilling Jig



Front drilling jig for Nova Pro Scala front fastening, railing and add-on systems:

- Can be used for drilling drawer sides of all heights
- High-quality aluminum construction

Description	Item No.	PU
Front Drilling Jig	F146130983201	1

Punch-In Tool for Front Brackets



Position and install the front brackets for the Nova Pro Scala H63, H90, and H186.

Description	Item No.	PU
Nova Pro Scala H63	F146094035501	1
Nova Pro Scala H90/H186	F146091555501	1

Punch-In Tool for Front Clip



Position and install the front clip for Nova Pro Scala H186.

Description	Item No.	PU
Punch-in tool for front clip	F146102472101	1

Bottom Spike Punching Tool



- Position the punching tool on the bottom spike and punch in.
- Quick, Easy installation. The bottom spikes integrated into the drawer side ensure secure attachment between the drawer side and the bottom panel.

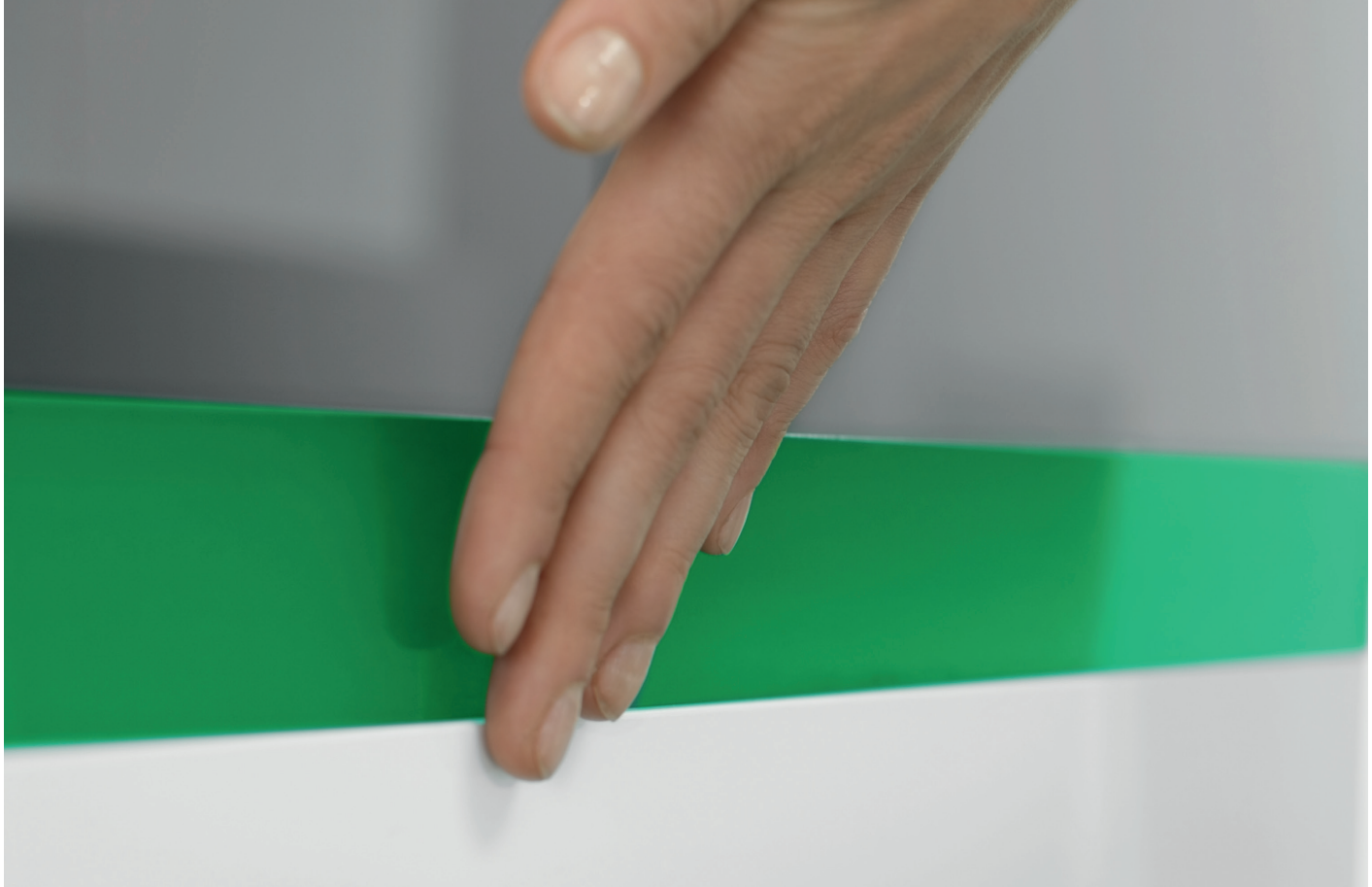
Description	Item No.	PU
Bottom spike punching tool	F146130853101	1

Punch-In Tool for Front-Bottom Connector



Position and install the front-bottom connector.

Description	Item No.	PU
Punch-in tool for front-bottom connector	F146083271101	1



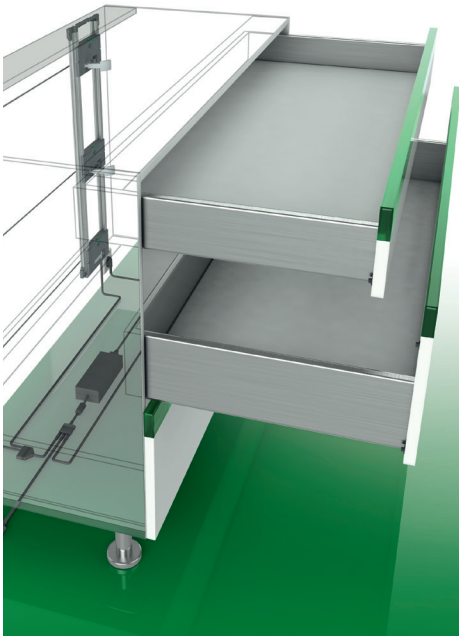
Sensomatic combines handle-free opening with the ever popular Soft-closing action.

Just tap anywhere on the drawer front and the drawer opens automatically.

The Sensomatic is an electro-mechanical opening system that works with the Nova Pro Scala Drawer System. A simple installation process creates a superior drawer experience.



Versatile. Efficient. Exciting.
 Sensomatic combines handle-free
 opening with the ever popular
 Soft-closing action.
 Fully automatic, electrically powered.



SENSOMATIC OPENING SYSTEM

Sensomatic, an electro-mechanical opening system that can be activated by a light touch on the surface of the drawer front. At the touch, the drawers glide open in one smooth motion.

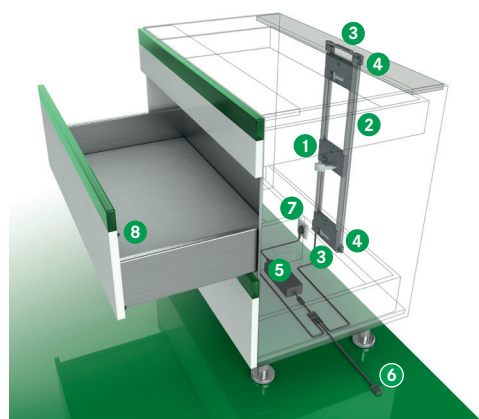
A simple installation process creates a superior drawer system. The action is steady, precise and ingenious. The perfect movement for today's functional requirements.

Sensomatic is extremely efficient in regard to power consumption and occupied space. The Sensomatic needs only one drive unit for cabinet widths up to 48" (1219mm) regardless of the weight. Accessories such as wire baskets, trash can receptacles, or roll out trays can be fitted with the Sensomatic system without modification. It has never been easier to open a drawer and - never easier to close a drawer.

Sensomatic together with Soft-close offers all the advantages of handle free opening with the elegance and functionality of a soft-closing action. These functions together guarantee your operating convenience at the highest level.

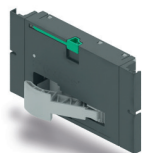
Sensomatic for Nova Pro Scala

Standard cabinet with horizontal wooden stretcher



- Electro-mechanical opening system
- Sensomatic works with any Nova Pro Scala drawer configuration
- Activated by a light touch anywhere on the drawer front
- One drive unit for cabinets widths up to 48" (1219mm)
- Soft-closing action pulls the drawer closed
- Ideal for accessories such as wire baskets, waste bins, or roll-out trays
- Full extension for maximum access to drawer contents

1 Opening Unit



	Item No.	PU
For Nova Pro Scala	F121113975607	10

PU - 10 Pieces, individually packaged

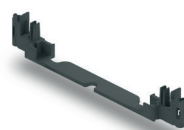
2 Frame Sides, Including Frame Side Cable



Length	Item No.	PU
750mm	F121100285207	10
1170mm	F121100286207	10

PU - 10 Pairs

3 Frame Connector



	Item No.	PU
Frame connector	F121100282211	20

4 Fixing Bracket



	Item No.	PU
Fixing bracket	F121100270211	1

5 Power Supply Unit



	Item No.	PU
Power supply unit	F121109970607	10

PU = 10 pieces, individually packaged

One power supply operates up to 30 opening units

6 Connection Cable with 2-way-adapter



Length	Item No.	PU
1000mm	F121100289207	10
1600mm	F121100290207	10
2000mm	F121100291207	10

7 Power Cord, 1.8 m (6')



Type of plug	Item No.	PU
Power cord (USA, CA)	F120069760207	10

8 Spring-loaded Front Bumper

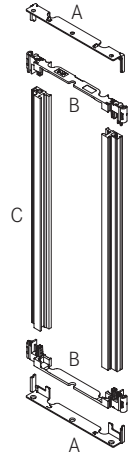
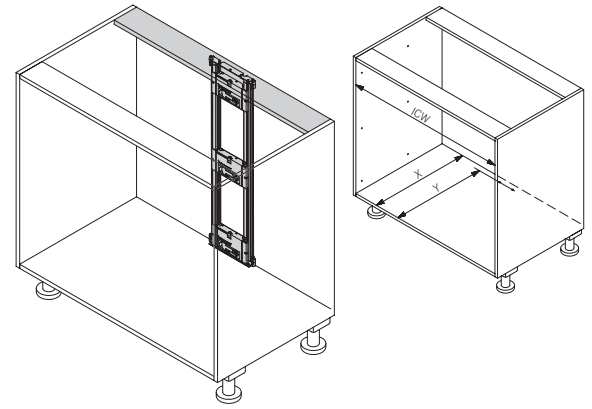
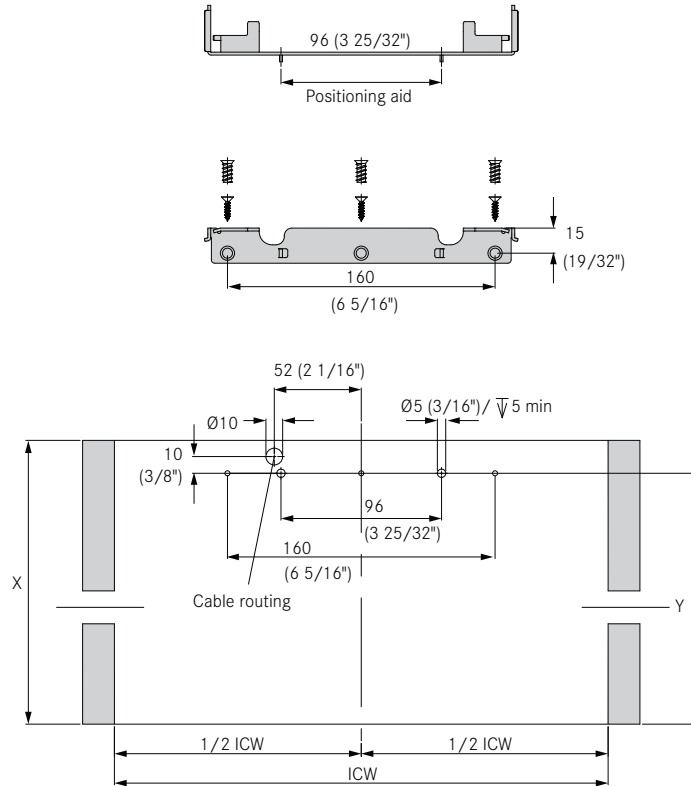


Ø 5mm	Item No.	PU
Front gap 2.2mm	F121100294223	100
Front gap 3mm	F121100295223	100

PU - Packaging unit

Mounting Dimensions

Fixing brackets positioned at top and bottom



Product Type	Mounting Dimensions	X	Y	Min ICW
Nova Pro Scala - Wood back panel + 3mm bumper		NL + 20 (25/32")	NL + 5 (3/16")	262 (10 5/16")
Nova Pro Scala - Wood back panel + 2.2mm bumper		NL + 21 (13/16")	NL + 6 (1/4")	262 (10 5/16")

Legend

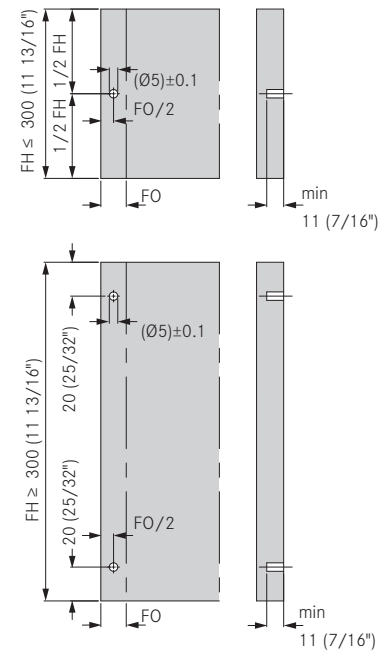
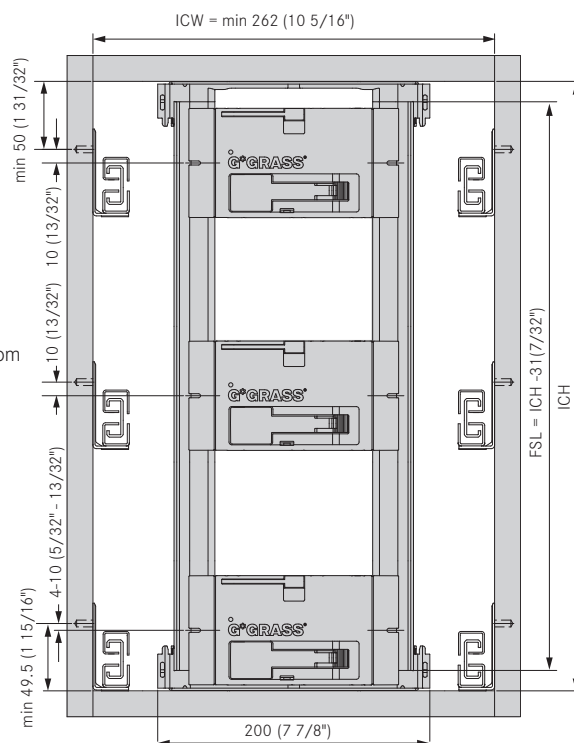
Position of Opening Unit for Nova Pro Scala

Position of Front Bumper

- A = Fixing Bracket Used At Top And Bottom
- B = Frame Connector
- C = Frame Sides
- ICW = Inside Cabinet Width
- NL = Nominal Length Of Cabinet Slide
- X = Min Installation Depth
- Y = Depth Of Hole Pattern

- FSL = Frame Side Length
- ICH = Inside Cabinet Height

- FH = Front Height
- FO = Front Overlay

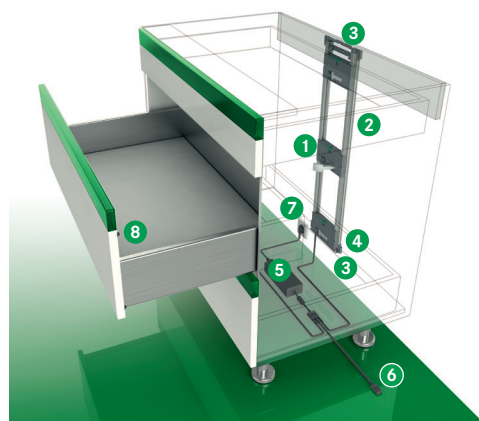


When mounting the heavy-duty slide (154 lb), it is necessary to insert 4 front bumpers into the drawer front.

Do not drive in or glue front bumpers.

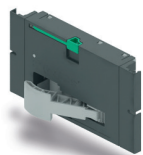
Sensomatic for Nova Pro Scala

Standard cabinet with vertical wooden stretcher



- Electro-mechanical opening system
- Sensomatic works with any Nova Pro Scala drawer configuration
- Activated by a light touch anywhere on the drawer front
- One drive unit for cabinets widths up to 48" (1219mm)
- Full extension for maximum access to drawer contents
- Soft-closing action pulls the drawer closed
- Ideal for accessories such as wire baskets, waste bins, or roll-out trays

1 Opening Unit



	Item No.	PU
For Nova Pro Scala	F121113975607	10

PU - 10 pieces, individually packaged

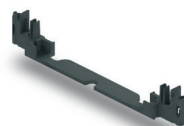
2 Frame Sides, Including Frame Side Cable



Length	Item No.	PU
750mm	F121100285207	10
1170mm	F121100286207	10

PU - 10 pairs

3 Frame Connector



	Item No.	PU
Frame connector	F121100282211	20

4 Fixing Bracket



	Item No.	PU
Fixing bracket	F121100270211	1

5 Power Supply Unit



	Item No.	PU
Power supply unit	F121109970607	10

PU = 10 pieces, individually packaged

One power supply operates up to 30 opening units

6 Connection Cable with 2-way-adapter



Length	Item No.	PU
1000mm	F121100289207	10
1600mm	F121100290207	10
2000mm	F121100291207	10

7 Power Cord, 1.8 m (6')



Type of plug	Item No.	PU
Power cord (USA, CA)	F120069760207	10

8 Spring-loaded Front Bumper

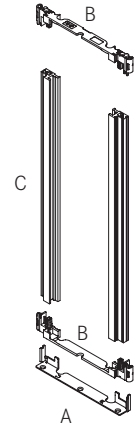
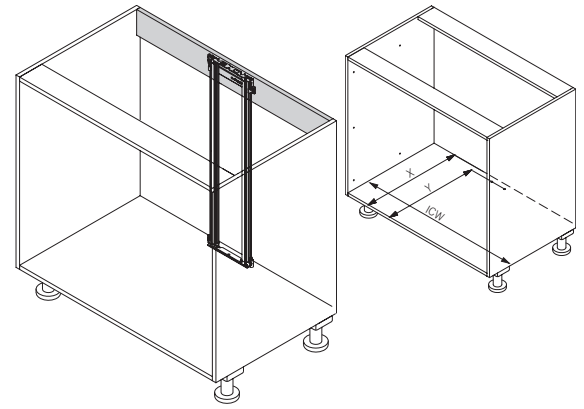
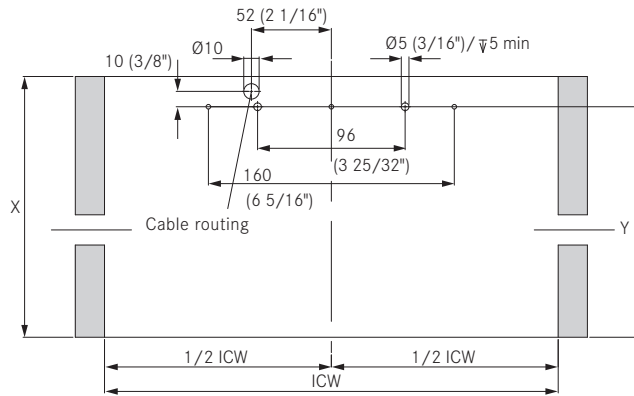
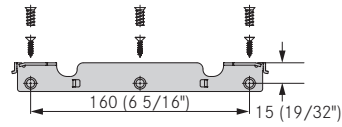
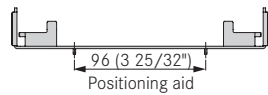


Ø 5mm	Item No.	PU
Front gap 2.2mm	F121100294223	100
Front gap 3mm	F121100295223	100

PU - Packaging unit

Mounting Dimensions

Fixing bracket positioned at bottom



Product Type	Mounting Dimensions	X	Y	Min ICW
Nova Pro Scala - Wood back panel + 3mm bumper		NL + 20 (25/32")	NL + 5 (3/16")	262 (10 5/16")
Nova Pro Scala - Wood back panel + 2.2mm bumper		NL + 21 (13/16")	NL + 6 (1/4")	262 (10 5/16")

Legend

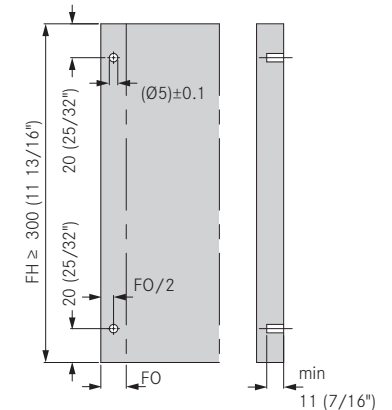
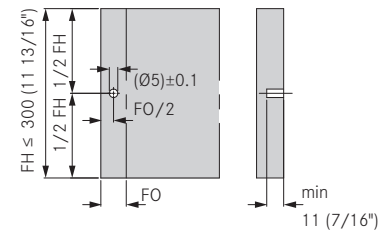
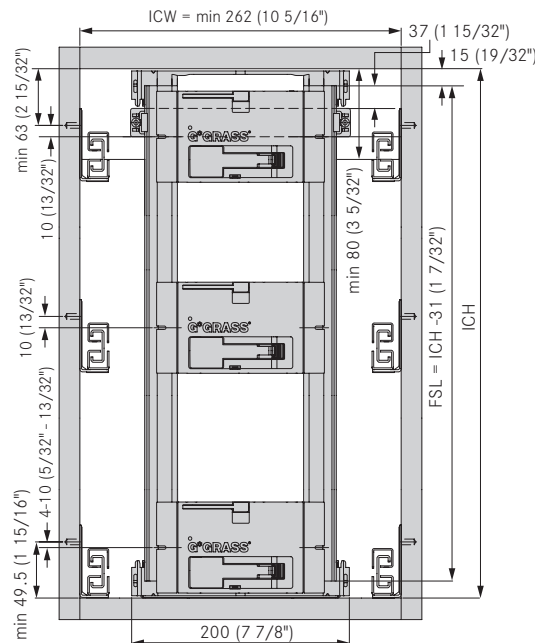
Position of Opening Unit for Nova Pro Scala

Position of Front Bumper

- A = Fixing Bracket Used At Top And Bottom
- B = Frame Connector
- C = Frame Sides
- ICW = Inside Cabinet Width
- NL = Nominal Length Of Cabinet Slide
- X = Min Installation Depth
- Y = Depth Of Hole Pattern

FSL = Frame Side Length
ICH = Inside Cabinet Height

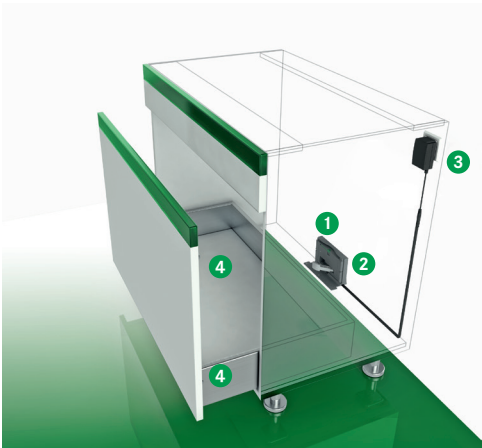
FH = Front Height
FO = Front Overlay



When mounting the heavy-duty slide (154 lb), it is necessary to insert 4 front bumpers into the drawer front.
Do not drive in or glue front bumpers.

Sensomatic for Nova Pro Scala

Waste bin cabinet with bottom panel frame mounting



- Electro-mechanical opening system
- Sensomatic works with any Nova Pro Scala drawer configuration
- Activated by a light touch anywhere on the drawer front
- One drive unit for cabinets widths up to 48" (1219mm)
- Full-extension for maximum access to drawer contents
- Soft-closing action pulls the drawer closed
- Ideal for accessories such as wire baskets, waste bins, or roll-out trays

Sensomatic Kit

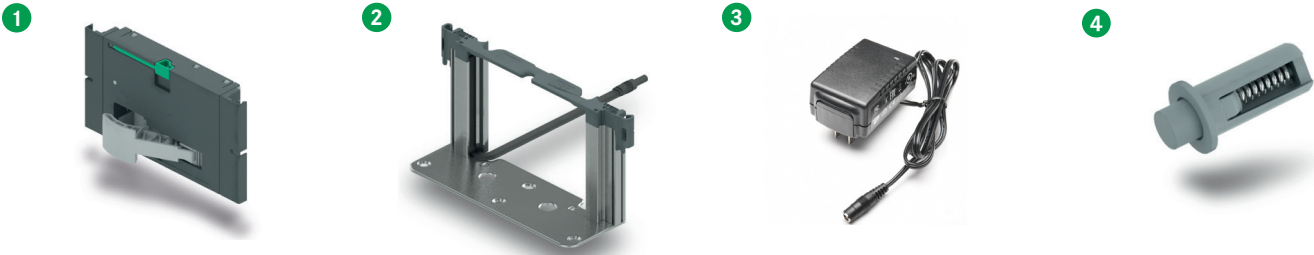


	Item No.	PU
For Nova Pro Scala	F121100697201	1

PU = 1 set

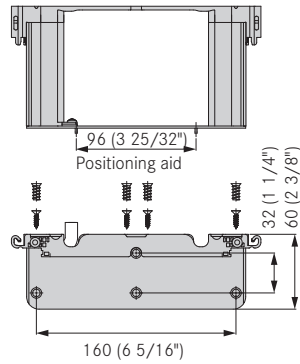
Set contains:

- 1 - Opening unit
- 1 - Base frame
- 1 - Power supply unit
- 4 - Front bumpers
(front gap 2.2mm - F121100294223)

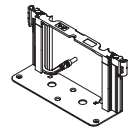
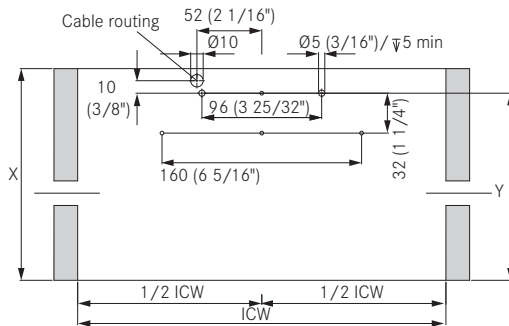
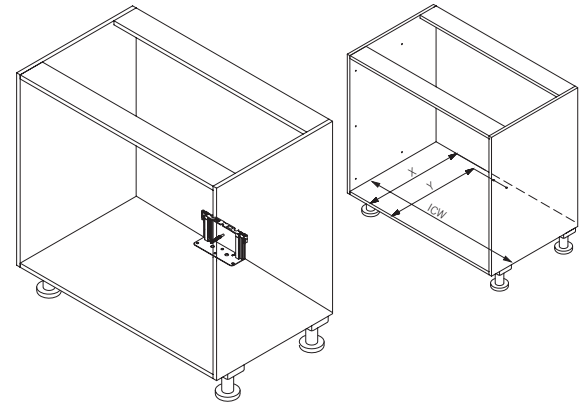


PU - Packaging unit

Mounting Dimensions



Base mounting



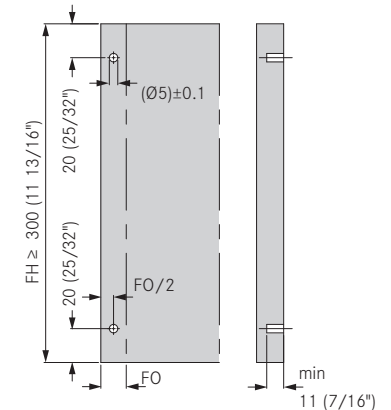
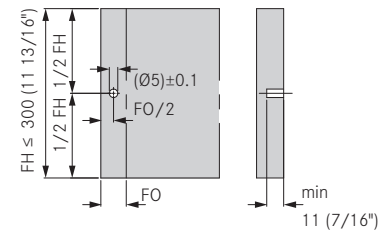
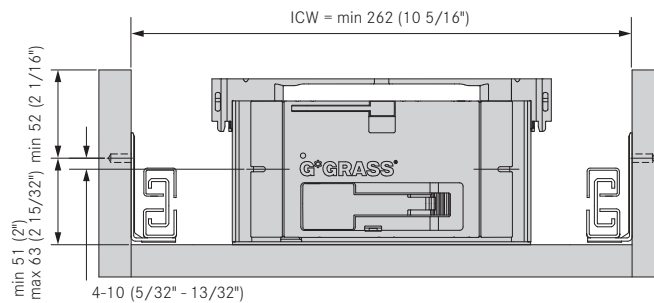
Base frame

Product Type	Mounting Dimensions	X	Y	Min ICW
Nova Pro Scala - Wood back panel + 3mm bumper		NL + 20 (25/32")	NL + 5 (3/16")	262 (10 5/16")
Nova Pro Scala - Wood back panel + 2.2mm bumper		NL + 21 (13/16")	NL + 6 (1/4")	262 (10 5/16")

Legend

Position of Opening Unit for Nova Pro Scala

Position of Front Bumper



ICW = Inside Cabinet Width

NL = Nominal Length Of Cabinet Slide

X = Min Installation Depth

Y = Depth Of Hole Pattern

FH = Front Height

FO = Front Overlay

When mounting the heavy-duty slide (154 lb), it is necessary to insert 4 front bumpers into the drawer front.

Do not drive in or glue front bumpers.

Notes



GRASS America Inc.
1202 NC Highway 66 South
Kernersville, NC 27284

Phone: 1-800-334-3512
Fax: 1-800-525-8406

www.grassusa.com
info@grassusa.com





TEC HINGES



G*GRASS®

TEC SOFT-CLOSE AND TEC SELF-CLOSE

TEC Face Frame Hinge System
Established quality with functional benefits for today's
modern cabinetry.

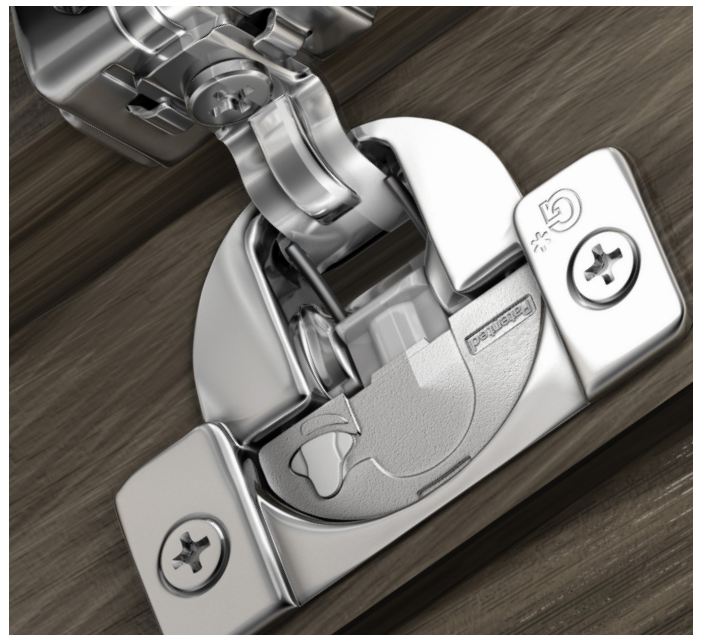






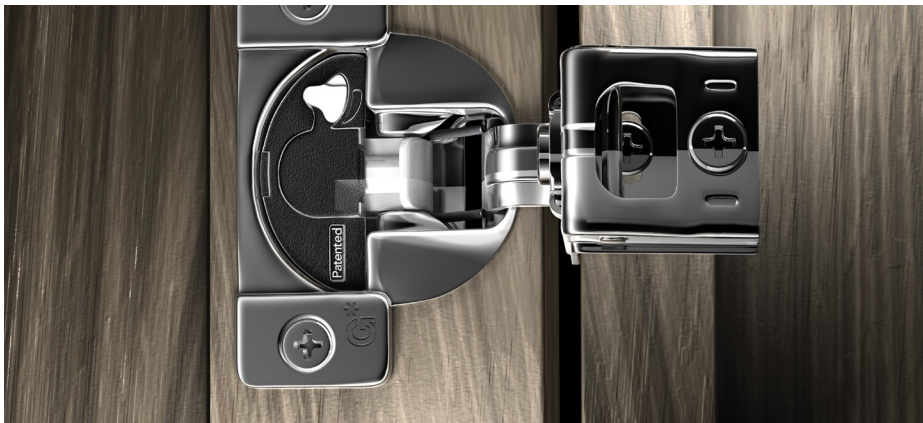
The perfect solution for your face frame cabinetry. TEC Soft-close, with an integrated soft closing action, and TEC Self-close hinge lines offer a complete range of quality hinges made in the USA.

The TEC hinge system offers a proven technology that makes TEC the first product choice among face frame hinge systems. Quiet and effortless closing action is guaranteed every time with TEC Soft-close hinges. Sleek in design, the Soft-close mechanism is pre-mounted in the hinge cup offering three levels of damping. TEC Soft-close and Self-close include 3-dimensional adjustment and a variety of overlays to meet your hinge needs. Made in the USA, TEC hinges are built to last.



TEC SOFT-CLOSE AND TEC SELF-CLOSE HINGE SYSTEMS

Made in the USA, TEC hinge systems offer a solution for every application in kitchen, bath, and residential cabinetry.

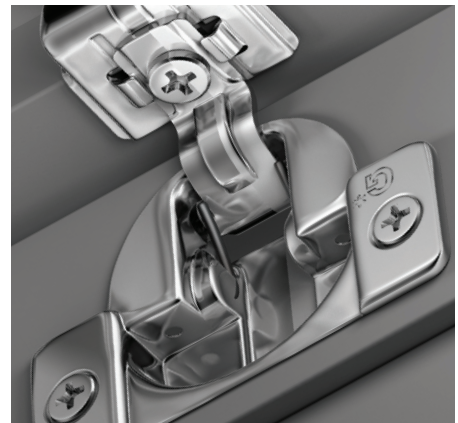


TEC Soft-close – the unique face frame hinge with adjustable soft-close action

The TEC Soft-close hinge system is a revolutionary face frame hinge with the soft-closing mechanism pre-mounted into the interior of the hinge cup. An adjustment switch located on the face of the hinge regulates the closing action of the door. Integrated Soft-close combined with the adjustment feature provides functional benefits for today's modern cabinetry. Made in the USA, your doors will close softly, quietly, and consistently with TEC Soft-close.

Innovative 3-tiered adjustment

TEC Soft-close hinges feature a 3-tiered damping adjustment switch enabling you to customize the closing action of the door. These adjustments provide different levels of damping resistance in the soft-close mechanism. Set at the strongest level, the damping system has the most resistance and provides the longest closing action. To achieve less resistance you can place the adjustment switch at the medium level or light level. The settings can be different for each hinge on the door so that you can achieve the maximum benefit in your closing action regardless of the size or weight of the door.



TEC Self-close hinge system offers a solution for every cabinet application

From 3-dimensional adjustability to MDF-compatible models, the TEC 860 family of self-close hinges offers a full range of configurations and features to meet your specifications. Each hinge is available in a variety of overlays and in an array of hinge and base plate versions. Constructed of all-steel and nickel-finish components for optimal strength and durability, the TEC hinge systems work on a variety of doors with profiled door edges. Made in the USA, TEC hinges are engineered to last.

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		Technical Information		8
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108°		TEC 864 Soft-close • 1 1/4" to 1 1/2" overlay • 42mm and 45mm boring patterns	• Height adjustment (±2mm) • Side adjustment (±1.5mm) • Depth adjustment (+3mm)	12
108°		TEC 863 Face Mount Soft-close and Self-close • 1 7/16" minimum overlay • 42mm and 45mm boring patterns	• Height adjustment (±2mm) • Side adjustment (±1.5mm)	14
108°		TEC 864 Self-close • 1/4" to 1" overlay • 42mm and 45mm boring patterns	• Height adjustment (±2mm) • Side adjustment (±1.5mm) • Depth adjustment (+2.5mm/-0.5mm)	16
108°		TEC 864 Self-close • 1 1/4" to 1 1/2" overlay • 42mm and 45mm boring patterns	• Height adjustment (±2mm) • Side adjustment (±1.5mm) • Depth adjustment (+3mm)	18
108°		TEC 861 MDF Soft-close • One-piece hinge construction for MDF • frame material • 42mm and 45mm boring patterns	• Height adjustment (±2mm) • Side adjustment via appropriate spacer (+1.5mm)	20
108°		TEC 861 MDF Self-close • One-piece hinge construction for MDF • frame material • 42mm and 45mm boring patterns	• Height adjustment (±2mm) • Side adjustment via appropriate spacer (+1.5mm)	22
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		Accessories and Assembly Aids		26

Features and Benefits

TEC Soft-close

Features

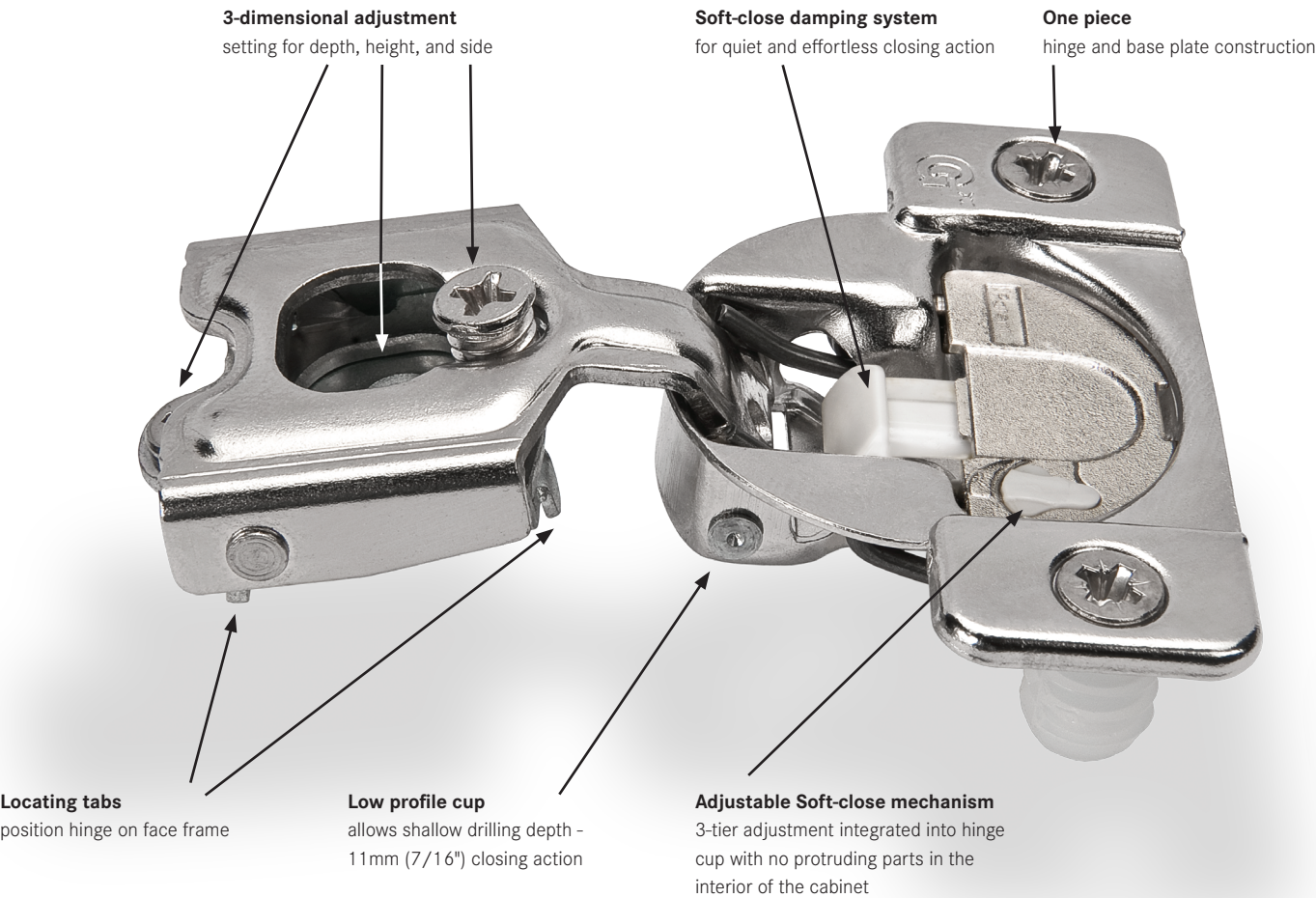


TEC Soft-close hinges are made in the USA of durable and long-lasting materials with time-tested design and manufacturing techniques. Every mechanism is tested for reliability and the user experience.

- One piece hinge and base plate combination
- 3-tier Soft-close adjustment
- 42 and 45mm boring patterns
- For face frame cabinetry
- Made in the USA

TEC Soft-close hinges are offered in these overlays:

1/4", 7/16", 1/2", 5/8", 3/4", 1", 1 1/4", 1 5/16", 1 3/8", 1 1/2"



Features and Benefits

TEC Self-close

Features

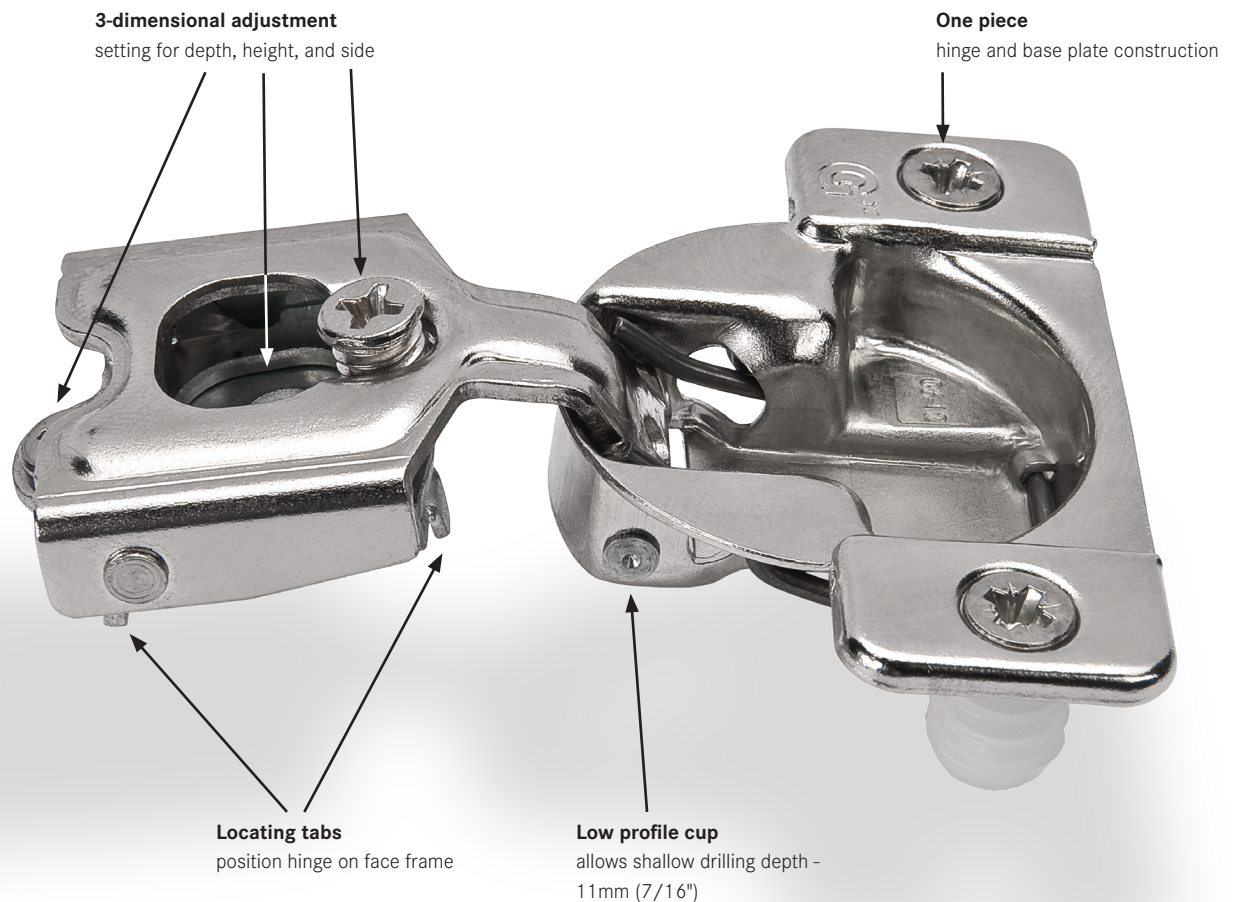


TEC Self-close hinges are made in the USA of durable and long-lasting materials with time-tested design and manufacturing techniques. Every mechanism is tested for reliability and the user experience.

- One piece hinge and base plate combination
- 42 and 45mm boring patterns
- For face frame cabinetry
- Made in the USA

TEC Self-close hinges are offered in these overlays:

$\frac{1}{4}$ ", $\frac{7}{16}$ ", $\frac{1}{2}$ ", $\frac{9}{16}$ ", $\frac{5}{8}$ ", $\frac{3}{4}$ ", 1", $1\frac{1}{4}$ ", $1\frac{5}{16}$ ", $1\frac{3}{8}$ ", $1\frac{1}{2}$ "



Technical Information

TEC Hinges

Technical Information

There are numerous variables that will determine the choice of hinge. Determine the requirements of the application.

Consider the following points based on the door to cabinet application:

Door overlay

Adjustment requirements:

- Height and side
- Height, side, and depth

Base plate mounting to face frame:

- Wrap-around - 3/4" thick frames only
- Side mount - frames thicker than 3/4"
- Face mount - any overlay greater than 1 7/16"
- MDF material - mounting into end grain

Door removal:

- With base plate mounting screw (one-piece hinges)
- With depth adjustment screw (two-piece hinges)

Door clearance/hinge arm clearance
(for interior rollout trays)

Door gap
distance between face frame and the back of the closed door

Minimum reveal
distance between two doors hinged back to back

Door thickness
thicker doors can restrict opening angle and minimum reveal

Hinge cup boring pattern for dowelled hinges

Door opening angle

Soft-closing or Self-closing

Number of Hinges per Door

The number of hinges is determined by the door height, door weight, quality of the door material, and the fixing of the cup and base plate.

The load and height data refer to 24" standard door widths.

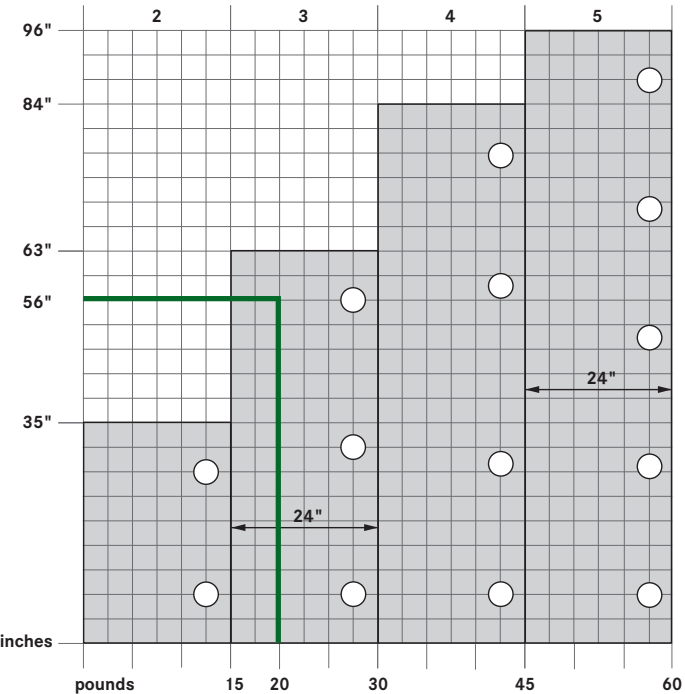
The table refers to hinges with and without integrated dampers.
Grass strongly recommends a trial mount for all hinges and base plates.

Attach base plates using all available screw holes.

Example:
For doors measuring 56" x 24" and weighing 19 lbs, Grass recommends the installation of 3 hinges.

Note: The distance between the top and bottom hinge must be greater than the width of the door.

The **TEC** hinge meets and exceeds the minimum requirements of ANSI/BHMA A156.9 Standard.



Features

All-steel Construction

TEC hinges feature a solid metal hinge cup. All moving mechanism parts, including pivot pins, linkages and springs are hardened to ensure long-term durability.

Shallow Cup Depth

TEC hinges feature a shallow 11 mm (7/16") cup to accommodate profiled door edge. There are no protruding parts from the hinge cup.

Interchangeable

TEC Soft-close and **Self-close** have the same boring pattern so no change is necessary in your existing setup.

Adjustments

3-dimensional adjustment is built into the 864 and 872 hinge series.
2-dimensional adjustment is available for 861 MDF and 863 hinge series.

Integrated Soft-close

The Soft-close damper is pre-mounted in the hinge cup.
No additional installation of the Soft-close is required.
A 3-tiered adjustment switch allows various levels of resistance in the damping system.

Made in the USA

TEC hinges are manufactured at the Grass facility in Kernersville, NC.

Technical Information

TEC Hinges

Adjustments

TEC hinges offer a convenient 3-dimensional adjustment.

1 Side Adjustment

Rotate cam adjustment screw.

2 Height Adjustment

Loosen screw, align door, tighten screw.

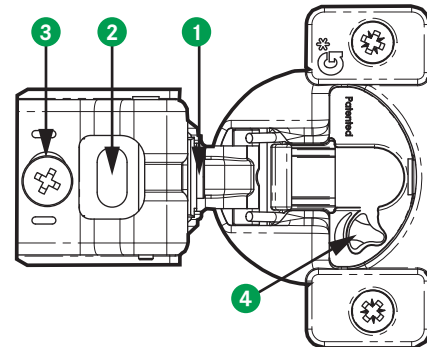
3 Depth Adjustment

Rotate cam screw.

4 TEC Soft-close hinges offer an adjustable 3-tier closing mechanism.

Soft-close Tension

Light, Medium, and Strong settings



LIGHT



This is the "**LIGHT**" setting for the Soft-closing mechanism.
Set here for light or small doors with very little closing pressure.



MEDIUM



This is the "**MEDIUM**" setting for the Soft-closing mechanism.
Set here for average size doors with normal closing pressure.



STRONG



This is the "**STRONG**" setting for the Soft-closing mechanism.
Set here for larger or heavier doors with a strong closing pressure.
(Factory Setting)

Note: To reset the Soft-close damper, move the adjustment switch to "**STRONG**", then to the desired position. Close the door and the Soft-close will be reset.

TEC 864 Soft-close

108° Opening Angle - 1/4" to 1" Overlay



- Soft-close damper is pre-mounted in the hinge cup
- Adjustment switch to regulate closing action
- One piece hinge and base plate combination
 - Wrap-around base plate for 3/4" thick frames only
 - Side mount base plate frames thicker than 3/4"
- 3-dimensional adjustment
- 11mm (7/16") cup drilling depth
- Front locating tabs position hinge on face frame
- Side adjustment
- Cam depth adjustment
- Height adjustment at mounting screw
- Works with current Grass insertion machinery
- Made in the USA



Side-mount - 45mm Drilling Pattern

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
12.7 (1/2")	3.5 (1/8)	11 (7/16")	TEC 864-VS8-45U 1/2 SM A-SC	02750A-15	300
16 (5/8")	0.3 (1/32")	11 (7/16")	TEC 864-VS8-45U 5/8 SM A-SC	01995A-15	300

Screw-on Hinge Cup (VS)		
Description	Item No.	PU
TEC 864-VS-45U 1/2 SM A-SC	04423A-15	300
-	-	-



Wrap-around - 45mm Drilling Pattern

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
6 (1/4")	11 (7/16")	14.5 (9/16")	TEC 864-VS8-45U 1/4 WM A-SC	02791A-15	300
11 (7/16")	5.1 (13/64")	11 (7/16")	TEC 864-VS8-45U 7/16 WM A-SC	02858A-15	300
12.7 (1/2")	3.5 (1/8")	11 (7/16")	TEC 864-VS8-45U 1/2 WM A-SC	02870A-15	300
19 (3/4")	0	11 (7/16")	TEC 864-VS8-45U 3/4 WM A-SC	02875A-15	300
25 (1")	0	11 (7/16")	TEC 864-VS8-45U 1 WM A-SC	02745A-15	300

Screw-on Hinge Cup (VS)		
Description	Item No.	PU
TEC 864-VS-45U 1/4 WM A-SC	04429A-15	300
TEC 864-VS-45U 7/16 WM A-SC	02670A-15	300
TEC 864-VS-45U 1/2 WM A-SC	04431A-15	300
TEC 864-VS-45U 3/4 WM A-SC	04432A-15	300
TEC 864-VS-45U 1 WM A-SC	04441A-15	300



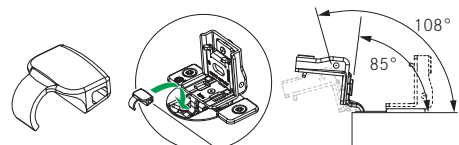
Side-mount - 42mm Drilling Pattern

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
12.7 (1/2")	3.5 (1/8")	11 (7/16")	TEC 864-VS8-42U 1/2 SM A-SC	02749A-15	300

Angle Reduction Clip

Description	Item No.	PU
85° Angle reduction clip	80125-42	100

Reduces opening angle to 85°



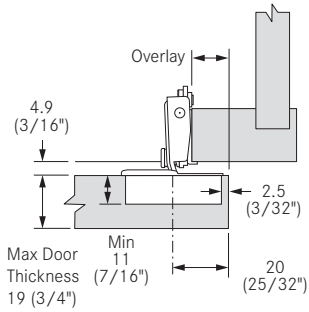
See page 27 for installation instructions.

Wrap-around - 42mm Drilling Pattern

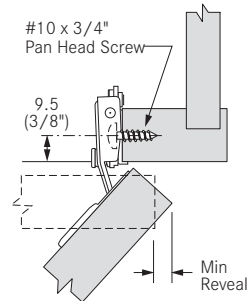
Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
6 (1/4")	11 (7/16")	14.5 (9/16")	TEC 864-VS8-42U 1/4 WM A-SC	02788A-15	300
12.7 (1/2")	3.5 (1/8")	11 (7/16")	TEC 864-VS8-42U 1/2 WM A-SC	02824A-15	300
19 (3/4")	0	11 (7/16")	TEC 864-VS8-42U 3/4 WM A-SC	02825A-15	300
25 (1")	0	11 (7/16")	TEC 864-VS8-42U 1 WM A-SC	02834A-15	300

PU - Packaging unit

Dimensions - Door Closed



Minimum Reveal

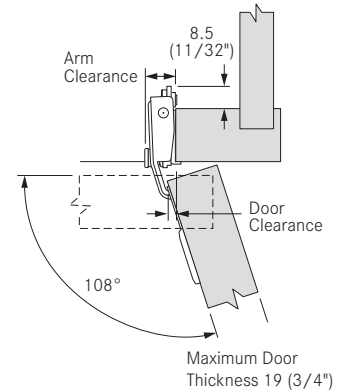


TEC 864 Minimum Reveal

Door Thickness	16 (5/8")	17.5 (11/16")	19 (3/4")
Minimum Reveal	4.2 (5/32")	5.4 (7/32")	6.7 (1/4")

Based on door with square edge.

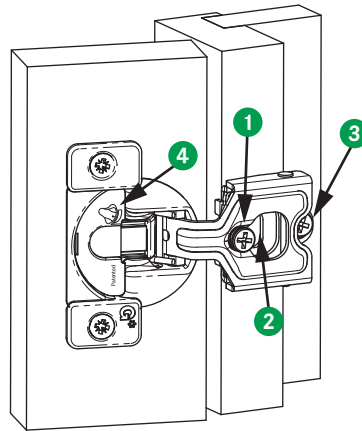
Clearances - Door Open



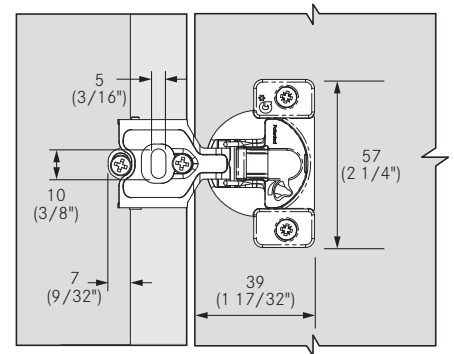
Arm and door clearances see page 10.

Adjustments

- Side Adjustment** +/-1.5mm (1/16")
Rotate adjustment screw.
- Height Adjustment** +/-2mm (3/32")
Loosen screw, align door, tighten screw.
- Depth Adjustment** +2.5mm (3/32"), -5mm (1/32")
Rotate cam screw.
- Soft-close Tension**
Light, Medium, and Strong setting
See page 9 for complete adjustment explanation.



Overall Dimensions



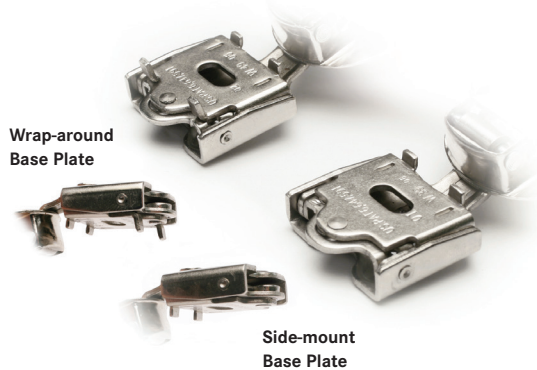
Mounting Screws

Hinge cup to door, #6 x 5/8" Flat head screw

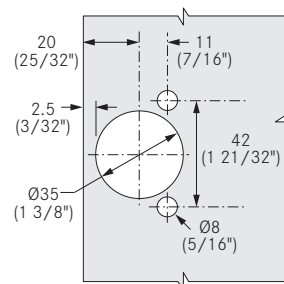
Base plate to face frame, #10 x 3/4" Pan head screw

Base Plates

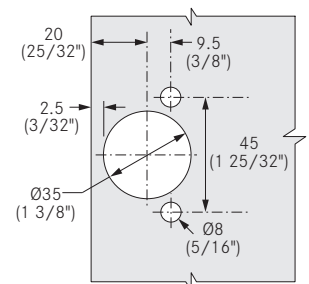
Drilling Pattern



42mm Drilling Pattern



45mm Drilling Pattern



IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

TEC 864 Soft-close

108° Opening Angle - 1 1/4" to 1 1/2" Overlay



- Soft-close damper is pre-mounted in the hinge cup
- Adjustment switch to regulate closing action
- One piece hinge and base plate combination
 - Wrap-around base plate for 3/4" thick frames only
 - Side mount base plate frames thicker than 3/4"
- 3-dimensional adjustment
- 11mm (7/16") cup drilling depth
- Front locating tabs position hinge on face frame
- Cam side adjustment
- Cam depth adjustment
- Height adjustment at mounting screw
- Works with current Grass insertion machinery
- Made in the USA



Side-mount - 45mm Drilling Pattern

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
32 (1 1/4")	0	10 (13/32")	TEC 864-VS8-45U 1 1/4 SM A-SC	02780A-15	300
35 (1 3/8")	0	10 (13/32")	TEC 864-VS8-45U 1 3/8 SM A-SC	02785A-15	300



Wrap-around - 45mm Drilling Pattern

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)			Screw-on Hinge Cup (VS)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU	Description	Item No.	PU
32 (1 1/4")	0	10 (13/32")	TEC 864-VS8-45U 1 1/4 WM A-SC	02910A-15	300	TEC 864-VS-45U 1 1/4 WM A-SC	04547A-15	300
33.5 (1 5/16")	0	10 (13/32")	TEC 864-VS8-45U 1 5/16 WM A-SC	02198A-15	300	TEC 864-VS-45U 1 5/16 WM A-SC	02176A-15	300
35 (1 3/8")	0	10 (13/32")	TEC 864-VS8-45U 1 3/8 WM A-SC	02782A-15	300	TEC 864-VS-45U 1 3/8 WM A-SC	04548A-15	300
38 (1 1/2")	0	10 (13/32")	TEC 864-VS8-45U 1 1/2 WM A-SC	02805A-15	300	TEC 864-VS-45U 1 1/2 WM A-SC	04549A-15	300



Side-mount - 42mm Drilling Pattern

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
32 (1 1/4")	0	10 (13/32")	TEC 864-VS8-42U 1 1/4 SM A-SC	02838A-15	300



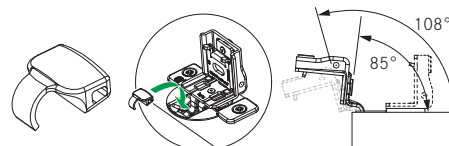
Wrap-around - 42mm Drilling Pattern

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
32 (1 1/4")	0	10 (13/32")	TEC 864-VS8-42U 1 1/4 WM A-SC	02836A-15	300
38 (1 1/2")	0	10 (13/32")	TEC 864-VS8-42U 1 1/2 WM A-SC	02839A-15	300

Angle Reduction Clip

Description	Item No.	PU
85° Angle reduction clip	80125-42	100

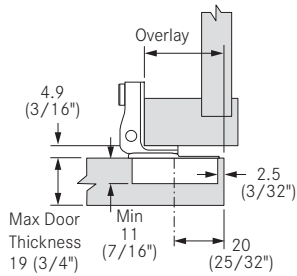
Reduces opening angle to 85°



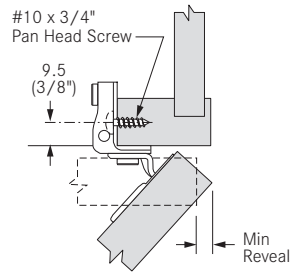
See page 27 for installation instructions.

PU - Packaging unit

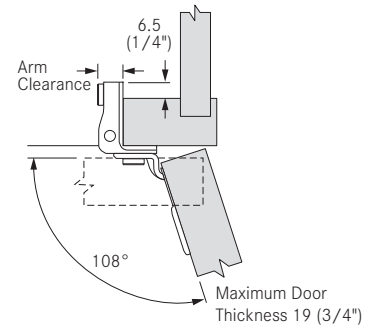
Dimensions - Door Closed



Minimum Reveal



Clearances - Door Open



TEC 864 Minimum Reveal

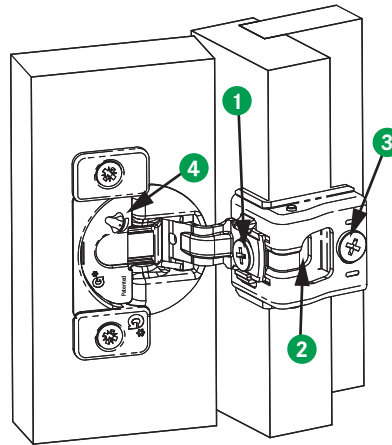
Door Thickness	16 (5/8")	17.5 (11/16")	19 (3/4")
Minimum Reveal	4.2 (5/32")	5.4 (7/32")	6.7 (1/4")

Based on door with square edge.

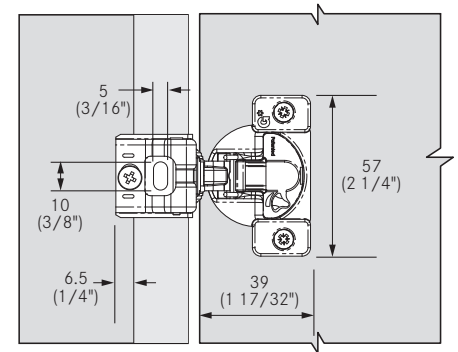
Arm and door clearances see page 12.

Adjustments

- Side Adjustment** +/-1.5mm (1/16")
Rotate cam adjustment screw.
- Height Adjustment** +/-2mm (3/32")
Loosen screw, align door, tighten screw.
- Depth Adjustment** +3mm (1/8")
Rotate cam screw.
- Soft-close Tension**
Light, Medium, and Strong setting
See page 9 for complete adjustment explanation.



Overall Dimensions



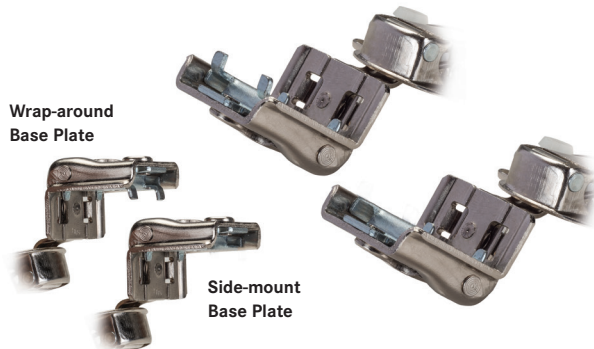
Mounting Screws

Hinge cup to door, #6 x 5/8" Flat head screw

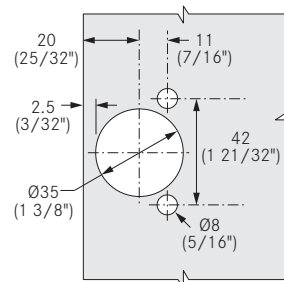
Base plate to face frame, #10 x 3/4" Pan head screw

Base Plates

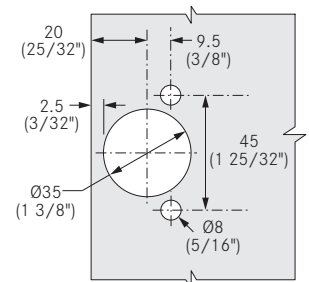
Drilling Pattern



42mm Drilling Pattern



45mm Drilling Pattern



IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

TEC 863 Soft-close/Self-close

108° Opening Angle - Face-mount



- Available in Soft-close and Self-close
- Soft-close damper is pre-mounted in the hinge cup
- Adjustment switch on Soft-close to regulate closing action
- One piece hinge and base plate combination
- 2-dimensional adjustment
- 11mm (7/16") cup drilling depth
- Cam side adjustment
- Height adjustment at mounting screws
- For overlays 1 7/16" and greater
- 85° angle reduction clip available for Soft-close and Self-close
- Made in the USA



Face-mount - 45mm Drilling Pattern Soft-close

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)			Screw-on Hinge Cup (VS)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU	Description	Item No.	PU
37 (1 7/16")	0	0	TEC 863-VS8-45U 1 7/16 FM A-SC	02294A-15	300	TEC 863-VS-45U 1 7/16 FM A-SC	02295A-15	300



Face-mount - 45mm Drilling Pattern Self-close

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)			Screw-on Hinge Cup (VS)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU	Description	Item No.	PU
37 (1 7/16")	0	0	TEC 863-VS8-45U 1 7/16 FM	02283-15	300	TEC 863-VS-45U 1 7/16 FM	02284-15	300



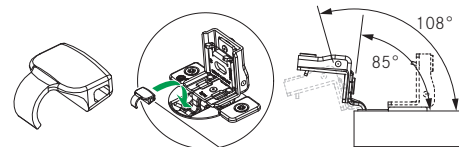
Face-mount - 42mm Drilling Pattern Self-close

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
37 (1 7/16")	0	0	TEC 863-VS8-42U 1 7/16 FM	02282-15	300

Angle Reduction Clip

Description	Item No.	PU
85° Angle reduction clip	80125-42	100

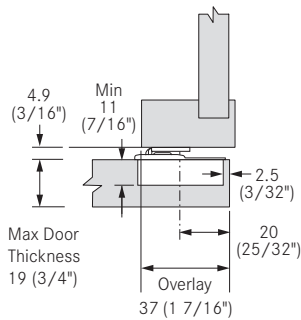
Reduces opening angle to 85°



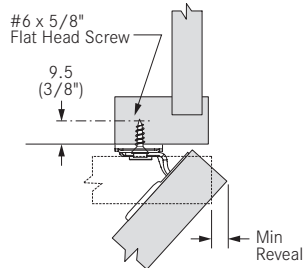
See page 27 for installation instructions.

PU - Packaging unit

Dimensions - Door Closed



Minimum Reveal

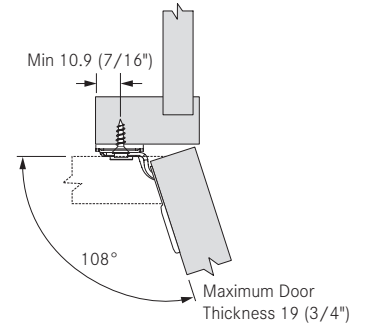


TEC 863 Minimum Reveal

Door Thickness	16 (5/8")	17.5 (11/16")	19 (3/4")
Minimum Reveal	4.2 (5/32")	5.4 (7/32")	6.7 (1/4")

Based on door with square edge.

Clearances - Door Open



Arm and door clearances see page 14.

Adjustments

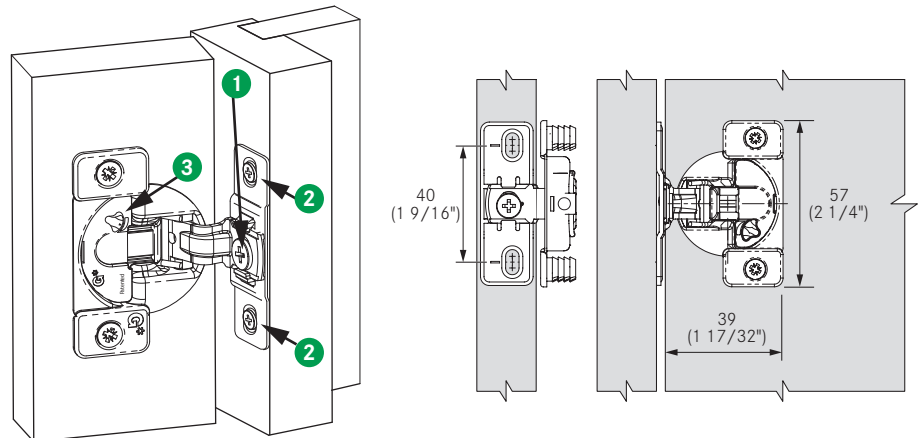
- Side Adjustment** +/-1.5mm (1/16")
Rotate cam adjustment screw.
- Height Adjustment** +/-2mm (3/32")
Loosen screws, align door, tighten screws.
- Soft-close Tension**
Light, Medium, and Strong setting
See page 9 for complete adjustment explanation.

Mounting Screws

Hinge cup to door, #6 x 5/8" Flat head screw
Base plate to face frame, #6 x 5/8" Flat head screw

Door Overlay = 37 (1 7/16") when base plate is flush inside edge of face frame.

Overall Dimensions

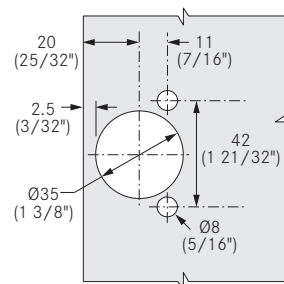


Drilling Pattern

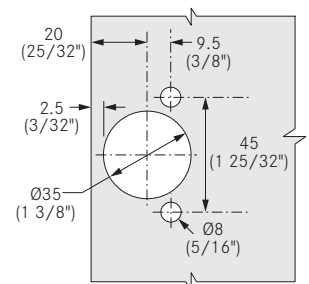
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

42mm Drilling Pattern



45mm Drilling Pattern



TEC 864 Self-close

108° Opening Angle - 1/4" to 1" Overlay



- One piece hinge and base plate combination
 - Wrap-around base plate for 3/4" thick frames only
 - Side mount base plate frames thicker than 3/4"
- 3-dimensional adjustment
- 11mm (7/16") cup drilling depth
- Front locating tabs position hinge on face frame
- Side adjustment
- Cam depth adjustment
- Height adjustment at mounting screw
- Works with current Grass insertion machinery
- Made in the USA



Side-mount - 45 mm Drilling Pattern

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)			Screw-on Hinge Cup (VS)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU	Description	Item No.	PU
6 (1/4")	11 (7/16")	14.5 (9/16")	-	-	-	TEC 864-VS-45U 1/4 SM	04386-15	300
12.7 (1/2")	3.5 (1/8")	11 (7/16")	TEC 864-VS8-45U 1/2 SM	02872-15	300	TEC 864-VS-45U 1/2 SM	04387-15	300
16 (5/8")	0.3 (1/32")	11 (7/16")	TEC 864-VS8-45U 5/8 SM	01864-15	300	TEC 864-VS-45U 5/8 SM	01418-15	300
19 (3/4")	0	11 (7/16")	TEC 864-VS8-45U 3/4 SM	02878-15	300	TEC 864-VS-45U 3/4 SM	04390-15	300
25 (1")	0	11 (7/16")	-	-	-	TEC 864-VS-45U 1 SM	04395-15	300

Wrap-around - 45 mm Drilling Pattern

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)			Screw-on Hinge Cup (VS)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU	Description	Item No.	PU
6 (1/4")	11 (7/16")	14.5 (9/16")	TEC 864-VS8-45U 1/4 WM	02847-15	300	TEC 864-VS-45U 1/4 WM	04396-15	300
11 (7/16")	5.1 (13/64")	11 (7/16")	TEC 864-VS8-45U 7/16 WM	02904-15	300	-	-	-
12.7 (1/2")	3.5 (1/8")	11 (7/16")	TEC 864-VS8-45U 1/2 WM	02905-15	300	TEC 864-VS-45U 1/2 WM	04399-15	300
19 (3/4")	0	11 (7/16")	TEC 864-VS8-45U 3/4 WM	02907-15	300	TEC 864-VS-45U 3/4 WM	04400-15	300
25 (1")	0	11 (7/16")	TEC 864-VS8-45U 1 WM	02882-15	300	TEC 864-VS-45U 1 WM	04401-15	300

Side-mount - 42 mm Drilling Pattern

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
12.7 (1/2")	3.5 (1/8")	11 (7/16")	TEC 864-VS8-42U 1/2 SM	02871-15	300
25 (1")	0	11 (7/16")	TEC 864-VS8-42U 1 SM	02884-15	300

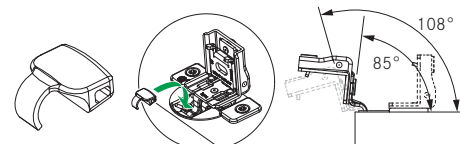
Wrap-around - 42 mm Drilling Pattern

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
6 (1/4")	11 (7/16")	14.5 (9/16")	TEC 864-VS8-42U 1/4 WM	02846-15	300
12.7 (1/2")	3.5 (1/8")	11 (7/16")	TEC 864-VS8-42U 1/2 WM	02869-15	300
19 (3/4")	0	11 (7/16")	TEC 864-VS8-42U 3/4 WM	02873-15	300
25 (1")	0	11 (7/16")	TEC 864-VS8-42U 1 WM	02879-15	300

Angle Reduction Clip

Description	Item No.	PU
85° Angle reduction clip	80125-42	100

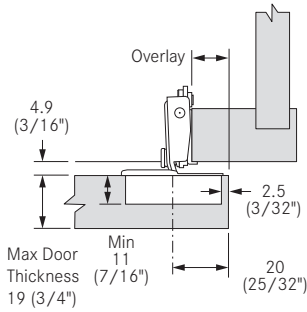
Reduces opening angle to 85°



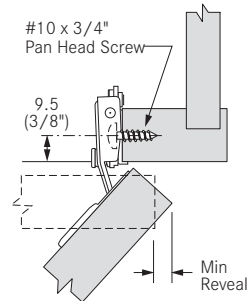
See page 27 for installation instructions.

PU - Packaging unit

Dimensions - Door Closed



Minimum Reveal

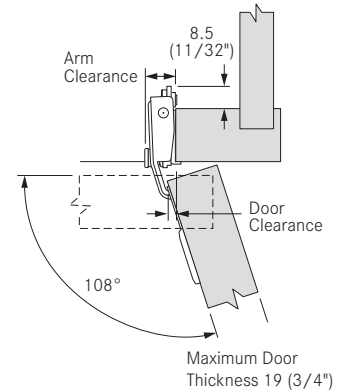


TEC 864 Minimum Reveal

Door Thickness	16 (5/8")	17.5 (11/16")	19 (3/4")
Minimum Reveal	4.2 (5/32")	5.4 (7/32")	6.7 (1/4")

Based on door with square edge.

Clearances - Door Open



Arm and door clearances see page 16.

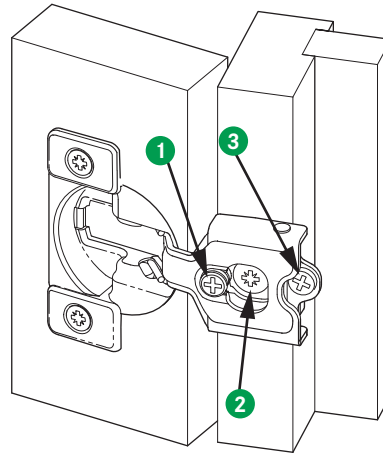
Adjustments

- Side Adjustment** +/-1.5mm (1/16")
Rotate adjustment screw.
- Height Adjustment** +/-2mm (3/32")
Loosen screw, align door, tighten screw.
- Depth Adjustment** +2.5mm (3/32"), -5mm (1/32")
Rotate cam screw.

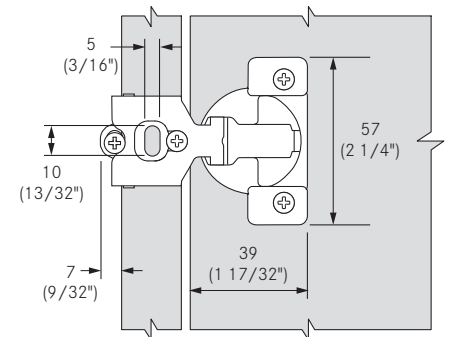
Mounting Screws

Hinge cup to door, #6 x 5/8" Flat head screw

Base plate to face frame, #10 x 3/4" Pan head screw

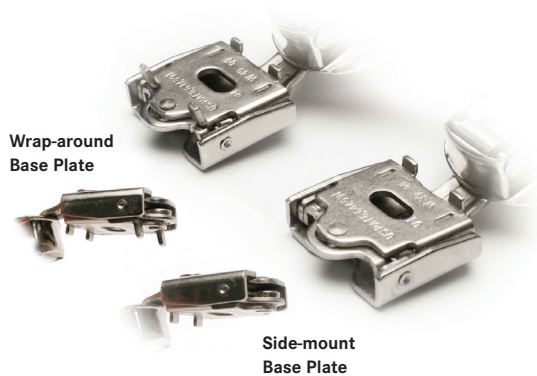


Overall Dimensions

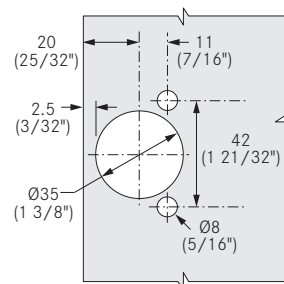


Base Plates

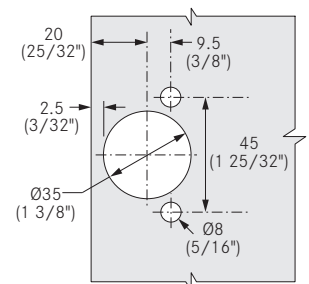
Drilling Pattern



42mm Drilling Pattern



45mm Drilling Pattern



IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

TEC 864 Self-close

108° Opening Angle - 1 1/4" to 1 1/2" Overlay



- One piece hinge and base plate combination
 - Wrap-around base plate for 3/4" thick frames only
 - Side mount base plate frames thicker than 3/4"
- 3-dimensional adjustment
- 11mm (7/16") cup drilling depth
- Front locating tabs position hinge on face frame
- Cam side adjustment
- Cam depth adjustment
- Height adjustment at mounting screw
- Works with current Grass insertion machinery
- Made in the USA



Side-mount - 45mm Drilling Pattern

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)			Screw-on Hinge Cup (VS)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU	Description	Item No.	PU
32 (1 1/4")	0	10 (13/32")	TEC 864-VS8-45U 1 1/4 SM	02894-15	300	TEC 864-VS-45U 1 1/4 SM	04466-15	300
33.5 (1 5/16")	0	10 (13/32")	TEC 864-VS8-45U 1 5/16 SM	01094-15	300	-	-	-
35 (1 3/8")	0	10 (13/32")	TEC 864-VS8-45U 1 3/8 SM	02898-15	300	TEC 864-VS-45U 1 3/8 SM	04468-15	300
38 (1 1/2")	0	10 (13/32")	TEC 864-VS8-45U 1 1/2 SM	02903-15	300	TEC 864-VS-45U 1 1/2 SM	04469-15	300



Wrap-around - 45mm Drilling Pattern

Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)			Screw-on Hinge Cup (VS)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU	Description	Item No.	PU
32 (1 1/4")	0	10 (13/32")	TEC 864-VS8-45U 1 1/4 WM	02887-15	300	TEC 864-VS-45U 1 1/4 WM	04493-15	300
33.5 (1 5/16")	0	10 (13/32")	TEC 864-VS8-45U 1 5/16 WM	01095-15	300	-	-	-
35 (1 3/8")	0	10 (13/32")	TEC 864-VS8-45U 1 3/8 WM	02896-15	300	TEC 864-VS-45U 1 3/8 WM	04498-15	300
38 (1 1/2")	0	10 (13/32")	TEC 864-VS8-45U 1 1/2 WM	02901-15	300	TEC 864-VS-45U 1 1/2 WM	04499-15	300



Side-mount - 42mm Drilling Pattern

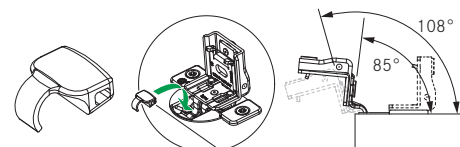
Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
32 (1 1/4")	0	10 (13/32")	TEC 864-VS8-42U 1 1/4 SM	02889-15	300
35 (1 3/8")	0	10 (13/32")	TEC 864-VS8-42U 1 3/8 SM	02897-15	300



Angle Reduction Clip

Description	Item No.	PU
85° Angle reduction clip	80125-42	100

Reduces opening angle to 85°



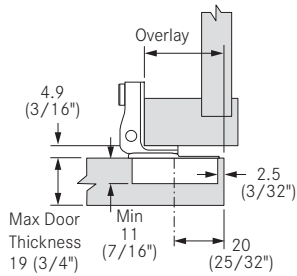
See page 27 for installation instructions.

Wrap-around - 42mm Drilling Pattern

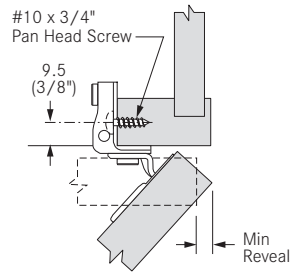
Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
32 (1 1/4")	0	10 (13/32")	TEC 864-VS8-42U 1 1/4 WM	02886-15	300

PU - Packaging unit

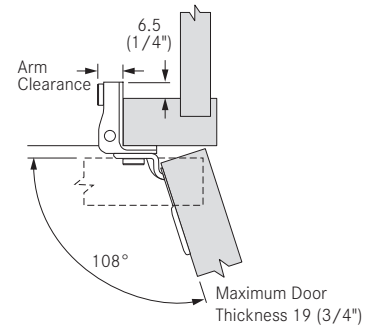
Dimensions - Door Closed



Minimum Reveal



Clearances - Door Open



TEC 864 Minimum Reveal

Door Thickness	16 (5/8")	17.5 (11/16")	19 (3/4")
Minimum Reveal	4.2 (5/32")	5.4 (7/32")	6.7 (1/4")

Based on door with square edge.

Arm and door clearances see page 18.

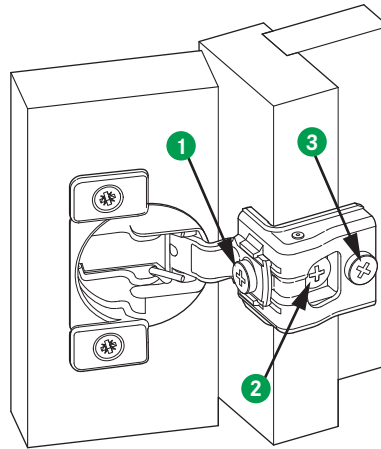
Adjustments

- Side Adjustment** +/-1.5mm (1/16")
Rotate cam adjustment screw.
- Height Adjustment** +/-2mm (3/32")
Loosen screw, align door, tighten screw.
- Depth Adjustment** +3mm (1/8")
Rotate cam screw.

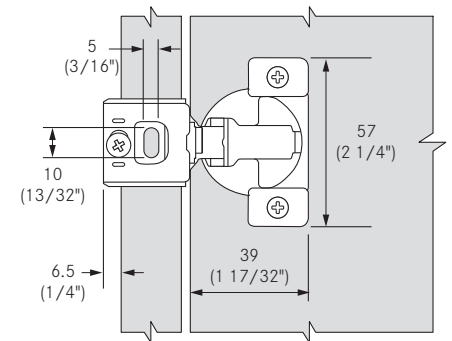
Mounting Screws

Hinge cup to door, #6 x 5/8" Flat head screw

Base plate to face frame, #10 x 3/4" Pan head screw

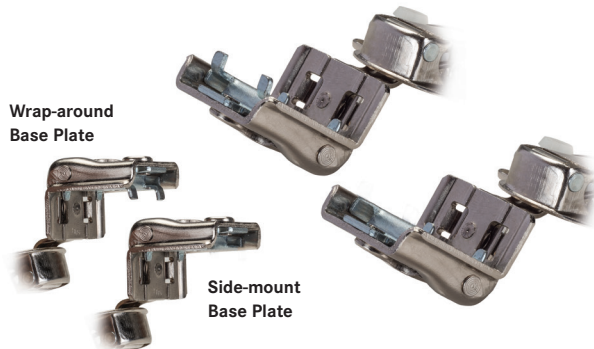


Overall Dimensions

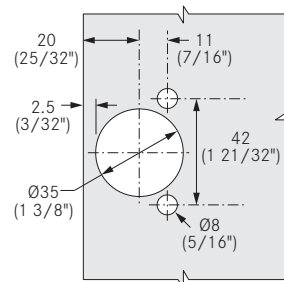


Base Plates

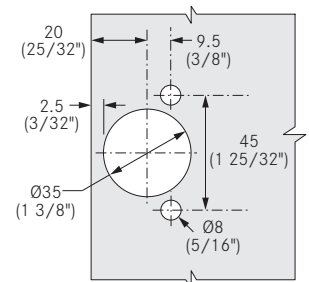
Drilling Pattern



42mm Drilling Pattern



45mm Drilling Pattern



IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

TEC 861 for MDF Frame Material, Soft-close

108° Opening Angle



- Patented wrap-around base plate prevents splitting of frame material
- Soft-close damper is pre-mounted in the hinge cup
- Adjustment switch to regulate closing action
- One piece hinge and base plate combination
- 11mm (7/16") cup drilling depth
- Front locating tabs position hinge on face frame
- Works on frame thicknesses: 12.7mm (1/2"), 16mm (5/8"), and 19mm (3/4")
- Works with current Grass machinery
- 85° angle reduction clip available
- Height Adjustment (±2mm) via elongated screw hole
- Side adjustment achieved with use of 1.5mm (1/16") spacer
- Made in the USA



Wrap-around - 45mm Drilling Pattern

Frame Thickness	Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
12.7 (1/2")	12.7 (1/2")	3 (1/8")	7.5 (9/32")	TEC 861-VS8-45U M 1/2 FT A-SC	04842A-14	250
16 (5/8")	12.7 (1/2")	3 (1/8")	7.5 (9/32")	TEC 861-VS8-45U M 5/8 FT A-SC	04843A-14	250
19 (3/4")	12.7 (1/2")	3 (1/8")	7.5 (9/32")	TEC 861-VS8-45U M 3/4 FT A-SC	04844A-14	250



Wrap-around - 42mm Drilling Pattern

Frame Thickness	Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
12.7 (1/2")	12.7 (1/2")	3 (1/8")	7.5 (9/32")	TEC 861-VS8-42U M 1/2 FT A-SC	04742A-14	250
16 (5/8")	12.7 (1/2")	3 (1/8")	7.5 (9/32")	TEC 861-VS8-42U M 5/8 FT A-SC	04743A-14	250
19 (3/4")	12.7 (1/2")	3 (1/8")	7.5 (9/32")	TEC 861-VS8-42U M 3/4 FT A-SC	04744A-14	250

Spacer and Screws

	Description	Item No.	PU
Spacer	1.5 mm (1/16") slotted for MDF 861, clear	00209-42	100
Screw	No. 8 x 3/4" Round head, self drilling, zinc	81018-43	500
Screw	No. 8 x 5/8" Round head, truss quad, self drilling, zinc	81017-43	500

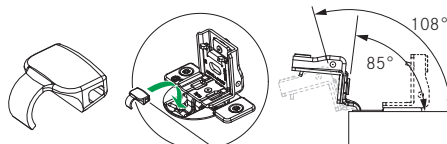
1.5 (1/16")
Spacer



Angle Reduction Clip

Description	Item No.	PU
85° Angle reduction clip	80125-42	100

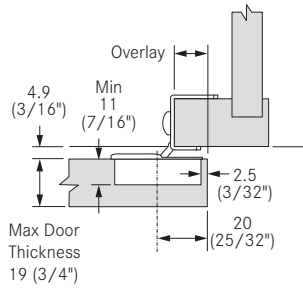
Reduces opening angle to 85°



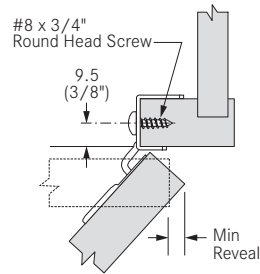
See page 27 for installation instructions.

PU - Packaging unit

Dimensions - Door Closed



Minimum Reveal

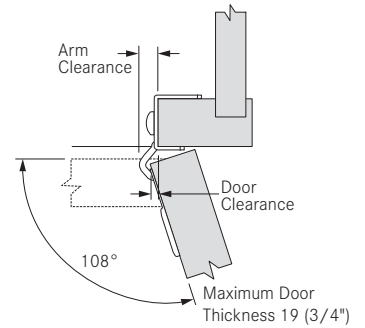


TEC 861 Minimum Reveal

Door Thickness	16 (5/8")	17.5 (11/16")	19 (3/4")
Minimum Reveal	4.2 (5/32")	5.4 (7/32")	6.7 (1/4")

Based on door with square edge.

Clearances - Door Open



Arm and door clearances see page 20.

Adjustments

1 Side Adjustment

Decreasing overlay achieved with use of 1.5mm (1/16") spacer

2 Height Adjustment +/-2mm (3/32")

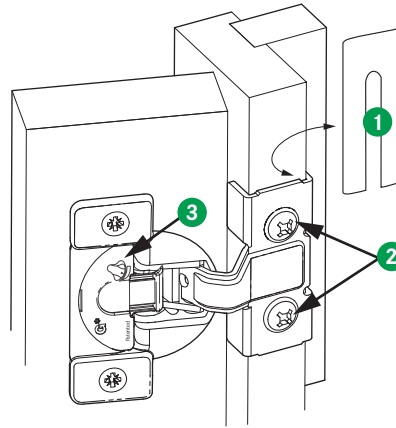
Loosen screws, align door, tighten screws.

3 Soft-close Tension

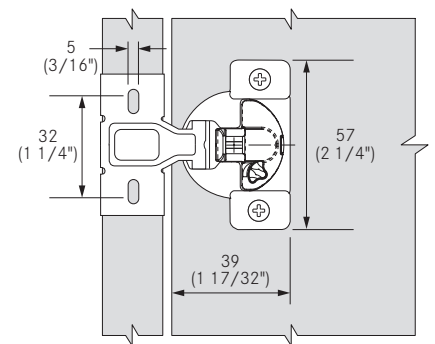
Light, Medium, and Strong setting
See page 9 for complete adjustment explanation.

Mounting Screws

Hinge cup to door, #6 x 5/8" Flat head screw
Base plate to face frame, #8 x 3/4" Round head screws



Overall Dimensions

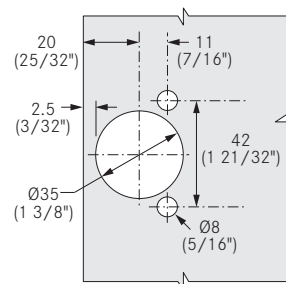


Drilling Pattern

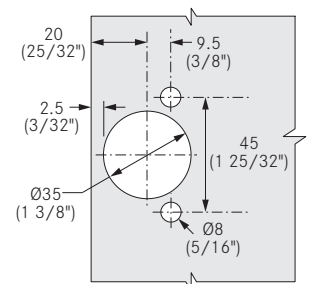
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

42mm Drilling Pattern



45mm Drilling Pattern



TEC 861 for MDF Frame Material, Self-close

108° Opening Angle



- Patented wrap-around base plate prevents splitting of frame material
- One piece hinge and base plate combination
- 11mm (7/16") cup drilling depth
- Front locating tabs position hinge on face frame
- Works on frame thicknesses: 12.7mm (1/2"), 16mm (5/8"), and 19mm (3/4")
- Works with current Grass machinery
- 85° angle reduction clip available
- Height Adjustment (±2mm) via elongated screw hole
- Side adjustment achieved with use of 1.5mm (1/16") spacer
- Made in the USA



Wrap-around - 45mm Drilling Pattern

Frame Thickness	Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
12.7 (1/2")	12.7 (1/2")	3 (1/8")	7.5 (9/32")	TEC 861-VS8-45U M 1/2 FT	04842-14	250
16 (5/8")	12.7 (1/2")	3 (1/8")	7.5 (9/32")	TEC 861-VS8-45U M 5/8 FT	04843-14	250
19 (3/4")	12.7 (1/2")	3 (1/8")	7.5 (9/32")	TEC 861-VS8-45U M 3/4 FT	04844-14	250



Wrap-around - 42mm Drilling Pattern

Frame Thickness	Overlay	Door Clearance	Arm Clearance	Dowelled Hinge Cup (VS8)		
mm (inch)	mm (inch)	mm (inch)	mm (inch)	Description	Item No.	PU
12.7 (1/2")	12.7 (1/2")	3 (1/8")	7.5 (9/32")	TEC 861-VS8-42U 1/2 FT	04742-14	250
16 (5/8")	12.7 (1/2")	3 (1/8")	7.5 (9/32")	TEC 861-VS8-42U 5/8 FT	04743-14	250
19 (3/4")	12.7 (1/2")	3 (1/8")	7.5 (9/32")	TEC 861-VS8-42U 3/4 FT	04744-14	250

Spacer and Screws

	Description	Item No.	PU
Spacer	1.5 mm (1/16") slotted for MDF 861, clear	00209-42	100
Screw	No. 8 x 3/4" Round head, self drilling, zinc	81018-43	500
Screw	No. 8 x 5/8" Round head, truss quad, self drilling, zinc	81017-43	500

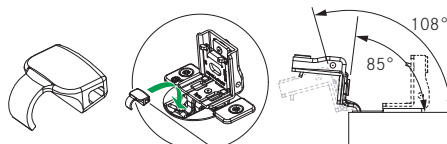
1.5 (1/16")
Spacer



Angle Reduction Clip

Description	Item No.	PU
85° Angle reduction clip	80125-42	100

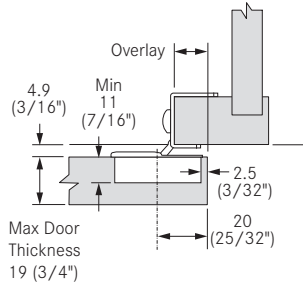
Reduces opening angle to 85°



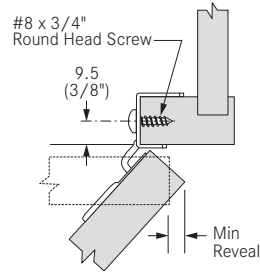
See page 27 for installation instructions.

PU - Packaging unit

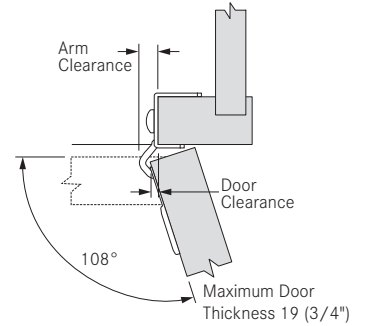
Dimensions - Door Closed



Minimum Reveal



Clearances - Door Open



TEC 861 Minimum Reveal

Door Thickness	16 (5/8")	17.5 (11/16")	19 (3/4")
Minimum Reveal	4.2 (5/32")	5.4 (7/32")	6.7 (1/4")

Based on door with square edge.

Arm and door clearances see page 20.

Adjustments

1 Side Adjustment

Decreasing overlay achieved with use of 1.5mm (1/16") spacer

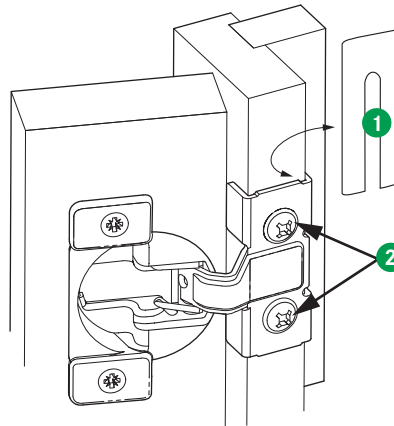
2 Height Adjustment +/-2mm (3/32")

Loosen screws, align door, tighten screws.

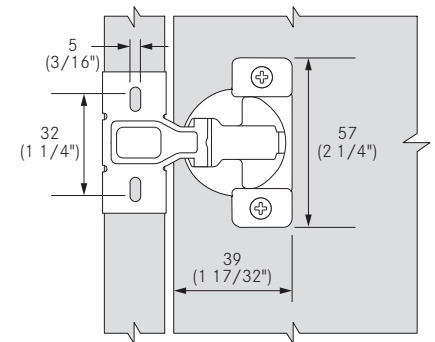
Mounting Screws

Hinge cup to door, #6 x 5/8" Flat head screw

Base plate to face frame, #8 x 3/4" Round head screws



Overall Dimensions

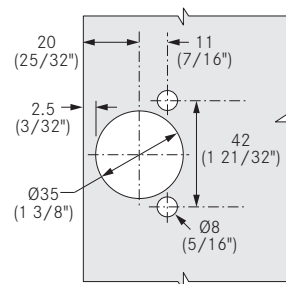


Drilling Pattern

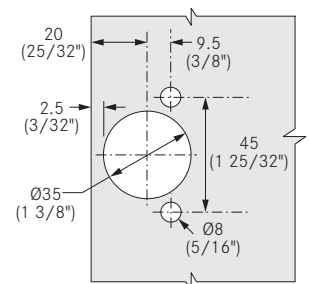
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

42mm Drilling Pattern



45mm Drilling Pattern



Soft-close for doors



- Works with face frame cabinets on all door overlays
- Works with frameless cabinets on full overlay doors
- Brushed nickel finish
- Non-handed with a low profile design
- Manually adjustable to desired closing speed
- Mounts independently from the hinge in the upper corner of the cabinet
- Instantly allows the cabinet door to close quietly and smoothly
- Scratch protector and front bumper with cushion for a quiet close

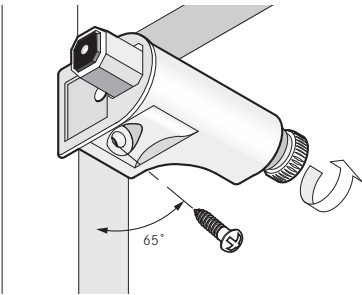
Unisoft Adapter



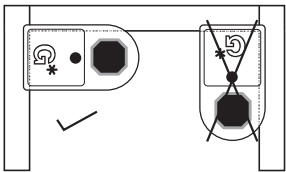
Description	Material	Item No.	PU
Unisoft, Polybag	Plastic, nickel	18971-37	1
Unisoft, Polybag Bulk	Plastic, nickel	18971-40	25
Unisoft, Bulk	Plastic, nickel	18971-14	250

Includes #6 x 3/4 Pan head screw

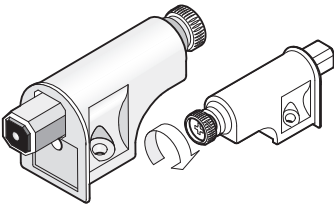
Installation Mounting Position Adjustment



Use a 65° angle for best base results. Pilot drill 2.3mm (Ø3/32") and 1/4" deep for a #6 x 3/4" Pan head screw recommended. Mount in upper corner on hinge side.

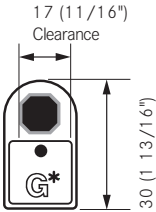
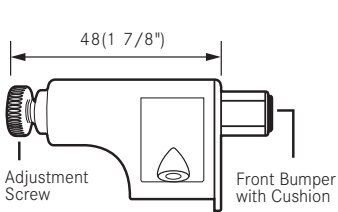


IMPORTANT The installation of our cabinetry hardware must comply with the Grass instructions that are stated on this catalog page.



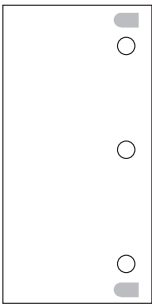
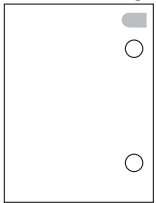
Turn adjustment screw to move damper in and out. Adjust in for heavier doors or out for light doors. Use Phillips or Pozidrive screwdriver or adjust manually.

Dimensions UniSoft per Door



Use one UniSoft for most applications. For heavier doors use two or more. Trial mount recommended.

UniSoft Hinges



PU - Packaging unit

Grass PRO1 drilling and insertion machine for 45mm boring pattern

Grass PRO1 for Hinge Drilling



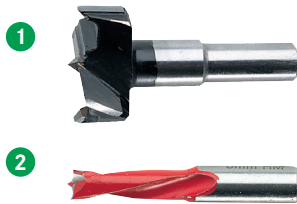
- Depth stop can be adjusted to material thickness
- Functional design
- Easy, fast, and efficient operation
- Easy maintenance
- 45mm boring pattern

Description	Item No.	PU
220v single phase pneumatic	94559-01	1
220v three phase pneumatic	94560-01	1
110v single phase pneumatic	94561-01	1



Description	Item No.	PU
Extension fence 300mm to 1550mm	88612-01	1

Drill Bits

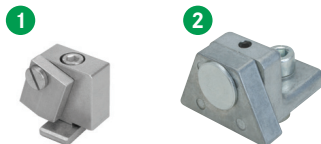


Description	Direction	Item No.	PU
1 35mm bit	RH	00077-01	1
2 8mm bit	LH	00160-01	1
American bit set for hinge drilling		00213-01	1

Set consists of:

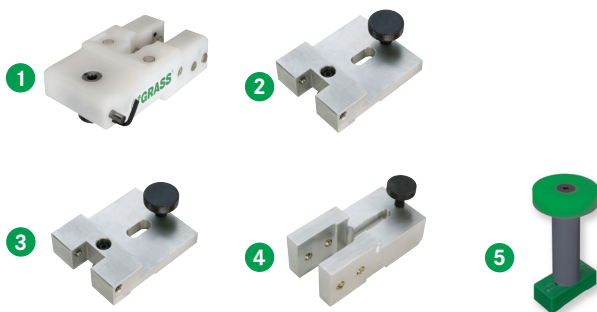
- 1 - 35mm bit, RH
- 2 - 8mm bit, LH

Fence Stops



Description	Item No.	PU
1 Additional fence stop	949.200.21.0000	1
2 Additional fence stop, large	949.200.21.0100	1

Insertion Dies



Description	Item No.	PU
1 Tiomos universal insertion die 110°/120°/160°	80039	1
2 TEC insertion die	92617	1
3 Nexis insertion die 110°/125°	04216-01	1
4 Nexis insertion die 170°	04218-01	1
5 TEC hand insertion tool	03987-01	1

PU - Packaging unit

Accessories and Assembly Aids

TEC

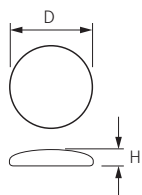
Shelf Supports



Description	Item No.	PU
1 Plastic, clear, with steel pin	499.582.50.0050	5000
2 Shelf support 7006/9.5, nickel	F069073460 253	2500
3 H-802 plastic, square, clear	00036-43	500

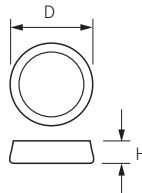
Bumper Pads

Bumper Pads, Self-adhesive



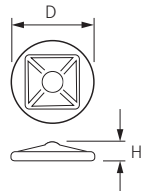
Description	Height	Diameter	Item No.	PU
Bumper pad, clear	2.5mm	10mm	63407-99	288
Bumper pad, clear	2.5mm	10mm	63407-47	7200

AirSoft Bumper Pads, Self-adhesive



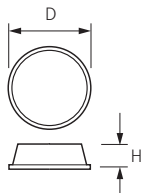
Description	Height	Diameter	Item No.	PU
AirSoft bumper pad, clear	5mm	12.7mm	63481-43	500
AirSoft bumper pad, clear	5mm	12.7mm	63483-30	5000

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	4mm	12mm	630.000.02.1250	5000

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	3mm	12.7mm	31002-43	500
Bumper pad, clear	1.5mm	12.7mm	31004-43	500

Door Stop



Description	Item No.	PU
H-950 door stop, clear	00068-43	500

PU - Packaging unit

TEC

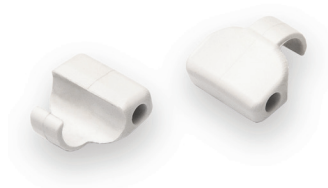
Cover Caps



Hole covers for 35mm cup drillings

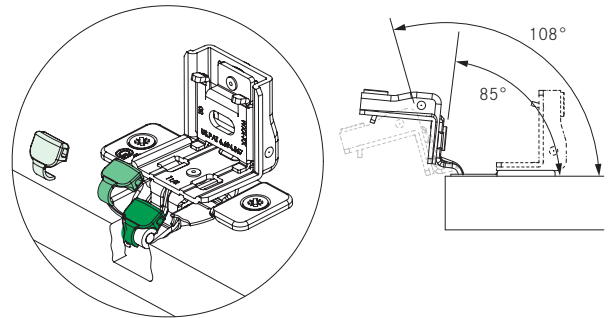
Description	Item No.	PU
35mm cover cap, white	22227-42	100

Angle Reduction Clip

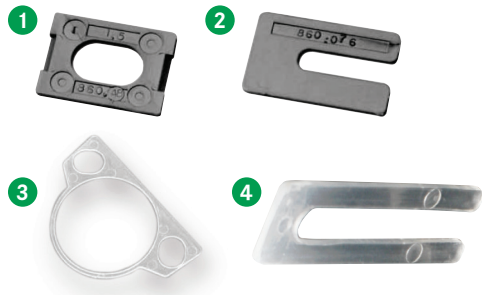


Reduces opening angle to 85°

Description	Item No.	PU
85° Angle reduction clip	80125-42	100



Spacers



Description	Item No.	PU
1 860-048 1.5mm (1/16") thick, without locating pins	00264-42	100
2 860-076 1.5mm (1/16") thick, slotted 00047-42 100	00047-42	100
3 1.5mm (1/16") thick, hinge cup spacer	00284-42	100
4 1.5mm (1/16") thick, slotted for MDF, clear	00209-42	100

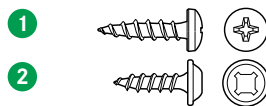
Screws

Wood Screw, Nickel-plated



Description	Item No.	PU
#6 x 1/2" FHP, NI	81014-43	500
#6 x 5/8" FHP, NI	81001-43	500
#6 x 3/4" FHP, NI	81003-43	500
#6 x 1" FHP, NI	81004-43	500

Wood Screw, Nickel-plated



Description	Item No.	PU
1 #10 x 3/4" PHP	81007-43	500
2 #8 x 5/8" Quad round	81017-43	500



GRASS America Inc.
1202 NC Highway 66 South
Kernersville, NC 27284

Phone: 1-800-334-3512
Fax: 1-800-525-8406

www.grassusa.com
info@grassusa.com





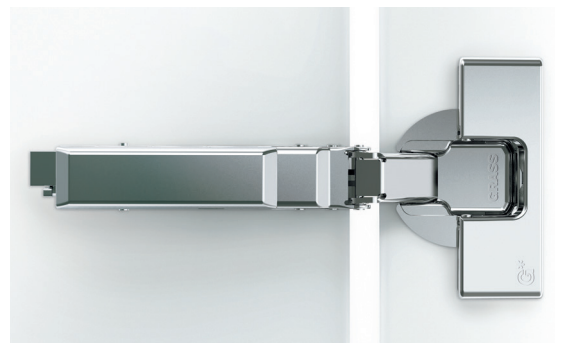
TIOMOS



G*GRASS®

TIOMOS HINGE SYSTEM

Integrated Soft-close, stylish design, maximum stability.
The best possible hinge solution for cabinet doors.







Tiomos, an elegant hinge system today that meets the technical and functional requirements of tomorrow.



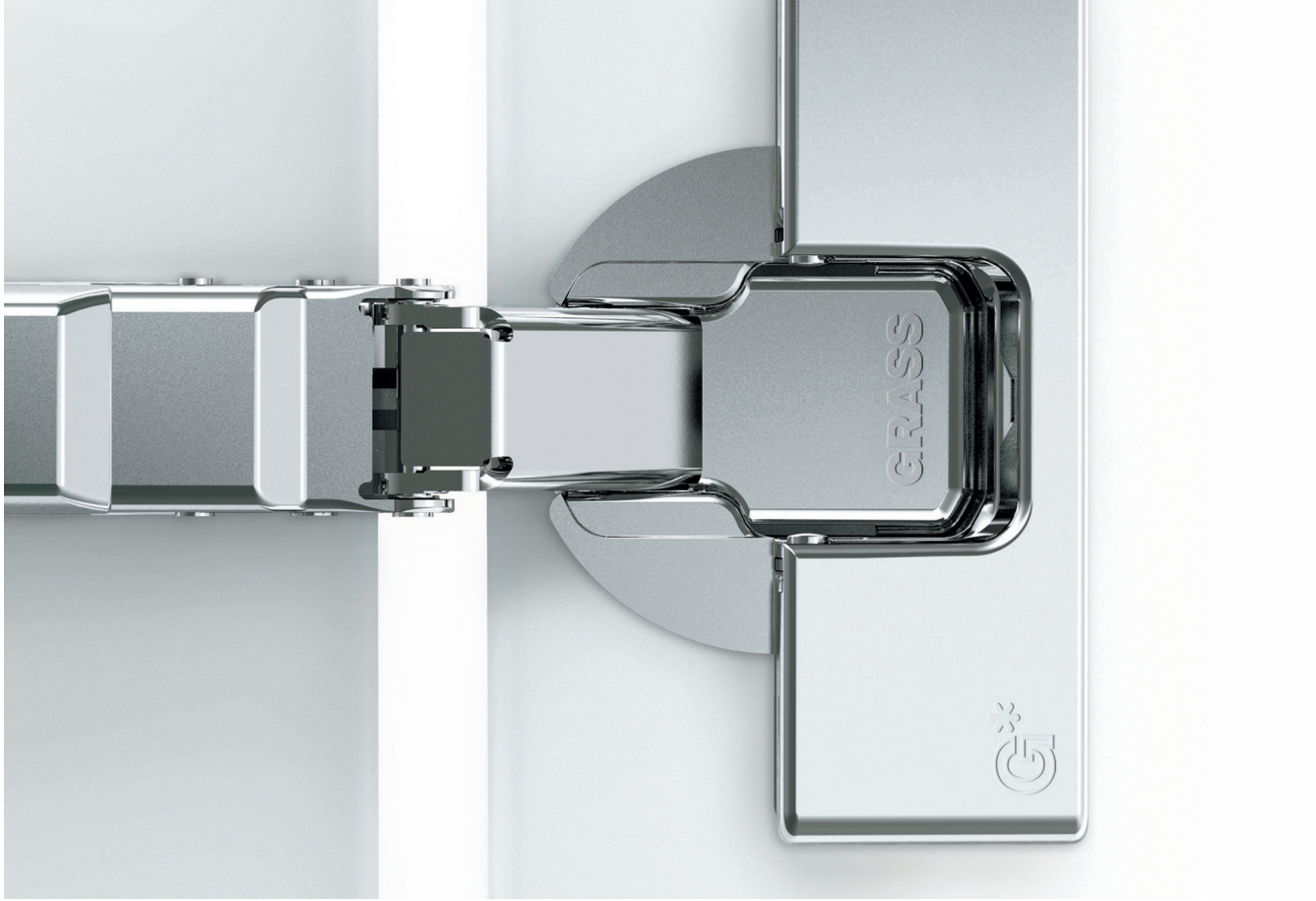
Our developers set out to create a completely new hinge system.

The result is Tiomos. Not only does Tiomos outperform any other hinge in the industry, it offers a timeless design as well as its own individual character.

The product range covers virtually every application, from standard doors to wide angle doors, from frameless applications to face frame applications. The Tiomos offers two closing actions: the standard Self-close and the popular Soft-close. The Soft-close offers a three tier adjustable mechanism, which is fully integrated and concealed in the hinge arm. The Soft-close

mechanism remains active through the duration of the close, resulting in an extremely smooth action. With the superb engineering and design, size and weight of the door will not be a factor. The doors pull open with ease and minimal gaps can be achieved due to the design of the hinge.

Tiomos - the ideal solution to the ever increasing requirements of today's manufacturers.



Tiomos - One hinge system to cover all applications.

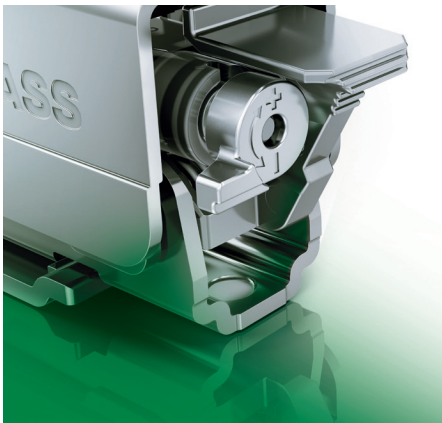
Meet Tiomos, an evolutionary hinge system that offers the best possible movement for cabinet doors.

Tiomos provides perfect movement for essentially every application, from standard doors to wide angle doors, from diagonal corner hinges to pie-cut corner hinges, and from frameless applications to face frame applications. Tiomos is available in a 45mm or 42mm boring pattern for dowelled hinges and 45mm for screw-on hinges. The Tiomos Impresso, the ever popular tool-free version, is available in a combined 42/45mm pattern.



TIOMOS HINGE SYSTEM

One hinge system featuring a multitude of innovative aspects.



Soft-close technology is concealed within the hinge arm.

Three levels of closing pressure are available with the Tiomos adjustable Soft-close mechanism, which is fully integrated and concealed in the hinge arm. The hinges arrive with the adjustment lever in the horizontal position. A turn to the left or the right will adjust the Soft-close mechanism to your individual requirements.



For stronger damping action, turn the adjustment lever by 90° to the right.



Perfect alignment with a twist of the hand.

For fine adjustment, the Tiomos hinge system offers 3-dimensional adjustment. Depth adjustment (+3/-2mm) is based on the worm screw principle and is continuous and self-locking. Depending on the type of base plate chosen, height adjustment ($\pm 2\text{mm}$) can be achieved via a worm screw or through elongated holes ($\pm 2.5\text{mm}$). Side adjustment ($\pm 2\text{mm}$) is on the hinge arm.



Tiomos hinges leave the factory with the adjustment lever in the horizontal position.



The kinematics inside Tiomos.

The complex inner workings of this high-tech hinge are hidden from view, but they are most impressive when working as one. With the kinematics in place the doors are extremely easy to open. This mechanism makes alignment with the smallest of gaps and reveals possible, opening up new possibilities to cabinet designers.



For a gentler closing action, the adjustment lever of the Soft-close damper is turned to the left by 90°.

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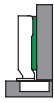
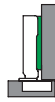
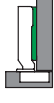
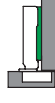
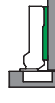
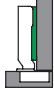
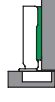
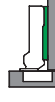
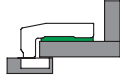
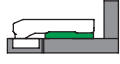
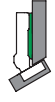
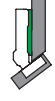
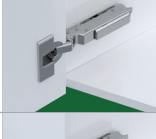
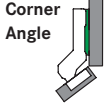
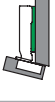
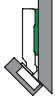
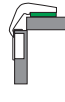
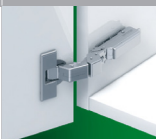
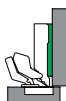
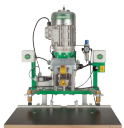
Opening Angle		Description	Full Overlay	Overlay	Half Overlay	Inset	Page
		Features and Benefits					8
		Technical Information					10
110°		Tiemos 110 - Optimal reveals up to 24mm door thickness - Convenient depth adjustment via worm screw					16
110°		Tiemos 110 Tipmatic Plus - Push to open for handle-free doors - Works with Grass Tipmatic Pin system					17
120°		Tiemos 120 - Optimal reveals up to 24mm door thickness - Convenient depth adjustment via worm screw					20
155°		Tiemos 155 - Optimal reveals up to 32mm door thickness - Zero protrusion - For cabinets with inset drawers or pull-out shelves					22
95°		Tiemos 95 - Optimal reveals up to 36mm door thickness - Convenient depth adjustment via worm screw					26
110°		Tiemos 110/90 - Hinge for blind corner cabinets - Convenient depth adjustment via worm screw					28
110°		Tiemos 110/30A - For 30° angled cabinets, overlay - Convenient depth adjustment via worm screw					30
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120°		Tiemos 120/-15A - For -15° angled cabinets, overlay - Convenient depth adjustment via worm screw					36
120°		Tiemos 120/-45A - For -45° angled cabinets, overlay - Convenient depth adjustment via worm screw					38
110°		Tiemos PCC - For pie-cut corner application - Convenient depth adjustment via worm screw					40

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Opening Angle		Description	Full Overlay	Overlay	Half Overlay	Inset	Page
110°		Tiomos M9 - For door thicknesses from 12mm (15/32") to 28mm (1 1/8") - Convenient depth adjustment via worm screw					42
125°		Tiomos M0 - For door thickness from 6mm (1/4") to 10mm (3/8") - Convenient depth adjustment via worm screw					46
		Tiomos Base Plates - Wing base plates - Straight base plates - Face frame base plates					48
		Tipmatic - For use with Grass Tipmatic Plus - For handle-free wooden doors					52
90°		Tiomos Flap Hinge - For fold down flap - For Flap thickness up to 21mm (13/16") - Overlay up to 19mm (3/4")					54
		Accessories					56
		Machinery Grass PRO1 for 45mm boring					61

Features and Benefits

Tiomos

Features



- Adjustable 3-tier Soft-close mechanism integrated and concealed in the hinge arm
- Continuous, smooth closing action from the degree that the Soft-close is activated until the door is completely closed
- Uniform closing action regardless of the door size, weight, or materials
- Soft-close mechanism can be adjusted easily and without tools, even after doors are installed
- Wide selection of hinges and specialty hinges cover all application needs
- Increased applications:
 - Full overlay from 24 - 13.5mm
 - Overlay from 19 - 11.5mm
 - Half Overlay from 12.5 - 5mm
 - Inset

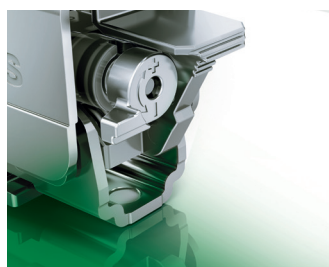
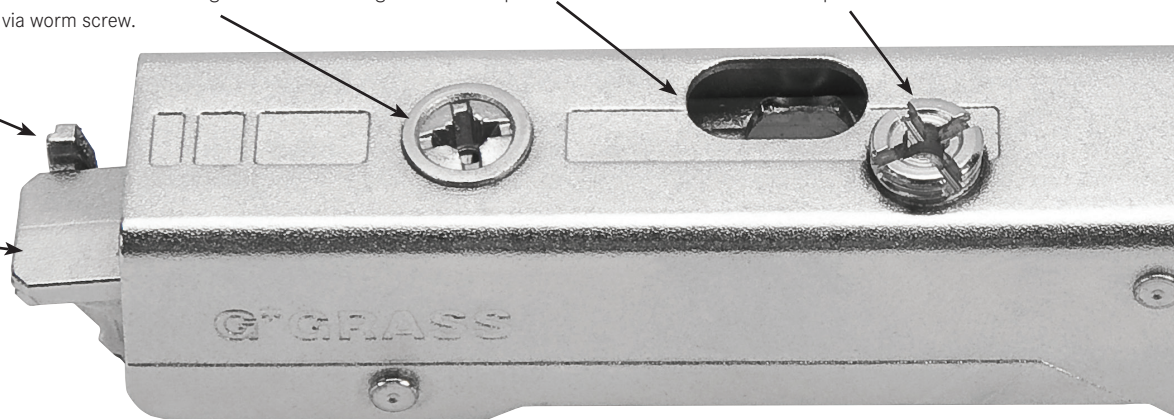
Integrated damper adjustment
with 3 Soft-close settings. Adjustment system is concealed in the hinge arm.

Depth adjustment (+3/-2mm)
is smooth and self-locking via worm screw.

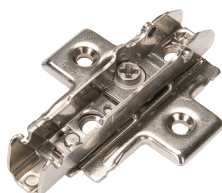
Easy height adjustment (± 2 mm)
via hinge arm on baseplate

Side adjustment (± 2 mm)
with overturn stop

Ergonomic clip
release with audible locking



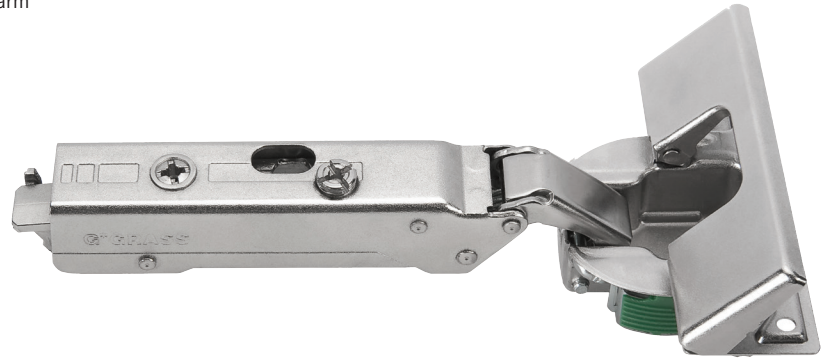
3 Soft-close settings
adjust to meet your individual Soft-close requirements.



Height adjustment
is based on the worm screw principle that is continuous and self-locking.

Features

- One hinge type for all door thicknesses up to 24mm
- 3-dimensional adjustment with suitable base plate
 - Depth adjustment $\pm 3/-2$ mm via self-locking worm screw
 - Height adjustment ± 2 mm on base plate via hinge arm
 - Side adjustment with overturn stop ± 2 via hinge arm
- Soft-close or Self-close hinges are available
- For face frame or frameless applications
- Impresso for tool-free application
- 42mm and 45mm boring patterns

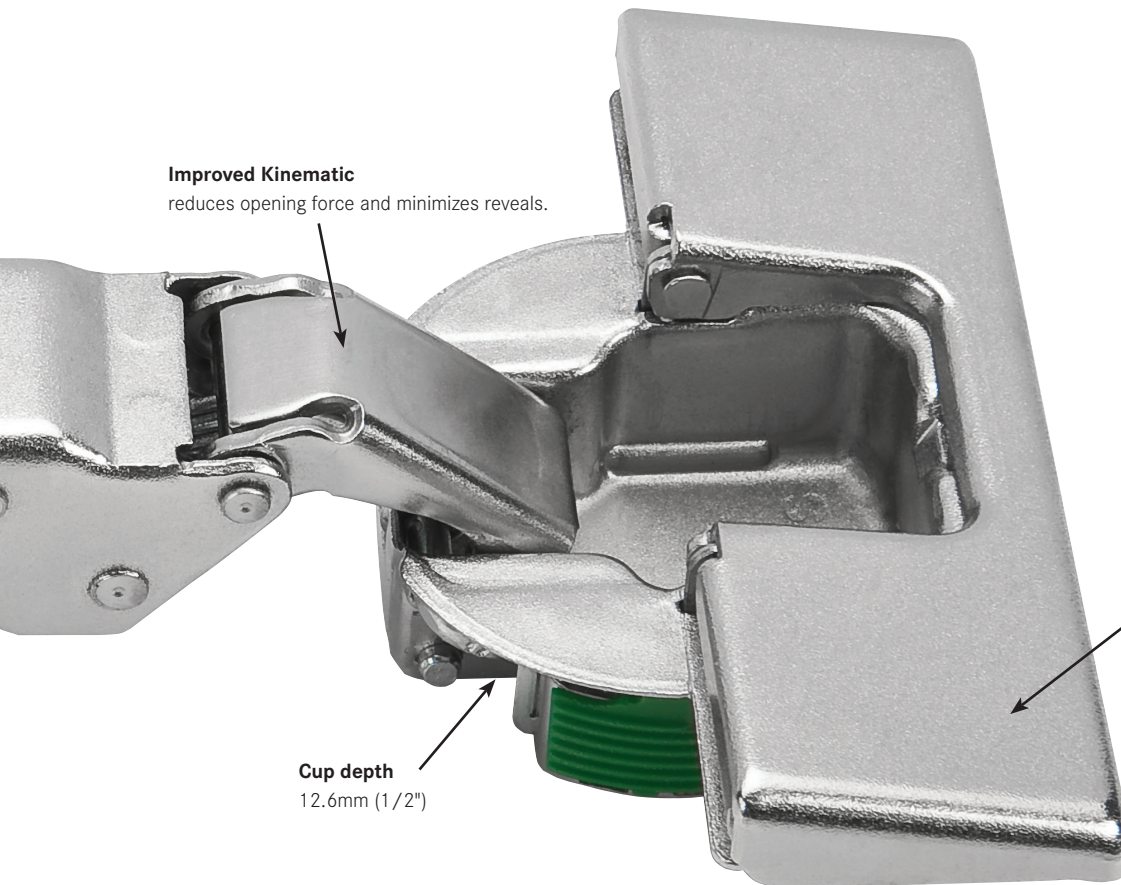


Impresso Hinges

for tool-free application
Insertion instructions on page 14.

Improved Kinematic

reduces opening force and minimizes reveals.



Cup depth
12.6mm (1/2")

Tiomos Styles

42mm pattern, Dowelled
45mm pattern, Screw-on and Dowelled
42/45mm pattern, Impresso

Dowelled and Screw-on

cup attachments. Dowelled available
in both 42mm and 45mm patterns.
Screw-on available in 45mm pattern.



Technical Information

For Tiomos

Number of Hinges Per Door

The number of hinges is determined by the door height, door weight, quality of the door material, and the fixing of the cup and base plate.

The load and height data refer to 24" standard door widths.

The table refers to hinges with and without integrated dampers.

Grass strongly recommends a trial mount for all hinges and base plates.

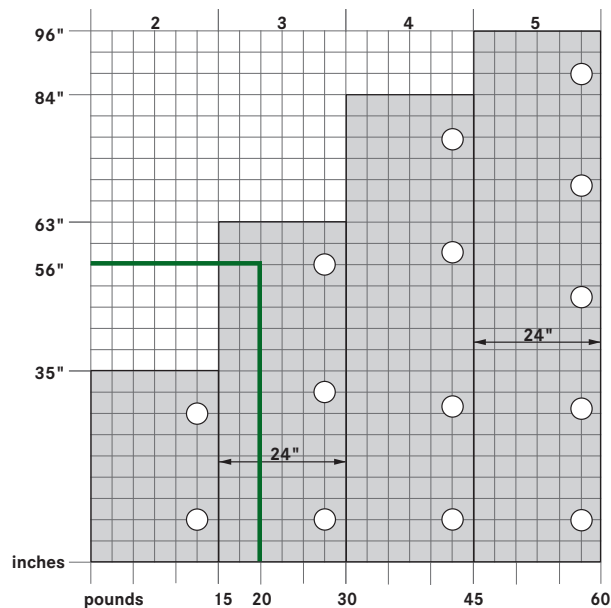
Attach base plates using all available screw holes.

Example:

For doors measuring 56" x 24" and weighing 19 lb, Grass recommends the installation of 3 hinges.

Note: The distance between the top and bottom hinge must be greater than the width of the door.

The **Tiomos** hinge meets and exceeds the minimum requirements of ANSI/BHMA A156.9 Standard.



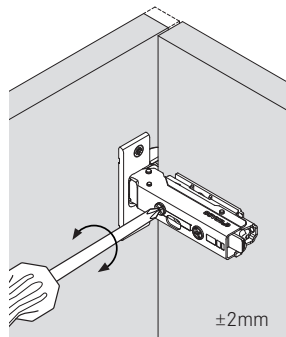
Adjustments

The options for height adjustment depend on the type of base plate. All adjustments can be made independent of one another.

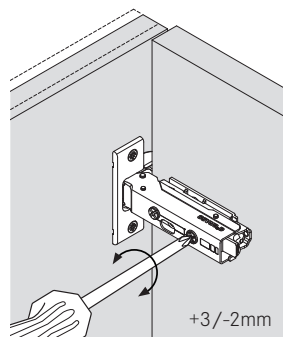
For depth adjustment, select base plates have worm screw adjustment access through the hinge arm.

Use a #2 POZI drive screwdriver for hinge adjustments.

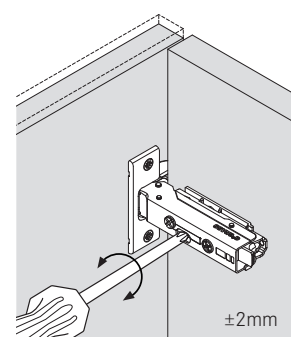
Attach base plates using all available screw holes.



Side adjustment



Depth adjustment
via worm screw

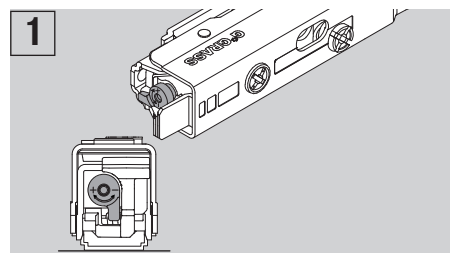


Height adjustment
via base plate

Tool-free Soft-close Adjustment

Soft-closing performance can be regulated for any door size and weight with the Tiomos adjustable integrated Soft-close.

Depending upon the requirement, the Soft-close settings can be adjusted easily and without tools. With 2 hinges there are 6 Soft-close settings.

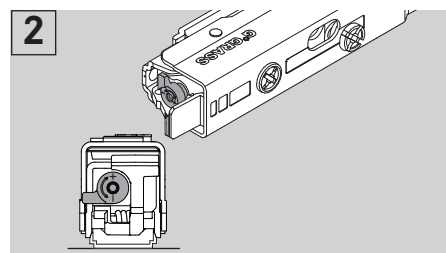


Light setting

Adjustment lever points toward the cabinet wall

Appropriate for:

- Small, light doors

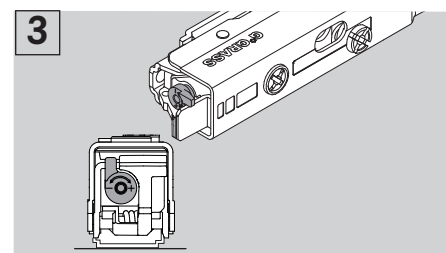


Medium setting (factory setting)

Adjustment lever is parallel to the cabinet wall.
This setting covers 80% of door applications.

Appropriate for:

- Standard doors



Strong setting

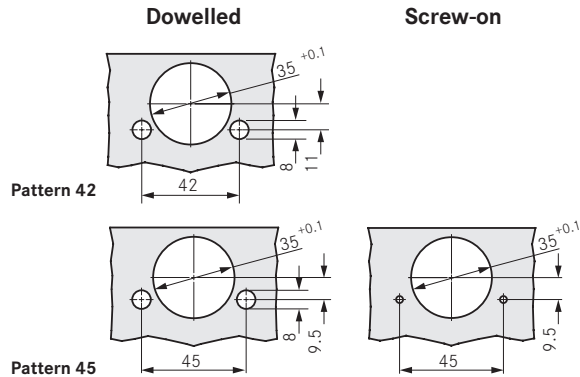
Adjustment lever points toward the cabinet interior

Appropriate for:

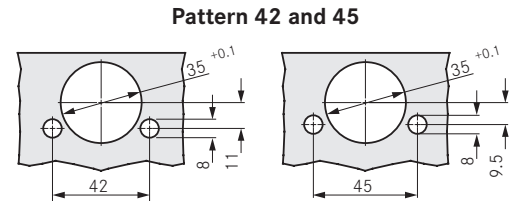
- Large, heavy doors

Tiomos Drilling Patterns

Tiomos Impresso Drilling Patterns



Impresso 42/45 hinges accommodate cup drilling patterns of both 42mm and 45mm.



Reveal

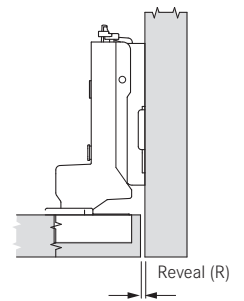
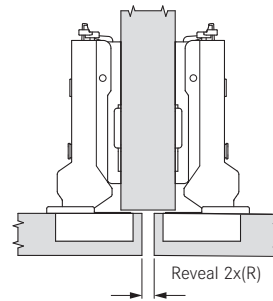
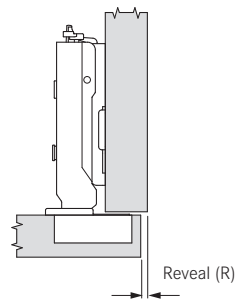
Full Overlay Door

Half Overlay Door

Inset Door

The reveal (R) is the distance required between two doors or between the door and side wall of the cabinet to allow sufficient space for opening the door. The required reveal width (R) depends on the thickness of the door.

Most cabinet makers prefer a reveal (R) of between 3mm and 6mm.



Reveal for Full Overlay, Overlay, and Half Overlay Doors

The table shows the reveal necessary between two doors or between door and side wall to allow enough space for opening the door.

Example:

For a door thickness of 19mm and a drilling distance of 6mm, a reveal of 0.9mm is needed.

	Drilling Distance (DD)				
	3	4	5	6	7
24	2.4	2.1	2.1	2.1	2.0
21	1.6	1.6	1.6	1.5	1.5
21	1.4	1.3	1.3	1.3	1.3
20	1.1	1.1	1.1	1.5	1.1
19	0.9	0.9	0.9	0.9	0.9
18	0.7	0.7	0.7	0.7	0.7
17	0.6	0.6	0.6	0.6	0.6
16	0.6	0.6	0.6	0.6	0.6
	Reveal min. (R)				

Reveal for Inset Door

The table shows the minimum reveal for an inset door, depending on the drilling distance and base plate height.

Example: A drilling distance of 6mm results from using a base plate with height 03 in a reveal of 1mm.

	Drilling Distance (DD)				
	3	4	5	6	7
0		0		2	3
.5					3.5
1	0		2	3	
1.5				3.5	
2		2	3		
3	2	3			
4	3				
	Base Plate Height (BPH)				

Note:

Reveal dimensions were determined with a door edge radius of 1mm. Hinge dimensions and calculation of gap with factory setting.

IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Tiomos

Drilling Distance

Diagram illustrating the minimum gap (G) for factory setting. The diagram shows a cross-section of a mechanical assembly. A vertical component is positioned next to a horizontal component. The minimum gap (G) is indicated as the distance between the vertical component and the horizontal component. The drilling distance (DD) is the distance from the cup center (CC) to the drilling point. The cup center (CC) is the center of the cup.

The Drilling Distance (DD) is the distance between the edge of the door and the edge of the cup hole.

For a door thickness (DT) of 17mm and a drilling distance (DD) of 6mm a minimum gap of 1mm is needed.

		Drilling Distance (DD)					
		3	4	5	6	7	
Door Thickness (DT)	24	1.0	1.0	1.0	1.2	2.1	
	22	1.0	1.0	1.0	1.0	1.5	
	21	1.0	1.0	1.0	1.0	1.2	
	20	1.0	1.0	1.0	1.0	1.0	
	19	1.0	1.0	1.0	1.0	1.0	
	18	1.0	1.0	1.0	1.0	1.0	
	17	1.0	1.0	1.0	1.0	1.0	
	16	1.0	1.0	1.0	1.0	1.0	

Minimum Gap (G)

Diagram illustrating the Door Overlay dimension, which is the horizontal distance from the edge of the door to the edge of the cabinet frame.

For a hinge with a cranking of 03, a base plate height (BPH) of 2mm, and a drilling distance (DD) of 4mm, the door overlay is 14mm.

		Drilling Distance (DD)				
		3	4	5	6	7
Door Overlay	19					0
	18				0	
	17			0		2
	16.5					
	16		0		2	3
	1.5					3.5
	15	0		2	3	
	14.5				3.5	
	14		2	3		
	13.5			3.5		
	13	2	3			
12.5		3.5				
12	3					
11.5	3.5					
		Base Plate Height (BPH)				

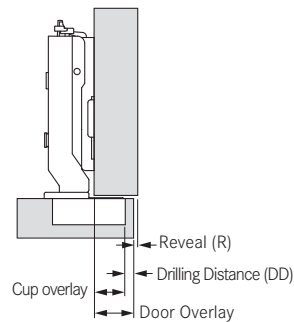
Technical drawing of a vertical assembly. A central white component is shown in cross-section, featuring a top flange with a bolt and a side flange. It is mounted on a base. A dashed line indicates a horizontal reference. A label 'Protrusion' with arrows points to a specific feature on the base.

Door Positions

Achieve overlay with hinge cranking

Full Overlay (Cranking 00)

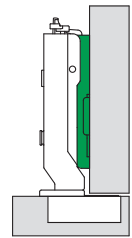
The cup overlay (factory setting) plus drilling distance determines the door overlay. Dimensions can be found in a table on the respective page of the catalog.



Achieve overlay with base plate

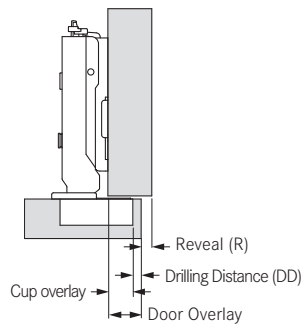
Full Overlay

Using a hinge with a cranking of 00 and a base plate height (BPH) 00



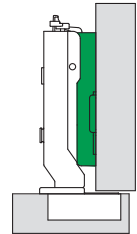
Overlay (Cranking 03)

The cup overlay (factory setting) plus drilling distance determines the door overlay. Dimensions can be found in a table on the respective page of the catalog.



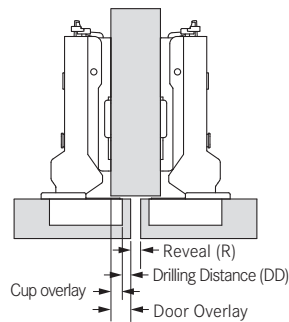
Overlay

Using a hinge with a cranking of 00 and a base plate height (BPH) 03



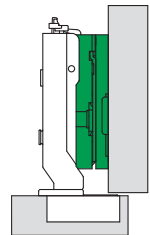
Half Overlay (Cranking 9.5)

The cup overlay (factory setting) plus drilling distance determines the door overlay. Dimensions can be found in a table on the respective page of the catalog.



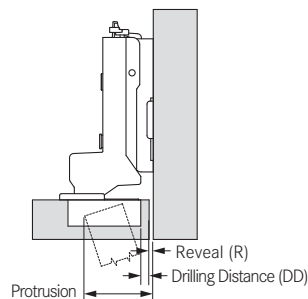
Half Overlay

Using a hinge with a cranking of 00 and a base plate height (BPH) 9.5



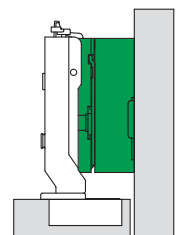
Inset (Cranking 19)

There is no door overlay. The reveal between the side of the cabinet and the door depends on the base plate height (BPH) and the drilling distance (DD). Dimensions can be found in a table on the respective page of the catalog.



Inset

Using a hinge with a cranking of 00 and a base plate height (BPH) 21



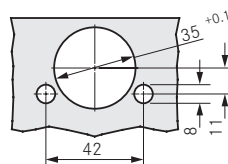
Insertion Instructions

Tiomos Impresso

Tiomos Impresso



The Tiomos Impresso is a high quality, performance hinge with superior strength. For the best results for cup insertion into a door, please follow the guide shown below.



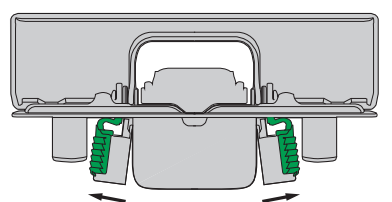
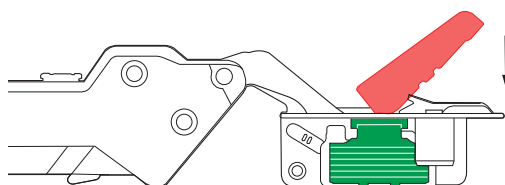
IMPORTANT

Cup bore hole diameter must be within 35mm - 35.1mm range.

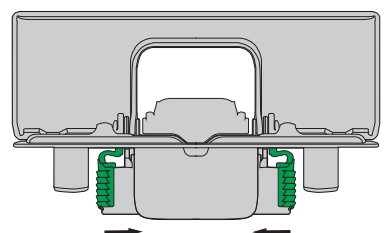
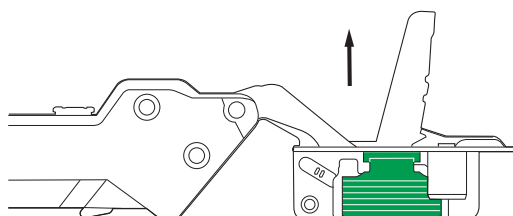
Instructions for Impresso Insertion

Begin with hinge in the open position and not mounted on door.

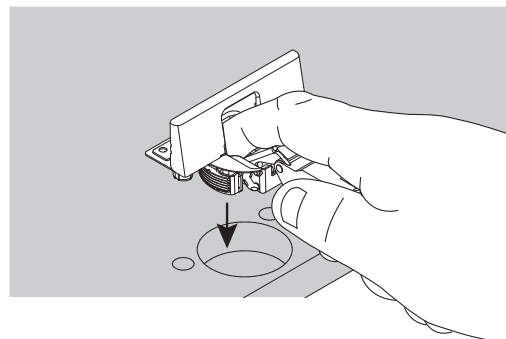
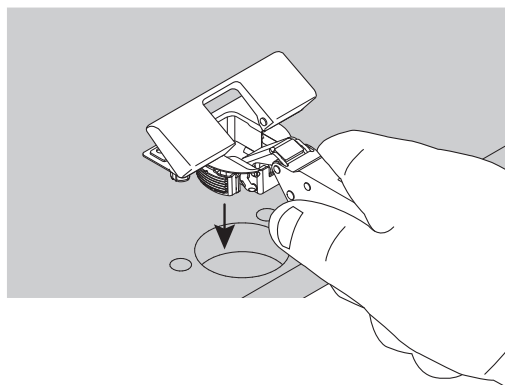
If the hinge cup flap is partially closed due to shipping and handling, lift flap to upright position before inserting into door as illustrated.



Ensure that expanding green brackets are in loose/neutral position before inserting into door.



For fast and easy insertion, use index finger to push cup into door.



Testing Information

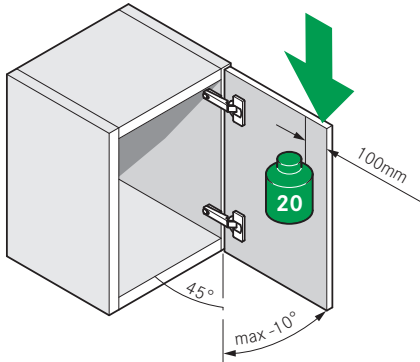
Tiomos

Functional Test

Static Load - vertical

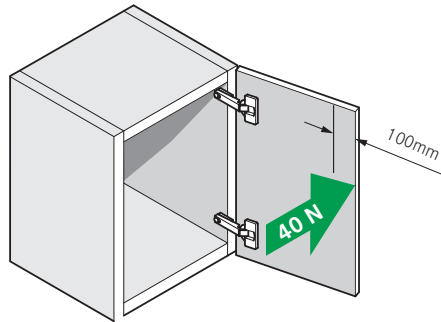
Additional load: 44 lb (20 kg)

Opening angle: max -10°



Static Load - horizontal

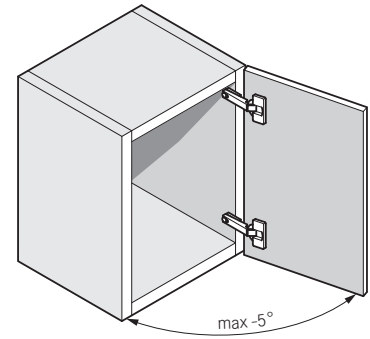
Force: 40 N



Endurance Test

Opening angle: max -5°

Open and close movements: 100,000

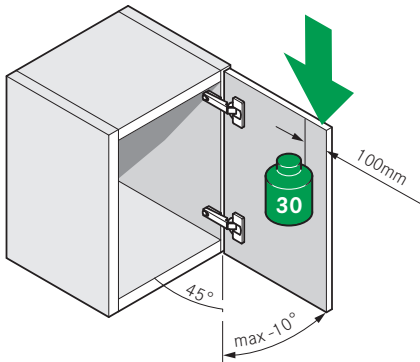


Overload Testing

Vertical

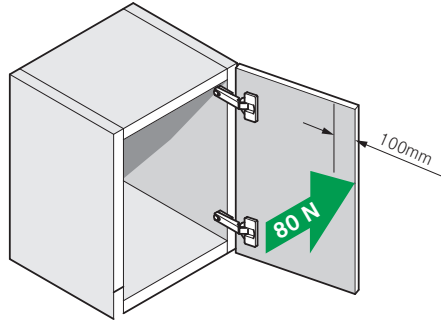
Additional load: 66 lb (30 kg)

Opening angle: max -10°



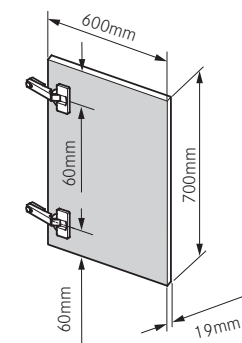
Horizontal

Force: 80 N



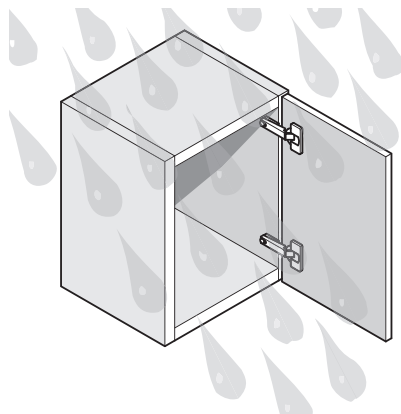
Test Door

Weight approximately 11.5 lb (5.2 kg)



Salt Spray and Humidity Test

Based on DIN ISO 9227 and DIN 6270-2

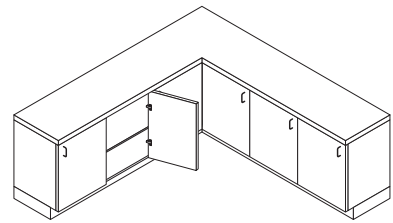


Tiomos 110

110° hinge for standard doors



- 3-dimensional adjustment with suitable base plate
- Accommodates overlays up to 24mm (15/16")
- Optimal reveal up to 24mm door thickness
- Soft-close or Self-close hinges available
- For face frame or frameless cabinets
- Convenient depth adjustment with worm screw



Tiomos 110 Opening Angle 110°						Impresso		Screw-On		Dowelled	
Full Overlay	Cranking 00	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: steel, nickel-plated	42/45	Soft-close	F017139414228	150	45	Soft-close	F028138519228	F028138523228	150	
	Hinge arm: steel, nickel-plated	42/45	Self-close	F034139385228	150	45	Self-close	F045138457228	F045138461228	150	
						42	Soft-close	-	F028138341228	150	
						42	Self-close	-	F045138279228	150	
Overlay	Cranking 03	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: steel, nickel-plated	42/45	Soft-close	F017139415228	150	45	Soft-close	F028138520228	F028138524228	150	
	Hinge arm: steel, nickel-plated	42/45	Self-close	F034139386228	150	45	Self-close	F045138458228	F045138462228	150	
		42/45	Free-swing	F035139443228	150	42	Soft-close	-	F028138342228	150	
						42	Self-close	-	F045138280228	150	
Half Overlay	Cranking 9.5	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: steel, nickel-plated	42/45	Soft-close	F017139416228	150	45	Soft-close	F028138521228	F028138525228	150	
	Hinge arm: zinc, nickel-plated	42/45	Self-close	F034139387228	150	45	Self-close	F045138459228	F045138463228	150	
		42/45	Free-swing	F035139444228	150	42	Soft-close	-	F028138343228	150	
						42	Self-close	-	F045138281228	150	
Inset	Cranking 19	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: steel, nickel-plated	42/45	Soft-close	F017139417228	150	45	Soft-close	F028138522228	F028138526228	150	
	Hinge arm: zinc, nickel-plated	42/45	Self-close	F034139388217	50	45	Self-close	F045138460228	F045138464228	150	
						42	Soft-close	-	F028138344217	50	
						42	Self-close	-	F045138282228	150	

Cover Cap with Clip Protector	Item No.	PU
Plastic, black	F072140504247	1000
For installation see page 57		

Hinge Clip Protector	Item No.	PU
Plastic, grey	F072135807540	500
For installation see page 57		

Cover Caps	Item No.	PU
Steel, nickel-plated	F072135500247	1000

Opening Angle Reduction Clip to 85°	Item No.	PU
Steel, nickel	F072135751517	50
For installation see page 56		

Hinge Cup Cover Cap	Item No.	PU
Steel, nickel-plated	F072135503228	150

Wood Screw, Nickel-plated	Item No.	PU
#6 x 5/8" FHP, NI	81001-43	500

PU - Packaging unit

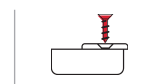
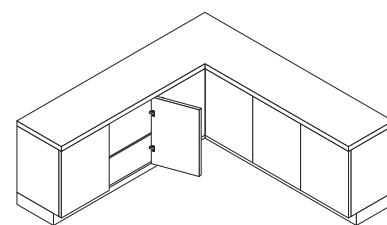
Tiemos 110 Tipmatic Plus



110° hinge for handle free doors



- Integrated spring in hinge arm assists Tipmatic Pin for handle-free door opening
- Extended opening angle
- Works with Tipmatic Pin system (page 54-55)
- 3-dimensional adjustment with suitable base plate
- Compatible with all Tiemos base plates



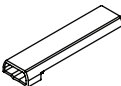
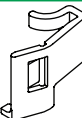
Tiemos 110 Tipmatic Plus Opening Angle 110°

Screw-On

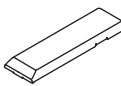
Overlay	Cranking 03	Pattern	Type	Item No.	PU
	Hinge cup: steel, nickel-plated; Hinge arm: steel, nickel-plated	45	TT Plus	F046140360 213	25

Half Overlay	Cranking 9.5	Pattern	Type	Item No.	PU
	Hinge cup: steel, nickel-plated; Hinge arm: zinc, nickel-plated	45	TT Plus	F046140365 213	25

Inset	Cranking 19	Pattern	Type	Item No.	PU
	Hinge cup: steel, nickel-plated; Hinge arm: zinc, nickel-plated	45	TT Plus	F046140366 213	25

Cover Cap with Clip Protector	Item No.	PU	Hinge Clip Protector	Item No.	PU
 Plastic, black	F072140504 247	1000	 Plastic, grey	F072135807 540	500
For installation see page 57			For installation see page 57		

Opening Angle Reduction Clip to 85°	Item No.	PU	Tipmatic Pin	Item No.	PU
 Steel, nickel	F072135751 517	50		F069135396 513	25
For installation see page 56					

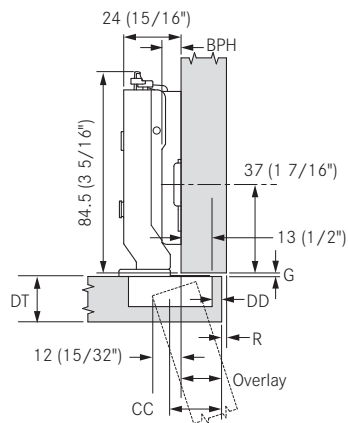
Cover Caps	Item No.	PU	Important Note: Tiemos Tipmatic Plus works with our recommended Tipmatic Pin. Grass does not accept any liability if a different system other than the recommended system is used. Before the Tipmatic Pin is inserted for gluing, the surface must be thoroughly cleaned and free from grease. Complete Tipmatic Pin System is shown on page 52-53.		
 Steel, nickel-plated	F072135500 247	1000			

Hinge Cup Cover Cap	Item No.	PU	Wood Screw, Nickel-plated	Item No.	PU
 Steel, nickel-plated	F072135503 228	150	 #6 x 5/8" FHP, NI	81001-43	500

PU - Packaging unit

Full Overlay

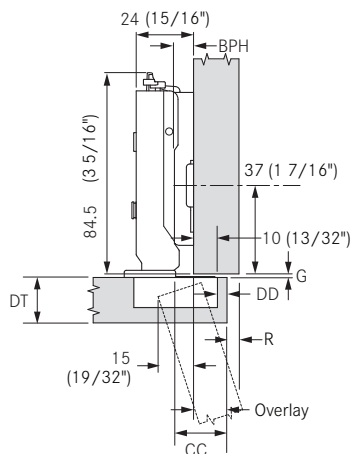
Overlay



Drawings show Tiomos with a base plate, (BPH) 02.

	Drilling Distance (DD)					
	3	4	5	6	7	
22.0					0	
21.0				0		
20.0			0	2		
19.0		0		2	3	
18.5				3.5		
18.0	0		2	3		
17.5				3.5		
17.0		2	3			
16.5			3.5			
16.0	2	3				
15.5		3.5				
15.0	3					
14.5	3.5					
	Base Plate Height (BPH)					

Door Overlay



Drawings show Tiomos with a base plate, (BPH) 02.

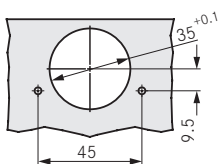
	Drilling Distance (DD)					
	3	4	5	6	7	
19.0					0	
18.0				0		
17.0			0		2	
16.5						
16.0		0		2	3	
15.5					3.5	
15.0	0		2	3		
14.5				3.5		
14.0		2	3			
13.5			3.5			
13.0	2	3				
12.5		3.5				
12.0	3					
11.5	3.5					
	Base Plate Height (BPH)					

Door Overlay

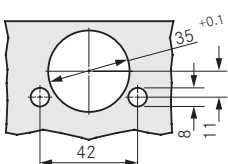
Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
G = Gap
R = Reveal
X = Base Plate Setback

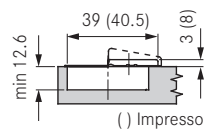
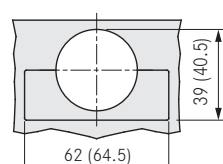
Screw-on



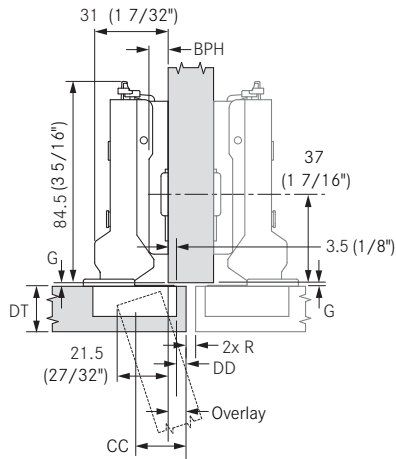
Impresso and Dowelled



Cup Dimensions



Half Overlay

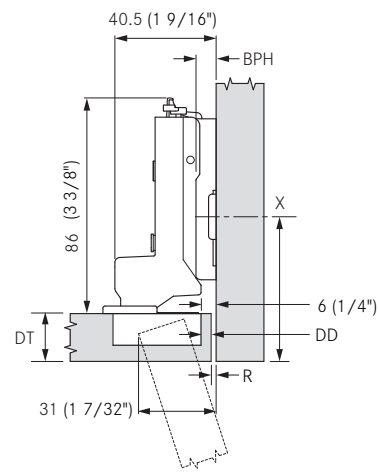


Drawings show Tiomos with a base plate, **(BPH) 02**.

	Drilling Distance (DD)				
	3	4	5	6	7
12.5					0
11.5				0	
10.5			0	2	
10					
9.5		0		2	3
9.0				3.5	
8.5	0		2	3	
8.0			3.5		
7.5		2	3		
7.0			3.5		
6.5	2	3			
6.0		3.5			
5.5	3				
5.0	3.5				
Base Plate Height (BPH)					

Door Overlay

Inset



Drawings show Tiomos with a base plate, **(BPH) 02**.

$$X = 38.5 + DT$$

	Drilling Distance (DD)				
	*3	4	5	6	7
0.0		0		2	3
0.5				3.5	
1.0	0		2	3.5	
1.5				3.5	
2.0		2	3		
3.0	2	3			
4.0	3				
Base Plate Height (BPH)					

Reveal (R)

Note: A door stop is needed to prevent overclose.

Minimum Gaps

Reveal

	Drilling Distance (DD)				
	3	4	5	6	7
24	1.0	1.0	1.0	1.2*	2.1*
22	1.0	1.0	1.0	1.0	1.5*
21	1.0	1.0	1.0	1.0	1.2*
20	1.0	1.0	1.0	1.0	1.0
19	1.0	1.0	1.0	1.0	1.0
18	1.0	1.0	1.0	1.0	1.0
17	1.0	1.0	1.0	1.0	1.0
16	1.0	1.0	1.0	1.0	1.0
Minimum Gap (G)					

The minimum gap is the gap between the closed door and the front of the cabinet.
*Only achievable with 85° angle reduction clip.

	Drilling Distance (DD)				
	3	4	5	6	7
24	2.4	2.1	2.1	2.1	2.0
22	1.6	1.6	1.6	1.5	1.5
21	1.4	1.3	1.3	1.3	1.3
20	1.1	1.1	1.1	1.1	1.1
19	0.9	0.9	0.9	0.9	0.9
18	0.7	0.7	0.7	0.7	0.7
17	0.6	0.6	0.6	0.6	0.6
16	0.6	0.6	0.6	0.6	0.6
Reveal (R)					

Door Thickness (DT)

Reveal with 85° Angle Reduction Clip

	Drilling Distance (DD)				
	*3	4	5	6	7
36.0	11.1	10.3	9.7	9.1	8.5
30.0	5.4	4.8	4.4	4.3	4.2
28.0	3.7	3.6	3.5	3.4	3.3
26.0	2.9	2.8	2.8	2.7	2.6
24.0	2.2	2.1	2.1	2.1	2.0
22.0	1.6	1.6	1.6	1.5	1.5
21.0	1.4	1.3	1.3	1.3	1.3
20.0	1.1	1.1	1.1	1.1	1.1
19.0	0.9	0.9	0.9	0.9	0.9
18.0	0.7	0.7	0.7	0.7	0.7
16.0	0.6	0.6	0.6	0.6	0.6
Reveal (R)					

Door Thickness (DT)

Note: Reveal dimensions were determined with an edge radius (of the door) of 1mm. Hinge dimensions and reveal calculation based on factory setting.

IMPORTANT

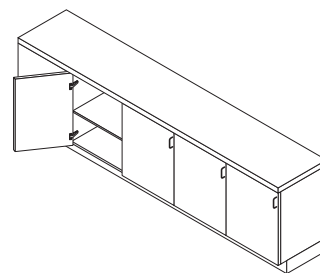
To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Tiomos 120

120° hinge for standard doors



- 3-dimensional adjustment with suitable base plate
- Accommodates overlays up to 24mm (15/16")
- Optimal reveal up to 24mm door thickness
- Soft-close or Self-close hinges available
- For face frame or frameless cabinets
- Convenient depth adjustment with worm screw



Tiomos 120 Opening Angle 120°						Impresso		Screw-On		Dowelled	
Full Overlay	Cranking 00	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: steel, nickel-plated	42/45	Soft-close	F017139428 228	150	45	Soft-close	F028138547 228	F02813855 1228	150	
	Hinge arm: steel, nickel-plated	42/45	Self-close	F034139399 228	150	45	Self-close	F045138485 228	F045138489 228	150	
						42	Soft-close	-	F028138369 228	150	
						42	Self-close	-	F045138307 228	150	
Overlay	Cranking 03	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: steel, nickel-plated	42/45	Soft-close	F017139429 228	150	45	Soft-close	F028138548 228	F028138552 228	150	
	Hinge arm: steel, nickel-plated	42/45	Self-close	F034139400 228	150	45	Self-close	F045138486 228	F045138490 228	150	
						42	Soft-close	-	F028138370 228	150	
						42	Self-close	-	F045138308 228	150	
Half Overlay	Cranking 9.5	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: steel, nickel-plated					45	Soft-close	F028138549 228	F028138553 228	150	
	Hinge arm: zinc, nickel-plated					45	Self-close	F045138487 228	F04513849 1228	150	
						42	Soft-close	-	F02813837 1228	150	
						42	Self-close	-	F045138309 228	150	

Cover Cap with Clip Protector	Item No.	PU
Plastic, black	F072140504 247	1000
For installation see page 57		

Hinge Clip Protector	Item No.	PU
Plastic, grey	F072135807 540	500
For installation see page 57		

Cover Caps	Item No.	PU
Steel, nickel-plated	F072135500 247	1000

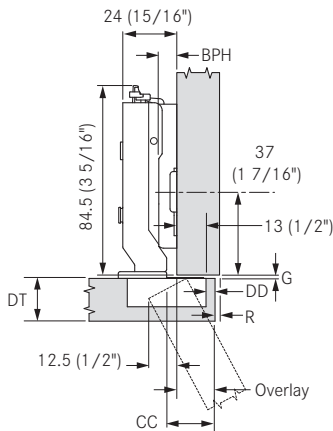
Opening Angle Reduction Clip to 85°	Item No.	PU
Steel, nickel	F072135751 517	50
For installation see page 56		

Hinge Cup Cover Cap	Item No.	PU
Steel, nickel-plated	F072135503 228	150

Wood Screw, Nickel-plated	Item No.	PU
#6 x 5/8" FHP, NI	81001-43	500

PU - Packaging unit

Full Overlay



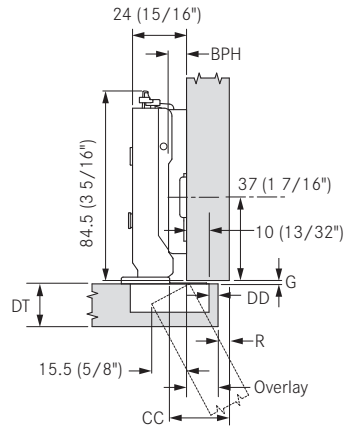
Drawings show Tiomos with a base plate, **(BPH) 02**.

Drilling Distance (DD)

	3	4	5	6	7
22.0					0
21.0				0	
20.0			0		2
19.0		0		2	3
18.5					
18.0	0		2	3	
17.5				3.5	
17.0		2	3		
16.5			3.5		
16.0	2	3			
15.5		3.5			
15.0	3				
14.5	3.5				
	Base Plate Height (BPH)				

Door Overlay

Overlay



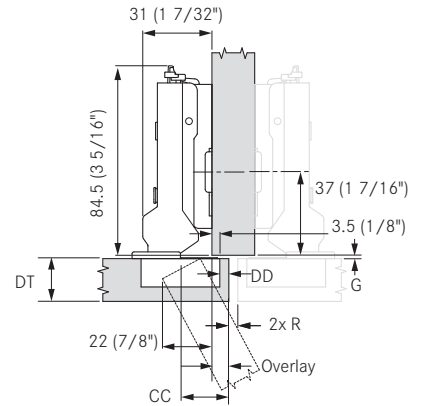
Drawings show Tiomos with a base plate, **(BPH) 02**.

Drilling Distance (DD)

	3	4	5	6	7
19.0					0
18.0				0	
17.0			0		2
16.5					
16.0		0		2	3
15.5					3.5
15.0	0		2	3	
14.5				3.5	
14.0		2	3		
13.5			3.5		
13.0	2	3			
12.5		3.5			
12.0	3				
11.5	3.5				
	Base Plate Height (BPH)				

Door Overlay

Half Overlay



Drawings show Tiomos with a base plate, **(BPH) 02**.

Drilling Distance (DD)

	3	4	5	6	7
12.5					0
11.5				0	
10.5			0		2
10.0					
9.5		0		2	3
9.0					3.5
8.5	0		2	3	
8.0				3.5	
7.5		2	3		
7.0			3.5		
6.5	2	3			
6.0		3.5			
5.5	3				
5.0	3.5				
	Base Plate Height (BPH)				

Door Overlay

Minimum Gaps

Drilling Distance (DD)

	3	4	5	6	7
24	1.2	2.1	3.0	3.9	4.7
22	1.0	1.1	2.0	2.9	3.8
21	1.0	1.0	1.6	2.4	3.3
20	1.0	1.0	1.1	2.0	2.9
19	1.0	1.0	1.0	1.5	2.4
18	1.0	1.0	1.0	1.0	1.9
17	1.0	1.0	1.0	1.0	1.5
16	1.0	1.0	1.0	1.0	1.0
	Minimum Gap (G)				

Door Thickness (DT)

The minimum gap is the gap between the closed door and the front of the cabinet.

Reveal

Drilling Distance (DD)

	3	4	5	6	7
24	6.4	5.4	4.4	3.4	2.4
22	3.0	2.0	1.5	1.5	1.5
21	1.4	1.3	1.3	1.3	1.3
20	1.1	1.1	1.1	1.1	1.1
19	0.9	0.9	0.9	0.9	0.9
18	0.7	0.7	0.7	0.7	0.7
17	0.6	0.6	0.6	0.6	0.6
16	0.6	0.6	0.6	0.6	0.6
	Reveal (R)				

Door Thickness (DT)

Note: Reveal dimensions were determined with an edge radius (of the door) of 1mm. Hinge dimensions and reveal calculation based on factory setting.

IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Reveal with 85° Angle Reduction Clip

Drilling Distance (DD)

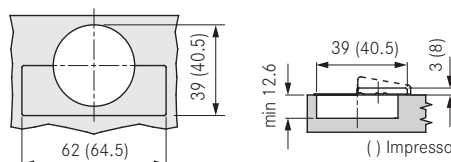
	3	4	5	6	7
36.0	11.1	10.3	9.7	9.1	8.5
30.0	5.4	4.8	4.4	4.3	4.2
28.0	3.7	3.6	3.5	3.4	3.3
26.0	2.9	2.8	2.8	2.7	2.6
24.0	2.2	2.1	2.1	2.1	2.0
22.0	1.6	1.6	1.6	1.5	1.5
21.0	1.4	1.3	1.3	1.3	1.3
20.0	1.1	1.1	1.1	1.1	1.1
19.0	0.9	0.9	0.9	0.9	0.9
18.0	0.7	0.7	0.7	0.7	0.7
16.0	0.6	0.6	0.6	0.6	0.6
	Reveal (R)				

Door Thickness (DT)

Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
G = Gap
R = Reveal
X = Base Plate Setback

Cup Dimensions

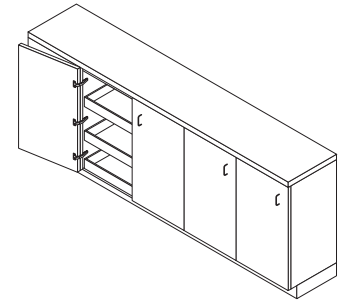


Tiomos 155

155° wide angle hinge



- 3-dimensional adjustment with suitable base plate
- Accommodates overlays up to 23.4mm (15/16")
- Soft-close or Self-close hinges available
- For face frame or frameless cabinets
- Convenient depth adjustment with worm screw
- Zero protrusion when door is opened 90°
- 10mm cup depth
- For door thicknesses up to 32mm (1 1/4")
- Minimal reveal



Tiomos 155 Opening Angle 155°						Impresso		Screw-On		Dowelled	
Full Overlay	Cranking 00	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: steel, nickel-plated	42/45	Soft-close	F017139435217	50	45	Soft-close	F028138561217	F028138564217	50	
	Hinge arm: steel, nickel-plated	42/45	Self-close	F034139406217	50	45	Self-close	F045138499217	F045138502217	50	
						42	Self-close	-	F045138320217	50	
Overlay	Cranking 03	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: steel, nickel-plated	42/45	Soft-close	F017139436217	50	45	Soft-close	F028138562217	F028138565217	50	
	Hinge arm: steel, nickel-plated	42/45	Self-close	F034139407217	50	45	Self-close	F045138500217	F045138503217	50	
						42	Soft-close	-	F028138383217	50	
						42	Self-close	-	F045138321217	50	
Half Overlay	Cranking 9.5	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: steel, nickel-plated					45	Soft-close	F028138563217	F028138566217	50	
	Hinge arm: zinc, nickel-plated					42	Self-close	-	F045138322217	50	

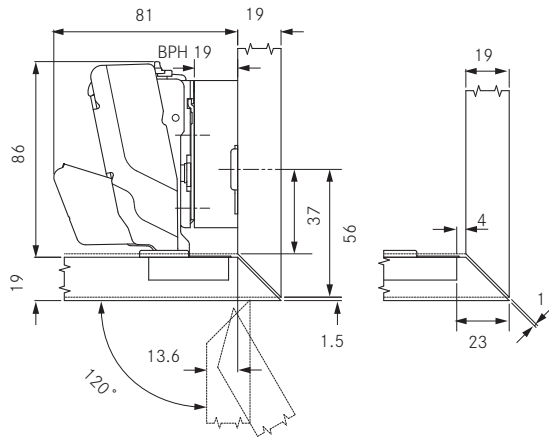
Hinge Cup Cover Cap	Item No.	PU
Steel, nickel-plated	F072135503228	150

Angle Reduction Clip to 120°	Item No.	PU
Plastic, black	F072135753517	50

For installation see page 56

PU - Packaging unit

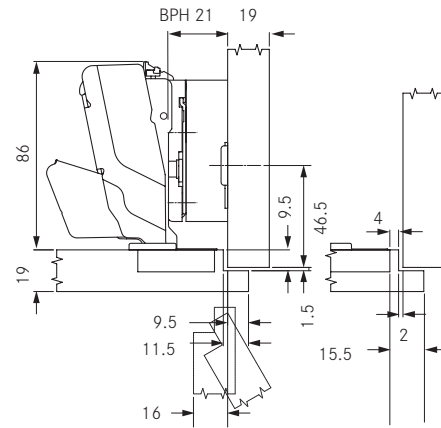
Mitered Corner Application



Use Full overlay hinge (00 Cranking) with 19mm base plate.

Mitered door application is now possible without using the 120° opening angle reduction clip.

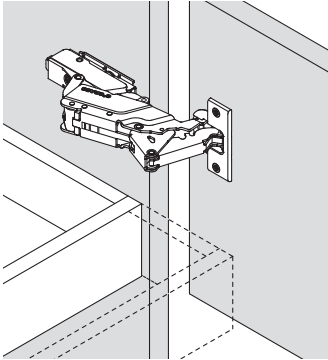
3/8" Lip Door Application



Use Full overlay hinge (00 Cranking) with 21mm base plate.

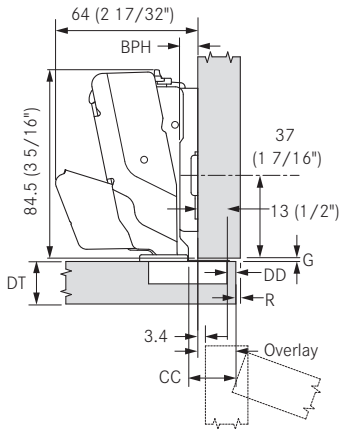
Use 120° opening angle reduction clip. Prevents doors from bumping with the cabinet side in inset applications and mitered corner applications.

Zero Protrusion at 90°



At 0 cranking, and with all mounting plate thicknesses, the door protrudes inwards at 90°.
With cranking size 3 and mounting plate height 3mm, the door will be flush with the cabinet.

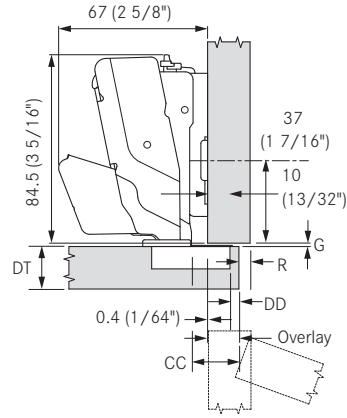
Full Overlay



Drawings show Tiomos with a base plate, **(BPH) 02**.

Drilling Distance (DD)		3	4	5	6	7	8
Door Overlay	23.0						0
	22.0					0	
	21.0				0		2
	20.0			0		2	3
	19.0		0		2	3	
	18.5					3.5	
	18.0	0		2	3		
	17.5				3.5		
	17.0		2	3			
	16.5			3.5			
	16.0	2	3				
	15.5		3.5				
		Base Plate Height (BPH)					

Overlay



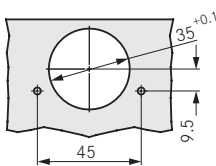
Drawings show Tiomos with a base plate, **(BPH) 02**.

Drilling Distance (DD)		3	4	5	6	7	8
Door Overlay	20.0						0
	19.0					0	
	18.0				0		2
	17.0			0		2	3
	16.5						3.5
	16.0		0		2	3	
	15.5					3.5	
	15.0	0		2	3		
	14.5				3.5		
	14.0		2	3			
	13.5			3.5			
	13.0	2	3				
	12.5		3.5				
	12.0	3					
	11.5	3.5					
		Base Plate Height (BPH)					

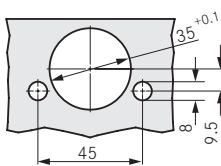
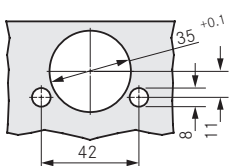
Legend

BPH = Base Plate Height
 CC = Center Cup
 DD = Drilling Distance
 DT = Door Thickness
 G = Gap
 R = Reveal
 X = Base Plate Setback

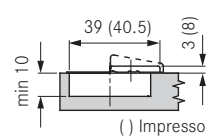
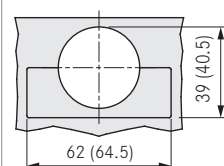
Screw-on



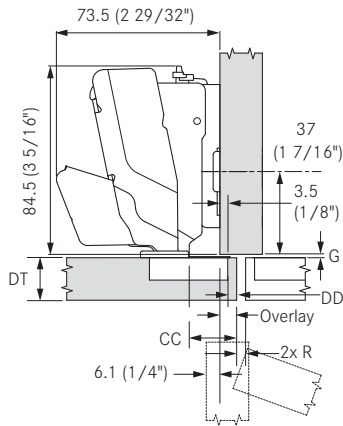
Impresso and Dowelled



Cup Dimensions



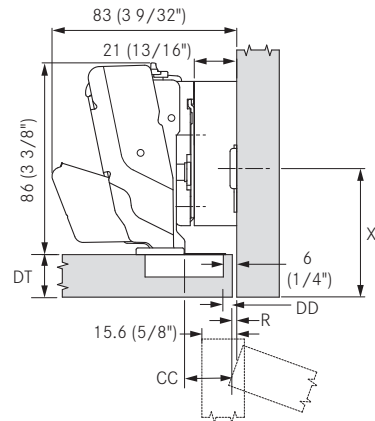
Half Overlay



Drawings show Tiomos with a base plate, **(BPH) 02**.

	Drilling Distance (DD)					
	3	4	5	6	7	8
Door Overlay	13.5					0
	12.5				0	
	11.5			0	2	
	10.5		0	2	3	
	10.0				3.5	
	9.5	0		2	3	
	9.0				3.5	
	8.5	0		2	3	
	8.0			3.5		
	7.5		2	3		
	7.0		3.5			
	6.5	2	3			
	6.0		3.5			
	5.5	3				
	5.0	3.5				
	Base Plate Height (BPH)					

Inset



Drawings show Tiomos with a cranking 00 hinge & base plate, **(BPH) 21**.

X = 38.5 + DT

	Drilling Distance (DD)			
	3	4	5	6
Reveal (R)	1.0	19	21	
	2.0		21	
	3.0	21		
	Base Plate Height (BPH)			

Note: A door stop is needed to prevent overclose.

Minimum Gaps

	Drilling Distance (DD)					
	3	4	5	6	7	8
Door Thickness (DT)	32	1.0	1.0			
	31	1.0	1.0	1.0		
	30	1.0	1.0	1.0		
	29	1.0	1.0	1.0	1.0	1.0
	28	1.0	1.0	1.0	1.0	1.0
	26	1.0	1.0	1.0	1.0	1.0
	25	1.0	1.0	1.0	1.0	1.0
	24	1.0	1.0	1.0	1.0	1.0
	22	1.0	1.0	1.0	1.0	1.0
	21	1.0	1.0	1.0	1.0	1.0
	20	1.0	1.0	1.0	1.0	1.0
	18	1.0	1.0	1.0	1.0	1.0
	16	1.0	1.0	1.0	1.0	1.0
	Minimum Gap (G)					

The minimum gap is the gap between the closed door and the front of the cabinet.

IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Reveal

	Drilling Distance (DD)					
	3	4	5	6	7	8
Door Thickness (DT)	32	0.2*	0.2*			
	31	0.2*	0.2*	0.2*	0.2*	
	30	0.2*	0.2*	0.2*	0.2*	0.2*
	29	0.2*	0.2*	0.2*	0.2*	0.2*
	28	0.0	0.0	0.0	0.0	0.0
	26	0.0	0.0	0.0	0.0	0.0
	25	0.0	0.0	0.0	0.0	0.0
	24	0.0	0.0	0.0	0.0	0.0
	22	0.0	0.0	0.0	0.0	0.0
	21	0.0	0.0	0.0	0.0	0.0
	20	0.0	0.0	0.0	0.0	0.0
	18	0.0	0.0	0.0	0.0	0.0
	16	0.0	0.0	0.0	0.0	0.0
	Reveal (R)					

Note: Reveal dimensions were determined with an edge radius (of the door) of 1mm. Hinge dimensions and reveal calculation based on factory setting.

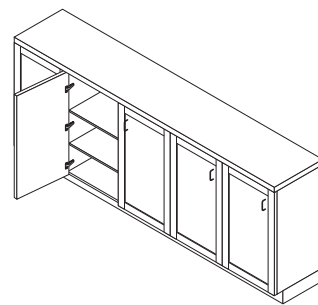
*Only achievable with 120° angle reduction clip.

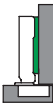
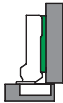
Tiomos 95

95° hinge for thick doors



- 3-dimensional adjustment with suitable base plate
- Accommodates overlays up to 24mm (15/16")
- For door thicknesses up to 36mm (1 7/16")
- Soft-close or Self-close hinges available
- For face frame or frameless cabinets
- Convenient depth adjustment with worm screw



Tiomos 95		Opening Angle 95°				Impresso		Screw-On		Dowelled	
Full Overlay	Cranking 00	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: steel, nickel-plated	42/45	Soft-close	F017139438217	50	45	Soft-close	F028138567228	F028138571228	150	
	Hinge arm: steel, nickel-plated	42/45	Self-close	F034139409228	150	45	Self-close	-	F045138509228	150	
Overlay	Cranking 03	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: steel, nickel-plated	42/45	Soft-close	F017139439217	50	45	Soft-close	F028138568228	F028138572228	150	
	Hinge arm: steel, nickel-plated					45	Self-close	F045138506228	-	150	
						42	Self-close	-	F045138328228	150	
Half Overlay	Cranking 9.5	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: steel, nickel-plated	42/45	Soft-close	F017139440228	150	45	Soft-close	F028138569228	F028138573228	150	
	Hinge arm: zinc, nickel-plated					45	Self-close	-	F045138511228	150	
Inset	Cranking 19	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: steel, nickel-plated	42/45	Soft-close	F017139441217	50	45	Soft-close	F028138570228	F028138574228	150	
	Hinge arm: zinc, nickel-plated	42/45	Self-close	F034139412228	150	45	Self-close	F045138508228	-	150	

Cover Cap with Clip Protector	Item No.	PU
Plastic, black	F072140504247	1000
For installation see page 57		

Cover Caps	Item No.	PU
Steel, nickel-plated	F072135500247	1000

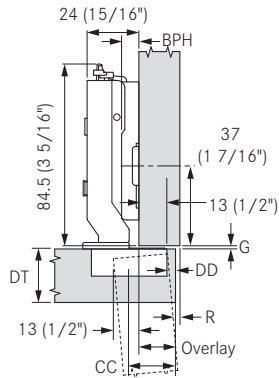
Hinge Clip Protector	Item No.	PU
Plastic, grey	F072135807540	500
For installation see page 57		

Hinge Cup Cover Cap	Item No.	PU
Steel, nickel-plated	F072135503228	150

Wood Screw, Nickel-plated	Item No.	PU
#6 x 5/8" FHP, NI	81001-43	500

PU - Packaging unit

Full Overlay Overlay Half Overlay Inset

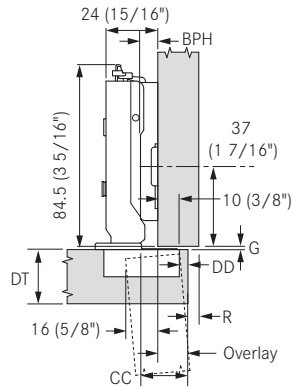


Drawings show Tiomos with a base plate, **(BPH) 02**.

Drilling Distance (DD)

	3	4	5	6	7
22.0					0
21.0				0	
20.0			0	2	
19.0		0		2	3
18.5				3.5	
18.0	0		2	3	
17.5				3.5	
17.0		2	3		
16.5			3.5		
16.0	2	3			
15.5		3.5			
15.0	3				
14.5	3.5				
	Base Plate Height (BPH)				

Door Overlay

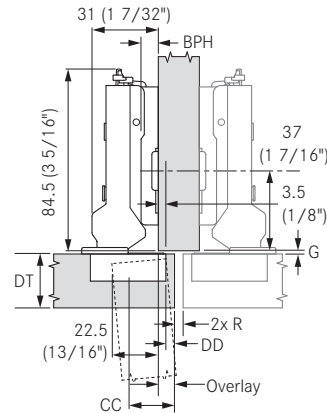


Drawings show Tiomos with a base plate, **(BPH) 02**.

Drilling Distance (DD)

	3	4	5	6	7
19.0					0
18.0				0	
17.0			0	2	
16.5					
16.0		0		2	3
15.5					3.5
15.0	0		2	3	
14.5				3.5	
14.0		2	3		
13.5			3.5		
13.0	2	3			
12.5		3.5			
12.0	3				
11.5	3.5				
	Base Plate Height (BPH)				

Door Overlay

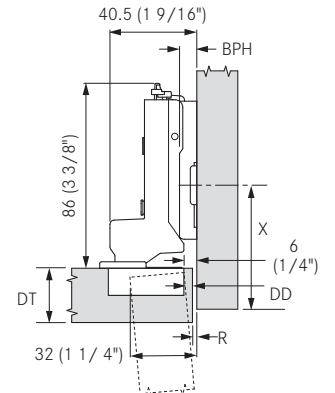


Drawings show Tiomos with a base plate, **(BPH) 02**.

Drilling Distance (DD)

	3	4	5	6	7
12.5					0
11.5				0	
10.5			0	2	
10.0					
9.5		0		2	3
9.0					3.5
8.5	0		2	3	
8.0				3.5	
7.5		2	3		
7.0			3.5		
6.5	2	3			
6.0		3.5			
5.5	3				
5.0	3.5				
	Base Plate Height (BPH)				

Door Overlay



Drawings show Tiomos with a base plate, **(BPH) 02**. X = 38.5 + DT

Drilling Distance (DD)

	3	4	5	6	7
0.0		0		2	3
0.5					3.5
1.0	0		2	3	
1.5				3.5	
2.0		2	3		
3.0	2	3			
4.0	3				
	Base Plate Height (BPH)				

Reveal (R)

Note: A door stop is needed to prevent overclose.

Minimum Gaps

Drilling Distance (DD)

	3	4	5	6	7
36	1.0	1.0	1.0	1.4	2.4
30	1.0	1.0	1.0	1.0	1.9
28	1.0	1.0	1.0	1.0	1.7
26	1.0	1.0	1.0	1.2	1.5
24	1.0	1.0	1.0	1.0	1.4
22	1.0	1.0	1.0	1.0	1.2
20	1.0	1.0	1.0	1.0	1.0
18	1.0	1.0	1.0	1.0	1.0
16	1.0	1.0	1.0	1.0	1.0
	Minimum Gap (G)				

The minimum gap is the gap between the closed door and the front of the cabinet.

Door Thickness (DT)

Reveal

Drilling Distance (DD)

	3	4	5	6	7
36	10.6	9.6	8.6	7.6	6.7
34	8.0	7.0	6.5	5.9	6.4
32	6.0	5.0	4.5	3.9	4.4
30	4.5	3.5	2.5	2.5	1.5
28	2.0	1.5	1.5	1.3	1.3
26	1.0	1.0	1.0	1.0	1.0
24	0.6	0.6	0.6	0.6	0.6
22	0.5	0.5	0.5	0.5	0.5
20	0.3	0.3	0.3	0.3	0.3
18	0.2	0.2	0.2	0.2	0.2
16	0.2	0.2	0.2	0.2	0.2
	Reveal (R)				

Door Thickness (DT)

Note: Reveal dimensions were determined with an edge radius (of the door) of 1mm. Hinge dimensions and reveal calculation based on factory setting.

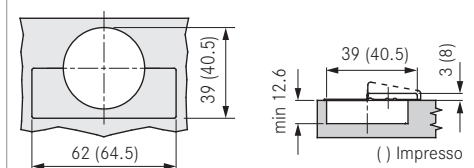
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Legend

- BPH = Base Plate Height
- CC = Center Cup
- DD = Drilling Distance
- DT = Door Thickness
- G = Gap
- R = Reveal
- X = Base Plate Setback

Cup Dimensions

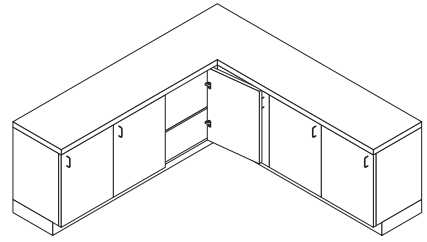


Tiemos 110/90

110° blind corner hinge



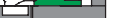
- For blind corner construction
- 110° opening angle
- 3-dimensional adjustment with suitable base plate
- Soft-close or Self-close hinges available
- Convenient depth adjustment with worm screw



Tiemos 110/90A Opening Angle 110°

Overlay		Pattern	Type	Item No.	Item No.	PU
	Hinge cup: steel, nickel-plated	45	Soft-close	F028138535 223	F028138545 213	100
	Hinge arm: zinc, nickel-plated	45	Self-close	-	F045138483 223	100

Tiemos 110/90E Opening Angle 110°

Inset		Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU
	Hinge cup: steel, nickel-plated	42/45	Soft-close	F017139427 223	100	45	Soft-close	F028138536 223	F028138546 223	100
	Hinge arm: zinc, nickel-plated	42/45	Self-close	-	-	45	Self-close	-	F045138484 223	100
		42/45	Self-close	F034139398 213	25	45	Self-close	F045138474 213	-	25

Cover Cap with Clip Protector	Item No.	PU
Plastic, black	F072140504247	1000
For installation see page 57		

Cover Caps	Item No.	PU
Steel, nickel-plated	F072135500247	1000

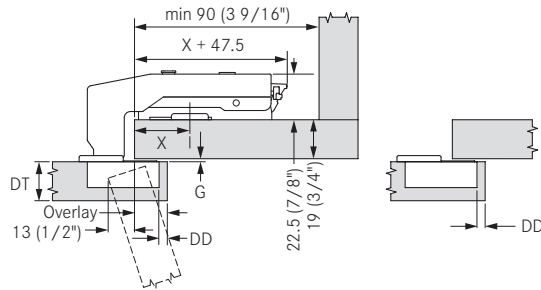
Hinge Clip Protector	Item No.	PU
Plastic, grey	F072135807540	500
For installation see page 57		

Hinge Cup Cover Cap	Item No.	PU
Steel, nickel-plated	F072135503228	150

Wood Screw, Nickel-plated	Item No.	PU
#6 x 5/8" FHP, NI	81001-43	500

PU - Packaging unit

Overlay

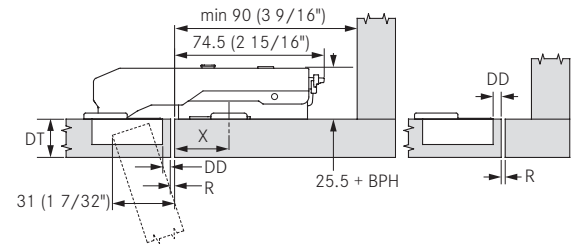


Drawings show Tiomos with a base plate, **(BPH) 00**.

Wing Base Plate Position (X)	Drilling Distance (DD)				
	3	4	5	6	7
30	18	19	20	21	22
29	17	18	19	20	21
28	16	17	18	19	20
27	15	16	17	18	19
26	14	15	16	17	18
	Door Overlay				

Straight Base Plate Position (X)	Drilling Distance (DD)				
	3	4	5	6	7
13	18	19	20	21	22
12	17	18	19	20	21
11	16	17	18	19	20
10	15	16	17	18	19
9	14	15	16	17	18
	Door Overlay				

Inset



Drawings show Tiomos with a base plate, **(BPH) 03**.

Wing Base Plate Position (X)	Drilling Distance (DD)				
	3	4	5	6	7
28	2	1	0		
27	3	2	1	0	
26	4	3	2	1	0
	Reveal (R)				

Straight Base Plate Position (X)	Drilling Distance (DD)				
	3	4	5	6	7
11	2	1	0		
10	3	2	1	0	
9	4	3	2	1	0
	Reveal (R)				

Minimum Gaps

Door Thickness (DT)	Drilling Distance (DD)				
	3	4	5	6	7
24	1.0	1.0	1.0	1.2	2.1
22	1.0	1.0	1.0	1.0	1.5
21	1.0	1.0	1.0	1.0	1.2
20	1.0	1.0	1.0	1.0	1.0
19	1.0	1.0	1.0	1.0	1.0
18	1.0	1.0	1.0	1.0	1.0
17	1.0	1.0	1.0	1.0	1.0
16	1.0	1.0	1.0	1.0	1.0
	Minimum Gap (G)				

The minimum gap is the gap between the closed door and the front of the cabinet.

IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Reveal

Door Thickness (DT)	Drilling Distance (DD)				
	3	4	5	6	7
24	2.4	2.1	2.1	2.1	2.0
22	1.6	1.6	1.6	1.5	1.5
21	1.4	1.3	1.3	1.3	1.3
20	1.1	1.1	1.1	1.1	1.1
19	0.9	0.9	0.9	0.9	0.9
18	0.7	0.7	0.7	0.7	0.7
17	0.6	0.6	0.6	0.6	0.6
16	0.6	0.6	0.6	0.6	0.6
	Minimum Reveal (R)				

Note: Reveal dimensions were determined with an edge radius (of the door) of 1mm. Hinge dimensions and reveal calculation based on factory setting.

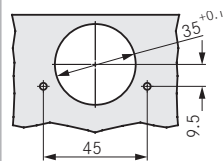
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

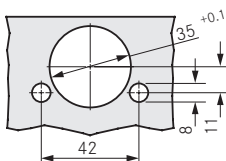
Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
G = Gap
R = Reveal
X = Base Plate Setback

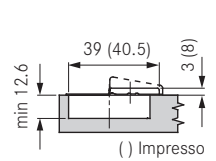
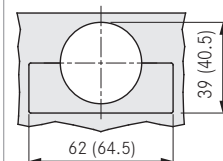
Screw-on



Impresso and Dowelled



Cup Dimensions

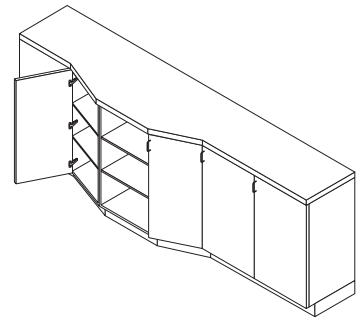


Tiomos 110/30A

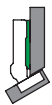
+30° angle corner cabinet hinge for overlay doors



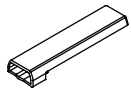
- For 30° angle corner cabinets
- 110° opening angle
- 3-dimensional adjustment with suitable base plate
- Self-close hinges available
- Convenient depth adjustment with worm screw



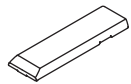
Tiomos 110/30A		Opening Angle 110°		Screw-On		
Overlay		Pattern	Type	Item No.	PU	
	Hinge cup: steel, nickel-plated	45	Self-close	F045138467223	100	



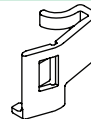
Cover Cap with Clip Protector	Item No.	PU
Plastic, black	F072140504247	1000
For installation see page 57		



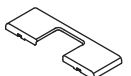
Cover Caps	Item No.	PU
Steel, nickel-plated	F072135500247	1000



Hinge Clip Protector	Item No.	PU
Plastic, grey	F072135807540	500
For installation see page 57		



Hinge Cup Cover Cap	Item No.	PU
Steel, nickel-plated	F072135503228	150

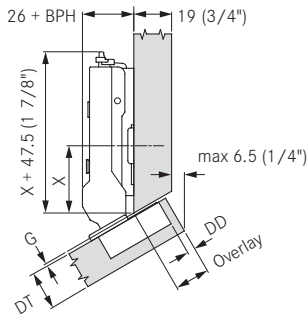


Wood Screw, Nickel-plated	Item No.	PU
#6 x 5/8" FHP, NI	81001-43	500

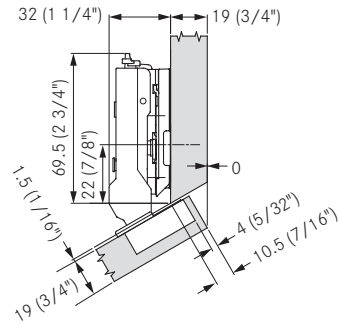


PU - Packaging unit

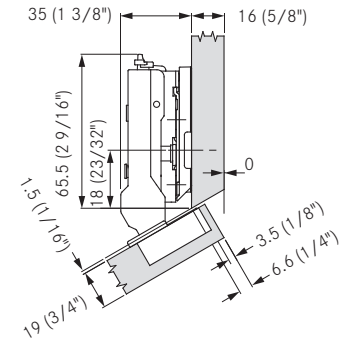
Overlay



Drawings show Tiomos with a base plate, **(BPH) 0**.



Drawings show Tiomos with a base plate, **(BPH) 6**.

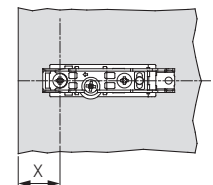
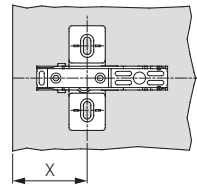


Drawings show Tiomos with a base plate, **(BPH) 9.5**.

Drilling Distance (DD)

	3	4	5	6	7
20.5					0
19.5				0	
18.5			0	2	
17.5		0		2	3
16.5	0				3.5
16.0			2	3	
15.5				3.5	
15.0		2	3		
14.5			3.5		
14.0	2	3			
13.5		3.5			
13.0	3				
12.5	3.5			6	
11.5			6		
10.5		6			
	Base Plate Height (BPH)				

Door Overlay



Base Plate Height (BPH)

	0	2	3	3.5	6
X	34.0	33.0	32.0	32.0	30.5
Wing Base Plate Position (X)					

Base Plate Height (BPH)

	0	2	3	3.5	
X	17.0	16.0	15.0	15.0	
Straight Base Plate Position (X)					

Minimum Gaps

Drilling Distance (DD)

	3	4	5	6	7
24	1.0	1.0	1.0	1.2	2.1
22	1.0	1.0	1.0	1.0	1.5
21	1.0	1.0	1.0	1.0	1.2
20	1.0	1.0	1.0	1.0	1.0
19	1.0	1.0	1.0	1.0	1.0
18	1.0	1.0	1.0	1.0	1.0
17	1.0	1.0	1.0	1.0	1.0
16	1.0	1.0	1.0	1.0	1.0
	Minimum Gap (G)				

Door Thickness (DT)

The minimum gap is the gap between the closed door and the front of the cabinet.

Reveal

Drilling Distance (DD)

	3	4	5	6	7
24	2.4	2.1	2.1	2.1	2.0
22	1.6	1.6	1.6	1.5	1.5
21	1.4	1.3	1.3	1.3	1.3
20	1.1	1.1	1.1	1.1	1.1
19	0.9	0.9	0.9	0.9	0.9
18	0.7	0.7	0.7	0.7	0.7
17	0.6	0.6	0.6	0.6	0.6
16	0.6	0.6	0.6	0.6	0.6
	Reveal (R)				

Door Thickness (DT)

Note: Reveal dimensions were determined with an edge radius (of the door) of 1mm. Hinge dimensions and reveal calculation based on factory setting.

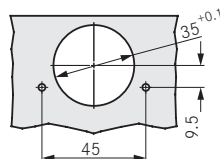
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

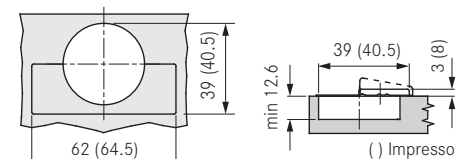
Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
G = Gap
R = Reveal
X = Base Plate Setback

Screw-on



Cup Dimensions

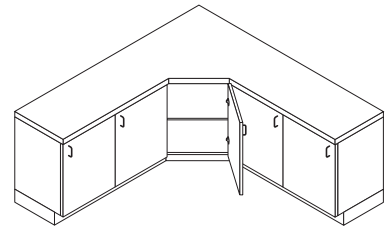


Tiomos 110/45A

+45° angle corner cabinet hinge for overlay doors



- For 45° angle corner cabinets
- 110° opening angle
- 3-dimensional adjustment with suitable base plate
- Soft-close hinges available
- Convenient depth adjustment with worm screw



											
Tiomos 110/45A		Opening Angle 110°		Impresso		Screw-On		Dowelled			
Overlay	Cranking 03	Pattern	Type	Item No.	PU	Pattern	Type	Item No.	Item No.	PU	
	Hinge cup: steel, nickel-plated	42/45	Soft-close	F017139424 223	100	45	Soft-close	F028138533 223	F028138543 223	100	
	Hinge arm: zinc, nickel-plated										

Cover Cap with Clip Protector	Item No.	PU
Plastic, black	F072140504 247	1000
For installation see page 57		

Cover Caps	Item No.	PU
Steel, nickel-plated	F072135500 247	1000

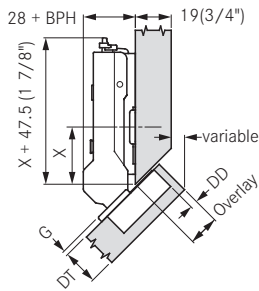
Hinge Cup Cover Cap	Item No.	PU
Steel, nickel-plated	F072135503 228	150

Hinge Clip Protector	Item No.	PU
Plastic, grey	F072135807 540	500
For installation see page 57		

Wood Screw, Nickel-plated	Item No.	PU
#6 x 5/8" FHP, NI	81001-43	500

PU - Packaging unit

Overlay

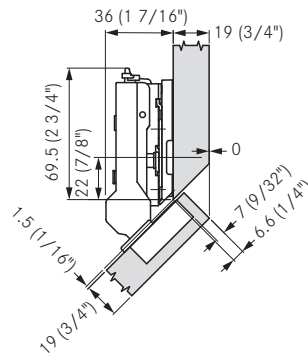


Drawings show Tiomos with a base plate, (BPH) 0.

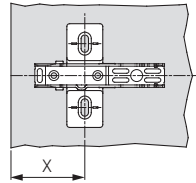
Drilling Distance (DD)

	3	4	5	6	7
19.5					0
19.0					
18.5				0	
18.0					
17.5			0		
17.0					
16.5		0			2
16.0					
15.5	0			2	
15.0					3
14.5			2		3.5
14.0				3	
13.5		2		3.5	
13.0			3		
12.5	2		3.5		
12.0		3			
11.0	3				6
10.0				6	
	Base Plate Height (BPH)				

Door Overlay

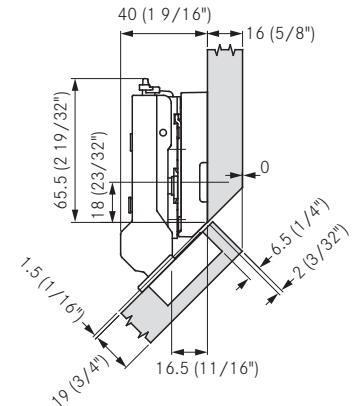


Drawings show Tiomos with a base plate, (BPH) 9.5.

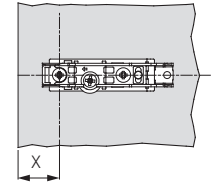


Base Plate Height (BPH)

	0	2	3	3.5	6	9.5	12
X	30.5	28.5	27.5	27.0	24.5	21.0	18.5
	Wing Base Plate Position (X)						



Drawings show Tiomos with a base plate, (BPH) 12.



Base Plate Height (BPH)

	0	2	3	3.5
X	13.5	11.5	10.5	10.0
	Straight Base Plate Position (X)			

Minimum Gaps

Drilling Distance (DD)

	3	4	5	6	7
24	1.0	1.0	1.0	1.2	2.1
22	1.0	1.0	1.0	1.0	1.5
21	1.0	1.0	1.0	1.0	1.2
20	1.0	1.0	1.0	1.0	1.0
19	1.0	1.0	1.0	1.0	1.0
18	1.0	1.0	1.0	1.0	1.0
17	1.0	1.0	1.0	1.0	1.0
16	1.0	1.0	1.0	1.0	1.0
	Minimum Gap (G)				

The minimum gap is the gap between the closed door and the front of the cabinet.

Door Thickness (DT)

Reveal

Drilling Distance (DD)

	3	4	5	6	7
24	2.4	2.1	2.1	2.1	2.0
22	1.6	1.6	1.6	1.5	1.5
21	1.4	1.3	1.3	1.3	1.3
20	1.1	1.1	1.1	1.1	1.1
19	0.9	0.9	0.9	0.9	0.9
18	0.7	0.7	0.7	0.7	0.7
17	0.6	0.6	0.6	0.6	0.6
16	0.6	0.6	0.6	0.6	0.6
	Reveal (R)				

Door Thickness (DT)

Note: Reveal dimensions were determined with an edge radius (of the door) of 1mm. Hinge dimensions and reveal calculation based on factory setting.

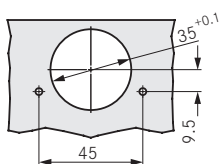
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

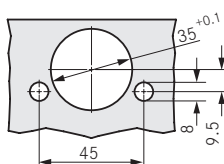
Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
G = Gap
R = Reveal
X = Base Plate Setback

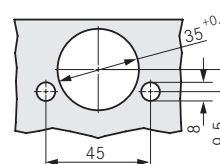
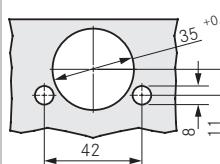
Screw-on



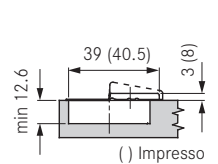
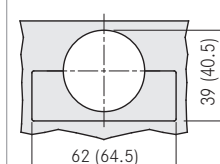
Dowelled



Impresso



Cup Dimensions

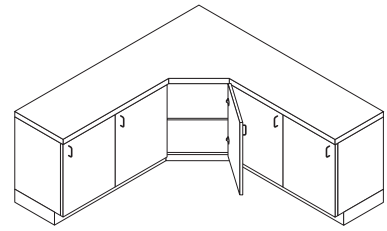


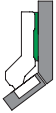
Tiemos 110/45E

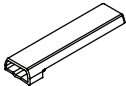
+45° angle corner cabinet hinge for inset doors

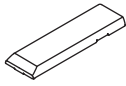


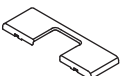
- For 45° angle corner cabinets
- 110° opening angle
- 3-dimensional adjustment with suitable base plate
- Soft-close or Self-close hinges available
- Convenient depth adjustment with worm screw

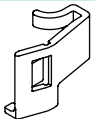


Tiemos 110/45E Opening Angle 110°										
						Impresso	Screw-On	Dowelled		
Inset		Pattern	Type	Item No.	PU					
	Hinge cup: steel, nickel-plated	42/45	Soft-close	F017139425213	25	45	Soft-close	-	F028138544223	100
	Hinge arm: zinc, nickel-plated					45	Self-close	-	F045138482223	100
						45	Self-close	F045138472213	-	25

Cover Cap with Clip Protector	Item No.	PU
 Plastic, black	F072140504247	1000
For installation see page 57		

Cover Caps	Item No.	PU
 Steel, nickel-plated	F072135500247	1000

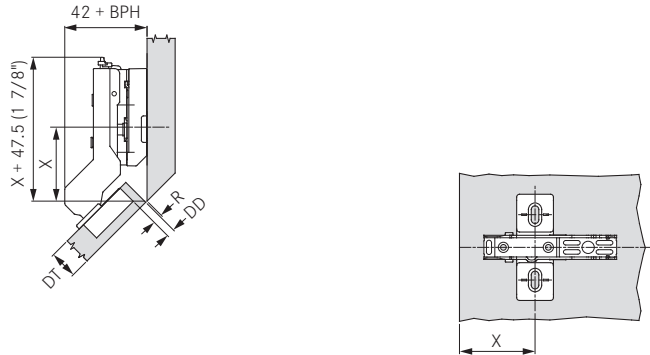
Hinge Cup Cover Cap	Item No.	PU
 Steel, nickel-plated	F072135503228	150

Hinge Clip Protector	Item No.	PU
 Plastic, grey	F072135807540	500
For installation see page 57		

Wood Screw, Nickel-plated	Item No.	PU
 #6 x 5/8" FHP, NI	81001-43	500

PU - Packaging unit

Inset

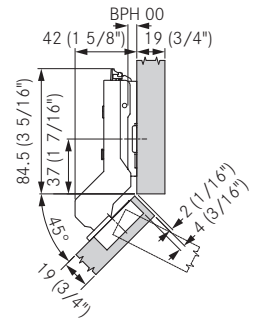


Drawings show Tiomos with a base plate, **(BPH) 12**.

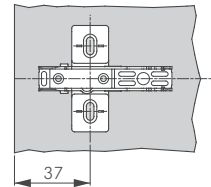
Drilling Distance (DD)		3	4	5	6	7
Door Overlay	22.0					
	21.0					
	20.0					
	19.0	12				
	18.0		12			
	17.0			12		
	16.0				12	
	15.0					12
		Base Plate Height (BPH)				

Drilling Distance (DD)		3	4	5	6	7
Door Overlay	22.0					
	21.0					
	20.0					
	19.0	52.0				
	18.0		50.5			
	17.0			49.0		
	16.0				47.5	
	15.0					46.0
		Wing Base Plate Position (X)				

Corner Angle



Drawings show Tiomos with a base plate, **(BPH) 03**.



Reveal

Drilling Distance (DD)		3	4	5	6	7
Door Thickness (DT)	24	2.4	2.1	2.1	2.1	2.0
	22	1.6	1.6	1.6	1.5	1.5
	21	1.4	1.3	1.3	1.3	1.3
	20	1.1	1.1	1.1	1.1	1.1
	19	0.9	0.9	0.9	0.9	0.9
	18	0.7	0.7	0.7	0.7	0.7
	17	0.6	0.6	0.6	0.6	0.6
	16	0.6	0.6	0.6	0.6	0.6
		Reveal (R)				

Note: Reveal dimensions were determined with an edge radius (of the door) of 1mm. Hinge dimensions and reveal calculation based on factory setting.

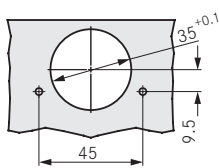
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

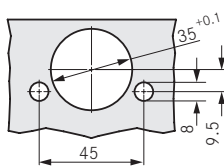
Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
R = Reveal
X = Base Plate Setback

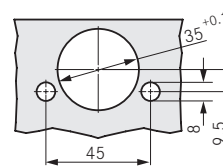
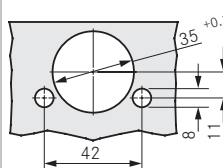
Screw-on



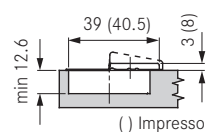
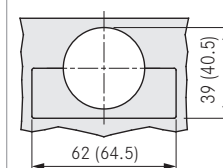
Dowelled



Impresso



Cup Dimensions

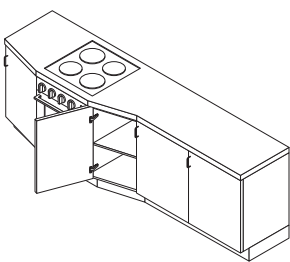


Tiomos 120/-15A

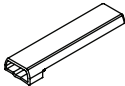
-15° angle corner cabinet hinge for overlay doors

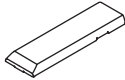


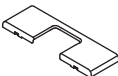
- For -15° angle corner cabinets
- 120° opening angle
- 3-dimensional adjustment with suitable base plate
- Self-close hinges available
- Convenient depth adjustment with worm screw

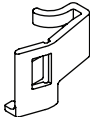


Tiomos 120/-15A Opening Angle 120°		Screw-On			
Overlay		Pattern	Type	Item No.	PU
	Hinge cup: steel, nickel-plated	45	Self-close	F045138493223	100
	Hinge arm: zinc, nickel-plated				

Cover Cap with Clip Protector	Item No.	PU
 Plastic, black	F072140504247	1000
For installation see page 57		

Cover Caps	Item No.	PU
 Steel, nickel-plated	F072135500247	1000

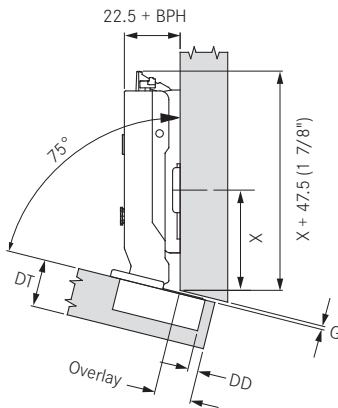
Hinge Cup Cover Cap	Item No.	PU
 Steel, nickel-plated	F072135503228	150

Hinge Clip Protector	Item No.	PU
 Plastic, grey	F072135807540	500
For installation see page 57		

Wood Screw, Nickel-plated	Item No.	PU
 #6 x 5/8" FHP, NI	81001-43	500

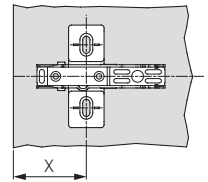
PU – Packaging unit

Overlay



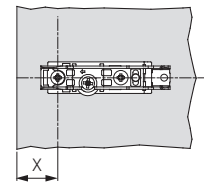
Drawings show Tiomos with a base plate, **(BPH) 0**.

	Drilling Distance (DD)						
	3	4	5	6	7		
18.0					0		
17.0				0			
16.0			0				
15.0		0					
14.5				2	3		
14.0	0				3.5		
13.5			2	3			
13.0				3.5			
12.5		2	3				
12.0			3.5				
11.5		3			6		
11.0		3.5					
10.5	3			6			
10.0	3.5						
9.5			6				
8.5		6					
	Base Plate Height (BPH)						



Base Plate Height (BPH)

	0	2	3	3.5	6
X	40.0	40.5	40.5	41.0	41.5
Wing Base Plate Position (X)					



Base Plate Height (BPH)

	0	2	3	3.5	
X	23	23.5	23.5	24	
Straight Base Plate Position (X)					

Minimum Gaps

	Drilling Distance (DD)						
	3	4	5	6	7		
24	6.4	5.4	4.4	3.4	2.4		
22	1.6	1.6	1.6	1.5	1.5		
21	1.4	1.3	1.3	1.3	1.3		
20	1.1	1.1	1.1	1.1	1.1		
19	0.9	0.9	0.9	0.9	0.9		
18	0.7	0.7	0.7	0.7	0.7		
17	0.6	0.6	0.6	0.6	0.6		
16	0.6	0.6	0.6	0.6	0.6		
	Minimum Gap (G)						

The minimum gap is the gap between the closed door and the front of the cabinet.

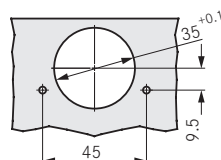
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

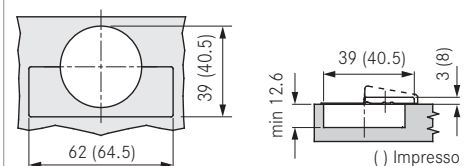
Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
G = Gap
R = Reveal
X = Base Plate Setback

Screw-on



Cup Dimensions

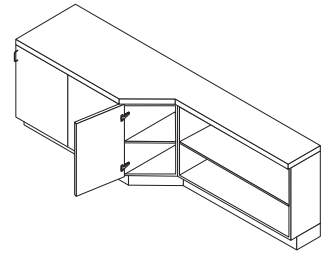


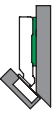
Tiomos 120/-45A

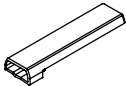
-45° angle corner cabinet hinge for overlay doors

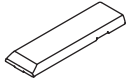
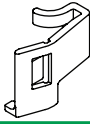


- For -45° angle corner cabinets
- 120° opening angle
- 3-dimensional adjustment with suitable base plate
- Soft-close or Self-close hinges available
- Convenient depth adjustment with worm screw



Tiomos 120/-45A Opening Angle 120°		Impresso				Screw-On			
Overlay		Pattern	Type	Item No.	PU	Pattern	Type	Item No.	PU
	Hinge cup: steel, nickel-plated	42/45	Soft-close	-	-	45	Soft-close	F028138557 213	25
	Hinge arm: zinc, nickel-plated	42/45	Self-close	F034139405 223	100	45	Self-close	F045138495 213	25

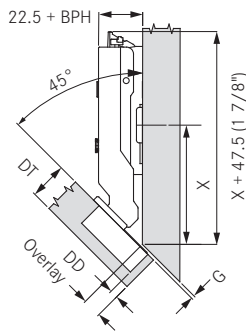
Cover Cap with Clip Protector	Item No.	PU
 Plastic, black	F072140504 247	1000
For installation see page 57		

Cover Caps	Item No.	PU	Hinge Clip Protector	Item No.	PU
 Steel, nickel-plated	F072135500 247	1000	 Plastic, grey	F072135807 540	500
			For installation see page 57		

Hinge Cup Cover Cap	Item No.	PU	Wood Screw, Nickel-plated	Item No.	PU
 Steel, nickel-plated	F072135503 228	150	 #6 x 5/8" FHP, NI	81001-43	500

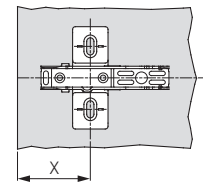
PU - Packaging unit

Overlay



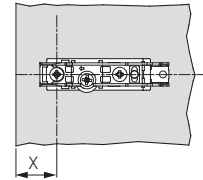
Drawings show Tiomos with a base plate, **(BPH) 02**.

	Drilling Distance (DD)					
	3	4	5	6	7	
Door Overlay	12.0				0	
	11.5			0		
	10.5		0			
	9.5	0			2	
	8.5	0		2		
	8.0				3	
	7.5		2		3.5	
	7.0			3		
	6.5	2		3.5		
	6.0		3			
	5.5	2		3.5		
	5.0		3			
	4.5		3.5			
	4.0	3			6	
	3.5	3.5				
	3.0			6		
	2.0		6			
	1.0	6				
	0.0	6				
	Base Plate Height (BPH)					



Base Plate Height (BPH)

	0	2	3	3.5	6
X	60.5	62.5	63.5	64	66.5
Wing Base Plate Position (X)					



Base Plate Height (BPH)

	0	2	3	3.5	
X	43.5	45.5	46.5	47	
Straight Base Plate Position (X)					

Minimum Gaps

	Drilling Distance (DD)					
	3	4	5	6	7	
Door Thickness (DT)	24	6.4	5.4	4.4	3.4	2.4
	22	3.0	2.0	1.5	1.5	1.5
	21	1.4	1.3	1.3	1.3	1.3
	20	1.1	1.1	1.1	1.1	1.1
	19	0.9	0.9	0.9	0.9	0.9
	18	0.7	0.7	0.7	0.7	0.7
	17	1.0	1.0	1.0	1.0	1.5
	16	1.0	1.0	1.0	1.0	1.0
	Minimum Gap (G)					

The minimum gap is the gap between the closed door and the front of the cabinet.

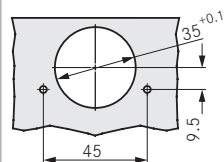
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

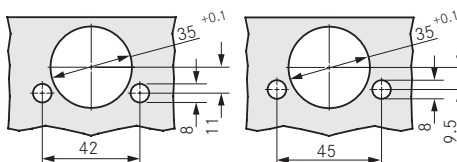
Legend

BPH = Base Plate Height
CC = Center Cup
DD = Drilling Distance
DT = Door Thickness
G = Gap
R = Reveal
X = Base Plate Setback

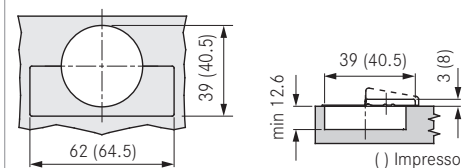
Screw-on



Impresso



Cup Dimensions

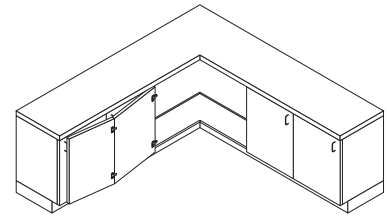


Tiomos PCC

Pie-cut corner cabinet hinge



- 3-dimensional adjustment with suitable base plate
- Designed for folding doors in corner cabinets
- For door thicknesses 14mm to 24mm
- Self-close hinges available
- Used in conjunction with Tiomos 155 hinges
- 35mm full cup drill hole



Tiomos Pie-cut Corner Hinge

Screw-On

Dowelled

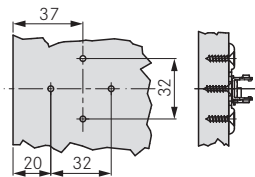
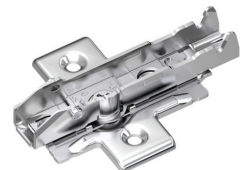


Hinge cup: steel, nickel-plated;
Hinge arm: zinc, nickel-plated

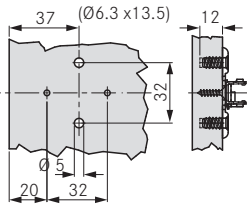
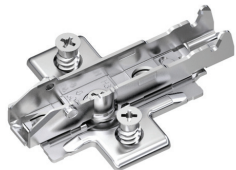
Pattern	Type	Item No.	Item No.	PU
42	Self-close	-	F045138336228	150
45	Self-close	F045138517228	F045138518228	150

Base Plates for PCC

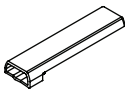
Wing Base Plate, 4-Point Fixing



Door Thickness	Screws	Height	Item No.	PU
14mm-24mm	For wood screws	0	F058139746228	150
14mm-24mm	With pre-mounted Euro screws	0	F058139761228	150



Cover Cap with Clip Protector

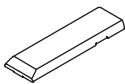


Plastic, black

Item No.	PU
F072140504247	1000

For installation see page 57

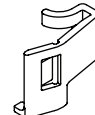
Cover Caps



Steel, nickel-plated

Item No.	PU
F072135500247	1000

Hinge Clip Protector

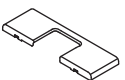


Plastic, grey

Item No.	PU
F072135807540	500

For installation see page 57

Hinge Cup Cover Cap



Steel, nickel-plated

Item No.	PU
F072135503228	150

Wood Screw, Nickel-plated

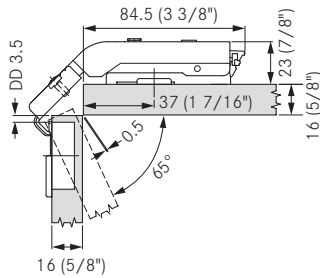


#6 x 5/8" FHP, NI

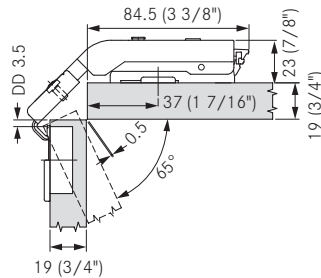
Item No.	PU
81001-43	500

PU - Packaging unit

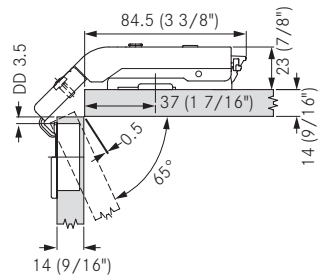
Hinge Application



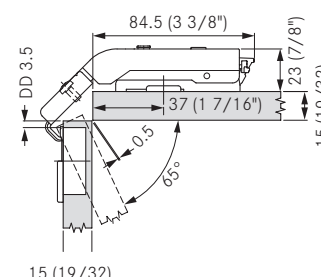
16mm door thickness with base plate height **(BPH) 0**.



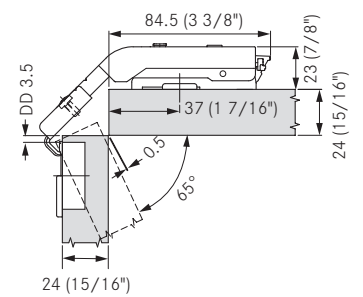
19mm door thickness with base plate height **(BPH) 0**.



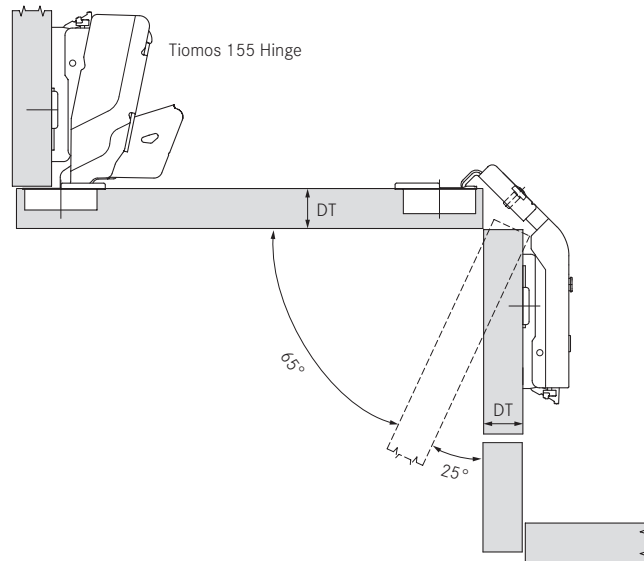
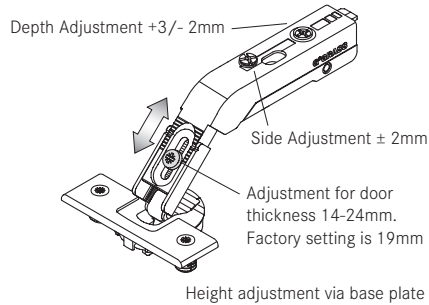
14mm door thickness with base plate height **(BPH) 0**.



15mm door thickness with base plate height **(BPH) 0**.



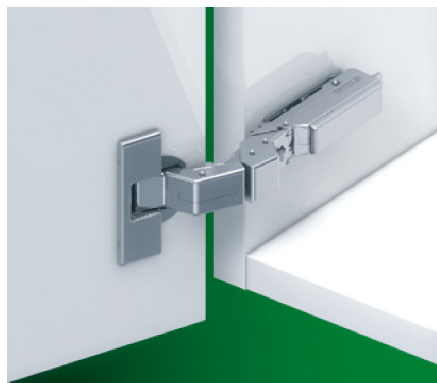
24mm door thickness with base plate height **(BPH) 0**.



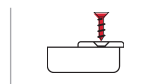
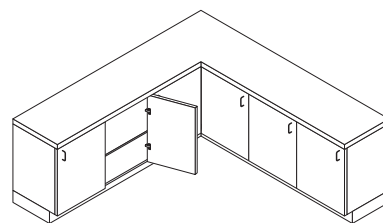
Legend	Screw-on	Dowelled	Cup Dimensions
BPH = Base Plate Height CC = Center Cup DD = Drilling Distance DT = Door Thickness R = Reveal X = Base Plate Setback			

Tiomos M9

110° hinge for 12mm-28mm door thicknesses



- Accommodates overlays up to 25mm (1")
- For door thicknesses from 12mm (15/32") to 28mm (1 1/8")
- Soft-close and self-close hinges available
- For face frame or frameless cabinets
- 3-dimensional adjustments with suitable base plate
- Shallow cup depth of 9mm



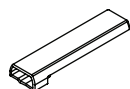
Tiomos M9 Opening Angle 110°

Screw-On

Overlay	Half Overlay	Inset	Cranking 14	Pattern	Type	Item No.	PU
			Hinge cup: zinc, nickel-plated Hinge arm: zinc, nickel-plated	45	Soft-close	F029140338 217	50
				45	Self-close	F047140339 217	50

Cover Cap with Clip Protector

Plastic, black



Item No.

F072140504247

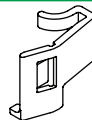
PU

1000

For installation see page 57

Hinge Clip Protector

Plastic, grey



Item No.

F072135807540

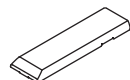
PU

500

For installation see page 57

Cover Caps

Steel, nickel-plated



Item No.

F072135500247

PU

1000

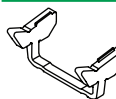
Opening Angle Reduction Clip to 85°

Item No.

F072135871517

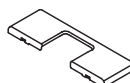
PU

50



Hinge Cup Cover Cap

Steel, nickel-plated



Item No.

F072135503228

PU

150

Wood Screw, Nickel-plated

#6 x 5/8" FHP, NI



Item No.

81001-43

PU

500

PU - Packaging unit

Overlay	Half Overlay	Inset
Drawings show Tiomos with a base plate, (BPH) 0.	Drawings show Tiomos with a base plate, (BPH) 0.	Drawings show Tiomos with a base plate, (BPH) 06. $X = 38.5 + DT$ Note: A door stop is needed to prevent overclose.

Minimum Gap and Minimum Reveal																							
Application Data	Drilling Distance (DD)	3	4	5	6	7	8	9	10	11	12	13											
	Door Protrusion (DP)	0.8	1.1	1.5	1.8	2.2	2.5	2.9	3.2	3.5	3.9	4.2											
	Door Overlay (OL)	4	5	6	7	8	9	10	11	12	13	14											
	Min Reveal (R)/ Gap (G)	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G
Door Thickness (DT)	12-20	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5
	22	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5
	24	1.0	1.5	1.2	1.5	1.3	1.5	1.5	1.5	1.7	1.5	2.0	1.5	2.4	1.3	3.3	1.5	8.3	1.5	7.7	1.5	6.9	1.5
	26	2.2	1.5	2.4	1.5	2.7	1.5	3.1	1.5	3.6	1.5	4.7*	1.5	12*	1.5	11.8	1.5	10.9	1.5	9.9	1.5	8.9	1.5
	28	3.9	1.5	4.3	1.5	5.1	1.5	6.3*	1.5	16*	1.5	16*	1.5	15*	1.5	14*	1.5	13*	1.5	12*	1.5	11*	1.5
Application Data	Drilling Distance (DD)	14	15	16	17	18	19	20	21	22	23	24											
	Door Protrusion (DP)	4.6	4.9	5.3	5.6	5.9	6.3	6.6	7	7.3	7.6	8											
	Door Overlay (OL)	15	16	17	18	19	20	21	22	23	24	25											
	Min Reveal (R)/ Gap (G)	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G	R	G
Door Thickness (DT)	12-20	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	2.0	1.0	2.0	1.0	2.0
	22	4.0	1.5	3.5	1.5	3.0	1.5	2.2	1.5	1.7	1.5	1.3	1.5	1.0	1.5	1.0	1.5	1.0	2.0	1.0	2.0	1.0	2.0
	24	6.0	1.5	5.2	1.5	4.5	1.5	4.0	1.5	3.3	1.5	3.0	1.5	2.5	1.5	2.1	1.5	1.9	2.0	1.6	2.0	1.5	2.0
	26	8.0	1.5	7.2	1.5	6.4	1.5	5.8	1.5	5.1	1.5	4.6	1.5	4.1	1.5	3.7	1.5	3.3	2.0	3.0	2.0	2.6	2.0
	28	10*	1.5	9.2	1.5	8.4	1.5	7.6	1.5	6.9	1.5	6.4	1.5	5.8	1.5	5.3	1.5	4.9	2.0	4.5	2.0	4.2	2.0

Note:
 Reveal dimensions were determined with an edge radius (of the door) of 1 mm.
 Hinge dimensions and reveal calculation based on factory setting.
 *Only achievable with 85° angle reduction clip.

IMPORTANT
 To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

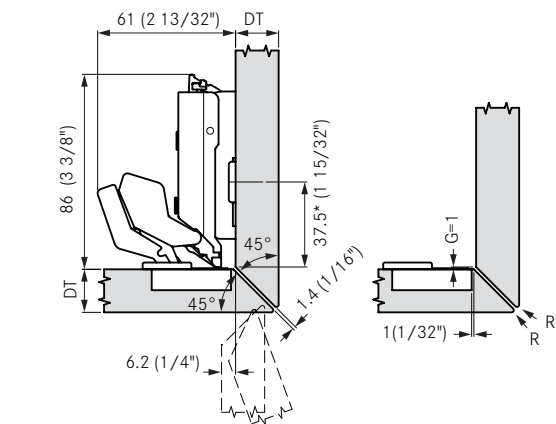
Legend	Drilling Pattern	Cup Dimensions
BPH = Base Plate Height DD = Drilling Distance DP = Door Protrusion DT = Door Thickness G = Gap OL = Overlay R = Reveal X = Base Plate Setback		

Tiomos M9

Installation Information

Mitered Application - Circumferential and Lateral

Maximum Overlay

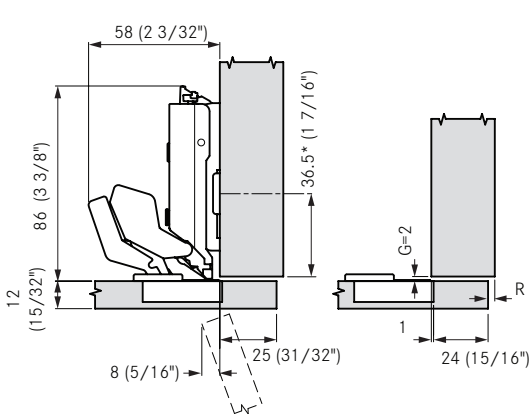


Drawings show Tiomos with a base plate, **(BPH) 3**.

Door Thickness (DT)	Mitered Application Circumferential		Mitered Application Lateral	
	R (min)		R (min)	
	12-17	0	0	0
	18	0.2	0	0
	19	1.0	0.4	0.4
	20	1.5	1.0	1.0
	21	2.2	1.8	1.8
	22	3.0	2.5	2.5
	24	4.3	4.1	4.1

Note:

With circumferential mitered application all sides 1.4mm reveal



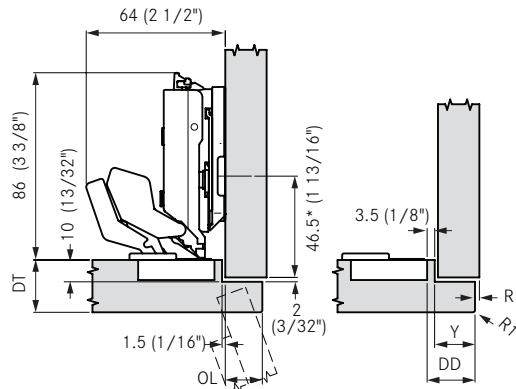
Drawings show Tiomos with a base plate, **(BPH) 0**.

*Dimension is calculated using a base plate that requires a 37mm hole setback. This dimension will vary if a base plate requiring a different standard setback is used.

Installation Information

Rabbet Applications

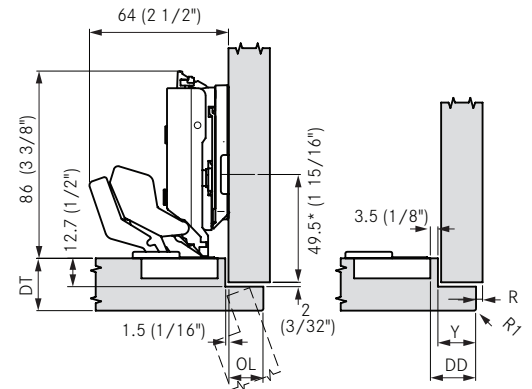
10mm (3/8")



Drawings show Tiomos with a base plate, (BPH) 6.

Cabinet Wall Location	DT (max)	OL (max)	Y (max)	DD (max)	R (max)
	20	17	18.5	22	1
	28	17	18.5	22	See reveal table page 45
	38	17	18.5	22	

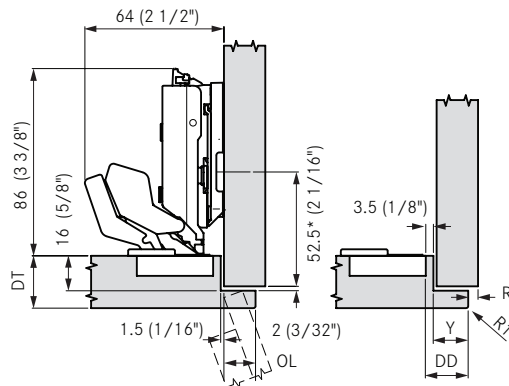
12.7mm (1/2")



Drawings show Tiomos with a base plate, (BPH) 6.

Cabinet Wall Location	DT (max)	OL (max)	Y (max)	DD (max)	R (max)
	20	16	17.5	21	1
	28	16	17.5	21	See reveal table page 45
	35	14	15.5	19	

16mm (5/8")



Drawings show Tiomos with a base plate, (BPH) 6.

Cabinet Wall Location	DT (max.)	OL (max.)	Y (max.)	DD (max.)	R (max.)
	20	14.5	16	19.5	1
	26	14.5	16	19.5	See reveal table page 45
	32	12.5	14	17.5	

*Dimension is calculated using a base plate that requires a 37mm hole setback.
This dimension will vary if a baseplate requiring a different standard setback is used.

Legend

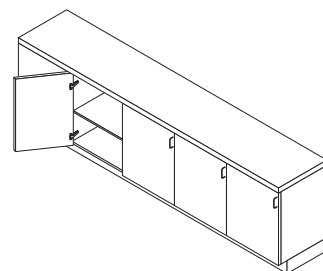
BPH = Base Plate Height
DD = Drilling Distance
DP = Door Protrusion
DT = Door Thickness
G = Gap
OL = Overlay
R = Reveal
Y = Rabbet

Tiomos M0

125° hinge for thin doors (6-10mm)



- No cup hole necessary
- Door thickness of 6mm (1/4") to 10mm (3/8")
- Accommodates door overlays up to 25.4mm (1")
- Soft-close hinges
- Works with a variety of door material - wood, aluminum, MDF, mineral composite, HPL (laminate), chipboard, solid surface
- Special fasteners for hinge attachment to door
- Compatible with Tiomos base plates



Tiomos M0 Opening Angle 125°

Screw-On

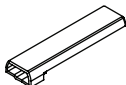
Overlay	Half Overlay	Inset		Pattern	Type	Item No.	PU
			Hinge cup: zinc, die-cast Hinge arm: steel, nickel-plated	45	Soft-close	F029140331217	50

Fastening Options

Fasteners	Description	Item No.	PU	Material	Material thickness		
					6mm	8mm	10mm
	Countersunk screw PH2, M5 x 6mm For a minimum door thickness of 6mm For aluminum, HPL, mineral composite	F072135923223	100	Aluminum	F072135923223		
	Set: 100 Countersunk screw M4 x 8mm, 100 sleeve M4 x 5.5mm, 1 internal hex key For a minimum door thickness of 8mm, for chipboard, MDF, mineral composite, HPL	F072135928201	1	HPL (laminate)	F072135923223	F072135928201	
				Mineral Composite	F072135923223		
				Chipboard	—	F072135928201	—
				MDF	—	F072135928201	—

Cover Cap with Clip Protector

Plastic, black



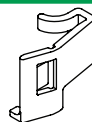
F072140504247

1000

For installation see page 57

Hinge Clip Protector

Plastic, grey



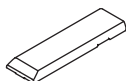
F072135807540

500

For installation see page 57

Cover Caps

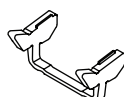
Steel, nickel-plated



F072135500247

1000

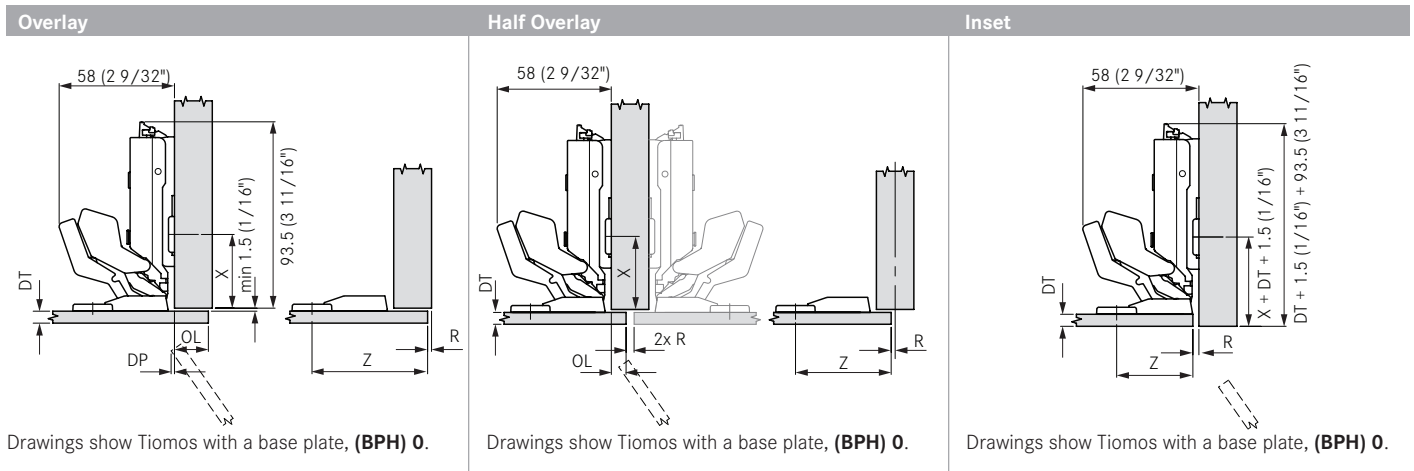
Opening Angle Reduction Clip to 85°



F072135871517

50

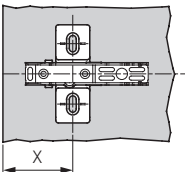
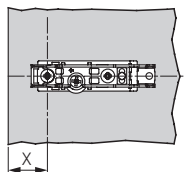
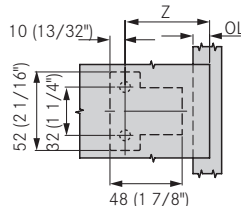
PU - Packaging unit



Minimum Gap and Reveal

Hinge Attachment (Z)	38	39	47	49	51	53	55	56	58	60	61	63	64	66
Door Protrusion (DP)	0	0	0	0	0	0	0	0.5	1.5	3.0	3.4	0	0	0
Door Overlay (OL)	-3	-2	6	8	10	12	14	15	17	19	20	22*	23*	25*
Min Reveal (R)/ Gap (G)	R	G	R	G	R	G	R	G	R	G	R	G	R	G
Door Thickness 6-10 (DT)	2.0	1.5	2.0	1.5	2.0	1.5	2.0	1.5	2.0	1.5	2.0	1.5	2.0	4.0

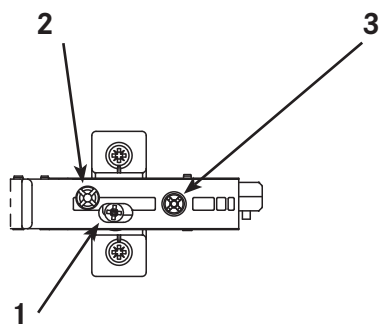
*Only achievable with 85° angle reduction clip.

Wing Base Plate		Straight Base Plate		Hinge Attachment	
					
Setback		Base Plate Height 0			Base Plate Height 0
	X	46		X	29
Setback		Base Plate Height 0			Base Plate Height 0
	Z	OL + 41		OL	25 max

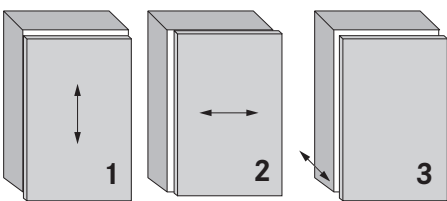
Number of Hinges Per Door	Installation Information	Notes
	Countersunk screw M5 x 6mm (except for aluminum): 1. Drill a Ø 4.8mm hole 2. Cut a Ø 5mm thread 3. Position the hinge and secure with the screws Countersunk screw M4 x 8mm with sleeve M4 x 5.5mm: 1. Drill a Ø 5mm hole 2. Slightly countersink the edge of the hole 3. Insert the sleeve 4. Knock in the sleeve with a hammer 5. Position the hinge and secure with the screws	An inset application is achieved with the base plate (X) and a low housing screwing distance (Z). Depending on the type and thickness of the base material the pull-out resistances can vary with the same fastening method. For information regarding the selection and processing of the base material please contact the base material supplier. Liability claims: Please note that Grass cannot accept any liability for damage resulting from unsuitable fastening materials or methods. IMPORTANT To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

Tiemos Base Plates

For Tiemos hinges



- Steel, nickel plated
- Depth adjustment via worm screw
- Height adjustment via worm screw or elongated hole
- Side adjustment via hinge
- Use a #2 Pozi drive screwdriver for hinge adjustment
- Attach base plates using all available screw holes



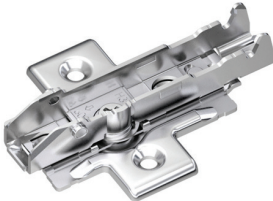
Height adjustment via base plate
Via worm screw $\pm 2\text{mm}$

Side adjustment $\pm 2\text{mm}$

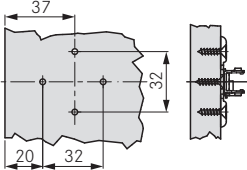
Depth adjustment $+3/-2\text{mm}$

All adjustment options can be made independently of one another

Wing Base Plate, 4 Point Fixing



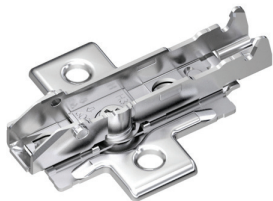
- Height adjustment via worm screw



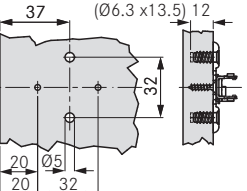
For Wood Screws

Height	Item No.	PU
0	F058139746228	150
2	F058139747228	150
3	F058139748228	150
3.5	F058139749217	50

Wing Base Plate, 4 Point Fixing



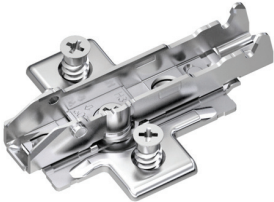
- Height adjustment via worm screw



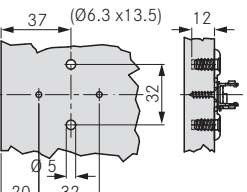
For Euro Screws

Height	Item No.	PU
0	F058139756228	150
2	F058139757228	150
3	F058139758228	150
3.5	F058139759228	150

Wing Base Plate, 4 Point Fixing



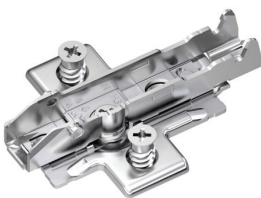
- Height adjustment via worm screw



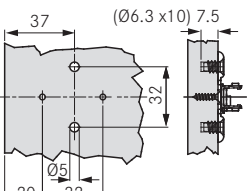
Pre-mounted Euro Screws (13.5mm)

Height	Item No.	PU
0	F058139761228	150
2	F058139762228	150
3	F058139763228	150
3.5	F058139764228	150

Wing Base Plate, 4 Point Fixing



- Height adjustment via worm screw
- For twin application



Pre-mounted Euro Screws (10mm)

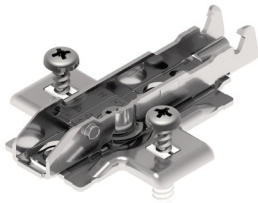
Height	Item No.	PU
0	F058139863228	150
2	F058139864228	150
3	F058139865228	150

PU - Packaging unit

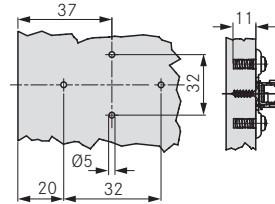
Wing Steel Base Plate, 4 Point Fixing

37/32

Expanding Dowels (5mm)



- Height adjustment via worm screw



Height	Item No.	PU
0	F058139766 228	150
2	F058139767 228	150
3	F058139768 228	150

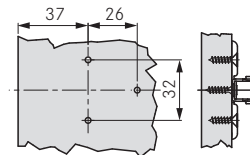
Wing Steel Base Plate, 3 Point Fixing

37/32

For Wood Screws



- Height adjustment via elongated screw holes

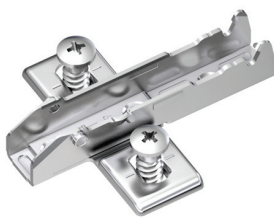


Height	Item No.	PU
0	F058139721 228	150
2	F058139722 228	150
3	F058139723 228	150

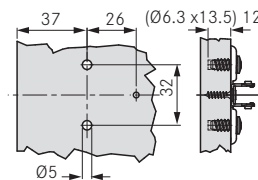
Wing Steel Base Plate, 3 Point Fixing

37/32

Pre-mounted Euro Screws (13.5mm)



- Height adjustment via elongated screw holes

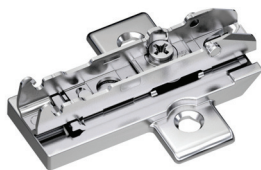


Height	Item No.	PU
0	F058139736 228	150
2	F058139737 228	150
3	F058139738 228	150

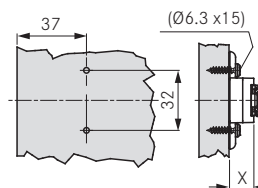
Wing Base Plate, 2 Point Fixing

37/32

For Wood Screws



- Zinc die-cast/Steel, nickel plated
- Height adjustment via worm screw

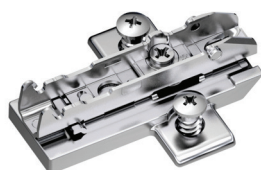


Height	Item No.	PU
6	F058139892 217	50
9.5	F058139888 217	50
12	F058139893 217	50
15	F058139890 217	50
19	F058139894 217	50
21	F058139895 217	50

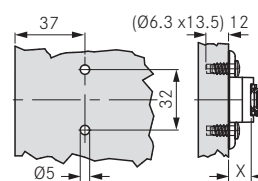
Wing Base Plate, 2 Point Fixing

37/32

Pre-mounted Euro Screws (13.5mm)



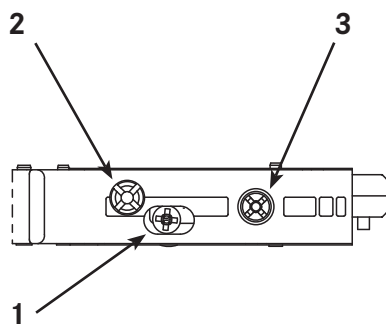
- Zinc die-cast/Steel, nickel plated
- Height adjustment via worm screw



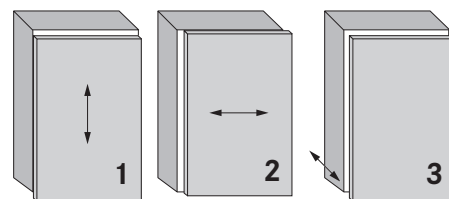
Height	Item No.	PU
6	F058139873 217	50
9.5	F058139882 217	50
12	F058139874 217	50
19	F058139875 217	50
21	F058139896 217	50

Tiemos Base Plates

For Tiemos hinges



- Steel, nickel plated
- Height and depth adjustment via worm screw
- Side adjustment via hinge
- Use a #2 Pozi drive screwdriver for hinge adjustment
- Attach base plates using all available screw holes



Height adjustment via base plate
Via worm screw $\pm 2\text{mm}$

Side adjustment $\pm 2\text{mm}$

Depth adjustment $+3/-2\text{mm}$

All adjustment options can be made independently of one another

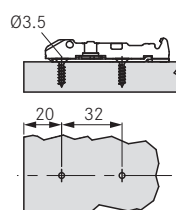
Straight Base Plate, 2 Point Fixing

20/32

For Wood Screws



- Height adjustment via worm screw



Height	Item No.	PU
0	F059139701228	150
2	F059139702228	150
3	F059139703228	150

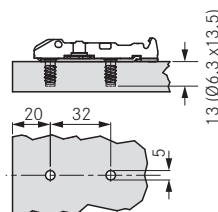
Straight Base Plate, 2 Point Fixing

20/32

Pre-mounted Euro Screws



- Height adjustment via worm screw



Height	Item No.	PU
0	F059139711228	150
3	F059139713228	150

Spacers

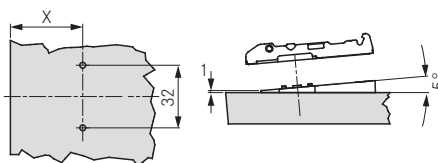
+5° Wedge for Screw Fixing

37/32

For Wood Screws



- Zinc, nickel plated
- For placing under wing base plates
- Can be stacked (max 3)



Height	Item No.	PU
	F072135757217	50

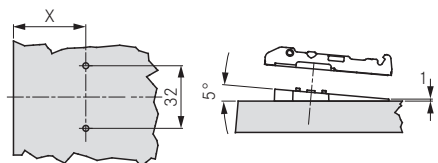
-5° Wedge for Screw Fixing

37/32

For Wood Screws



- Zinc, nickel plated
- For placing under wing base plates
- Can be stacked (max 3)



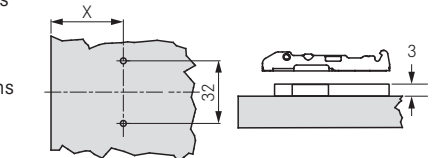
Height	Item No.	PU
	F072135758217	50

3mm Universal Spacer

37/32



- For use with Nexis or Tiemos base plate applications
- Snap-to-fit breakaway section for Nexis applications
- For placing under wing base plates
- Can be stacked (max 2)

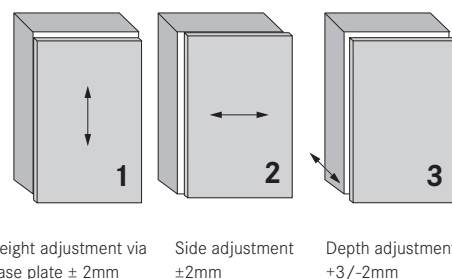
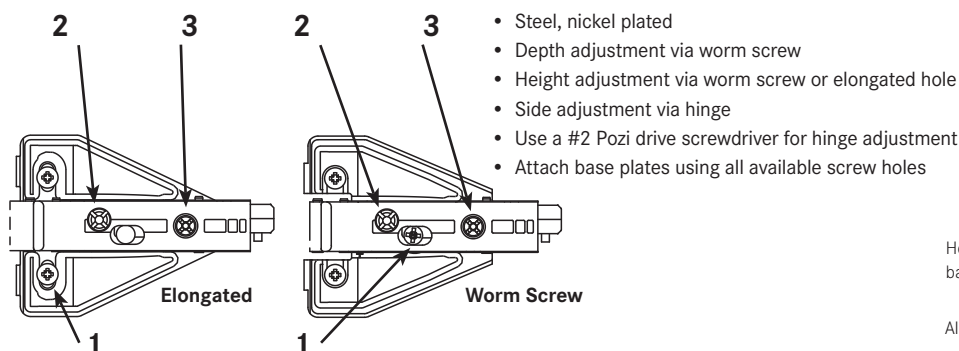


Height	Item No.	PU
3	13461-41	50

PU - Packaging unit

Tiemos Base Plates

For Tiemos hinges



All adjustment options can be made independently of one another

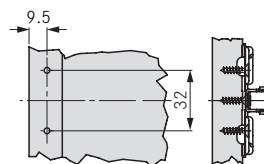
FFA Base Plate, 2 Point Fixing

9.5/32

For Wood Screws



- Height adjustment via elongated screw holes



Height	Item No.	PU
1.5	F058139821228	150
3.5	F058139822228	150

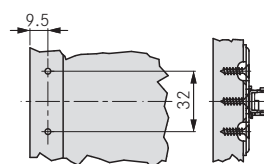
FFA Base Plate, 2 Point Fixing

9.5/32

For Wood Screws



- Height adjustment via worm screw



Height	Item No.	PU
1.5	F058139825228	150
3.5	F058139826228	150
4.5	F058139827228	150
5	F058139828228	150

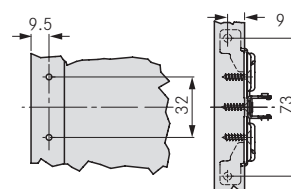
FFAL Base Plate With Flange, 4 Point Fixing

9.5/32

For Wood Screws



- Height adjustment via elongated screw holes



Height	Item No.	PU
3.5	F058139829228	150

Inset FFA Base Plate, 3 Point Fixing

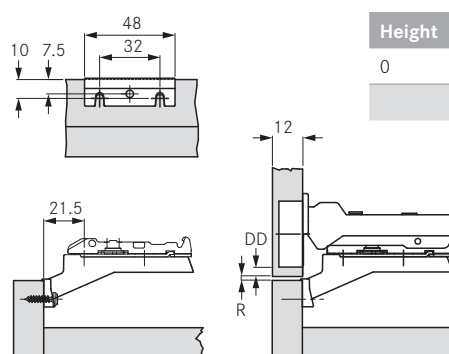
10/32

For Wood Screws



- Steel, diecast, nickel plated
- Height adjustment via worm screw
- Note: Requires a 9.5 crank hinge (half-overlay)

Drilling Distance (DD)		3	4	5	6
Door Thickness (DT)	28	4.0			
	26	4.0	3.0		
	24	4.0	3.0	2.0	
	22	4.0	3.0	2.0	1.0
	20	4.0	3.0	2.0	1.0
	19	4.0	3.0	2.0	1.0
	18	4.0	3.0	2.0	1.0
	16	4.0	3.0	2.0	1.0
Reveal (R)					



Height	Item No.	PU
0	F058139831228	150

PU - Packaging unit

Tipmatic

For handle-free wooden doors

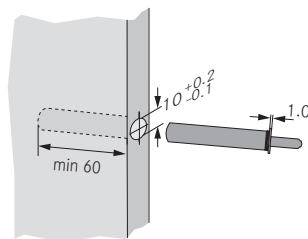


- Gently tapping the front causes the doors to open to a convenient angle
- Use with Tiomos 110 Tipmatic Plus or with Nexis and Tiomos free-swinging hinges
- Large magnet catch range – holds door closed securely
- Gap adjustment from 2.5 to 5.5mm with integrated, self-locking and tool-free depth adjustment feature
- Mount on the front side of the cabinet or with an adapter plate

Tipmatic Pin



- Incl. Tipmatic mechanism:
 - Stick on strike plate
 - Screw on strike plate
- Hole drilled from the front
- Plastic RAL 7036, platinum grey



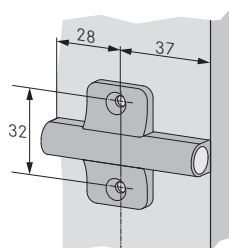
For Drilling

Item No.	PU
F069135396513	25

Adapter Plate for Line Boring



- Suitable for line boring 28 and 37mm
- Attach with Euro screws (6.3 x 13.5)
- Plastic RAL 7035, light grey



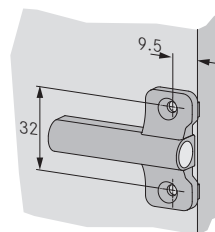
For Euro Screws

Item No.	PU
F069063310213	25

Face Frame or Standard Adapter Plate



- Quick upgrade installation
- Attach with wood screws (3.5 x 13)
- Plastic RAL 7035, light grey



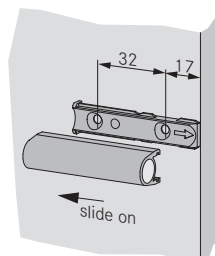
For Wood Screws

Item No.	PU
F069073697213	25

Linear Adapter Plate



- Design solution – also suitable for inset door applications
- Attach with wood screws (3.5 x 13)
- Plastic RAL 7035, light grey



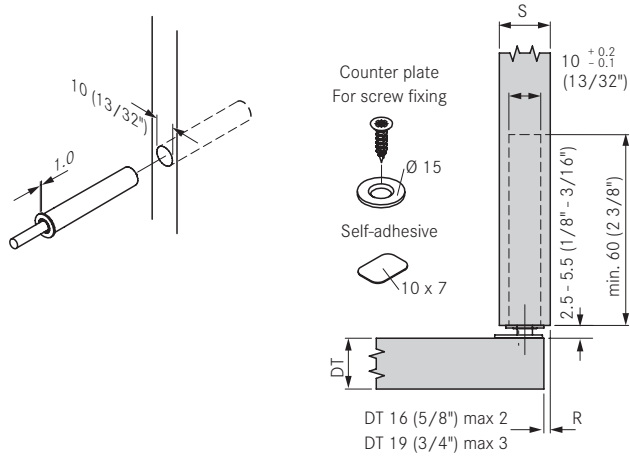
For Wood Screws

Item No.	PU
F069149398523	25

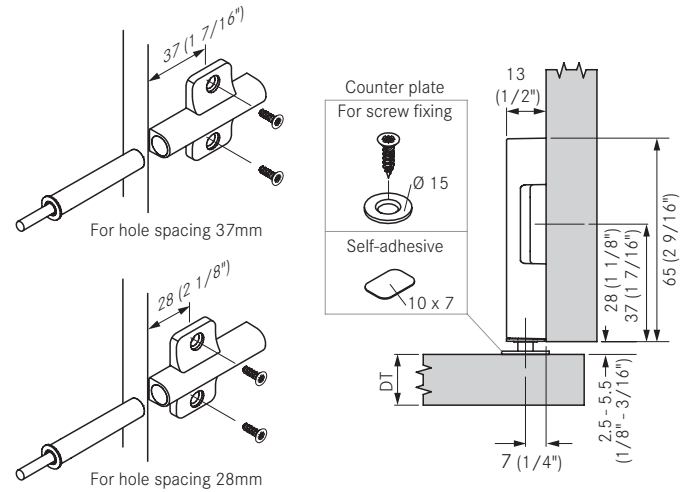
PU – Packaging unit

Mounting Dimensions

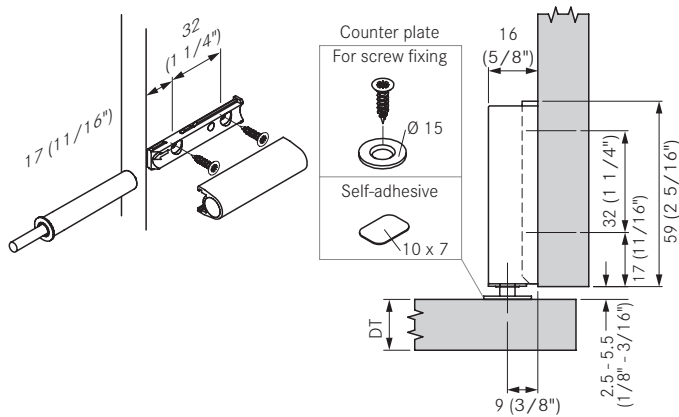
Tipmatic Pin



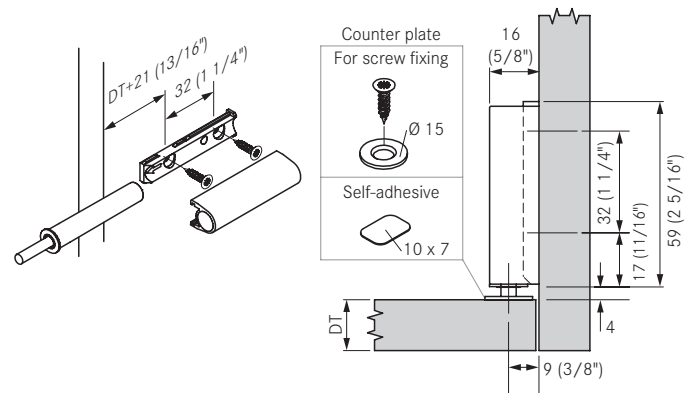
Adapter Plate for Line Boring



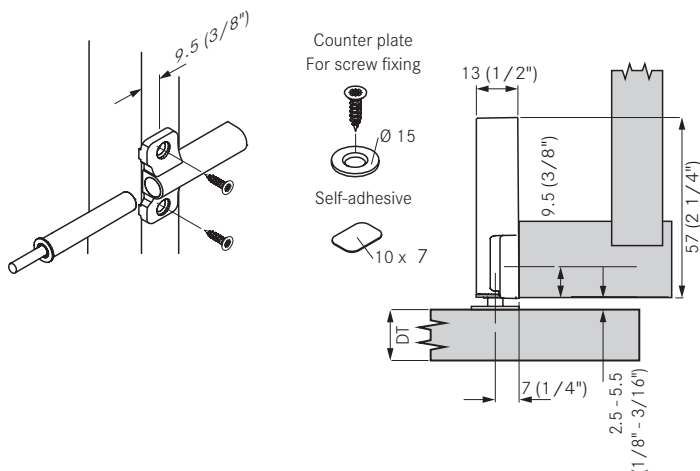
Linear Adapter Plate, Overlay



Linear Adapter Plate, Inset



Face Frame Plate



Legend

DT = Door Thickness
R = Reveal
S = Cabinet Sidewall

Tiemos Flap Hinge

90° hinge for flap door



- Sleek modern design
- 90° opening angle
- For flap thicknesses of up to 30mm (1 3/16")
- Narrow joint
- Large overlay of up to 19mm (3/4")
- 3-dimensional adjustment
- Compatible with Tipmatic pin system
- Compatible with Kinvaro D-M/D-S flap system



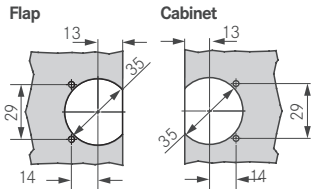
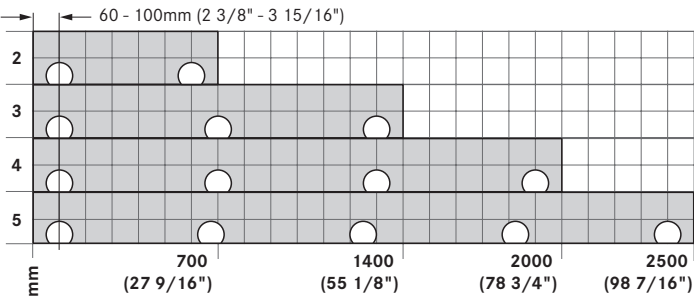
Tiemos Flap Hinge Opening Angle 90° Screw-On

Overlay	For Flap Thickness 14-21mm	Color	Cup Depth	Item No.	PU
	Hinge: zinc die-cast, nickel-plated	Nickel	12mm	F053139671223	100
	Hinge: zinc die-cast, night	Night	12mm	F053139677223	100

Overlay	For Flap Thickness 22-28mm	Color	Cup Depth	Item No.	PU
	Hinge: zinc die-cast, nickel-plated	Nickel	17mm	F053139672223	100
	Hinge: zinc die-cast, night	Night	17mm	F053139678223	100

Cover Cap for Flap Hinge			Item No.	PU	1.5mm Spacer for Tiemos Flap Hinge			Item No.	PU
	Steel, nickel plated		F053139675 223	100		Steel, nickel plated		F053139676 223	100
	Steel, night		F053139683 223	100		Steel, night		F053139684 223	100

Number of Hinges per Door Drilling Pattern

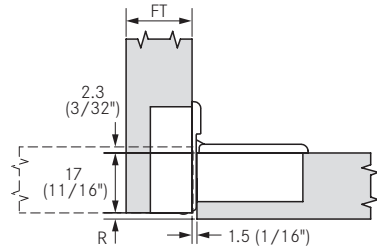


PU - Packaging unit

Tiemos Flap Hinge

90° hinge for flap door

Overlay, Without Spacer, 12mm Cup Depth

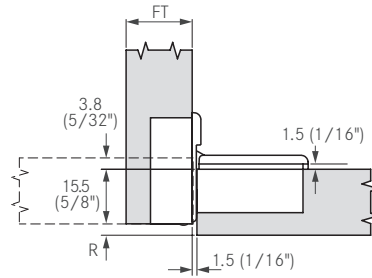


Flap Thickness (FT)

Flap Thickness (FT)	21	20	19	18	17	16	15	14
Min Reveal (R)	2.5	1.5	1	1	1	1	1	1

Min Reveal (R)

Overlay, with 1 Spacer, 12mm Cup Depth

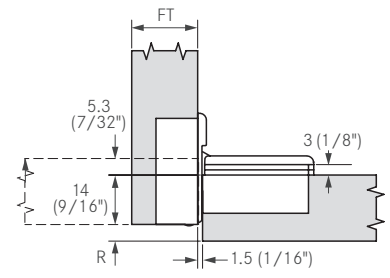


Flap Thickness (FT)

Flap Thickness (FT)	21	20	19	18	17	16	15	14
Min Reveal (R)	2.5	1.5	1	1	1	1	1	1

Min Reveal (R)

Overlay, with 2 Spacers, 12mm Cup Depth

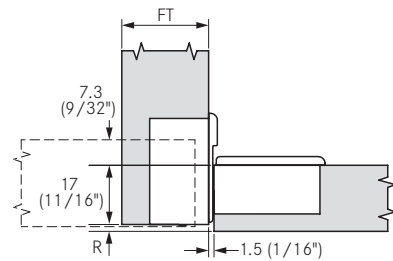


Flap Thickness (FT)

Flap Thickness (FT)	21	20	19	18	17	16	15	14
Min Reveal (R)	2.5	1.5	1	1	1	1	1	1

Min Reveal (R)

Overlay, Without Spacer, 17mm Cup Depth

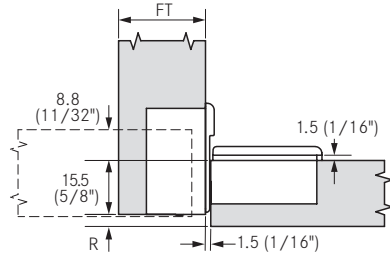


Flap Thickness (FT)

Flap Thickness (FT)	30	29	28	27	26	25	24	23	22
Min Reveal (R)	6.5	5.5	4.5	3.5	2.5	1.5	1	1	1

Min Reveal (R)

Overlay, with 1 Spacer, 17mm Cup Depth

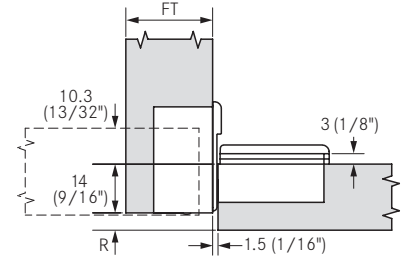


Flap Thickness (FT)

Flap Thickness (FT)	30	29	28	27	26	25	24	23	22
Min Reveal (R)	6.5	5.5	4.5	3.5	2.5	1.5	1	1	1

Min Reveal (R)

Overlay, with 2 Spacers, 17mm Cup Depth



Flap Thickness (FT)

Flap Thickness (FT)	30	29	28	27	26	25	24	23	22
Min Reveal (R)	6.5	5.5	4.5	3.5	2.5	1.5	1	1	1

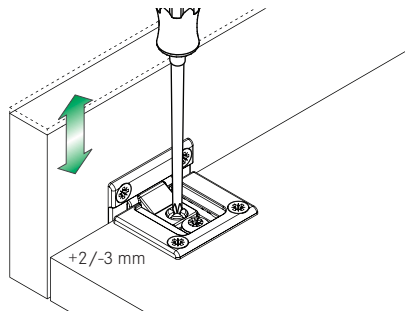
Min Reveal (R)

Note: Hinge dimensions and reveal calculation based on factory setting.

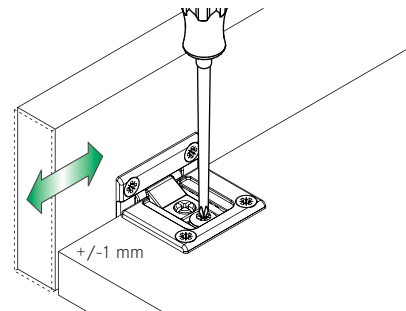
IMPORTANT

To determine the correct application Grass strongly recommends a trial mounting for all hinges and base plates.

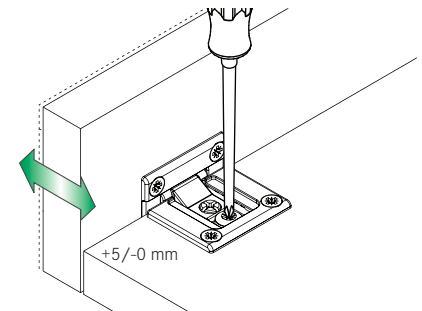
Height Adjustment



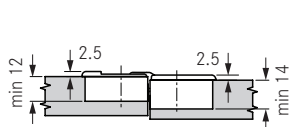
Side Adjustment



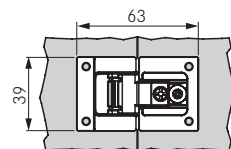
Depth Adjustment



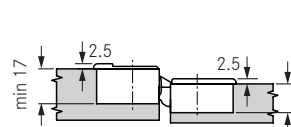
Cup Dimensions, 12mm Cup Depth



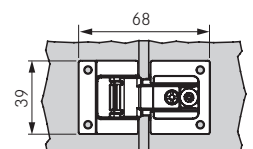
Hinge Dimensions, 12mm Cup Depth



Cup Dimensions, 17mm Cup Depth



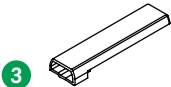
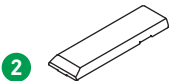
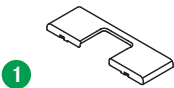
Hinge Dimensions, 17mm Cup Depth



Accessories and Assembly Aids

Tiomos

Cover Caps



- Hinge Cup Cover Cap:
- Steel, nickel plated, without imprint
- Hinge Arm Cover Cap Long:
- Steel, nickel plated, without imprint
 - Imprinting available upon special request
- Hinge Arm Cover Cap with Clip Protection:
- Plastic, black, without imprint
 - Also serves as clip protection for the back release

Description	Item No.	PU
1 Hinge cup cover cap	F072135503228	150
2 Hinge arm cover cap	F072135500247	1000
3 Cover Cap with Clip Protector	F072140504247	1000

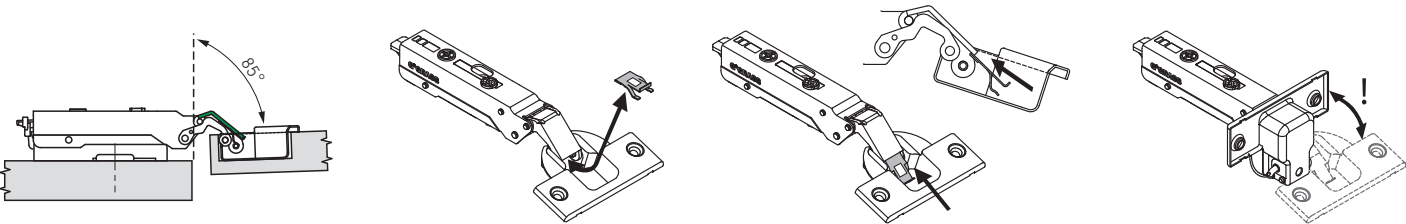
Angle Reduction Clips

Angle Reduction Clip to 85°

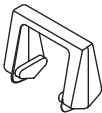


Works for all Tiomos 110° and 120° standard hinges. Reduces the opening angle to 85° to prevent doors from bumping fronts or walls in corner installations.

Description		Item No.	PU
Angle reduction clip, 85°	Steel, nickel	F072135751517	50

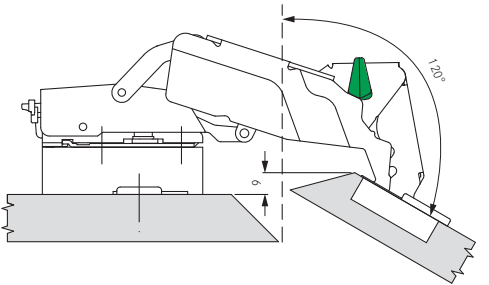


Angle Reduction Clip to 120°



Works for all Tiomos 155° standard hinges. Reduces the opening angle to 120° to prevent doors from bumping the cabinet side in inset and mitered corner applications.

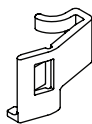
Description		Item No.	PU
Angle reduction clip, 120°	Plastic, black	F072135753517	50



PU - Packaging unit

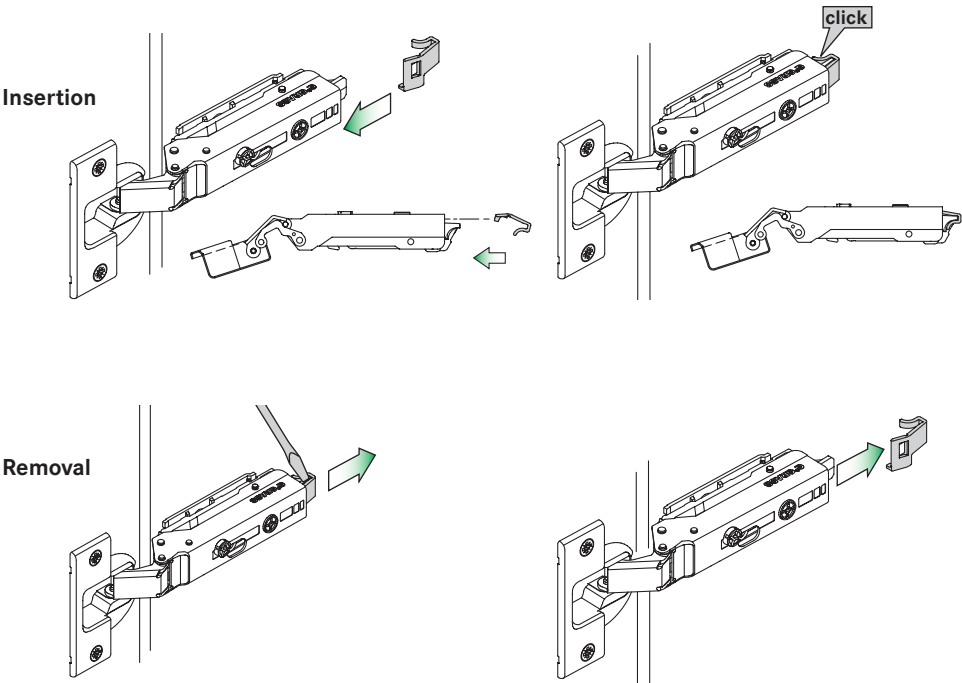
Timos

Hinge Clip Protector

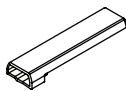


Prevents accidental release of the hinge from the base plate. For use in lockers, wardrobes, office furniture or similar applications.

Description		Item No.	PU
Hinge clip protector	Plastic, grey	F072135807540	500

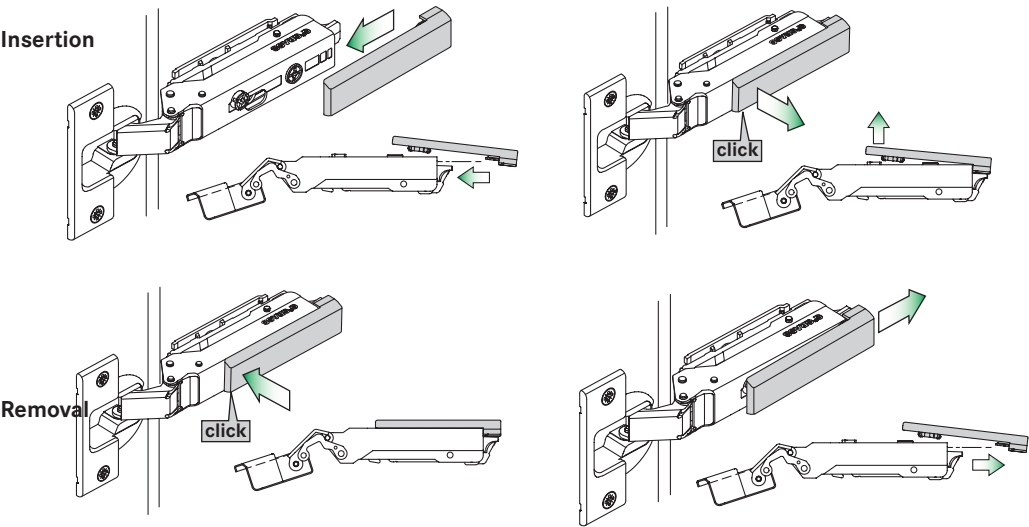


Cover Cap with Clip Protector



Prevents accidental release of the hinge from the base plate. For use in lockers, wardrobes, office furniture or similar applications.

Description		Item No.	PU
Cover Cap with Clip Protector	Plastic, black	F072140504247	1000



Accessories and Assembly Aids

Tiomos

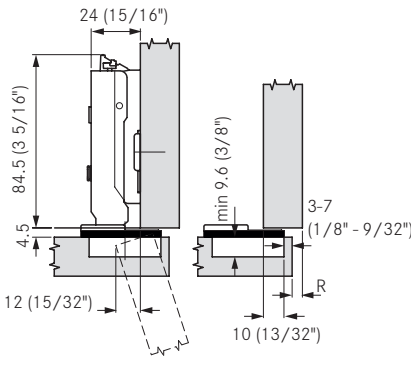
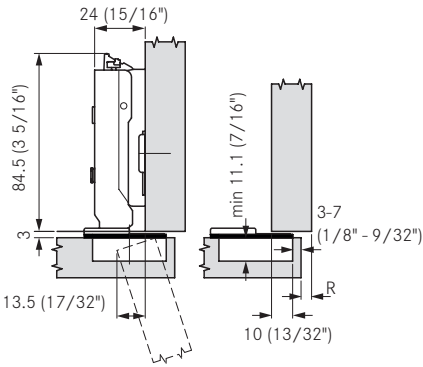
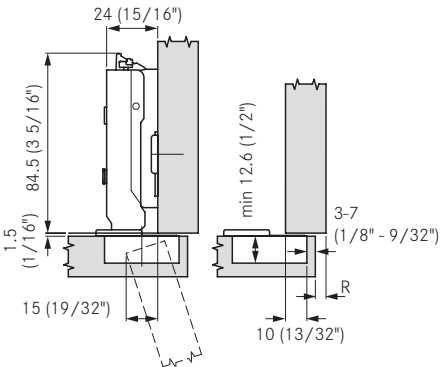
Tiomos Spacer Ring



- Permits the use of standard hinges for thinner doors
- Simple installation
- Can be double-stacked
- Suitable for all Tiomos hinges

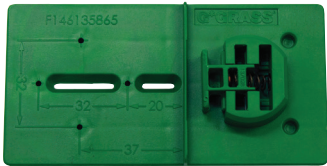
Description	Item No.	PU
Tiomos spacer ring, 1.5 height	F072135885228	150

Without Spacer Ring1 Spacer Ring2 Spacer Rings



Tiomos Marking Aids

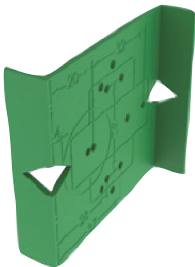
Tiomos Marking Jig



- Easy to use
- Cup distance 3-5mm
- Hinge cup positioning
- Straight base plate positioning
- Wing base plate positioning

Description	Item No.	PU
Tiomos marking jig	F146135865202	1

Tiomos Marking Template



- Easy marking and pre-drilling for:
- 45mm pattern hinges
 - Wing base plates
 - Straight base plates

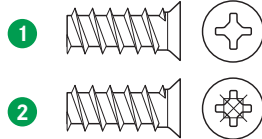
Description	Item No.	PU
Tiomos marking template	F146135787217	1

PU - Packaging unit

Tiomos

Screws and Dowels

Euro Screw, Nickel-plated



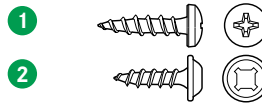
Description	Item No.	PU
1 13mm Euro Screw (1/2")	81015-43	500
18mm Euro Screw (11/16")	83000-43	500
7.5mm Euro Screw (5/16")	83001-43	500
2 Euro Screw 11mm (7/16") Pozi	499.360.61.1015	500
Euro Screw 13mm (1/2") Pozi	499.360.61.3015	500

Wood Screw, Nickel-plated



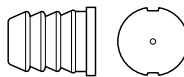
Description	Item No.	PU
#6 x 1/2" FHP, NI	81014-43	500
#6 x 5/8" FHP, NI	81001-43	500
#6 x 3/4" FHP, NI	81003-43	500
#6 x 1" FHP, NI	81004-43	500

Wood Screw, Nickel-plated



Description	Item No.	PU
1 #10 x 3/4" PHP	81007-43	500
2 #8 x 5/8" Quad Round	81017-43	500

Dowels, Plastic



Description		Item No.	PU
Dowel, TEC Hinge	8mm	00102-43	500
Spax screw for TEC Hinge Dowel		02445-43	500
Dowel, Nexis	8mm	F069073390 256	500
Dowel, Tiomos	8mm	F072135773 247	1000
Dowel, VZ Hinge Cup	8mm	04885-43	500
Dowel, Zargen / ZBox	10mm	05853-42	100
Dowel and screw set Zargen	10mm	12768-37	1
Dowel, base plate	10mm	05404-43	500
Dowel, pilaster dowel	8mm x 16mm	00395-43	500

Pozidrive Screwdriver

#2 Pozidrive screwdriver for hinges



Description	Item No.	PU
Pozidrive screwdriver	98000-01	1
Pozidrive screwdriver	98000-08	50

Accessories and Assembly Aids

Tiomos

Shelf Supports



Description	Item No.	PU
1 H-802 plastic, square, clear	00036-43	500
2 Shelf support 7006/9.5, nickel	F069073460 253	2500

Bumper Pads

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	2.5mm	10mm	63407-99	288
Bumper pad, clear	2.5mm	10mm	63407-47	7200

AirSoft Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
AirSoft Bumper pad, clear	5mm	12.7mm	63481-43	500
AirSoft Bumper pad, clear	5mm	12.7mm	63483-30	5000

Bumper Pads, Self-adhesive



Description	Height	Diameter	Item No.	PU
Bumper pad, clear	4mm	12mm	630.000.02.1250	5000

Bumper Pads, Self-adhesive



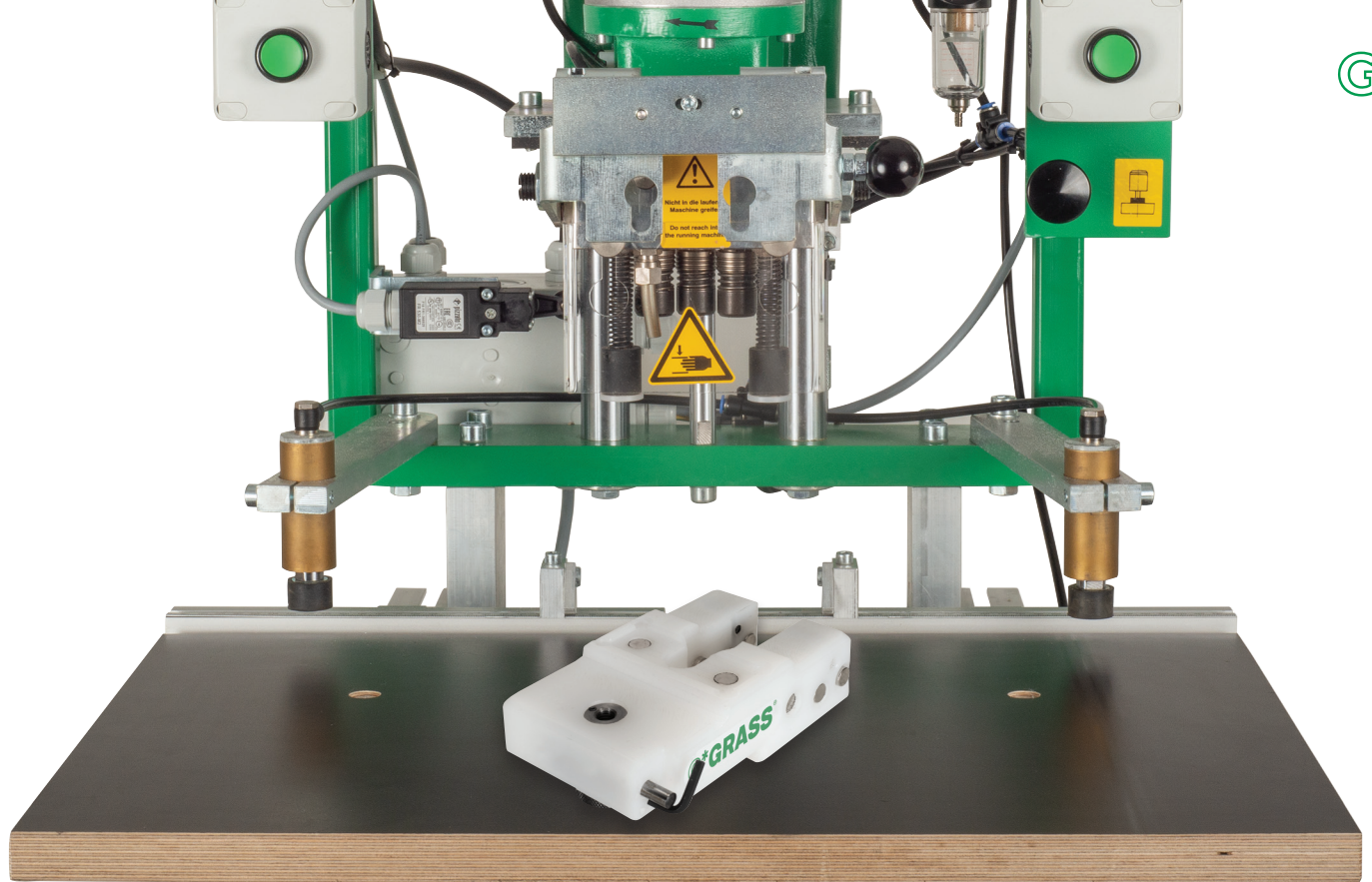
Description	Height	Diameter	Item No.	PU
Bumper pad, clear	3mm	12.7mm	31002-43	500
Bumper pad, clear	1.5mm	12.7mm	31004-43	500

Door Stop



Description	Item No.	PU
H-950 door stop, clear	00068-43	500

PU - Packaging unit



GRASS PRO1 drilling and insertion machine for 45mm boring pattern



One machine can do the job. Whether it's drilling, boring, or inserting for hinges or installing slides for drawer boxes, GRASS PRO1 has it covered.

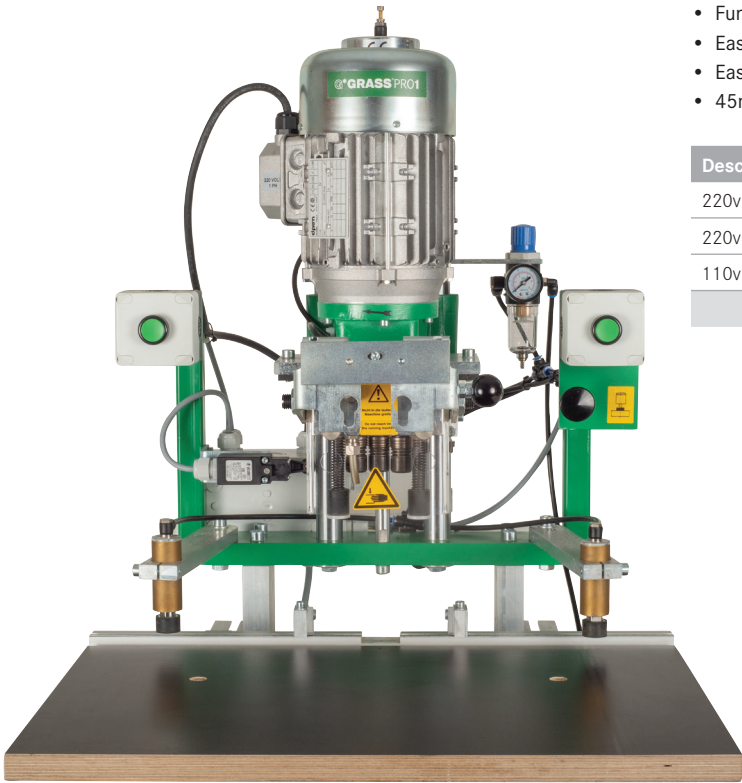
Constructed from the highest quality materials and precision assembled, the GRASS PRO1 is designed for the demands of everyday use. Designed for use with Grass products, every unit is supported by Grass technicians and engineering.

- Bore depth automatically adjusts to material thickness
- Functional design
- Easy, fast and efficient operation
- Easy maintenance

Machinery

GRASS PRO1 drilling and insertion machine for 45mm boring pattern

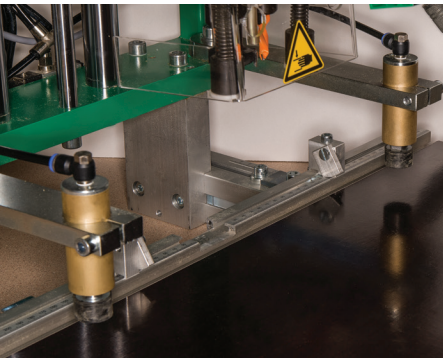
GRASS PRO1



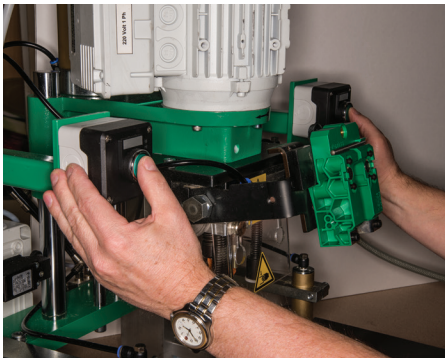
- Depth stop can be adjusted to material thickness
- Functional design
- Easy, fast, and efficient operation
- Easy maintenance
- 45mm boring pattern

Description	Item No.	PU
220v single phase pneumatic	94559-01	1
220v three phase pneumatic	94560-01	1
110v single phase pneumatic	94561-01	1

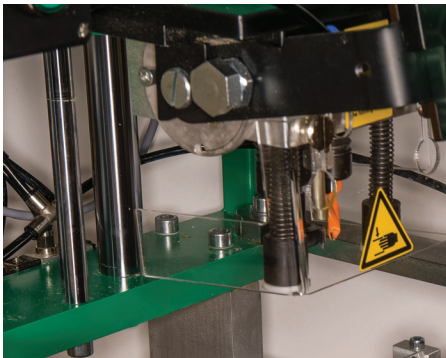
GRASS PRO1 Features



Adjustable hold-down devices
Adjustable hold-down devices are suitable for a wide range of material thicknesses.
Holds door firmly in place for drilling and insertion and features manual release.



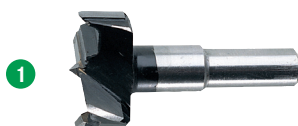
Pneumatic controls
Two-hand start button controls for safe drilling and insertion functions.



Quick change chucks
Easy drill bit removal and insertion using quick change chucks.

PU - Packaging unit

Drill Bits

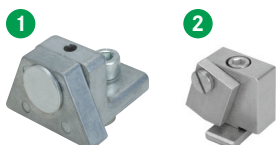


Description	Direction	Item No.	PU
1 35mm bit	RH	00077-01	1
2 8mm bit	LH	00160-01	1
American Bit Set for Hinge Drilling		00213-01	1

Set consists of:

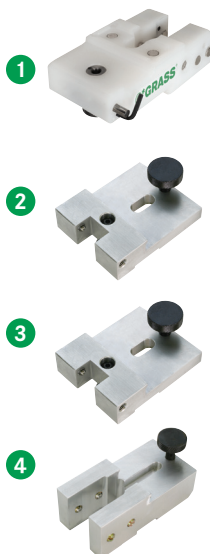
- 1 - 35mm bit, RH
- 2 - 8mm bit, LH

Fence Stops



Description	Item No.	PU
1 Additional fence stop	949.200.21.0000	1
2 Universal fence stop	949.200.21.0100	1

Insertion Dies



Description	Item No.	PU
1 Tiomos Universal Insertion Die 110°/120°/160°	80039	1
2 TEC Insertion Die	92617	1
3 Nexis Insertion Die 110°/125°	04216-01	1
4 Nexis Insertion Die 170°	04218-01	1

Extension Fence



Description	Item No.	PU
Extension fence 300mm to 1550mm	88612-01	1



GRASS America Inc.
1202 NC Highway 66 South
Kernersville, NC 27284

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Fax: 1-800-525-8406

www.grassusa.com
info@grassusa.com





UNISOFT



G*GRASS®

UNISOFT

Universal Soft-close adapter for doors.





UniSoft is a Soft-close adapter for doors that mounts independently from the hinge. Mount the UniSoft in the upper corner of your cabinets and instantly your cabinet doors have the smooth, quiet soft-closing action that is so popular in today's market. The UniSoft damper is concealed in a brushed nickel casing

and can be adjusted by the turn of a screw to the desired closing speed. UniSoft can be installed during the production process, at the time of cabinet installation, or after the cabinetry has been installed. For the end user, this is a perfect retrofit solution to add a soft-close feature to your fine cabinetry.

Soft-close for doors



- Works for face frame cabinets on all door overlays
- Works for frameless cabinets on full overlay doors
- Brushed nickel look blends in well with hinge finish
- Non-handed with a low profile design
- Manually adjustable to desired closing speed
- Mounts independently from the hinge in the upper corner of the cabinet
- Instantly allows the cabinet door to close quietly and smoothly
- Scratch protector and front bumper with cushion for a quiet close

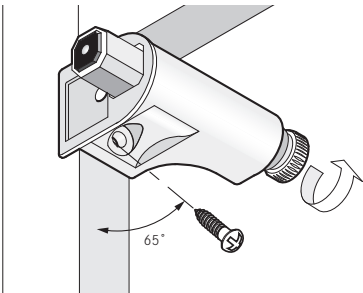
UniSoft Adapter



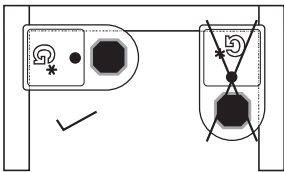
Description	Material	Item No.	PU
UniSoft, Polybag	Plastic, nickel	18971-37	1
UniSoft, Polybag Bulk	Plastic, nickel	18971-40	25
UniSoft, Bulk	Plastic, nickel	18971-14	250

Includes #6 x 3/4 Pan head screw

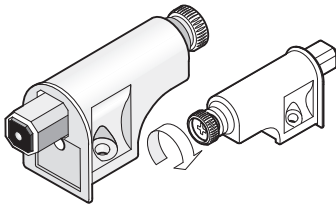
Installation Mounting Position Adjustment



Use a 65° angle for best base results. Pilot drill 2.3mm (Ø3/32") and 1/4" deep for a #6 x 3/4" Pan head screw recommended. Mount in upper corner on hinge side.

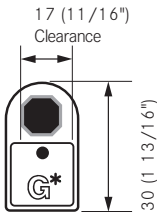
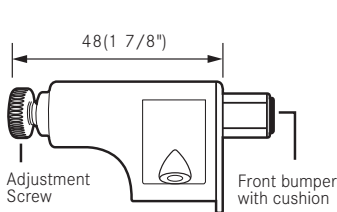


IMPORTANT The installation of our cabinetry hardware must comply with the Grass instructions that are stated on this catalog page.



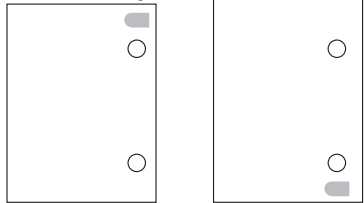
Turn adjustment screw to move damper in and out. Adjust in for heavier doors or out for light doors. Use Phillips or Pozidrive screwdriver or adjust manually.

Dimensions UniSoft per Door



Use one UniSoft for most applications. For heavier doors use two or more. Trial mount recommended.

UniSoft Hinges





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1202 NC Highway 66 South
Kernersville, NC 27284

Phone: 1-800-334-3512
Fax: 1-800-525-8406

www.grassusa.com
info@grassusa.com





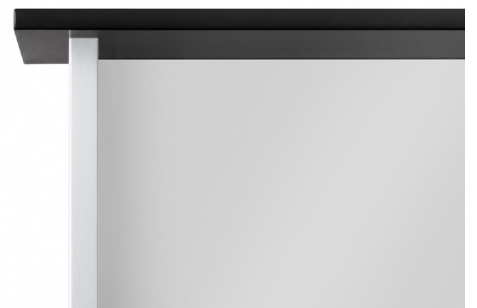
VIONARO

G*GRASS®

G*GRASS®

VIONARO DRAWER SYSTEM

The slim line drawer system manufactured of top quality material combines with the Dynapro slide system. Functional technology meets perfect form.







The simple clean design of Vionaro brings truth to the statement, “Less is More.”

Maximum reduction means using the least possible to make the most possible.

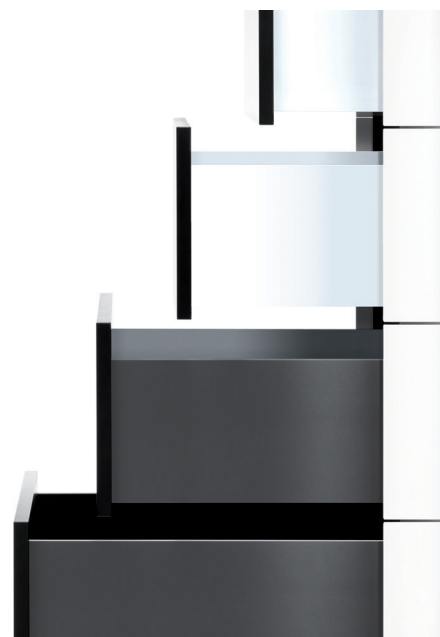
Whether it is in the kitchen, the bath, or the living room the concise shape, slim design, and top quality material of the Vionaro drawer makes your cabinetry classic. The perfectly designed drawer sides are formed from a single piece of high quality steel using cutting-edge laser technology.

Vionaro side heights are available in 89mm, 121mm, 185mm, and 249mm in White and Graphite. Front panels for inset drawers are offered in 89mm and 185mm heights. For deep drawer organization, the Tavinea Optima is a simple and flexible system of dividers that can be cut to your drawer width and divider profiles that snap right in.

Vionaro is cleverly attached to the Dynapro undermount drawer systems so it offers everything the Dynapro has: high load capacity, synchronized movement, low pull-out force, and 4-dimensional adjustment. Previously the Dynapro was used with wood drawers but now it is a multi-functional drawer system that is ideal for modern cabinetry.

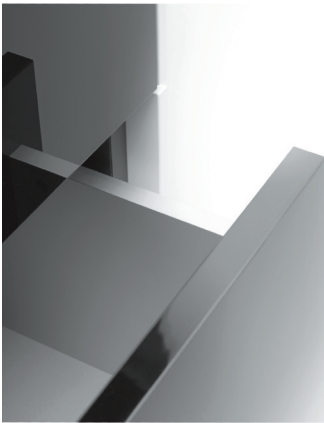
For a handle-free opening the Vionaro works with Sensomatic, Grass' electro-mechanical opening system and Tipmatic Soft-close push-to-open mechanisms. Both systems require a light touch any where on the drawer front for the drawer to open automatically.

With Grass' Soft-closing system, each drawer is pulled closed with a soft and gentle motion.



VIONARO DRAWER SYSTEM

Classic. Clean. Concealed.
Vionaro, the new generation of double-wall drawers, combines with Dynapro for a system so advanced, yet stylish.



**reddot award 2014
winner**

**Design, attention to detail,
precise movement, and quality –
virtually no other drawer system
achieves such a perfect form.**

When you open the innovative Vionaro drawer you will find a slim-line designer inspired drawer. Sides of just 13mm (1/2") made from materials of the highest quality offer a drawer with the ultimate in storage space design.

The Vionaro drawer sides rest on top of the proven Dynapro concealed slide system turning Dynapro into a multi-functional system. This combination results in a complete drawer system

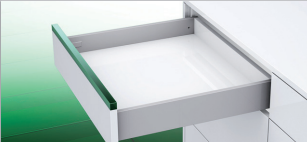
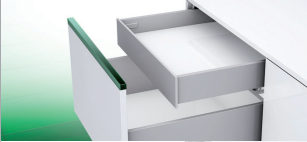
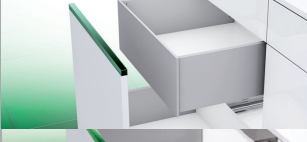
that meets the highest design aspirations. Vionaro now has everything that Dynapro has: a full extension concealed slide with outstanding running performance, a high load carrying capacity and a low pull-out force.

Vionaro becomes the complete drawer system for modern cabinetry. Vionaro features a strong connection to the drawer front offering height, tilt, and side adjustment on the drawer sides and depth adjustment from the drawer slide. The soft-close action brings the Vionaro drawer to a gentle quiet close.

With the addition of Sensomatic, the electronic opening system, or Tipmatic Soft-close push to open mechanism, it becomes possible to create large, handle-free drawers that open with a gentle push on the front.

Vionaro is the proud winner of the 2014 reddot award judged on functionality, innovation, quality and ecological compatibility. Vionaro – functional technology with perfect form.

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	Vionaro H89 Inset Front Panel • Height 89mm (3 1/2") • Integrated 3-dimensional adjustment • Slim 13mm drawer side width	• Height adjustment (max +2.5 /-1.5mm) • Side adjustment (max ±1.5mm) • Tilt adjustment (max +2.5 /-1.5mm)	12
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	Vionaro Cross Divider • For all Vionaro drawers • Cut to length • Simple installation	Tavinea Optima Dividing System • For all Vionaro drawers • Tool-free installation • Simple installation	22
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	Dynapro 16 with Optional 3-Dimensional Adjustment • Face frame or frameless • Integrated Soft-close, full extension • For Vionaro or 16mm (5/8") material	Front locking device selection provides: • Height adjustment (max +3.5mm) • Optional Depth adjustment (max +4.5mm) via depth adjustment adapter	24
	Dynapro Tipmatic Soft-close • For 12.7mm (1/2") to 16mm (5/8") material • Tool-free assembly • Works with Dynapro 3D 16mm	• 3-tier adjustment for opening force	26
	Accessories, Assembly Aids, and Machinery		28
	Sensomatic • Automatic soft touch drawer opening • Various mounting options	• Adjustable opening strength	31

Features and Benefits

Vionaro

Features



- 90° straight corners and sides
- Slim 13mm (1/2") width side
- Integrated height and side adjustment, tilt adjustment at back
- Tool-free assembly
- Works exclusively with Dynapro
- Maximum drawer width 48"
- For frame and frameless cabinetry

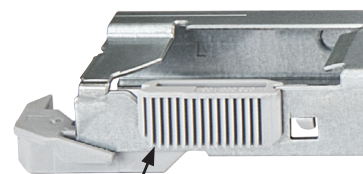
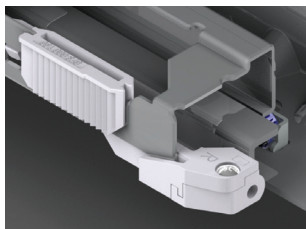
Dowel attachment
for fixing bracket
(10mm Ø)

Side Adjustment
±1.5mm

Front panel release

Height adjustment
+2.5mm / -1.5mm

4D depth adjustment
optional add-on



Cleats on the slide

connect immediately with front locking device at installation for maximum connection between the drawer slide and front locking device.



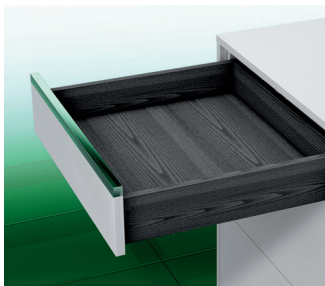
Dynapro's synchronization allows drawers to move quietly and without any resistance. Even under a load capacity of up to 100 pounds the exceptional running performance remains unchanged.

Features and Benefits

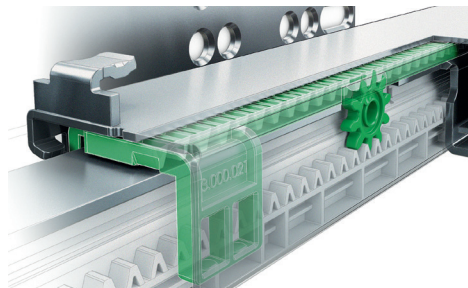
Dynapro

Features

- Wear resistant nylon rollers ensure quiet and precise running characteristics
- Easy to open with a low pull out force
- Support roller for uniform drawer front height
- 100 lb dynamic load for Dynapro Standard
- 132 lb dynamic load for Dynapro Heavy Duty
- Dynapro slide is interchangeable with Vionaro and wood drawers
- Full Extension with Soft-closing action
- Integrated liquid damper offers the latest closing technology
- For drawers up to 48" wide



Tipmatic Soft-close
for handle-free drawers



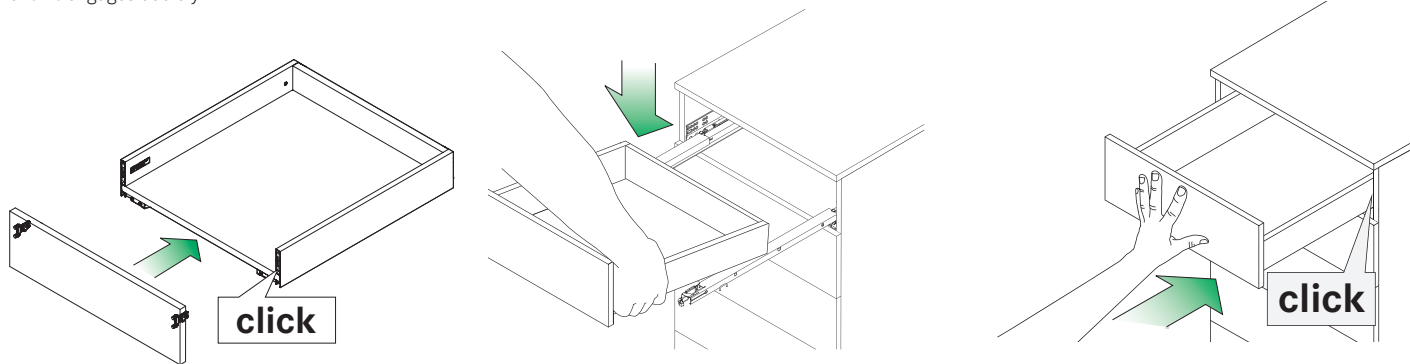
Synchronization
for smooth, silent operation, excellent running performance.

Technical Information

Vionaro

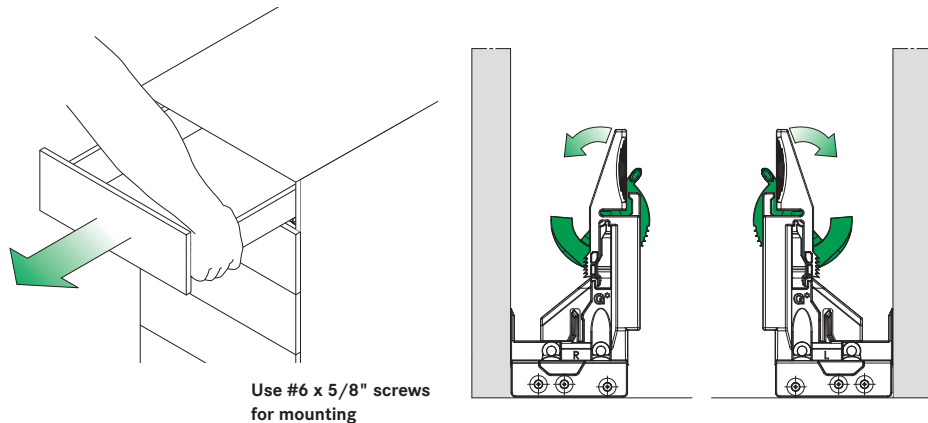
Attaching Drawer Front and Inserting Drawer

Place drawer on extended Dynapro slide and push in until it engages audibly



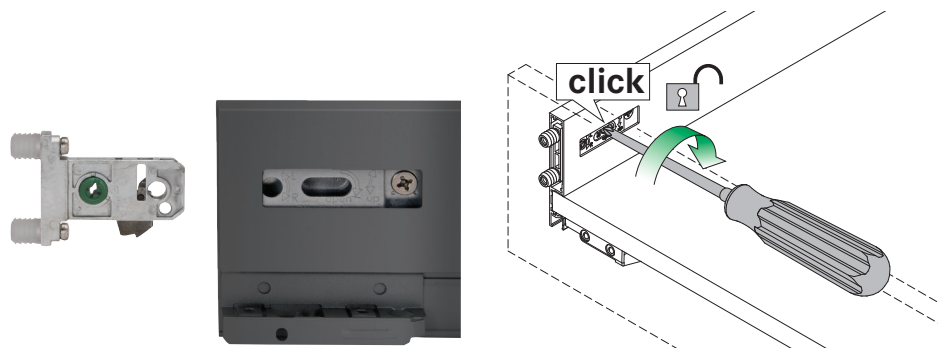
Removing the Drawer

Pull the drawer out, squeeze the locking device levers and lift drawer from the slide.

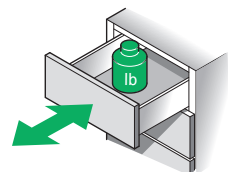


Removing the Drawer Front

Use a pozidrive #2 screwdriver to release and on all adjustments.



Weight Capacities per Pair of Slides



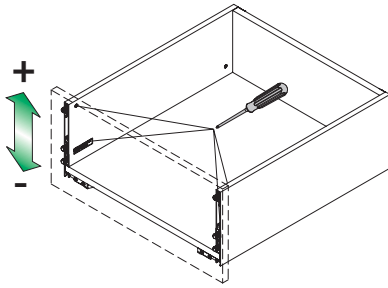
Dynapro (2D/3D): 100 lb dynamic load rating, 100 lb static load rating

Dynapro Heavy Duty 3D: 132 lb dynamic load rating, 150 lb static load rating

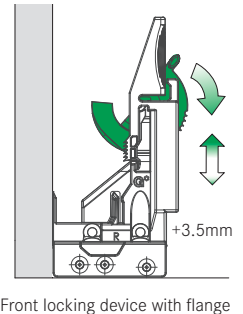
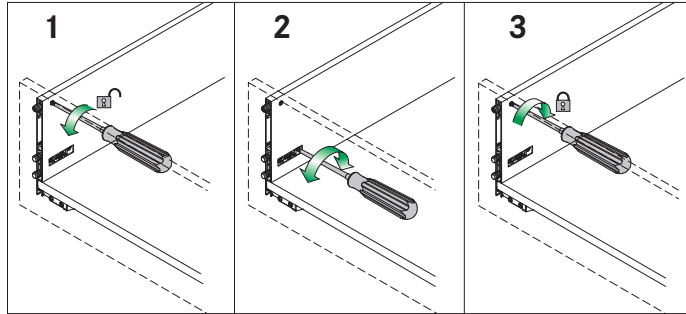
Dynapro meets and exceeds the minimum requirements of ANSI/BHMA A156.9 Standard, Grade 1
Tested in frameless cabinetry using a minimum of 4 mounting screws

Height Adjustment (max +2.5 / -1.5mm) via Vionaro

Dynapro Front Locking Device

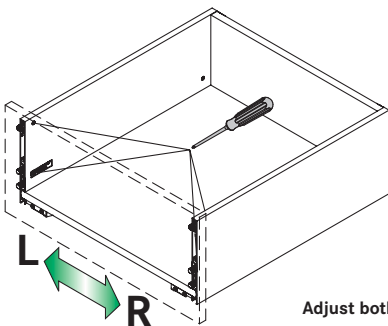


Adjust both sides

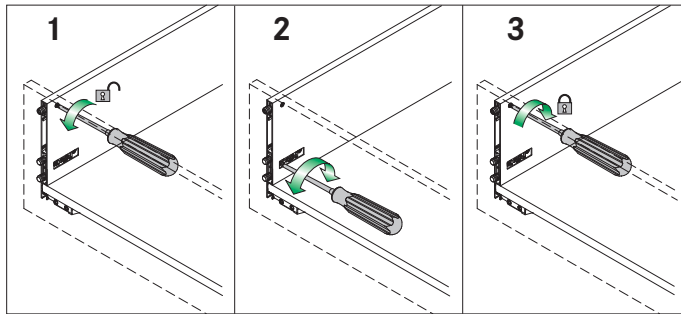


Front locking device with flange

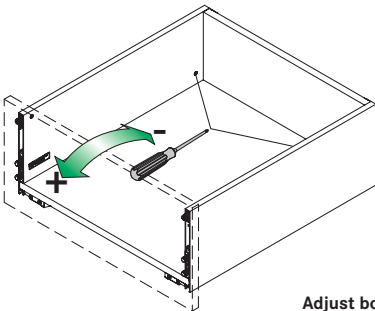
Side Adjustment (max ± 1.5 mm) via Vionaro



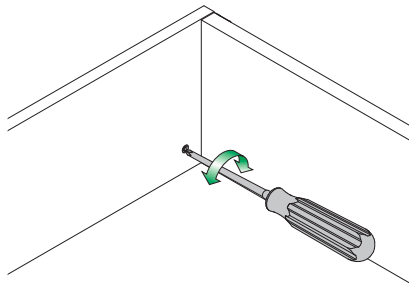
Adjust both sides



Tilt Adjustment (max +2.5 / -1.5mm) via Vionaro



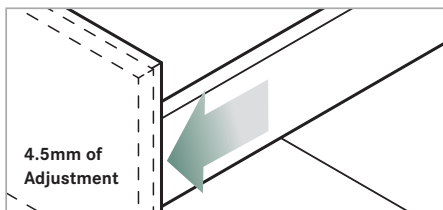
Adjust both sides



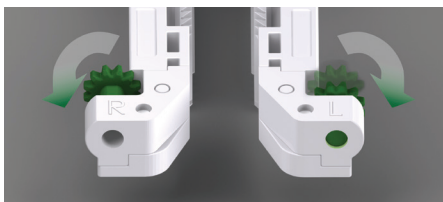
Depth Adjustment (+4.5mm forward)

Depth Adjustment Installation

Rear Adapter Set Installation



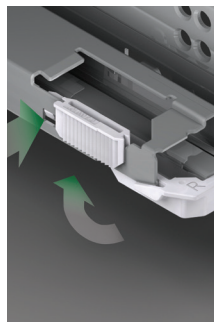
Adjustment Adjust left and right adjustment screws simultaneously in opposite directions



Removal

Press in on tab with screwdriver. Rotate and remove fitting.

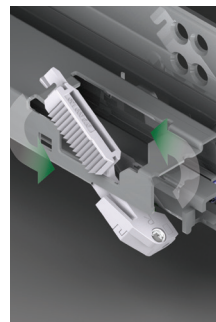
① Removal



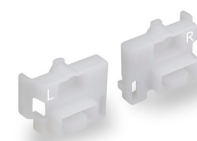
Insertion

Insert depth fitting and rotate to lock. Fitting tab snaps into place.

② Insertion



Screwdriver is required for removal of the standard fitting.



Adapter is required when using 3D adjustable Dynapro. Position rear adapters at the back of each Vionaro drawer side as shown.

Step 1

Align with bottom hole.



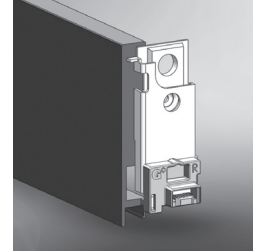
Step 2

Push into opening.



Step 3

Snap into place.



Vionaro H89, 89mm (3 1/2") side height

13mm slimline drawer for Dynapro 16



- Cubist design with 90° angles
- Slimline 13mm (1/2") side width
- 3-dimensional adjustment
- Integrated side and height adjustment, tilt angle adjustment at back
- Plus and minus adjustments for Vionaro sides
- Bottom panel is cut to size without notching
- Tool-free front assembly
- For frame and frameless cabinetry
- Compatible with Dynapro 16 3D adjustment

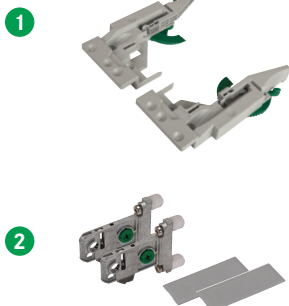
Vionaro H89



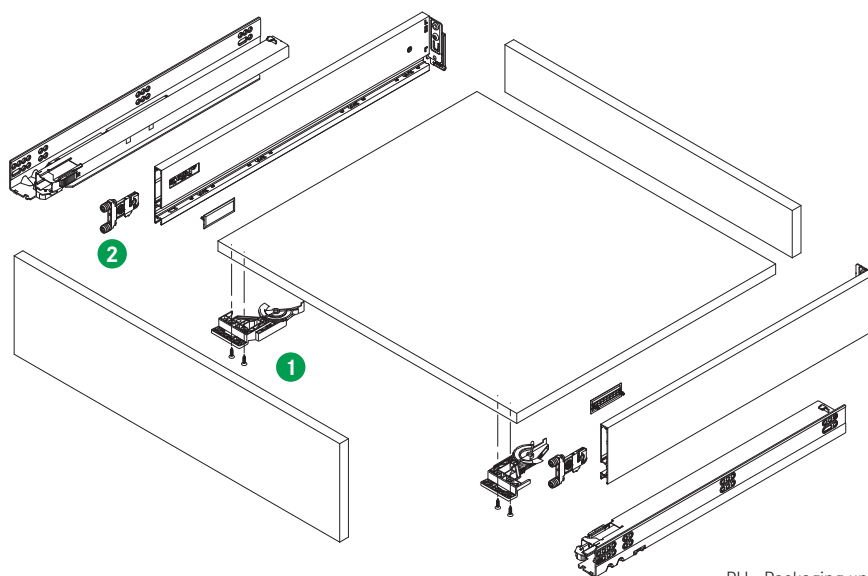
Drawer Length	Item No. White	Item No. Graphite	PU
381 (15")	F135121403211	F135121353211	10
457 (18")	F135121406211	F135121356211	10
533 (21")	F135121409211	F135121359211	10

Note: See pages 24-25 for compatible Dynapro Slides and rear adapter set

Front Locking Devices and Adapter Sets



Description		Item No.	PU
(Must order separately)			
Front locking device with flange, left		F134116420233	200
Front locking device with flange, right		F134116421233	200
Adapter Set for 89mm height			
Adapter set includes:	White	F136135095517	50
2 Front connectors with 10mm dowels	Graphite	F136106492517	50
2 Interior cover caps			

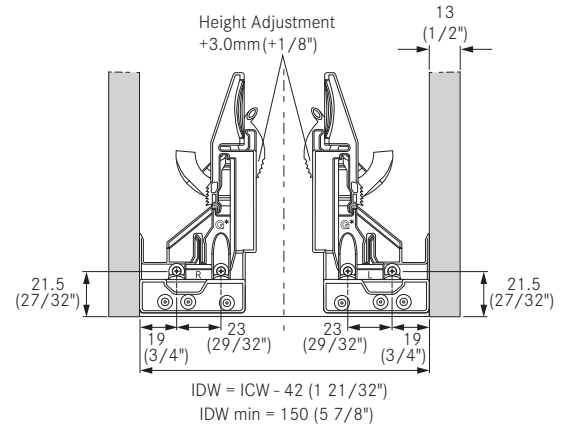
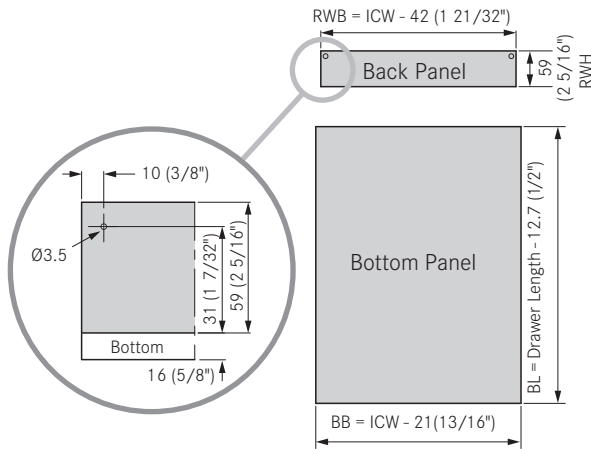


PU - Packaging unit

Drawer height	89mm (3 1/2")
Standard Dynamic Load	100 lb (45 kg)
HD Dynamic Load	132 lb (60 kg)
Static Load Standard/HD	100 lb (45 kg)/150 lb (70 kg)

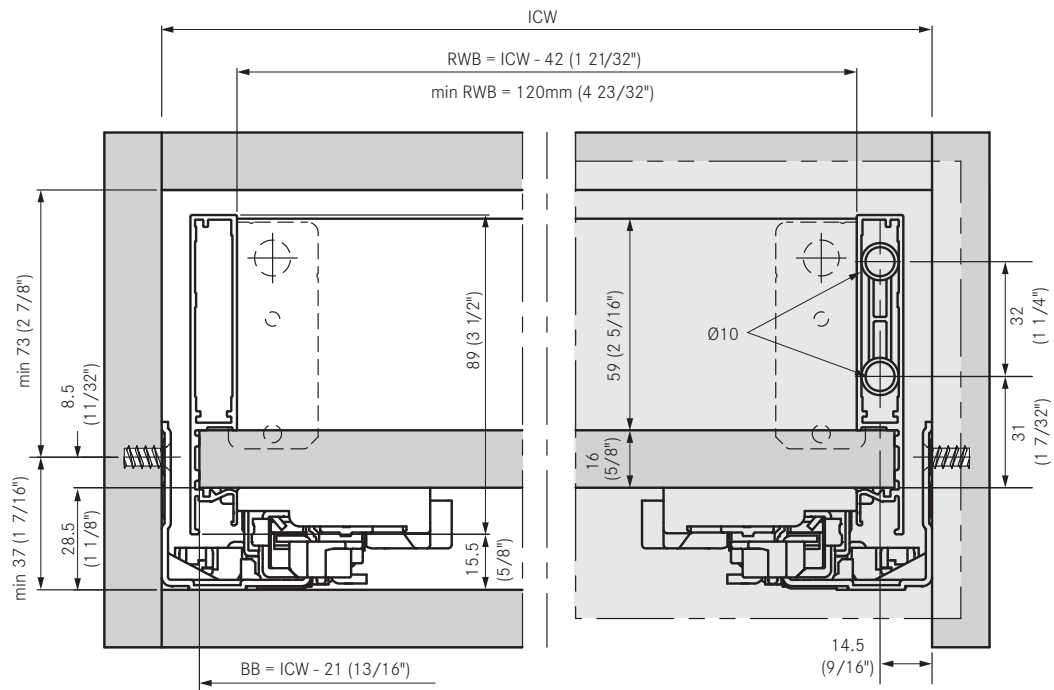
Drawer Back and Bottom Measurements

Front Locking Device Position



Legend

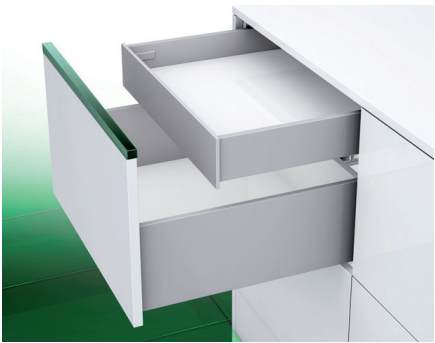
Drawer Measurements



BB = bottom panel width
BL = bottom panel length
ICW = inside cabinet width
IDW = inside drawer width
RWB = back panel width
RWH = back panel height

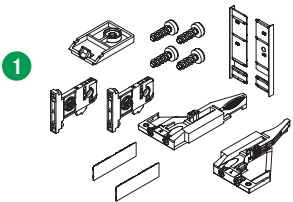
Vionaro H89 Inset Drawer System

Inset front panel and accessory set



- Color-coordinated aluminum front panel profile
- 89mm (3 1/2") side height
- Cubist design with 90° angles
- Slimline 13mm (1/2") side width
- Bottom panel is cut to size without notching

Vionaro H89 Inset Drawer and Accessory Set



Description	Item No. White	Item No. Graphite	PU
H89 Inset Drawer Accessory Set	F136100279517	F136100278517	50

Accessory set consists of:

- 1a

2 - Cover Caps
- 1b

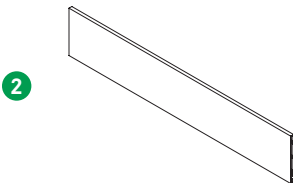
1 - Front Locking Device Set, left/right
- 1c

2 - Front Connectors
- 1d

4 - Front Connector Screws
- 1e

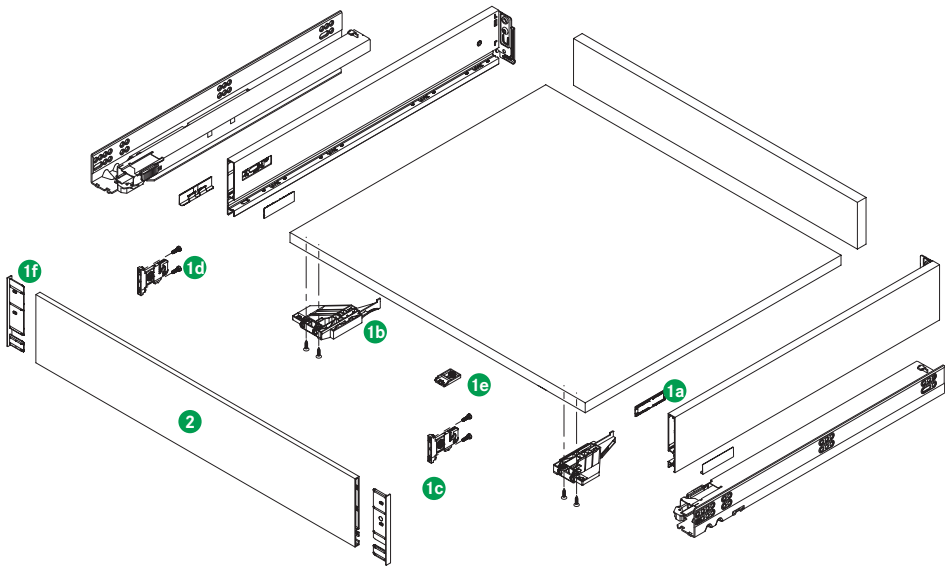
1 - Front Bottom Connector
- 1f

2 - End caps



Description/Length	Item No. White	Item No. Graphite	PU
H89 Inset Front Panel			
1160 (45 11/16")	F136120569507	F136120538507	10

H89 inset front panels can be cut to length. One side is pre-drilled and a drilling template is provided for the other side for accurate installation. Assembly instructions for the accessory set are included with each panel.

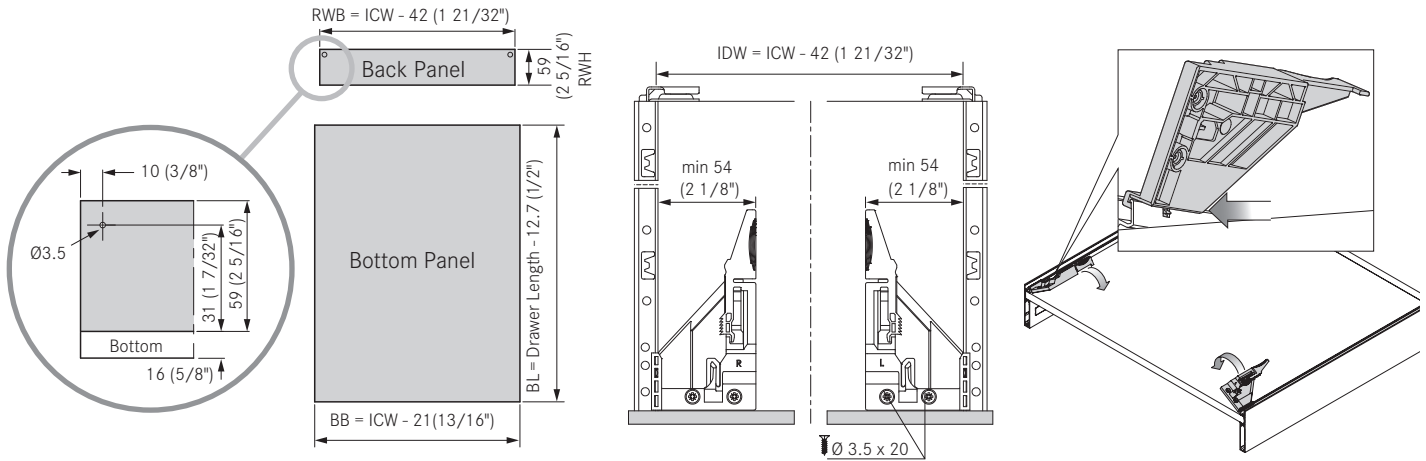


PU - Packaging unit

Drawer height	89mm (3 1/2")
Standard Dynamic Load	100 lb (45 kg)
HD Dynamic Load	132 lb (60 kg)
Static Load Standard/HD	100 lb (45 kg)/150 lb (70 kg)

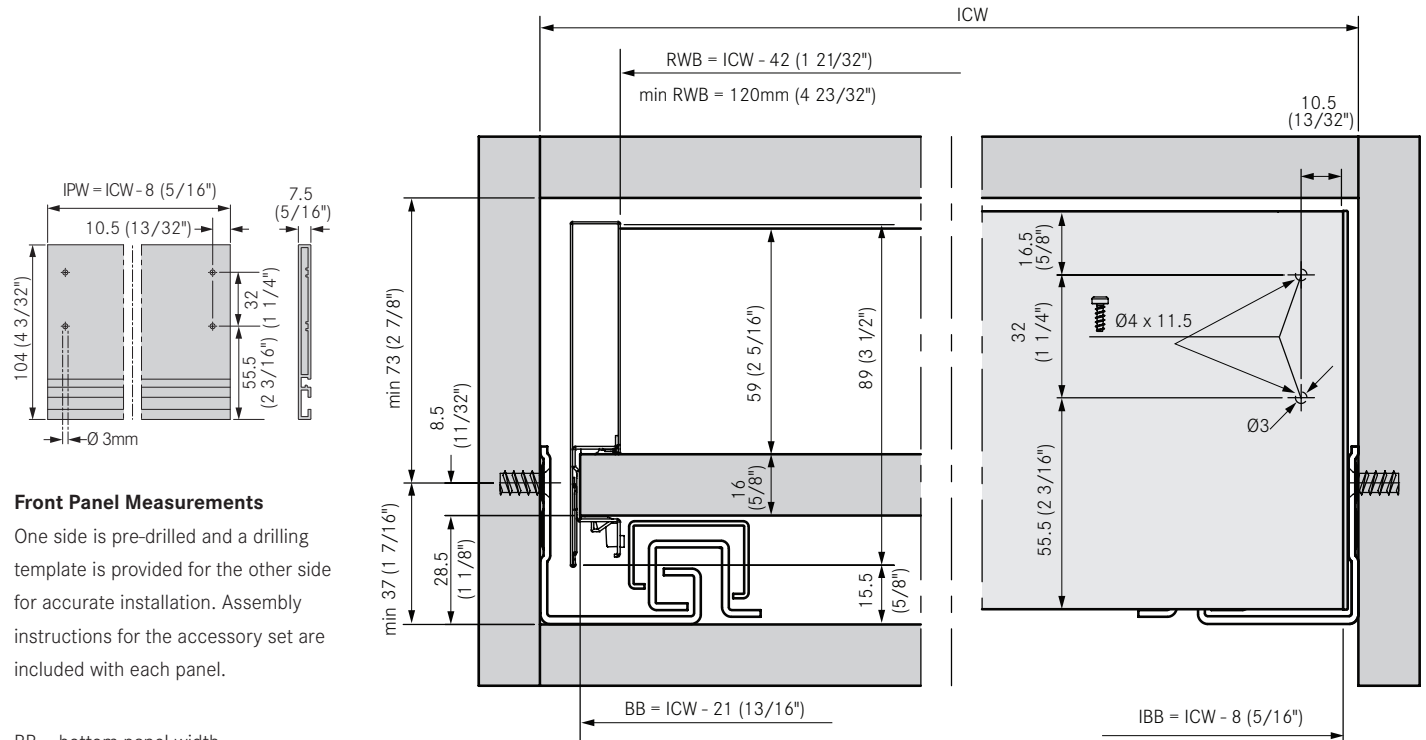
Inset Drawer Back and Bottom Measurements

Front Locking Device Position and Installation



Front Panel Measurements

Drawer Measurements



Front Panel Measurements

One side is pre-drilled and a drilling template is provided for the other side for accurate installation. Assembly instructions for the accessory set are included with each panel.

BB = bottom panel width

BL = bottom panel length

IBB = inset front panel width

ICW = inside cabinet width

IDW = inside drawer width

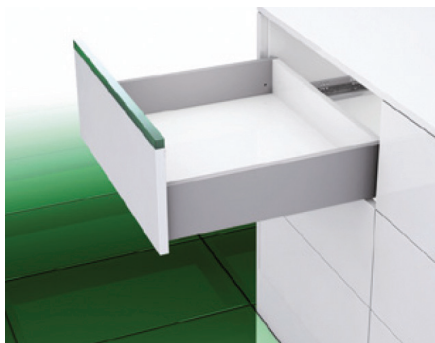
IPW = inside panel width

RWB = back panel width

RWH = back panel height

Vionaro H121, 121mm (4 3/4") side height

13mm slimline drawer for Dynapro 16



- Cubist design with 90° angles
- Slimline 13mm (1/2") side width
- 3-dimensional adjustment
- Integrated side and height adjustment, tilt angle adjustment at back
- Plus and minus adjustments for Vionaro sides
- Bottom panel is cut to size without notching
- Tool-free front assembly
- For frame and frameless cabinetry
- Compatible with Dynapro 16 with 3D adjustment

Vionaro H121

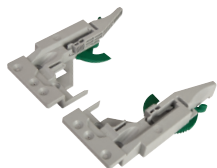


Drawer Length	Item No. White	Item No. Graphite	PU
381 (15")	F135135041 207	F135135059 207	5
457 (18")	F135135044 207	F135135062 207	5
533 (21")	F135135047 207	F135135065 207	5

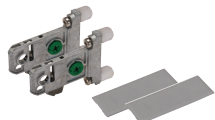
Note: See pages 24-25 for compatible Dynapro Slides and rear adapter set

Front Locking Devices and Adapter Set

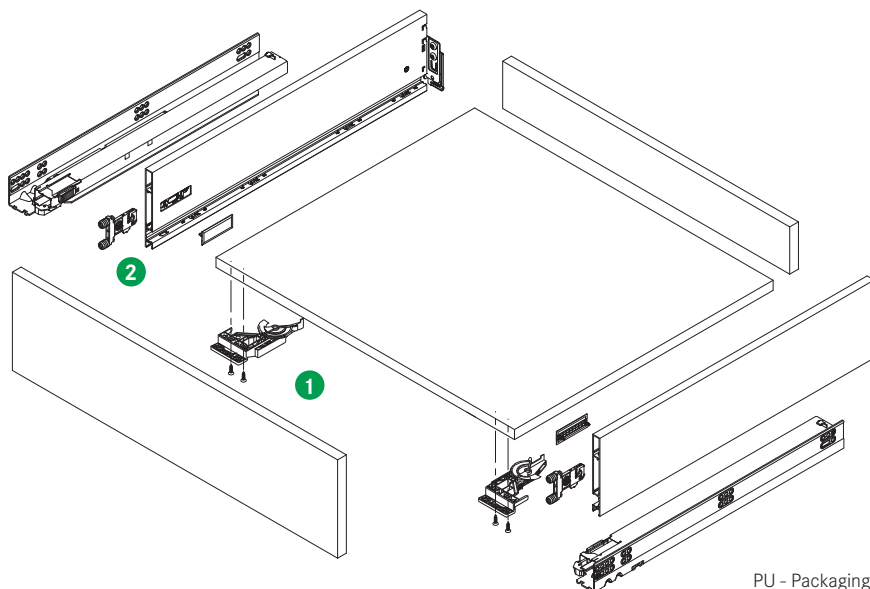
1



2

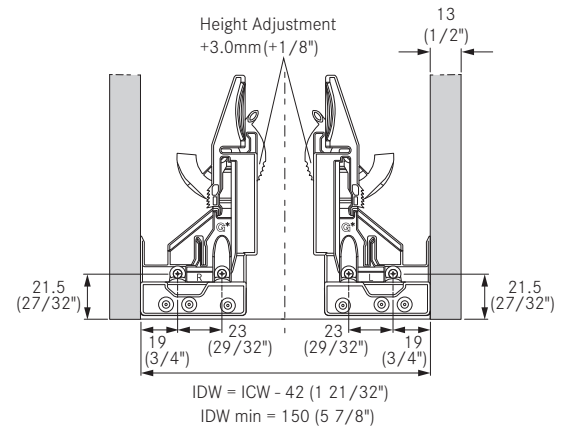


Description		Item No.	PU
(Must order separately)			
Front locking device with flange, left		F134116420233	200
Front locking device with flange, right		F134116421233	200
Adapter Set for 89mm height*			
(*89mm Adapter Sets are used with H121 Vionaro)	White	F136135095517	50
Adapter set includes:	Graphite	F136106492517	50
2 Front connectors with 10mm dowels, 2 Interior cover caps			

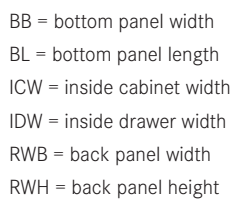


PU - Packaging unit

Front Locking Device Position

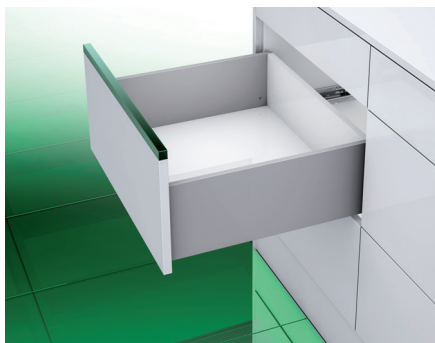


Drawer Measurements



Vionaro H185, 185mm (7 1/4") side height

13mm slimline drawer for Dynapro 16



- Cubist design with 90° angles
- Slimline 13mm (1/2") side width
- 3-dimensional adjustment
- Integrated side and height adjustment, tilt angle adjustment at back
- Plus and minus adjustments for Vionaro sides
- Bottom panel is cut to size without notching
- Tool-free front assembly
- For frame and frameless cabinetry
- Front adapter with stabilizer ensures maximum stability on tall fronts
- Compatible with Dynapro 16 with 3D adjustment

Vionaro H185

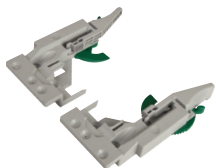


Drawer Length	Item No. White	Item No. Graphite	PU
381 (15")	F135121603 207	F135121553 207	5
457 (18")	F135121606 207	F135121556 207	5
533 (21")	F135121609 207	F135121559 207	5

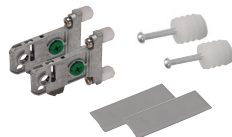
Note: See pages 24-25 for compatible Dynapro Slides and rear adapter set

Locking Devices and Adapter Sets

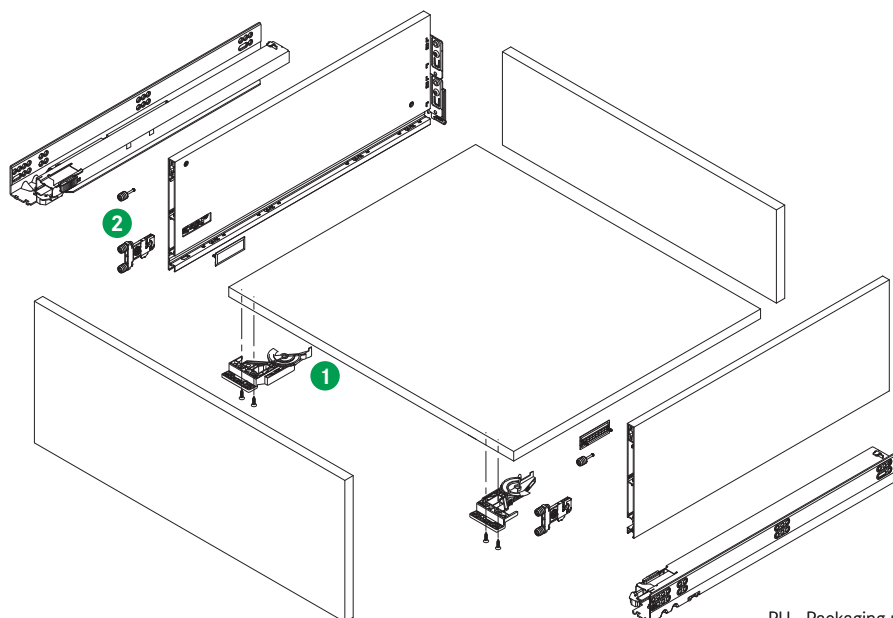
1



2



Description		Item No.	PU
(Must order separately)			
1 Front locking device with flange, left		F134116420 233	200
Front locking device with flange, right		F134116421 233	200
2 Adapter Set for 185mm height			
Adapter set includes:			
2 Front connectors with 10mm dowels	White	F136135096 517	50
	Graphite	F136106494 517	50
2 Interior cover caps, 2 Front stabilizers with 10mm dowels			

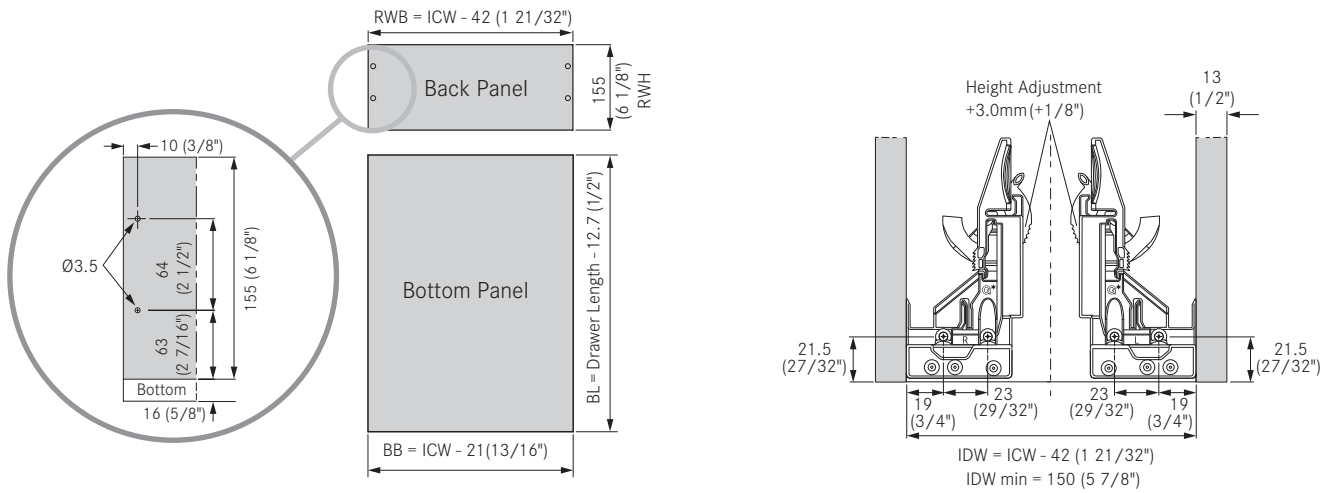


PU - Packaging unit

Drawer height	185mm (7 1/4")
Standard Dynamic Load	100 lb (45 kg)
HD Dynamic Load	132 lb (60 kg)
Static Load Standard/HD	100 lb (45 kg)/150 lb (70 kg)

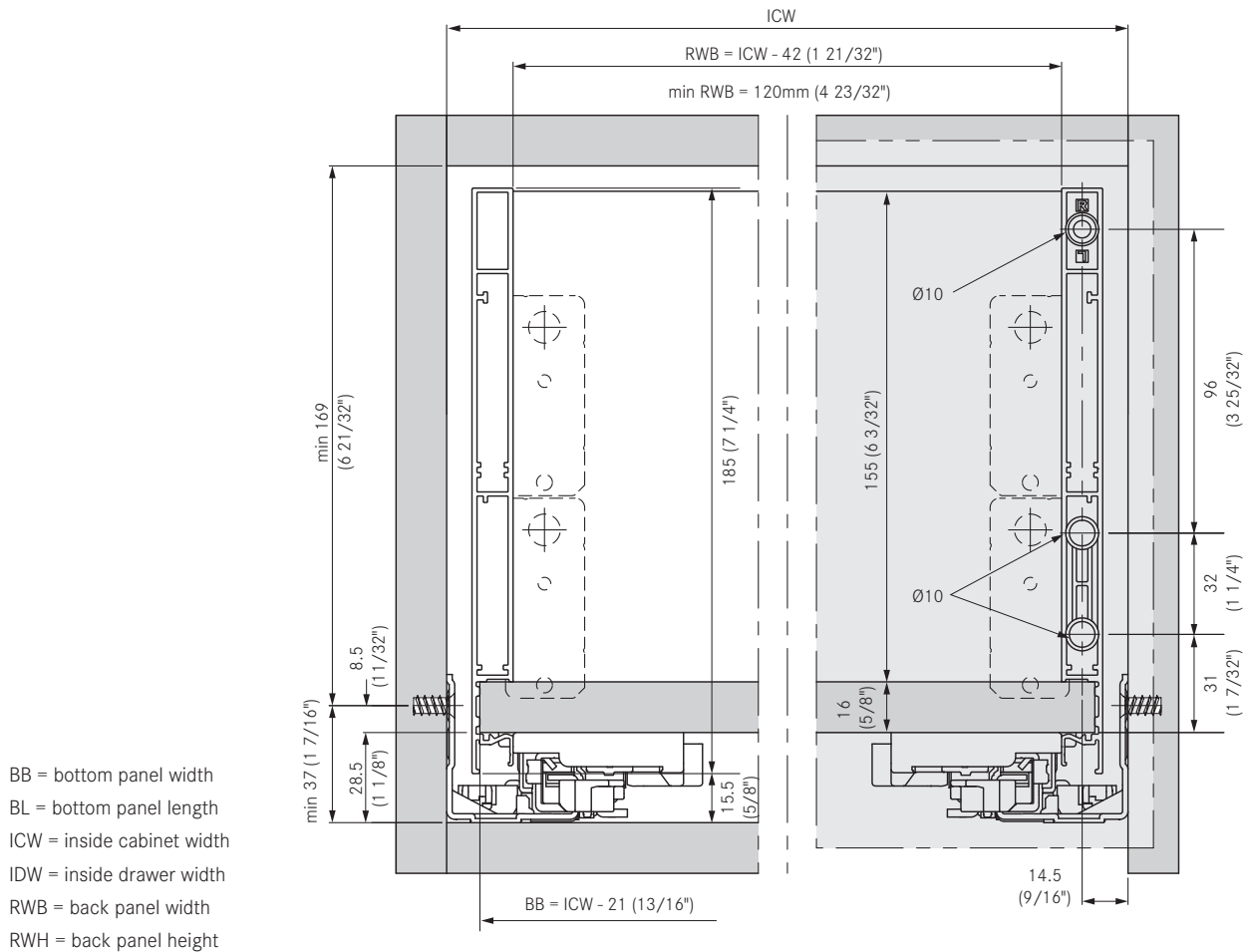
Drawer Back and Bottom Measurements

Front Locking Device Position and Installation



Legend

Drawer Measurements



BB = bottom panel width
 BL = bottom panel length
 ICW = inside cabinet width
 IDW = inside drawer width
 RWB = back panel width
 RWH = back panel height

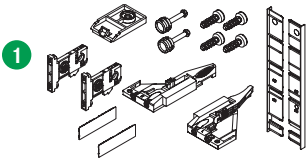
Vionaro H185 Inset Drawer System

Inset front panel and accessory set



- Color-coordinated aluminum front panel profile
- 185mm (7 1/4") side height
- Cubist design with 90° angles
- Slimline 13mm (1/2") side width
- Bottom panel is cut to size without notching

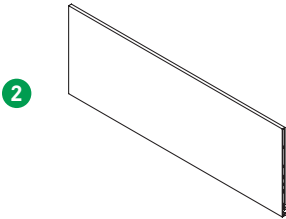
Vionaro H185 Inset Drawer and Accessory Set



Description	Item No. White	Item No. Graphite	PU
H185 Inset Drawer Accessory Set	F136100320517	F136100319517	50

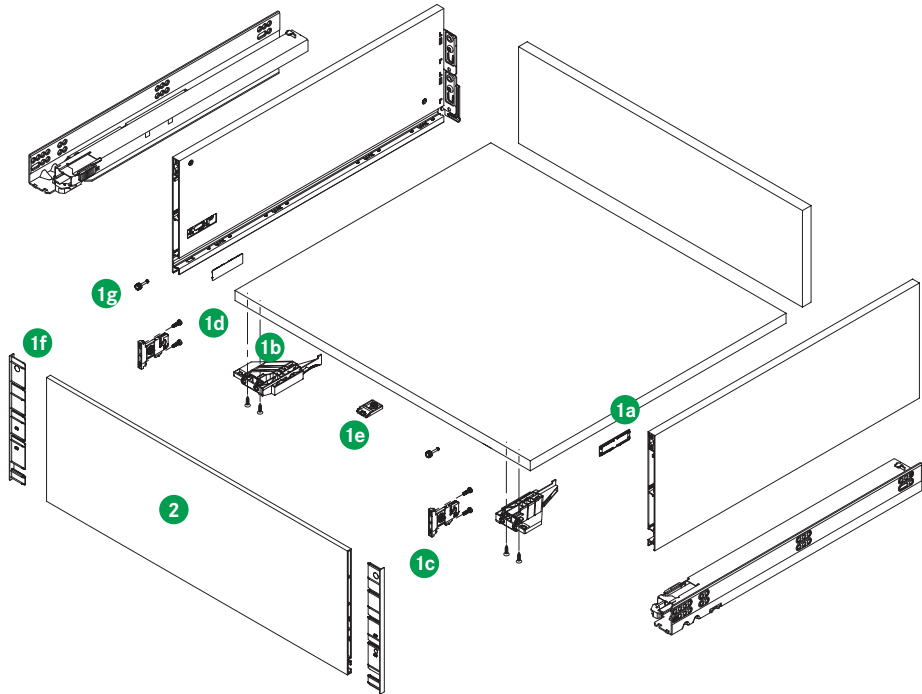
Accessory set consists of:

- 1a** 2 - Cover Caps
- 1d** 4 - Front Connector Screws
- 1g** 2 - Front Stabilizers with 8mm dowel
- 1b** 1 - Front Locking Device Set, left/right
- 1e** 1 - Front Bottom Connectors
- 1c** 2 - Front Connectors
- 1f** 2 - End caps



Description/Length	Item No. White	Item No. Graphite	PU
H185 Inset Front Panel			
1160 (45 11/16")	F136120589507	F136120539507	10

H185 inset front panels can be cut to length. One side is pre-drilled and a drilling template is provided for the other side for accurate installation. Assembly instructions for the accessory set are included with each panel.

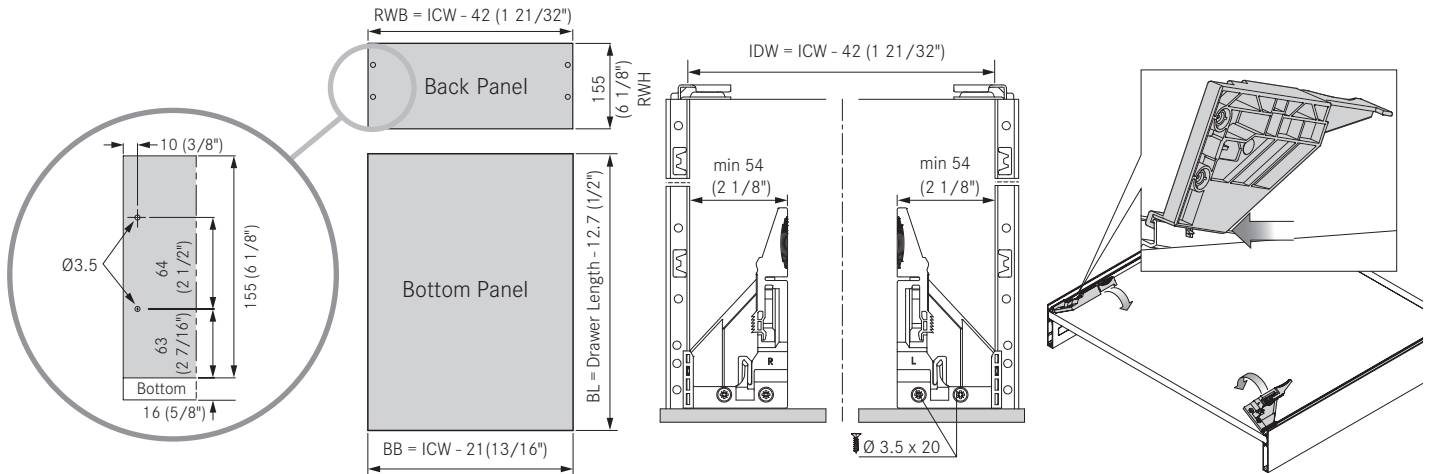


PU - Packaging unit

Drawer height	185mm (7 1/4")
Standard Dynamic Load	100 lb (45 kg)
HD Dynamic Load	132 lb (60 kg)
Static Load Standard/HD	100 lb (45 kg)/150 lb (70 kg)

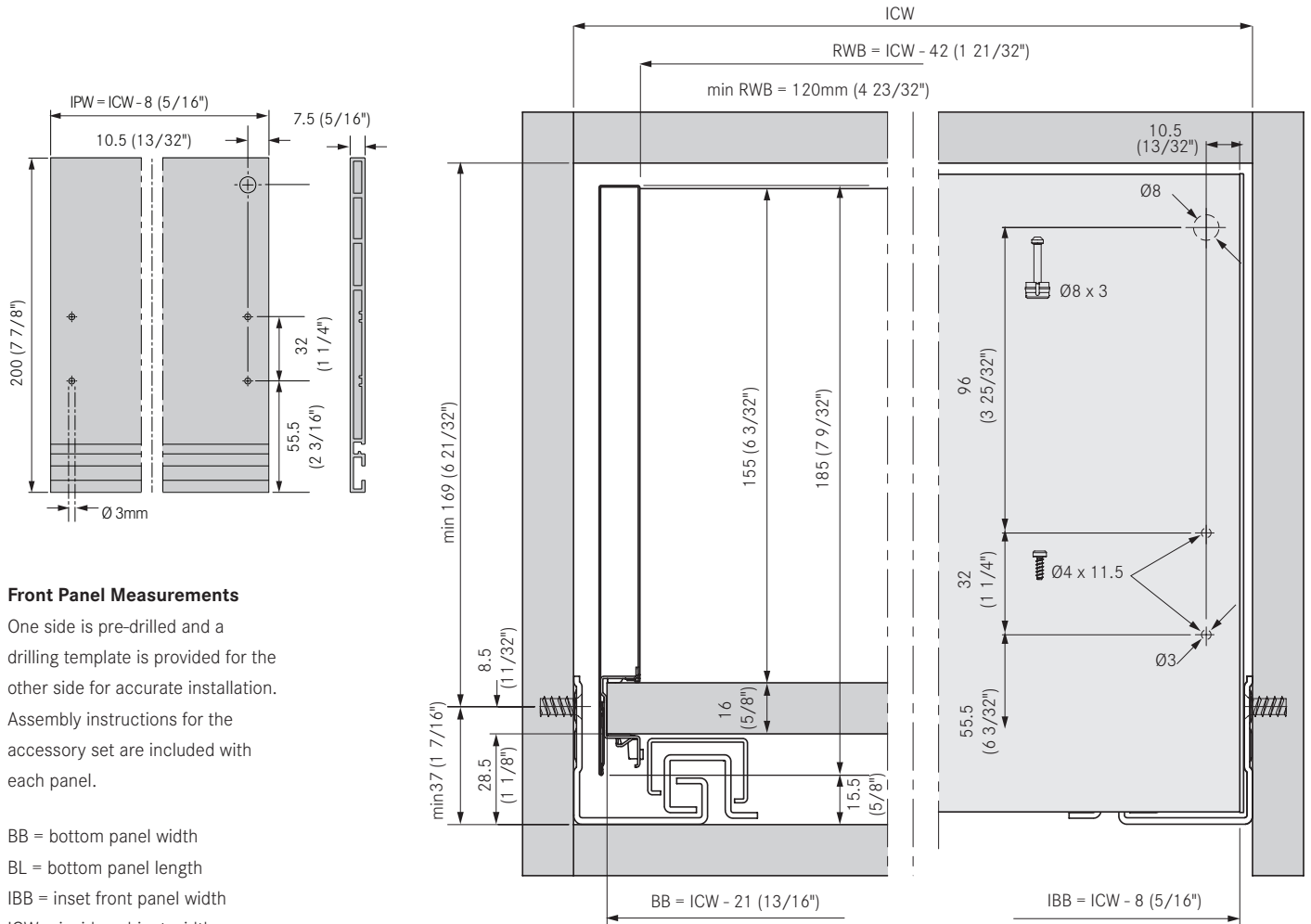
Inset Drawer Back and Bottom Measurements

Front Locking Device Position and Installation



Front Panel Measurements

Drawer Measurements



Front Panel Measurements

One side is pre-drilled and a drilling template is provided for the other side for accurate installation. Assembly instructions for the accessory set are included with each panel.

BB = bottom panel width

BL = bottom panel length

IBB = inset front panel width

ICW = inside cabinet width

IDW = inside drawer width

IPW = inside panel width

RWB = back panel width

RWH = back panel height

Vionaro H249, 249mm (9 3/4") side height

13mm slimline drawer for Dynapro 16



- Cubist design with 90° angles
- Slimline 13mm (1/2") side width
- 3-dimensional adjustment
- Integrated side and height adjustment, tilt angle adjustment at back
- Plus and minus adjustments for Vionaro sides
- Bottom panel is cut to size without notching
- Tool-free front assembly
- For frame and frameless cabinetry
- Front adapter with stabilizer ensures maximum stability on tall fronts
- Compatible with Dynapro 16 with 3D adjustment

Vionaro H249

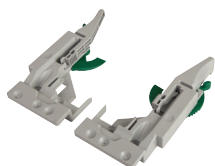


Drawer Length	Item No. White	Item No. Graphite	PU
381 (15")	F135135068 207	F135135086 207	5
457 (18")	F135135071 207	F135135089 207	5
533 (21")	F135135074 207	F135135092 207	5

Note: See pages 24-25 for compatible Dynapro slides and rear adapter set

Front Locking Devices and Adapter Set

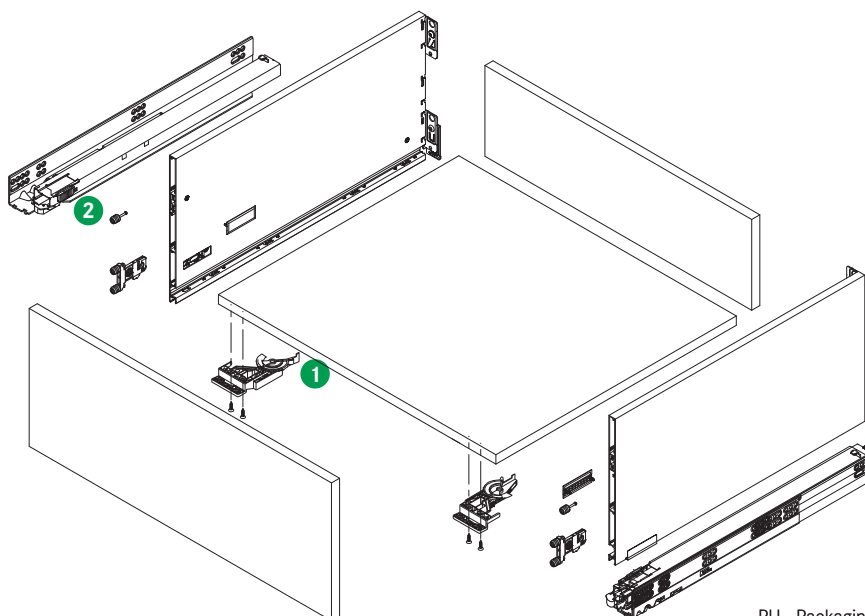
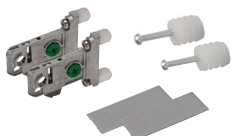
1



- 1 Front locking device with flange, left
Front locking device with flange, right

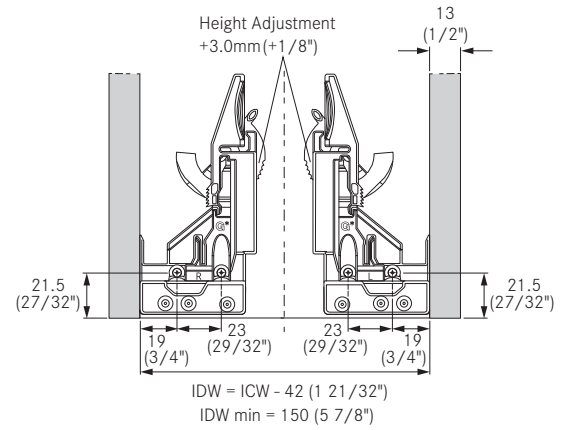
Description		Item No.	PU
(Must order separately)			
Front locking device with flange, left		F134116420	200
Front locking device with flange, right		F134116421	200
Adapter Set for 185mm height*			
(*185mm Adapter Sets are used with H249 Vionaro)	White	F136135096	50
Adapter Set includes:	Graphite	F136106494	50
2 Front Connectors with 10mm dowels			
2 Interior cover caps, 2 Front stabilizers with 10mm dowels			

2

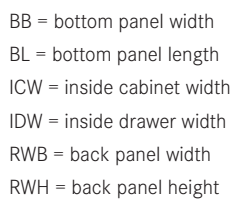


PU - Packaging unit

Front Locking Device Position and Installation

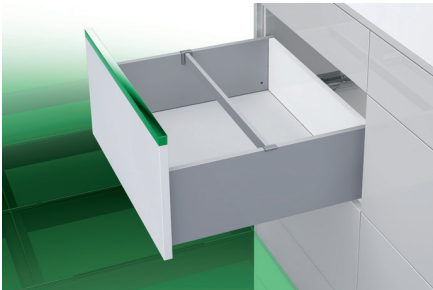


Drawer Measurements



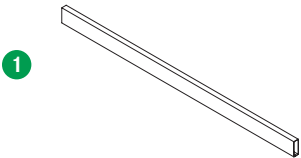
Vionaro Cross-divider

Railing System



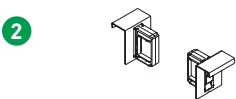
- Cross-divider for all Vionaro drawers
- Simple installation by mounting on the drawer side
- Can be retrofitted at any time
- Tool-free adjustment

Vionaro Cross-divider, can be cut to length

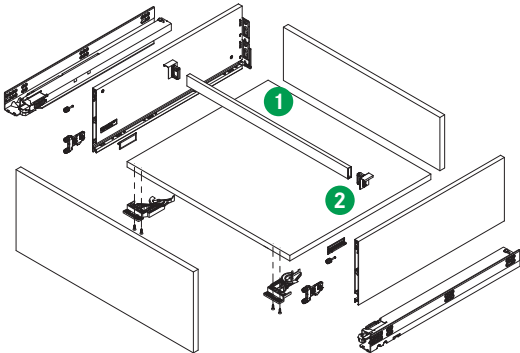


Description	Length	Item No. White	Item No. Graphite	PU
Cross-divider	1124 (44 1/4")	F136107417 507	F136107416 507	10

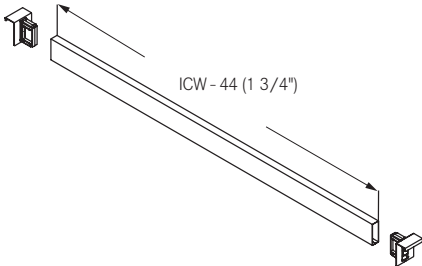
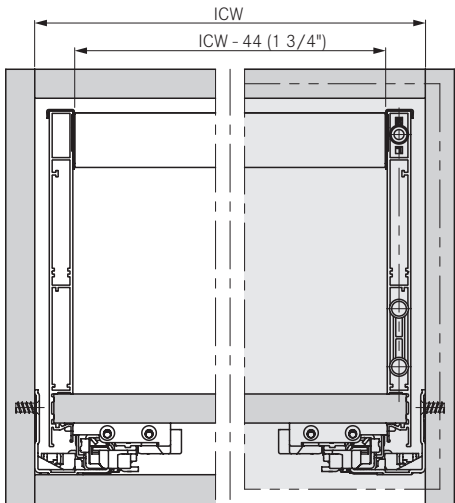
Holder for Cross-divider



Description	Item No. White	Item No. Graphite	PU
Holder for Cross-divider	F136107481 533	F136107480 533	200



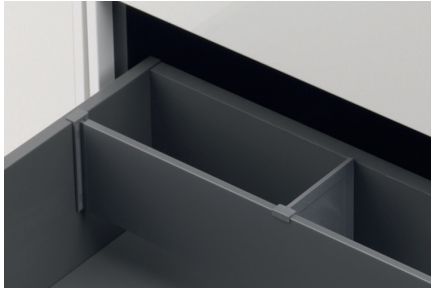
Installation Dimensions Cutting Dimensions for Cross-divider



ICW = inside cabinet width

PU - Packaging unit

Dividing System for Vionaro



- Dividing system for Vionaro deep drawers
- Organizes storage space for better drawer utilization
- Tool-free and adjustable for a variety of storage space arrangements
- Can be retrofitted at any time
- Color-coordinated with the drawer side
- Tavinea Optima also works with Nova Pro Scala drawer system

Tavinea Optima Profile Clip



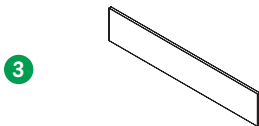
Description	Item No. Graphite/Stone	Item No. White/Ice	PU
Profile Clip (Left or Right)	F007130228511	F007130229511	20

Tavinea Optima Smartboard



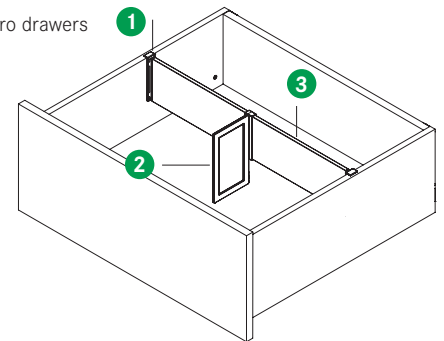
Description	Item No. Graphite/Stone	Item No. White/Ice	PU
Smartboard	F007130245211	F007130246211	20

Tavinea Optima Divider, cut to length

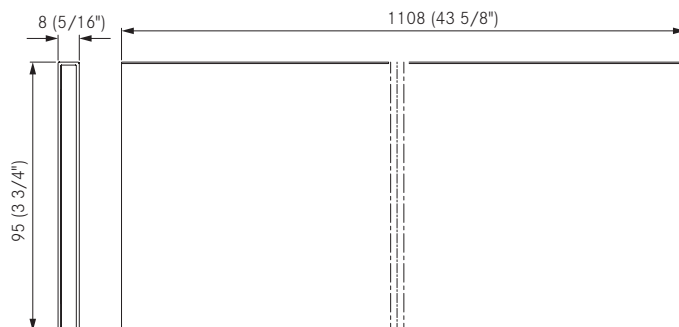


Description	Length	Item No. Graphite	Item No. White	PU
Divider	1108 (43 5/8")	F007130242507	F007130243507	10

Note: Tavinea Optima colors coordinate with Nova Pro Scala and Vionaro drawers

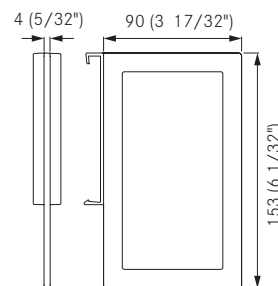


Divider Dimensions

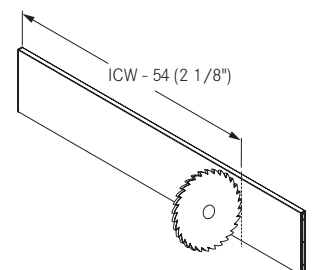


ICW = inside cabinet width

Smartboard Dimensions



Cutting Dimensions of divider profile



PU - Packaging unit

Dynapro 16, Full Extension Slide

Integrated Soft-close with 2-dimensional adjustment



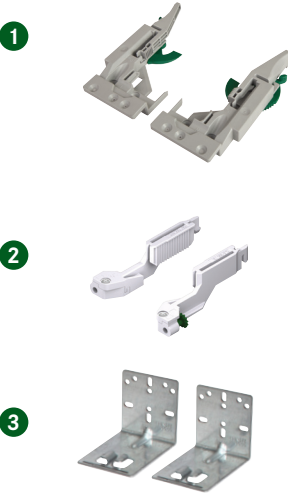
- Full extension with a synchronized mechanism
- Soft-close damping system
- Maximum connection to drawer slide and front locking device
- Integrated 2-dimensional adjustment for alignment
- Height adjustment +3.5mm with front locking device and ±1.5mm via Vionaro
- Depth adjustment +4.5mm (optional)
- 100 lb load rating (45 kg)
- For face frame and frameless cabinetry

Dynapro 16 Full Extension Slides, 100 lb (45 kg)



Drawer Length	Nominal length	Min Installation Depth	Item No.	PU
381 (15")	399 (15 23/32")	403 (15 7/8")	F130135015 204	5
457 (18")	475 (18 11/16")	479 (18 27/32")	F130135016 204U	5
533 (21")	551 (21 11/16")	555 (21 27/32")	F130135019 204U	5

Front Locking Devices, Adjustment Adapters, and Rear Mounting Brackets

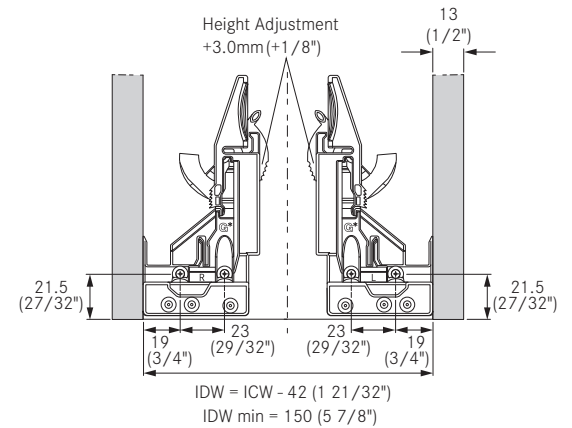
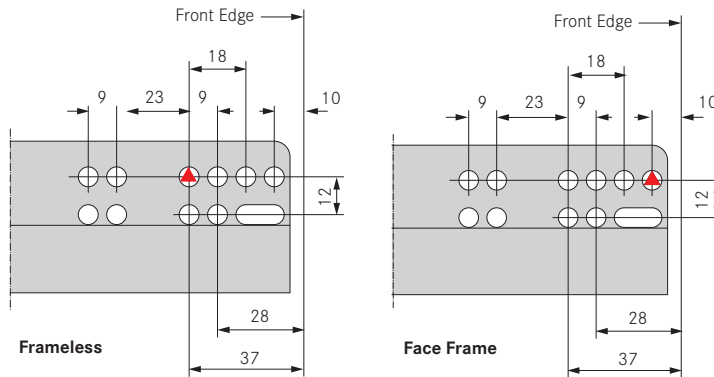


Description	Item No.	PU
(Must order separately)		
1 Front locking device with flange, left	F134116420 233	200
Front locking device with flange, right	F134116421 233	200
Front locking device with flange, set	F134116422 204	5
2 Depth adjuster for drawer front, left and right set	F134101002 104	5
3 Rear mounting brackets, non-handed for 12"-21" slides	7950.VE300	300

Standard Dynamic Load	100 lb (45 kg)
Static Load Standard	100 lb (45 kg)

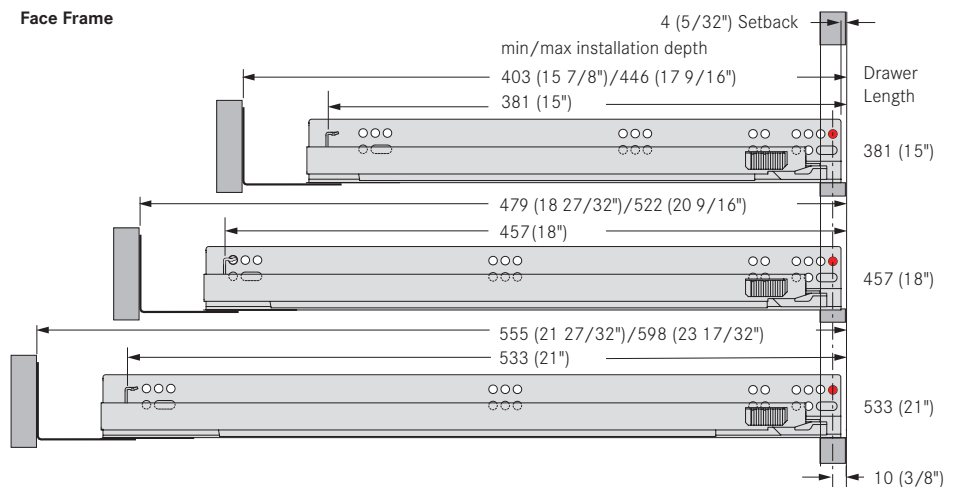
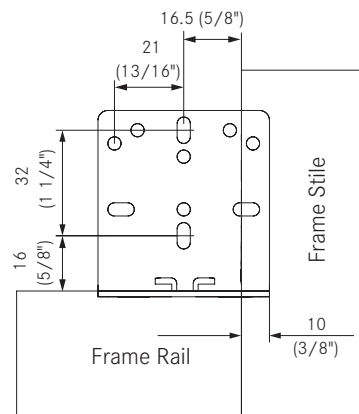
Mounting Position for Front Cabinet Profile

Front Locking Device Position



Rear Bracket for Face Frame

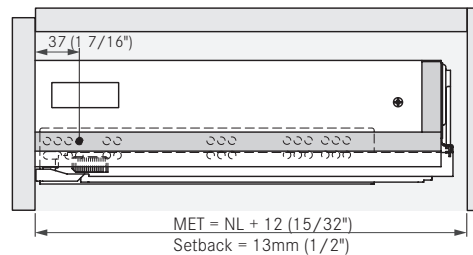
Cabinet Boring Specifications



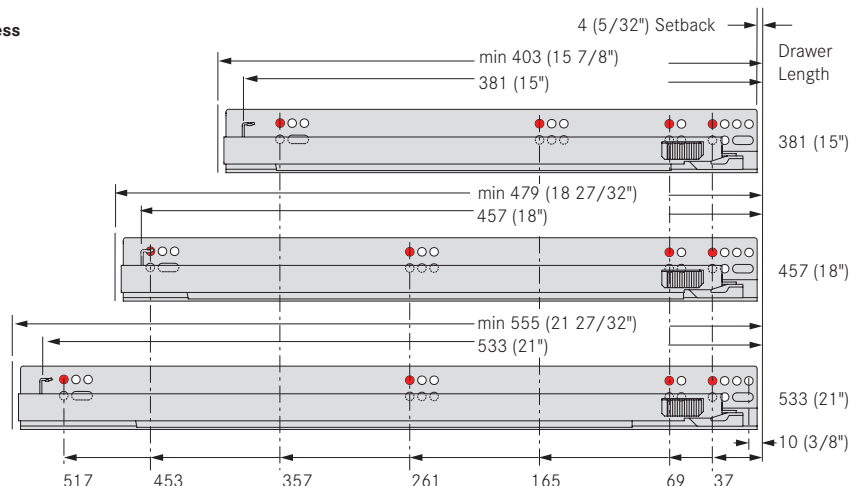
Pre-drilling recommended $\varnothing 2.5\text{mm}$ (3/32").

Note: The recommendations for screw placement are guidelines only. Installers need to ensure that the cabinet wall is adequate.

Minimum Installation Depth for Inset Drawers



Frameless



ICW = inside cabinet width

IDW = inside drawer width

MET = Minimum installation depth

NL = Nominal length

Dynapro 16, Full Extension Slide

Integrated Soft-close with 3-dimensional adjustment



- Full extension with a synchronized mechanism
- Soft-close damping system
- Maximum connection to drawer slide and front locking device
- Integrated 3-dimensional adjustment for alignment
- Height adjustment +3.5mm with front locking device and ± 1.5 mm via Vionaro
- Depth adjustment +4.5mm (optional)
- 100 lb load rating (45 kg) and 132 lb load rating (60 kg)
- For frame and frameless cabinetry
- Rear adapter brackets are required when using 3D adjustable Dynapro

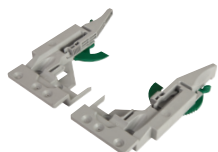
Dynapro 16 Full Extension Slides, 100 lb (45 kg) and 132 lb (60 kg)



Drawer Length	Nominal length	Min Installation Depth	Item No.	PU
381 (15")	399 (15 23/32")	403 (15 7/8")	F130135005 604	5
457 (18")	475 (18 11/16")	479 (18 27/32")	F130135006 604	5
533 (21")	551 (21 11/16")	555 (21 27/32")	F130135007 604	5
Heavy Duty, Full Extension Slides, 132 lb (60 kg)				
457 (18")	475 (18 11/16")	479 (18 27/32")	F130135008 604	5
533 (21")	551 (21 11/16")	555 (21 27/32")	F130135009 604	5

Front Locking Devices, Adjustment Adapters, and Rear Mounting Brackets

1



Description	Item No.	PU
(Must order separately)		
1 Front locking device with flange, left	F134116420 233	200
Front locking device with flange, right	F134116421 233	200
2 Depth adjuster for drawer front, left and right set	F134101002 104	5
3 Vionaro rear adapter set, left and right*	00199-03	5
4 Rear mounting brackets, non-handed for 12"-21" slides	7950.VE300	300

2



3



4



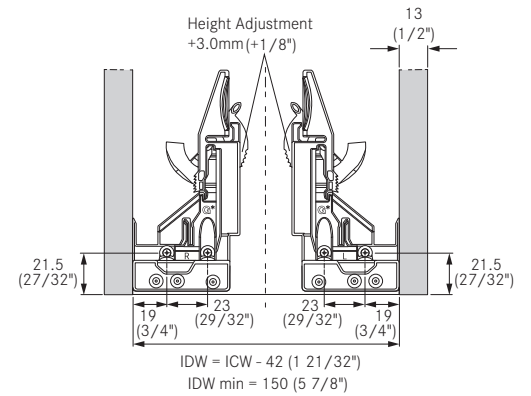
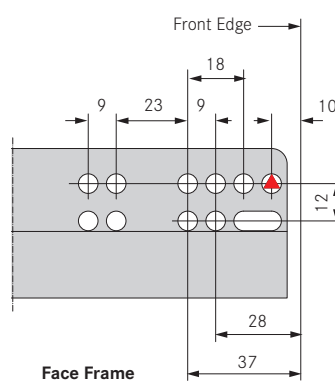
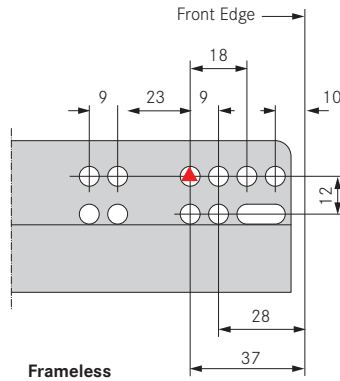
*Adapters required when using Dynapro with 3D adjustable slides with Vionaro

PU - Packaging unit

Standard Dynamic Load	100 lb (45 kg)
Standard Static Load	100 lb (45 kg)
HD Dynamic Load	132 lb (60 kg)
HD Static Load	150 lb (70 kg)

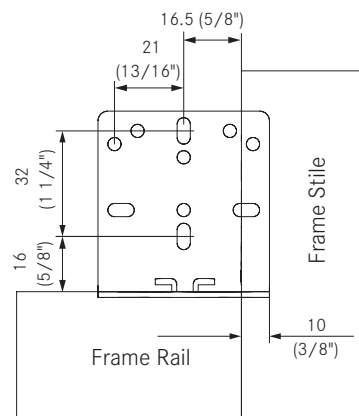
Mounting Position for Front Cabinet Profile

Front Locking Device Position



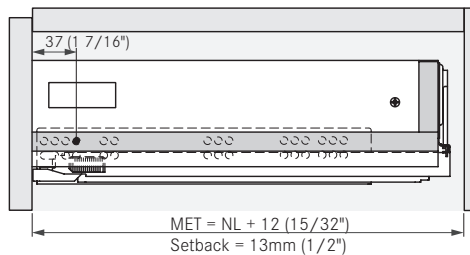
Rear Bracket for Face Frame

Cabinet Boring Specifications



For face frame applications only. Pre-drilling recommended $\varnothing 2.5\text{mm}$ (3/32"). Use a minimum of 3 screws per bracket, #6 x 1/2" truss head screws. Note: The recommendations for screw placement are guidelines only. Installers need to ensure that the cabinet wall is adequate.

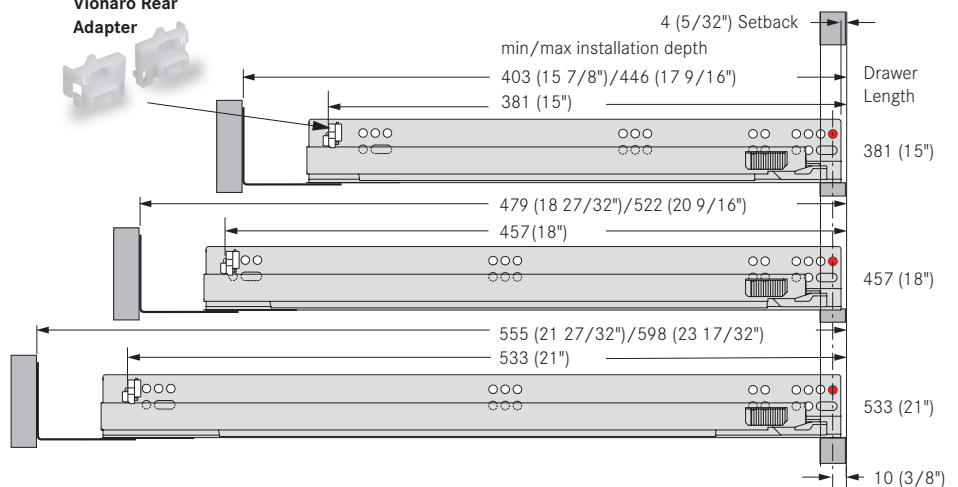
Minimum Installation Depth for Inset Drawers



ICW = inside cabinet width
IDW = inside drawer width
MET = Minimum installation depth
NL = Nominal length

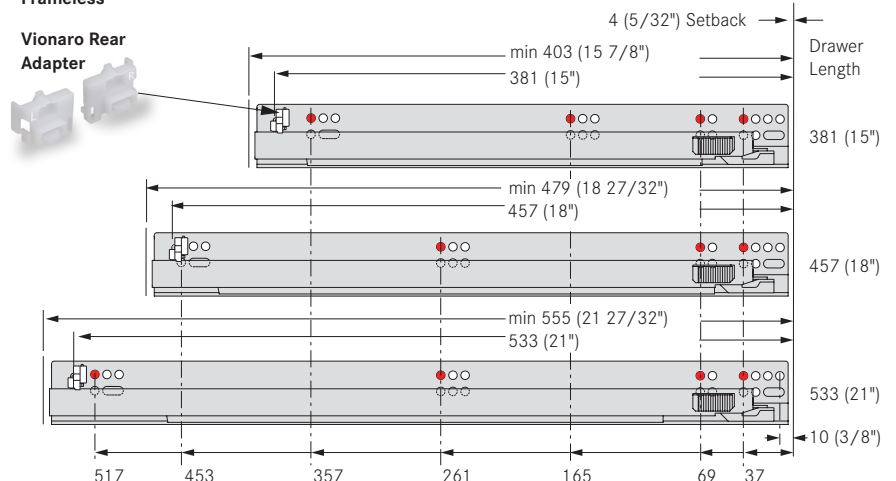
Face Frame

Vionaro Rear Adapter



Frameless

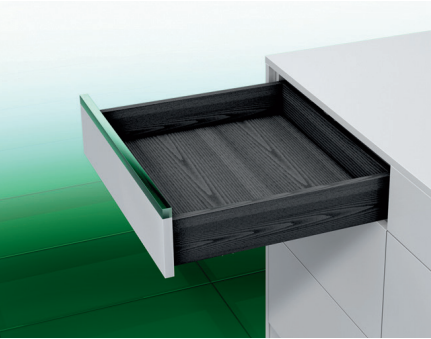
Vionaro Rear Adapter



Note: Adapters required when using Dynapro with 3D adjustable slides with Vionaro.

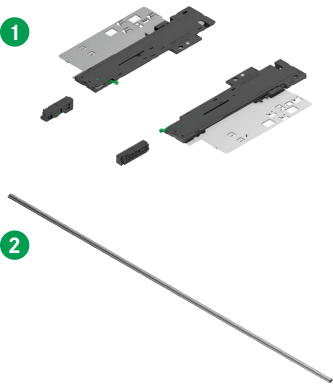
Dynapro Tipmatic Soft-close

Tipmatic full extension with soft-close action



- Works with Vionaro and wood box applications from 12.7mm (1/2") to 16mm (5/8")
- Mechanical opening system for handle-free fronts
- Combines Tipmatic function with Soft-close damping
- Tool-free assembly of the Tipmatic Soft-close unit
- One unit for all Vionaro lengths
- 3 tier adjustment for the opening force
- Wide activation zone due to synchronization bar
- Works with drawers up to 1168mm (46")
- For face frame and frameless cabinetry

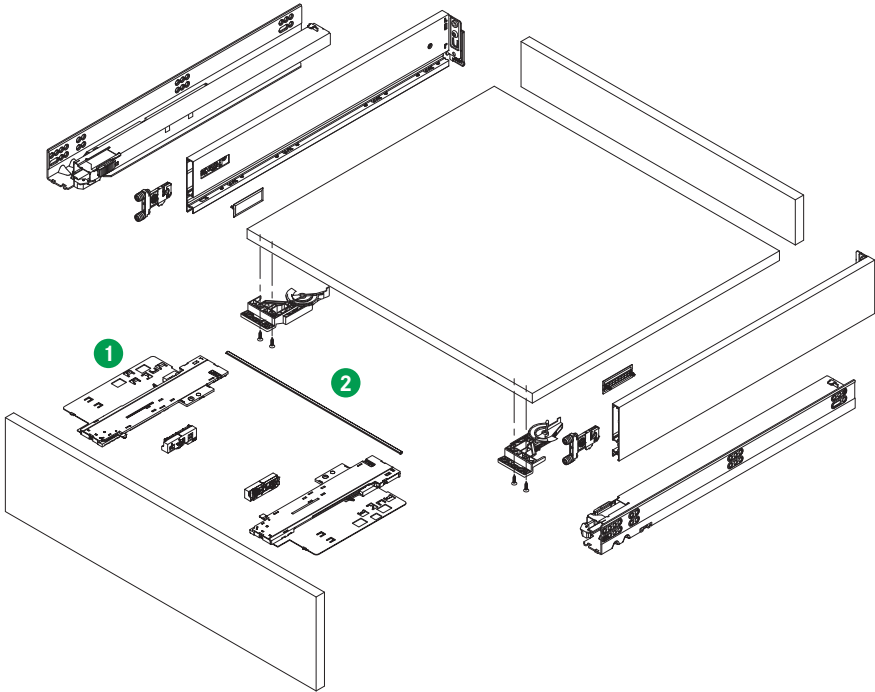
Tipmatic Soft-close



Description	Item No.	PU
(Must order separately)		
1 Tipmatic Soft-close set, unit and activator	F134141362607	10
2 Tipmatic synchronization bar - cut to length, 952mm (37 1/2")	F134109410207	10

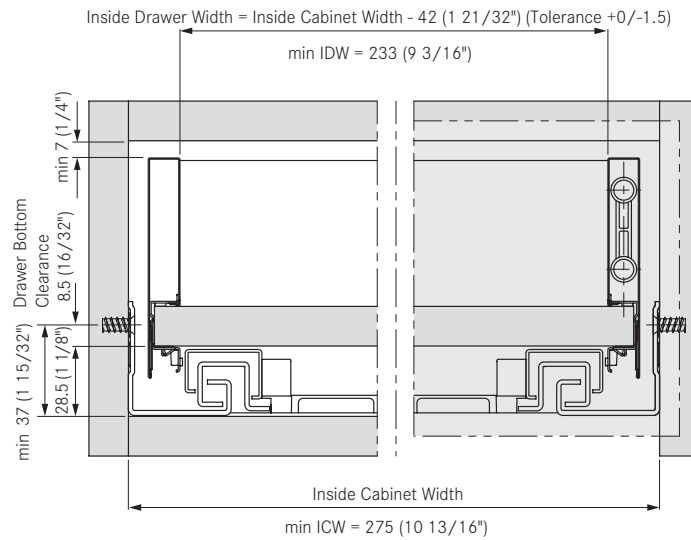
Note: Tipmatic Soft-close does not work with 9" slides.

Drawer Length	Nominal Length	Min Inst. Depth	Max Inst. Depth
381 (15")	399 (15 23/32")	403 (15 7/8")	446 (17 9/16")
457 (18")	475 (18 11/16")	479 (18 27/32")	522 (20 9/16")
533 (21")	551 (21 11/16")	555 (21 27/32")	598 (23 17/32")



PU - Packaging unit

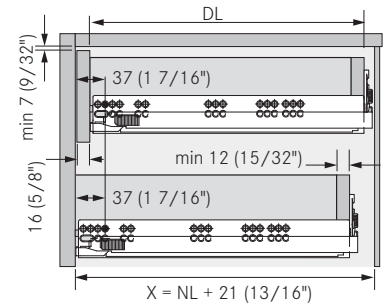
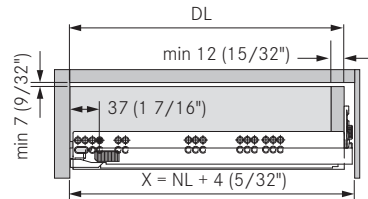
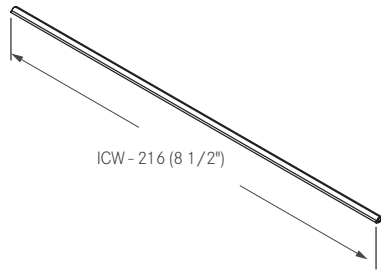
Drawer Installation Dimensions



Synchronization Bar Cut - 16mm

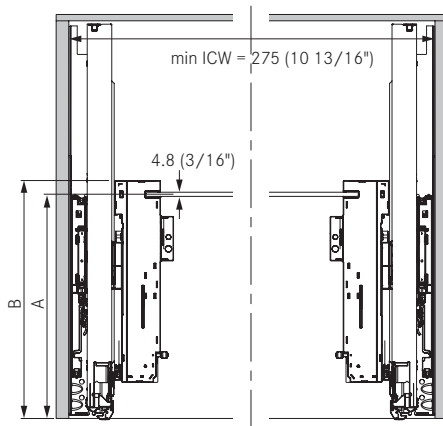
Drawer

Inset Roll-out Drawer



Position of the Synchronization Bar

Legend



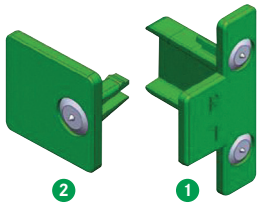
Drawer Length	A	B
381 - 533 (15 - 21")	296 (11 21/32")	313 (12 5/16")

DL = drawer length
 ICW = inside cabinet width
 IDW = inside drawer width
 NL = nominal length
 X = minimum installation depth

Accessories and Assembly Aids

Vionaro

Marking Jig



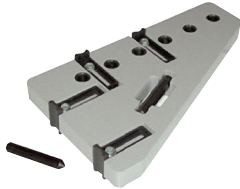
For exact marking of the drilled holes for the Vionaro front adapter

Set contains:

- 1 - marking jig for front connector
- 2 - marking jig for front stabilizer

Description	Item No.	PU
Marking jig	F146100545513	1

Drilling Jig



Front drilling jig for Vionaro front adapter

Description	Item No.	PU
Drilling jig	F146100562201	1

Punching Tool for Vionaro Front Stabilizer



Description	Item No.	PU
Front stabilizer punching tool	F146116216299	1

Vionaro Front Adapter Tool



Description	Item No.	PU
Vionaro front adapter tool	F146116213299	1

Punching Tool for Vionaro Bottom Spike



Description	Item No.	PU
Bottom spike punching tool	F146116217299	1

Screws

Euro Screw, Nickel-plated



Description	Item No.	PU
Euro Screw 11mm (7/16") Pozi	499.360.61.1015	500
Euro Screw 13mm (1/2") Pozi	499.360.61.3015	500

Wood Screw, Nickel-plated



Description	Item No.	PU
#6 x 5/8" FHP, NI	81001-43	500
#6 x 3/4" FHP, NI	81003-43	500

PU - Packaging unit

Accessories and Assembly Aids

Vionaro & Dynapro

Centering Drill Bit Ø 2.5mm



The GRASS centering drill bit is used for pre-drilling countersink wood screws, Ø 2.5mm

Description	Item No.	PU
Centering drill bit	35692-01	1

Drill Bits for Aluminum Front Pull Outs



Description	Item No.	PU
Drill bit, 3mm, RH, for Vionaro	00156-01	1
Drill bit, 8mm, RH, for Vionaro	00158-01	1

Machinery & Assembly Aids

Grass PRO1 and Tecmator for Vionaro

Grass PRO1 for Vionaro



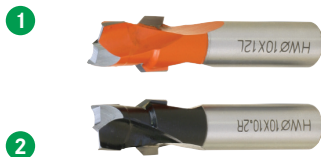
- Depth stop can be adjusted to material thickness
- Functional design
- Easy, fast and efficient operation
- Easy maintenance
- 3 spindle gear box

Description	Item No.	PU
220v single phase pneumatic	80063	1
220v three phase pneumatic	80064	1
110v single phase pneumatic	80065	1



Description	Item No.	PU
Extension fence 300mm to 1550mm	88612-01	1

Drill Bits



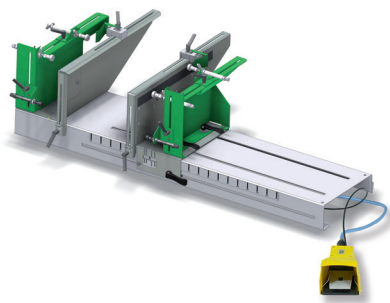
Description	Direction	Item No.	PU
1 10mm Carbide counter sink bit	LH	00222-01	1
2 10mm Carbide counter sink bit	RH	00229-01	1

Insertion Die



Description	Item No.	PU
Vionaro insertion die	30683-01	1

Tecmator ZMV - TP4



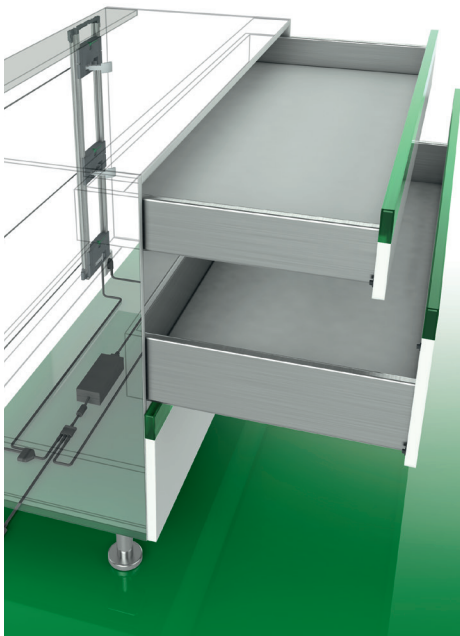
- Pneumatic table-top device for Vionaro
- The ZMV-TP can be used to assemble drawers for external cabinet widths of up to 1200mm
- Easy and straightforward handling
- Sturdy construction
- For small series production
- Pneumatic control system
- High performance

Description	Item No.	PU
Tecmator ZMV-TP4	F146108668 201	1

Note: Product lead time approximately 14 weeks

PU - Packaging unit

Versatile, Efficient, Exciting:
 Sensomatic combines handle-free
 opening with the ever popular
 Soft-closing action.
 Fully automatic, electrically powered.



SENSOMATIC OPENING SYSTEM

Sensomatic, an electro-mechanical opening system that can be activated by a light touch anywhere on the surface of the drawer front. At the touch, the drawers glide open in one smooth motion.

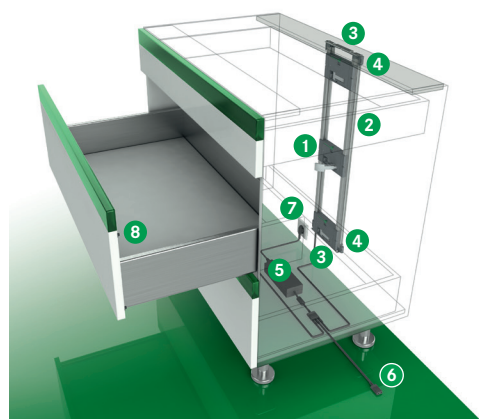
A simple installation process creates a superior drawer system. The action is steady, precise and ingenious. The perfect movement for today's functional requirements.

Sensomatic is extremely efficient in regard to power consumption and occupied space. The Sensomatic needs only one drive unit for cabinet widths up to 47 1/4" (1200mm) regardless of the weight. Accessories such as wire baskets, trash can receptacles, or roll out trays can be fitted with the Sensomatic system without modification. It has never been easier to open a drawer and - never easier to close a drawer.

Sensomatic together with Soft-close offers all the advantages of handle free opening with the elegance and functionality of a soft-closing action. These functions together guarantee your operating convenience at the highest level.

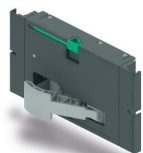
Sensomatic for Vionaro

Standard cabinet with horizontal wooden stretcher



- Electro-mechanical opening system
- Sensomatic works with any Dynapro drawer design
- Activated by a light touch anywhere on the drawer front
- One drive unit for cabinets widths up to 47 1/4" (1200mm)
- Soft-closing action pulls the drawer closed
- Ideal for accessories such as wire baskets, waste bins, or roll-out trays
- Full extension for maximum access to drawer contents

1 Opening Unit



	Item No.	PU
For Dynapro	F121100268 607	10

PU - 10 Pieces, individually packaged

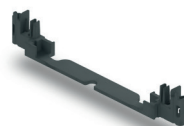
2 Frame Sides, Including Frame Side Cable



Length	Item No.	PU
750mm	F121100285 207	10
1170mm	F121100286 207	10

PU - 10 Pairs

3 Frame Connector



	Item No.	PU
Frame connector	F121100282 211	20

4 Fixing Bracket



	Item No.	PU
Fixing bracket	F121100270 211	1

5 Power Supply Unit



	Item No.	PU
Power supply unit	F121109970 607	10

PU = 10 pieces, individually packaged

One power supply operates up to 30 opening units

6 Connection Cable with 2-way-adaptor



Length	Item No.	PU
1000mm	F121100289 207	10
1600mm	F121100290 207	10
2000mm	F121100291 207	10

7 Power Cord, 1.8 m (6')



Type of plug	Item No.	PU
Power cord (USA, CA)	F120069760 207	10

8 Spring-loaded Front Bumper

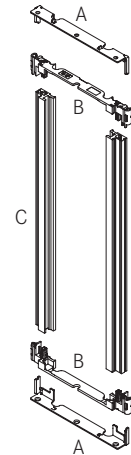
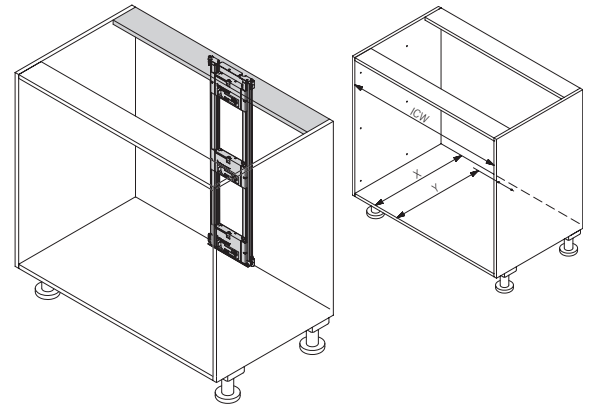
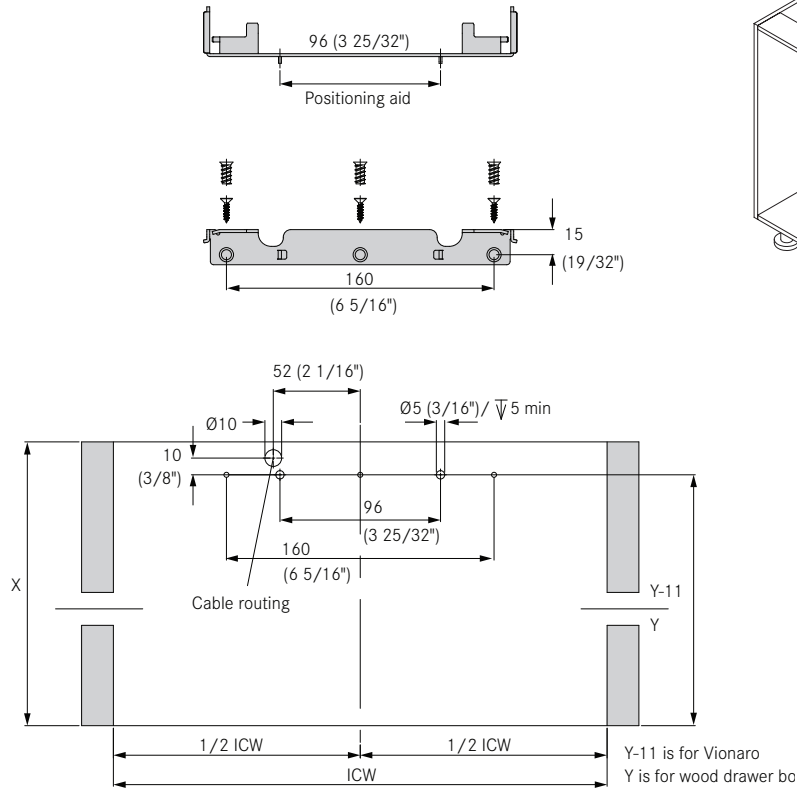


Ø 5mm	Item No.	PU
Front gap 2.2mm	F121100294 223	100
Front gap 3mm	F121100295 223	100

PU - Packaging unit

Mounting Dimensions

Fixing brackets positioned at top and bottom



Mounting dimensions Dynapro	X	Y	Min ICW
Wood back panel	NL + 15 (19/32")	NL	273 (10 3/4")

Legend

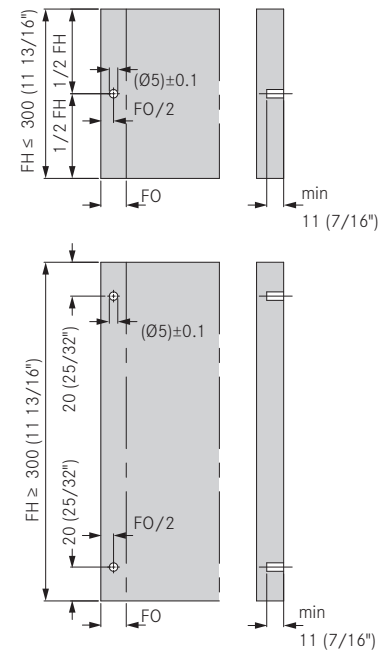
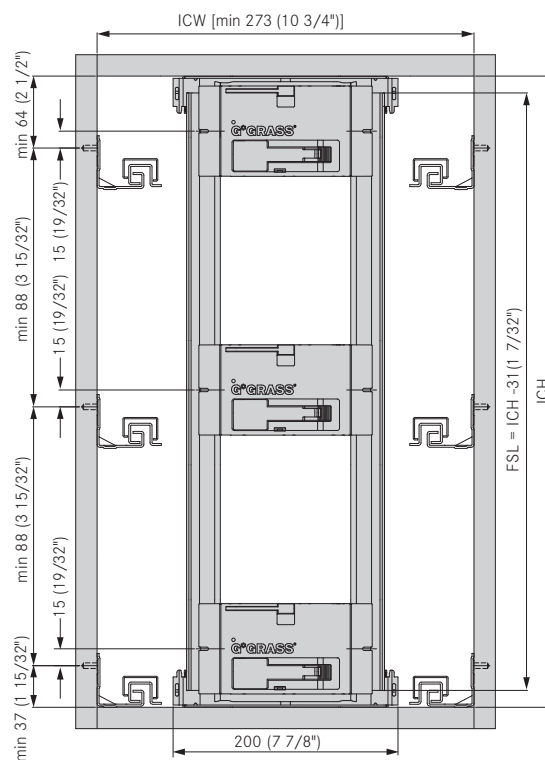
Position of Opening Unit for Dynapro

Position of Front Bumper

- A = fixing bracket used at top and bottom
- B = frame connector
- C = frame sides
- ICW = inside cabinet width
- NL = nominal length of cabinet slide
- X = min installation depth
- Y = depth of hole pattern

FSL = frame side length
ICH = inside cabinet height

FH = front height
FO = front overlay

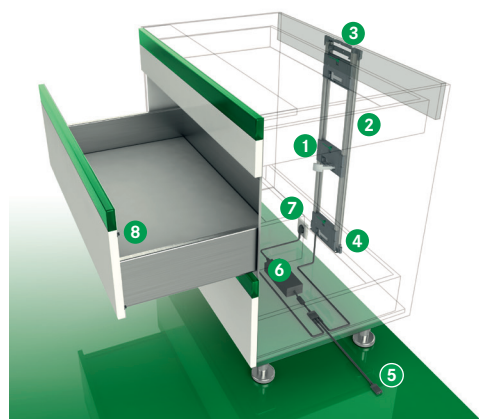


When mounting the heavy-duty slide (132 lb), it is necessary to insert 4 front bumpers into the drawer front.

Do not drive in or glue front bumpers.

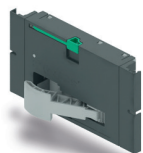
Sensomatic for Vionaro

Standard cabinet with vertical wooden stretcher



- Electro-mechanical opening system
- Sensomatic works with any Dynapro drawer design
- Activated by a light touch anywhere on the drawer front
- One drive unit for cabinets widths up to 47 1/4" (1200mm)
- Full extension for maximum access to drawer contents
- Soft-closing action pulls the drawer closed
- Ideal for accessories such as wire baskets, waste bins, or roll-out trays

1 Opening Unit



	Item No.	PU
For Dynapro	F121100268607	10

PU - 10 pieces, individually packaged

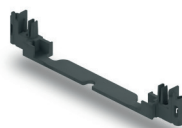
2 Frame Sides, including Frame Side Cable



Length	Item No.	PU
750mm	F121100285207	10
1170mm	F121100286207	10

PU - 10 Pairs

3 Frame Connector



	Item No.	PU
Frame connector	F121100282211	20

4 Fixing Bracket



	Item No.	PU
Fixing bracket	F121100270211	1

5 Connection Cable with 2-way-adapter



Length	Item No.	PU
1000mm	F121100289207	10
1600mm	F121100290207	10
2000mm	F121100291207	10

6 Power Supply Unit



	Item No.	PU
Power supply unit	F121109970607	10

PU = 10 pieces, individually packaged

One power supply operates up to 30 opening units

7 Power Cord, 1.8 m (6')



Type of plug	Item No.	PU
Power cord (USA, CA)	F120069760207	10

8 Spring-loaded Front Bumper

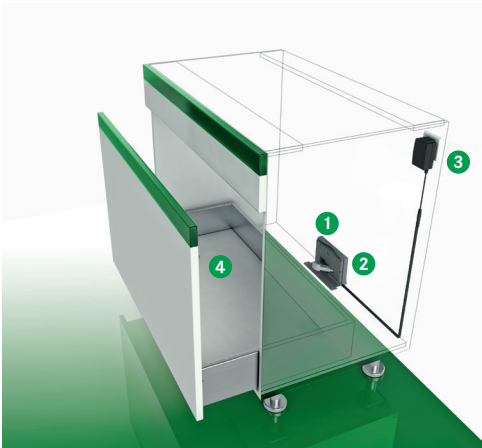


Ø 5mm	Item No.	PU
Front gap 2.2mm	F121100294223	100
Front gap 3mm	F121100295223	100

PU - Packaging unit

Sensomatic for Vionaro

Waste bin cabinet with bottom panel frame mounting



- Electro-mechanical opening system
- Sensomatic works with any Dynapro drawer design
- Activated by a light touch anywhere on the drawer front
- One drive unit for cabinets widths up to 47 1/4" (1200mm)
- Full-extension for maximum access to drawer contents
- Soft-closing action pulls the drawer closed
- Ideal for accessories such as wire baskets, waste bins, or roll-out trays
- Sensomatic kit for easy ordering

Sensomatic Kit

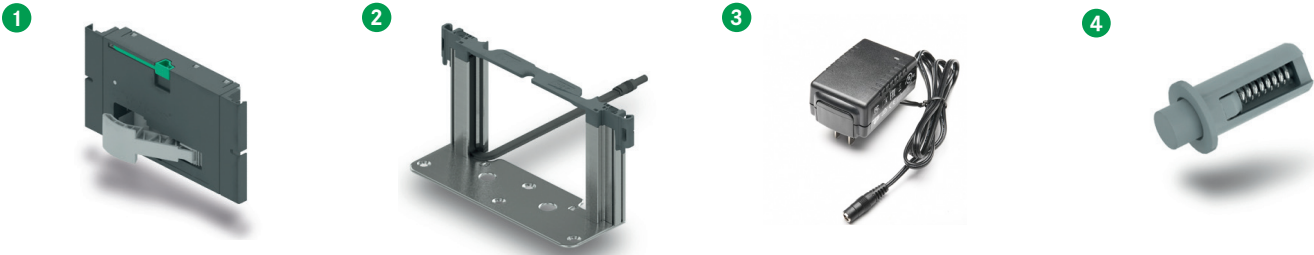


	Item No.	PU
For Dynapro	F121100697201	1

PU = 1 set

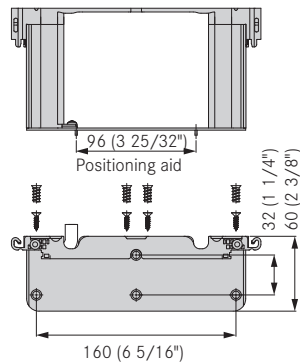
Set contains:

- 1 - Opening unit
- 1 - Base frame
- 1 - Power supply unit
- 4 - Front bumpers
(front gap 2.2mm - F121100294223)

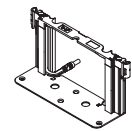
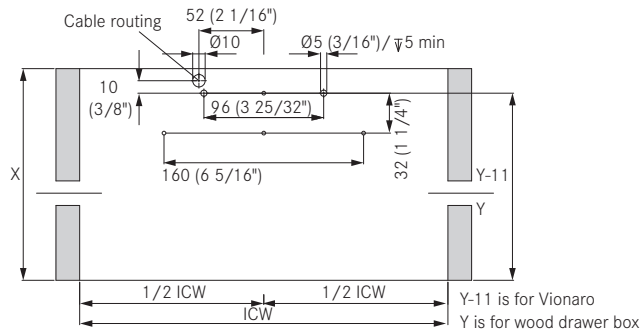
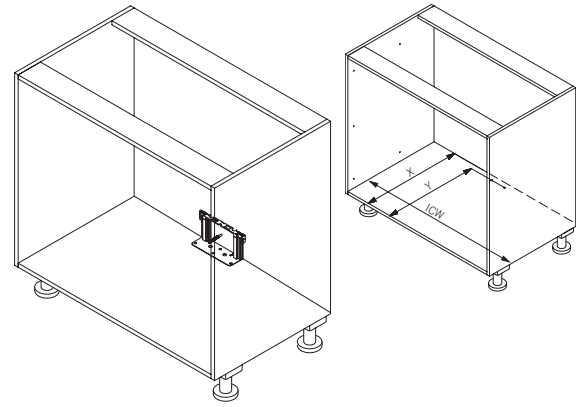


PU - Packaging unit

Mounting Dimensions



Base mounting



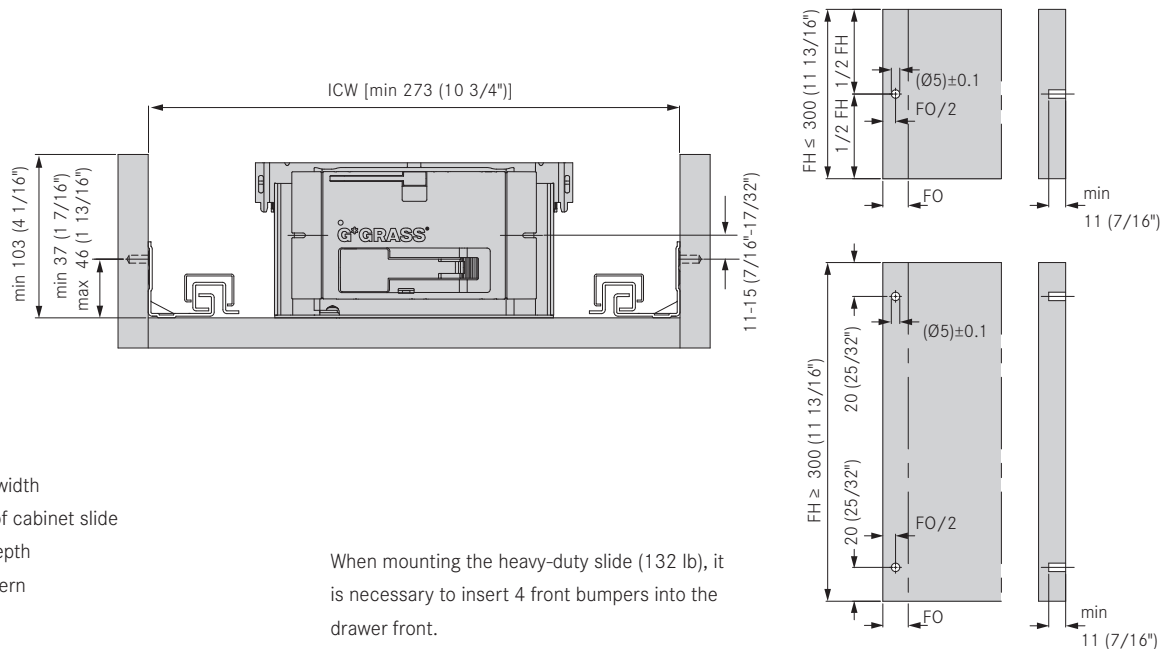
Base frame

Mounting dimensions Dynapro	X (inside)	Y	Min ICW
Wood back panel	NL + 15 (19/32")	NL	273 (10 3/4")

Legend

Position of Opening Unit for Dynapro

Position of Front Bumper



ICW = inside cabinet width

NL = nominal length of cabinet slide

X = min installation depth

Y = depth of hole pattern

FH = front height

FO = front overlay

When mounting the heavy-duty slide (132 lb), it is necessary to insert 4 front bumpers into the drawer front.

Do not drive in or glue front bumpers.

Notes



GRASS America Inc.
1202 NC Highway 66 South
Kernersville, NC 27284

Phone: 1-800-334-3512
Fax: 1-800-525-8406

www.grassusa.com
info@grassusa.com





ZBOX AND ZARGEN



ZBOX & ZARGEN DRAWER SYSTEMS

ZBox and Zargen steel drawer systems provide the flexibility to handle the most demanding design needs with quick construction and simple installation.







Versatile. Reliable. Proven.

ZBox and Zargen drawer systems offer versatility in application and deliver superior performance with a tried-and-tested technology.

Innovative functional solutions.

For years the Zargen metal drawer system has provided cabinet makers the quality, functionality, and versatility expected of Grass hardware. From residential and office furniture to commercial and institutional settings, the Zargen System consistently delivers superior performance. Offering five side heights and flexible railing systems, the Zargen drawer provides endless possibilities for the well-organized storage system.

The Grass ZBox offers all the same features of the Zargen system but with one twist – the Zargen drawer side

is mounted to a Grass ball bearing slide to create a full extension metal drawer. The combined strength of the ball bearing slides with the Zargen's steel construction offers a drawer solution that saves time and money with its quick drawer box construction and simple installation. The ZBox offers standard drawer and deep drawer heights, railing system, and Pendaflex filing systems to provide a wide range of possibilities for your cabinet construction.



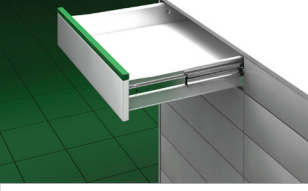
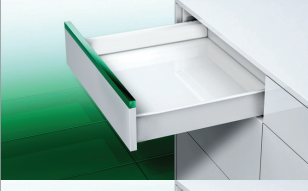
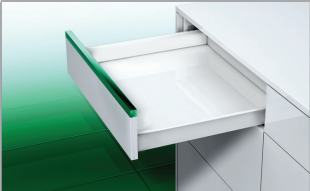
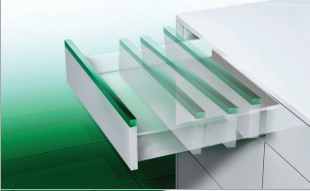
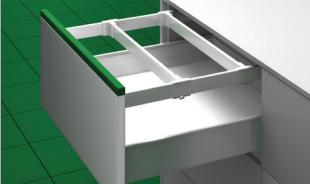
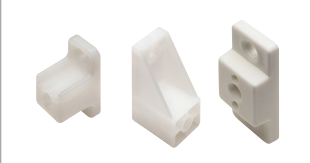
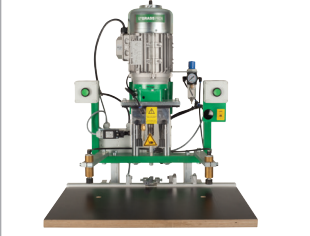
	Description	Adjustment	Page
	ZBox Features and Benefits		6
	ZBox Technical Information		8
	ZBox 6423 • 213mm (8 3/8") Side Height • Integrated drawer slide and side • Full Extension	• Height adjustment $\pm 2.0\text{mm}$ via cam • Side adjustment $\pm 1.5\text{mm}$	10
	ZBox 6223 • 149mm (5 7/8") Side Height • Integrated drawer slide and side • Full Extension	• Height adjustment $\pm 2.0\text{mm}$ via cam • Side adjustment $\pm 1.5\text{mm}$	12
	ZBox 6023 • 85mm (3 3/8") Side Height • Integrated drawer slide and side • Full Extension	• Height adjustment $\pm 2.0\text{mm}$ via cam • Side adjustment $\pm 1.5\text{mm}$	14
	Zargen Features and Benefits		16
	Zargen Technical Information		18
	Zargen 6436 • 213mm (8 3/8") Side Height • Integrated drawer slide and side	• Height adjustment $\pm 2.0\text{mm}$ via cam • Side adjustment $\pm 1.5\text{mm}$	20
	Zargen 6236 • 149mm (5 7/8") Side Height • Integrated drawer slide and side	• Height adjustment $\pm 2.0\text{mm}$ via cam • Side adjustment $\pm 1.5\text{mm}$	22
	Zargen 6136 • 117mm (4 5/8") Side Height • Integrated drawer slide and side	• Height adjustment $\pm 2.0\text{mm}$ via cam • Side adjustment $\pm 1.5\text{mm}$	24
	Zargen 6036 • 85mm (3 3/8") Side Height • Integrated drawer slide and side	• Height adjustment $\pm 2.0\text{mm}$ via cam • Side adjustment $\pm 1.5\text{mm}$	26
	Zargen 6026 • 85mm (3 3/8") Side Height • Integrated drawer slide and side	• Height adjustment $\pm 2.0\text{mm}$ • Side adjustment $\pm 1.5\text{mm}$	28

Table of Content

	Description	Adjustment	Page
	Zargen 6035 • 43mm (1 11/16") Side Height • Integrated drawer slide and side	• Height adjustment $\pm 2.0\text{mm}$ via cam • Side adjustment $\pm 1.5\text{mm}$	30
	Zargen Soft-close • Liquid damper for improved performance	• Height adjustment $\pm 2\text{mm}$ via elongated hole	32
	6100 Railing System • Railing System • For use with all ZBox and Zargen drawers • Allows end user to customize storage space		34
	Pendaflex File Railing • Three file systems available • For use with all ZBox and Zargen drawers • Easy installation	• Accommodates letter and legal size folders	35
	Accessories and Assembly Aids		38
	Machinery • Grass PRO 1 • Boring and insertion machine • Functional design • Easy maintenance • ZRam • For drawer assembly • Activated by air • For ZBox and Zargen assembly		42

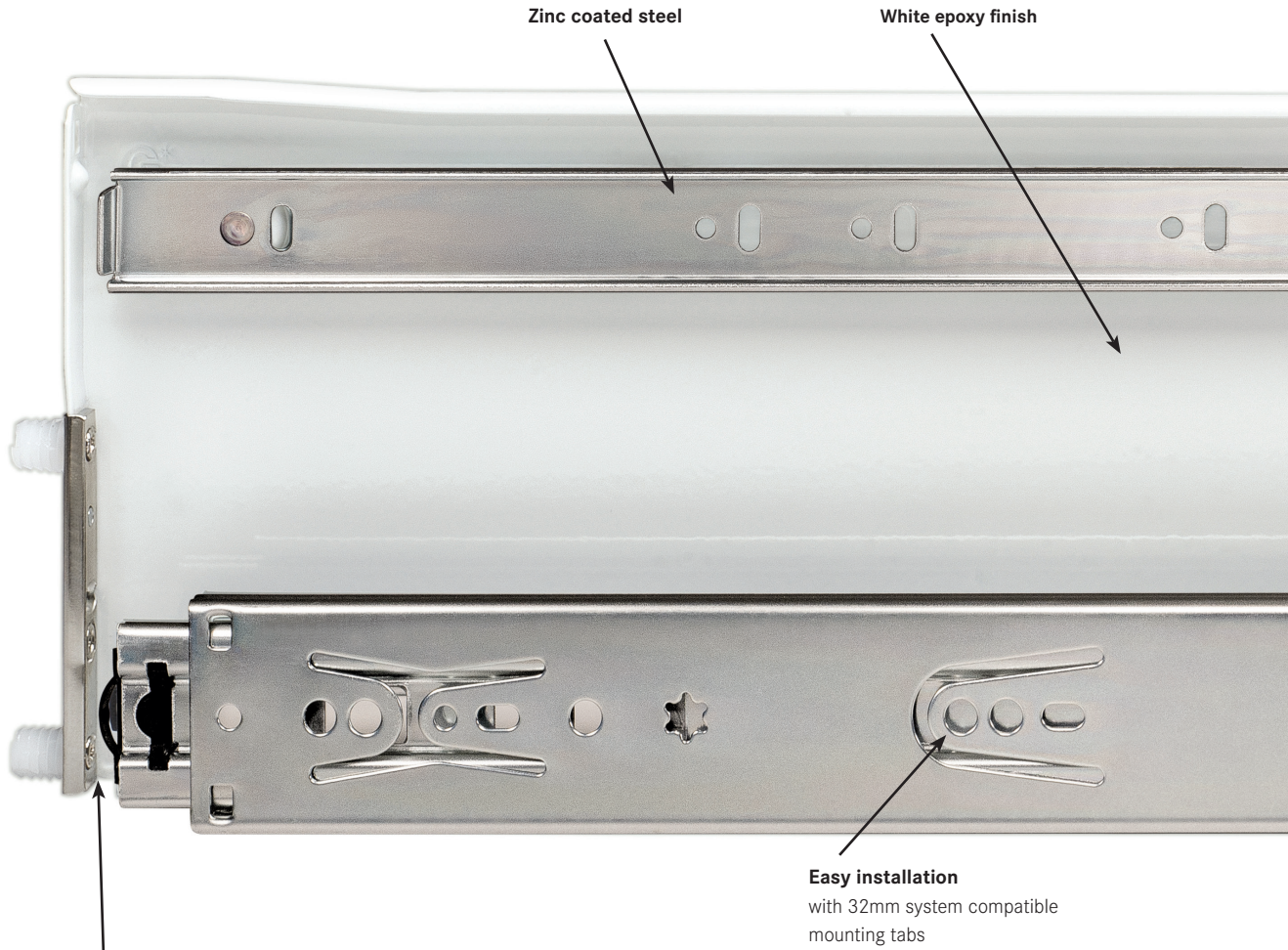
Features and Benefits

ZBox

Features



- Integrated side mount ball bearing drawer slide and metal drawer side
- Ball bearing telescopic full extension
- Hold-in detent ensures drawers stay closed
- Easy lever disconnect for removal of drawer box from cabinet member
- Drawer side – white epoxy finish; Drawer slide – zinc coated steel
- Load capacity: 100 lb dynamic, 100 lb static
- Adjustments: Cam Height $\pm 2\text{mm}$, Side $\pm 1.5\text{mm}$
- Zargen is made in the USA, ZBox is assembled in the USA



Adjustment via integrated front fixing bracket
Height adjustment $\pm 2\text{mm}$
Side adjustment $\pm 1.5\text{mm}$

ZBox combines the performance of ball bearing smoothness with the strength and adjustability of the Zargen Drawer System. A combination backed by Grass.

Features

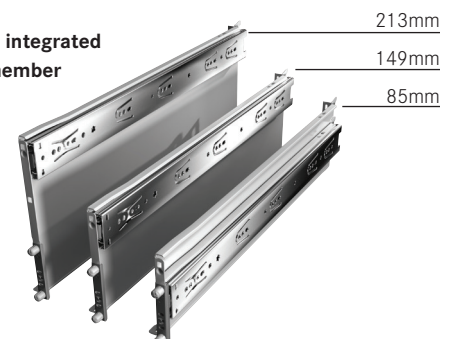
- Frameless or face frame application
- Zargen side: white epoxy finish
- Ball bearing slide: zinc coated steel
- Continuous bearings ensure smooth running performance
- Manufactured from cold rolled steel
- Face frame rear mounting bracket available
- Meets and exceeds ANSI/BHMA A156.9 Standard, Grade 1
- Patented design

Release lever for easy drawer removal

Suitable for face frame and frameless cabinets



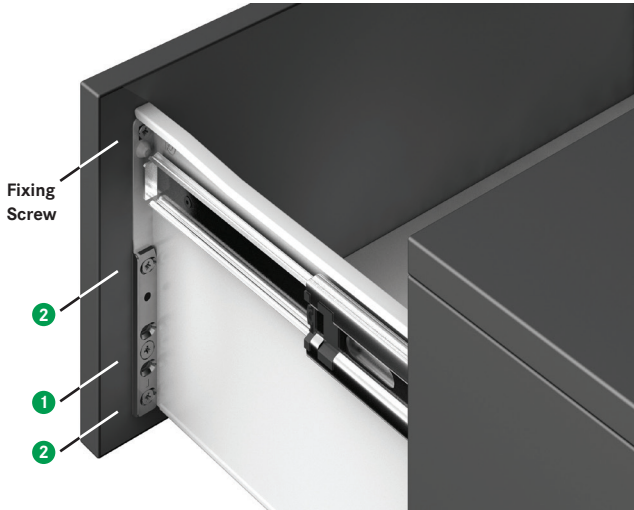
Three drawer heights with integrated drawer side and cabinet member



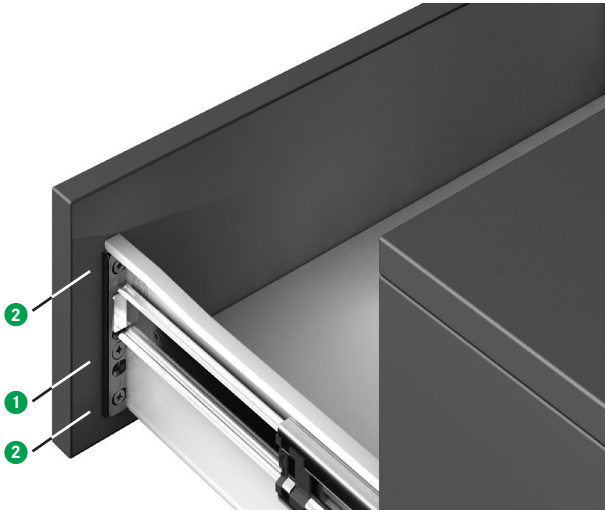
Technical Information

ZBox

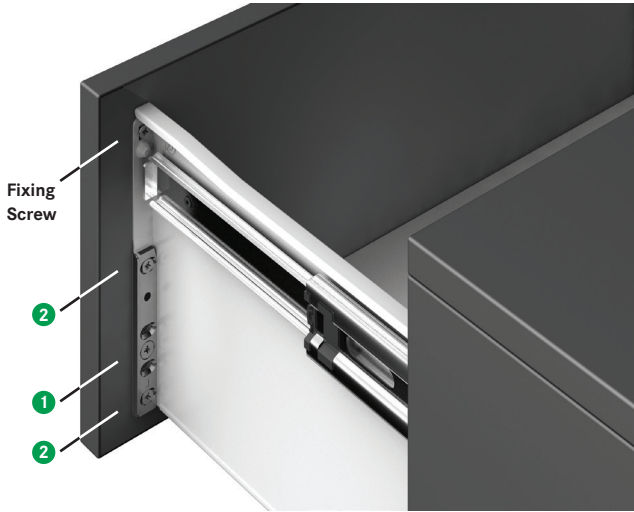
Adjustment Features 6423, 6223	Adjustment Features 6023
1 Height Adjustment: Loosen screws 2 slightly. Adjust screw 1 (adjustment $\pm 2\text{mm}$). Tighten screws 2. 2 Side Adjustment: Loosen screws 2 slightly. Adjust front to required position (adjustment range $\pm 1.5\text{mm}$). Tighten screws 2. After adjusting front panel, mount fixing screw.	1 Height Adjustment: Loosen screws 2 slightly. Adjust screw 1 (adjustment $\pm 2\text{mm}$). Tighten screws 2. 2 Side Adjustment: Loosen screws 2 slightly. Adjust front to required position (adjustment range $\pm 1.5\text{mm}$). Tighten screws 2.



This diagram shows a close-up of the adjustment mechanism for features 6423 and 6223. A silver-colored metal track is mounted on a dark grey cabinet. A white panel is being adjusted along this track. A label 'Fixing Screw' points to a screw on the left side of the track. Three green circles with numbers 1 and 2 indicate adjustment points: circle 1 points to a screw on the track, and circle 2 points to a screw on the cabinet side panel.



This diagram shows a close-up of the adjustment mechanism for feature 6023. It is similar to the first diagram, showing a silver-colored metal track on a dark grey cabinet with a white panel being adjusted. Three green circles with numbers 1 and 2 indicate adjustment points: circle 1 points to a screw on the track, and circle 2 points to a screw on the cabinet side panel.



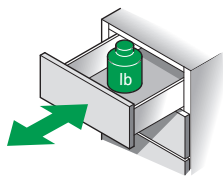
System Organization

A unique feature of the ZBox System is its universal adaptability to Zargen Accessories. The 6100 railing system offers function, drawer space utilization, and economy.

Drawer with railing 6100



Weight Capacities per Pair of Slides



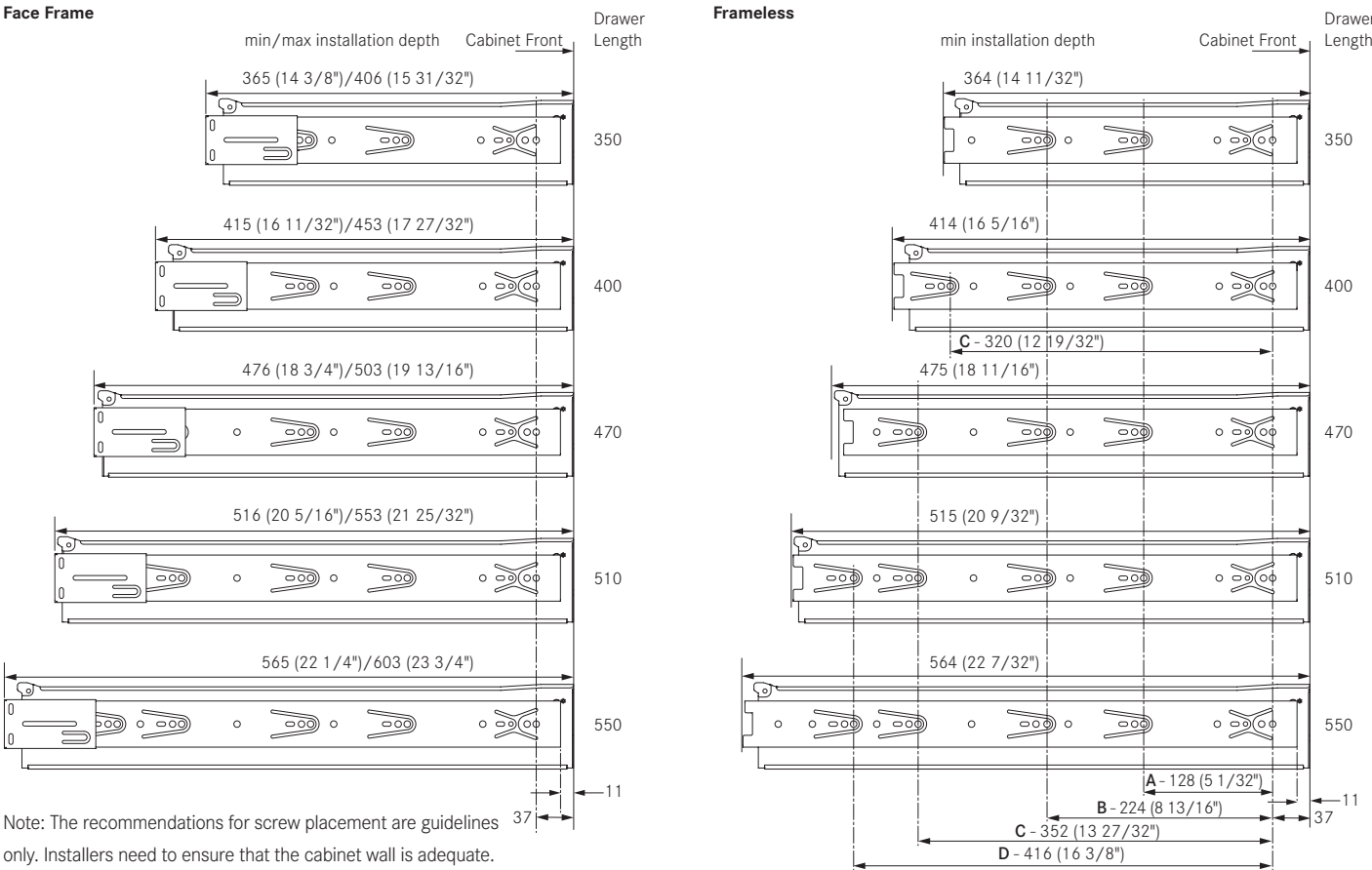
ZBox: 100 lb dynamic load rating, 100 lb static load rating

ZBox meets and exceeds the minimum requirements of ANSI/BHMA A156.9 Standard, Grade 1.

Patented Design

ZBox

Cabinet Boring Specifications



Drawer Length	Slide Travel	Screw Hole Locations				Face Frame		Frameless
		A	B	C	D	Min	Max	Min
350 (13 3/4")	350	128	224	-	-	365 (14 3/8")	406 (15 31/32")	364 (14 11/32")
400 (15 3/4")	400	128	224	320	-	415 (16 11/32")	453 (17 27/32")	414 (16 5/16")
470 (18 1/2")	450	128	224	352	-	476 (18 3/4")	503 (19 13/16")	475 (18 11/16")
510 (20 1/16")	500	128	224	352	416	516 (20 5/16")	553 (21 25/32")	515 (20 9/32")
550 (21 5/8")	550	128	224	352	416	565 (22 1/4")	603 (23 3/4")	564 (22 7/32")

Removing the Drawer

Release Lever

Pull out drawer to expose the release lever mechanism

Release Lever

Pull drawer out

Easy Release Lever:
Right Side - push up; Left Side - push down
Pull out the drawer

Remove Drawer

Remove drawer

ZBox 6423

213mm (8 3/8") Side Height

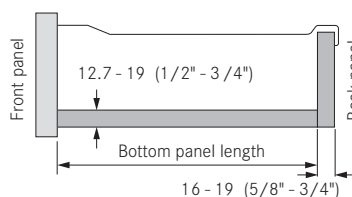


- Integrated side mount ball bearing drawer slide and metal drawer side
- Ball bearing telescopic full extension
- Hold-in detent ensures drawers stay closed
- Easy lever disconnect for removal of drawer box from cabinet member
- Drawer side - white epoxy finish; Drawer slide - zinc coated steel
- Load capacity: 100 lb dynamic, 100 lb static
- Adjustments: Cam Height $\pm 2\text{mm}$, Side $\pm 1.5\text{mm}$
- Zargen made in the USA, ZBox assembled in USA

ZBox 6423 Full Extension Slide, 100 lbs

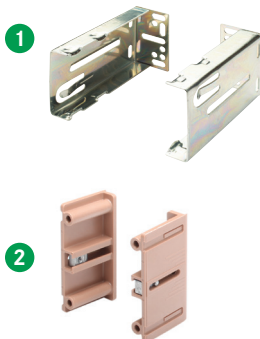


Description	Drawer Length	Item No.	PU
ZBox 6423/350	350 (13 3/4")	30144-03	5
ZBox 6423/400	400 (15 3/4")	30145-03	5
ZBox 6423/470	470 (18 1/2")	30146-03	5
ZBox 6423/510	510 (20 1/16")	30147-03	5
ZBox 6423/550	550 (21 5/8")	30148-03	5



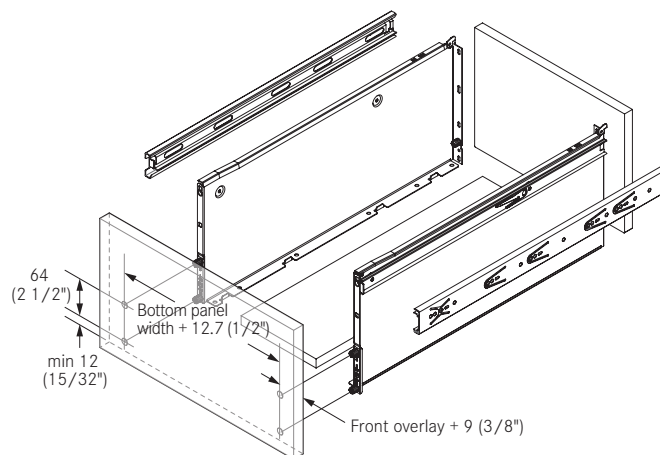
Drawer Length	Bottom Panel Length		Extension
	16mm (5/8") Back Panel	19mm (3/4") Back Panel	
350 (13 3/4")	331 (13 1/16")	328 (12 15/16")	350 (13 3/4")
400 (15 3/4")	381 (15")	378 (14 7/8")	400 (15 3/4")
470 (18 1/2")	451 (17 3/4")	448 (17 5/8")	450 (17 3/4")
510 (20 1/16")	491 (19 5/16")	488 (19 3/16")	500 (19 11/16")
550 (21 5/8")	531 (20 7/8")	528 (20 13/16")	550 (21 5/8")

Face Frame Brackets



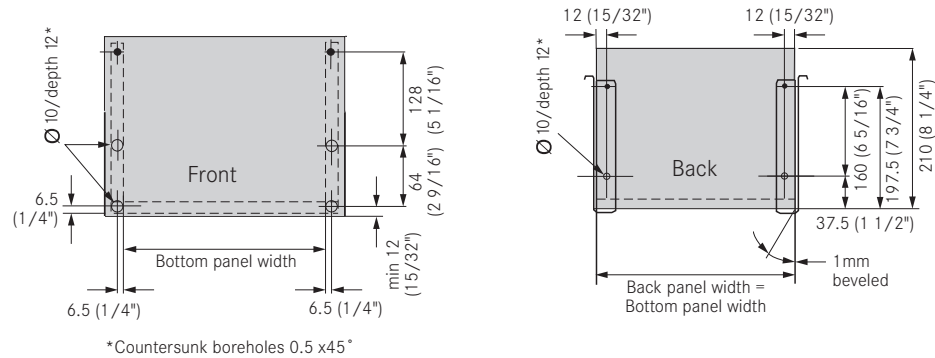
Description	Item No.	PU
1 Face frame rear mount bracket	30200-09	100
2 Inset bracket set*	13901-37	1
Inset bracket set*	13901-08	50

*See page 41 for installation instructions.

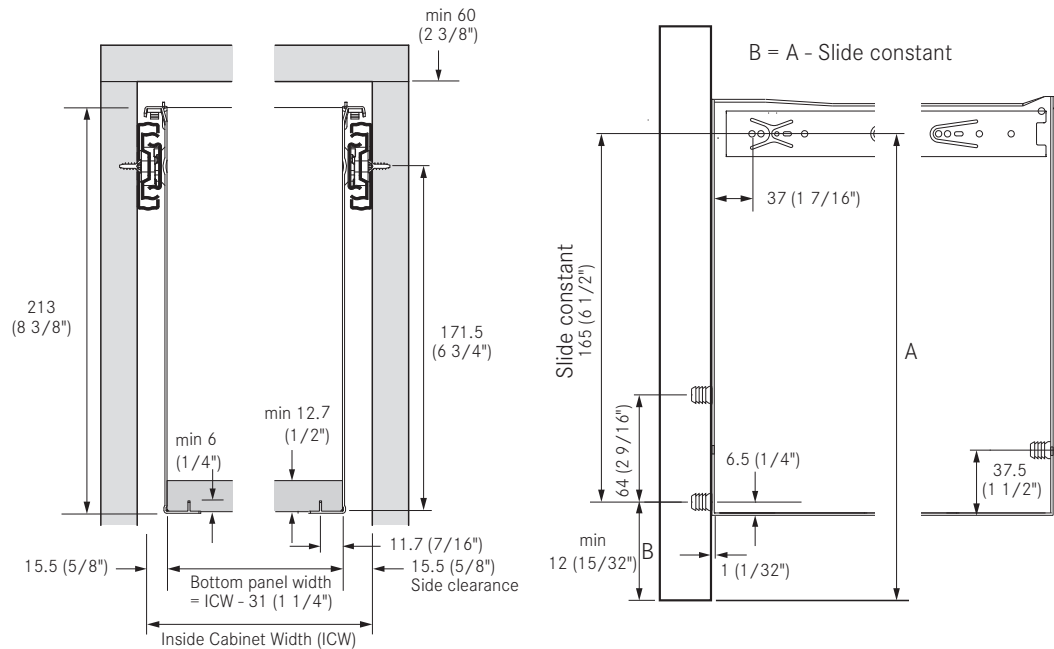


PU - Packaging unit

Drawer Back and Bottom Measurements



Drawer Installation Measurements



Face Frame Installation

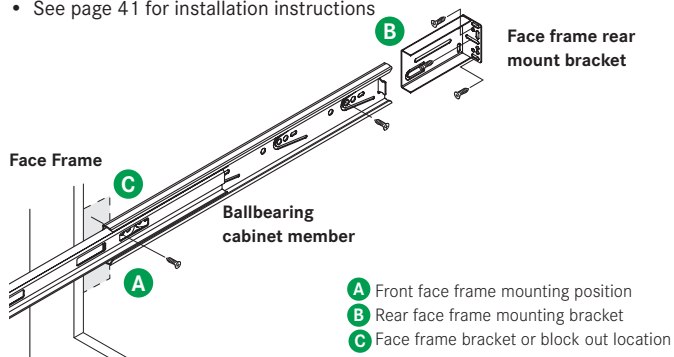
For Face Frame Cabinetry Use:

Back

- Attach face frame rear mounting brackets (Item # 30200-09) to slide

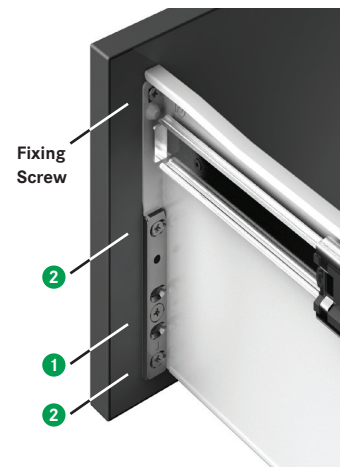
Front - Setback = 37mm

- Use Inset bracket (Item # 13901-37) or
- Block out the face frame
- See page 41 for installation instructions



Adjustment Features 6423, 6223

- Height Adjustment:**
Loosen screws 2 slightly.
Adjust screw 1 (adjustment $\pm 2\text{mm}$).
Tighten screws 2.
 - Side Adjustment:**
Loosen screws 2 slightly.
Adjust front to required position (adjustment range $\pm 1.5\text{mm}$).
Tighten screws 2.
- After adjusting front panel, mount fixing screw.



ZBox 6223

149mm (5 7/8") Side Height



- Integrated side mount ball bearing drawer slide and metal drawer side
- Ball bearing telescopic full extension
- Hold-in detent ensures drawers stay closed
- Easy lever disconnect for removal of drawer box from cabinet member
- Drawer side – white epoxy finish; Drawer slide – zinc coated steel
- Load capacity: 100 lb dynamic, 100 lb static
- Adjustments: Cam Height ±2mm, Side ±1.5mm
- Zargen made in the USA, ZBox assembled in USA

ZBox 6223 Full Extension Slide, 100 lbs



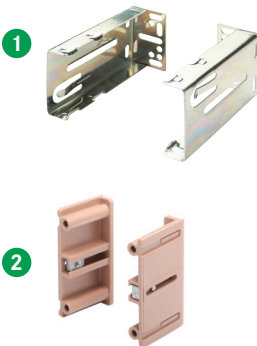
Description	Drawer Length	Item No.	PU
ZBox 6223/350	350 (13 3/4")	30139-03	5
ZBox 6223/400	400 (15 3/4")	30140-03	5
ZBox 6223/470	470 (18 1/2")	30141-03	5
ZBox 6223/510	510 (20 1/16")	30142-03	5
ZBox 6223/550	550 (21 5/8")	30143-03	5

Drawer Length	Bottom Panel Length		Extension
	16mm (5/8") Back Panel	19mm (3/4") Back Panel	
350 (13 3/4")	331 (13 1/16")	328 (12 15/16")	350 (13 3/4")
400 (15 3/4")	381 (15")	378 (14 7/8")	400 (15 3/4")
470 (18 1/2")	451 (17 3/4")	448 (17 5/8")	450 (17 3/4")
510 (20 1/16")	491 (19 5/16")	488 (19 3/16")	500 (19 11/16")
550 (21 5/8")	531 (20 7/8")	528 (20 13/16")	550 (21 5/8")

Diagram showing dimensions for the ZBox 6223 slide:

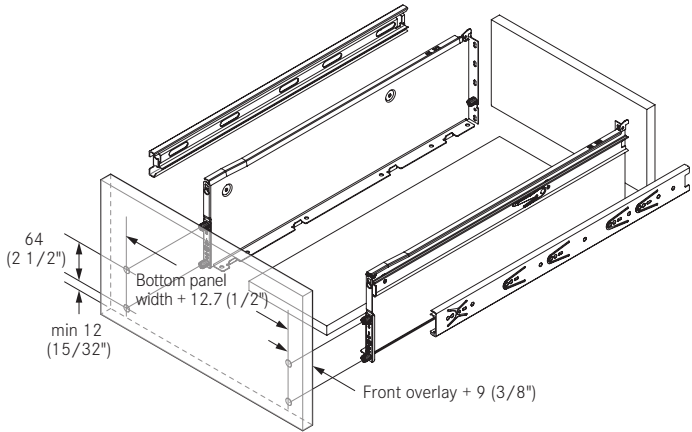
- Front panel
- Back panel
- Bottom panel length
- 12.7 - 19 (1/2" - 3/4")
- 16 - 19 (5/8" - 3/4")

Face Frame Brackets



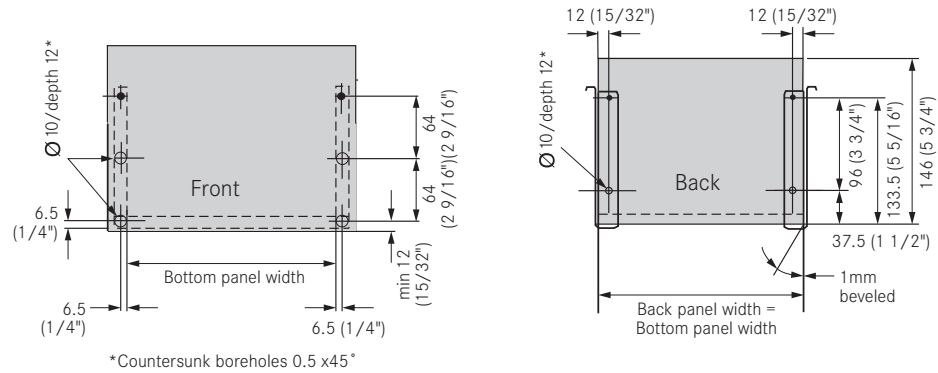
Description	Drawer Length	Item No.	PU
1 Face frame rear mount bracket		30200-09	100
2 Inset bracket set*		13901-37	1
Inset bracket set*		13901-08	50

*See page 41 for installation instructions.

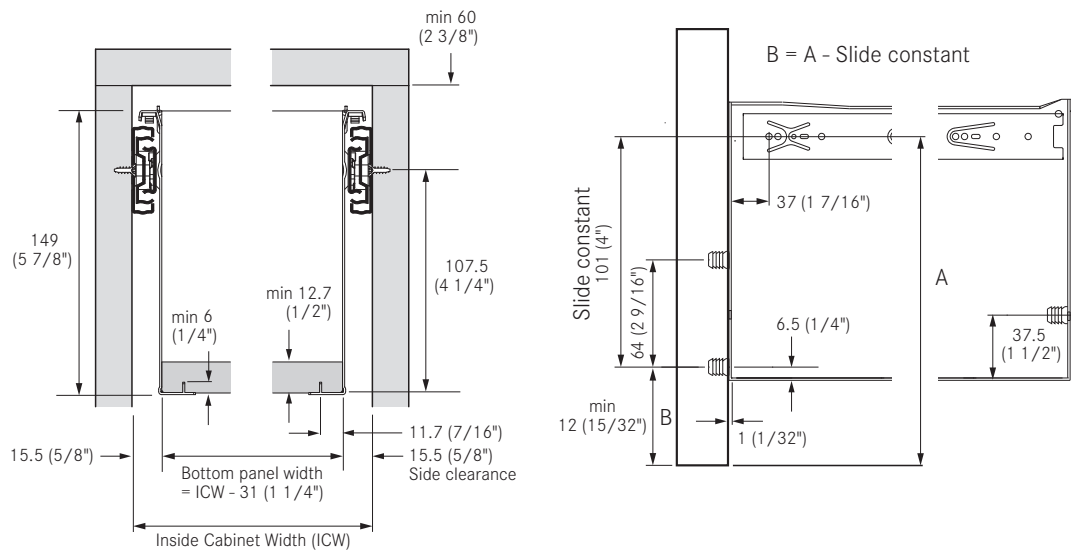


PU – Packaging unit

Drawer Back and Bottom Measurements



Drawer Installation Measurements



Face Frame Installation

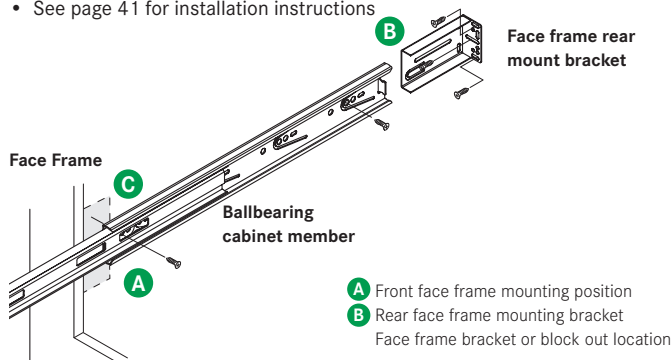
For Face Frame Cabinetry Use:

Back

- Attach face frame rear mounting brackets (Item # 30200-09) to slide

Front - Setback = 37mm

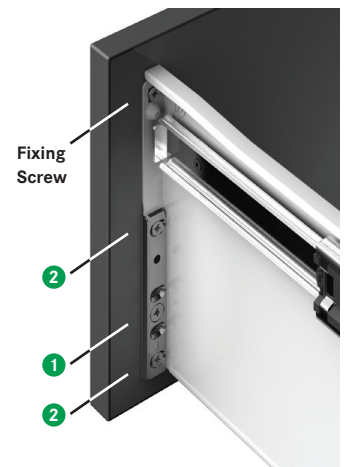
- Use Inset bracket (Item # 13901-37) or
- Block out the face frame
- See page 41 for installation instructions



Adjustment Features 6423, 6223

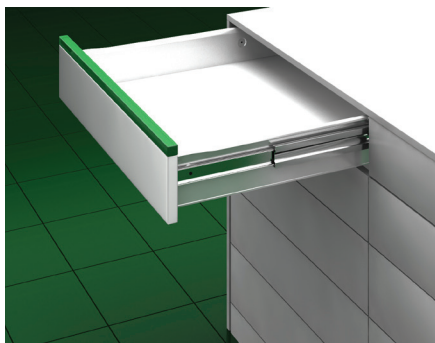
- 1** Height Adjustment:
Loosen screws 2 slightly.
Adjust screw 1 (adjustment $\pm 2\text{mm}$).
Tighten screws 2.
- 2** Side Adjustment:
Loosen screws 2 slightly.
Adjust front to required position (adjustment range $\pm 1.5\text{mm}$).
Tighten screws 2.

After adjusting front panel, mount fixing screw.



ZBox 6023

85mm (3 3/8") Side Height

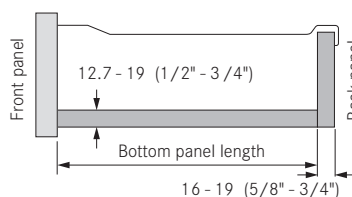


- Integrated side mount ball bearing drawer slide and metal drawer side
- Ball bearing telescopic full extension
- Hold-in detent ensures drawers stay closed
- Easy lever disconnect for removal of drawer box from cabinet member
- Drawer side - white epoxy finish; Drawer slide - zinc coated steel
- Load capacity: 100 lb dynamic, 100 lb static
- Adjustments: Cam Height $\pm 2\text{mm}$, Side $\pm 1.5\text{mm}$
- Zargen made in the USA, ZBox assembled in USA

ZBox 6023 Full Extension Slide, 100 lbs

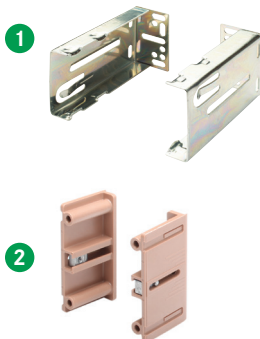


Description	Drawer Length	Item No.	PU
ZBox 6023/350	350 (13 3/4")	30134-03	5
ZBox 6023/400	400 (15 3/4")	30135-03	5
ZBox 6023/470	470 (18 1/2")	30136-03	5
ZBox 6023/510	510 (20 1/16")	30137-03	5
ZBox 6023/550	550 (21 5/8")	30138-03	5



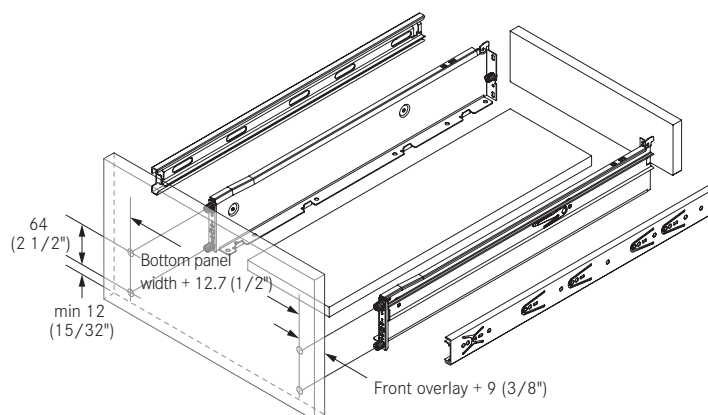
Drawer Length	Bottom Panel Length		Extension
	16mm (5/8") Back Panel	19mm (3/4") Back Panel	
350 (13 3/4")	331 (13 1/16")	328 (12 15/16")	350 (13 3/4")
400 (15 3/4")	381 (15")	378 (14 7/8")	400 (15 3/4")
470 (18 1/2")	451 (17 3/4")	448 (17 5/8")	450 (17 3/4")
510 (20 1/16")	491 (19 5/16")	488 (19 3/16")	500 (19 11/16")
550 (21 5/8")	531 (20 7/8")	528 (20 13/16")	550 (21 5/8")

Face Frame Brackets



Description	Item No.	PU
1 Face frame rear mount bracket	30200-09	100
2 Inset bracket set*	13901-37	1
Inset bracket set*	13901-08	50

*See page 41 for installation instructions.



PU - Packaging unit

Features and Benefits

Zargen

Features



- Integrated drawer slide and drawer side
- White epoxy finish
- Load capacity: 100 lb dynamic, 100 lb static
- Installation width 15.5mm (5/8")
- Made in the USA

Quick assembly
with integrated front
fixing brackets

Built in drawer front bumpers
protect the drawer front during closing

Side adjustment
±1.5mm

Height adjustment
±2mm

Versatile. Reliable. Proven.
Zargen delivers superior performance
with tried-and-tested technology.

Features

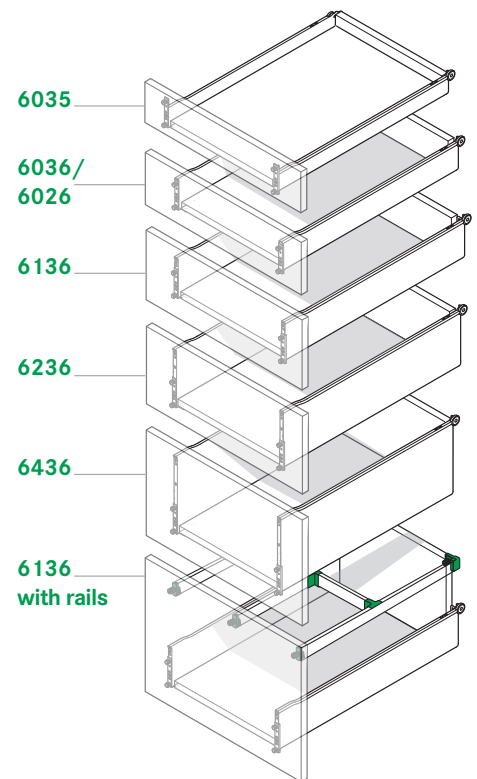
- Available in five drawer heights
 - 43mm (1 11/16")
 - 85mm (3 3/8")
 - 117mm (4 5/8")
 - 149mm (5 7/8")
 - 213mm (8 3/8")

Double stop

on drawer member locks the drawer safely in the open position

Parallel closing action

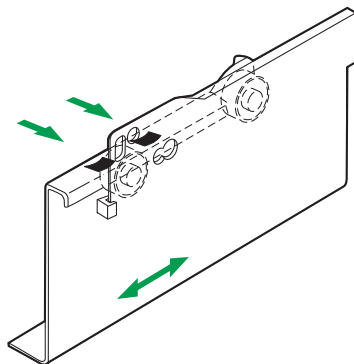
keeps the drawer front properly aligned



Technical Information

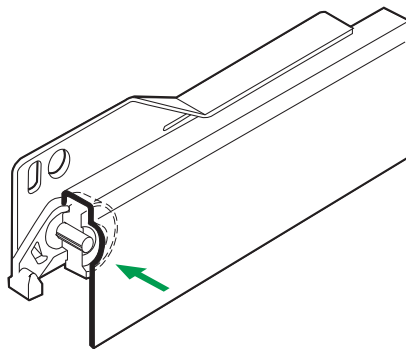
Zargen

Double Stop



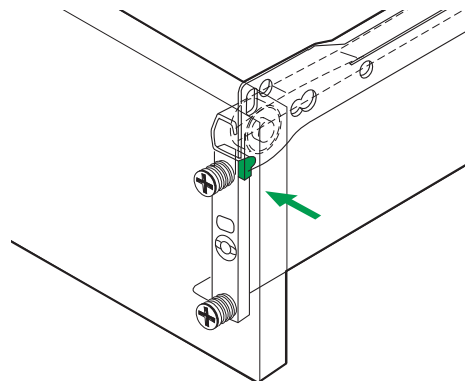
The double stop prevents the drawer from falling out while being extended. In addition, the drawer can be locked in the open position.

Rollers



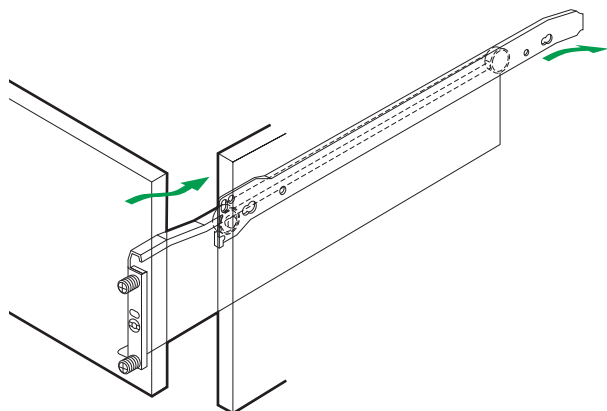
Special rollers provide lateral stability and a smooth glide. The rollers are tested for durability, and washers behind the rollers ensure stability.

Built-in Stop



The integrated drawer stop protects the drawer front from impact during closing. Furthermore, it acts as a shock absorber and a self-alignment feature for the drawer fronts.

Closing



Self-Closing From a range of 60mm (2 3/8") out, the drawer closes quietly and smoothly. Drawers closed with force will not bounce back.

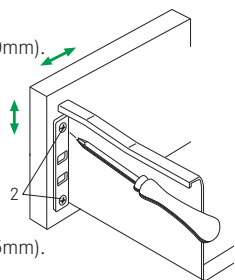
Minimum Reveal Minimum reveals are required between fronts due to the specifically formed closing action.

Parallel Closing The parallel closing action keeps the drawer front properly aligned with the cabinet front. Cabinet members feature elongated holes for height adjustment.

Adjustment Features 6026

Height Adjustment:

Loosen screws 2 slightly.
Move front to required position (adjustment $\pm 2.0\text{mm}$).
Tighten screws 2.



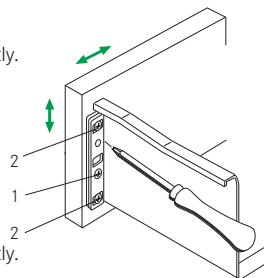
Side Adjustment:

Loosen screws 2 slightly.
Move front to required position (adjustment $\pm 1.5\text{mm}$).
Tighten screws 2.

Adjustment Features 6036, 6035

Height Adjustment:

Loosen screws 2 slightly.
Adjust screw 1 (adjustment $\pm 2\text{mm}$).
Tighten screws 2.



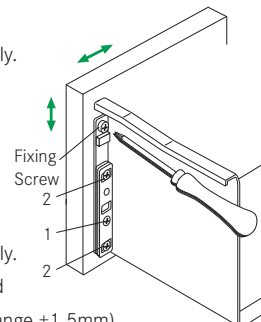
Side Adjustment:

Loosen screws 2 slightly.
Adjust front to required position (adjustment range $\pm 1.5\text{mm}$).
Tighten screws 2.

Adjustment Features 6436, 6236, 6136

Height Adjustment:

Loosen screws 2 slightly.
Adjust screw 1 (adjustment $\pm 2\text{mm}$).
Tighten screws 2.

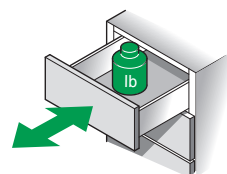


Side Adjustment:

Loosen screws 2 slightly.
Adjust front to required position (adjustment range $\pm 1.5\text{mm}$).
Tighten screws 2.

After adjusting front panel, mount fixing screw.

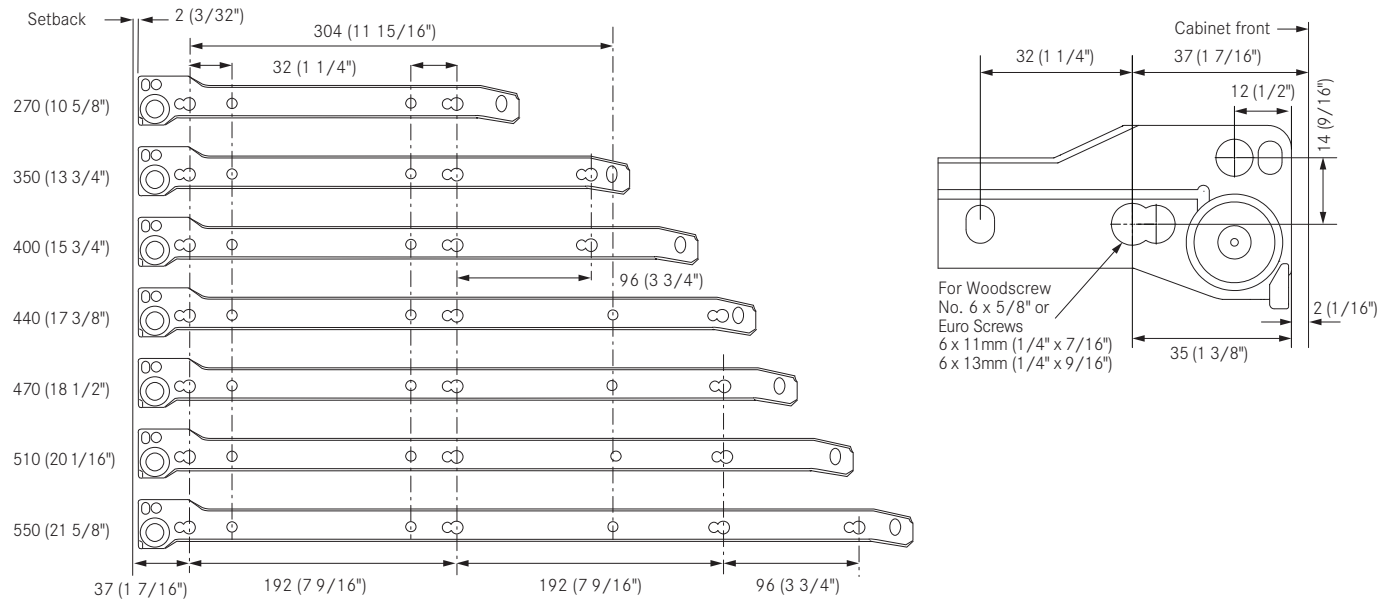
Weight Capacities per Pair of Slides



Zargen: 100 lb dynamic load rating; 100 lb static load rating

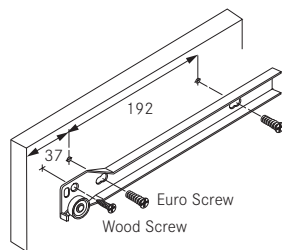
Zargen meets and exceeds the minimum requirements of ANSI/BHMA A156.9 Standard, Grade 1.

Cabinet Member



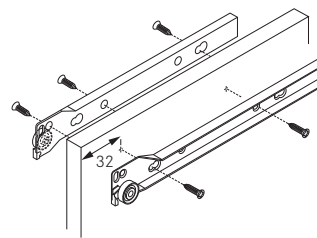
To simplify installation of the cabinet member, a unique double-hole pattern for 32mm and 37mm setback has been developed.

Installation



With Euro Screws

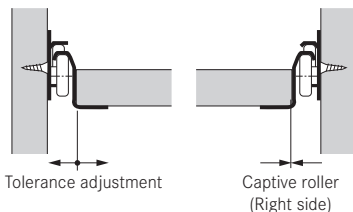
(Flat Head Phillips)
the cabinet member can be fastened into a pre-drilled 32mm hole system. See cabinet member drawing to the left for all fastening positions.



With Wood Screws

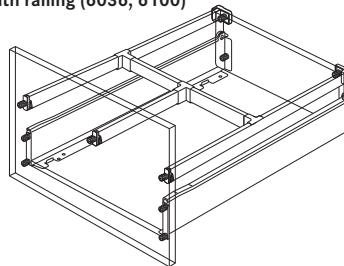
(#6x5/8" Flat Head Phillips)
the cabinet member is screwed directly on the end panel. To guarantee precise positioning, pre-center with a Grass pilot drill. For wood screws, use the front section of the double hole.

Captive Rollers



System Organization

Slide with railing (6036, 6100)



A unique feature of the Zargen System is its universal adaptability in cabinetry. The system offers function, drawer space utilization and economy. With regular drawers, inset pull-outs, divider railings and more the Zargen System provides a variety of organizational solutions.

Manufacturing often is accompanied by tolerance problems. To avoid this situation, Grass slides are designed to eliminate side movement of the drawer. After installation, the right drawer member blends perfectly with the right cabinet member for guidance; the left side allows for cutting tolerance of the drawer and the cabinet components.

Zargen 6436

213mm (8 3/8") Side Height

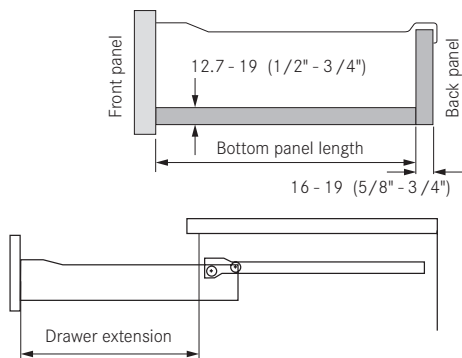


- Integrated drawer slide and drawer side
- Self-closing feature with 60mm (2 3/8") closing range
- Built-in drawer front bumpers
- Quick assembly through dowelled and integrated front fixing brackets
- White epoxy finish
- Tolerance adjustment 2mm (3/32")
- Load capacity: 100 lb
- Adjustments: Cam height ($\pm 2\text{mm}$), side ($\pm 1.5\text{mm}$)
- Made in the USA

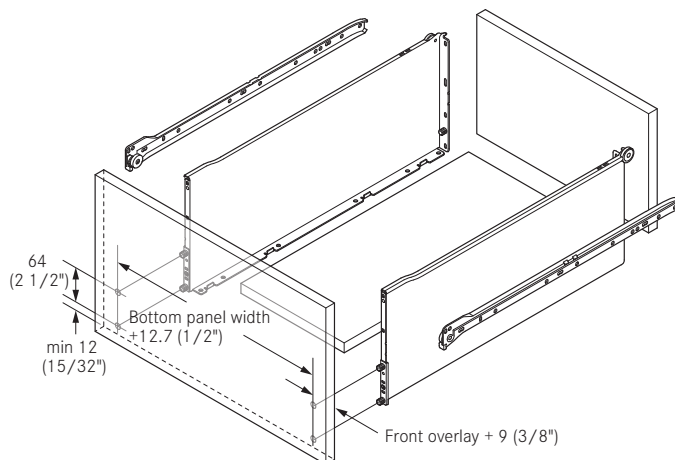
Zargen 6436 Slide, 100 lb (45 kg)



Description	Slide Length	Item No.	PU
Zargen 6436/350	350 (13 3/4")	22910-03	5
Zargen 6436/400	400 (15 3/4")	22911-03	5
Zargen 6436/440	440 (17 3/8")	22708-03	5
Zargen 6436/470	470 (18 1/2")	22709-03	5
Zargen 6436/510	510 (20 1/16")	22710-03	5
Zargen 6436/550	550 (21 5/8")	22711-03	5
Zargen 6436/510	510 (20 1/16")	22710-12	200
Zargen 6436/550	550 (21 5/8")	22711-12	200



Slide Length	Bottom Panel Length		Extension	
	16mm (5/8") Back Panel	19mm (3/4") Back Panel	Single Stop	Double Stop
350 (13 3/4")	331 (13 1/16")	328 (12 15/16")	280 (11")	-
400 (15 3/4")	381 (15")	378 (14 7/8")	300 (11 13/16")	314 (12 3/8")
440 (17 3/8")	421 (16 9/16")	418 (16 7/16")	340 (13 3/8")	354 (13 15/16")
470 (18 1/2")	451 (17 3/4")	448 (17 5/8")	370 (14 9/16")	384 (15 1/8")
510 (20 1/16")	491 (19 5/16")	488 (19 3/16")	410 (16 1/8")	424 (16 11/16")
550 (21 5/8")	531 (20 7/8")	528 (20 13/16")	450 (17 11/16")	464 (18 1/4")



PU - Packaging unit

Zargen 6236

149mm (5 7/8") Side Height

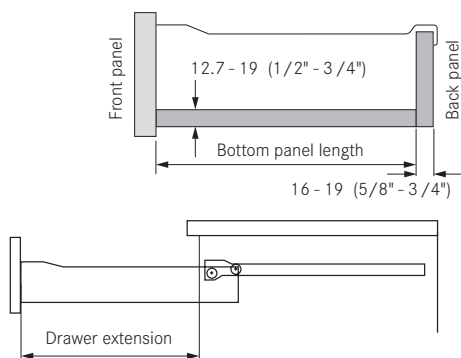


- Integrated drawer slide and drawer side
- Self-closing feature with 60mm (2 3/8") closing range
- Built-in drawer front bumpers
- Quick assembly through dowelled and integrated front fixing brackets
- White epoxy finish
- Tolerance adjustment 2mm (3/32")
- Load capacity: 100 lb
- Adjustments: Cam height (± 2 mm), side (± 1.5 mm)
- Made in the USA

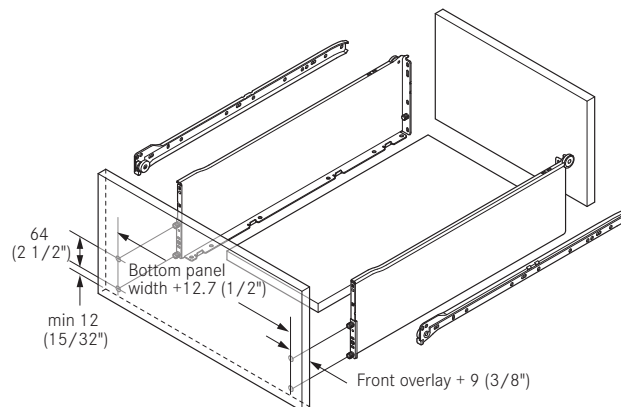
Zargen 6236 Slide, 100 lb (45 kg)



Description	Slide Length	Item No.	PU
Zargen 6236/350	350 (13 3/4")	22908-03	5
Zargen 6236/400	400 (15 3/4")	22909-03	5
Zargen 6236/440	440 (17 3/8")	22704-03	5
Zargen 6236/470	470 (18 1/2")	22705-03	5
Zargen 6236/510	510 (20 1/16")	22706-03	5
Zargen 6236/550	550 (21 5/8")	22707-03	5
Zargen 6236/350	350 (13 3/4")	22908-12	200
Zargen 6236/400	400 (15 3/4")	22909-12	200
Zargen 6236/440	440 (17 3/8")	22704-12	200
Zargen 6236/470	470 (18 1/2")	22705-12	200
Zargen 6236/510	510 (20 1/16")	22706-12	200
Zargen 6236/550	550 (21 5/8")	22707-12	200

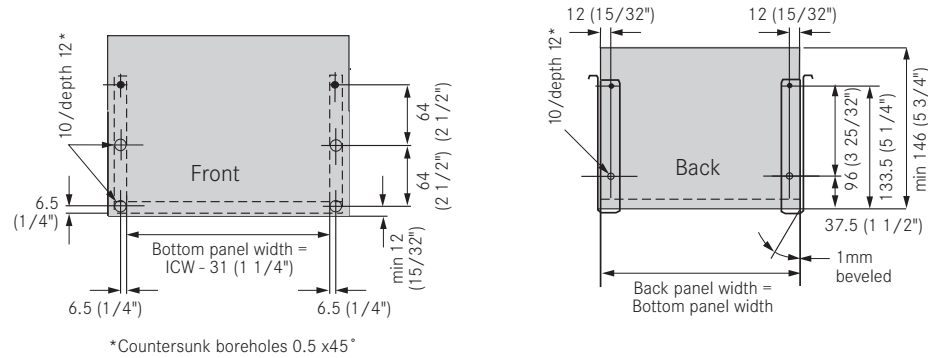


Slide Length	Bottom Panel Length		Extension	
	16mm (5/8") Back Panel	19mm (3/4") Back Panel	Single Stop	Double Stop
350 (13 3/4")	331 (13 1/16")	328 (12 15/16")	280 (11")	-
400 (15 3/4")	381 (15")	378 (14 7/8")	300 (11 13/16")	314 (12 3/8")
440 (17 3/8")	421 (16 9/16")	418 (16 7/16")	340 (13 3/8")	354 (13 15/16")
470 (18 1/2")	451 (17 3/4")	448 (17 5/8")	370 (14 9/16")	384 (15 1/8")
510 (20 1/16")	491 (19 5/16")	488 (19 3/16")	410 (16 1/8")	424 (16 11/16")
550 (21 5/8")	531 (20 7/8")	528 (20 13/16")	450 (17 11/16")	464 (18 1/4")

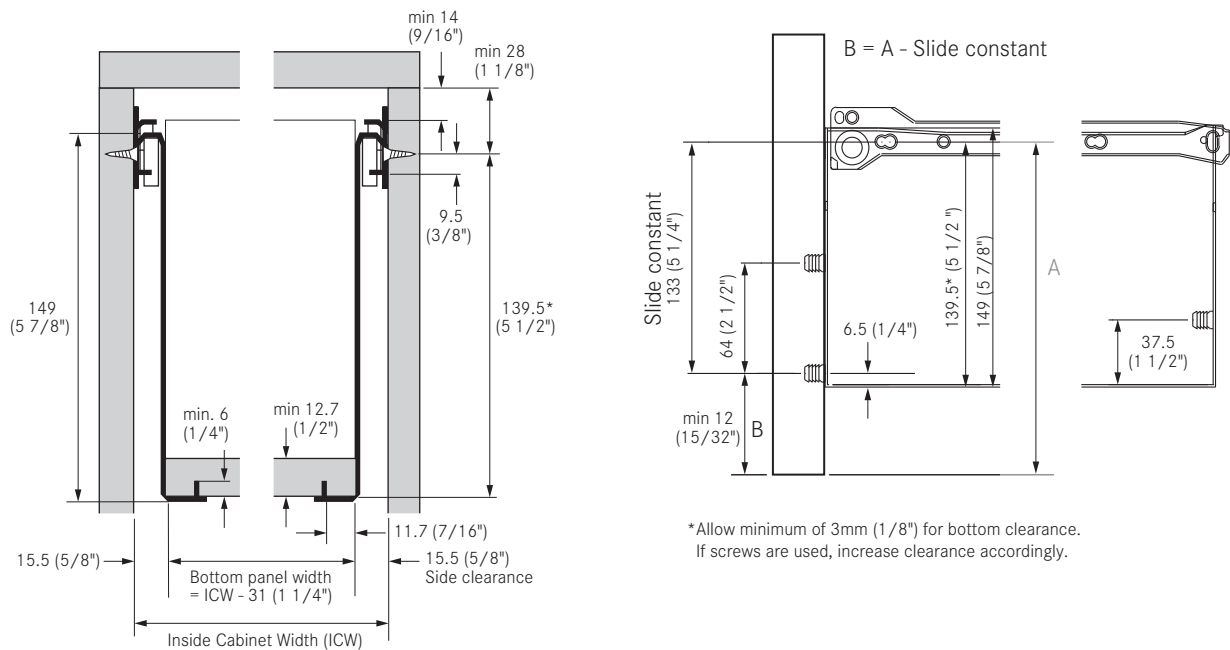


PU - Packaging unit

Drawer Back and Bottom Measurements



Drawer Installation Measurements



Drawer slide attachment:

Wood screws #6 x 5/8 FHP

Euro screw lengths 18mm, 13mm, 7.5mm

Bottom panel thickness: 12.7 - 19mm (1/2" - 3/4")

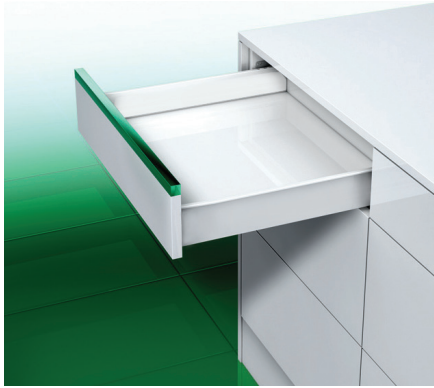
Back panel thickness: 16 - 19mm (5/8" - 3/4")

Back panel height: min 146mm (5 3/4")

All dimensions in millimeters.

Zargen 6136

117mm (4 5/8") Side Height

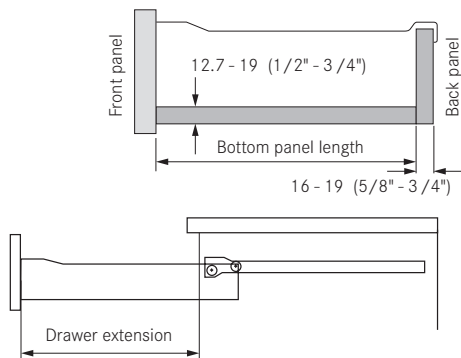


- Integrated drawer slide and drawer side
- Self-closing feature with 60mm (2 3/8") closing range
- Built-in drawer front bumpers
- Quick assembly through dowelled and integrated front fixing brackets
- White epoxy finish
- Tolerance adjustment 2mm (3/32")
- Load capacity: 100 lb
- Adjustments: Cam height ($\pm 2\text{mm}$), side ($\pm 1.5\text{mm}$)
- Made in the USA

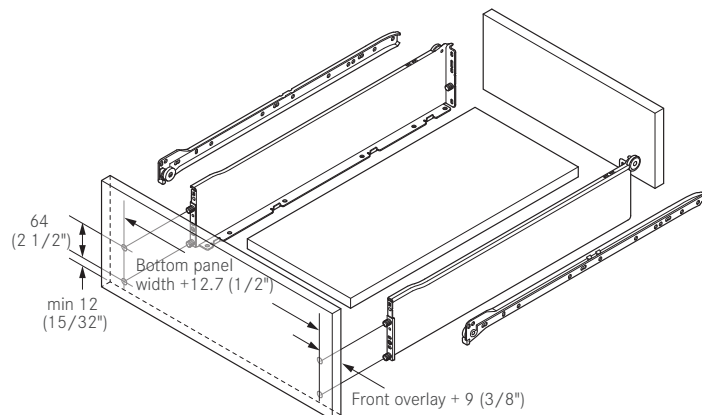
Zargen 6136 Slide, 100 lb (45 kg)



Description	Slide Length	Item No.	PU
Zargen 6136/350	350 (13 3/4")	22906-03	5
Zargen 6136/400	400 (15 3/4")	22907-03	5
Zargen 6136/440	440 (17 3/8")	22700-03	5
Zargen 6136/470	470 (18 1/2")	22701-03	5
Zargen 6136/510	510 (20 1/16")	22702-03	5
Zargen 6136/550	550 (21 5/8")	22703-03	5
Zargen 6136/400	400 (15 3/4")	22907-12	200
Zargen 6136/510	510 (20 1/16")	22702-12	200
Zargen 6136/550	550 (21 5/8")	22703-12	200

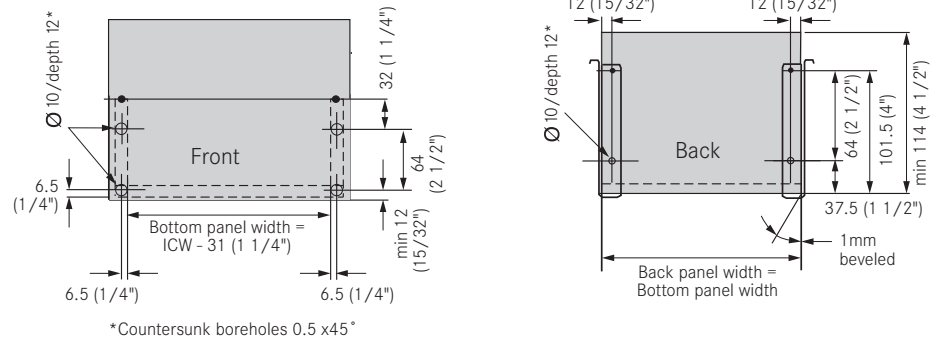


Slide Length	Bottom Panel Length		Extension	
	16mm (5/8") Back Panel	19mm (3/4") Back Panel	Single Stop	Double Stop
350 (13 3/4")	331 (13 1/16")	328 (12 15/16")	280 (11")	-
400 (15 3/4")	381 (15")	378 (14 7/8")	300 (11 13/16")	314 (12 3/8")
440 (17 3/8")	421 (16 9/16")	418 (16 7/16")	340 (13 3/8")	354 (13 15/16")
470 (18 1/2")	451 (17 3/4")	448 (17 5/8")	370 (14 9/16")	384 (15 1/8")
510 (20 1/16")	491 (19 5/16")	488 (19 3/16")	410 (16 1/8")	424 (16 11/16")
550 (21 5/8")	531 (20 7/8")	528 (20 13/16")	450 (17 11/16")	464 (18 1/4")

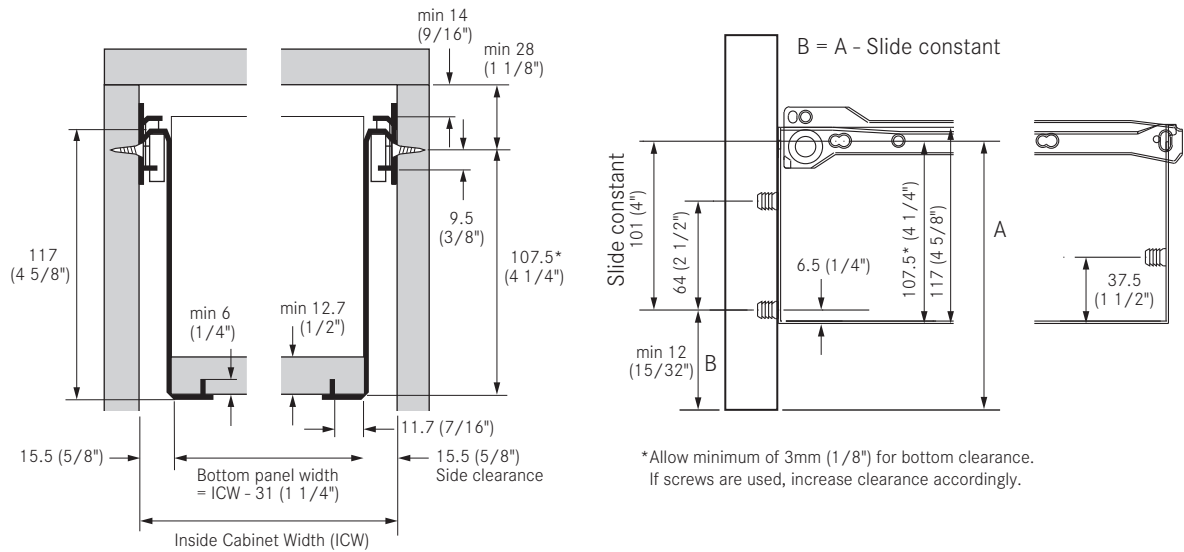


PU - Packaging unit

Drawer Back and Bottom Measurements



Drawer Installation Measurements



Drawer slide attachment:

Wood screws #6 x 5/8 FHP

Euro screw lengths 18mm, 13mm, 7.5mm

Bottom panel thickness: 12.7 - 19mm (1/2" - 3/4")

Back panel thickness: 16 - 19mm (5/8" - 3/4")

Back panel height: min 114mm (4 1/2")

Zargen 6036

85mm (3 3/8") Side Height

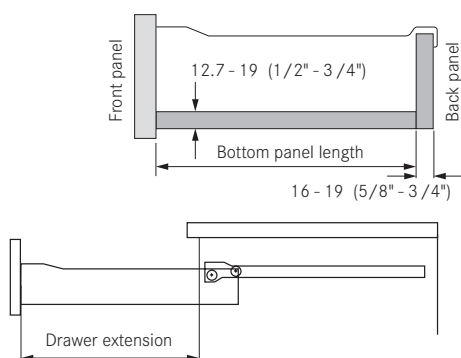


- Integrated drawer slide and drawer side
- Self-closing feature with 60mm (2 3/8") closing range
- Built-in drawer front bumpers
- Quick assembly through dowelled and integrated front fixing brackets
- White epoxy finish
- Tolerance adjustment 2mm (3/32")
- Load capacity: 100 lb
- Adjustments: Cam height (± 2 mm), side (± 1.5 mm)
- Made in the USA

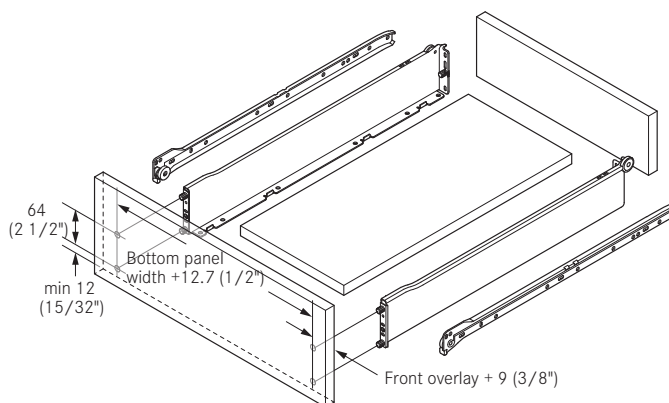
Zargen 6036 Slide, 100 lb (45 kg)



Description	Slide Length	Item No.	PU
Zargen 6036/270	270 (10 5/8")	11895-04	10
Zargen 6036/350	350 (13 3/4")	11896-04	10
Zargen 6036/400	400 (15 3/4")	12849-04	10
Zargen 6036/440	440 (17 3/8")	12850-04	10
Zargen 6036/470	470 (18 1/2")	12851-04	10
Zargen 6036/510	510 (20 1/16")	12852-04	10
Zargen 6036/550	550 (21 5/8")	11901-04	10
Zargen 6036/400	400 (15 3/4")	12849-16	400
Zargen 6036/440	440 (17 3/8")	12850-16	400
Zargen 6036/470	470 (18 1/2")	12851-16	400
Zargen 6036/510	510 (20 1/16")	12852-15	300
Zargen 6036/550	550 (21 5/8")	11901-15	300

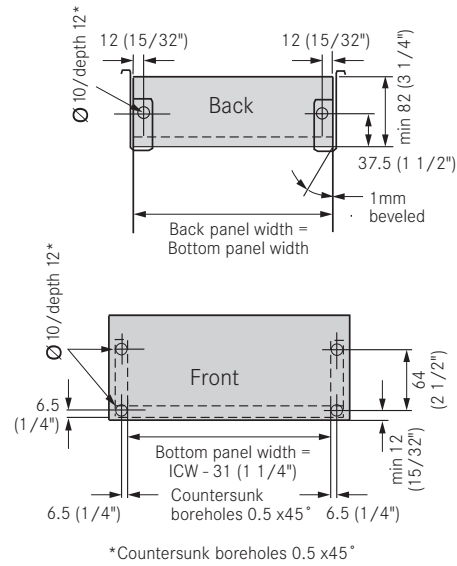


Slide Length	Bottom Panel Length		Extension	
	16mm (5/8") Back Panel	19mm (3/4") Back Panel	Single Stop	Double Stop
270 (10 5/8")	251 (9 7/8")	248 (9 3/4")	200 (7 7/8")	-
350 (13 3/4")	331 (13 1/16")	328 (12 15/16")	280 (11")	-
400 (15 3/4")	381 (15")	378 (14 7/8")	300 (11 13/16")	314 (12 3/8")
440 (17 3/8")	421 (16 9/16")	418 (16 7/16")	340 (13 3/8")	354 (13 15/16")
470 (18 1/2")	451 (17 3/4")	448 (17 5/8")	370 (14 9/16")	384 (15 1/8")
510 (20 1/16")	491 (19 5/16")	488 (19 3/16")	410 (16 1/8")	424 (16 11/16")
550 (21 5/8")	531 (20 7/8")	528 (20 13/16")	450 (17 11/16")	464 (18 1/4")

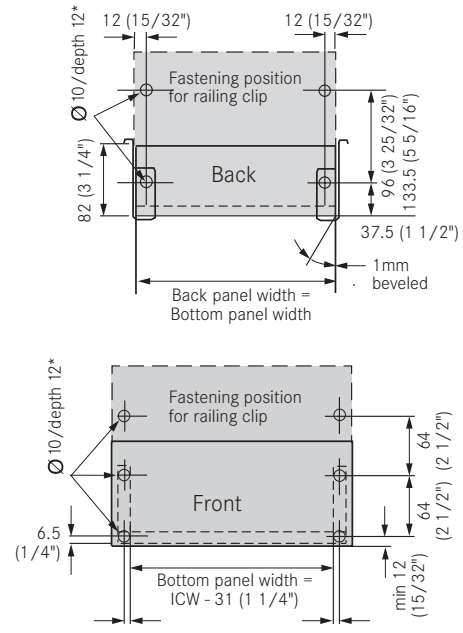


PU - Packaging unit

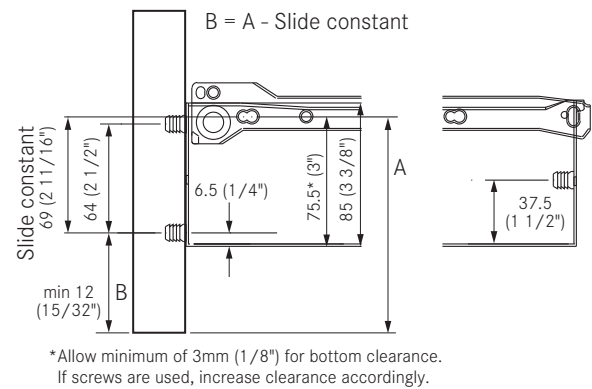
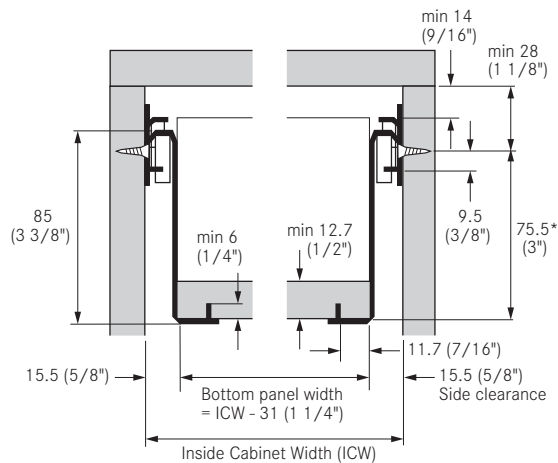
Drawer Back and Bottom Measurements



Drawer Back and Bottom Measurements with 6100 Railing Installation



Drawer Installation Measurements



Drawer slide attachment:

Wood screws #6 x 5/8 FHP

Euro screw lengths 18mm, 13mm, 7.5mm

Bottom panel thickness: 12.7 - 19mm (1/2" - 3/4")

Back panel thickness: 16 - 19mm (5/8" - 3/4")

Back panel height: min 82 (3 1/4")

All dimensions in millimeters.

Zargen 6026

85mm (3 3/8") Side Height

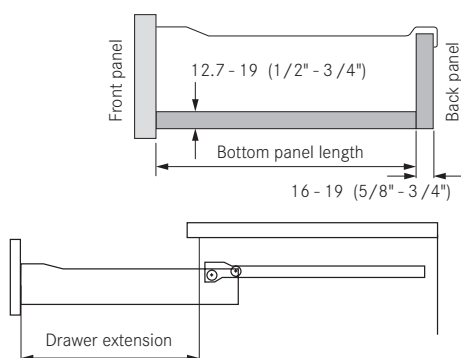


- Integrated drawer slide and drawer side
- Self-closing feature with 60mm (2 3/8") closing range
- Built-in drawer front bumpers
- Quick assembly through dowelled and integrated front fixing brackets
- White epoxy finish
- Tolerance adjustment 2mm (3/32")
- Load capacity: 100 lb
- Manual Adjustments: height (± 2 mm), side (± 1.5 mm)
- Made in the USA

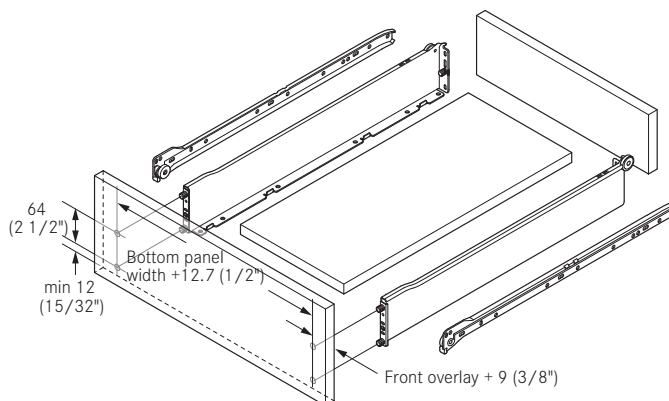
Zargen 6026 Slide, 100 lb (45 kg)



Description	Slide Length	Item No.	PU
Zargen 6026/270	270 (10 5/8")	17766-04	10
Zargen 6026/350	350 (13 3/4")	17767-04	10
Zargen 6026/400	400 (15 3/4")	17768-04	10
Zargen 6026/440	440 (17 3/8")	11103-04	10
Zargen 6026/470	470 (18 1/2")	11128-04	10
Zargen 6026/510	510 (20 1/16")	17771-04	10
Zargen 6026/550	550 (21 5/8")	17772-04	10
Zargen 6026/400	400 (15 3/4")	17768-16	400
Zargen 6026/440	440 (17 3/8")	11103-16	400
Zargen 6026/470	470 (18 1/2")	11128-16	400
Zargen 6026/510	510 (20 1/16")	17771-16	400
Zargen 6026/550	550 (21 5/8")	17772-15	300



Slide Length	Bottom Panel Length		Extension	
	16mm (5/8") Back Panel	19mm (3/4") Back Panel	Single Stop	Double Stop
270 (10 5/8")	251 (9 7/8")	248 (9 3/4")	200 (7 7/8")	-
350 (13 3/4")	331 (13 1/16")	328 (12 15/16")	280 (11")	-
400 (15 3/4")	381 (15")	378 (14 7/8")	300 (11 13/16")	314 (12 3/8")
440 (17 3/8")	421 (16 9/16")	418 (16 7/16")	340 (13 3/8")	354 (13 15/16")
470 (18 1/2")	451 (17 3/4")	448 (17 5/8")	370 (14 9/16")	384 (15 1/8")
510 (20 1/16")	491 (19 5/16")	488 (19 3/16")	410 (16 1/8")	424 (16 11/16")
550 (21 5/8")	531 (20 7/8")	528 (20 13/16")	450 (17 11/16")	464 (18 1/4")



PU - Packaging unit

Zargen 6035

43mm (1 11/16") Side Height

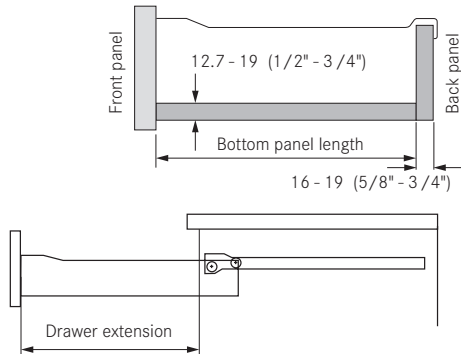


- Integrated drawer slide and drawer side
- Self-closing feature with 60mm (2 3/8") closing range
- Built-in drawer front bumpers
- Quick assembly through dowelled and integrated front fixing brackets
- White epoxy finish
- Tolerance adjustment 2mm (3/32")
- Load capacity: 100 lb
- Adjustments: Cam height (± 2 mm), side (± 1.5 mm)
- Made in the USA

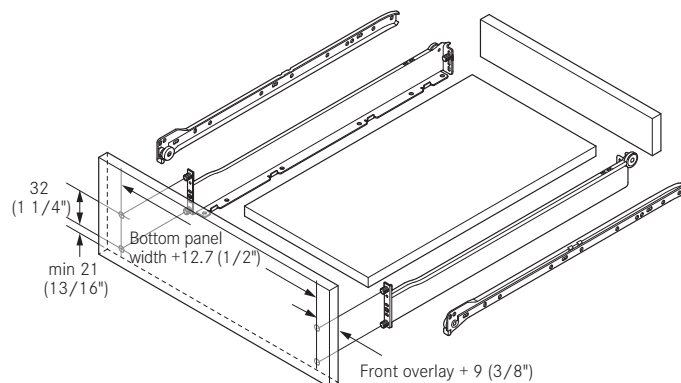
Zargen 6035 Slide, 100 lb (45 kg)



Description	Slide Length	Item No.	PU
Zargen 6035/350	350 (13 3/4")	12120-04	10
Zargen 6035/400	400 (15 3/4")	12121-04	10
Zargen 6035/440	440 (17 3/8")	12122-04	10
Zargen 6035/470	470 (18 1/2")	12123-04	10
Zargen 6035/510	510 (20 1/16")	12124-04	10
Zargen 6035/550	550 (21 5/8")	12125-04	10



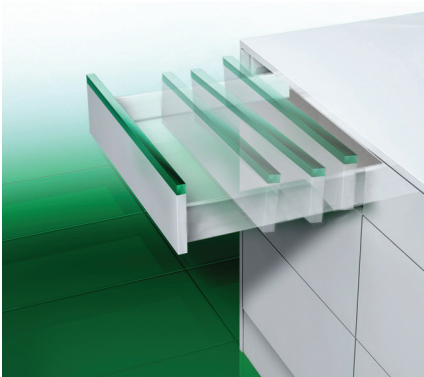
Slide Length	Bottom Panel Length		Extension	
	16mm (5/8") Back Panel	19mm (3/4") Back Panel	Single Stop	Double Stop
350 (13 3/4")	331 (13 1/16")	328 (12 15/16")	280 (11")	-
400 (15 3/4")	381 (15")	378 (14 7/8")	300 (11 13/16")	314 (12 3/8")
440 (17 3/8")	421 (16 9/16")	418 (16 7/16")	340 (13 3/8")	354 (13 15/16")
470 (18 1/2")	451 (17 3/4")	448 (17 5/8")	370 (14 9/16")	384 (15 1/8")
510 (20 1/16")	491 (19 5/16")	488 (19 3/16")	410 (16 1/8")	424 (16 11/16")
550 (21 5/8")	531 (20 7/8")	528 (20 13/16")	450 (17 11/16")	464 (18 1/4")



PU - Packaging unit

Zargen Soft-close

Damper set



- Add-on damper creates a smooth soft-close action for Zargen drawers
- Liquid closing mechanism for improved performance
- Three options for various load capacities
- Height adjustment $\pm 2\text{mm}$ via elongated hole
- Secure striker plate engagement
- Actuator design allows for flush mounting
- Set includes: damper and actuator unit

Soft-close Damper



Description	Load Capacity	Item No.	PU
15 kg Damper set	33 lb	02564-11	140
30 kg Damper set	66 lb	02572-11	140
70 kg Damper set	154 lb	02565-11	140

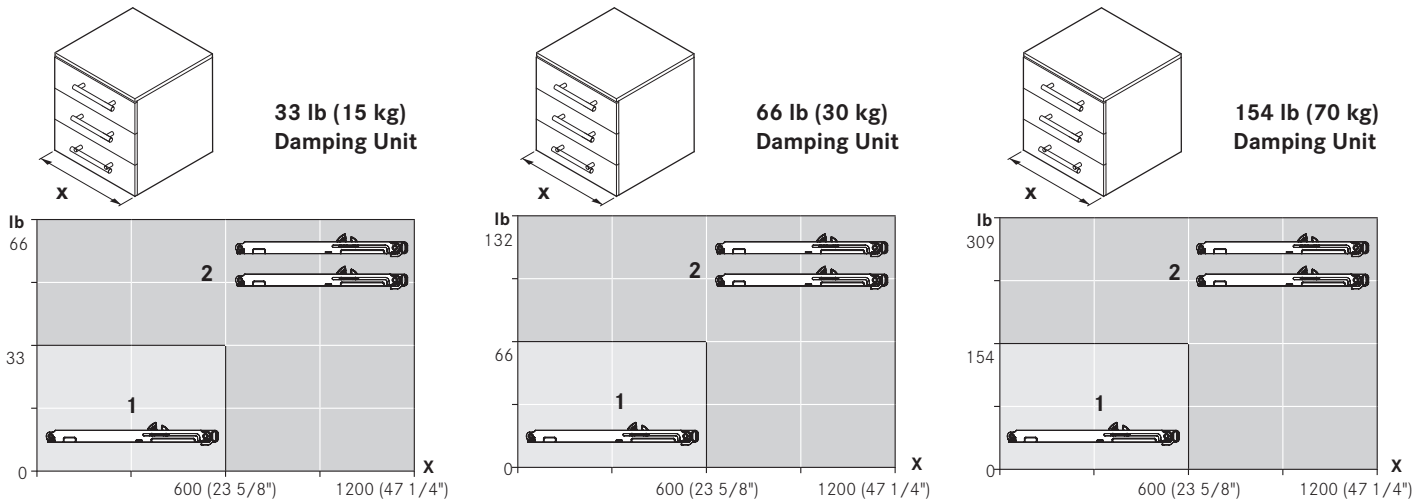
Note: Damper sets do not include screws.

Soft-close Damper Placement



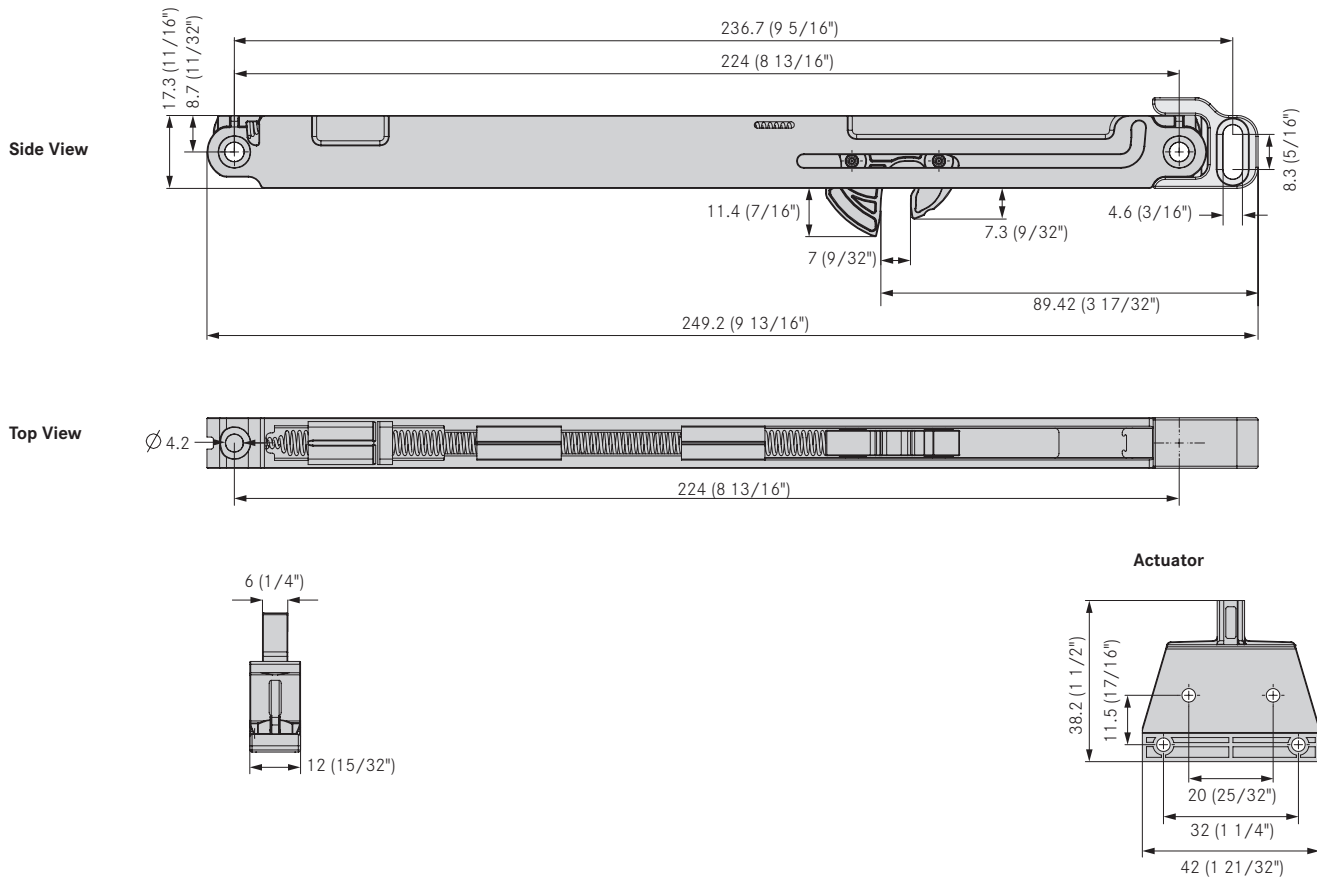
Note: Damper set does not include drawer components.

Dampers per Drawer

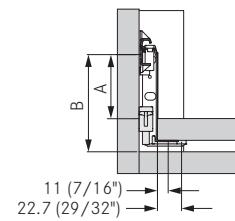
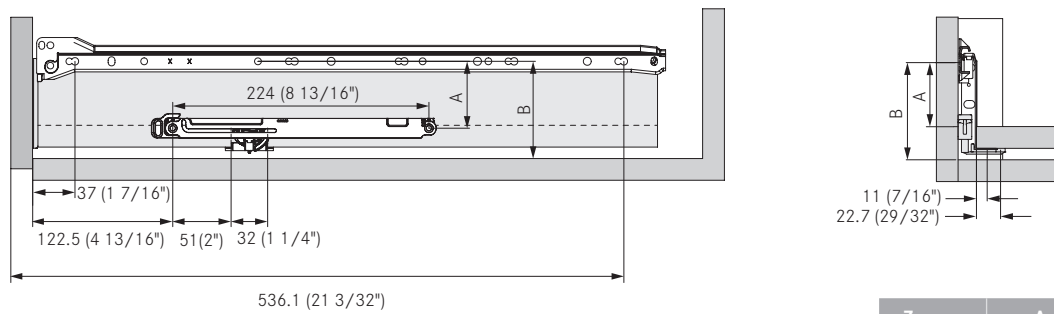


PU - Packaging unit

Product Specifications



Mounting Dimensions



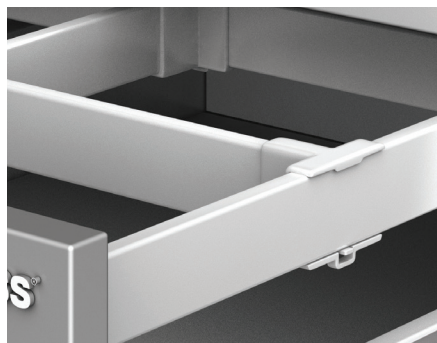
Recommended screws are:

#4 x 1/2" Phillips flat head wood screws

#4 x 3/4" Phillips pan head wood screws

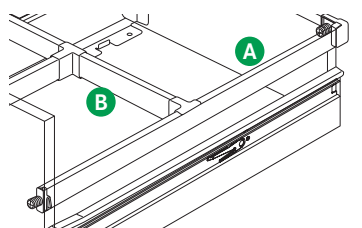
Zargen	A	B
43	16.5	43
85	58.5	85
117	90.5	117
149	122.5	149
213	186.5	213

6100 Railing System

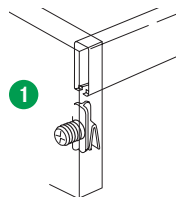


- Designed for use with ZBox and Zargen Systems
- Easy to construct
- Allows end user to customize storage space
- Includes convenient rail dividers
- Available in white

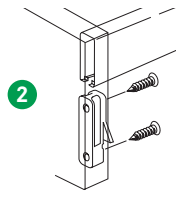
6100 Railing System



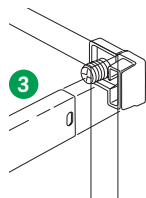
Front railing clip
Dowelled



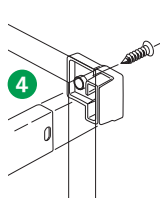
Front partition clip
Screw-on



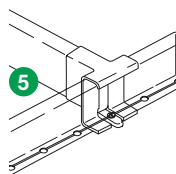
Back railing clip
Dowelled



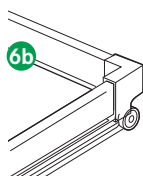
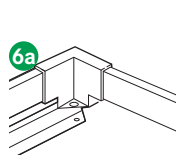
Back railing clip
Screw-on



Divider railing clip

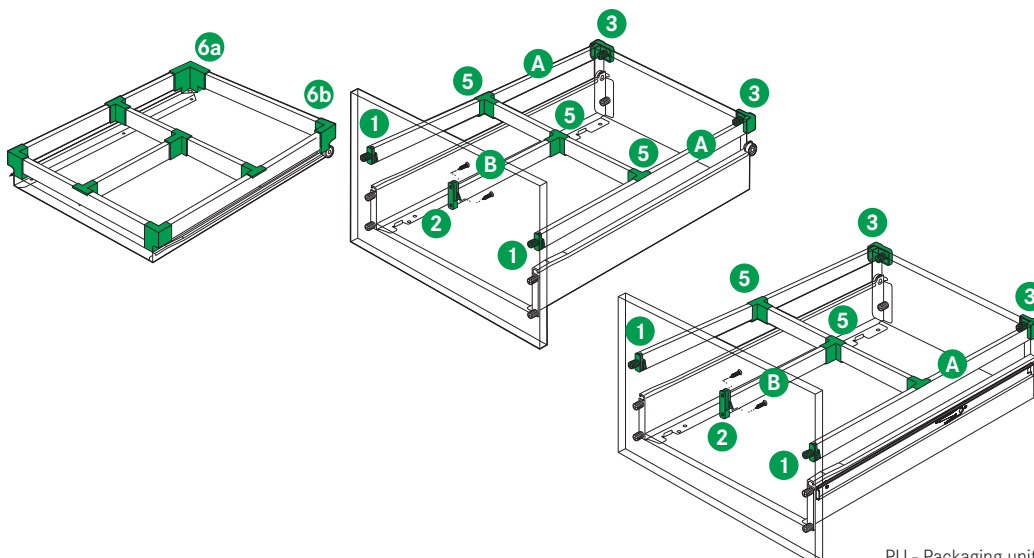


Corner Bracket



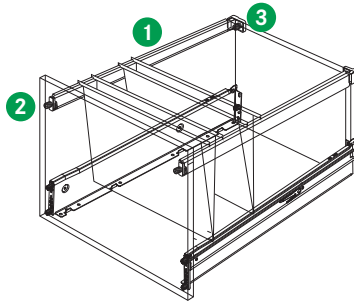
Description	Slide Length	Item No.	PU
A 6100-02 Side railing 345 (13 9/16")	350 (13 3/4")	F085098128211	20
6100-02 Side railing 395 (15 9/16")	400 (15 3/4")	F085096773211	20
6100-02 Side railing 435 (17 1/8")	440 (17 3/8")	F085096774211	20
6100-02 Side railing 505 (20")	510 (20 1/16")	F085096776211	20
6100-02 Side railing 545 (21 3/8")	550 (21 5/8")	F085097210211	20
B 6100-02 Divider railing - cut to size	Railing length 1000 (39 3/8")	F085096783211	20

Description	Item No.	PU
1 6150-01 Front railing clip, dowelled	F145096360111	20
2 6150-HF Front partition clip, 4.2mm screw-on	F145098829111	20
3 6150-02 Back railing clip, dowelled	F145096719123	100
4 6150-03 Back railing clip, 4.2mm screw-on	F145096769111	20
5 6180-01 Divider railing clip	F145096770111	20
6a 6190-01 Corner bracket, LH	F145096771111	20
6b 6190-01 Corner bracket, RH	F145096772111	20

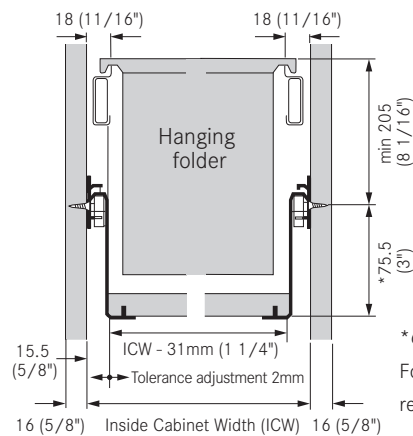


PU - Packaging unit

- File Rail 6110



Inside Cabinet Width



*6036 measurement used.
For other drawer heights,
refer to the appropriate page.

ICW = 342mm (13 7/16")

Drilling Patterns for Pendaflex File Drawers

Technical drawing of a railing cross-section. The railing has a total depth of 12 inches. The front face is labeled "Front". The top section contains "Bore holes for railing clips 6150/01". The bottom section is labeled "Bottom width". The railing is mounted on a base with a minimum depth of 12 inches (15/32 inches). The base has a width of 6.5 inches (1/4 inch) on each side. The railing has a width of 6.5 inches (1/4 inch) on each side. The railing has a height of 64 inches (2 1/2 inches) and a total height of 160 inches (6 5/16 inches). The railing has a depth of 10 inches (1/4 inch) and a total depth of 12 inches.

12 (15/32") 12 (15/32")

Ø 10/depth 12

Fastening position for railing clip 6150/02

Back panel

192 (7 9/16") 229.5 (9 1/16")

37.5 (1 1/2") 1mm beveled

Back panel width Bottom panel width

Letter 310 (12 3/16")
 Legal 386 (15 3/16")

37.5 (1 1/2")

192 (7 9/16")

267 (10 1/2")

37.5 (1 1/2")

12 (15/32")

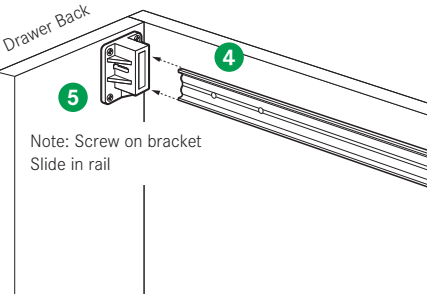
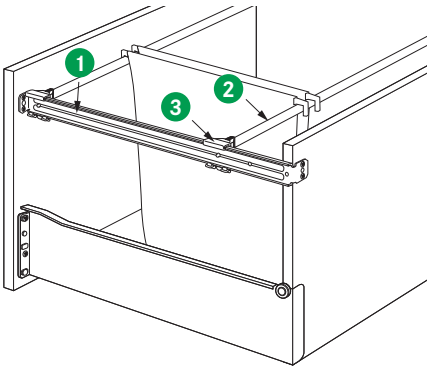
Back panel can be reversed for drilling

File Railing

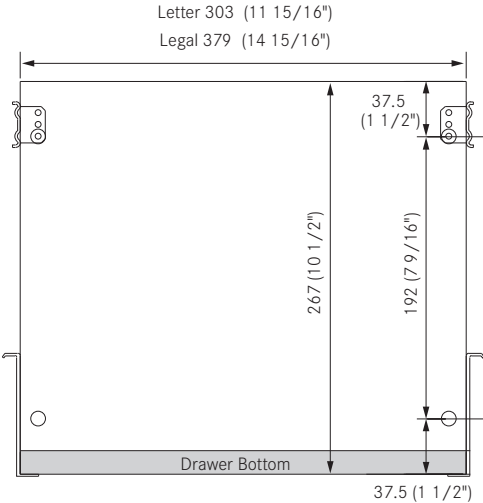


- Designed for use with metal drawer system or wood drawer application
- File bar accommodates lateral file application
- Easy to construct
- Available in white finish

US File Rail

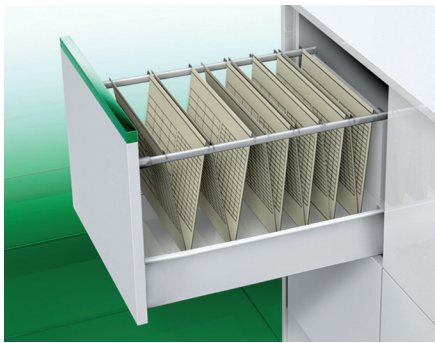


Description	Use With Slide Length	Item No.	PU
1 US/468.5 Side rail	470 (18 1/2")	01692-05	20
US/508.5 Side rail	510 (20 1/16")	01690-05	20
US/548.5 Side rail	550 (21 5/8")	01686-05	20
2 711 (28") File bar		30890-05	20
3 Lateral file clip		30954-39	20
4 US/442.5 Partition rail	470 (18 1/2")	01693-05	20
US/482.5 Partition rail	510 (20 1/16")	01691-05	20
US/522.5 Partition rail	550 (21 5/8")	01687-05	20
5 Partition bracket		30956-39	20



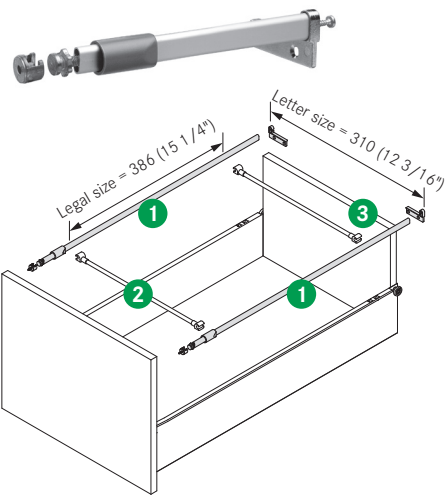
PU - Packaging unit

3595 Pendaflex Aluminum File Railing



- For Zargen and ZBox drawer systems
- Install file railing system independent from drawer system
- Front tilt adjustment
- Oval aluminum anodized

3595 File Rail

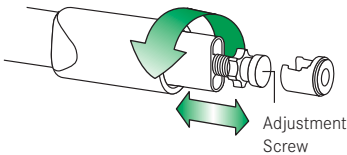


Description	Length	Item No.	PU
1 File railing set	500 (20")	F084074850511	20
2 Divider rail - cut to size	1200 (47 1/4")	F084074854223	20
3 Divider clips		F084074857133	20

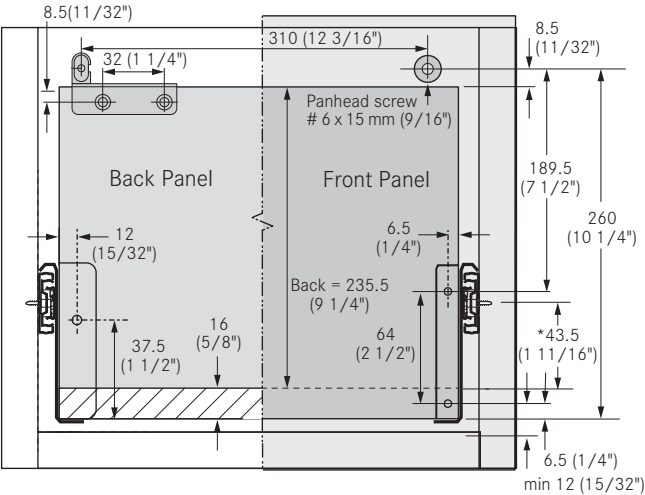
File Railing set consists of:

- 2 Side gallery rails
- 2 Front fixing parts
- 2 Back fixing parts
- 2 Cover caps

Front Tilt Adjustment

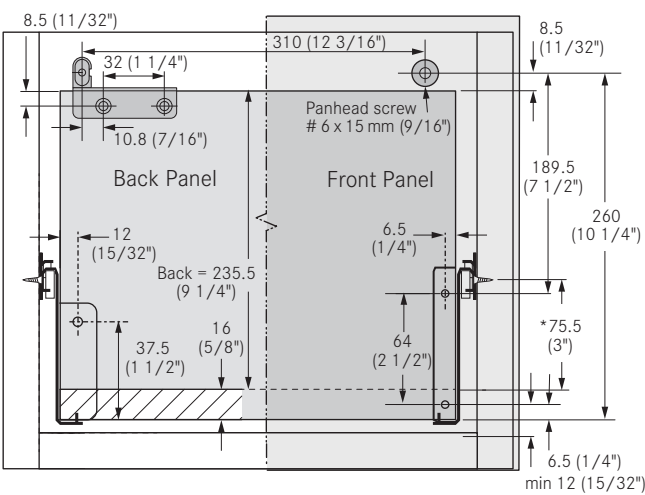


ZBox Installation Instructions



* 6023 measurement used. For other drawer heights, refer to the appropriate page.

Zargen Installation Instructions

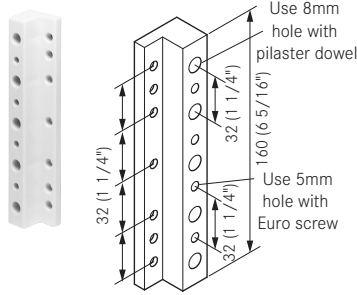


* 6036 measurement used. For other drawer heights, refer to the appropriate page.

Accessories and Assembly Aids

ZBox and Zargen

Pilaster Mounting Bracket



- Fits over 32mm line boring patterns
- Attaches to cabinet with Euro or wood screws
- Allows use of pilaster dowel on cabinet member for an adjustable roll out shelf
- Allows roll out shelves to be adjustable in 32mm increments

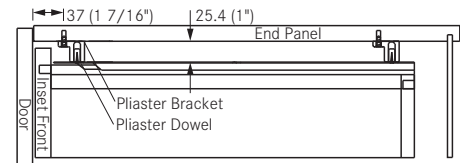
Description	Item No.	PU
Pilaster mounting bracket	30912-12	200

Pilaster Dowels



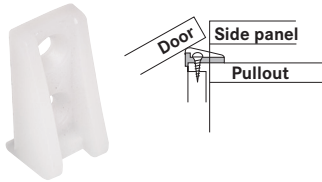
- Allows for construction of adjustable pull-outs with any Zargen Drawer Slide System when attached to cabinet member
- Dowel requires an 8mm x 5/8" deep hole
- Attaches with a #6 x 5/8" or #6 x 1/2" FHP screw

Description	Item No.	PU
Pilaster dowel, black	00395-43	500



Example shown using 6036 slide with 19mm (3/4") front material

Door/Drawer Protector



- Attaches to side of wooden pull-out
- Designed for inset pull-out trays for frame or frameless cabinetry

Description	Item No.	PU
Door/drawer protector	13096-43	500

6036 Support Bracket



- Attaches to the center of wide drawers for support
- Elongated holes for drawer front adjustments

Description	Item No.	PU
6036 Support bracket, nickel	22226-42	100

Central Locking Device



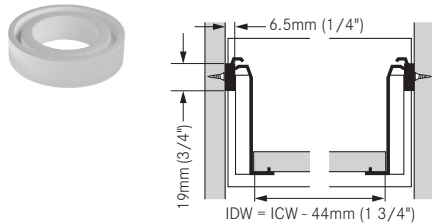
- Use with most commercial gang lock system
- Provides necessary match for gang lock pins to engage
- For 6023, 6036, and 6026

Description	Item No.	PU
Central locking device	F145088123 238	300

PU - Packaging unit

ZBox and Zargen

6036 Spacer for Inset Drawers



Description	Item No.	PU
6036 Spacer	00035-42	100

6195 Spacers for Cabinet Members



Designed for doors protruding into the cabinet and for inset drawers.

Description	Item No.	PU
1 6195 Spacer, 25mm	F145086478 111	20
2 6195 Spacer, 11mm	89104-39	20
3 6195 Spacer/pin, 25mm	13097-39	20

Screws

Euro Screw, Nickel-plated



Description	Item No.	PU
Euro screw 11mm (7/16") Pozi	499.360.61.1015	500
Euro screw 13mm (1/2") Pozi	499.360.61.3015	500

Wood Screw, Nickel-plated



Description	Item No.	PU
#6 x 5/8" FHP, NI	81001-43	500
#6 x 3/4" FHP, NI	81003-43	500

Accessories and Assembly Aids

Zargen

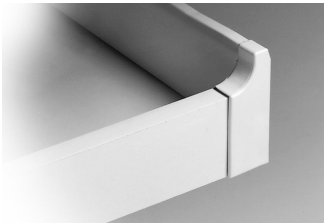
Zargen Front Bracket



- Position bracket on the inside edge of the face frame with the tab resting on the cross rail
- Brackets can be stapled or screwed

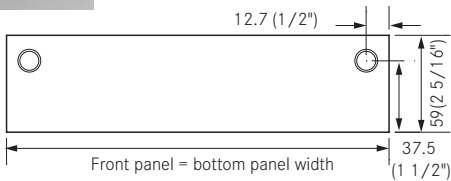
Description	Item No.	PU
Zargen front bracket	00228-09	100

Roll-out Tray Bracket



- Allows 6036/6026 slide to be used as roll out tray
- Tray front is 59mm (2 5/16")
- Bracket mounts to front of slide
- Color: white

Description	Item No.	PU
6036/6026 Roll out tray bracket - polybag	30570-05	20
6036/6026 Roll out tray bracket set	30561-15	300
#4 X 3/8", NI screws	00073-43	500



Polybag consists of:

- 2 - Brackets, LH and RH
- 2 - Clamps
- 4 - #4 X 3/8", NI screws

Set consists of:

- 2 - Brackets, LH and RH
- 2 - Clamps

Roll-out Tray Bracket, Dowelled

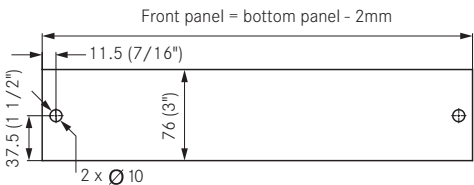
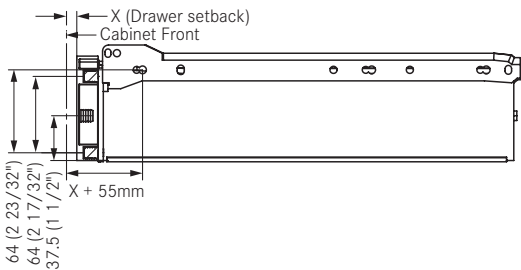


- Allows 6036/6026 slide to be used as roll out tray
- Tray front is 76.2mm (3")
- For use with 5/8" (16mm) drawer front material
- Bracket mounts to the front of slide
- No need to remove the adjustment bracket
- Color: white

Description	Item No.	PU
6036/6026 Roll out tray bracket - dowelled	30573-15	300

Set consists of:

- 2 - Brackets, LH and RH



ZBox & Zargen Mounting Brackets

Zargen

6196 Bracket



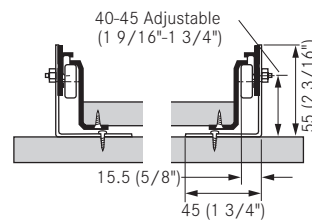
- Attaches cabinet member of drawer slide if no side panel is available
- Bracket can be used for right or left
- Polybag includes 4 brackets with screws

Description	Item No.	PU
6196 Bracket	00432-08	50

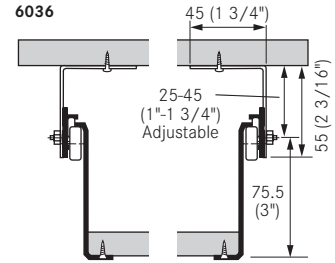
Polybag set consists of:

- 4 - Brackets
- 8 - Screws #10 x 5/8" PHP Screws

6035



6036



Rear Mounting Socket



- Drawer slide can slide in or out to achieve different cabinet depth
- Extra long length
- Socket can be stapled or screwed

Description	Item No.	PU
Rear mounting socket, left	13946-09	100
Rear mounting socket, right	13947-09	100
Rear mounting socket, left	13946-17	500
Rear mounting socket, right	13947-17	500

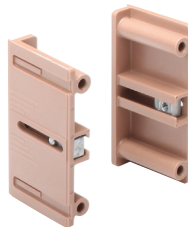
ZBox

Inset Bracket Set



For ZBox face frame application, the inset bracket provides a simple solution to attach the cabinet member to the face frame without having to block out the cabinet.

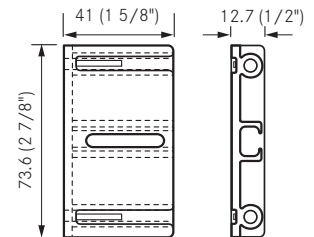
- Bracket mounts behind the face frame, minimum 12.7mm (1/2") frame required
- Includes guide markings for proper setback of 37mm



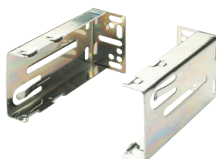
Description	Item No.	PU
Inset bracket set	13901-37	1
Inset bracket set	13901-08	50

Polybag set consists of:

- 2 - Universal inset bracket ABS brown
- 2 - 8 X 32 Tapped insert for inset bracket
- 4 - #7 X 2" mounting screws
- 2 - #8 - 32 X 1/2" Machine screw FHP
- 1 - Instructions



Face Frame Brackets



Description	Item No.	PU
Face frame rear mount bracket	30200-09	100

Machinery

Grass PRO1 and ZRam for ZBox and Zargen Assembly

Grass PRO1 for ZBox and Zargen

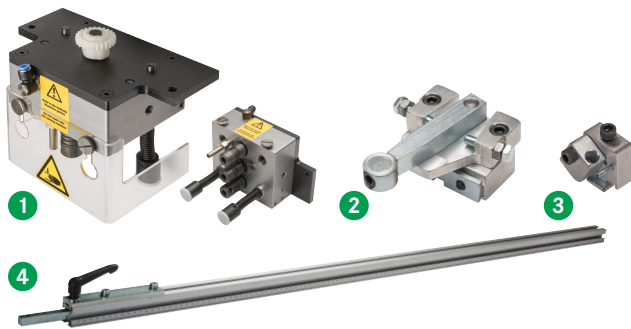


- Depth stop can be adjusted to material thickness
- Functional design
- Easy, fast and efficient operation
- Easy maintenance
- 3 spindle gear box

Description	Item No.	PU
220v single phase pneumatic	80131	1
220v three phase pneumatic	80132	1
110v single phase pneumatic	80068	1

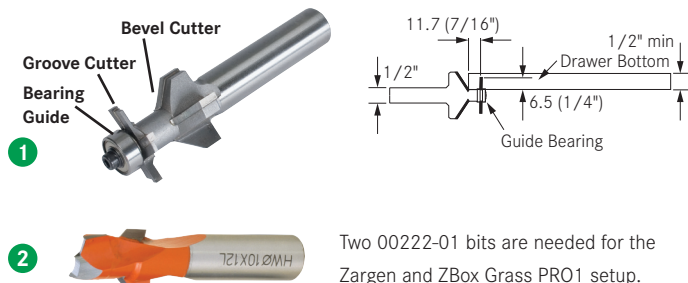
Note: Machine Item Numbers above include the three items in PRO1 Kit #80154

ZBox and Zargen Conversion Kit



Description	Item No.	PU
1 PRO1 Gear box	80151	1
2 PRO1 Side-to-side stop	80153	1
3 PRO1 13mm Fence stop	80152	1
PRO1 Kit (gear box, fence and side stops)	80154	1
4 Extension fence 300mm to 1550mm	88612-01	1

Bits

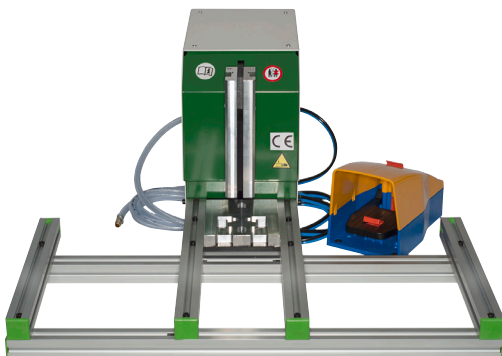


This bit is designed for grooving and beveling the drawer bottoms for the lipped version of the ZBox and Zargen drawer slide. The bit comes only with a 1/2" shank.

Description	Item No.	PU
1 Router bit	00197-01	1

Description	Item No.	PU
2 10mm Carbide counter sink drill bit, LH	00222-01	1

ZRam



- Designed for semi-automated assembly of ZBox and Zargen slides
- Operated by a foot pedal – air required
- No adjustment required when using various heights or when switching slide types
- Economical solution for drawer assembly

Description	Item No.	PU
ZRam	93250-01	1
ZRam retrofit kit	69401	1

PU – Packaging unit

Assembly of ZBox and Zargen

Grass PRO 1

To assemble, drill drawer back dowel holes for each side by positioning back against the side-to-side stop.

To ensure correct positioning of the drawer front dowel holes, place drilled drawer back against right side of 13mm stop. Set floating side stop at opposite end of panel. Drill bits are countersunk to allow for easy installation of dowels.

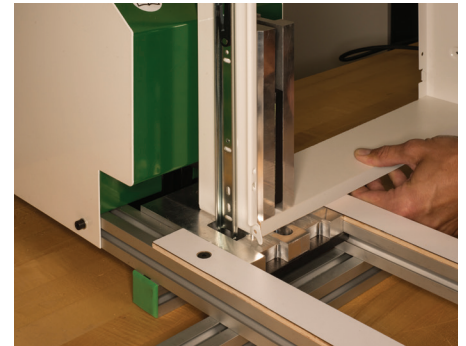
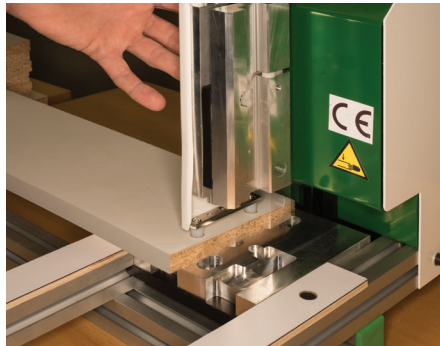
To drill right side of drawer front, place front against the 13mm stop. To drill left side, place front against floating side stop.



ZRam

To insert the slide, position the slide against the ZRam arm and place drawer back over the dowel. Repeat for other side.

Place drawer front face down on ZRam. Position slide over dowel holes and depress foot pedal. Repeat for other side.



After assembly is complete, place drawer box on a stable surface and press bottom firmly over tabs.

Note: The same process is used for the assembly of both the ZBox and Zargen drawer systems.





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Phone: 1 (800) 334-3512**

**GRASS PRO1
OWNER REGISTRATION FORM**

In order to validate your warranty, please complete this form in full and mail it along with proof of purchase to the above address or email the completed form to info@grassusa.com

Company Name: _____

Street Address: _____

City: _____ State: _____ Zip Code: _____

Telephone#: _____

Name of Contact: _____

Date of Purchase: _____

Serial Number: _____

Dealer's Name: _____

Street Address: _____

City: _____ State: _____ ZipCode: _____

Name of Dealer's Representative (Contact Person): _____

Please list all accessories purchased with machine in the space provided below: