

## UP timer

### Specifications (previous/current)

Type: 24 Hr. 3-position On/Timer/Off 15-minute interval

- Size: 3.77 x 2.85 x 1.25"
- Supply voltage: 120 VAC
- Power consumption: 1 VA

Switch rating: SPDT

- Resistive: 21A/6 A
- Tungsten: 1350 W.
- Inductive: 1 HP @ 120 VAC; 2 HP @ 240 VAC

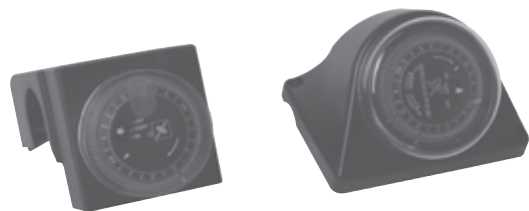
Wiring connections: 1/4" quick-connects.

### Installation

Indoor, wired and mounted on the UP terminal box.

### Features

- Compact and contemporary design.
- Captive trippers are easy to set, cannot be lost.
- Quartz drive provides 7-day carry-over.
- Synchronous drive for greatest accuracy, lowest cost



TM03 7883 0307

Previous timer  
Date codes 9132-0527

Current timer  
Date codes 0528 and after

Fig. 1 UP timers

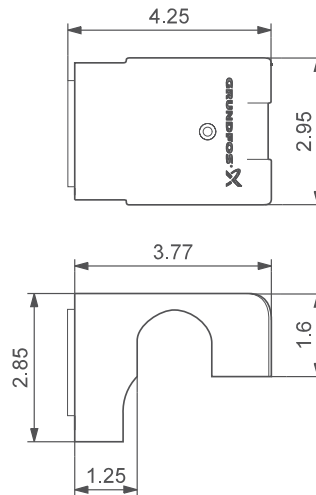
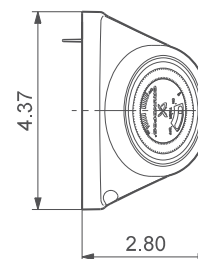
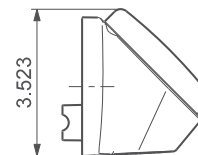


Fig. 2 Timer dimensions, previous version

TM03 4406 3507



TM03 9076 3307

Fig. 3 Timer dimensions, current version

## Timer control

Product number	Description	Shipping weight	Length		Height		Width	
		[oz.]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]
505474	24-hour programmable clock/timer for use with single speed. Series UP (115 V) circulator* for date codes 9132 - 0527	10	62	2 7/16	32	1 17/64	60	2 3/8
599388	24-hour programmable clock/timer for use with single speed. Series UP (115 Vt) circulator* for UP 15 only date code 0528 and after	10	62	2 7/16	32	1 17/64	60	2 3/8

## Approvals



## AquaStat

### Specifications

Description: Thermostatic switch.

Type: Bi-metallic disc, snap acting.

Enclosure: environmentally sealed.

Mounting:

- Clip-on mount for 1/2" I.D. copper tube (5/8" O.D.).
- Clip-on mount for 3/4" I.D. copper tube (7/8" O.D.).

Contact rating:

- 10 A @ 120 VAC, 60 Hz resistive.
- 5 A @ 240 VAC, 60 Hz resistive.

### Temperature rating

Low-temp model

- 105±5 °F (40±2 °C) pump switches off.
- 85±6 °F (29±3 °C) pump switches on.

High-temp model

- 115±5 °F (46±2 °C) pump switches off.
- 105±5 °F (40±2 °C) pump switches on.

Leads:

- 2 leads, AWG 18, 14".
- 12", black insulation, silicon or epoxy overmold.
- 1/2" strip length.

Application:

- Clip-on thermostatic control for the UP circulators.

### Approvals

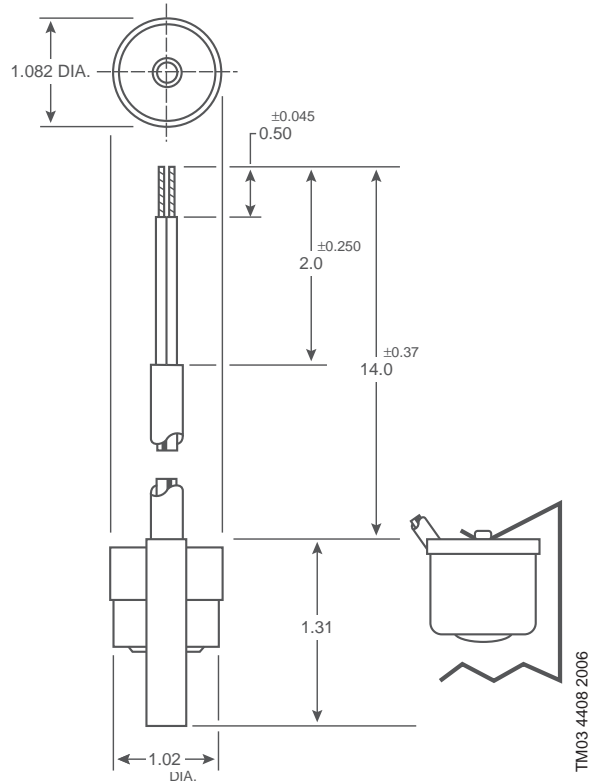


Fig. 4 AquaStat dimensions

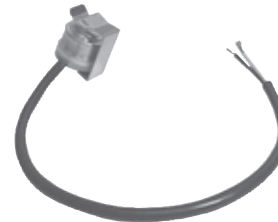


Fig. 5 AquaStat

### Thermostatic controls

Product number	Description	Shipping weight [oz.]
595443	Aquastat set, 1/2" clip-on mount for 5/8" O.D. system piping size, 85 °F - 105 °F* (1/2" I.D. copper tubing or 3/8" steel pipe) shielded wire, with PVC jacketed cable	1 lb
595444	Aquastat set, 3/4" clip-on mount for 7/8" O.D. system piping size, 85 °F - 105 °F* (3/4" I.D. copper tubing or 1/2" steel pipe) shielded wire, with PVC jacketed cable	1 lb
595656	Aquastat set, 1/2" clip-on mount for 5/8" O.D. system piping size, 105 °F - 115 °F* (1/2" I.D. copper tubing or 3/8" steel pipe) shielded wire, with PVC jacketed cable	1 lb
595657	Aquastat set, 3/4" clip-on mount for 7/8" O.D. system piping size, 105 °F - 115 °F* (3/4" I.D. copper tubing or 1/2" steel pipe) shielded wire, with PVC jacketed cable	1 lb

**Note:** Dimensions in inches unless otherwise noted.

## Pump Zone Controls

### Specifications

Grundfos Zone Controls are non-networked devices intended to be used for circulator and boiler control in hydronic heating systems.

- One, three, and four - expandable to six zones
- Powder coated panel surface
- Multi-panel linking capability
- Selectable priority and freeze protection
- Single service relay for all models
- 2-wire with one 3-wire thermostat capability
- Automatic reset PTC fuse on system 24 VAC
- High capacity 25VA rated transformer
- Multiple knockouts
- Separate X-X & ZC-ZR terminals for “Cold Start” or “Tankless Coil” boilers
- Models UPZC-3 & UPZC-4/6 only:
  - No priority
  - Zone 1 priority
  - Zone 1 priority w/ 1-hour freeze protection

Model	Dimensions [in]		
	L	W	D
UPZC-1	5.2	4.3	2.9
UPZC-3, 4/6	9.8	12.1	2.9

Note: Dimensions in inches unless otherwise noted.

Model	UPZC-1	UPZC-3	UPZC-4/6
Part number	96741787	96741788	96741789
Number of zones	1	3	4 to 6
Priority feature	No	Yes	Yes
Priority timer (min.)	N/A	60	60
Input power 60 hz	120VAC +/- 10%		
Transformer voltage	120VAC, 24V, 15VA, Class 2		
Thermostat output (amps)	0.13A		
Max. single phase motor rating (per zone)	1/3Hp, 10A, GP		
Max. combined load rating: Output @ 120VAC (amps)	10A	30A	
Min./max. ambient temperature range	32 °F (0 °C) / 104 °F (40 °C)		
Max. operating humidity range: % RH	0.95		
Number of knockouts	4	14	
Size of knockouts (in.)	7/8-inch		
UPZC dimensions: W x H x D (in.)	5-3/16 x 4-5/15 x 2-15/16	15 x 11-3/8 x 4-7/8	
Relay type	DPDT Socketed		
Approvals	UL-873, CAN/CSA C22.2 No. 24		

### Universal service relay

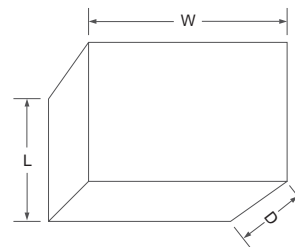
Part number: 10 ea.	96741790
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## Approvals



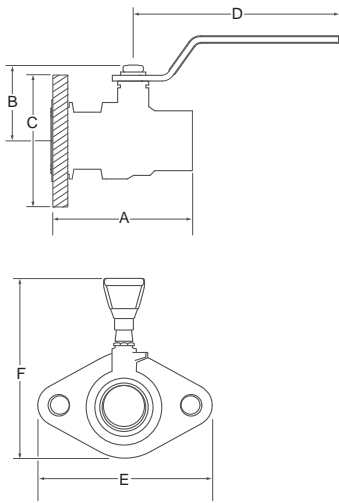
TM04 9906 0311 - TM04 9907 0311

**Fig. 1** Grundfos Zone Controls (with closeup of circuit board)



TM04 9908 0311

## Packaged dielectric isolation valve sets



TM04 9909 0311



TM03 7901 0307

Pump connection	Pipe connection type and size		Material number	Approx. shipping weight [lb/oz.] 1 kit	Face to face [A*]	Center of port to top [B*]	Flange diameter [C*]	Center of valve to handle end [D*]
	NPT	Solder			[inch]	[mm / inch]	[inch]	[inch]
GF 15/26 flange	Bronze	1/2"	96806129	2 / 13	2 27/32	51 / 2	4 3/16	3 29/64
		3/4"	96806130	3 / 2	3 3/64	57 / 2 1/4	4 3/16	3 3/4
		1"	96806131	4 / 8	3 35/64	67 / 2 21/32	4 3/16	4 17/32
		1-1/4"	96806132	4 / 13	4 1/32	75 / 2 31/32	4 3/16	4 35/64
		1-1/2"	96806133	4 / 14	4 7/64	75 / 2 31/32	4 3/16	4 5/8
	Steel	1/2"	96806134	2 / 12	2 49/64	51 / 2	4 3/16	3 15/32
		3/4"	96806135	3 / 4	3 1/4	57 / 2 1/4	4 3/16	3 47/64
		1"	96806136	4 / 8	3 55/64	67 / 2 21/32	4 3/16	4 1/2
		1-1/4"	96806137	4 / 13	4 1/2	75 / 2 31/32	4 3/16	4 35/64
		1-1/2"	96806138	4 / 15	4 37/64	75 / 2 31/32	4 3/16	4 9/16

**Note:** Each set contains  
 2 each - rotating flanges, lever-handled full-ported ball valve, EPDM gaskets, dielectric sleeves.  
 4 each - 7/16" X 1-3/4" bolts with nuts.  
 Dimensions in inches unless otherwise noted.

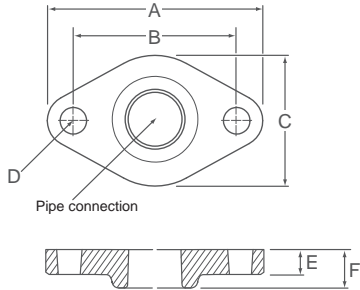
Materials of construction	
Flange	Chrome plated steel
Valve body	Brass
Valve ball	Chrome plated brass
Valve seat	PTFE
Dielectric sleeve	Composite
Bolt	Chrome plated steel
Nut	Chrome plated steel
Gaskets	EPDM
Maximum temperature	230 °F (110 °C)
Maximum pressure	150 psi

## Approvals

IAPMO - #6591

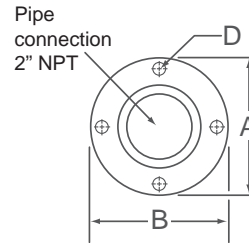
## Packaged fitting sets

GF 15/26/40/43



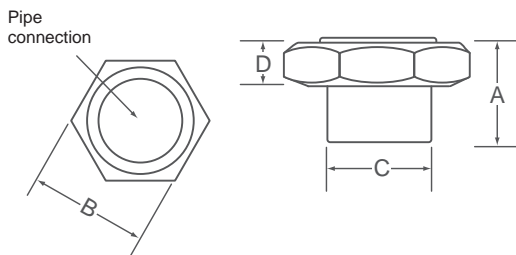
TM04 9808 0111

GF 50



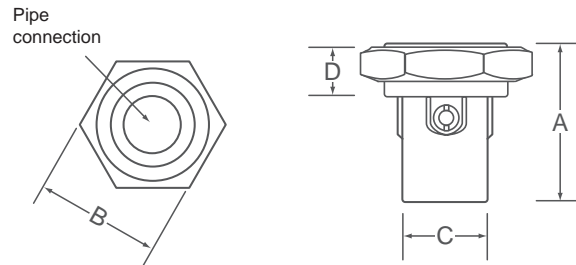
TM04 9810 0111

GU 125 Union



TM04 9809 0111

Isolation Valve GU 125 Union



TM04 9811 0111

Material	Pump Connection	Pipe Connection			Material Number	Dimensions (in. / mm)					
		NPT	Solder	Compression		A	B	C	D	E	F
Cast Iron	GF15/26	3/4"			519601						
		1"			519602						
		1-1/4"			519603	4-1/4 / 106	3-1/8 / 80	2-3/4 / 67	1/2 / 13	1/2 / 13	3/4 / 20
		1-1/2"			519604						
	GF40/43	1-1/2"			539605	4-3/4 / 120	3-1/2 / 87	3 / 74	1/2 / 13	1/2 / 13	3/4 / 20
	GF50	2" (4-bolt flange)			96409354	5-1/4 / 133	4 / 103	-	1/2 / 14	1/2 / 13	3/4 / 20
Bronze	GF15/26	3/4"			519651						
		1"			519652	4-1/4 / 106	3-1/8 / 80	2-3/4 / 67	1/2 / 13	1/2 / 13	3/4 / 20
		1-1/4"			96409356						
	GF40/43	1-1/2"			539615	4-3/4 / 120	3-1/2 / 87	3 / 74	1/2 / 13	1/2 / 13	3/4 / 20
	GF50	2" (4-bolt flange)			96409355	5-1/4 / 133	4 / 103	-	1/2 / 14	1/2 / 13	3/4 / 20
	GU 125 Union	3/4"			529912	1 / 25	1-7/8 / 46	1-1/4 / 31	5/8 / 16	-	-
Isolation Valves Bronze	GU 125 Union		1/2"		529913	3/4 / 20	1-7/8 / 46	3/4 / 20	5/8 / 16	-	-
			3/4"		529911	3/4 / 20	1-7/8 / 46	1 / 26	5/8 / 16	-	-
			1/2"		519850	2-1/4 / 57	1-7/8 / 46	1 / 25	5/8 / 16	-	-
			3/4"		519852	2-1/4 / 57	1-7/8 / 46	1-1/4 / 31	5/8 / 16	-	-
		3/4"		519851	2 / 51	1-7/8 / 46	1-1/4 / 31	5/8 / 16	-	-	

**Notes:**

GF15/26/40/43 Flange sets to include two flanges, two gaskets, and four nuts and bolts.

GF50 Flange sets to include two flanges, two gaskets, and eight nuts and bolts.

GU 125 Union Union set to include two nuts, gaskets, and adapters.

Dimensions are in inches unless otherwise noted.

### Approvals (Bronze sets)

IAPMO - #6591

## UP-ZV zone valves

### Specifications

Grundfos UP-ZV 24V, 2-way motorized zone valves for hydronic heating or chilled water applications.

#### Standard features

- In-line removable actuator for ease of installation and service
- manual open/close lever
- sealed end switch
- silent close-of technology
- high gear ratio
- forged brass body
- removable service cap
- high Cv rating.

#### Approvals



TM04 9803 0111

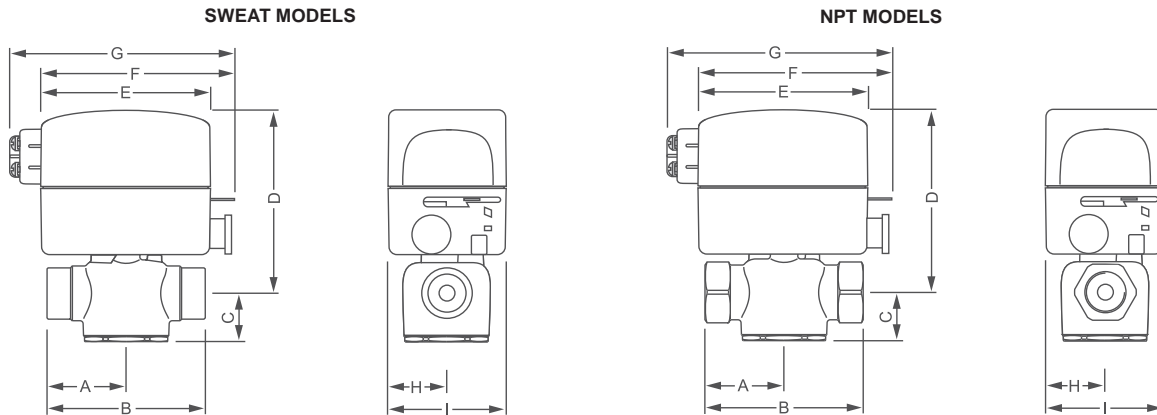
### Technical data

Max. percent glycol:	50 %
Fluid temp. range:	32 to 240 °F (0 to 115 °C)
Ambient temp. range:	32 to 104 ° F (0 to 40 °C)
Max. humidity:	95 % non-condensing
Max. static pressure:	15 psi (1 bar) steam
	300 psi (20 bar)
Stroke time	Open: approx. 45 sec.
	Closed: approx. 10 sec.
<b>Actuator motor</b>	
Actuator motor:	Synchronous hysteresis
Class:	Class A
Voltage:	24-VAC +/- 10 %, Class 2
	5 Watts
	7 VA
Run amps:	300 ma
In-rush:	300 ma
<b>End (auxiliary) switch models</b>	
Type:	Sealed
De-energized position:	Normally closed
Rating:	0.4A (400 mA) @ 24 VAC (AC/DC)
	Class 2
Isolated:	Yes

<b>Valves</b>	
Valve operation:	With power: opened
	Without power: closed
	Manually opened: opened
<b>Materials of construction</b>	
Valve body:	Brass
Seat:	Brass
Stem:	Stainless steel
Paddle:	EPDM
O-rings:	EPDM

## UP-ZV flow characteristics

Connection size	Flow Coefficient	Max. Close-off ΔP
1/2-inch Sweat	3.5 Cv (3.0 Kv)	30 psi (207 kPa)
3/4-inch Sweat	7.5 Cv (6.5 Kv)	20 psi (138 kPa)
1-inch Sweat	7.5 Cv (6.5 Kv)	20 psi (138 kPa)
3/4-inch NPT	3.5 Cv (3.0 Kv)	30 psi (207 kPa)



TM04 9804 0111

Connections	Dimensions [inches]								
	A	B	C	D	E	F	G	H	I
1/2-inch Sweat	1 5/16	2 5/8	15/16	4	3 7/16	4	4 17/32	1 3/16	2 3/8
3/4-inch Sweat	1 3/8	2 5/8		4 3/16					
1-inch Sweat	1 11/16	2 5/8							
3/4-inch NPT	1 13/16	2 5/8							

Note: Dimensions for actuators with or without auxiliary switch.

Product number	Description
97627415	1/2-inch Sweat, 2-way Valve Body, Normally Closed, <b>with</b> End Switch
97627416	1/2-inch Sweat, 2-way Valve Body, Normally Closed, <b>without</b> End Switch
97627419	3/4-inch Sweat, 2-way Valve Body, Normally Closed, <b>with</b> End Switch
97627420	3/4-inch Sweat, 2-way Valve Body, Normally Closed, <b>without</b> End Switch
97627421	1-inch Sweat, 2-way Valve Body, Normally Closed, <b>with</b> End Switch
97627422	1-inch Sweat, 2-way Valve Body, Normally Closed, <b>without</b> End Switch
97627417	3/4-inch NPT, 2-way Valve Body, normally Closed, <b>with</b> End Switch
97627418	3/4-inch NPT, 2-way Valve Body, normally Closed, <b>without</b> End Switch

## Service

Product number	Description
97627423	Actuator 24-VAC, Normally Closed <b>with</b> End Switch
97627424	Actuator 24-VAC, Normally Closed <b>without</b> End Switch

## Replacement flange gaskets

For use with flange set	Material number	Description	Shipping weight [oz.]
GF 15/26	510179	Single gasket for 1-1/4" flange	4
GF 40/43	530244	Single gasket for 1-1/2" flange	4
GF 50	96409353	Single gasket for 2" flange	4
GF 65	550097	Single gasket for 2-1/2" flange	4
GF 80	560185	Single gasket for 3" flange	4
GF 100	570008	Single gasket for 4" flange	4
GU 125	520089	Single gasket for GU 125 union	4