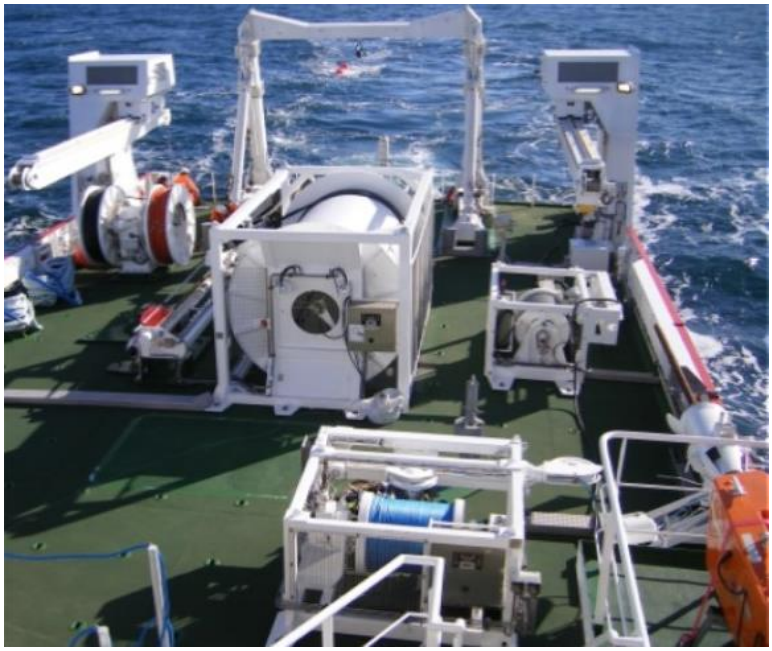
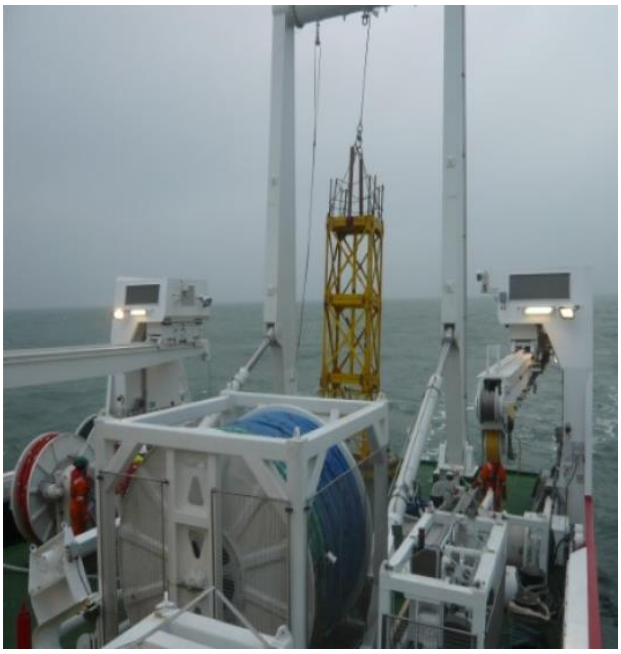
ROMICA TIE GROUP

Deck Machinery/Build to Print/Bespoke Design

Radically focused on customer feedback to continuously improve and develop the Deck Machinery needed to safely and efficiently deploy and recover, data, resources, and tools from the ocean.

Deck Equipment Sales Catalogue





Last Modified 28th February 2022

About Us

The Romica Tie Group (RTG) is an Anglo European consortium specialist in the design and manufacture of equipment for the offshore renewable energy, oceanographic research vessel, ocean and seabed survey industries. RTG has 20 years of experience and has supplied many bespoke and standard systems to clients and operators around the world. RTG has offices in the UK and Transylvanian Region of Romania (EU), along with agency agreements in China and Asia. RTG has worked with the private, government and military sectors of the offshore market.

RTG is an OEM and provides consultancy, bespoke design and manufacturing services (prototyping and special product manufacture and build). RTG's business philosophy, "together we can achieve more", is valid as much within the internal organisation, as with the supply chain and customer networks it operates. RTG adds value through experience and know-how, agile manufacturing and well-established processes and systems that assure quality for the customer. The group implements quality and welding systems with TUV, and DNV, has a workshop approved under the Bureau Veritas system. RTG has class approved designs and has built products under classification society survey. (DNV, Lloyds register and Bureau Veritas). RTG has 'built to print' under class survey for the best-known deck machinery brands in the industry.

Our Vision ***'Provide solutions to our clients that help facilitate the advancement of oceanographic research, greener energy and sustainability to ensure the oceans and our planet remains a sustainable environment for life.'***

Our Mission: Radically focused on customer feedback to continuously improve and develop the Deck Machinery needed to safely and efficiently deploy and recover, data, resources, and tools from the ocean

Accreditations and Associations

We have the following accreditations and associations:

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1 Winches

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1.1 Mooring

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Mooring Winch Description

RTG offers a range of mooring winches, these can be split into 2 main categories:

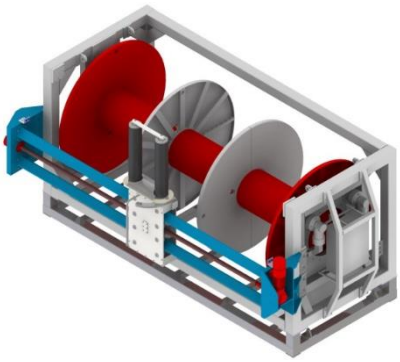
1. Mooring (multi winch lift applications)

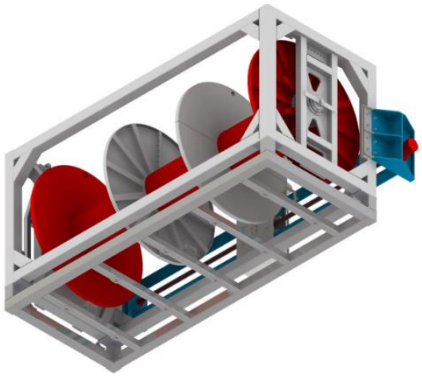
RTG can offer a range of mooring winches. These range from 3 Te to 75 Te load capacity. Winches are designed robustly on a sacrificial sub frame.
Supplied with or without level wind. Full DNV design approval and manufacture under survey can be offered on request.
The **RTG** mooring winch range has generally 2 types: direct pull system, and traction winch.

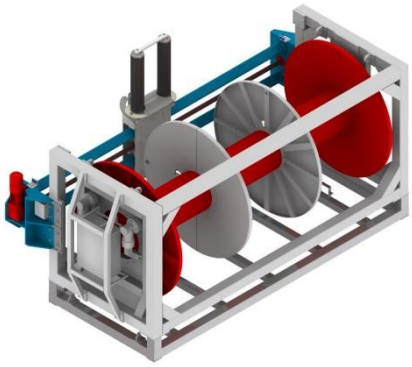
2. Mooring (Subsea Moorings)

RTG can offer supplied traction winches for installation and recovery of subsea moorings.
Winches have been developed to handle and pass the chains and linkages safely, without damage, through the system.
Clamping and stopper systems have been integrated into the winch system to ensure safe connection and disconnection operation.
The traction winch barrel design allows the master link assembly and any shackles and other oversized connections to pass easily through the system.

7 Te WLL - 4000m - Hydraulic Winch – DS34







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
8000	8-65	4000	27	7000	2280	10500	3420

Winch Hydraulic Drive Supply Required	RA510SS Qty 2 180 bar 100 l/min	Cable Lead-off Angle	+/-15° Horizontal plane Min +10° Max +25° Vertical plane
Level Wind Electrical Motor Supply Required	1.5 KW IP56 IE2 380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards, forklifting pockets and certified lifting lugs
Local Proportional Control and remote control	Bi-directionally proportional joystick and ScanReco wireless remote chest pack	Winch drum dimensions	Drum core Ø 635 mm, Drum Length 4300 mm, Flange Ø 2195 mm
Level wind	Electrically automatic pulse driven level wind with manual adjustment	Drum details	Plain drum: the wire is stored in 13 lays with 72 turns per lay for 60mm
Dimensions (LxWxH) Footprint	5930 x 3088 x 3154 mm with level wind 5930 x 2195 mm	Cable	60 mm but can accept the range 8 to 65 mm wire rope, overwound
Slip ring	Not Applicable	Hydraulic Ports	P G3/4” BSP, T G1” BSP, D G1/2” BSP

Principle of Operation:

The winch is driven via a slewing ring, and a pair of 3 stage, rotating case, planetary gearboxes and hydraulic motor combinations each fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, hydraulic pressure is lost, or the direction control valve is in its centre position. At the non-drive end of the winch barrel there is a slot for passing the rope through the winch flange. A rope clamp is positioned at 90° to the slot position.

The Level wind electrically driven from the 1.5 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

The winch drum has the ability to ‘split drum into 3 sections with the use of removable cheeks to allow separation of smaller moorings.

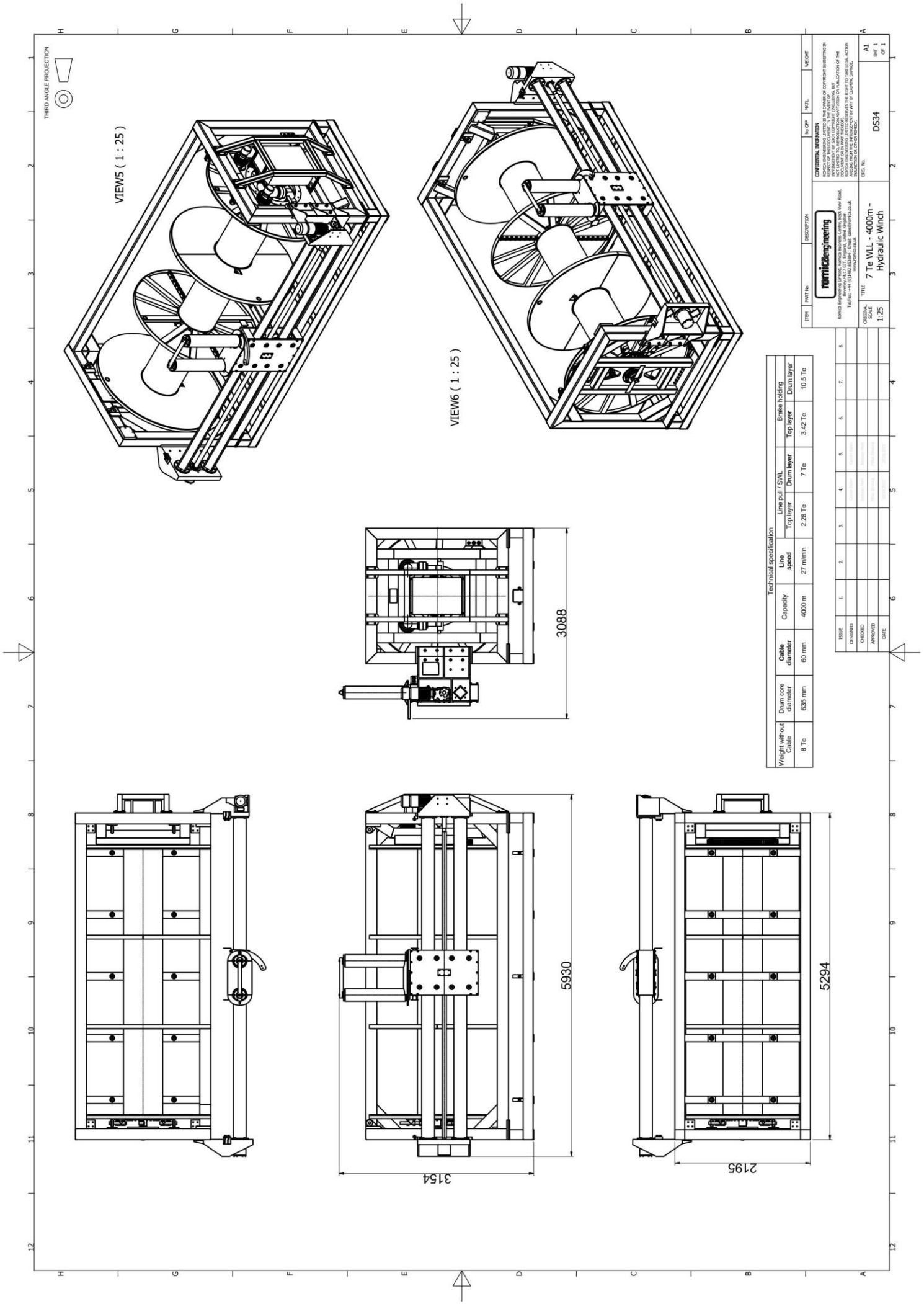
The mooring winch is mounted on to a skid designed for a deck matrix of 1 m by 1 m with M24 deck sockets. The Level wind is mounted to the mooring winch. The 20 ft open container is used for transportation of the mooring winch and detachable Level wind assembly.

The winch is supplied with the following:

- **1 Set – removable cheeks**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **A dedicated HPU located within a standard 10 ft ISO Container**
- **1 Off – Winch running flashing lights and/or Klaxon**


THIRD ANGLE PROJECTION
VIEW5 (1 : 25)
VIEW6 (1 : 25)
3088
5930
5294
3154
2195
Technical specification
Weight without Cable
Drum core diameter
Cable diameter
Capacity
Line speed
Line pull / SWL
Top layer
Drum layer
Brake holding
Top layer
Drum layer
8 Te
635 mm
60 mm
4000 m
27 m/min
2.28 Te
7 Te
3.42 Te
10.5 Te
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romicaengineering
CONFIDENTIAL INFORMATION
TITLE
7 Te WLL - 4000m - Hydraulic Winch
DWG. No.
DS34
ORIGINAL SCALE
1:25
A1
SHT 1 OF 1

35 Te WLL - Hydraulic Traction Winch System – DS70





TECHNICAL SPECIFICATION – Traction Winch

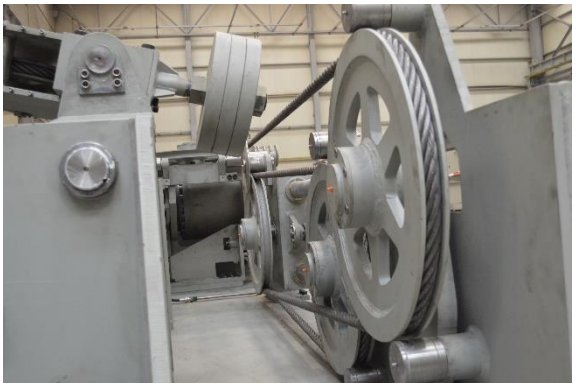
Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
20030	36	N/A	45	35000	N/A	50000	N/A

Traction Winch Hydraulic Supply Required	200 bar 850 l/min to be sourced from vessel or an external power unit	Frame details	Modular skid frame with certified lifting lugs
Level Wind Electrical Motor Supply Required	2.2 KW IP56 IE3 380-440V-3 Ph- 50/60 Hz	Capstan details Qty. 2	900 mm PCD Grooved Capstan Head: 1 lay with 6 turns per lay
Level wind	Right Angled - Electrically automatic pulse driven level wind with manual adjustment	Cable	Ø 36 mm synthetic rope
Dimensions (LxWxH) Footprint	8700 x 2380 x 2544 mm (Traction and L-W Skid) 8700 x 2380 mm	Control	Local and remote

TECHNICAL SPECIFICATION – Storage Winch

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
10587	36	3500	45	2886	1224	4329	1836

Storage Winch Hydraulic Supply Required	200 bar 120 l/min – dedicated 30 kW HPU	Frame details	Modular skid frame with certified lifting lugs
Cable	Ø 36 mm synthetic rope	Winch drum dimensions	Drum core Ø 812 mm, Drum Length 1800 mm, Flange Ø 2200 mm
Dimensions (LxWxH) Footprint	6200 x 2830 x 2565 mm (Storage and HPU Skid) 6200 x 2830 mm	Drum details	Plain drum: the wire is stored in 17 lays with 50 turns per lay





Principle of Operation:

The 35 Tonne Traction Winch system is of and modular design and it comprises of a dual barrelled traction capstan with two traction heads, a storage winch, an electro-active level wind, a wire tension shock absorber, a high tension wire measurement system and a hydraulic power unit. The storage winch, the two traction capstan heads and the wire tension shock absorber are hydraulically driven. The level wind unit is electrically driven.

The traction winch operates in the following way:

The cable is spooled on the storage winch with a constant tension. The storage winch provides low-tension storage for the cable to guarantee a maximum life of the cable. Tension sensor feedback enables the electrical control unit to adjust the storage winch hydraulic drive to maintain the constant cable tension between the level wind and the storage winch.

A right-angle level wind ensures the correct spooling of the cable onto the storage winch barrel, the position of the level wind's carriage is controlled electrically, and the sheave orientation is controlled electro-hydraulically.

The wire tension shock absorber unit comprises of an accumulator and hydraulic cylinder that smoothly equalizes the tension on the cable when shocks appears (for example when the winch starts or stops).

The capstan unit consisting of two hydraulically driven grooved wheels each having 6 grooves, the cable is spooled 6 times around the wheels because of the geometry, the grooves generate circles with different diameters which induce an increasing tension on the cable. Tension is mainly a function of the geometry of the wheel's grooves, the amount of cable payed out, the weight of the payload in water, and the differential torques generated by the grooved wheels.

A second, high tension measurement unit consisting of a pair of wheels located after the capstan unit, one of the wheels contains a load pin.

Speed control is continuously variable in increments of less than 0.05 m/s between zero and maximum throughout length of cable.

The remote control station is fitted with the following; a control joystick for the traction winch haul and veer, HPU start pushbutton, stop pushbutton, HPU running light, remote control enabled, traction winch brake released indicator, line counter and line speed display and includes a 15m interconnection cable.

The hydraulic power for the traction capstan would be supplied externally from either the vessels hydraulic system or from a separate hydraulic power source not within the scope of supply, with a minimum hydraulic cleanliness of NAS class 6.

The traction system is transportable in 2 separate units it will be necessary to reeve the cable through the traction system at each mobilisation.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**
- **30kW HPU for Storage Winch**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Spare Programmed SD Card for level wind control**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **HPU for Capstan Unit**

30kW Closed Loop Hydraulic Power Unit





TECHNICAL SPECIFICATION			
Pressure and Flow	**200 Bar @ 120 lpm**	**Frame**	**Frame within the confinements of the storage winch skid**
Pump and Motor Assy	**71cc Closed Loop variable displacement pump driven by a 30kW motor IP56 3ph IE3 with Star/Delta complete with Softex coupling and anti-vibration frame**	**Supply tank**	**200 litres manufactured from 316 stainless steel with front access filler/breather**
Supply Required	**3 ph 380 / 415 / 440 / 460 V, 50/60Hz**	**Supply tank filling point**	**G1" BSPP**
Cooling and heating	**Bowman heat exchanger – freshwater / seawater oil cooler Thermostatically controlled Tank heater 1.5 kW - 3 Ph**	**Filtration**	**Return Filters 10-micron elements, with bypass & visual indicators**
Oil Cleanliness	**Suitable for proportional valve systems ISO 4406 17/15/12, NAS 6**	**Health Monitoring**	**Full temperature & level monitoring**
Dimensions (LxWxH) Footprint	**6200 x 2830 x 2565 mm (Storage and HPU Skid) 6200 x 2830 mm**	**Controls**	**Local and remote**

Principle of Operation:

The Electrical Hydraulic Power Unit consists of, crash frame with lifting lugs, which affords protection during transportation and installation. The frame will enclose and protect the vulnerable equipment.

A 30Kw 3 phase electrical motor is coupled to a Bosch Rexroth pumps a SP 71 SR-V-EP variable displacement piston pump and a A10VSO compensated piston pump provides the required pressure and flow rates.

The hydraulic power unit is fitted with a seawater/hydraulic oil cooler. Prior to running the system, the water supply MUST be connected to a suitable water supply.

Maximum Seawater Flow ---------- 80 Ltrs/minute

Maximum Freshwater Flow ---------- 140 Ltrs/minute

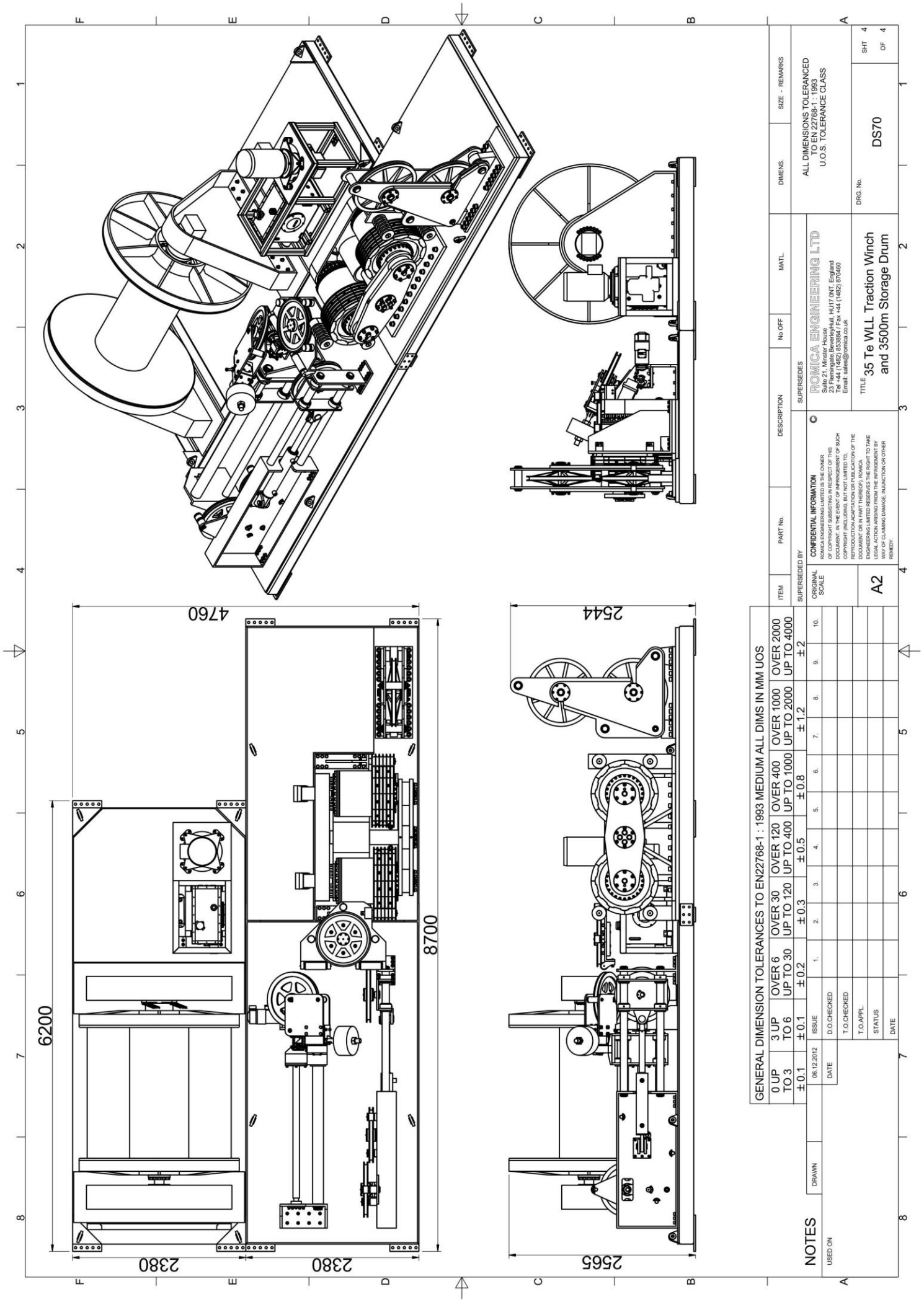
The remote control station is fitted with the following; a control joystick for the traction winch haul and veer, HPU start pushbutton, stop pushbutton, HPU running light, remote control enabled, traction winch brake released indicator, line counter and line speed display and includes a 15m interconnection cable.

The winch is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**

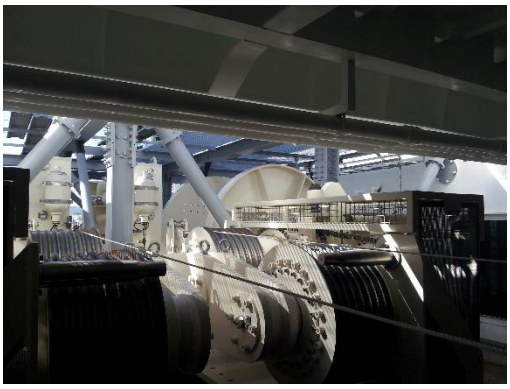
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**


4760
6200
8700
2380
2380
2544
2565
GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS
0 UP TO 3 ± 0.1
3 UP TO 6 ± 0.1
OVER 6 UP TO 30 ± 0.2
OVER 30 UP TO 120 ± 0.3
OVER 120 UP TO 400 ± 0.5
OVER 400 UP TO 1000 ± 0.8
OVER 1000 UP TO 2000 ± 1.2
OVER 2000 UP TO 4000 ± 2
NOTES
USED ON
DRAWN
ISSUE
DATE
06.12.2012
D.O.CHECKED
T.O.CHECKED
T.O.APPL.
STATUS
DATE
ITEM
PART No.
DESCRIPTION
SUPERSEDED BY
SUPERSEDES
No OFF
MATL.
ORIGINAL SCALE
A2
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23 Flemingate,Beverley,Hull, HU17 0NT. England
Tel +44 (1482) 653884 / Fax +44 (1482) 870460
Email: sales@romica.co.uk
TITLE
35 Te WLL Traction Winch and 3500m Storage Drum
DRG. No.
DS70
DIMENS.
ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS
SIZE - REMARKS
SHT 4
OF 4

35 Te WLL – Dual Hydraulic Traction Winch System – DS71





TECHNICAL SPECIFICATION – Traction Winch

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
7824	36	N/A	45	35000	N/A	50000	N/A

Traction Winch Hydraulic Supply Required	210 bar 570 l/min to be sourced from vessel or an external power unit	Frame details	Frame with certified lifting lugs
Control	Local and remote	Capstan details Qty. 2	900mm PCD Grooved Capstan Head: 1 lay with 6 turns per lay
Dimensions (LxWxH) Footprint	2290 x 1893 x 1445 mm (Each Traction winch) 2290 x 1893 mm	Cable	Ø 36 mm synthetic rope

TECHNICAL SPECIFICATION – Level wind & shock absorber

Level Wind Hydraulic Supply Required	120 bar 16 l/min – dedicated 2 x 30 kW HPU	Frame details	Frame with certified lifting lugs
Level wind	Right Angled - Hydraulically driven level wind with manual adjustment	Control	Local and remote
Dimensions (LxWxH) Footprint	4015 x 1120 x 2275 mm (Each Level wind) 2897 x 1120 mm	Weight (Kg)	424

TECHNICAL SPECIFICATION – Storage Winch

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
8733	36	3500	45	1002	438	4255	1836

Storage Winch Hydraulic Supply Required	110 bar 85 l/min – dedicated 2 x 30 kW HPU	Frame details	Frame with certified lifting lugs
Cable	Ø 36 mm synthetic rope	Winch drum dimensions	Drum core Ø 812 mm, Drum Length 1800 mm, Flange Ø 2200 mm
Dimensions (LxWxH) Footprint	3200 x 2200 x 2340 mm (Each Storage Winch) 3200 x 2200 mm	Drum details	Plain drum: the wire is stored in 17 lays with 52 turns per lay

Note Total weight of one system: 16981 Kg

Principle of Operation:

The 35 Tonne Traction Winch system is of and modular design and it comprises of a the following items one left and one right handed, dual barrelled traction capstan with two traction heads, a storage winch, a hydraulic level wind, a wire tension shock absorber, a high tension wire measurement system and a hydraulic power unit. The hydraulic power for the traction capstan would be supplied externally from either the vessels hydraulic system or from a separate hydraulic power source not within the scope of supply, with a minimum hydraulic cleanliness of NAS class 6.

The traction winch operates in the following way:

The cable is spooled on the storage winch with a constant tension. The storage winch provides low-tension storage for the cable to guarantee a maximum life of the cable. Tension sensor feedback enables the electrical control unit to adjust the storage winch hydraulic drive to maintain the constant cable tension between the level wind and the storage winch.

A right-angle level wind ensures the correct spooling of the cable onto the storage winch barrel, the position of the level wind's carriage is controlled electrically, and the sheave orientation is controlled electro-hydraulically.

The wire tension shock absorber unit comprises of an accumulator and hydraulic cylinder that smoothly equalizes the tension on the cable when shocks appears (for example when the winch starts or stops).

The capstan unit consisting of two hydraulically driven grooved wheels each having 6 grooves, the cable is spooled 6 times around the wheels because of the geometry, the grooves generate circles with different diameters which induce an increasing tension on the cable. Tension is mainly a function of the geometry of the wheel's grooves, the amount of cable payed out, the weight of the payload in water, and the differential torques generated by the grooved wheels.

Speed control is continuously variable in increments of less than 0.05 m/s between zero and maximum throughout length of cable.

The remote control station is fitted with the following; a control joystick for the traction winch haul and veer, HPU start pushbutton, stop pushbutton, HPU running light, remote control enabled, traction winch brake released indicator, line counter and line speed display and includes a 15m interconnection cable.

The traction system is transportable in separate units it will be necessary to reeve the cable through the traction system at each mobilisation.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**
- **2 X 30kW HPU for Storage Winch**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis**
- **1 Set – Spare sacrificial feet/mounting plates**
- **HPU for Capstan Unit**

2 x 30KW Closed Loop Hydraulic Power Unit



TECHNICAL SPECIFICATION			
Pressure and Flow	**200 Bar @ 120 lpm**	**Frame**	**Frame within the confinements of the storage winch skid**
Pump and Motor Assy	**2 x SP71 Closed Loop variable displacement pump and A10VSO Open Loop pressure compensator driven by 30KW motor IP56 3ph IE3 with Star/Delta complete with Softex coupling and anti-vibration frame**	**Supply tank**	**478 litres manufactured from 316 stainless steel with front access filler/breather**
Supply Required	**3 ph 380 / 415 / 440 / 460 V, 50/60Hz**	**Supply tank filling point**	**G1" BSPP**
Cooling and heating	**Bowman heat exchanger – freshwater / seawater oil cooler Thermostatically controlled Tank heater 2 kW - 3 Ph**	**Filtration**	**Return Filters 10-micron elements, with bypass & visual indicators**
Oil Cleanliness	**Suitable for proportional valve systems ISO 4406 17/15/12, NAS 6**	**Health Monitoring**	**Full temperature & level monitoring**
Dimensions (LxWxH) Footprint	**2520 x 900 x 1825 mm 2520 x 900 mm**	**Controls**	**Local and remote**

Principle of Operation:

The Electrical Hydraulic Power Unit consists of, crash frame with lifting lugs, which affords protection during transportation and installation. The frame will enclose and protect the vulnerable equipment.

Each 30Kw 3 phase electrical motor are coupled to a Bosch Rexroth pumps a SP 71 SR-V-EP variable displacement piston pump and a A10VSO compensated piston pump provides the required pressure and flow rates.

The hydraulic power unit is fitted with a seawater/hydraulic oil cooler. Prior to running the system, the water supply MUST be connected to a suitable water supply.

Maximum Seawater Flow ---------- 80 Ltrs/minute

Maximum Freshwater Flow ---------- 140 Ltrs/minute

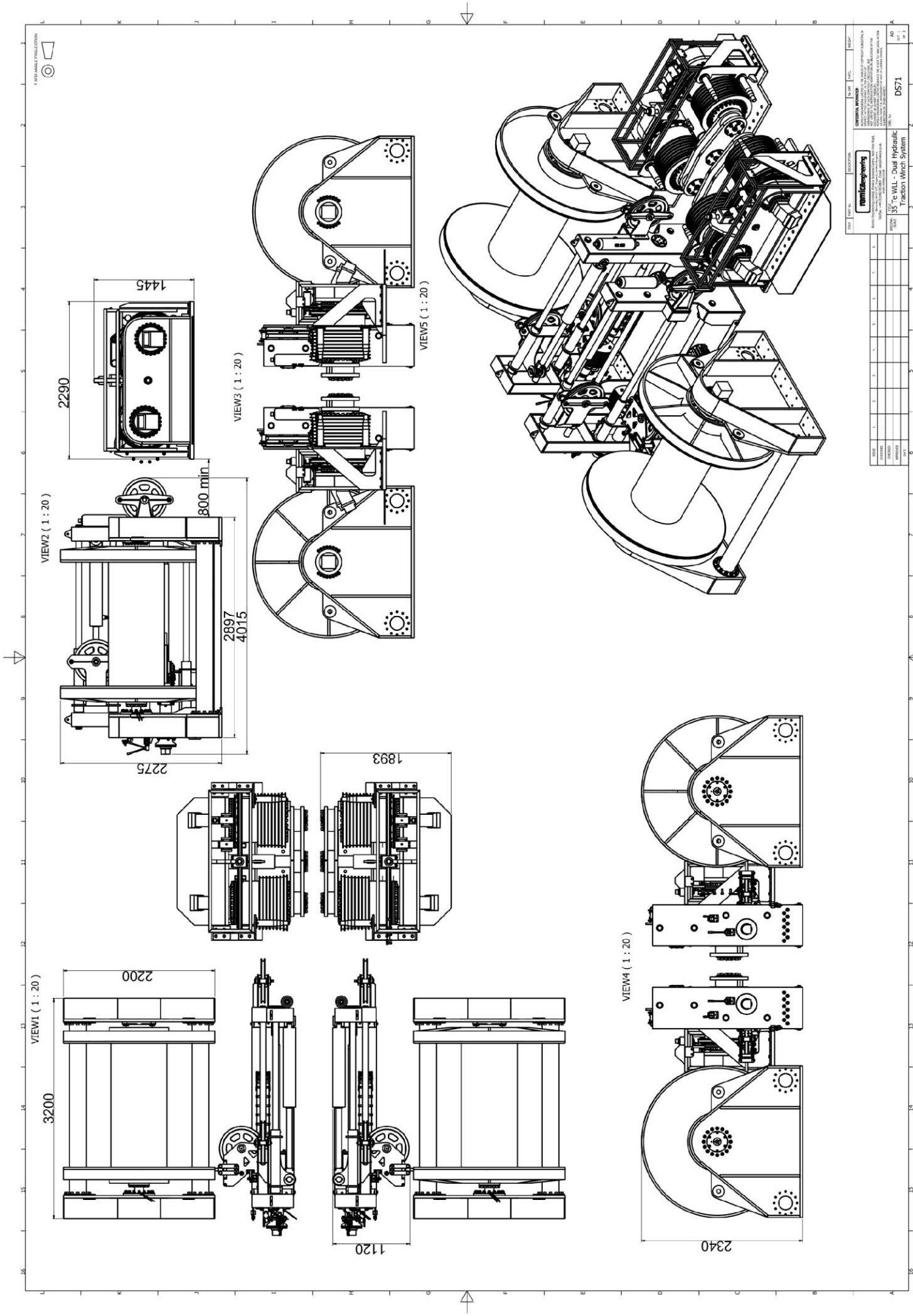
The remote control station is fitted with the following; a control joystick for the traction winch haul and veer, HPU start pushbutton, stop pushbutton, HPU running light, remote control enabled, traction winch brake released indicator, line counter and line speed display and includes a 15m interconnection cable.

The winch is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**


VIEW1 (1 : 20)
VIEW2 (1 : 20)
VIEW3 (1 : 20)
VIEW4 (1 : 20)
VIEW5 (1 : 20)
2200
3200
1120
1893
2275
800 min
2897
4015
2290
1445
2340
35 Te WLL - Dual Hydraulic Traction Winch System
DS71

1.2 Geotechnical

0.7 Te WLL - 500m - Electric Winch – DS08 18
0.7 Te WLL - 500m - Electric Winch – DS79 20
2.75 Te WLL - 3500m - Electric Winch – DS01 22
7.14 Te WLL - 3500m - Hydraulic Winch – DS13 24
7.4 Te WLL - 1000m - Hydraulic Winch – DS04 26
7.4 Te WLL - 1500m - Hydraulic Winch – DS40 28
12 Te WLL - 1300m - Hydraulic Winch & HPU – DS37 30
12 Te WLL - 2300m - Hydraulic Winch & HPU – DS38 34
17 Te WLL - 3300m - Hydraulic Winch & HPU – DS39 38

Geotechnical Winch Description

RTG has extensive experience in the development of seabed sampling systems, Giant Piston corers, Gravity corers, Box corers, LARS for Cone penetration testing, HPT and other bespoke systems.

RTG has developed solutions to overcome many of the problems associated with geotechnical surveys of the seabed. **RTG** has solutions that extend the life / minimise the damage risk occurring during the coring process whilst the corer is fixed to the seabed, and the core sample is being extracted. Under these conditions damage may occur to the main lift cable / umbilical if a suitable solution is not selected. **RTG** provides a cost-effective solution, that enhances operational safety and reliability.
When a tool is captive subsea, in the seabed, connected via a cable or umbilical to a moving vessel, the risk exists that equipment maybe lost or stuck under water. Such a situation can give rise to a broken umbilical or cable, project down time and expensive intervention to recover the tool. **RTG** has developed a solution, proven in the field, and while in operation with a leading operator, set a working depth record of 3000m for a CPT sampling system.

0.7 Te WLL - 500m - Electric Winch – DS08







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1395	18.5	500	90	700	381	1050	571

Supply Required	380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards, forklifting pockets and certified lifting lugs
Winch Electrical Motor	11KW IP56 IE3	Winch drum dimensions	Drum core Ø 380 mm, Drum Length 481 mm, Flange Ø 850 mm
Local Proportional Control	Bi-directionally joystick, tension and speed control potentiometers	Drum details	Plain drum: the wire is stored in 11 lays with 26 turns per lay
Level wind	N/A	Cable	5 core umbilical
Dimensions (LxWxH) Footprint	1730 x 1215 x 2065 mm 1490 x 1160 mm	Monitoring	Cable line in / Out and Tension readings via HMI
Slip ring	Designed to accept Hartman & König YK16 or similar not within scope of supply	Qty 4 Off – 20 mm diameter holes within drum flange	Allow the winch drum to be "stoppered" off with chain and shackles when on a long tow

Principle of Operation:

The Constant Tension Winch drum is driven by a 11 kW SEW electric gearmotor through an output shaft. The drum motor Variable Speed Drive drives the electrical motor of the Drum with variable speed according to the control signals and rpm setpoint of the potentiometer. The Tension control is also controlled by the Variable Speed Drive with variable Tension according to setpoint of the potentiometer.

The non-drive side housings the bearing and slipring. The Slipring is not within the scope of supply.

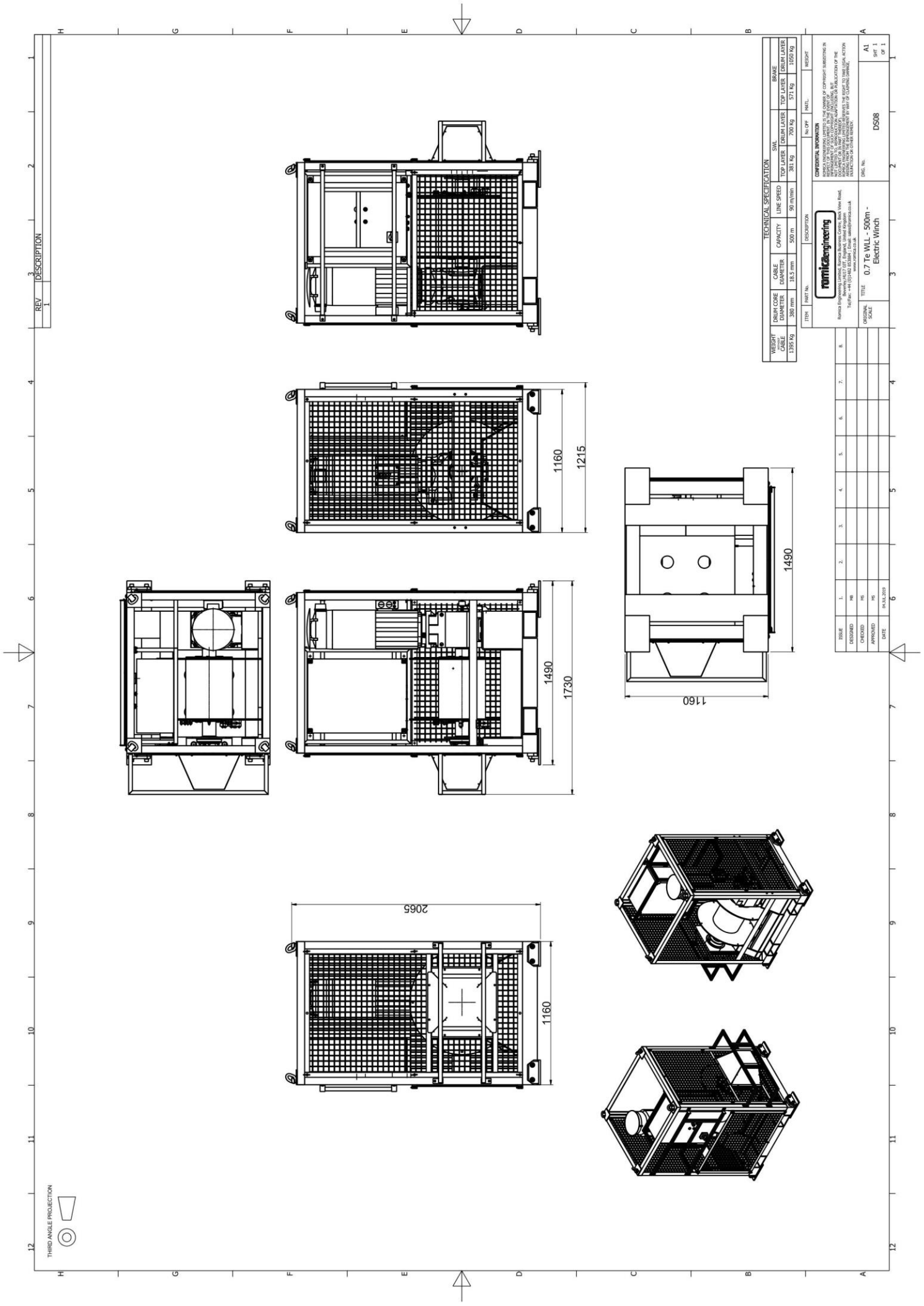
The SEW Electric Motor combination is fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost, or the joystick is in its centre (neutral) position.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**


TECHNICAL SPECIFICATION
WEIGHT CABLE
1395 Kg
DRUM CORE DIAMETER
380 mm
CABLE DIAMETER
18.5 mm
CAPACITY
500 m
LINE SPEED
90 m/min
SWL
TOP LAYER
381 Kg
DRUM LAYER
700 Kg
BRAKE
TOP LAYER
571 Kg
DRUM LAYER
1050 Kg
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romicaengineering
Romica Engineering Limited, Romica Business Centre, Bock View Road, Rochdale, Lancashire, OL16 4SD, United Kingdom
Tel/Fax: +44 (0)1442 853684 - Email: sales@romica.co.uk
www.romica.co.uk
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ORIGINAL SCALE
TITLE
0.7 Te WLL - 500m - Electric Winch
DWG. No.
DS08
A1
SHT 1 OF 1
REV
DESCRIPTION
1
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
1.
MB
MS
MS
04.JUL.2019
1160
1215
1490
1730
2065
1160
1490
1160
THIRD ANGLE PROJECTION

0.7 Te WLL - 500m - Electric Winch – DS79







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
2100	26	500	90	700	461	1050	691

Supply Required	380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards, fork lifting pockets and certified lifting lugs
Winch Electrical Motor	11Kw IP56 IE3	Winch drum dimensions	Drum core Ø 680 mm, Drum Length 748 mm, Flange Ø 1225 mm
Local Proportional Control	Bi-directionally joystick, tension and speed control potentiometers	Drum details	Plain drum; the wire is stored in 8 lays with 28 turns per lay
Level wind	N/A	Cable	5 core umbilical eg SC0118 - Fibron
Dimensions (LxWxH) Footprint	2001 x 1867 x 2144 mm 2001 x 1867 mm	Monitoring	Cable line In / Out and Tension readings via HMI
Slip ring	Designed to accept Hartman & König YK16 or similar not within scope of supply	Qty 4 Off – 20 mm diameter holes within drum flange and Qty 2 off shackles on the base frame	Allow the winch drum to be “stoppered” off with chain and shackles when on a long tow

Principle of Operation:

The Constant Tension Winch drum is driven by a 11 kW SEW electric gearmotor through an output shaft. The drum motor Variable Speed Drive drives the electrical motor of the Drum with variable speed according to the control signals and rpm setpoint of the potentiometer. The Tension control is also controlled by the Variable Speed Drive with variable Tension according to setpoint of the potentiometer.

The non-drive side housings the bearing and slipring. The Slipring is not within the scope of supply.

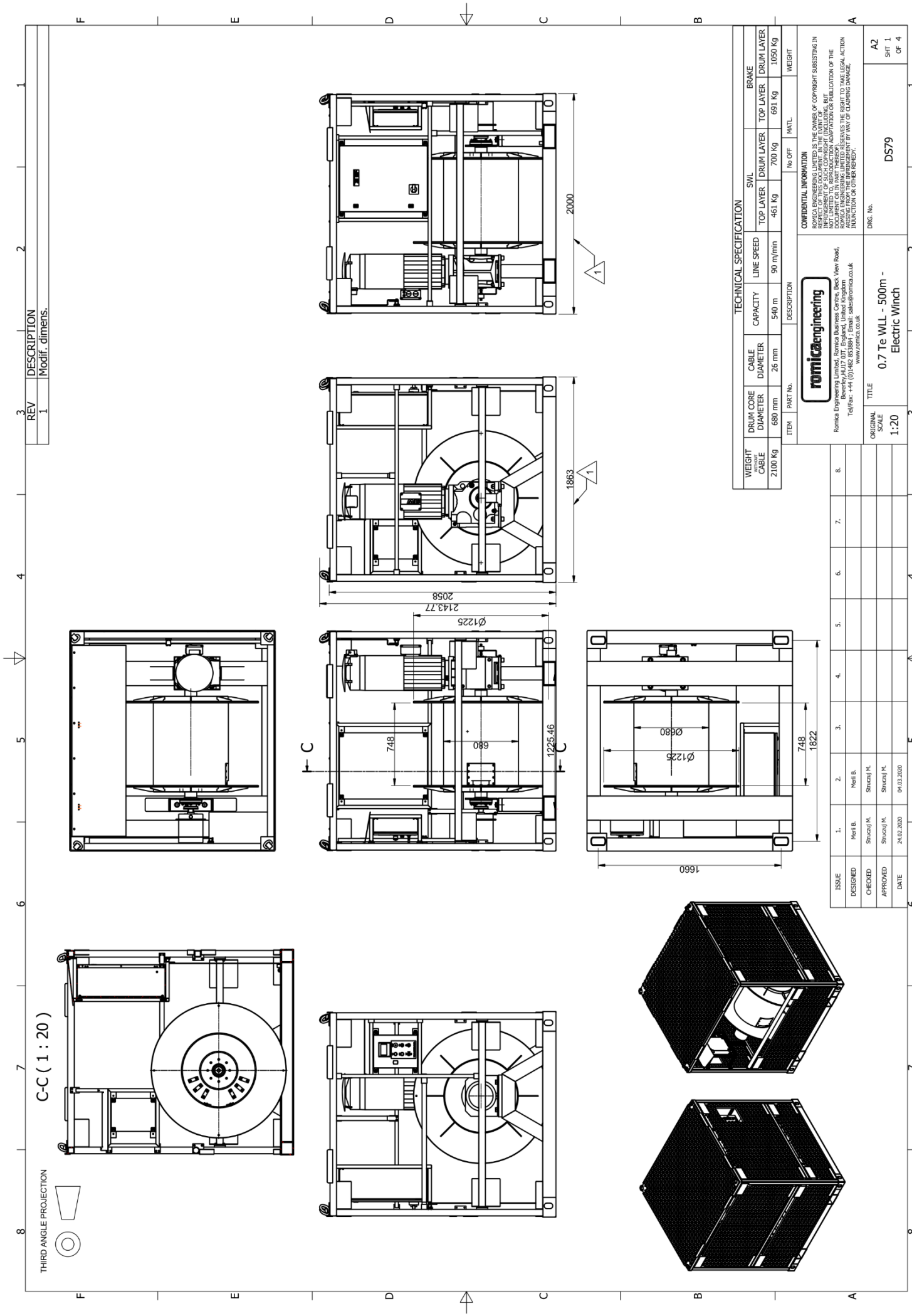
The SEW Electric Motor combination is fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost or the joystick is in its centre (neutral) position.

The winch is supplied with the following:

- **Qty 4 standard ISO castings corners for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **Remote Control wired or wireless**


REV
DESCRIPTION
1
Modif. dimens.
TECHNICAL SPECIFICATION
WEIGHT WITHOUT CABLE
2100 Kg
DRUM CORE DIAMETER
680 mm
CABLE DIAMETER
26 mm
CAPACITY
540 m
LINE SPEED
90 m/min
SWL
TOP LAYER
461 Kg
DRUM LAYER
700 Kg
BRAKE
TOP LAYER
691 Kg
DRUM LAYER
1050 Kg
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romicaengineering
Romica Engineering Limited, Romica Business Centre, Beck View Road, Beverley,HU17 0JT, England, United Kingdom
Tel/Fax: +44 (0)1482 853894 ; Email: sales@romica.co.uk
www.romica.co.uk
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ORIGINAL SCALE
1:20
TITLE
0.7 Te WLL - 500m - Electric Winch
DRG. No.
DS79
A2
SHT 1 OF 4
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
1.
Merli B.
Strucioj M.
Strucioj M.
24.02.2020
2.
Merli B.
Strucioj M.
Strucioj M.
04.03.2020
2000
1863
2058
2143.77
Ø1225
680
748
1225.46
C
C
Ø680
Ø1225
748
1822
1660
C-C (1 : 20)
THIRD ANGLE PROJECTION

2.75 Te WLL - 3500m - Electric Winch – DS01





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
4032	14	3500	78	2760	1500	4140	2250

Supply Required	380-440V-3 Ph- 50/60 Hz	Cable Lead-off Angle	+/-15° Horizontal plane Min + 0° Max + 45° Vertical plane
Winch Electrical Motor Level Wind Electrical Motor	30 KW IP56 IE3 1.5 KW IP56 IE3	Frame details	Crash frame with guards, forklifting pockets and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick and speed control potentiometer	Winch drum dimensions	Drum core Ø 508 mm, Drum Length 1260 mm, Flange Ø 1050 mm
Level wind	Electrically automatic pulse driven level wind with manual adjustment	Drum details	Plain drum: the wire is stored in 17 lays with 90 turns per lay
Dimensions (LxWxH) Footprint	2570 x 2020 x 1811 mm 2570 x 2020 mm	Cable	Dyneema 14 strand D-Tract
Slip ring	Designed to accept Focal 180 or similar not within scope of supply	Monitoring	Cable line in / out via HMI

Principle of Operation:

The winch drum is mounted on the output shaft of a 30 kW SEW electric gearmotor fitted with a failsafe brake unit and is connected to the corresponding drive inverter in the control panel. The speed of the drum is proportionally controlled via a potentiometer; its direction is determined by a 3 position, spring return to centre, joystick. These are both mounted locally on the Electric Winch Enclosure.

The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position. The non-drive side housings a bearing and a slipring.

The Level wind electrically driven from the 1.5 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

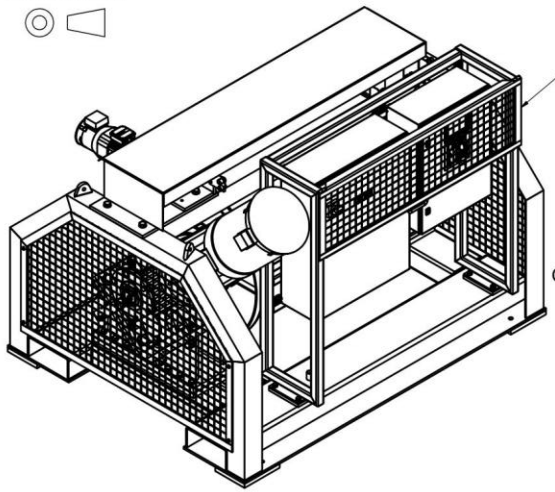
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**

Back to contents

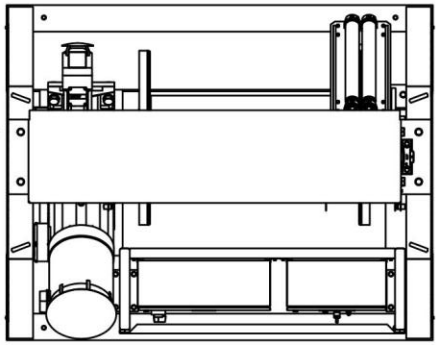
www.romicatiegroup.com

REV	DESCRIPTION
1	

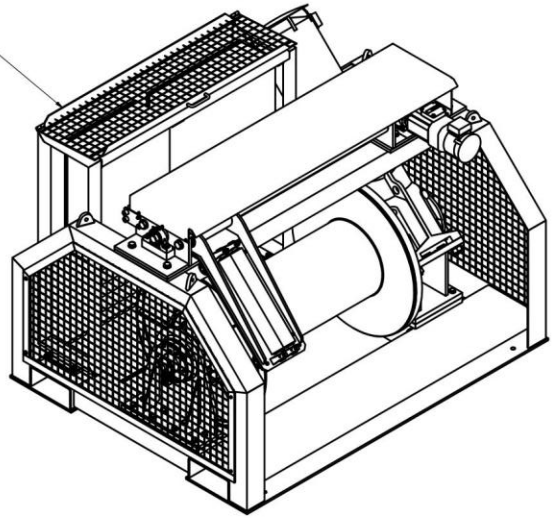
THIRD ANGLE PROJECTION

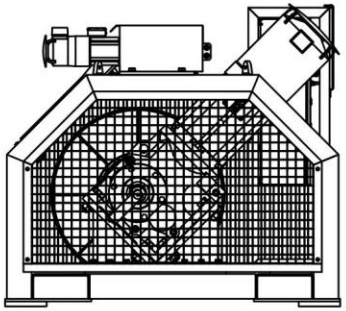


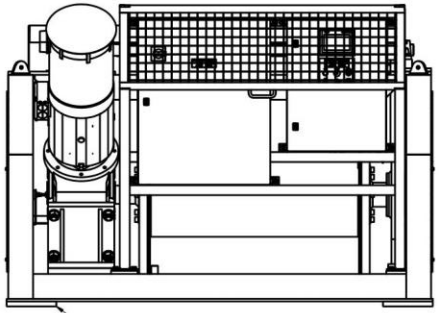
PANEL GUARD FOLD DOWN WINCH NOT OPERATING



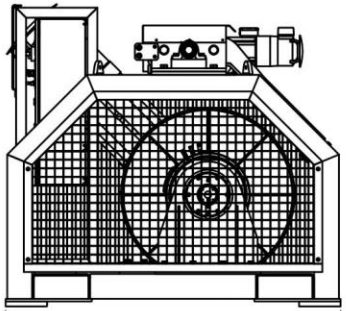
PANEL GUARD FOLD UP WINCH OPERATING



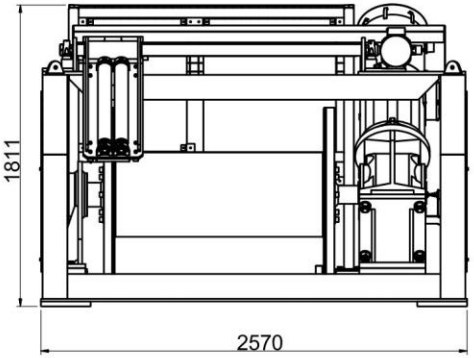




SACRIFICIAL PLATES WELD TO DECK



2020



1811

2570

TECHNICAL SPECIFICATION

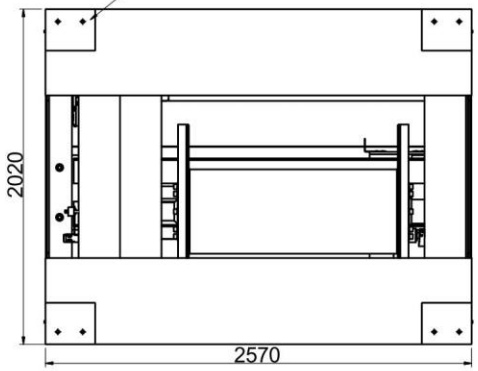
Line pull at mid layer 2000kgf
Brake holding capacity 3000kgf at mid layer
Line speed at mid layer 1.3m/s
Cable diameter 14mm
Cable capacity 3500m
No. of layers 17
Drum core diameter 508mm
PLC controlled level wind
Cable off lead angle
+/- 15 deg. in horizontal plane
0-45 deg. in vertical plane
Estimated weight 4000.kg
Colour RAL TBC
Allows Focal slip ring at the non drive shaft

C (1/15)



4 Off. Pad eye type B
3.25 Te

SACRIFICIAL PLATES WELD TO DECK



2020

2570

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	MS	MS						
CHECKED	MB	MB						
APPROVED	MS	MS						
DATE	18.JAN.2019	25.JAN.2019						

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

romicaengineering

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Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
www.romica.co.uk

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ORIGINAL SCALE	TITLE	DRG. No.	
	2.75 Te WLL - 3500m - Electric Winch	DS01	A1 SHT 1 OF 1

7.14 Te WLL - 3500m - Hydraulic Winch – DS13





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
4800	18	1500	60	7140	3000	8230	4500

Winch Hydraulic Drive Supply Required	Hägglunds VFWCB 600E + MDA10 + CA140 8800 200 bar 240 l/min	Cable Lead-off Angle	
Level Wind Electrical Motor Supply Required	5.5 KW IP56 IE3 380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards and certified lifting lugs
Operation mode	"Drive" and "Freewheeling" modes, selected by the 2-position selector switch	Winch drum dimensions	Drum core Ø 570 mm, Drum Length 1550 mm, Flange Ø 950 mm
Level wind	Right Angled - Electrically automatic pulse driven level wind with manual adjustment	Drum details	Plain drum: the wire is stored in 6 lays with 86 turns per lay
Dimensions (LxWxH) Footprint	2834 x 1250 x 2590 mm 2834 x 1250 mm	Cable	Amsteel-Blue Dyneema (872)
Tension Control	16 Te Load Pin and HMI	Hydraulic Ports	A G1.1/4" BSP, B G1.1/4" BSP, D G1" BSP, P G1/2" BSP

Principle of Operation:

The winch drum is mounted on the output shaft of a Hägglunds compact motor & integrated brake. The line pull can be altered by adjusting the pressure across the hydraulic motor, and hence altering the torque developed by the motor which directly either increases or decreases the effective line pull of the winch. The winch is driven bi-directionally using a 3 position 4-way directional control valve and can operate in "Drive" and "Freewheeling" modes which can be selected by the 2-position selector switch on the control panel.

The speed of the drum is proportionally; its direction is determined by a 3 position, spring return to centre, joystick. These are mounted locally on the Electric Winch Enclosure.

The Level wind electrically driven from the 5.5 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **Remote Control wired**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**
- **Tension control**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

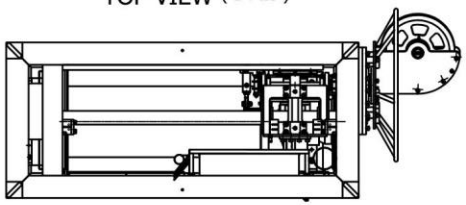
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**

Back to contents

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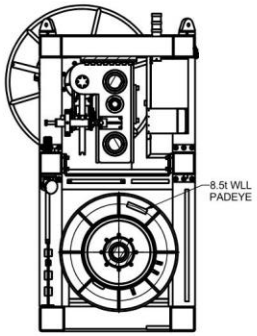
THIRD ANGLE PROJECTION

TOP VIEW (1 : 20)

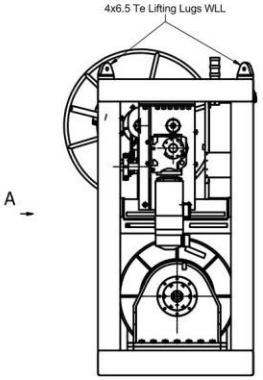


Load Testing Padeye			
PADEYE WLL	LINE PULL / SWL	BRAKE HOLD	Remarks
8.5 Te	5.47 Te	8.2 Te	Corresponds to Ø18mm Rope 6'th Layer

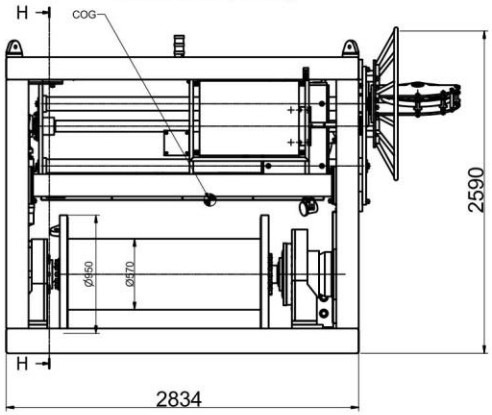
H-H (1 : 20)



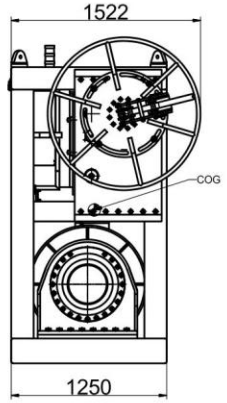
STERN VIEW (1 : 20)



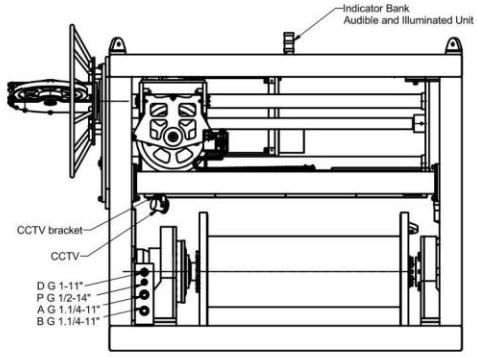
STB VIEW (1 : 20)



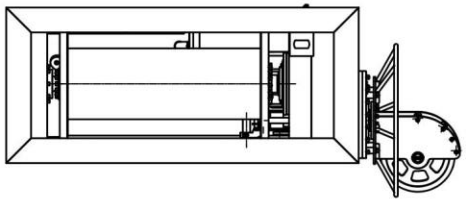
FORWARD VIEW (1 : 20)



PORT VIEW A (1 : 20)



BOTTOM VIEW (1 : 20)



Note:

The COG is without cable.

Colour:

White RAL 9016

Power Requirements:

Pressure : 200 bar

Flow : 240 l/min

Technical specification								
Weight without Cable	Drum core diameter	Cable diameter	Capacity	Line speed	Line pull / SWL		Brake holding	
					Top layer	Drum layer	Top layer	Drum layer
4800 Kg	570 mm	18 mm	1500 m	60 m/min	3 T	7.14 T	4.5 T	8.23 T

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED				Merli B.	Merli B.	Merli B.	Merli B.	
CHECKED				C. Balan	C. Balan	C. Balan	C. Balan	
APPROVED				M. Struczuj	M. Struczuj	M. Struczuj	M. Struczuj	
DATE				07.09.2015	12.11.2015	28.01.2016	01.03.2016	

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

romica engineering
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ORIGINAL SCALE	TITLE	DRG. No.	
	7.14 Te WLL - 1500m - Hydraulic Winch	DS13	A1 SHT 1 OF 3

7.4 Te WLL - 1000m - Hydraulic Winch – DS04





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
4500	22	1000	30	7430	4500	11145	6750

Winch Hydraulic Drive Supply Required	**PWD3700 200-300 bar 120-240 l/min**	**Cable Lead-off Angle**	**+/-15° Horizontal plane Min + 4° Max + 40° Vertical plane**
Level Wind Electrical Motor Supply Required	**1.5 KW IP56 IE3 380-440V-3 Ph- 50/60 Hz**	**Frame details**	**Crash frame with guards, forklifting pockets and certified lifting lugs**
Local Proportional Control	**Bi-directionally proportional joystick**	**Winch drum dimensions**	**Drum core Ø 500 mm, Drum Length 836 mm, Flange Ø 1180 mm**
Level wind	**Electrically automatic pulse driven level wind with manual adjustment**	**Drum details**	**Plain drum: the wire is stored in 12 lays with 38 turns per lay**
Dimensions (LxWxH) Footprint	**2410 x 1750 x 2063 mm 2410 x 1750 mm**	**Cable**	**22 mm but can accept the range 8 to 22 mm wire rope, overwound**
Slip ring	**Designed to accept Focal 180 or similar not within scope of supply**	**Hydraulic Ports**	**P G3/4" BSP, T G1" BSP, D G1/2" BSP**

Principle of Operation:

The winch drum is driven directly from a Brevini gearbox, hydraulic motor and load valve combination. The brake, being failsafe, always defaults to on should, for any reason, the hydraulic supply is lost, or the control joystick is in its centre position. The non-drive side housings a bearing and a slipring. The Slipring is not within the scope of supply.

The 4 slice bi-directional joystick PVG mounted on a pedestal controls all the hydraulic features of the ADCP LARS, slewing, extension, speed of winch in both the forward and reverse direction and the manual override for the Level wind.

The Level wind is hydraulically driven from an ADAN motor. The Level wind is PLC controlled and is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

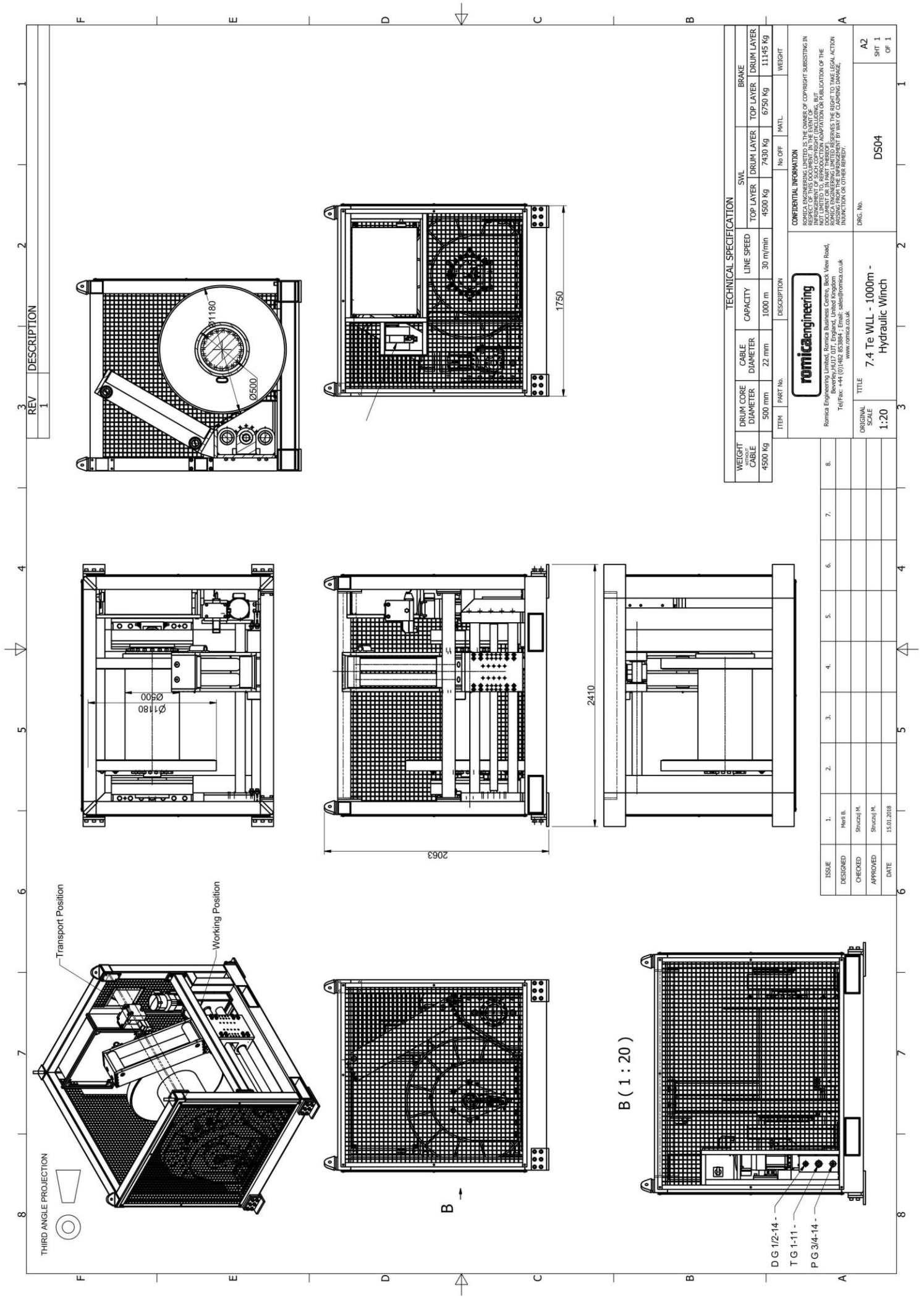
The winch has been designed with a maximum SWL of 500 kg and a maximum outreach of 3 metres from the rotation centre of the ADCP LARS and has a slewing angle of 135°. HMI displays cable/wire tension and line measurement via a Straightpoint wireless shackle.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

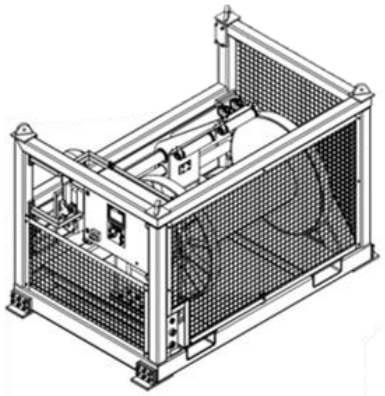
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**


REV
DESCRIPTION
1
Ø1180
Ø500
1750
Ø1180
Ø500
2410
2063
B
B (1 : 20)
Transport Position
Working Position
THIRD ANGLE PROJECTION
D G 1/2-14 -
T G 1-11 -
P G 3/4-14 -
TECHNICAL SPECIFICATION
WEIGHT without CABLE
4500 Kg
DRUM CORE DIAMETER
500 mm
CABLE DIAMETER
22 mm
CAPACITY
1000 m
LINE SPEED
30 m/min
SWL
TOP LAYER
4500 Kg
DRUM LAYER
7430 Kg
BRAKE
TOP LAYER
6750 Kg
DRUM LAYER
11145 Kg
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
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ISSUE
DESIGNED
CHECKED
APPROVED
DATE
1.
Meril B.
Struczyj M.
Struczyj M.
15.01.2018
ORIGINAL SCALE
1:20
TITLE
7.4 Te WLL - 1000m - Hydraulic Winch
DRG. No.
DS04
A2
SHT 1
OF 1

7.4 Te WLL - 1500m - Hydraulic Winch – DS40







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
4000	22	1500	78	7430	4500	11145	6750

Winch Hydraulic Drive Supply Required	PWD3700 200-300 bar 120-240 l/min	Cable Lead-off Angle	+/-15° Horizontal plane Min + 4° Max + 40° Vertical plane
Level Wind Electrical Motor Supply Required	1.5 KW IP56 IE3 380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards, forklifting pockets and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick	Winch drum dimensions	Drum core Ø 500 mm, Drum Length 1258 mm, Flange Ø 1140 mm
Level wind	Electrically automatic pulse driven level wind with manual adjustment	Drum details	Plain drum: the wire is stored in 12 lays with 57 turns per lay
Dimensions (LxWxH) Footprint	2840 x 1765 x 1903 mm 2840 x 1765 mm	Cable	22 mm but can accept the range 8 to 22 mm wire rope, overwound
Slip ring	Designed to accept Focal 180 or similar not within scope of supply	Hydraulic Ports	P G3/4” BSP, T G1” BSP, D G1/2” BSP

Principle of Operation:

The winch barrel is driven directly from a Brevini gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any, reason hydraulic pressure is lost, or the direction control valve is in its centre (neutral) position. The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve and pressure reducing valve within the load control valve. Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor.

The winch can be driven bi-directionally using a 3 position 4-way proportional directional control valve (with motor spool A B to tank in the neutral position and P blocked), the proportional valve controls both the direction and the speed of the winch in heave and pay out. The level wind guides the wire rope with an electrically driven SEW Electric Geared Motor with PLC control; the speed of rotation of the drum is measured by a rotary incremental encoder.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**

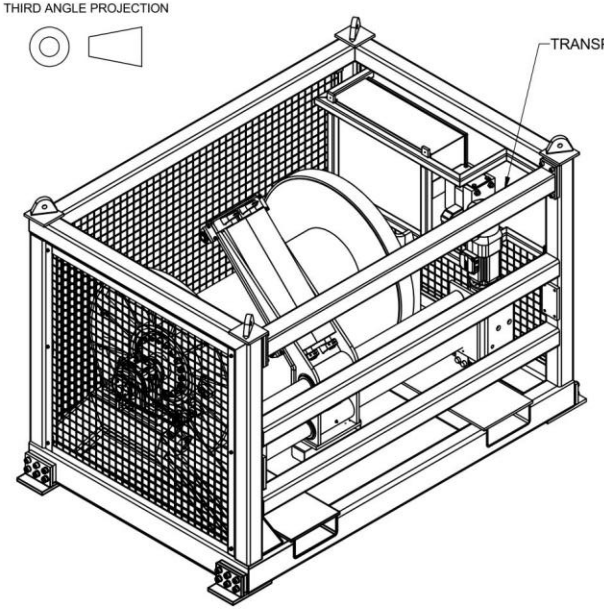
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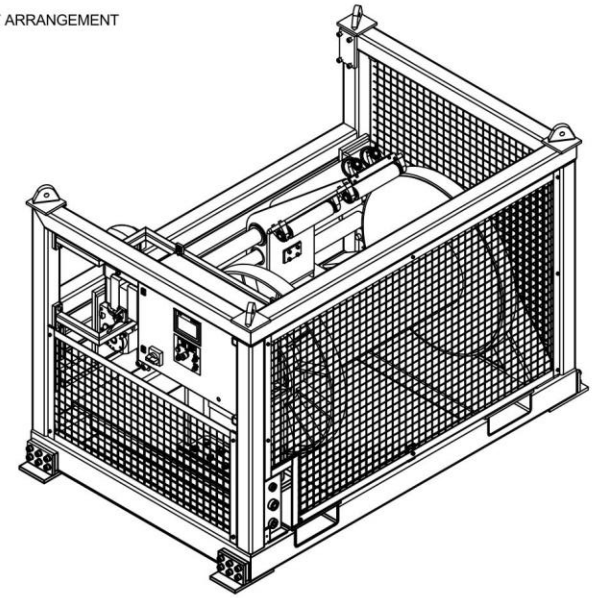
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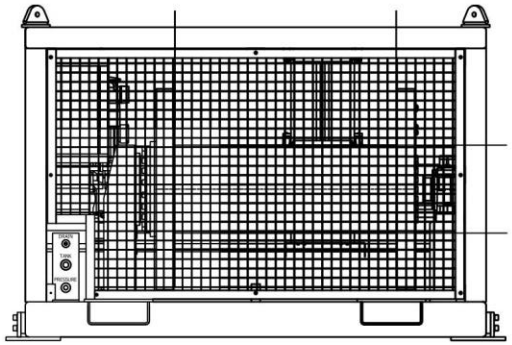
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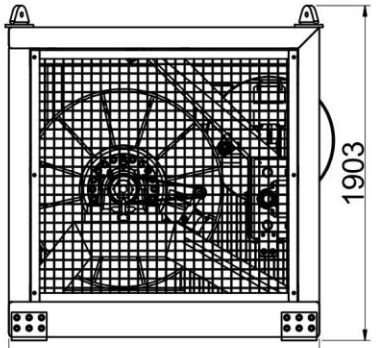
THIRD ANGLE PROJECTION

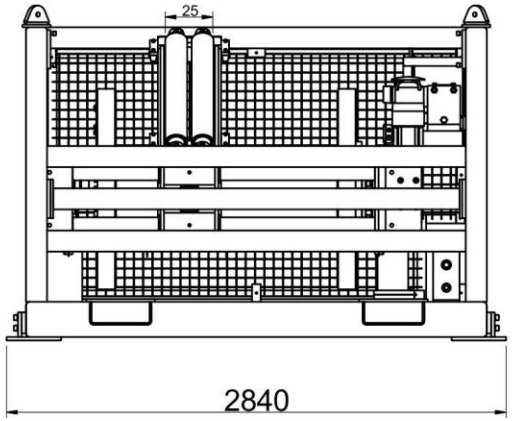
TRANSPORT ARRANGEMENT

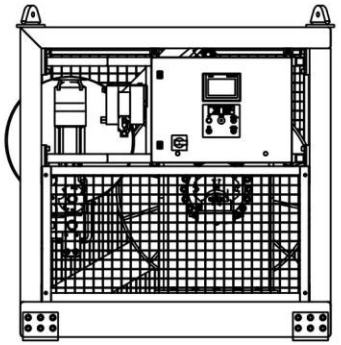


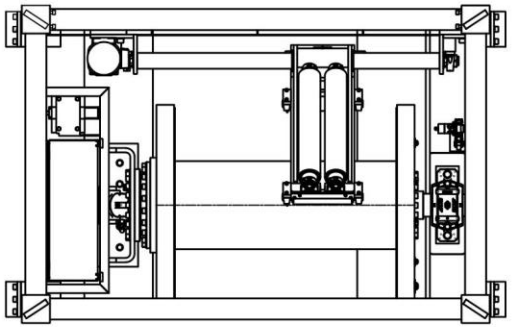












ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Struczuj M.							
CHECKED	Merli B.							
APPROVED	Struczuj M.							
DATE	19.07.2019							

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

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ORIGINAL SCALE	TITLE	DRG. No.	
1:20	7.4 Te WLL - 1500m - Hydraulic Winch	DS40	A2 SHT 1 OF 3

12 Te WLL - 1300m - Hydraulic Winch & HPU – DS37







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
8550	28	1300	90	12000	7360	20900	12000

Winch Hydraulic Drive Supply Required	230 bar 230 l/min Dedicated HPU 2 x 55kW	Cable Lead-off Angle	+/- 75.2° Horizontal plane Min -3° Max + 60° Vertical plane
Electrical Supply Required	3 ph 380 / 415 / 440 / 460 V, 50/60Hz Note Qty 2 125A required for two pump operation	Frame details	Crash frame with guards, forklifting pockets and certified lifting lugs
Local Control (level wind only) and Remote-Control Station(s)	Local and Qty 2 Remote-control station 15 m interconnection cable. Bypass connector if only one remote station required	Winch drum dimensions	Drum core Ø 832 mm, Drum Length 816 mm, Flange Ø 1614 mm
Level wind	Hydraulic Passive Automatic /Manual mode	Drum details	Lebus shell drum; the cable is stored in 12 layers with 29 turns per lay
Dimensions (LxWxH) Footprint	3194 x 2304 x 3714 mm (with level wind fitted) 3194 x 1894 mm	Cable	Electro-mechanical umbilical
Slip ring	Designed to accept Cavotec HV or similar not within scope of supply	Hydraulic Ports	Flat faced QD connectors with Qty 5 20-meter interconnecting hydraulic hoses for A, B, P, T and D lines

Principle of Operation:

The Winch consists of a winch drum mounted on a support structure, the drum is mounted directly onto a Hägglund Viking hydraulic motor fitted with a failsafe hydraulic cylinder and band brake assembly. The hydraulic closed-loop system governs the position of the swash plate in the pump(s) to control the direction and speed of rotation of the drum eliminating the need of a directional control valve.
Line pull can be set or altered by adjusting the pressure across the hydraulic motor, and hence altering the torque developed by the motor.
Manual control for full and half speed displacement providing low speed high torque or high-speed low torque.
Mooring and breakout mode for seabed operation.
Line speed can be smoothly adjusted between zero and 120 metres per minute using a proportional joystick.
The level wind system comprises a right angled passively driven 860 mm root diameter exit sheave, complete with 21 Te load pin for tension control and is fitted with removable guide rollers to enable the required vertical plane cable lead off angle to be obtained.
The level wind is mounted to the winch and is detachable for ease of transportation and provided with a transportation frame.

The winch is supplied with the following:

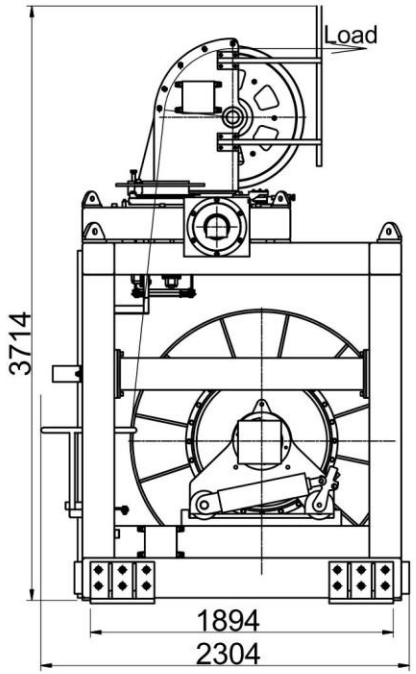
- **Marine grade paint system (Details can be supplied on application)**
- **2 Off – Remote control stations**
- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **12 Month Warranty**
- **HMI - Cable counting, Tension control Running hours**
- **Operation and Maintenance Manual in Electronic Format**

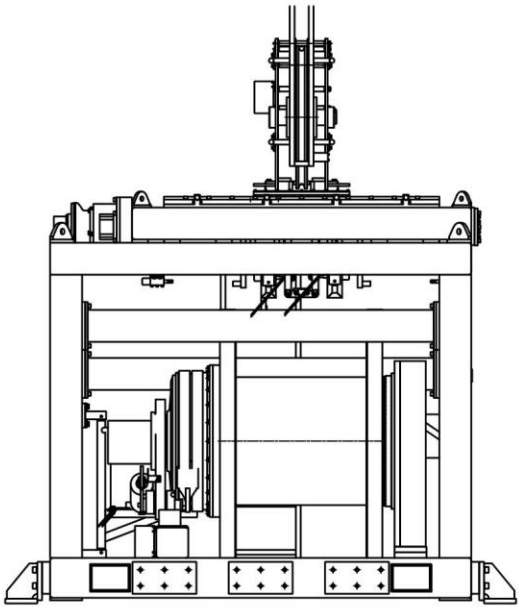
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

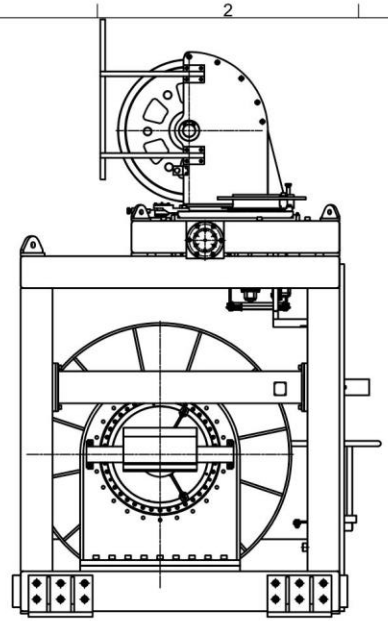
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Full Spares Kit**
- **Vessel motion monitor**
- **Hanging sheave for use with an A-Frame and transportation frame**
- **Vessel motion monitor**

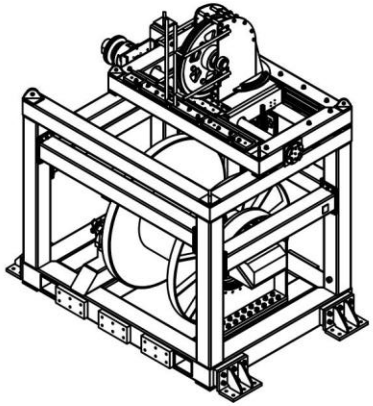
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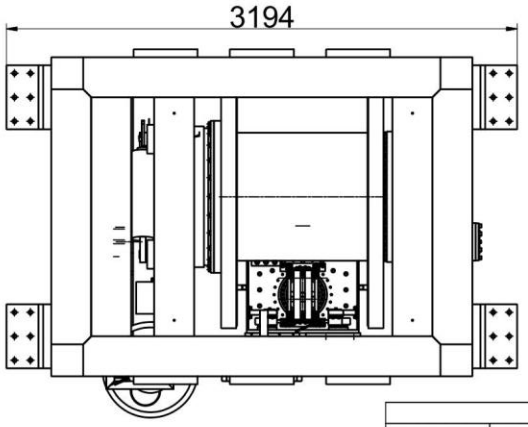
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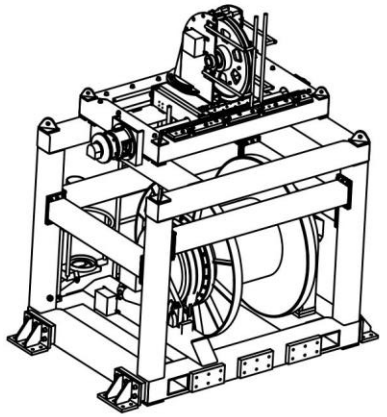












Technical specification								
Weight without Cable	Drum core diameter	Cable diameter	Capacity	Line speed	Line pull / SWL		Brake holding	
					Top layer	Drum layer	Top layer	Drum layer
8 500 Kg	832 mm	28 mm	1 300 m	90 m/min	7.36 Te	12 Te	12 Te	20.9 Te

GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS								
0 UP TO 3	3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1000	OVER 1000 UP TO 2000	OVER 2000 UP TO 4000
± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	DIMENS.	SIZE - REMARKS

SUPERSEDED BY

SUPERSEDES

NOTES

USED ON

THIRD ANGLE PROJECTION

DRAWN		06.12.2011	ISSUE	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
		DATE	D.O.CHECKED										
			T.O.CHECKED										
			T.O.APPL.										
			STATUS										
			DATE										

ORIGINAL SCALE

A2

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ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS

TITLE

12 Te WLL - 1300m - Hydraulic Winch

DRG. No.

DS37

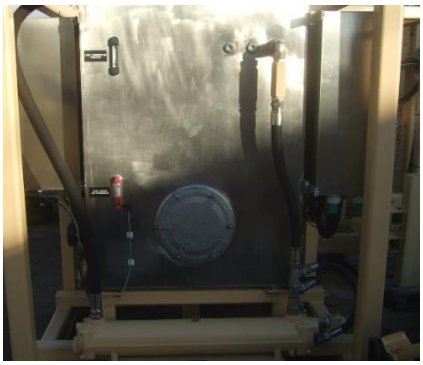
SHT 1

OF 3

2 x 55kW Closed Loop Hydraulic Power Unit







TECHNICAL SPECIFICATION			
Pressure and Flow	**230 Bar @ 230 lpm with both pumps**	**Frame**	**Crash frame with certified lifting lugs**
Pump and Motor Assy (Qty 2)	**180cc variable displacement pump - closed loop 45cc Boost pressure pump 28cc pressure compensated pump - open loop 55kW Electrical motor**	**Supply tank**	**900 litres manufactured from 316 stainless steel with front access and desiccant Air breather 3-micron rating ensures air entering the reservoir is cleaned and dried**
Supply Required	**3 ph 380 / 415 / 440 / 460 V, 50/60Hz Note 2 independent 125A supplies into the starter panel is required for two pump operation**	**Supply tank filling point**	**G1" BSPP M suitable for QRC**
Cooling and heating	**Bowman heat exchanger - seawater oil cooler flow max 120 lpm dependant on sea water temp. Thermostatically controlled Tank heater 1.5 kW – 3ph**	**Filtration**	**Pressure and Return Filters 10-micron elements, with bypass & visual indicators**
Oil Cleanliness	**Suitable for proportional valve systems ISO 4406 17/15/12, NAS 6**	**Health Monitoring**	**Full temperature & level monitoring**
Controls	**Local and remote control**	**Port connections**	**P G3/4" BSP, T G1" BSP, D G3/4" BSP A & B G1.1/4" BSP**
Dimensions (LxWxH) Footprint	**1800 x 1700 x 2065 mm 1800 x 1700 mm**	**Weight**	**Dry weight: 3200 Kg**

Principle of Operation:

The 2 x 55kW Electrical Hydraulic Power Unit consists of, crash frame with lifting lugs, which affords protection during transportation and installation. The frame will enclose and protect the vulnerable equipment and provide stowage for hydraulic hoses. A removal crash bar protects the isolation switch and starter panel during transportation.

Each 55kW 3 phase electrical motor is coupled to an independent closed-circuit variable displacement pump, boost pump and open circuit pressure commentated pump. The PLC control ensure that the pump provides the required pressure, flow rates and winch drum direction as per the demand. Horsepower limiting is only active in the PLC active position.

An interface connection plate with suitable sized connections for Pressure, Tank and Drain and Winch drum A & B lines enables the HPU to be connected via stainless steel Quick Release Couplings.

The winch/hpu is supplied with the following:

- **1 Set - 20-meter interconnecting hoses and stainless steel flat faced couplings, other lengths available upon request**
- **Marine grade paint system (Details can be supplied on application**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**
- **1 Set –Transit crash bar**

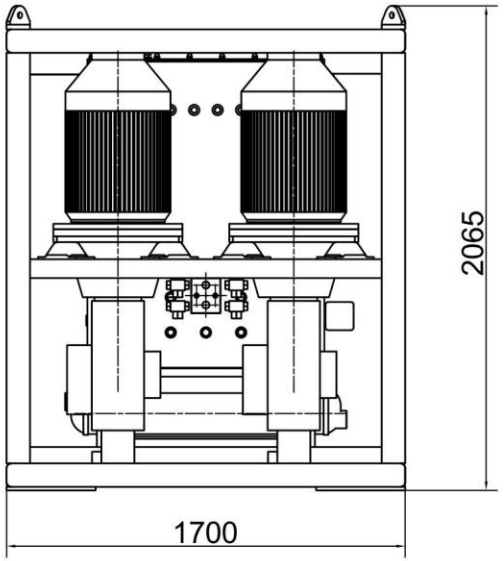
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

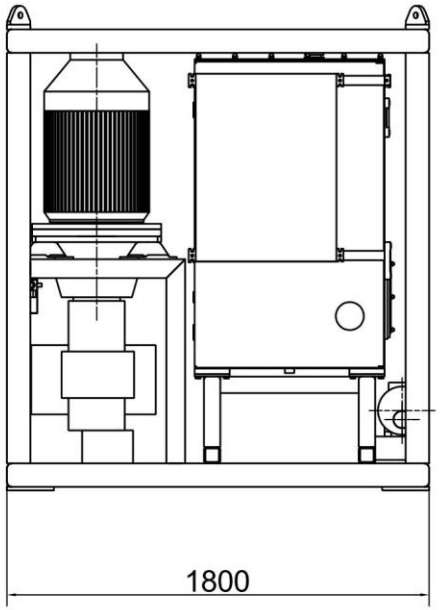
- **1 Off – Extended Warranty**
- **1 Set – stainless steel Quick Release Couplings**
- **1 Off – Full Spares Kit**

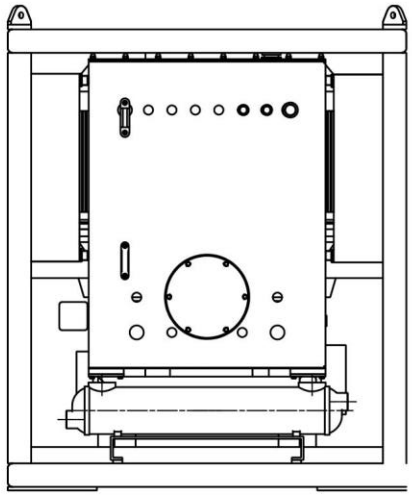
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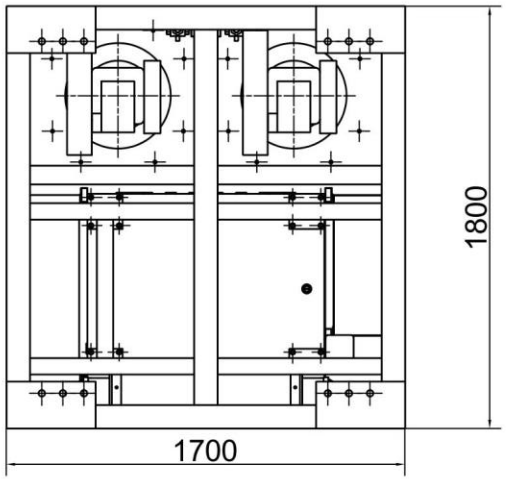
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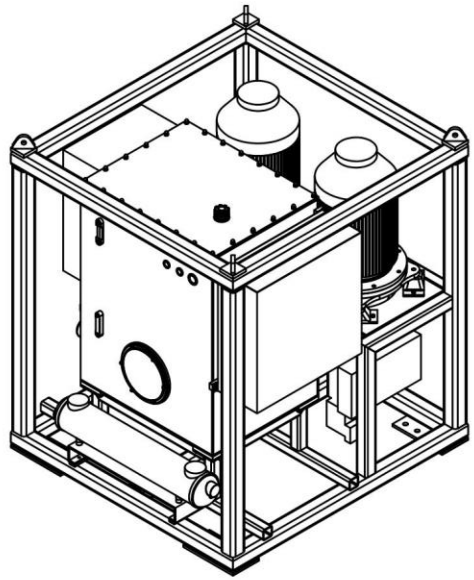
THIRD ANGLE PROJECTION











GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS								
0 UP TO 3	3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1000	OVER 1000 UP TO 2000	OVER 2000 UP TO 4000
± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2

NOTES

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DRAWN	Balan Ciprian	28.02.2006	ISSUE	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
		DATE	D.O.CHECKED										
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			T.O.APPL.										
			STATUS										
			DATE										

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	DIMENS.	SIZE - REMARKS

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ORIGINAL SCALE 1:15

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EMAIL: sales@romica.co.uk

ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS

TITLE: 2 x 55 kW Closed Loop Hydraulic Power Unit

DRG. No. DS37

SHT 1 OF 2

12 Te WLL - 2300m - Hydraulic Winch & HPU – DS38







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
9300	28	2300	90	12000	7360	20900	12000

Winch Hydraulic Drive Supply Required	230 bar 230 l/min Dedicated HPU 2 x 55kW	Cable Lead-off Angle	+/- 75.2° Horizontal plane Min -3° Max + 60° Vertical plane
Electrical Supply Required	3 ph 380 / 415 / 440 / 460 V, 50/60Hz Note Qty 2 125A required for two pump operation	Frame details	Crash frame with guards, forklifting pockets and certified lifting lugs
Local Control (level wind only) and Remote-Control Station(s)	Local and Qty 2 Remote-control station 15 m interconnection cable. Bypass connector if only one remote station required	Winch drum dimensions	Drum core Ø 832 mm, Drum Length 1516 mm, Flange Ø 1614 mm
Level wind	Hydraulic Passive Automatic /Manual mode	Drum details	Lebus shell drum; the cable is stored in 12 layers with 54 turns per lay
Dimensions (LxWxH) Footprint	3194 x 2304 x 3714 mm (with level wind fitted) 3194 x 1894 mm	Cable	Electro-mechanical umbilical
Slip ring	Designed to accept Cavotec HV or similar not within scope of supply	Hydraulic Ports	Flat faced QD connectors with Qty 5 20 meters interconnecting hydraulic hoses for A, B, P, T and D lines

Principle of Operation:

The Winch consists of a winch drum mounted on a support structure, the drum is mounted directly onto a Hägglund Viking hydraulic motor fitted with a failsafe hydraulic cylinder and band brake assembly. The hydraulic closed-loop system governs the position of the swash plate in the pump(s) to control the direction and speed of rotation of the drum eliminating the need of a directional control valve.
Line pull can be set or altered by adjusting the pressure across the hydraulic motor, and hence altering the torque developed by the motor.
Manual control for full and half speed displacement providing low speed high torque or high-speed low torque.
Mooring and breakout mode for seabed operation.
Line speed can be smoothly adjusted between zero and 120 metres per minute using a proportional joystick.
The level wind system comprises a right angled passively driven 860 mm root diameter exit sheave, complete with 21 Te load pin for tension control and is fitted with removable guide rollers to enable the required vertical plane cable lead off angle to be obtained.
The level wind is mounted to the winch and is detachable for ease of transportation and provided with a transportation frame.

The winch is supplied with the following:

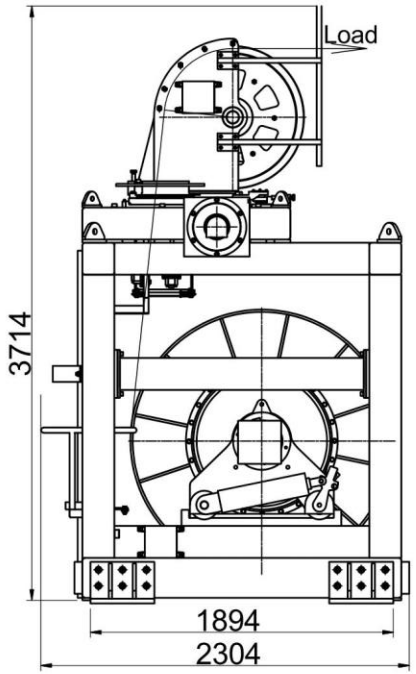
- **2 Off - Remote control stations**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **12 Month Warranty**
- **HMI - Cable counting, Tension control Running hours**
- **Operation and Maintenance Manual in Electronic Format**

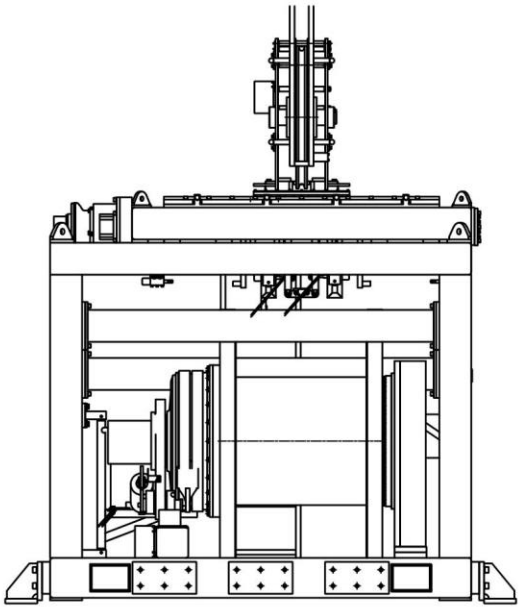
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

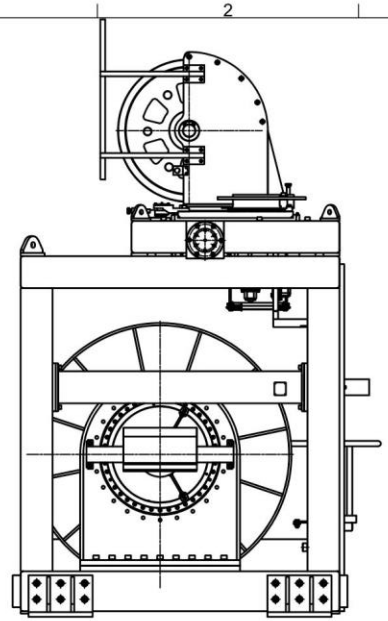
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Full Spares Kit**
- **Vessel motion monitor**
- **Hanging sheave for use with an A-Frame and transportation frame**
- **Vessel motion monitor**

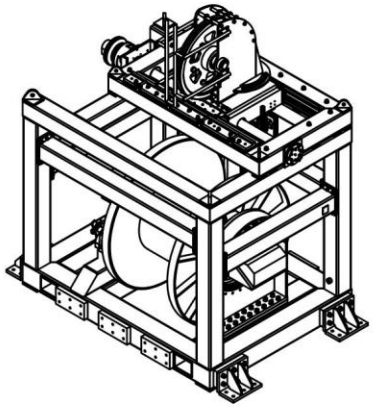
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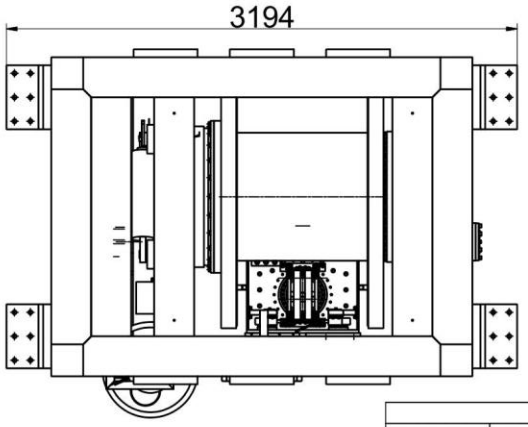
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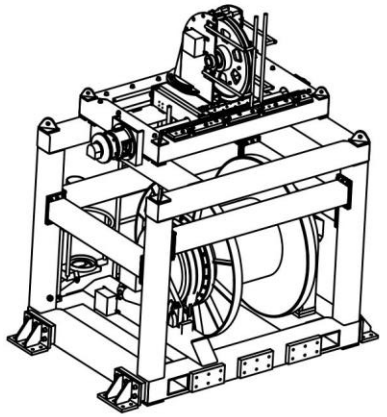












Technical specification								
Weight without Cable	Drum core diameter	Cable diameter	Capacity	Line speed	Line pull / SWL		Brake holding	
					Top layer	Drum layer	Top layer	Drum layer
9 300 Kg	832 mm	28 mm	1 300 m	90 m/min	7.36 Te	12 Te	12 Te	20.9 Te

GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS							
0 UP TO 3	3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1000	OVER 1000 UP TO 2000	OVER 2000 UP TO 4000
± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	DIMENS.	SIZE - REMARKS

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NOTES

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THIRD ANGLE PROJECTION

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DRAWN		DATE	D.O.CHECKED										
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ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS

TITLE

12 Te WLL - 2300m - Hydraulic Winch

DRG. No.

DS38

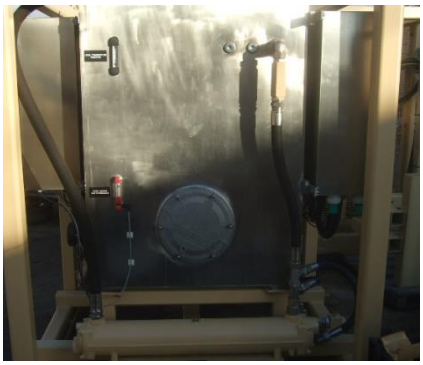
SHT 1

OF 3

2 x 55kW Closed Loop Hydraulic Power Unit







TECHNICAL SPECIFICATION			
Pressure and Flow	**230 Bar @ 230 lpm with both pumps**	**Frame**	**Crash frame with certified lifting lugs**
Pump and Motor Assy (Qty 2)	**180cc variable displacement pump - closed loop 45cc Boost pressure pump 28cc pressure compensated pump - open loop 55kW Electrical motor**	**Supply tank**	**900 litres manufactured from 316 stainless steel with front access and desiccant Air breather 3-micron rating ensures air entering the reservoir is cleaned and dried**
Supply Required	**3 ph 380 / 415 / 440 / 460 V, 50/60Hz Note 2 independent 125A supplies into the starter panel is required for two pump operation**	**Supply tank filling point**	**G1" BSPP M suitable for QRC**
Cooling and heating	**Bowman heat exchanger - seawater oil cooler flow max 120 lpm dependant on sea water temp. Thermostatically controlled Tank heater 1.5 kW – 3ph**	**Filtration**	**Pressure and Return Filters 10-micron elements, with bypass & visual indicators**
Oil Cleanliness	**Suitable for proportional valve systems ISO 4406 17/15/12, NAS 6**	**Health Monitoring**	**Full temperature & level monitoring**
Controls	**Local and remote control**	**Port connections**	**P G3/4" BSP, T G1" BSP, D G3/4" BSP A & B G1.1/4" BSP**
Dimensions (LxWxH) Footprint	**1800 x 1700 x 2065 mm 1800 x 1700 mm**	**Weight**	**Dry weight: 3200 Kg**

Principle of Operation:

The 2 x 55kW Electrical Hydraulic Power Unit consists of, crash frame with lifting lugs, which affords protection during transportation and installation. The frame will enclose and protect the vulnerable equipment and provide stowage for hydraulic hoses. A removal crash bar protects the isolation switch and starter panel during transportation.

Each 55kW 3 phase electrical motor is coupled to an independent closed-circuit variable displacement pump, boost pump and open circuit pressure commentated pump. The PLC control ensure that the pump provides the required pressure, flow rates and winch drum direction as per the demand. Horsepower limiting is only active in the PLC active position.

An interface connection plate with suitable sized connections for Pressure, Tank and Drain and Winch drum A & B lines enables the HPU to be connected via stainless steel Quick Release Couplings.

The winch/hpu is supplied with the following:

- **1 Set - 20-meter interconnecting hoses and stainless steel flat faced couplings, other lengths available upon request**
- **Marine grade paint system (Details can be supplied on application**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**
- **1 Set –Transit crash bar**

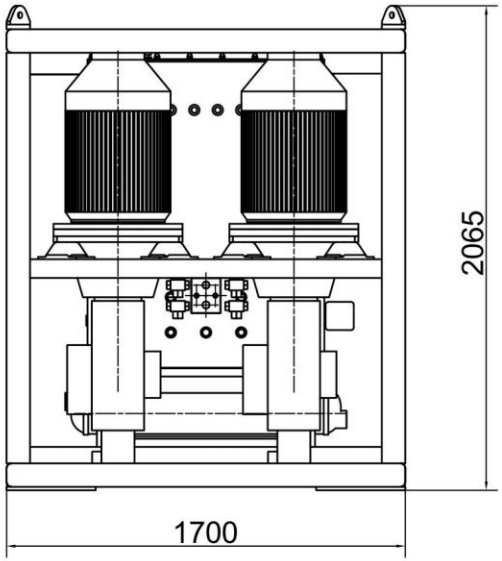
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

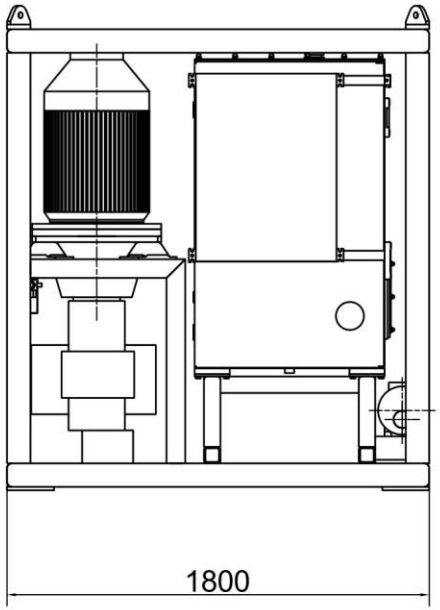
- **1 Off – Extended Warranty**
- **1 Set – stainless steel Quick Release Couplings**
- **1 Off – Full Spares Kit**

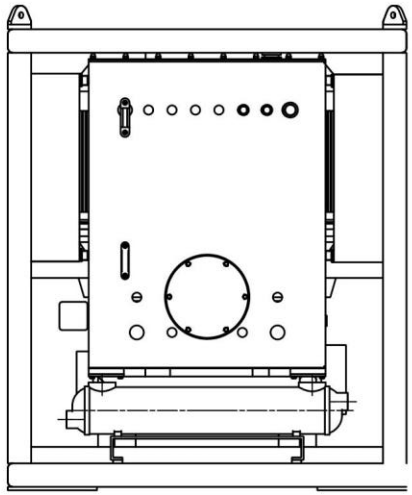
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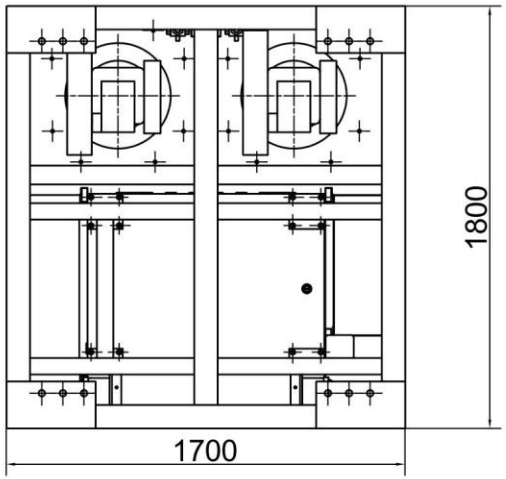
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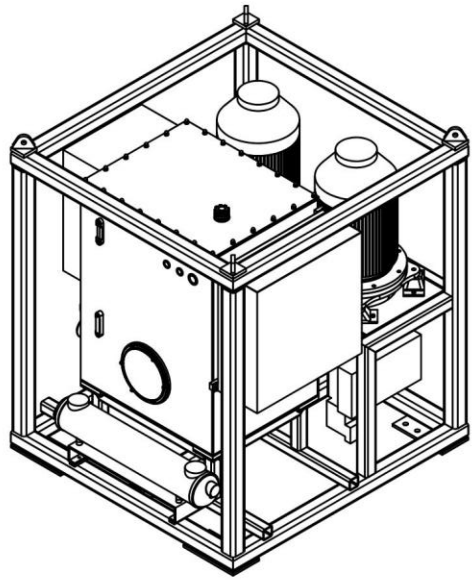
THIRD ANGLE PROJECTION











GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS								
0 UP TO 3	3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1000	OVER 1000 UP TO 2000	OVER 2000 UP TO 4000	
± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2	

NOTES

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DRAWN	Balan Ciprian	28.02.2006	ISSUE	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
		DATE	D.O.CHECKED										
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ITEM	PART No.	DESCRIPTION	No OFF	MATL.	DIMENS.	SIZE - REMARKS

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ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS

TITLE: 2 x 55 kW Closed Loop Hydraulic Power Unit

DRG. No. DS38

SHT 1 OF 2

17 Te WLL - 3300m - Hydraulic Winch & HPU – DS39







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
17900	31.55	3300	72	17000	10600	25500	16000

Winch Hydraulic Drive Supply Required	240 bar 800 l/min Dedicated HPU 2 x 75kW	Cable Lead-off Angle	+/- 75.2° Horizontal plane Min -3° Max + 60° Vertical plane
Electrical Supply Required	3 ph 380 / 415 / 440 / 460 V, 50/60Hz Note Qty 2 160A required for two pump operation	Frame details	Crash frame with guards, forklifting pockets, and certified lifting lugs
Local Control (Emergency) and Remote-Control Station	Local and Remote-control station 15 m interconnection cable	Winch drum dimensions	Drum core Ø 1224 mm, Drum Length 1632 mm, Flange Ø 2165 mm
Level wind	Hydraulic Passive Automatic / Local manual adjustment mode	Drum details	Lebus shell drum; the cable is stored in 12 layers with 51 turns per lay
Dimensions (LxWxH) Footprint	4451 x 2837 x 4529 mm (with level wind fitted) 4160 x 2185 mm	Cable	Electro-mechanical umbilical
Slip ring	Designed to accept Cavotec HV or similar not within scope of supply	Hydraulic Ports	Flat faced QD connectors with Qty 5 20 meters interconnecting hydraulic hoses for A, B, P, T and D lines

Principle of Operation:

The Winch consists of a winch drum mounted on a support structure, the drum is mounted directly onto a Hägglund Viking hydraulic motor fitted with two failsafe hydraulic cylinders and band brake assembly. The hydraulic closed-loop system governs the position of the swash plate in the pump(s) to control the direction and speed of rotation of the drum eliminating the need of a directional control valve.
Line pull can be set or altered by adjusting the pressure across the hydraulic motor, and hence altering the torque developed by the motor. Manual control for full and half speed displacement providing low speed high torque or high-speed low torque.
Mooring and breakout mode for seabed operation.
Line speed can be smoothly adjusted between zero and 90 metres per minute using a proportional joystick.
The level wind system comprises a right angled passively driven 1280 mm root diameter exit sheave, complete with 25.5 Te load pin for tension control and is fitted with removable guide rollers to enable the required vertical plane cable lead off angle to be obtained.
The level wind and level wind support bar are mounted to the winch and both are detachable for ease of transportation and provided with transportation frames.

The winch is supplied with the following:

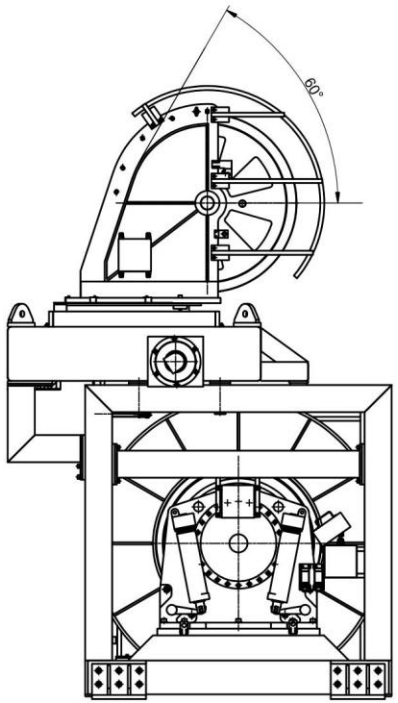
- **2 Off - Remote control stations**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **12 Month Warranty**
- **HMI - Cable counting, Tension control Running hours**
- **Operation and Maintenance Manual in Electronic Format**

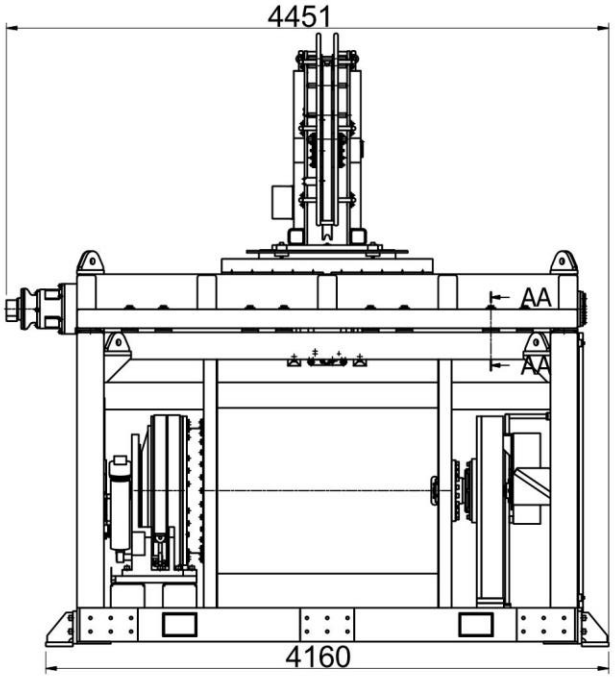
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

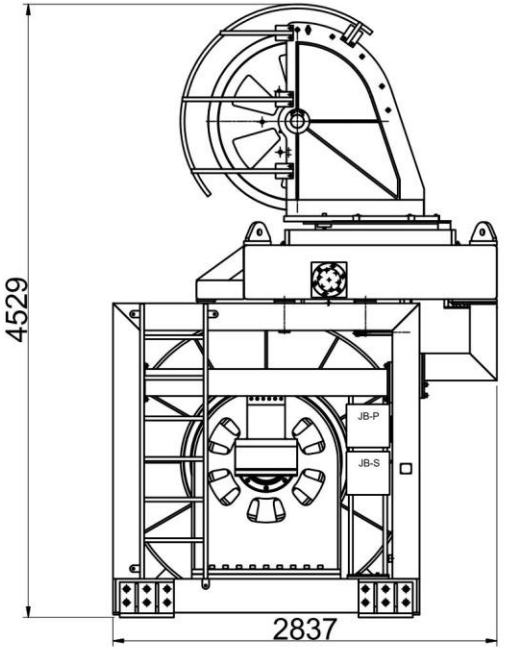
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Full Spares Kit**
- **Hanging sheave for use with an A-Frame and transportation frame**

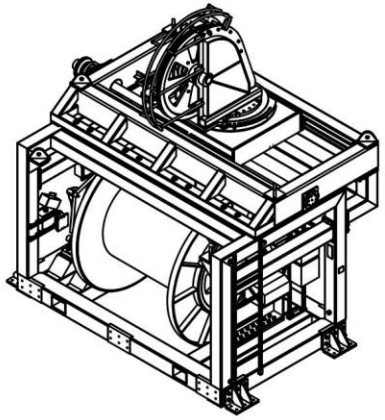
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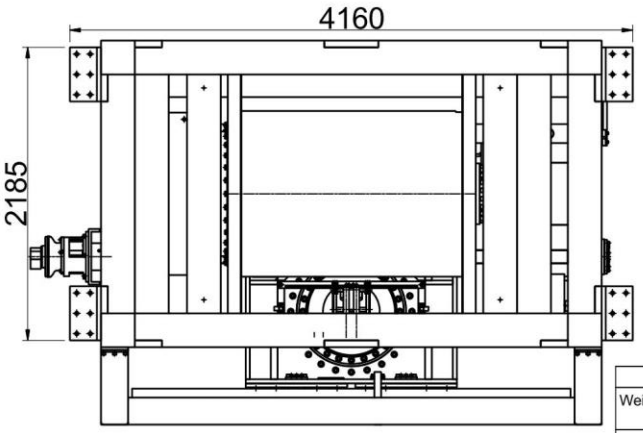
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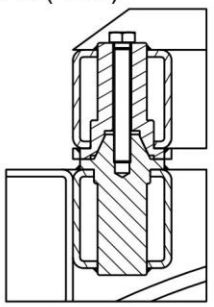


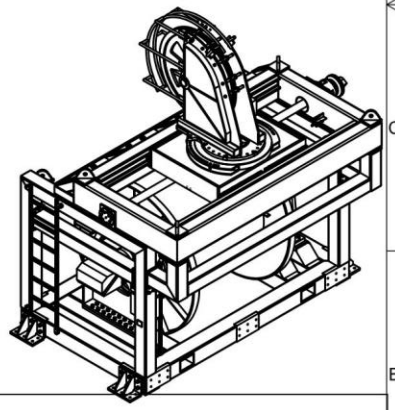






AA-AA (1 :5)





Technical specification								
Weight without Cable	Drum core diameter	Cable diameter	Capacity	Line speed	Line pull / SWL		Brake holding	
					Top layer	Drum layer	Top layer	Drum layer
17 900 Kg	1248 mm	31.55 mm	3 300 m	72 m/min	10.6 Te	17 Te	16 Te	25.5 Te

GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS							
0 UP TO 3	3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1000	OVER 1000 UP TO 2000	OVER 2000 UP TO 4000
± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	DIMENS.	SIZE - REMARKS

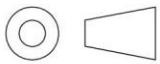
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NOTES

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DRAWN	12/6/2011	ISSUE										
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ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS

TITLE: 17 Te - WLL - 3300m - Hydraulic Winch

DRG. No.: DS39

SHT 1 OF 11

2 x 75kW Closed Loop Hydraulic Power Unit







TECHNICAL SPECIFICATION			
Pressure and Flow	**Max 240 Bar @ 800 lpm with both pumps**	**Frame**	**Crash frame with forklifting pockets and certified lifting lugs**
Pump and Motor Assy (Qty 2)	**355cc variable displacement pump with boost pressure pump - closed loop 28cc pressure compensated pump – open loop 75kW Electrical motor**	**Supply tank**	**1200 litres manufactured from 316 stainless steel with front access and desiccant Air breather 3-micron rating ensures air entering the reservoir is cleaned and dried**
Supply Required	**3 ph 380 / 415 / 440 / 460 V, 50/60Hz Note 2 independent 160A supplies into the starter panel is required for two pump operation**	**Supply tank filling point**	**G1" BSPP M suitable for QRC**
Cooling and heating	**Bowman heat exchanger - seawater oil cooler flow max 200 lpm dependant on sea water temp. Thermostatically controlled Tank heater 1.5 kW – 3ph**	**Filtration**	**Pressure and Return Filters 10-micron elements, with bypass & visual indicators**
Oil Cleanliness	**Suitable for proportional valve systems ISO 4406 17/15/12, NAS 6**	**Health Monitoring**	**Full temperature & level monitoring**
Controls	**Local and remote control**	**Port connections**	**P G3/4" BSP, T G1" BSP, D 1" BSP A & B G1.1/2" BSP**
Dimensions (LxWxH) Footprint	**2305 x 1800 x 2300 mm 2220 x 1800 mm**	**Weight**	**Dry weight: 4100 Kg**

Principle of Operation:

The 2 x 75kW Electrical Hydraulic Power Unit consists of, crash frame with lifting lugs, which affords protection during transportation and installation. The frame will enclose and protect the vulnerable equipment and provide stowage for hydraulic hoses.

Each 75kW 3 phase electrical motor is coupled to an independent closed-circuit variable displacement pump, boost pump and open circuit pressure commentated pump. The PLC control ensure that the pump provides the required pressure, flow rates and winch drum direction as per the demand. Horsepower limiting is only active in the PLC active position.

An interface connection plate with suitable sized connections for Pressure, Tank and Drain and Winch drum A & B lines enables the HPU to be connected via stainless steel Quick Release Couplings.

The winch/hpu is supplied with the following:

- **1 Set - 20-meter interconnecting hoses and stainless steel flat faced couplings, other lengths available upon request**
- **Marine grade paint system (Details can be supplied on application**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**

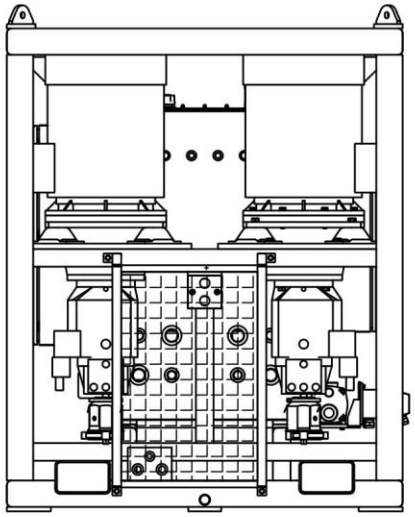
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

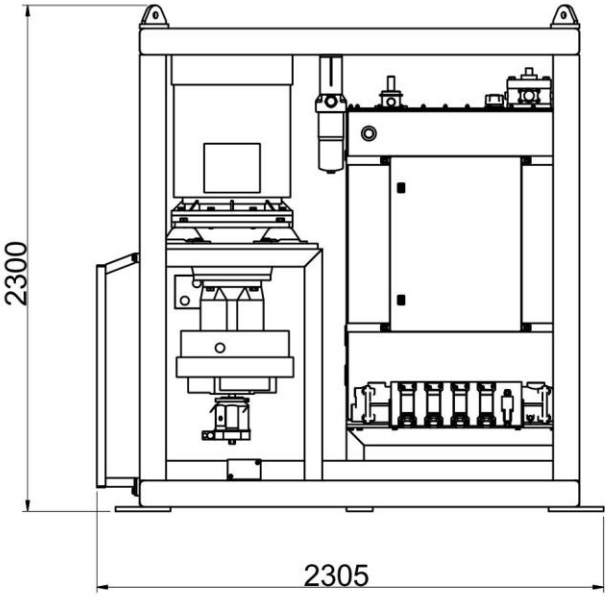
- **1 Off – Extended Warranty**
- **1 Set – stainless steel Quick Release Couplings**
- **1 Off – Full Spares Kit**

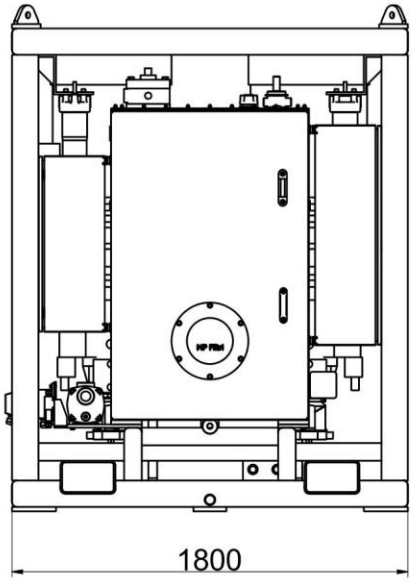
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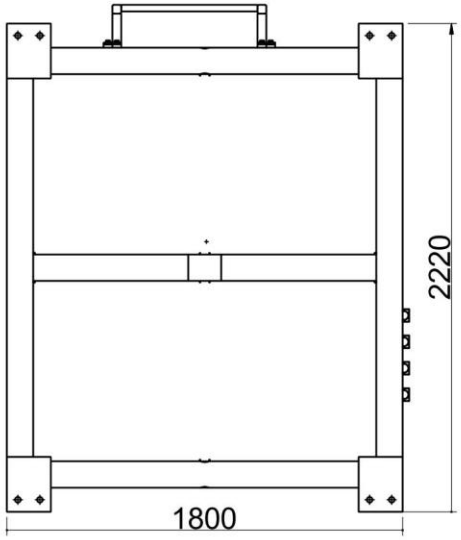
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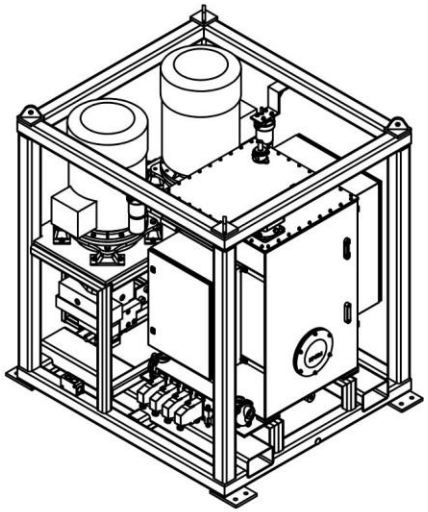
THIRD ANGLE PROJECTION











GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS								
0 UP TO 3	3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1000	OVER 1000 UP TO 2000	OVER 2000 UP TO 4000	
± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2	

NOTES

USED ON

DRAWN	Peto Gabor A	9/20/2013
		DATE

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
D.O.CHECKED										
T.O.CHECKED										
T.O.APPL.										
STATUS										
DATE										

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	DIMENS.	SIZE - REMARKS

SUPERSEDED BY

SUPERSEDES

ORIGINAL SCALE

A2

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Tel +44 (1482) 853884 / Fax +44 (1482) 870460
Email: sales@romica.co.uk

ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS

TITLE

2 x 75 kW Closed Loop Hydraulic Power Unit

DRG. No.

DS39

SHT 1

OF 3

1.3 Seismic

0.3 Te WLL - 200m - Electric Winch – DS03 44
0.37 Te WLL - 2 x 600m - Electric Winch – DS15 46
0.4 Te WLL - 1000m - Electric Winch – DS02 48
0.5 Te WLL - 200m - Electric Winch – DS99 50
0.7 Te WLL - 500m - Electric Winch – DS08 52
0.7 Te WLL - 500m - Electric Winch – DS79 54
1.5 Te WLL - 150m - Hydraulic Winch – DS78 56
1.7 Te WLL - 160m - Hydraulic Winch – DS14 58
1.75 Te WLL - 585m & 290m - Electric Winch – DS41 60
2.1 Te WLL - 1500m - Hydraulic Winch – DS11 62
2.24 Te WLL - 1500m - Electric Winch – DS17 64
2.5 Te WLL - 2250m - Hydraulic Winch – DS81 66
7.5 Te WLL - 350m - Hydraulic Winch with Integral 37 kW HPU– DS76 68

Seismic Winch Description

RTG offers a range of hydraulic or electric driven seismic winches that can be split into 4 main categories.

1. Streamer

The wide variety of steamers required in the industry that support the Ultra high resolution, 2D, 2DHR, 3D requirements for inshore and offshore seismic survey work require a variety of configurations, including drum capacity, pull capacity, static and dynamic tension monitoring system.

2. Umbilical

Depending on the Umbilical design these can provide different combinations of these parameters: data, power and lifting capabilities for the various subsea equipment's e.g. ROV

3. Utility

These winches are generally compact and of light weight design, with limited storage capacity. They enable the data transfer between the various subsea appliances and the survey room. These winches can be fitted with either steel wire rope or Dyneema rope depending on the client's requirements.

4. Storage reels

The streamer storage reels are available both as single and double drum configurations, with different sizes to suit the lengths of streamer's/umbilical's to be stored.

0.3 Te WLL - 200m - Electric Winch – DS03





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1620	48	200	30	300	229	450	344

Supply Required	380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards, forklifting pockets and certified lifting lugs
Winch Electrical Motor	2.2 KW IP56 IE3	Winch drum dimensions	Drum core Ø 1200 mm, Drum Length 480 mm, Flange Ø 1980 mm
Local Proportional Control	Bi-directionally proportional joystick and speed control potentiometer	Drum details	Plain drum: the umbilical is stored in 5 lays with 10 turns per lay
Level wind	N/A	Drum flanges 4 off - Ø 20 mm holes	To enable the winch drum to be "stoppered" off to a lug on the frame during long tow
Dimensions (LxWxH) Footprint	2165 x 1258 x 2080 mm 2120 x 1170 mm	Cable	Mini-Streamer Ø 48 mm
Slip ring	Designed to accept Focal 180 or similar not within scope of supply	Forward support cross bar	Easily removable, via bolts, to allow equipment to pass

Principle of Operation:

The winch barrel is mounted directly onto the outer face of a vertically mounted slew-ring bearing. The inner ring of the bearing has been mounted onto the frame support.

The winch barrel is driven directly from a Brevini gearbox and a 2.2 kW SEW Electric Motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost or the joystick is in its centre (neutral) position.

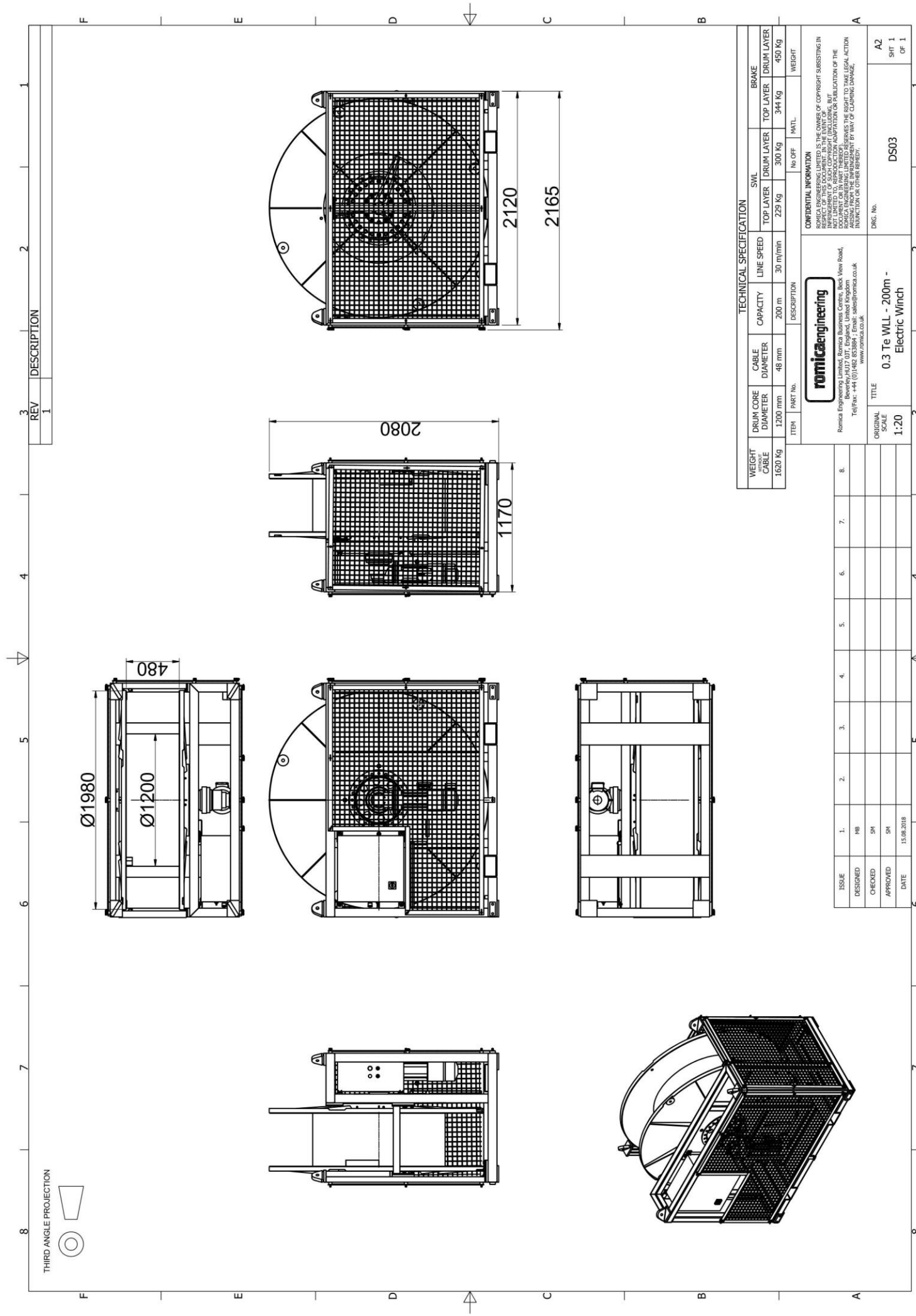
The Electric Survey Winch can be driven bi-directionally using a proportional joystick, which is mounted locally on the side of the electrical enclosure, the proportional joystick controls both the direction and the speed of the winch in heave and pay out.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

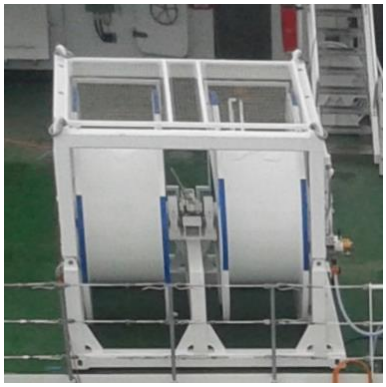
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**


REV
DESCRIPTION
1
2120
2165
2080
1170
480
Ø1980
Ø1200
TECHNICAL SPECIFICATION
WEIGHT WITHOUT CABLE
1620 Kg
DRUM CORE DIAMETER
1200 mm
CABLE DIAMETER
48 mm
CAPACITY
200 m
LINE SPEED
30 m/min
SWL
TOP LAYER
229 Kg
DRUM LAYER
300 Kg
BRAKE
TOP LAYER
344 Kg
DRUM LAYER
450 Kg
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romicaengineering
Romica Engineering Limited, Romica Business Centre, Beck View Road, Beverley,HU17 0JT, England, United Kingdom
Tel/Fax: +44 (0)1482 853894 ; Email: sales@romica.co.uk
www.romica.co.uk
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ORIGINAL SCALE
1:20
TITLE
0.3 Te WLL - 200m - Electric Winch
DRG. No.
DS03
A2
SHT 1 OF 1
ISSUE
DESIGNED
MB
CHECKED
SM
APPROVED
SM
DATE
15.08.2018
THIRD ANGLE PROJECTION

0.37 Te WLL - 2 x 600m - Electric Winch – DS15







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
5800	56	2 x 600	20	375	250	565	750

Supply Required	380-440V-3 Ph- 50/60 Hz	Cable Lead-off Angle	N/A
Winch Electrical Motor Level Wind Electrical Motor	3 KW IP56 IE3 N/A	Frame details	Crash frame with guards and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick and speed control potentiometer	Winch drum dimensions	Drum core Ø 1500 mm, Drum Length 800 mm, Flange Ø 2400 mm
Level wind	N/A	Drum details	Plain drum: the cable is stored in 8 lays with 59 turns per lay per drum
Dimensions (LxWxH) Footprint	3110.5 x 2437 x 2625 mm 2990.5 x 2437 mm	Cable	Seamux 2 Digital Steamer
Slip ring	N/A		

Principle of Operation:

The winch barrel is mounted directly onto the outer, toothed, face of a vertically mounted slew-ring bearing. The inner ring of the bearing has been mounted onto a common fixed deck pedestal. A toothed pinion drives the outer ring of the bearing and thus turns the Winch barrel in either direction. The pinion is fitted to the output shaft of a multi-stage planetary gearbox, the gearbox has been fitted with a hydraulically actuated spring applied failsafe brake unit and an open loop orbital low speed hydraulic motor. Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position.

The winch barrel is not supported at the non-drive side and as such the provision for the slipring is made at either end of the winch barrel.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

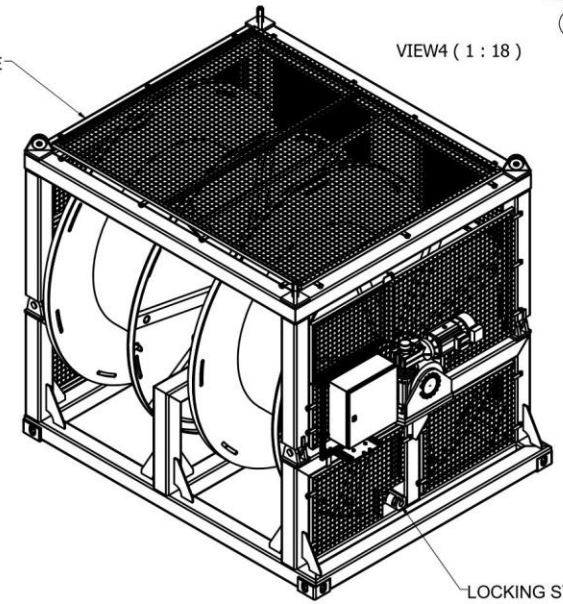
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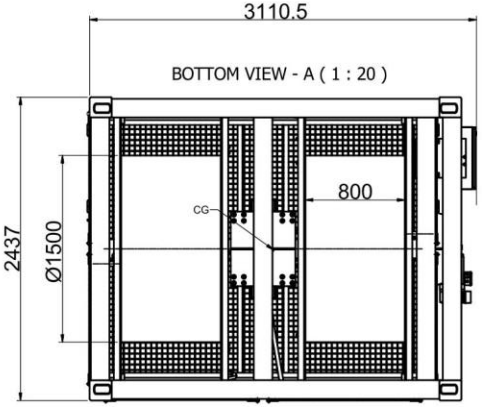
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**

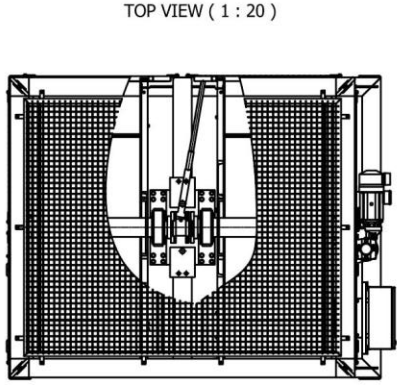
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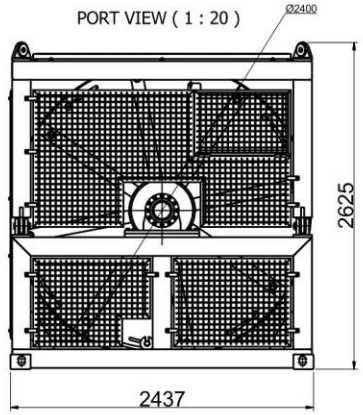
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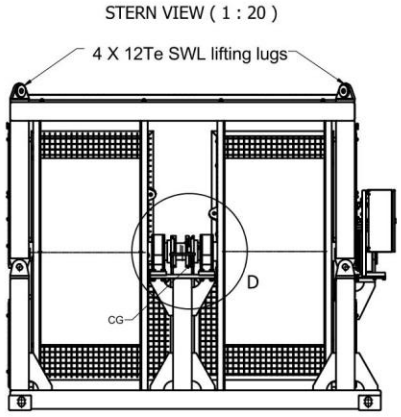
THIRD ANGLE PROJECTION

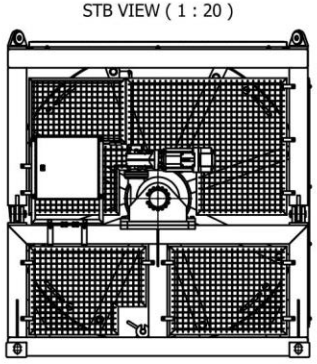


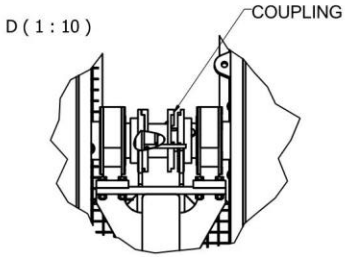












Note:
The COG is without cable.

Colour:
White RAL 9016

Power Requirements:
3 AC 440v 60 Hz - 3kW

TECHNICAL SPECIFICATION								
WEIGHT WITHOUT CABLE	DRUM CORE DIAMETER	CABLE DIAMETER	CAPACITY	LINE SPEED	SWL / Brake			
					TOP LAYER	DRUM LAYER	TOP LAYER	DRUM LAYER
5650 kg	1500 mm	56 mm	2 x 600 m	15 m/min	250 kgf	375 kgf	750 kgf	565 kgf

Load Testing Padeye			
PADEYE	LINE PULL / SWL	BRAKE HOLD	Remarks
4.7 Te	250 Kg	750 Kg	Corresponds to Ø56mm Rope 7'th Layer

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Struczej Mihai							
CHECKED								
APPROVED								
DATE	26.06.2015							

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

romicaengineering
Romica Engineering Limited, Romica Business Centre, Beck View Road, Beverley,HU17 0JT, England, United Kingdom
Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
www.romica.co.uk

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ORIGINAL SCALE	TITLE	DRG. No.	
1:20	0.37 Te WLL - 2 x 600m - Electric Winch	DS15	A1 SHT 1 OF 1

0.4 Te WLL - 1000m - Electric Winch – DS02







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1750	25.7	1000	67	400	278	850	588

Supply Required	380-440V-3 Ph- 50/60 Hz	Cable Lead-off Angle	+/-30° Horizontal plane Min + 4° Max + 45° Vertical plane
Winch Electrical Motor	4 KW IP56 IE3	Frame details	Crash frame with guards, forklifting pockets and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick and speed control potentiometer	Winch drum dimensions	Drum core Ø 668 mm, Drum Length 1242 mm, Flange Ø 1160 mm
Level wind	Mechanical chain driven	Drum details	Lebus shell drum; the wire is stored in 7 lays with 55 turns per lay
Dimensions (LxWxH) Footprint	2100 x 1691 x 1890 mm 2240 x 1650 mm	Cable	Umbilical CS 7292
Slip ring	Designed to accept MOFLON MF0180 or similar not within scope of supply		

Principle of Operation:

The winch drum is mounted on the output shaft of a 4 kW SEW electric gearmotor fitted with a failsafe brake unit and is connected to the corresponding drive inverter in the control panel. The speed of the drum is proportionally controlled via a potentiometer; its direction is determined by a 3 position, spring return to centre, joystick. These are both mounted locally on the Electric Winch Enclosure.

The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position. The non-drive side housings a bearing and a slipring.

The Level wind is mechanically chain driven from the SEW Electric gearmotor drive shaft and the cable is guided via the level wind carriage assembly.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

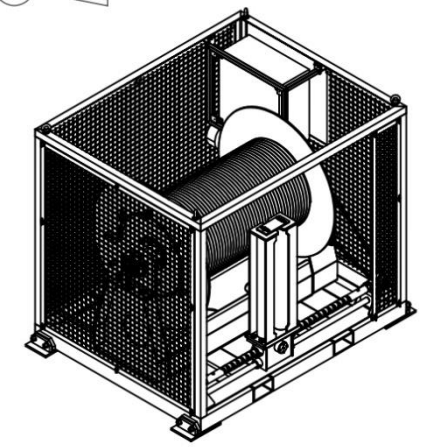
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**

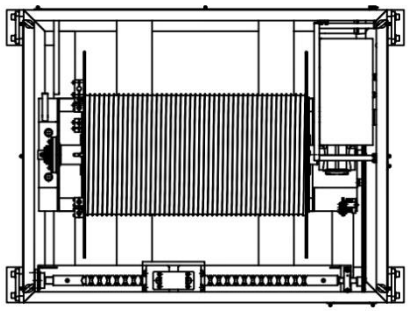
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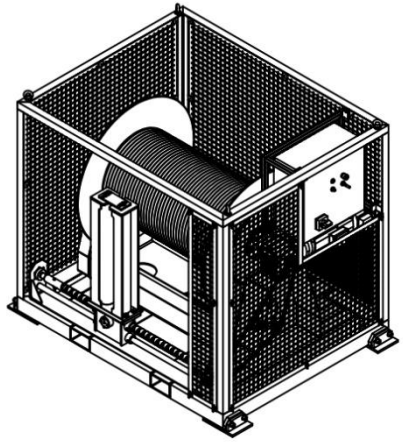
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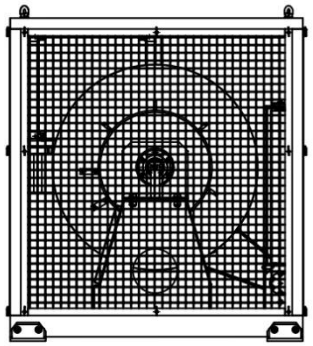
THIRD ANGLE PROJECTION

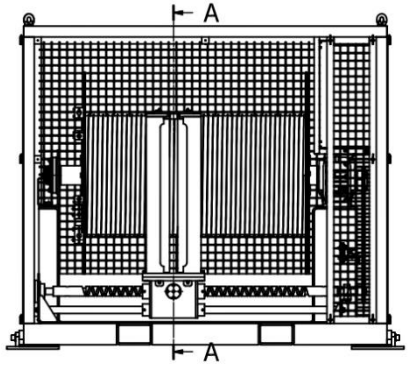
REV	DESCRIPTION
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2	

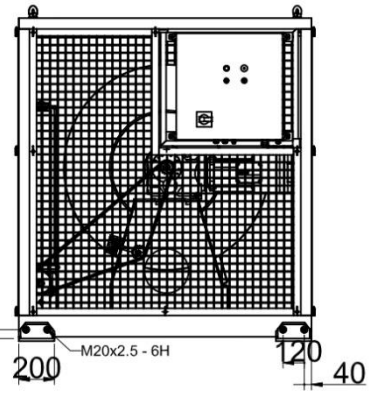


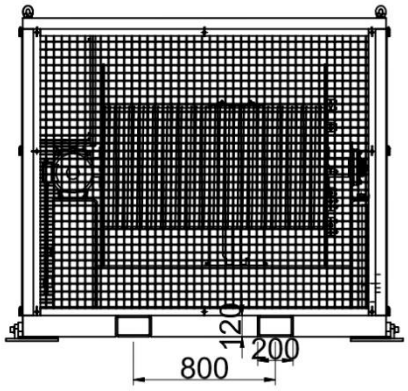




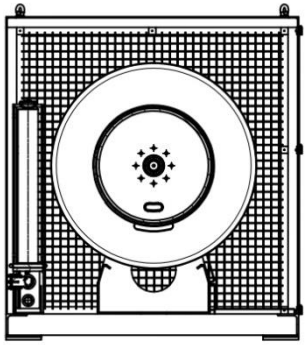


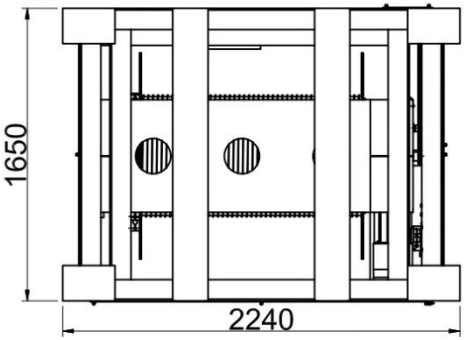






A-A (1 : 20)





TECHNICAL SPECIFICATION								
WEIGHT WITHOUT CABLE	DRUM CORE DIAMETER	CABLE DIAMETER	CAPACITY	LINE SPEED	WLL		BRAKE	
					TOP LAYER	DRUM LAYER	TOP LAYER	DRUM LAYER
1750 Kg	668 mm	25.7 mm	1000	67 m/min	278 Kg	402 Kg	588 Kg	850 Kg

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Merli B.	Merli B.	Merli B.					
CHECKED	Struczuj M.	Struczuj M.	Struczuj M.					
APPROVED	Struczuj M.	Struczuj M.	Struczuj M.					
DATE	11.10.2018	24.10.2018	29.11.2018					

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

romica engineering
Romica Engineering Limited, Romica Business Centre, Beck View Road, Beverley,HU17 0JT, England, United Kingdom
Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
www.romica.co.uk

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ORIGINAL SCALE	TITLE	DRG. No.	
1:20	REL - 0.4 TE WLL - Electric Winch	DS02	A2 SHT 1 OF 1

0.5 Te WLL - 200m - Electric Winch – DS99







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
2200	45	200	30	500	405	750	607.5

Supply Required	380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards, fork lifting pockets, ISO Corners and certified lifting lugs
Winch Electrical Motor	5.5 Kw IP56 IE3	Winch drum dimensions	Drum core Ø 1500 mm, Drum Length 360 mm, Flange Ø 2100 mm
Local Proportional Control	Bi-directionally proportional joystick and speed control potentiometer	Drum details	Plain drum; the umbilical is stored in 5 lays with 11 turns per lay
Level wind	N/A	Drum flanges 4 off - Ø 20 mm holes	To enable the winch drum to be "stoppered" off to a lug on the frame during long tow
Dimensions (LxWxH) Footprint	2240 x 1250 x 2192 mm 2200 x 1210 mm	Cable	GeoEel Solid LH-16 Digital Solid Streamer
Slip ring	Designed to accept IEC Corporation ISM-16-7FT-4FT-3500-CS slip ring or similar not within scope of supply	Forward support cross bar	Easily removable, via bolts, to allow equipment to pass

Principle of Operation:

The winch barrel is mounted directly onto the outer face of a vertically mounted slew-ring bearing. The inner ring of the bearing has been mounted onto the frame support.

The winch barrel is driven directly from a right angled 4 stage planetary gearbox and a 5.5 kW Electric Motor, an electromagnetic failsafe brake unit is fitted between the electrical motor and gearbox. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost or the joystick is in its centre (neutral) position.

The Electric Survey Winch can be driven bi-directionally using a proportional joystick, which is mounted locally on the side of the electrical enclosure, the proportional joystick controls both the direction and the speed of the winch in heave and pay out.

The winch is supplied with the following:

- **Qty4 standard ISO castings corners for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

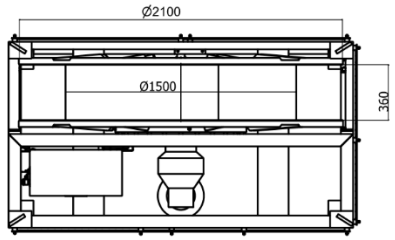
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

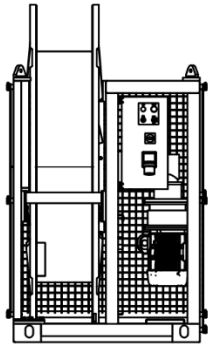
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **Remote Control wired or wireless**

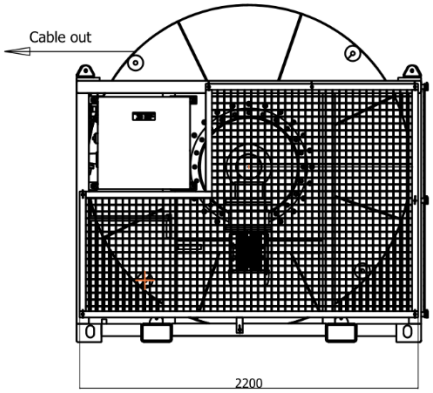
Back to contents

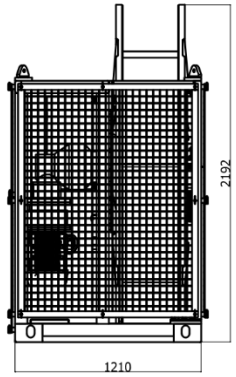
www.romicatiegroup.com

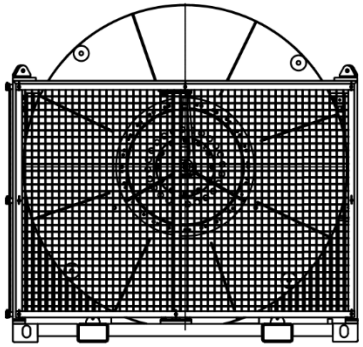
REV.	DATE	DESCRIPTION	DESG.	CKD.	APPD.

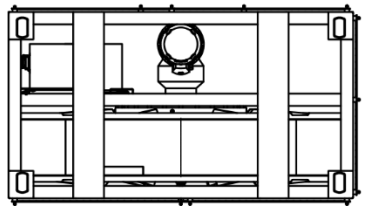


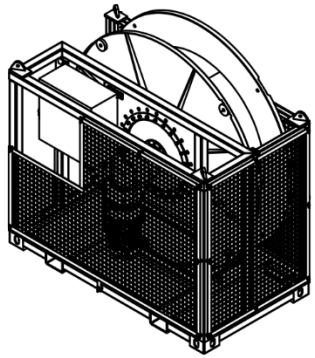






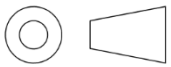






TECHNICAL SPECIFICATION
-Max. line pull at 1_st layer 500kgf
-Max. line pull at top layer 405kgf
-Max. brake holding capacity at 1_st layer 750kgf
-Nominal line speed 30m/min
-Capacity 200m of 45mm streamer
-Drum core diameter 1500mm
-Electric motor size 5.5kW
-Estimated mass without streamer 2200kg

THIRD ANGLE PROJECTION



Extract from BS EN 22768-1:1993 Medium tolerance class U.O.S.	from 0.5 upto 3	over 3 upto 6	over 6 upto 30	over 30 upto 120	over 120 upto 400	over 400 upto 1000	over 1000
Linear tolerances for ranges of dimensions (not rads and chamfers)	+/- 0.1	+/- 0.1	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8	+/- 1.2
Liear tolerances for ranges of dimension on rads and chamfers	+/- 0.2	+/- 0.5	+/- 1	+/- 1	+/- 1	+/- 1	+/- 1

Angular tolerances					
upto 10	over 10 upto 50	over 50 upto 120	over 120 upto 400	over 400	
+/- 1 deg.	+/- 1 deg.	+/- 0.2 deg.	+/- 1 deg.	+/- 0.5 deg.	

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

ROMICA TIE GROUP
Tel: +44 (0)1482 853884; Email: sales@romica.co.uk
www.romica.co.uk

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ORIGINAL SCALE	TITLE	DRG. No.	
	0.5 Te WLL - 200m - Electric Winch	DS99	A3 SHT 1 OF 1

0.7 Te WLL - 500m - Electric Winch – DS08







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1395	18.5	500	90	700	381	1050	571

Supply Required	380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards, forklifting pockets and certified lifting lugs
Winch Electrical Motor	11KW IP56 IE3	Winch drum dimensions	Drum core Ø 380 mm, Drum Length 481 mm, Flange Ø 850 mm
Local Proportional Control	Bi-directionally joystick, tension and speed control potentiometers	Drum details	Plain drum: the wire is stored in 11 lays with 26 turns per lay
Level wind	N/A	Cable	5 core umbilical
Dimensions (LxWxH) Footprint	1730 x 1215 x 2065 mm 1490 x 1160 mm	Monitoring	Cable line in / Out and Tension readings via HMI
Slip ring	Designed to accept Hartman & König YK16 or similar not within scope of supply	Qty 4 Off – 20 mm diameter holes within drum flange	Allow the winch drum to be "stoppered" off with chain and shackles when on a long tow

Principle of Operation:

The Constant Tension Winch drum is driven by a 11 kW SEW electric gearmotor through an output shaft. The drum motor Variable Speed Drive drives the electrical motor of the Drum with variable speed according to the control signals and rpm setpoint of the potentiometer. The Tension control is also controlled by the Variable Speed Drive with variable Tension according to setpoint of the potentiometer.

The non-drive side housings the bearing and slipring. The Slipring is not within the scope of supply.

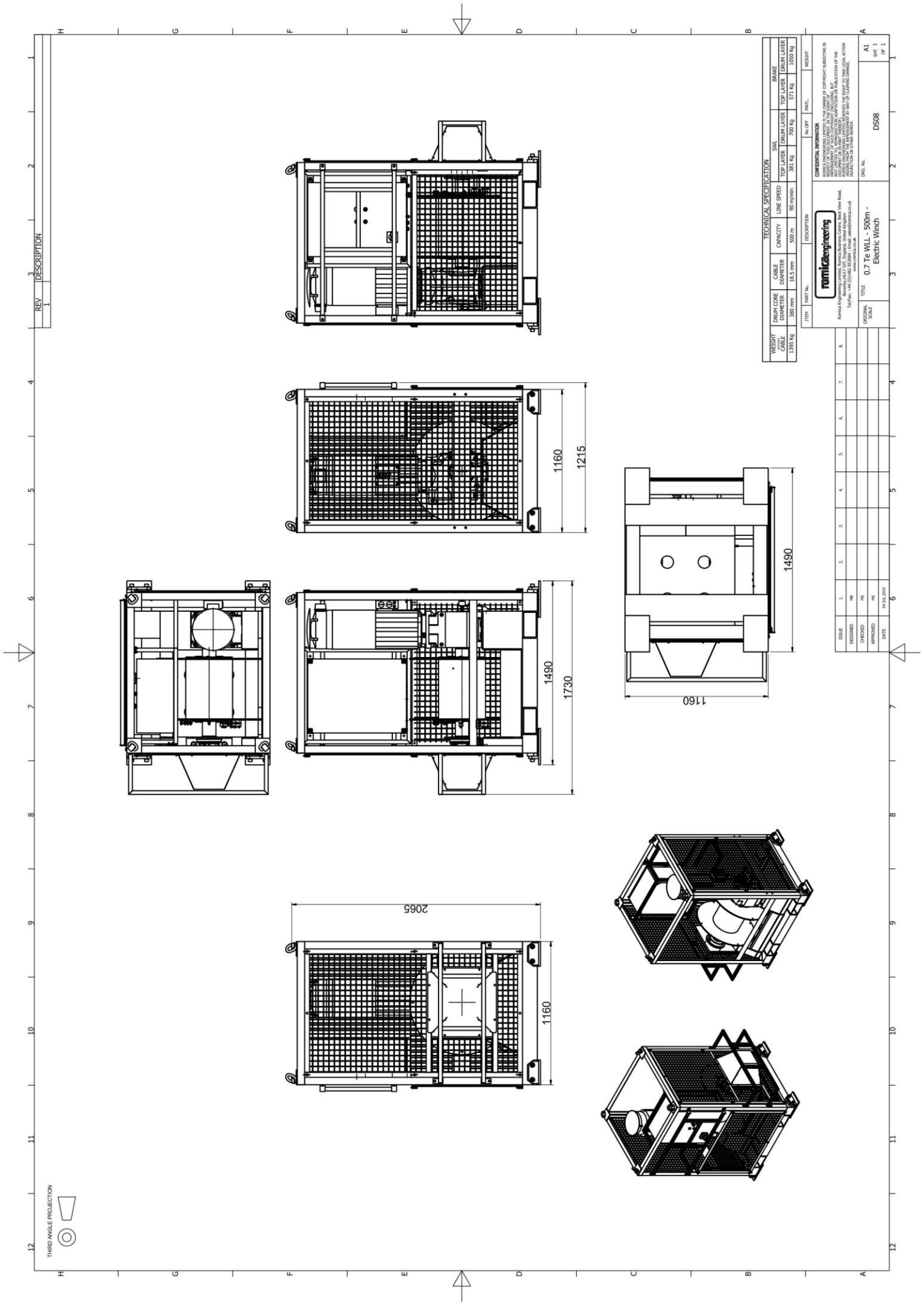
The SEW Electric Motor combination is fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost, or the joystick is in its centre (neutral) position.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**


TECHNICAL SPECIFICATION
WEIGHT CABLE
1395 Kg
DRUM CORE DIAMETER
380 mm
CABLE DIAMETER
18.5 mm
CAPACITY
500 m
LINE SPEED
90 m/min
SWL
TOP LAYER
381 Kg
DRUM LAYER
700 Kg
BRAKE
TOP LAYER
571 Kg
DRUM LAYER
1050 Kg
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romicaengineering
CONFIDENTIAL INFORMATION
TITLE
0.7 Te WLL - 500m - Electric Winch
DWG. No.
DS08
A1
SHT 1 OF 1
ORIGINAL SCALE
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
04.JUL.2019
REV
DESCRIPTION
1
1160
1215
1490
1730
1160
1490
2065
1160
THIRD ANGLE PROJECTION

0.7 Te WLL - 500m - Electric Winch – DS79







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
2100	26	500	90	700	461	1050	691

Supply Required	380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards, fork lifting pockets and certified lifting lugs
Winch Electrical Motor	11Kw IP56 IE3	Winch drum dimensions	Drum core Ø 680 mm, Drum Length 748 mm, Flange Ø 1225 mm
Local Proportional Control	Bi-directionally joystick, tension and speed control potentiometers	Drum details	Plain drum; the wire is stored in 8 lays with 28 turns per lay
Level wind	N/A	Cable	5 core umbilical eg SC0118 - Fibron
Dimensions (LxWxH) Footprint	2001 x 1867 x 2144 mm 2001 x 1867 mm	Monitoring	Cable line In / Out and Tension readings via HMI
Slip ring	Designed to accept Hartman & König YK16 or similar not within scope of supply	Qty 4 Off – 20 mm diameter holes within drum flange and Qty 2 off shackles on the base frame	Allow the winch drum to be “stoppered” off with chain and shackles when on a long tow

Principle of Operation:

The Constant Tension Winch drum is driven by a 11 kW SEW electric gearmotor through an output shaft. The drum motor Variable Speed Drive drives the electrical motor of the Drum with variable speed according to the control signals and rpm setpoint of the potentiometer. The Tension control is also controlled by the Variable Speed Drive with variable Tension according to setpoint of the potentiometer.

The non-drive side housings the bearing and slipring. The Slipring is not within the scope of supply.

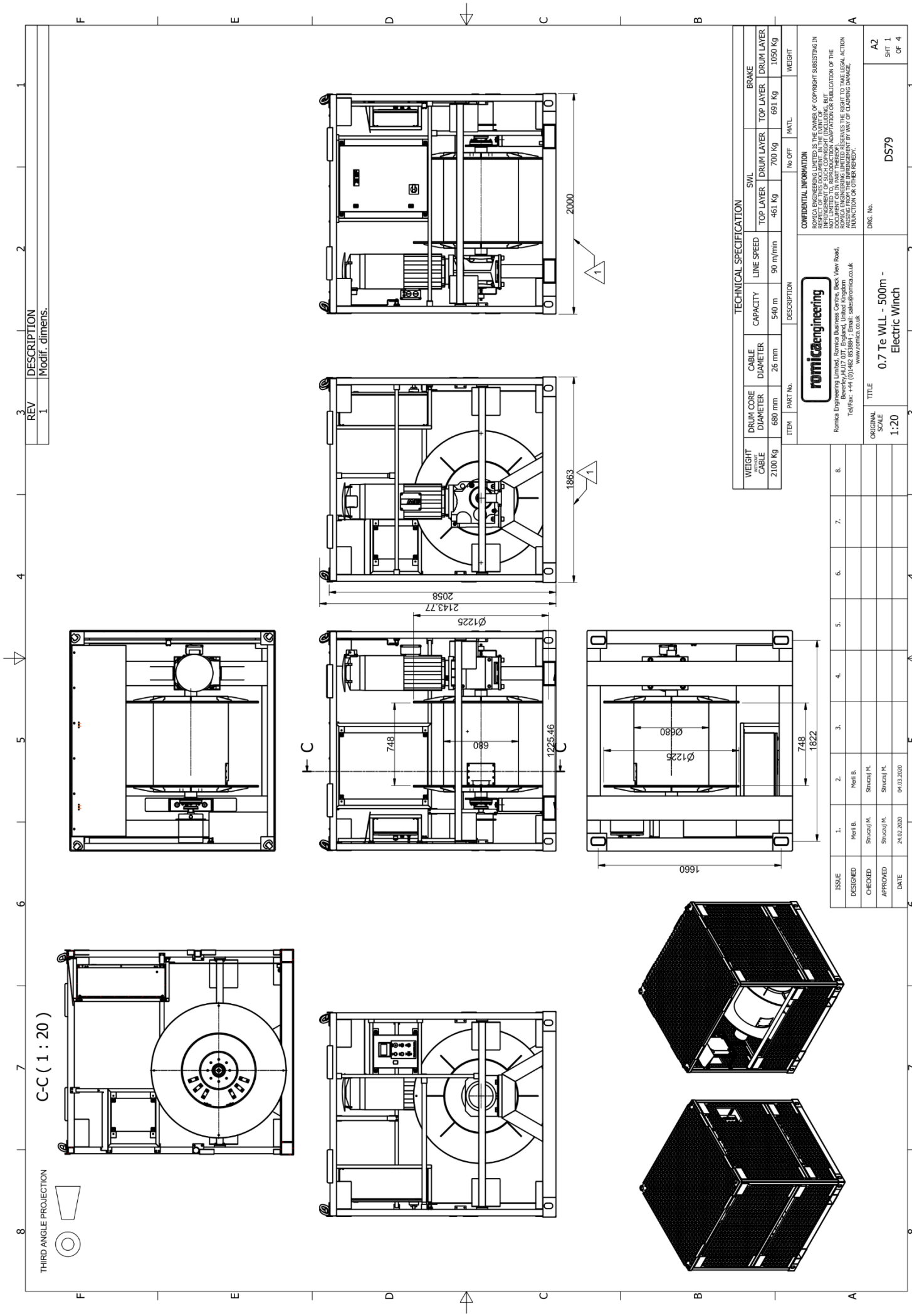
The SEW Electric Motor combination is fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost or the joystick is in its centre (neutral) position.

The winch is supplied with the following:

- **Qty 4 standard ISO castings corners for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

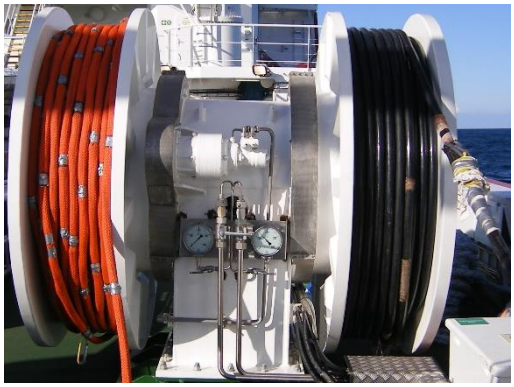
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **Remote Control wired or wireless**


REV
DESCRIPTION
1
Modif. dimens.
TECHNICAL SPECIFICATION
WEIGHT WITHOUT CABLE
2100 Kg
DRUM CORE DIAMETER
680 mm
CABLE DIAMETER
26 mm
CAPACITY
540 m
LINE SPEED
90 m/min
SWL
TOP LAYER
461 Kg
DRUM LAYER
700 Kg
BRAKE
TOP LAYER
691 Kg
DRUM LAYER
1050 Kg
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romicaengineering
Romica Engineering Limited, Romica Business Centre, Beck View Road, Beverley,HU17 0JT, England, United Kingdom
Tel/Fax: +44 (0)1482 853894 ; Email: sales@romica.co.uk
www.romica.co.uk
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ORIGINAL SCALE
1:20
TITLE
0.7 Te WLL - 500m - Electric Winch
DRG. No.
DS79
A2
SHT 1 OF 4
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
1.
Merli B.
Strucioj M.
Strucioj M.
24.02.2020
2.
Merli B.
Strucioj M.
Strucioj M.
04.03.2020
2000
1863
2058
2143.77
Ø1225
680
748
1225.46
C
C
Ø680
Ø1225
748
1822
1660
C-C (1 : 20)
THIRD ANGLE PROJECTION

1.5 Te WLL - 150m - Hydraulic Winch – DS78





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
3038	49	150 per drum	15	1500	2250	1300	1950

Winch Hydraulic Drive Supply Required	200 bar 42 l/min	Cable Lead-off Angle	N/A
Level Wind Electrical Motor Supply Required	N/A	Frame details	Deck pedestal with guards and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick	Winch drum dimensions	Drum core Ø 1660 mm, Drum Length 450 mm, Flange Ø 2020 mm
Level wind	N/A	Drum details	Plain drum; the umbilical is stored in 2 lays with 23 turns per lay
Dimensions (LxWxH) Footprint	2020 x 2202 x 2040 mm 1235 x 806 mm	Cable	49 mm e.g. Teledyne Storm - 13 Quad Air Gun Umbilical
Slip ring	Designed to accept Focal Model 176 or similar not within scope of supply	Hydraulic Ports	A1 G1/2" BSP, B1 G1/2" BSP, A2 G1/2" BSP, B2 G1/2" BSP

Principle of Operation:

The umbilical winch drums are mounted directly onto the outer, toothed, face of a vertically mounted slew-ring bearing. The inner ring of the bearing is mounted onto a common fixed deck pedestal. A toothed pinion drives the outer ring of the bearing and thus turn the winch drum in either direction. The pinion is fitted to the output shaft of a multi-stage planetary gearbox, the gear box is fitted with a hydraulically actuated spring applied failsafe brake unit and an open loop orbital low speed hydraulic motor.

The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve within the load control valve. Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor.

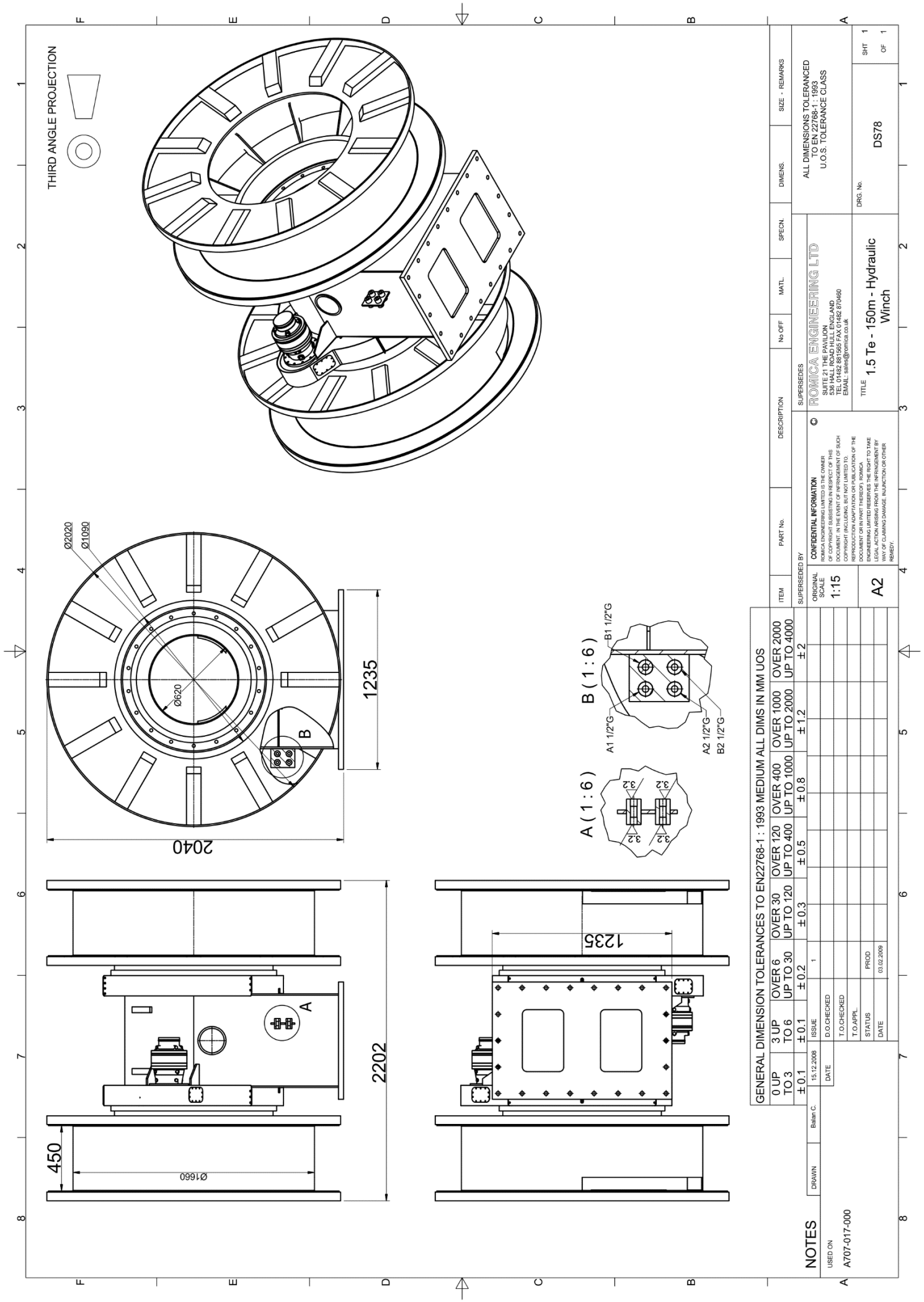
The winch is controlled via a 3 position, spring return to centre directional control valve. The valve is fitted with a motor spool. The winch drum isn't supported at the non-drive end of the winch drum and as such provision for a slip ring can be mounted on drive side of the reel with the umbilical exiting via the centre pedestal.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**


THIRD ANGLE PROJECTION
Ø2020
Ø1090
Ø620
B
1235
2040
A (1 : 6)
B (1 : 6)
B1 1/2"G
A1 1/2"G
A2 1/2"G
B2 1/2"G
3.2
A
450
Ø1660
2202
1235
GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS
0 UP TO 3 ± 0.1
3 UP TO 6 ± 0.1
OVER 6 UP TO 30 ± 0.2
OVER 30 UP TO 120 ± 0.3
OVER 120 UP TO 400 ± 0.5
OVER 400 UP TO 1000 ± 0.8
OVER 1000 UP TO 2000 ± 1.2
OVER 2000 UP TO 4000 ± 2
NOTES
USED ON
A707-017-000
DRAWN
Balan C.
15.12.2008
DATE
ISSUE
1
D.O.CHECKED
T.O.CHECKED
T.O.APPL.
STATUS
PROD
DATE
03.02.2009
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
SPECN.
DIMENS.
SIZE - REMARKS
SUPERSEDED BY
SUPERSEDES
ORIGINAL SCALE
1:15
A2
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536 HALL ROAD HULL ENGLAND
TEL 01482 861565 FAX 01482 870460
EMAIL sales@romica.co.uk
TITLE
1.5 Te - 150m - Hydraulic Winch
DRG. No.
DS78
ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS
SHT 1
OF 1

1.7 Te WLL - 160m - Hydraulic Winch – DS14







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
2500	50	160	15	1700	1500	2820	2250

Winch Hydraulic Drive Supply Required	160 bar 50 l/min	Cable Lead-off Angle	N/A
Level Wind Electrical Motor Supply Required	N/A	Frame details	Deck pedestal with guards and certified lifting lugs
Local Proportional Control	None	Winch drum dimensions	Drum core Ø 1660 mm, Drum Length 535 mm, Flange Ø 2100 mm
Level wind	N/A	Drum details	Plain drum: the umbilical is stored in 4 lays with 8 turns per lay
Dimensions (LxWxH) Footprint	1772 x 2200 x 2250 mm 1430 x 1500 mm with twist lock option	Cable	Teledyne Storm - 13 Quad Air Gun Umbilical
Slip ring	Designed to accept Focal Model 176 or similar not within scope of supply	Hydraulic Ports	A G3/4” BSP, B G3/4” BSP, D G1/2” BSP

Principle of Operation:

The winch barrel is mounted directly onto the outer, toothed, face of a vertically mounted slew-ring bearing. The inner ring of the bearing has been mounted onto a common fixed deck pedestal. A toothed pinion drives the outer ring of the bearing and thus turns the Winch barrel in either direction. The pinion is fitted to the output shaft of a multi-stage planetary gearbox, the gearbox has been fitted with a hydraulically actuated spring applied failsafe brake unit and an open loop orbital low speed hydraulic motor. Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position.

The winch barrel is not supported at the non-drive side and as such the provision for the slipring is made at either end of the winch barrel.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

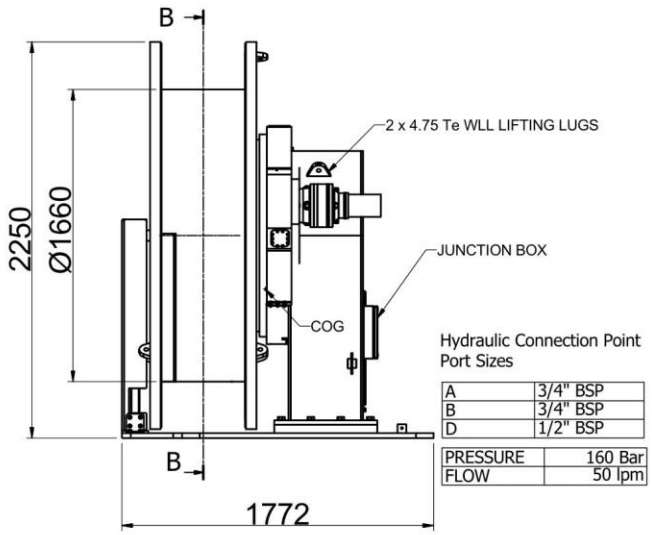
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**

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THIRD ANGLE PROJECTION

STERN VIEW (1 : 20)

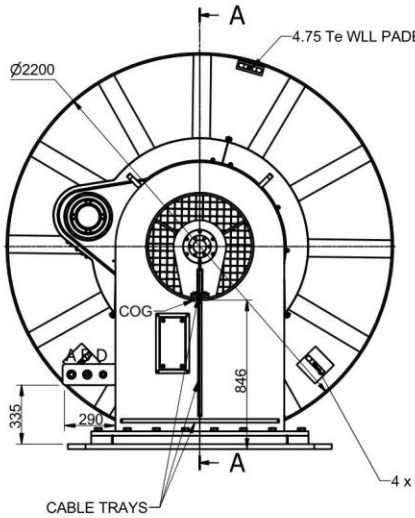


Hydraulic Connection Point Port Sizes

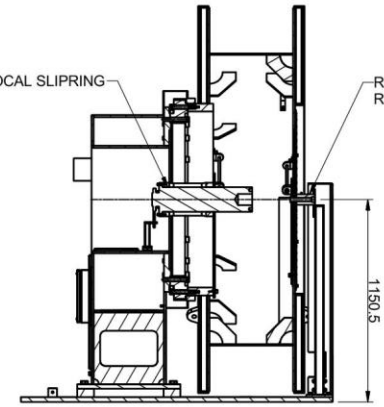
A	3/4" BSP
B	3/4" BSP
D	1/2" BSP

PRESSURE	160 Bar
FLOW	50 lpm

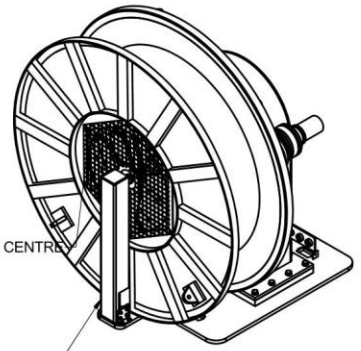
STB VIEW (1 : 20)



A-A (1 : 20)

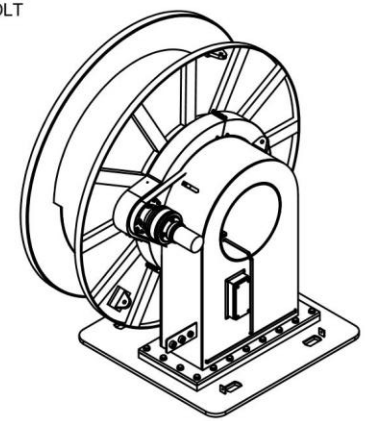


VIEW6 (1 : 25)

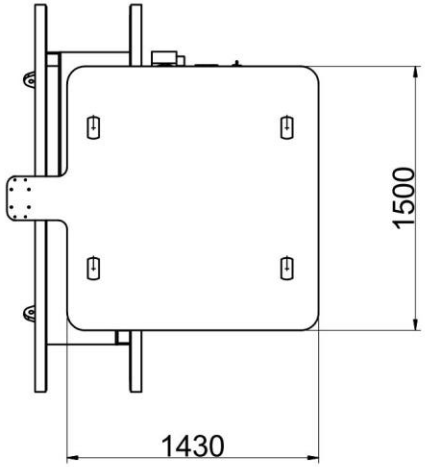


STAINLESS STEEL PLATE COVER OVER HP ROTARY UNION TUBE WITH ACCESS HOLE FOR BOLT FASTENING

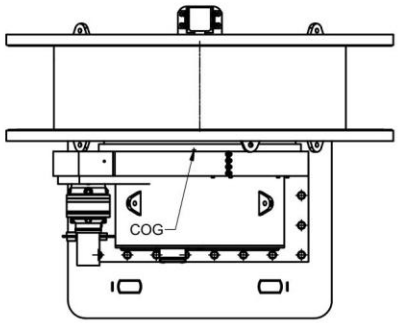
VIEW5 (1 : 25)



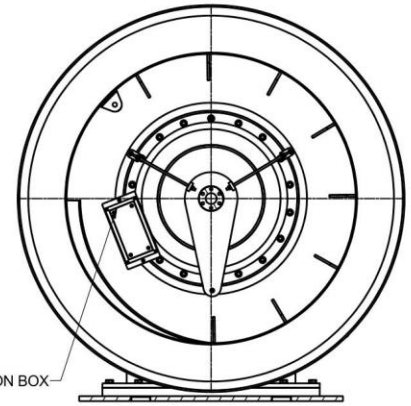
BOTTOM VIEW (1 : 20)



TOP VIEW (1 : 20)



B-B (1 : 20)



Load Testing Padeye			
PADEYE WLL	LINE PULL / SWL	BRAKE HOLD	Remarks
4.7 Te	1.5 Te	2.5 Te	Corresponds to Ø50 mm Cable 4'th Layer

TECHNICAL SPECIFICATION								
WEIGHT WITHOUT CABLE	DRUM CORE DIAMETER	CABLE DIAMETER	CAPACITY	LINE SPEED	LINE PULL / SWL			
					TOP LAYER	DRUM LAYER	TOP LAYER	DRUM LAYER
2.4 Te	1660 mm	50 mm	160 m	15 m/min	1.5 Te	1.68 Te	2.5 Te	2.82 Te
ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Ilyes Andras	Ilyes Andras	Ilyes Andras	Ilyes Andras	Ilyes Andras	Ilyes Andras	Ilyes Andras	
CHECKED	Struczuj Mihaly	Struczuj Mihaly	Struczuj Mihaly	Struczuj Mihaly	Struczuj Mihaly	Struczuj Mihaly	Struczuj Mihaly	
APPROVED								
DATE	09.23.2015	10.06.2015	10.10.2015	10.16.2015	10.26.2015	10.27.2015	12.11.2015	

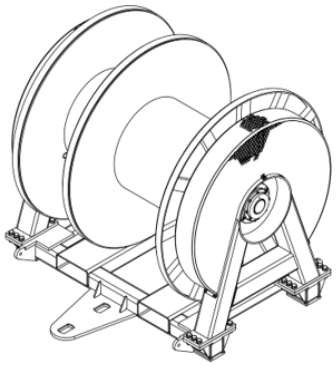
ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

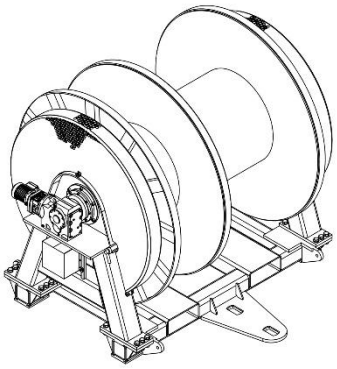
romica engineering
Romica Engineering Limited, Romica Business Centre, Beck View Road, Beverley,HU17 0JT, England, United Kingdom
Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
www.romica.co.uk

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ORIGINAL SCALE	TITLE	DRG. No.	
1:20	1.7 Te WLL - 160m - Hydraulic Winch	DS14	A2 SHT 1 OF 1

1.75 Te WLL - 585m & 290m - Electric Winch – DS41





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1700	56	Drum 1 - 585 Drum 2 - 290	10	175	100	N/A	N/A

Supply Required	**380-440V-3 Ph- 50/60 Hz**	**Cable Lead-off Angle**	**N/A**
Winch Electrical Motor	**0.25 KW IP56 IE3**	**Frame details**	**Frame with guards, forklifting pockets and certified lifting lugs**
Local Control	**Reversing switch – maintained type 1-0-2, 60°**	**Drum dimensions**	**Drum core Ø 800 mm, Drum Length 931 mm, Flange Ø 1800 mm**
Level wind	**N/A**	**Drum 1 details**	**Plain drum: the umbilical is stored in 9 lays with 17 turns per lay for drum 1**
Dimensions (LxWxH) Footprint	**2317 x 1800 x 1855 mm 2144 x 1850 mm**	**Drum 2 details**	**Plain drum: the umbilical is stored in 9 lays with 8 turns per lay for drum 1**
Slip ring	**N/A**	**Cable**	**Seamux 2 Digital Streamer**

Principle of Operation:

The Streamer Storage Winch has two drums which are mounted on the same barrel, adjacent to each other.

The winch drum is mounted on the output shaft of a 0.25 kW SEW electric gearmotor which is not fitted with a failsafe brake unit.

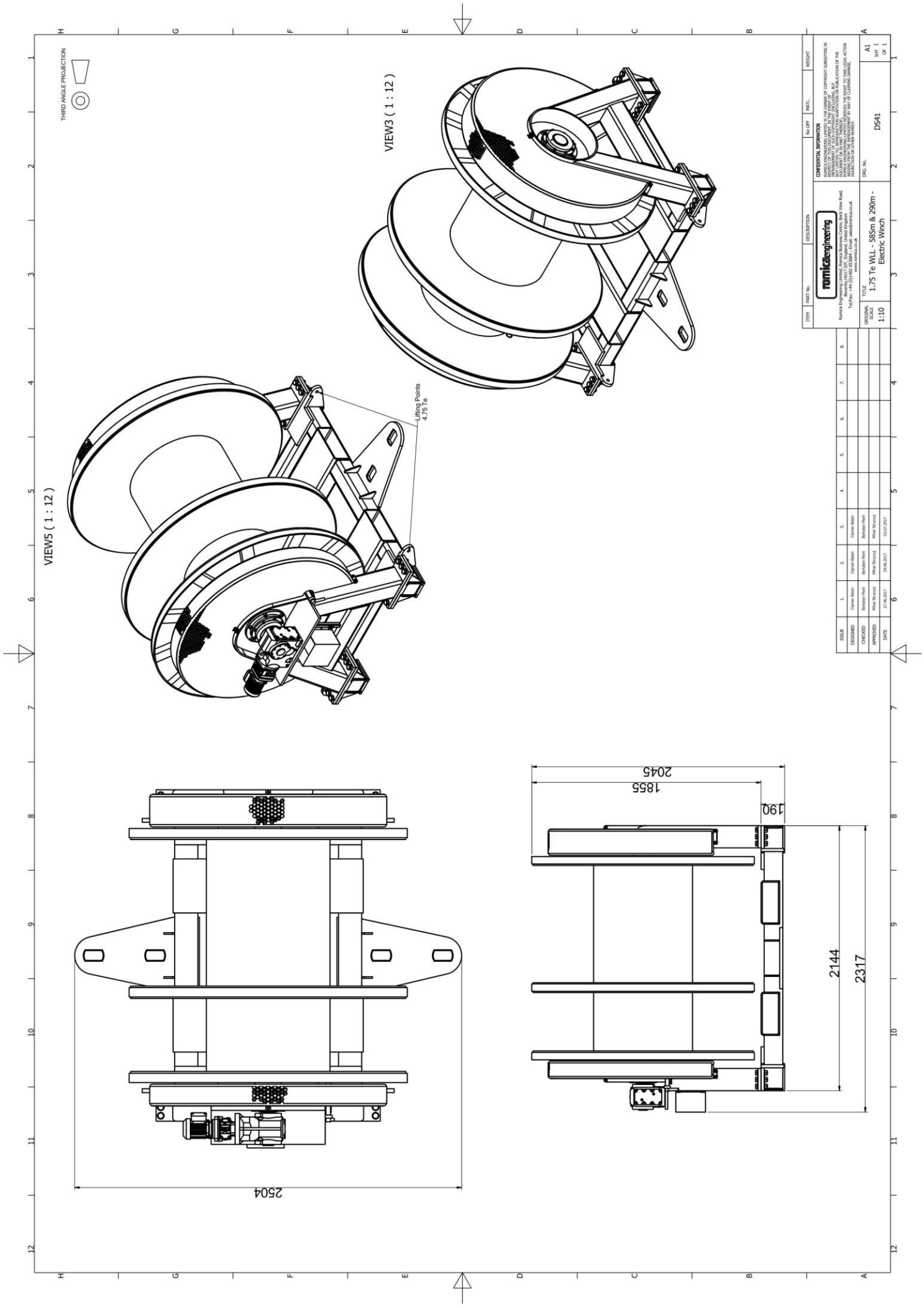
The Streamer Storage Winch can be driven bi-directionally using a reversing switch – which is of the maintained type 1-0-2, 60 and is mounted locally on the Drive Panel door.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**


THIRD ANGLE PROJECTION
VIEW3 (1 : 12)
VIEW5 (1 : 12)
Lifting Points
4.75 Te
romicaengineering
Romica Engineering Limited, Romica Business Centre, Bock View Road,
Rochdale, Lancashire, OL16 4EW, England
Tel/Fax: +44 (0)1442 863684 - Email: sales@romica.co.uk
www.romica.co.uk
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AGAINST ANY SUCH INFRINGEMENT BY WAY OF CLAIMING DAMAGE,
INJUNCTION OR BOTH.
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
TITLE
1.75 Te WLL - 585m & 290m - Electric Winch
DWG. No.
D541
A1
SHT 1 OF 1
ORIGINAL SCALE
1:10
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
Ciprian Balan
Bertalan Horti
Mike Sherrard
27.06.2017
25.06.2017
03.07.2017
2504
2045
1855
190
2144
2317

2.1 Te WLL - 1500m - Hydraulic Winch – DS11






TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
10000	56	1500	15	2110	1500	3170	2250

Winch Hydraulic Drive Supply Required	180 bar 100 l/min	Cable Lead-off Angle	Min + 5° Max + 25° Vertical plane
Level Wind Electrical Motor Supply Required	N/A	Frame details	Crash frame with guards and certified lifting lugs
Local Proportional Control	None	Winch drum dimensions	Drum core Ø 2400 mm, Drum Length 931 mm, Flange Ø 3614 mm
Level wind	N/A	Drum details	Plain drum: the umbilical is stored in 8 lays with 16 turns per lay
Dimensions (LxWxH) Footprint	3830 x 1780 x 4657 mm 2735 x 1440 mm with twist lock option	Cable	Seamux 2 Digital Streamer
Slip ring	Designed to accept Hydroscience 40 way or similar not within scope of supply	Hydraulic Ports	A G1” BSP, B G1” BSP, D G1/2” BSP

Principle of Operation:

The winch barrel is mounted directly onto the outer, toothed, face of a vertically mounted slew-ring bearing. The inner ring of the bearing has been mounted onto a common fixed deck pedestal. A toothed pinion drives the outer ring of the bearing and thus turns the Winch barrel in either direction. Each pinion is fitted to the output shaft of a multi-stage planetary gearbox, the gearbox has been fitted with a hydraulically actuated spring applied failsafe brake unit and an open loop orbital low speed hydraulic motor. Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position. The non-drive side housings a bearing and a slipring.

The winch drum and winch frame are manufactured in modular segments, so that is can be disassembled to allow for standard road transportation.

The winch is supplied with the following:

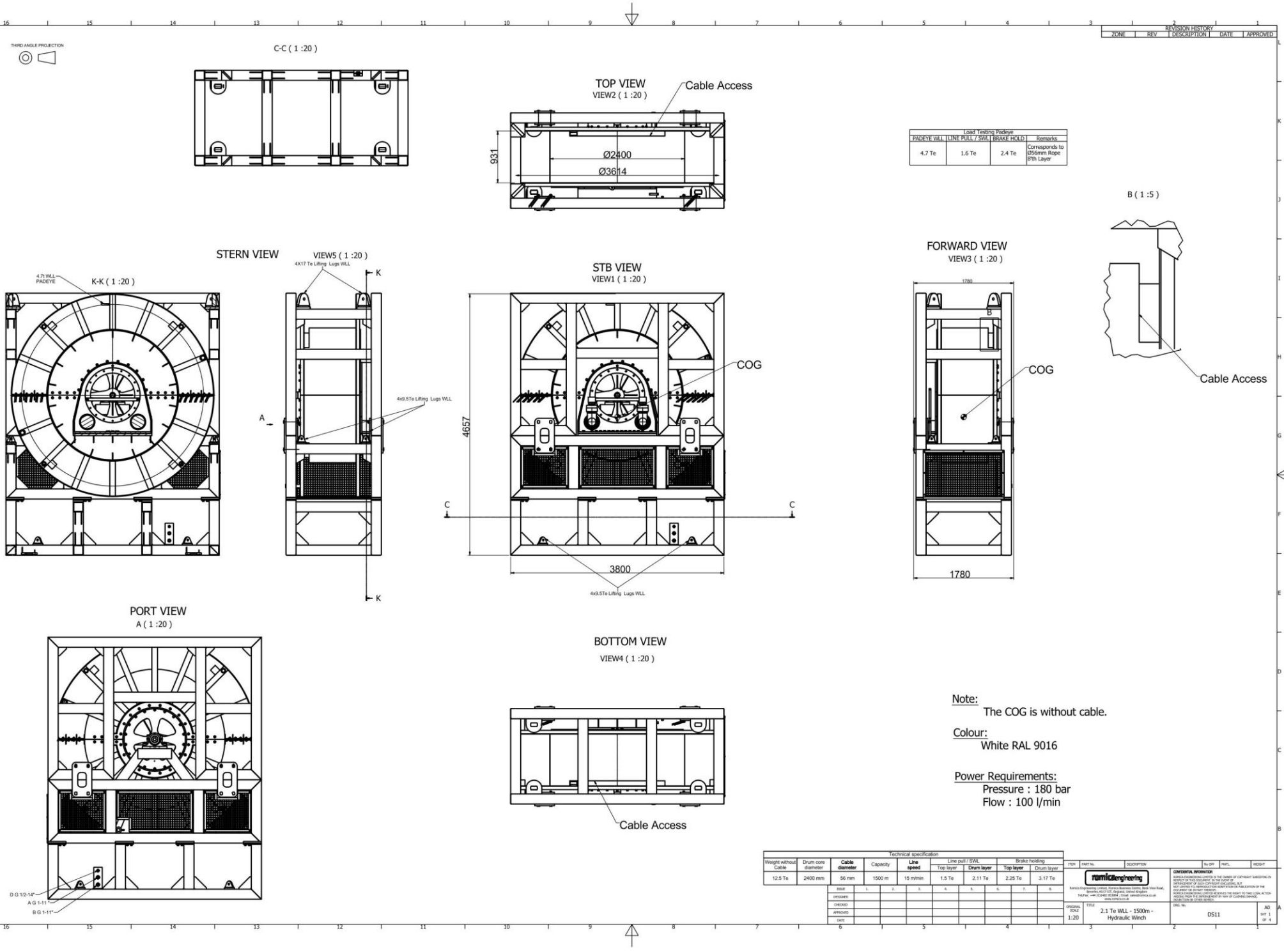
- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

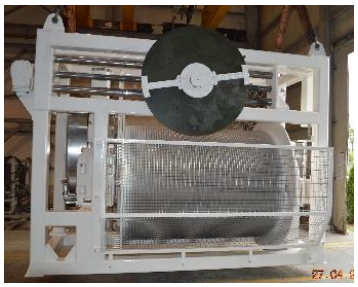
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**

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2.24 Te WLL - 1500m - Electric Winch – DS17







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
15290	38	1500	30	2240	2000	3360	3000

Supply Required	440V-3 Ph- 60 Hz	Cable Lead-off Angle	Min - 5° Max + 45° Vertical plane
Winch Electrical Motor Level Wind Electrical Motor	15 KW IP56 IE3- (Brake down-rated to 150 Nm) 7.5 KW IP56 IE3	Frame details	Crash frame with guards and certified lifting lugs
Local / Remote pendant Proportional Control	Bi-directionally proportional joystick / Pendant remote with speed control. HMI - Constant Tension & speed control 0.3-30 m/min via HMI	Winch drum dimensions	Drum core Ø 1862 mm, Drum Length 2500 mm, Flange Ø 2420 mm
Level wind	Right angled - Electrically automatic pulse driven level wind with manual adjustment	Drum details	Lebus shell drum; the umbilical is stored in 4 lays with 65 turns per lay
Dimensions (LxWxH) Footprint	4932 x 2654 x 3670 mm 4610 x 1800 mm	Cable	Nexan RA651-TD-04E Synthetic Armoured
Slip ring	Designed to accept TX4820 or similar not within scope of supply	Remote control (optional)	Profinet remote control ready

Principle of Operation:

The Umbilical Winch drum is driven by a 15-kW electric gearmotor through an output shaft. The drum motor Variable Speed Drive drives the electrical motor of the Drum with variable speed according to the control signals and rpm setpoint provided by the PLC (Programmable Logic Controller).

The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position. The non-drive side housings the bearing, slipring and High Voltage junction boxes (JBs). The JBs and slipring are not within the scope of supply.

The Level wind electrically driven from the 7.5 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

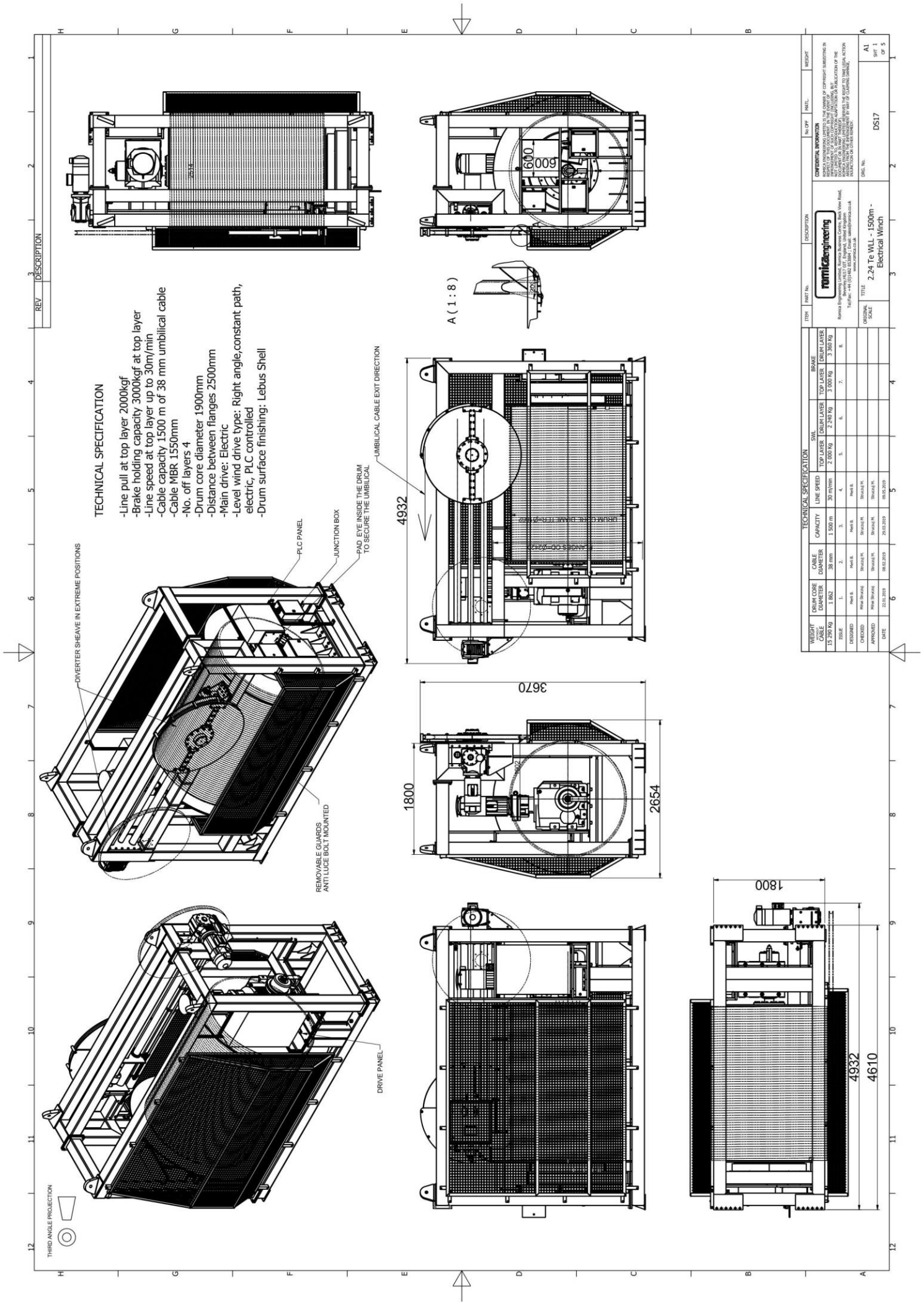
The winch has a Constant Tension function that can provide CT up to a value of 2 Te. Once the CT setpoint value is entered via the HMI, and the CT control is activated, the winch drum electric gearmotor will pay-in or pay-out to maintain the tension set on the HMI.
A load pin provides the Line Tension and the signal is displayed on the HMI.

The winch is supplied with the following:

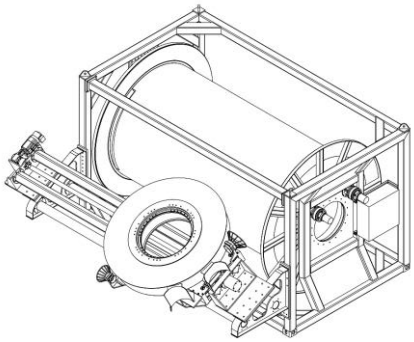
- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Load pin**
- **Operation and Maintenance Manual in Electronic Format**

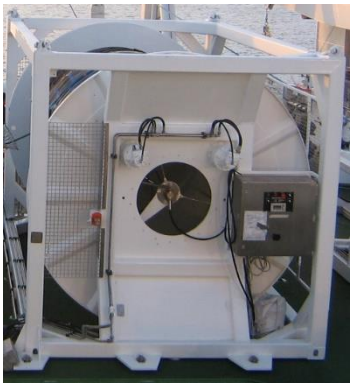
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control via Profinet**


TECHNICAL SPECIFICATION
-Line pull at top layer 2000kgf
-Brake holding capacity 3000kgf at top layer
-Line speed at top layer up to 30m/min
-Cable capacity 1500 m of 38 mm umbilical cable
-Cable MBR 1550mm
-No. off layers 4
-Drum core diameter 1900mm
-Distance between flanges 2500mm
-Main drive: Electric
-Level wind drive type: Right angle,constant path, electric, PLC controlled
-Drum surface finishing: Lebus Shell
DIVERTER SHEAVE IN EXTREME POSITIONS
PLC PANEL
JUNCTION BOX
PAD. EYE INSIDE THE DRUM TO SECURE THE UMBILICAL
UMBILICAL CABLE EXIT DIRECTION
REMOVABLE GUARDS ANTI LUCE BOLT MOUNTED
DRIVE PANEL
THIRD ANGLE PROJECTION
A (1 : 8)
4932
3670
1800
2654
1800
4932
4610
TECHNICAL SPECIFICATION
SWL
BRAKE
romicaengineering
2.24 Te WLL - 1500m - Electrical Winch
DS17
CONFIDENTIAL INFORMATION

2.5 Te WLL - 2250m - Hydraulic Winch – DS81





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
9877	56	2250	30	2500	3750	2100	3150

Winch Hydraulic Drive Supply Required	**200 bar 100 l/min**	**Cable Lead-off Angle**	**N/A**
Level Wind Electrical Motor Supply Required	**1.5 Kw IP56 IE3 380-440V-3 Ph- 50/60 Hz**	**Frame details**	**Crash frame with guards and certified lifting lugs**
Local Proportional Control	**Bi-directionally proportional joystick**	**Winch drum dimensions**	**Drum core Ø 2250 mm, Drum Length 4200 mm, Flange Ø 3000 mm**
Level wind	**Electrically automatic pulse driven level wind with manual adjustment**	**Drum details**	**Plain drum; the umbilical is stored in 4 lays with 75 turns per lay**
Dimensions (LxWxH) Footprint	**6120 x 5377 x 3180 mm 5369 x 3050 mm with twist lock option**	**Cable**	**Seamux 2 Digital Streamer**
Slip ring	**Designed to accept Focal 180 or similar not within scope of supply**	**Hydraulic Ports**	**A G3/4" BSP, B G3/4" BSP, D G3/4" BSP**

Principle of Operation:

The winch barrel is driven directly from an Adan motor and a Reggiana Riduttori gearbox fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason hydraulic pressure is lost, or the direction control valve is in its centre (neutral) position. The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve within the load control valve. Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor.

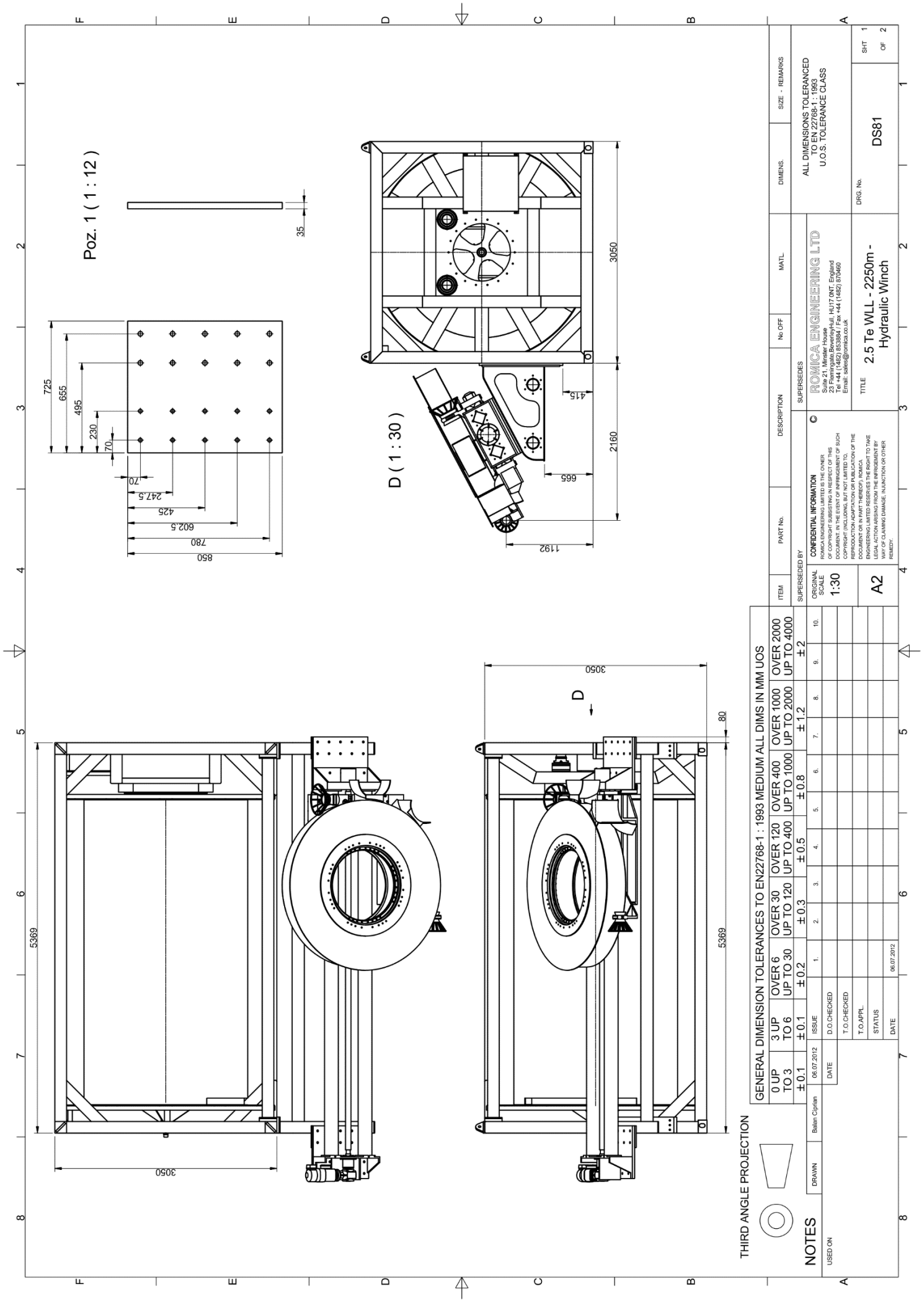
The Winch can be driven manually bi-directionally using the 3 position 4-way proportional directional control valve (with motor spool all ports blocked in the neutral position), the proportional valve controls both the direction and the speed of the Winch drums in heave and pay out. The Right Angled Level Wind is electrically driven via a SEW Electric Geared Motor. The cable is guided with an electrical driven PLC controlled Level Wind; the speed of rotation of the drum is measured by a rotary incremental encoder.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**


Poz. 1 (1 : 12)
35
725
655
495
230
70
70
247.5
425
602.5
780
850
D (1 : 30)
3050
2160
415
665
1192
5369
3050
D
3050
80
5369
GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS
0 UP TO 3 ±0.1
3 UP TO 6 ±0.1
OVER 6 UP TO 30 ±0.2
OVER 30 UP TO 120 ±0.3
OVER 120 UP TO 400 ±0.5
OVER 400 UP TO 1000 ±0.8
OVER 1000 UP TO 2000 ±1.2
OVER 2000 UP TO 4000 ±2
ITEM
PART No.
DESCRIPTION
SUPERSEDED BY
SUPERSEDES
No. OFF
MATL.
DIMENS.
SIZE - REMARKS
ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS
ROMICA ENGINEERING LTD
Suite 21, Minster House
23 Flemingate,Beverley,Hull, HU17 0NT. England
Tel +44 (1482) 653884 / Fax +44 (1482) 870460
Email: sales@romica.co.uk
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ORIGINAL SCALE 1:30
A2
TITLE
2.5 Te WLL - 2250m - Hydraulic Winch
DRG. No.
DS81
SHT 1 OF 2
THIRD ANGLE PROJECTION
NOTES
USED ON
DRAWN
Balan Ciprian
06.07.2012
ISSUE
DATE
D.O.CHECKED
T.O.CHECKED
T.O.APPL.
STATUS
DATE
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
06.07.2012

7.5 Te WLL - 350m - Hydraulic Winch with Integral 37 kW HPU– DS76



TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.15 WLL	
				First Layer	Top Layer	First Layer	Top Layer
11310	120	350	34.5	7537	5024	8854	5902

Winch Hydraulic Drive Supply Required	**Integral 37 kW HPU 160 lpm @ 210 Bar**	**Cable Lead-off Angle**	**Min - 4° Max + 4° Horizontal plane Min + 15° Max + 31° Vertical plane**
Local Proportional Control	**Bi-directionally proportional joystick**	**Frame details**	**Crash frame with guards, certified lifting lugs and forklift pockets**
Level wind	**Hydraulic driven with manual proportional control**	**Winch drum dimensions**	**Drum core Ø 1800 mm, Drum Length 1260 mm, Flange Ø 3150mm**
Dimensions (LxWxH) Footprint	**5050 x 2373 x 4081 mm Operational 5460 x 3345 mm Transportation**	**Drum details**	**Plain drum: the umbilical is stored in 5 lays with 10 turns per lay**
Slip ring	**N/A**	**Cable**	**120 mm Umbilical**

Principle of Operation:

The winch drum is driven directly from a Brevini gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any, reason hydraulic pressure is lost, or the direction control valve is in its centre (neutral) position.

The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve and pressure reducing valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor.

The winch can be driven bi-directionally using a 3 position 4-way proportional directional control valve (with motor spool A B to tank in the neutral position and P blocked), the proportional valve controls both the direction and the speed of the winch drums in heave and pay out.

The level wind guides the umbilical driven by a hydraulic motor bi-directionally using a 3 position 4-way proportional directional control valve (with motor spool A B to tank in the neutral position and P blocked) and is manually controlled.

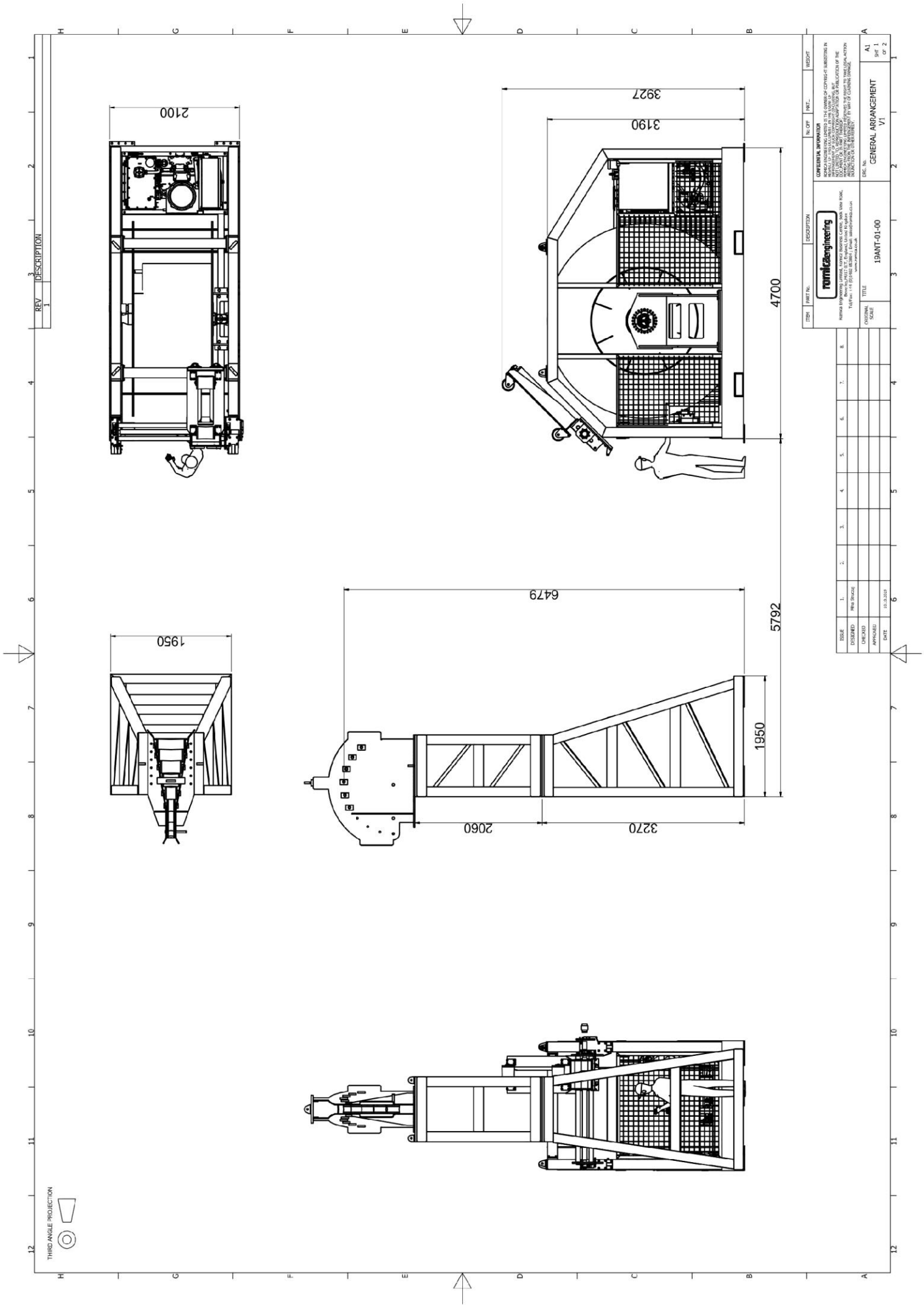
The winch umbilical and gooseneck tower package are manufactured in modular segments, so that they can be disassembled to allow for standard road/shipment transportation.

The winch is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**


2100
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5792
1950
1950
2060
3270
THIRD ANGLE PROJECTION
REV
DESCRIPTION
ITEM
PART No.
DESCRIPTION
No OFF
MAT.-
WEIGHT
CONFIDENTIAL INFORMATION
romicaengineering
Romica Engineering Limited, Romica Business Centre, Jack Valer Road,
Tel/Fax: (+44) (0)1482 863867 / Email: sales@romica.co.uk
www.romica.co.uk
ORIGINAL SCALE
TITLE
19ANT-01-00
DRG. No
GENERAL ARRANGEMENT
V1
A1
Sht 1
OF 2
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
1.
Mike Shorse
10.9.2019

Integral 37 kW – Electrical HPU – Atex II 3G IIB T3





TECHNICAL SPECIFICATION			
Pressure and Flow	**160 lpm @ 210 Bar**	**Frame**	**Integrated in the crash frame of the Umbilical Winch**
Pump and Motor Assy	**112cc Open Loop variable displacement axial piston pump 0 – 315 Bar is driven by a 37 kW IP56 3ph IE3 with Star/Delta complete with Softex coupling and anti-vibration frame.**	**Supply tank**	**530 litres manufactured from 316 stainless steel with front access and desiccant Air breather 3-micron rating ensures air entering the reservoir is cleaned and dried**
Supply Required	**3 ph 380 / 415 / 440 / 460 V, 50/60Hz**	**Supply tank filling point**	**G1" BSPP M suitable for QRC**
Pressure Relief Valve	**PRV set to 235 bar**	**Starter Panel**	**IP66 Stainless Steel Enclosure EX II 3G Ex nR IIC T4 Gc IP66**
Cooling	**Bowman heat exchanger – untreated seawater oil cooler**	**Filtration**	**Pressure and Return Filters 10-micron elements, with bypass & visual indicators**
Oil Cleanliness	**Suitable for proportional valve systems ISO 4406 17/15/12, NAS 6**	**Health Monitoring**	**Full temperature & level monitoring**

Principle of Operation:

The 37 kW Electrical Hydraulic Power Unit is integrated into the crash frame of umbilical winch, which affords protection during transportation and installation.

A 37kW 3 phase electrical motor coupled to an K3VL Kawasaki Swash-plate Axial Piston Pump provides the required pressure and flow rates for both the winch drum and level wind.

The 37kW Electrical Hydraulic Power Unit is designed and certified for use within an Atex II 3G IIB T3 (Zone II only) environment.

The system is designed for operation with hydraulic fluid AVIA-Synto Fluid PEB 30 operating within bulk fluid temperature range 0°C to 60°C.

The HPU is supplied with the following:

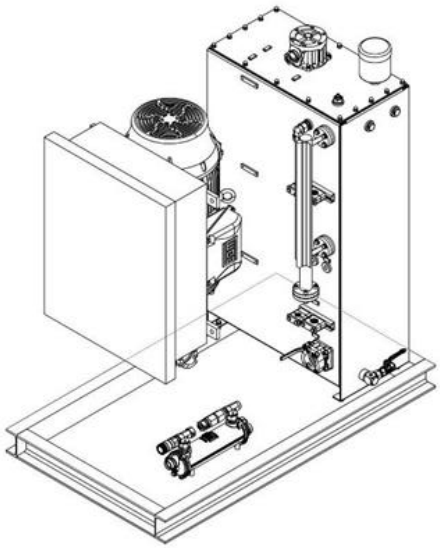
- **Marine grade paint system (Details can be supplied on application)**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**

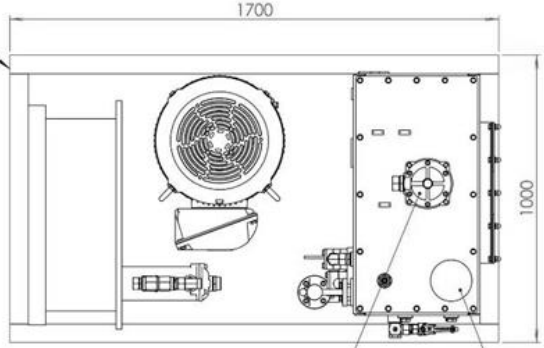
Back to contents

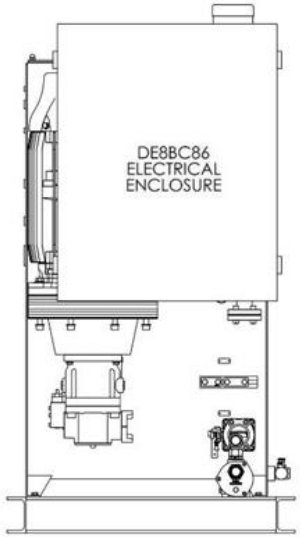
www.romicatiegroup.com

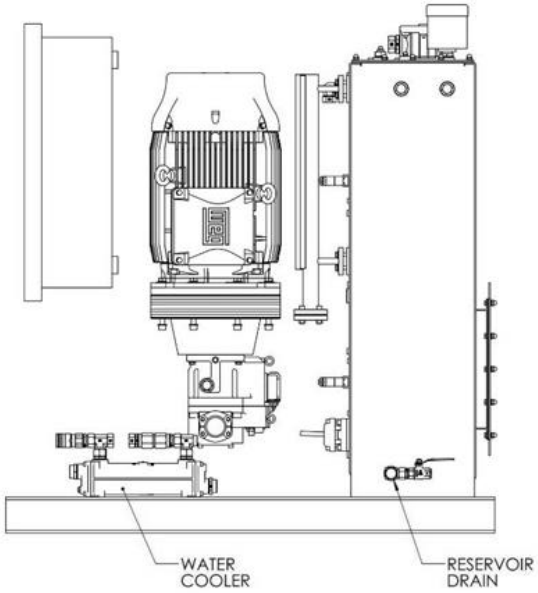


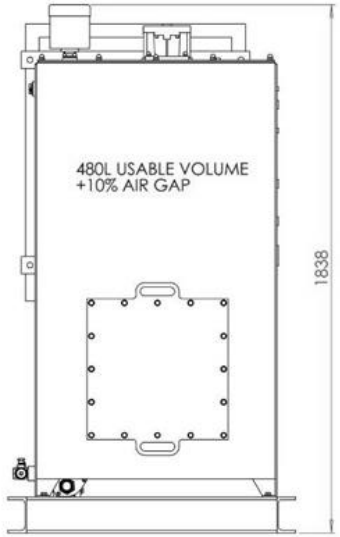
WINCH ON THIS SIDE

FLUID CONNECTIONS TO WINCH ON THIS CORNER









REV.	DESCRIPTION	DATE	APPROVED
P0	PRELIMINARY ISSUE FOR REVIEW	25/10/2019	BK

Project Ref:	UK034049
Customer Ref:	
Weight:	TBC kg
Title:	37kW WINCH HPU GENERAL ARRANGEMENT ATEX ZONE II
Drawing No.	UK04049-GA-01
Rev.	P0
Scale:	1:12.5
Sheet:	1 / 1
	A2

GS-Hydro

1.4 Oceanographic / Survey

0.1 Te WLL – 0.75kW - 700m - 1 Ø Electric Winch – DS89 74
0.24 Te WLL – 2.2kW - 200m - 1 Ø Electric Winch – DS83 76
0.3 Te WLL - 200m - Electric ADCP LARS Winch – DS23 78
0.54 Te WLL - 1000m - Electro-Hydraulic Winch & Integral 7.5 kW HPU–DS92 80
0.6 Te WLL - 1200m - Electric Winch – DS32 82
0.6 Te WLL – 2000m - Electric Winch – DS84 84
0.7 Te WLL - 800m - Electric Winch – DS18 86
0.96 Te WLL - 2000m - Electric Winch – DS87 88
1.2 Te WLL - 1700m - Hydraulic ADCP LARS Winch – DS69 90
1.29 Te WLL - 700m - Electric Winch – DS12 92
1.32 Te WLL – 15kW - 2000m - Electric Winch – DS88 94
1.5 Te WLL - 800m & 2000m - Hydraulic Winch – DS07 96
1.75 Te WLL - 3000m - Electric Winch – DS51 98
2.5 Te WLL - 3000m - Hydraulic Winch – DS06 100
2.25 Te WLL - 3000m - Electric Winch – DS90 102
2.5 Te WLL - 3000m –Hydraulic Winch - DS93 104
2.75 Te WLL - 3500m - Electric Winch – DS01 106
3 Te WLL - 400m - Hydraulic Winch – DS19 108
3 Te WLL - 2000m - Electro-Hydraulic Winch & Integral 37 kW HPU– DS91 ... 110
5 Te WLL - 5500m - Electric Winch – DS05 112
5.6 Te WLL - 5000m - Hydraulic Winch – DS10 114

Oceanographic / Survey Winch Description

RTG offers a range of hydraulic or electric driven winches to be able to collect data and samples of the characteristics of the sea, seabed and subsea environment, using the variety of equipment available.

These are split into the following 8 categories:

1. CTD

2. Sonar

3. Magnetometer

4. Sub bottom profiler

5. Hand Winches

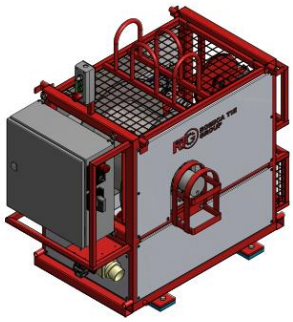
6. Environmental Winches

7. Deep Tow

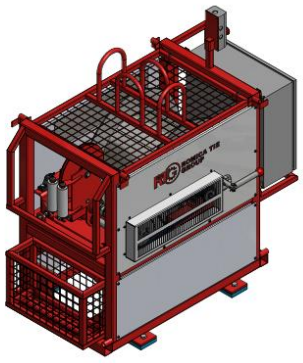
8. Multifunctional Winches

The data collected can be used for a diverse range of applications, including locating objects such as submarines, sunken ships, hazards for tunnel boring machines, hazardous areas, unexploded ordnance, toxic waste drums, as well as a wide range of mineral deposits and geological structures

0.1 Te WLL – 0.75kW - 700m - 1 Ø Electric Winch – DS89







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm) and Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
			First Layer	Top Layer	First Layer	Top Layer
380	6 mm – 1200 m, 8.18 mm – 700 m 10 mm – 550 m, 12 mm -300 m	35	100	80	150	120

Supply Required	220-254V-1 Ph- 50/60 Hz	**Cable Lead-off Angle**	+/-15° Horizontal plane Min + 0° Max + 65° Vertical plane
Winch Electrical Motor	0.75 Kw IP56 IE3 Right angle gearbox combined with chain transmission	**Frame details**	Winch within enclosed stainless-steel frame and guards, soft sling lifting slots
Local Control / Remote Pendant	Local control pendant with 5 mtr cable and remote pendant with 20 mtr cable	**Winch drum dimensions**	Drum core Ø 400 mm, Drum Length 330 mm, Flange Ø 620 mm
Spooling device	Chain driven diamond screw type Sprocket and chain changeable for cable sizes	**Drum details**	Plain drum: the wire is stored in 12 lays, 40 turns per lay with 8.18 Ø
Dimensions (LxWxH) Footprint	1336 x 805 x 1276 mm 584 x 635mm (mounting plate between centres)	**Winch drum locking system**	30 degree increments via a mechanical lever
Slip ring	Designed to accept Focal 180 or similar not within scope of supply. Additional, interface mounted slip ring max. diameter 75mm	**Additional storage**	Additional storage for deck lead, remote pendant.

Principle of Operation:

The winch drum is driven by a chain mounted on the output shaft of a 0.75 kW SEW electric gearmotor fitted with a failsafe brake unit and is connected to the corresponding drive inverter in the control panel. The drum electrical drive is controlled by a pendant with the following controls, direction is determined by 2 momentary pushbuttons, speed is adjusted by a potentiometer and an Emergency Stop.
There are 2 pendants, the local remote pendant (hard wired) has a 5 meter cable and the detachable remote pendant has a 20 meter cable. Both pendants can be stored within the winch frame

The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or any momentary pushbuttons is released. The non-drive side housings a bearing and a slipring.

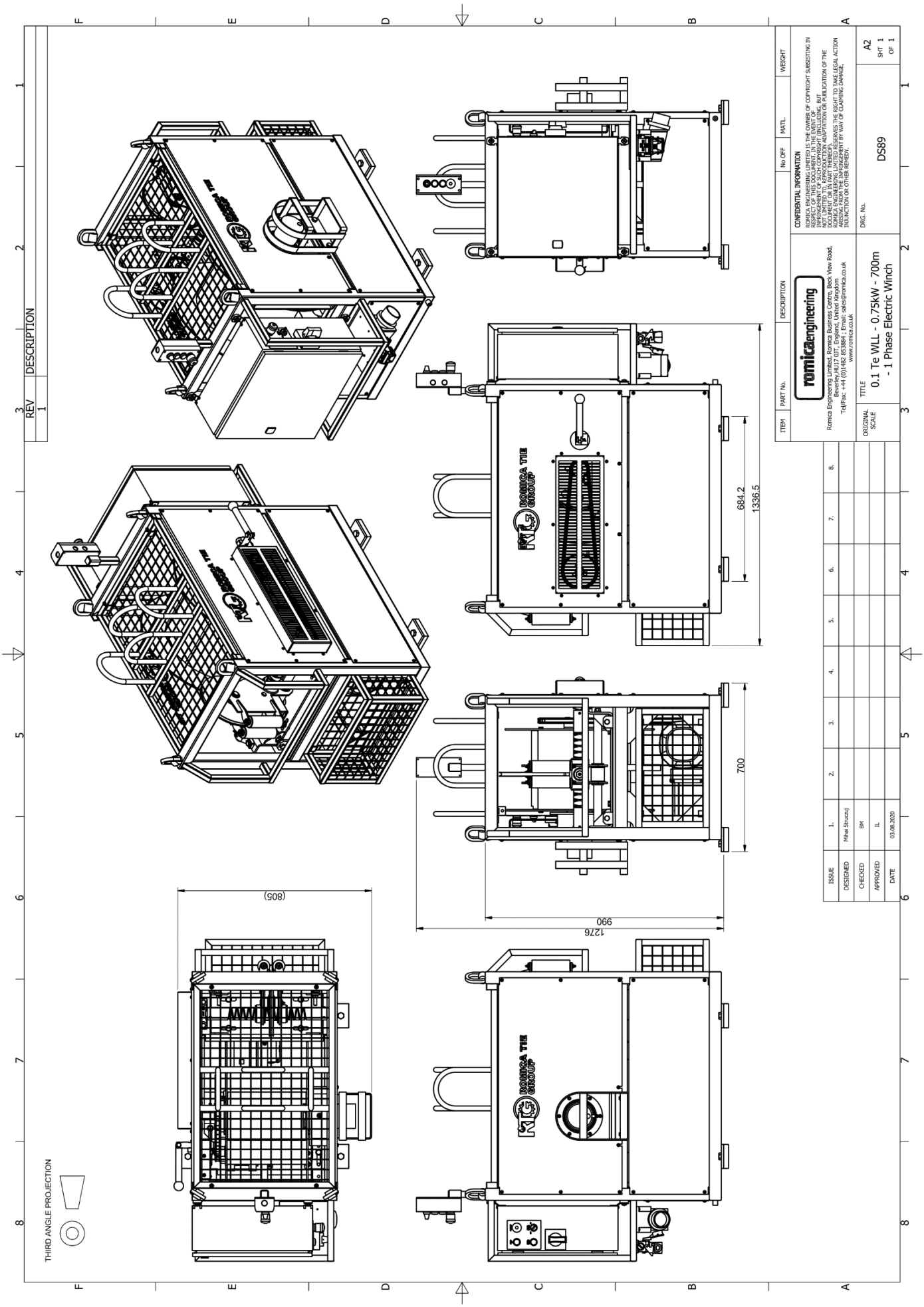
The spooling device is mechanically chain driven from the SEW Electric gearmotor drive shaft and the cable is guided via the carriage assembly. To ensure correct spooling of the cable range 6 -12mm there are three sprocket, chain, and sheave wheel configurations.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Off – Sprocket, Chain & sheave for Rochester A 320327 8.18mm coax**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Sprocket, Chain & Sheave 10mm**
- **1 Off – Sprocket, Chain & Sheave 12mm**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Sub-base with forklift pockets**


REV
DESCRIPTION
1
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romicaengineering
Romica Engineering Limited, Romica Business Centre, Beck View Road, Beverley,HU17 0JT, England, United Kingdom
Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
www.romica.co.uk
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ORIGINAL SCALE
TITLE
0.1 Te WLL - 0.75kW - 700m - 1 Phase Electric Winch
DRG. No.
DS89
A2
SHT 1 OF 1
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
1.
Mihai Stoicuj
BM
IL
03.08.2020
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684.2
1336.5
700
990
1276
(805)
THIRD ANGLE PROJECTION

0.24 Te WLL – 2.2kW - 700m - 1 Ø Electric Winch – DS83







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm) and Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
			First Layer	Top Layer	First Layer	Top Layer
338	6 mm – 1200 m, 8.18 mm – 700 m 10 mm – 550 m, 12 mm -300 m	35	240	200	360	300

Supply Required	220-254V-1 Ph- 50/60 Hz	**Cable Lead-off Angle**	+/-15° Horizontal plane Min + 0° Max + 65° Vertical plane
Winch Electrical Motor	2.2 Kw IP56 IE3 Right angle gearbox combined with chain transmission	**Frame details**	Winch within enclosed stainless-steel frame and guards, soft sling lifting slots
Local Control / Remote Pendant	Local control pendant with 5 mtr cable and remote pendant with 20 mtr cable	**Winch drum dimensions**	Drum core Ø 400 mm, Drum Length 330 mm, Flange Ø 620 mm
Spooling device	Chain driven diamond screw type Sprocket and chain changeable for cable sizes	**Drum details**	Plain drum: the wire is stored in 12 lays, 40 turns per lay with 8.18 Ø
Dimensions (LxWxH) Footprint	1336 x 805 x 1276 mm 584 x 635mm (mounting plate between centres)	**Winch drum locking system**	30 degree increments via a mechanical lever
Slip ring	Designed to accept Focal 180 or similar not within scope of supply. Additional, interface mounted slip ring max. diameter 75mm	**Additional storage**	Additional storage for deck lead, remote pendant.

Principle of Operation:

The winch drum is driven by a chain mounted on the output shaft of a 2.2 kW SEW electric gearmotor fitted with a failsafe brake unit and is connected to the corresponding drive inverter in the control panel. The drum electrical drive is controlled by a pendant with the following controls, direction is determined by 2 momentary pushbuttons, speed is adjusted by a potentiometer and an Emergency Stop.
There are 2 pendants, the local remote pendant (hard wired) has a 5 meter cable and the detachable remote pendant has a 20 meter cable. Both pendants can be stored within the winch frame

The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or any momentary pushbuttons is released. The non-drive side housings a bearing and a slipring.

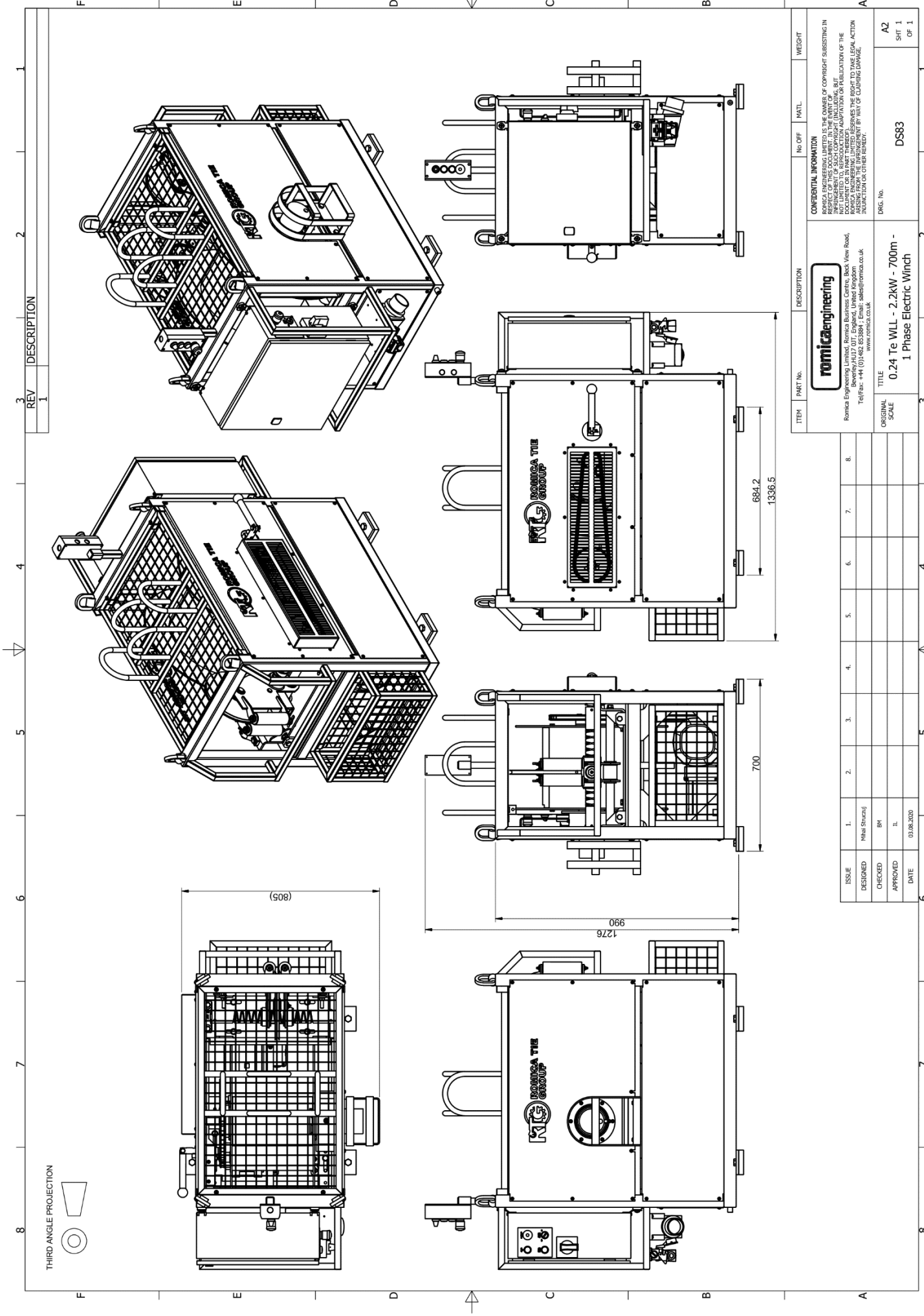
The spooling device is mechanically chain driven from the SEW Electric gearmotor drive shaft and the cable is guided via the carriage assembly. To ensure correct spooling of the cable range 6 -12mm there are three sprocket, chain, and sheave wheel configurations.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Off – Sprocket, Chain & sheave for Rochester A 320327 8.18mm coax**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Sprocket, Chain & Sheave 10mm**
- **1 Off – Sprocket, Chain & Sheave 12mm**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Sub-base with forklift pockets**


REV
DESCRIPTION
1
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romicaengineering
Romica Engineering Limited, Romica Business Centre, Block View Road, Lowestoft, NR33 7TL, England. Registered in England No. 4421111
Tel/Fax: +44 (0)1502 853894 | Email: sales@romica.co.uk
www.romica.co.uk
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ISSUE
1.
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7.
8.
DESIGNED
Mihai Struncu
CHECKED
BM
APPROVED
IL
DATE
03.08.2020
ORIGINAL SCALE
TITLE
0.24 Te WLL - 2.2kW - 700m - 1 Phase Electric Winch
DRG. No.
DS83
A2
SHT 1
OF 1
THIRD ANGLE PROJECTION
684.2
1336.5
700
990
1276
(805)

0.3 Te WLL - 200m - Electric ADCP LARS Winch – DS23








TECHNICAL SPECIFICATION							
Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
730	14	200	15	321	250	481.5	375

Supply Required	220-240V-2 Ph- 50/60 Hz	Frame details	Forklifting pockets and certified lifting lug
Winch Electrical Motor	1.1 KW IP56 IE3	Winch drum dimensions	Drum core Ø 400 mm, Drum Length 220.5 mm, Flange Ø 730 mm
Remote Control Pendant	Bi-directionally pendant control – 5 m hardwired	Drum details	Plain drum: the cable is stored in 9 lays with 15 turns per lay
Level wind	N/A	Cable	Ø 14 mm
Dimensions (LxWxH) Footprint	3527 x 1005 x 3007 mm 900 x 1000 mm	Maximum SWL and outreach	maximum SWL of 250 kg and a maximum outreach of 3 metres
Slip ring	Designed to accept Focal 180 or similar not within scope of supply	Adjustable operation angle	247.5° indexable at every 22.5° may be limited depending on cable route

Principle of Operation:

The ADCP LARS drum is driven by a 1.1 kW SEW electric gearmotor through an output shaft. The drum motor inverter drives the electrical motor of the Drum with a constant speed according to the control signals.

The non-drive side housings the bearing and slipring. The Slipring is not within the scope of supply.

The SEW Electric Motor combination is fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost or there is no input from the control signal form the remote pendant.

The Electrical ADCP LARS can be driven bi-directionally via the control pendant, which has a 5-meter hardwired cable.

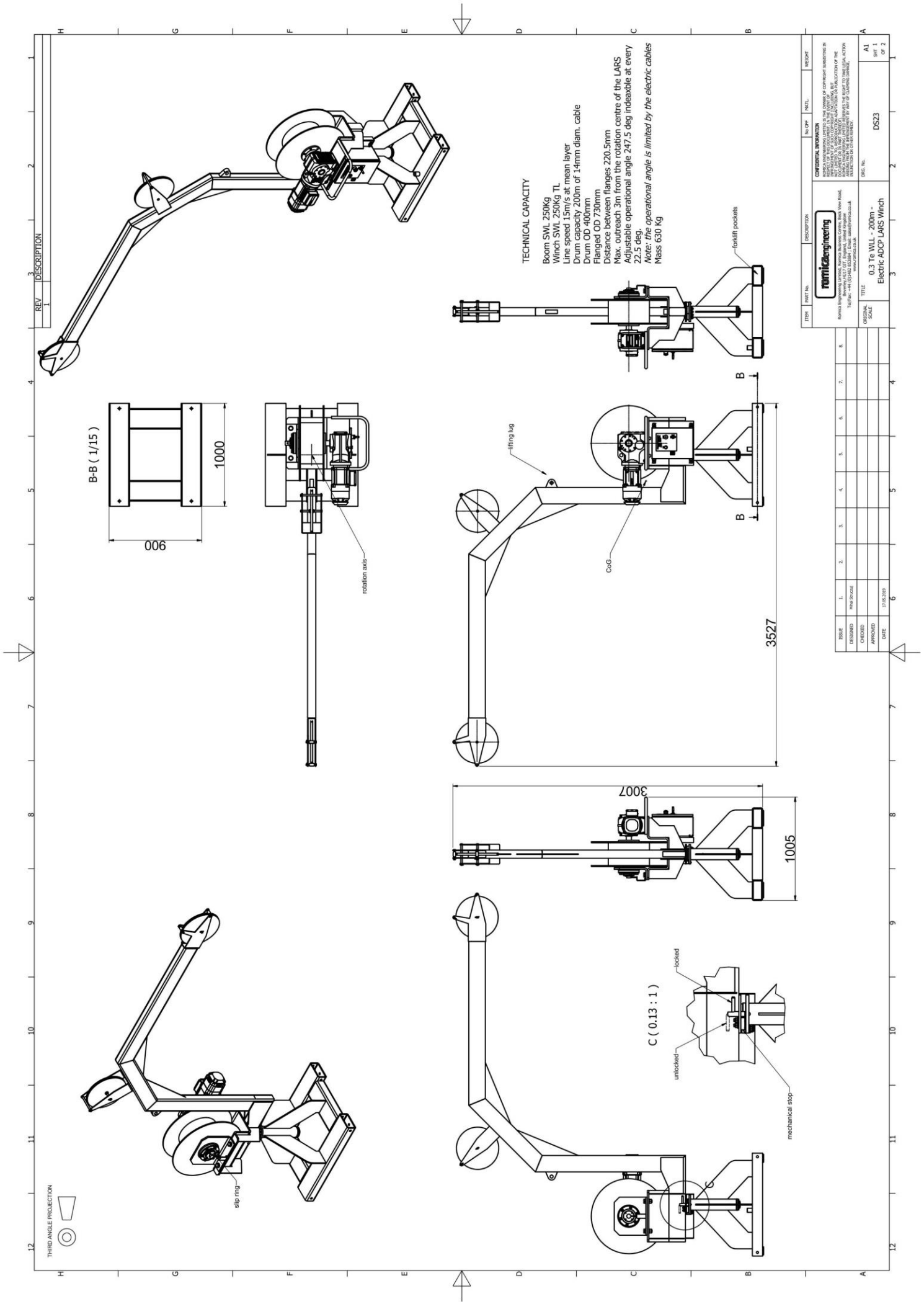
The winch has been designed with a maximum SWL of 250 kg and a maximum outreach of 3 metres from the rotation centre of the ADCP LARS and has an adjustable operation angle of 247.5° indexable at every 22.5°

The winch is supplied with the following:

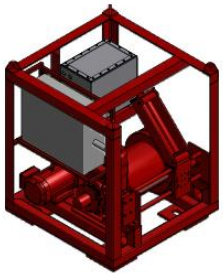
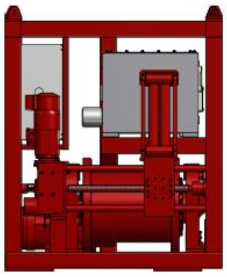
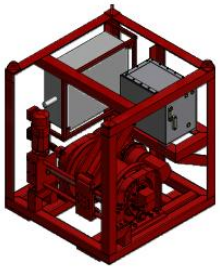
- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Drum assembly**
- **1 Set - Master Link and Shackle or a single leg lifting sling and shackle**


TECHNICAL CAPACITY
Boom SWL 250Kg
Winch SWL 250Kg TL
Line speed 15m/s at mean layer
Drum capacity 200m of 14mm diam. cable
Drum OD 400mm
Flanged OD 730mm
Distance between flanges 220.5mm
Max. outreach 3m from the rotation centre of the LARS
Adjustable operational angle 247.5 deg indexable at every 22.5 deg.
Note: the operational angle is limited by the electric cables
Mass 630 Kg
forklift pockets
B-B (1/15)
1000
006
rotation axis
lifting lug
CoG
3527
3007
1005
C (0.13 : 1)
locked
unlocked
mechanical stop
slip ring
THIRD ANGLE PROJECTION
REV
DESCRIPTION
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
CONFIDENTIAL INFORMATION
romicaengineering
Romica Engineering Limited, Romica Business Centre, Bock View Road, Rochester, Kent, ME2 4LX, England
Tel/Fax: ++44 (0)1462 813687 - Email: sales@romica.co.uk
www.romica.co.uk
ORIGINAL SCALE
TITLE
0.3 Te WLL - 200m - Electric ADCP LARS Winch
DWG. No.
DS23
A1
SHT 1 OF 2
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
1.
Mihai Stroicel
17.05.2019
2.
3.
4.
5.
6.
7.
8.

0.54 Te WLL - 1000m - Electro-Hydraulic Winch & Integral 7.5 kW HPU – DS92

TECHNICAL SPECIFICATION

Weight without cable/oil (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.2 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1350	6.53	1000	60	540	450	810	680

Winch Hydraulic Drive Supply Required	Integral 7.5 kW HPU 30 lpm @ 150 Bar 380-440V-3 Ph- 50/60 Hz	Cable Lead-off Angle	Min - 5° Max + 5° Horizontal plane Min + 5° Max + 45° Vertical plane
Level Wind Electrical Motor Supply Required	0.75 Kw IP56 380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards, certified lifting lugs
Local Proportional Control	Bi-directionally proportional PVG 32	Winch drum dimensions	Drum core Ø 450 mm, Drum Length 500 mm, Flange Ø 613mm
Level wind	Electrically automatic pulse driven level wind with manual adjustment	Drum details	Lebus shell the cable is stored in 8 lays with 74 turns per lay
Dimensions (LxWxH) Footprint	1400 x 1360 x 1665 mm 1400 x 1360 mm	Health Monitoring	Full temperature, level monitoring limit switches
Slip ring	Designed to accept Cavotec GSK 45-03 or similar not within scope of supply	Cooling and heating	Sea water oil cooler. Thermostatically controlled tank heater 2 kW – 3Ph
Cable	Electro- mechanical cable, Rochester type A305900	Load monitoring	Load pin and HMI

Principle of Operation:

The winch drum is driven directly from a Reggiana gearbox, hydraulic motor and load valve combination. The brake, being failsafe, always defaults to on should, for any reason, hydraulic supply is lost or the control joystick is in its centre position. The non-drive side housings the bearings and the slipring.

The level wind electrically driven from the 0.75 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The speed of rotation of the drum is measured by a rotary incremental encoder.

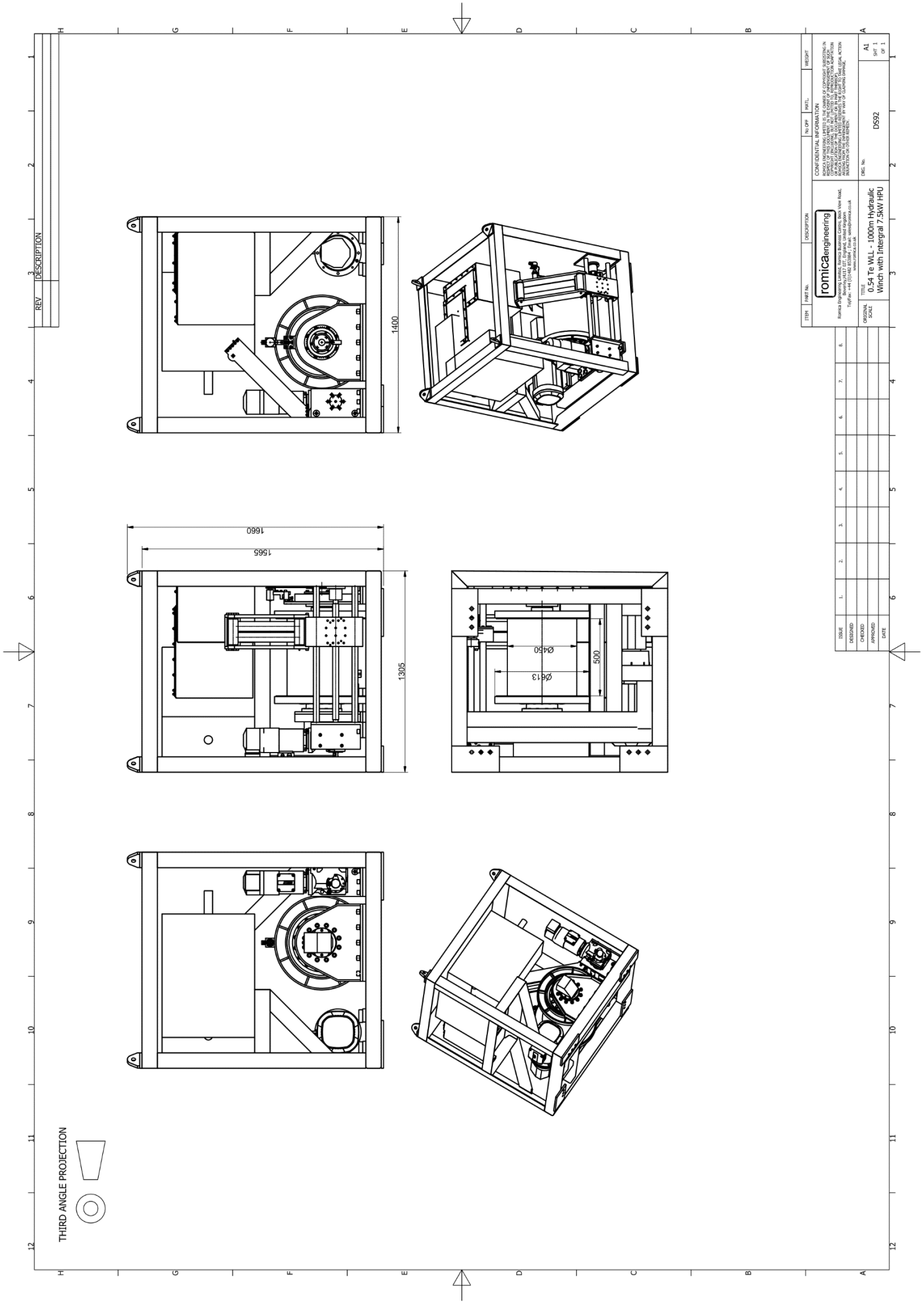
HMI displays Line Speed, Line Load, Line Out and Line In with the provision of load monitoring with user selectable limits for line tensioning.

The winch is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **Load pin and HMI**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **Canvas Cover for transport and storage**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**


REV
DESCRIPTION
1400
1660
1565
1305
Ø450
Ø613
500
THIRD ANGLE PROJECTION
romicaengineering
0.54 Te WLL - 1000m Hydraulic Winch with Intergral 7.5kW HPU
DS92
A1

0.6 Te WLL - 1200m - Electric Winch – DS32






TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
730	8.18	1200	60	600	406	900	609

Supply Required	**380-440V-3 Ph- 50/60 Hz**	**Cable Lead-off Angle**	**+/-15° Horizontal plane Min + 0° Max + 45° Vertical plane**
Winch Electrical Motor	**7.5 KW IP56 IE3**	**Frame details**	**Crash frame with guards, forklifting pockets and certified lifting lugs**
Local Proportional Control Hardwired Remote Control	**Bi-directionally proportional joystick and speed control potentiometer, 50 m hard wired remote**	**Winch drum dimensions**	**Drum core Ø 368 mm, Drum Length 575 mm, Flange Ø 600 mm**
Level wind	**Electrically automatic pulse driven level wind with manual adjustment**	**Drum details**	**Plain drum: the wire is stored in 13 lays with 66 turns per lay**
Dimensions (LxWxH) Footprint	**1216 x 1410 x 1700 mm 1175 x 1220 mm**	**Cable**	**Rochester A302327**
Slip ring	**Designed to accept CSW-112A- Slip Ring or similar not within scope of supply**	**Render function**	**HMI and Load Pin to set and measure line tension and limit**

Principle of Operation:

The Winch drum is driven by a 7.5 kW SEW electric gearmotor through an output shaft. The drum motor Variable Speed Drive drives the electrical motor of the Drum with variable speed according to the control signals and rpm setpoint of the potentiometer. The non-drive side housings the bearing and slipring. The Slipring is not within the scope of supply.

The SEW Electric Motor combination is fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost, or the joystick is in its centre (neutral) position.

The level wind electrically driven from the 0.37 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

The winch is controlled via a joystick and speed potentiometer which are mounted locally on the Electric SSS Winch Enclosure and are duplicated on the remote control console.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **1 Off – Winch running flashing lights**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

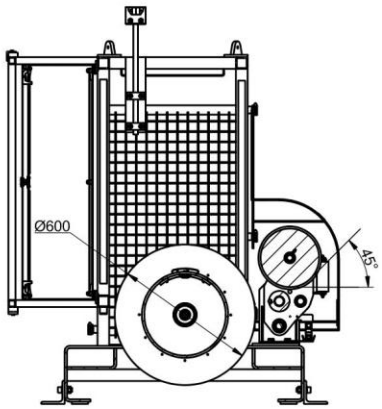
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wireless**

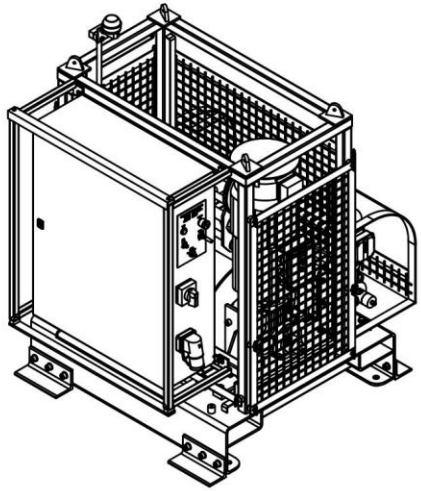
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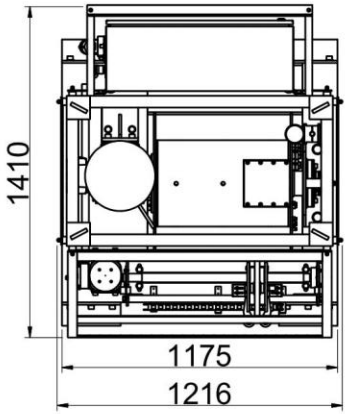
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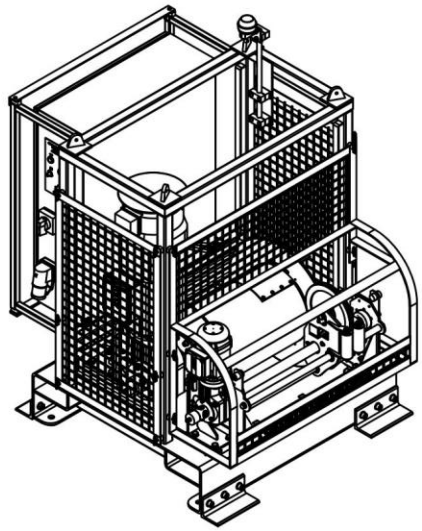
THIRD ANGLE PROJECTION

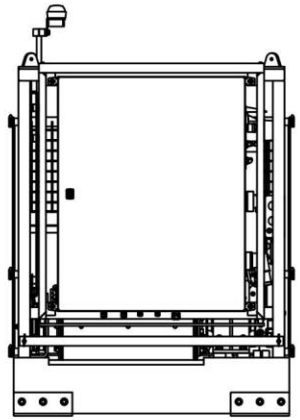
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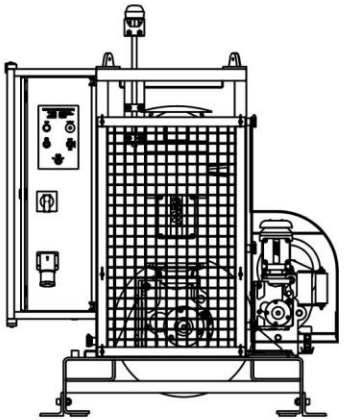


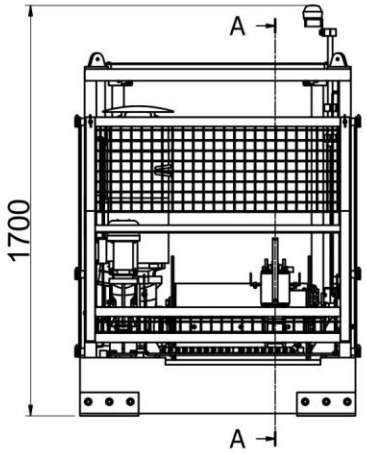


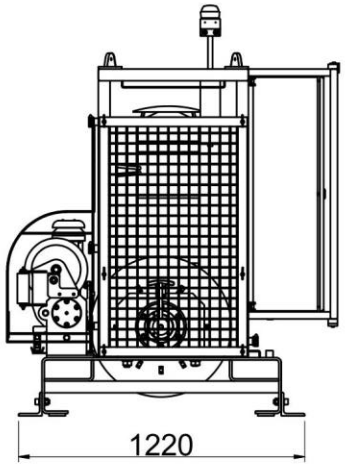












TECHNICAL SPECIFICATION SUMMARY

Line pull at top layer 406kgf
Brake holding capacity at top layer 609kgf
Line speed at mean layer 60m/min
Drum core diameter 368mm
Cable diameter - 8.18
Automatic electric level wind
Drum with access hatch
Compatible with CSW-112A slipring
Estimated mass 730kg

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Mihai Struczuj	Merli B.	Merli B.	Merli B.				
CHECKED		Struczuj M.	Struczuj M.	Struczuj M.				
APPROVED		Struczuj M.	Struczuj M.	Struczuj M.				
DATE	11.09.2019	24.09.2019	14.10.2019	19.12.2019				

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

romica engineering
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Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
www.romica.co.uk

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ORIGINAL SCALE	TITLE	DRG. No.	
1:15	0.6 TE WLL - 1200m - Electric Winch	DS32	A2 SHT 1 OF 3

0.6 Te WLL – 2000m - Electric Winch – DS84






TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
900	8.18	2000	60	600	406	900	609

Supply Required	380-440V-3 Ph- 50/60 Hz	Cable Lead-off Angle	+/-15° Horizontal plane Min + 0° Max + 45° Vertical plane
Winch Electrical Motor	7.5 Kw IP56 IE3	Frame details	Crash frame with guards and fork lifting pockets
Local Proportional Control Hardwired Remote Control	Bi-directionally proportional joystick and speed control potentiometer, 50m hard wired remote	Winch drum dimensions	Drum core Ø 368 mm, Drum Length 1000mm, Flange Ø 600 mm
Level wind	Electrically automatic pulse driven level wind with manual adjustment	Drum details	Plain drum; the wire is stored in 13 lays with 116 turns per lay
Dimensions (LxWxH) Footprint	1600 x 1367 x 1750 mm 1600 x 1220 mm	Cable	Rochester A302327
Slip ring	Designed to accept CSW-112A Slip Ring or similar not within scope of supply	Render function	HMI and Load Pin to set and measure line tension and limit

Principle of Operation:

The Winch drum is driven by a 7.5 kW SEW electric gearmotor through an output shaft. The drum motor Variable Speed Drive drives the electrical motor of the Drum with variable speed according to the control signals and rpm setpoint of the potentiometer. The non-drive side housings the bearing and slipring. The Slipring is not within the scope of supply.

The SEW Electric Motor combination is fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost or the joystick is in its centre (neutral) position.

The level wind electrically driven from the 0.37 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

The winch is controlled via a joystick and speed potentiometer which are mounted locally on the Electric SSS Winch Enclosure and are duplicated on the remote control console.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **1 Off – Winch running flashing lights**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wireless**

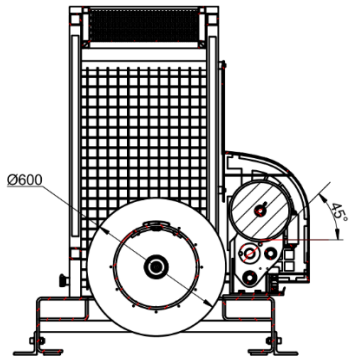
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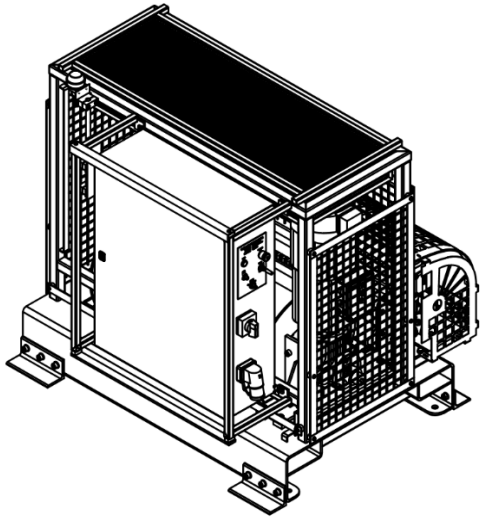
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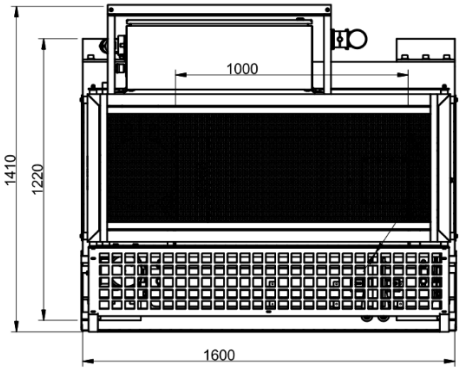
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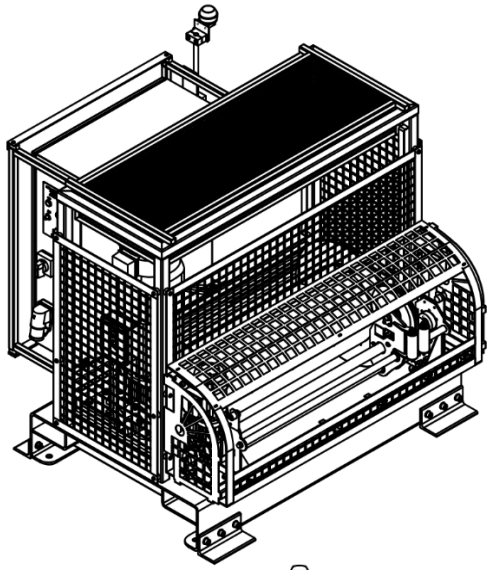
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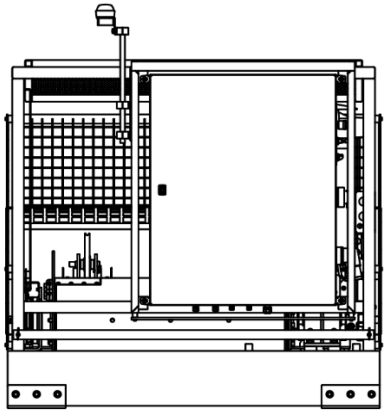
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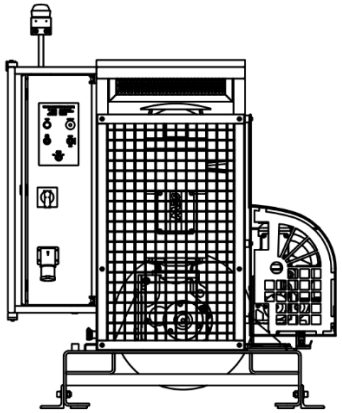


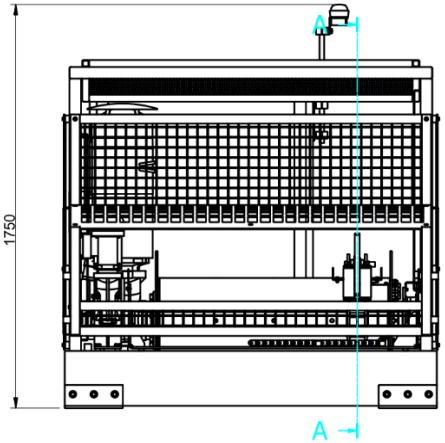


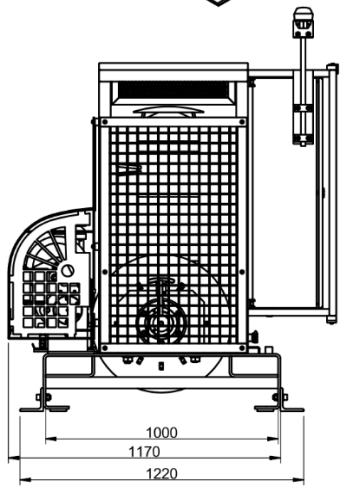












TECHNICAL SPCIFICATION SUMMARY

Line pull at top layer 406kgf
Brake holding capacity at top layer 609kgf
Line speed at mean layer 60m/min
Drum core diameter 368mm
Cable diameter - 8.18
Automatic electric level wind
Drum with access hatch
Compatible with CSW-112A slipring
Estimated mass 900kg

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Merli B.							
CHECKED	Struczuj M.							
APPROVED	Struczuj M.							
DATE	15.09.2020							

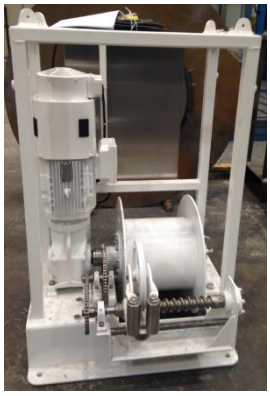
ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

ROMICA TIE GROUP
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Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
www.romica.co.uk

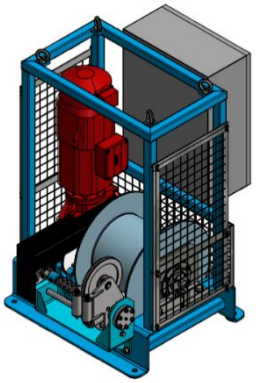
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ORIGINAL SCALE	TITLE	DRG. No.	
1:15	0.6 Te WLL - 2000m - Electric Winch	DS84	A2 SHT 1 OF 2

0.7 Te WLL - 800m - Electric Winch – DS18







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
530	6.53 - 11.43	800 @ 8.18Ø	74	700	450	1750	1125

Supply Required	380-440V-3 Ph- 50/60 Hz	Cable Lead-off Angle	+/-15° Horizontal plane Min + 0° Max + 60° Vertical plane
Winch Electrical Motor	7.5 KW IP56 IE3	Frame details	Crash frame with guards, forklifting pockets and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick and speed control potentiometer	Winch drum dimensions	Drum core Ø 368 mm, Drum Length 350 mm, Flange Ø 600 mm
Level wind	Mechanical chain driven	Drum details	Plain drum: the wire is stored in 12 lays with 42 turns per lay for 8.18Ø
Dimensions (LxWxH) Footprint	1050 x 1325 x 1626 mm 1050 x 800 mm	Cable	Rochester A304874
Slip ring	Designed to accept Focal 180 or similar not within scope of supply	Remote	50 m hard wired

Principle of Operation:

The winch drum is mounted on the output shaft of a 7.5 kW SEW electric gearmotor fitted with a failsafe brake unit and is connected to the corresponding drive inverter in the control panel. The speed of the drum is proportionally controlled via a potentiometer; its direction is determined by a 3 position, spring return to centre, joystick. These are both mounted locally on the Electric Winch Enclosure and duplicated on the remote console.

The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position. The non-drive side housings a bearing and a slipring.

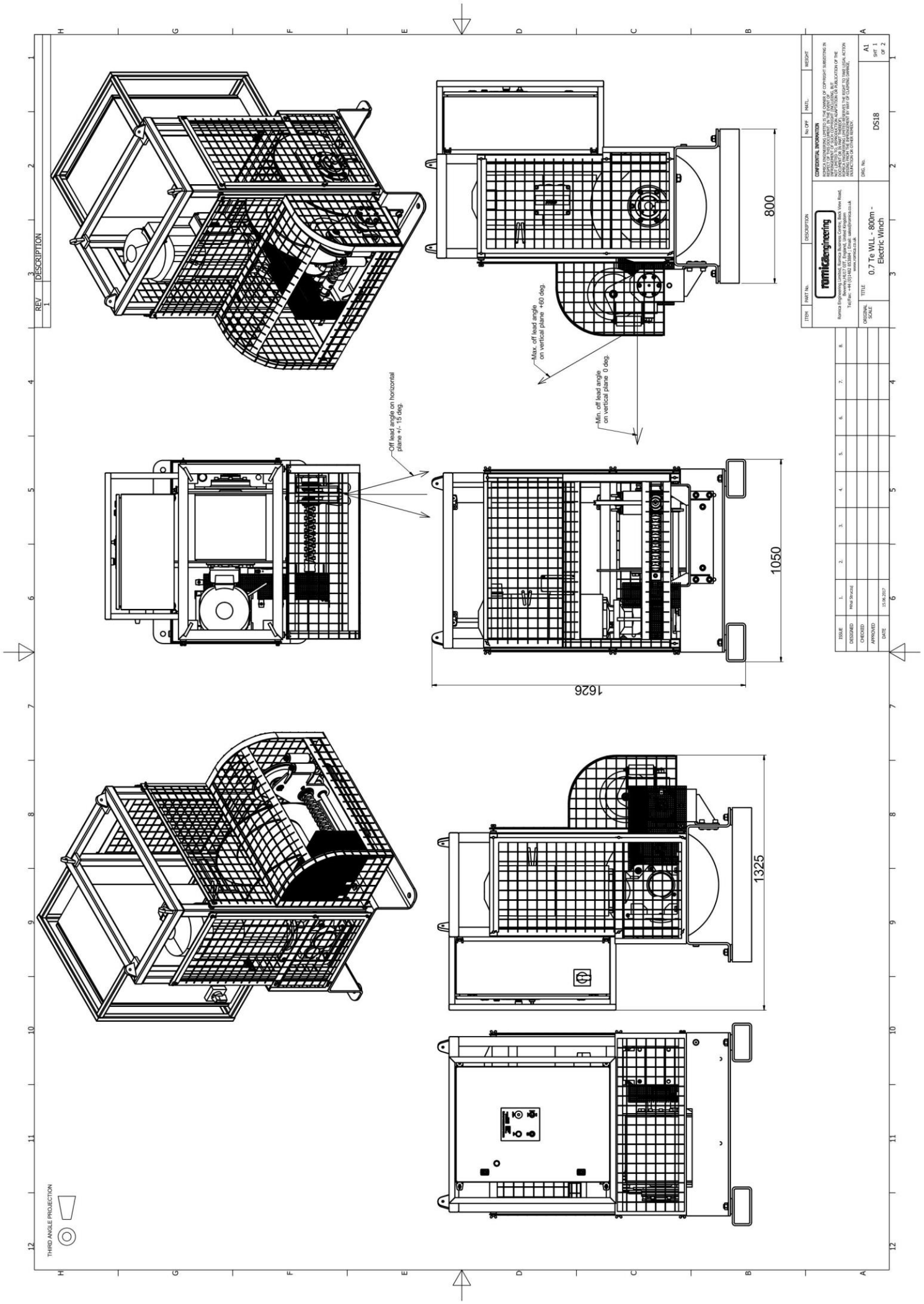
The Level wind is mechanically chain driven from the SEW Electric gearmotor drive shaft and the cable is guided via the level wind carriage assembly. Interchangeable sprockets allow the level wind to accept a variety of cable diameters if required.

The winch is supplied with the following:

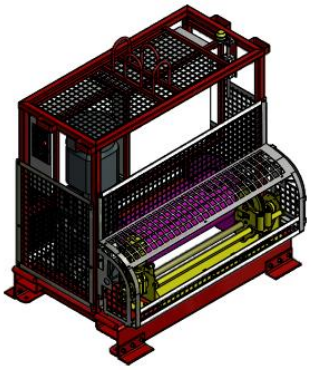
- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

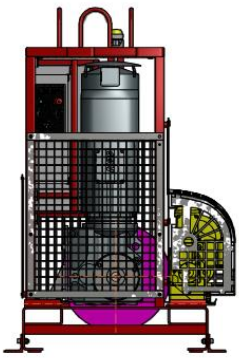
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

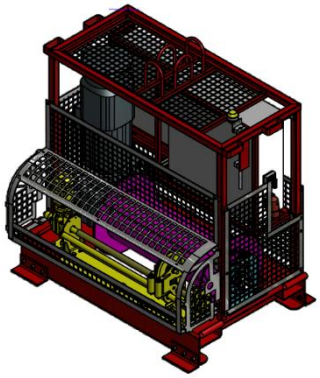
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wireless**


800
Max. off lead angle on vertical plane +60 deg.
Min. off lead angle on vertical plane 0 deg.
Off lead angle on horizontal plane +/- 15 deg.
1050
1626
1325
THIRD ANGLE PROJECTION
DS18
0.7 Te WLL - 800m - Electric Winch

0.96 Te WLL - 2000m - Electric Winch – DS87







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1520	8.18	2000	78.7	966	635	2040	1340

Supply Required	**380-440V-3 Ph- 50/60 Hz**	**Cable Lead-off Angle**	**+/-15° Horizontal plane Min + 0° Max + 45° Vertical plane**
Winch Electrical Motor	**11 Kw IP56 IE3**	**Frame details**	**Crash frame with guards and fork lifting pockets**
Local Proportional Control Hardwired Remote Control	**Bi-directionally proportional joystick and speed control potentiometer, 50m hard wired remote**	**Winch drum dimensions**	**Drum core Ø 368 mm, Drum Length 1000mm, Flange Ø 600 mm**
Level wind	**Electrically automatic pulse driven level wind with manual adjustment**	**Drum details**	**Plain drum; the wire is stored in 13 lays with 116 turns per lay**
Dimensions (LxWxH) Footprint	**1761 x 1270 x 1898 mm 1700 x 1220 mm**	**Cable**	**Rochester A302327**
Slip ring	**Designed to accept CSW-112A Slip Ring or similar not within scope of supply**	**Render function**	**HMI and Load Pin to set and measure line tension and limit**

Principle of Operation:

The Winch drum is driven by a 11 kW SEW electric gearmotor through an output shaft. The drum motor Variable Speed Drive drives the electrical motor of the Drum with variable speed according to the control signals and rpm setpoint of the potentiometer. The non-drive side housings the bearing and slipring. The Slipring is not within the scope of supply.

The SEW Electric Motor combination is fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost or the joystick is in its centre (neutral) position.

The level wind electrically driven from the 0.37 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

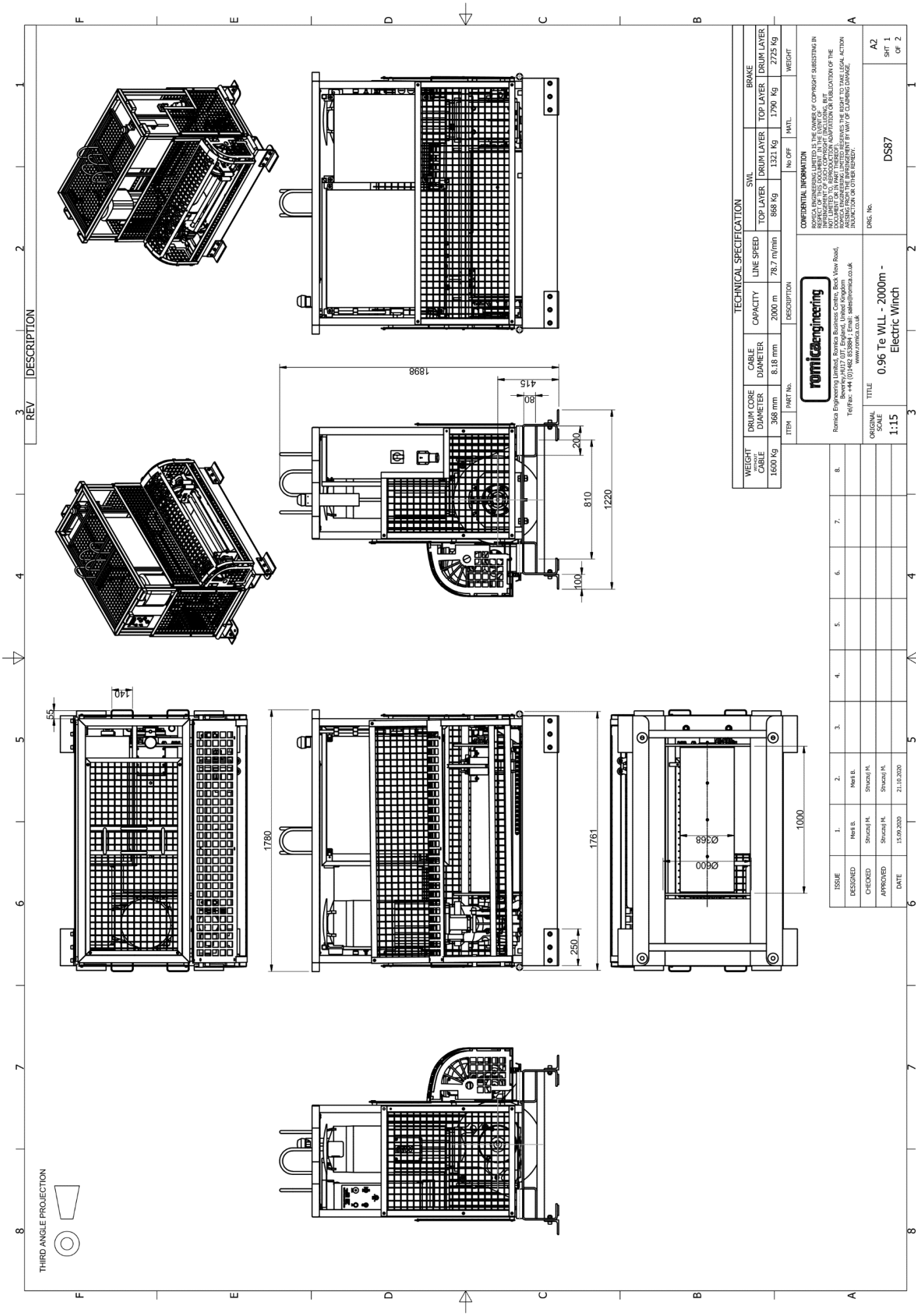
The winch is controlled via a joystick and speed potentiometer which are mounted locally on the Electric SSS Winch Enclosure and are duplicated on the remote control console.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **1 Off – Winch running flashing lights**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wireless**


REV DESCRIPTION
TECHNICAL SPECIFICATION
WEIGHT WITHOUT CABLE 1600 Kg
DRUM CORE DIAMETER 368 mm
CABLE DIAMETER 8.18 mm
CAPACITY 2000 m
LINE SPEED 78.7 m/min
SWL TOP LAYER 868 Kg
SWL DRUM LAYER 1321 Kg
BRAKE TOP LAYER 1790 Kg
BRAKE DRUM LAYER 2725 Kg
WEIGHT
ITEM PART No. DESCRIPTION No OFF MATL.
1898
415
80
200
810
1220
100
140
55
1780
1761
250
1000
Ø568
Ø600
romicaengineering
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ISSUE 1. 2. 3. 4. 5. 6. 7. 8.
DESIGNED Merli B. Merli B.
CHECKED Struciuj M. Struciuj M.
APPROVED Struciuj M. Struciuj M.
DATE 15.09.2020 21.10.2020
ORIGINAL SCALE 1:15
TITLE 0.96 Te WLL - 2000m - Electric Winch
DRG. No. DS87
A2
SHT 1 OF 2
THIRD ANGLE PROJECTION

1.2 Te WLL - 1700m - Hydraulic ADCP LARS Winch – DS69







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
3000	9.8	1700	60	1200	500	1800	750

Winch Hydraulic Supply Required	210 bar 70 l/min	Maximum SWL and outreach	Maximum SWL of 500 kg and a Maximum outreach of 3 metres
Local Proportional Control	Bi-directionally proportional joystick local pedestal	Slewing angle	Proportional range of 135°
Level wind	Hydraulic driven, automatic pulse driven level wind with manual adjustment	Frame details	Fork lifting pockets and certified lifting lug
		Winch drum dimensions	Drum core Ø 305 mm, Drum Length 470 mm, Flange Ø 750 mm
Slip ring	Designed to accept Focal 180 or similar not within scope of supply	Drum details	Plain drum: the wire is stored in 23 lays with 47 turns per lay
Dimensions (LxWxH) Footprint	3823 x 1566 x 3386 mm (Extended) 2000 x 1500 mm	Cable	Ø 9.8 mm Umbilical

Principle of Operation:

The non-drive side housings the bearing and slipring. The Slipring is not within the scope of supply.

The Hydraulic ADCP LARS can be driven by a 4 slice bi-directional joystick mounted on a pedestal.

The Level wind is hydraulically driven from an ADAN motor. The Level wind is PLC controlled and is automatic with a manual override via a local proportional valve located on a pedestal. The Level wind can be adjusted to accept a variety of cable diameters if required.

The winch has been designed with a maximum SWL of 500 kg and a maximum outreach of 3 metres from the rotation centre of the ADCP LARS and has a slewing angle of 135°.

The winch is supplied with the following:

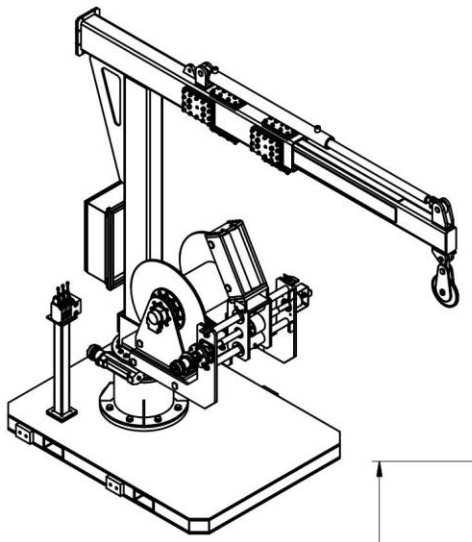
- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**
- **1 Off – 0.5 Te Hanging Sheave**
- **1 off – Spare Drum Assembly**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

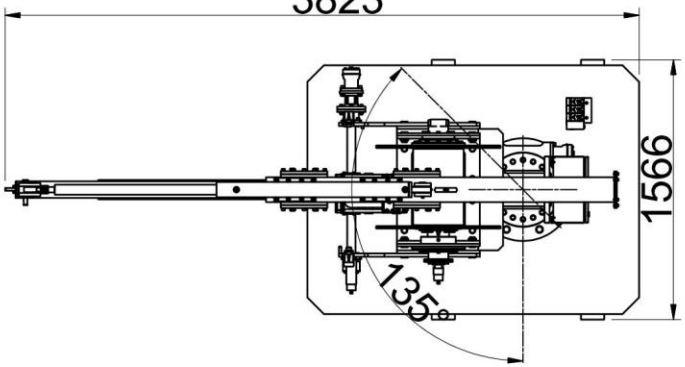
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**

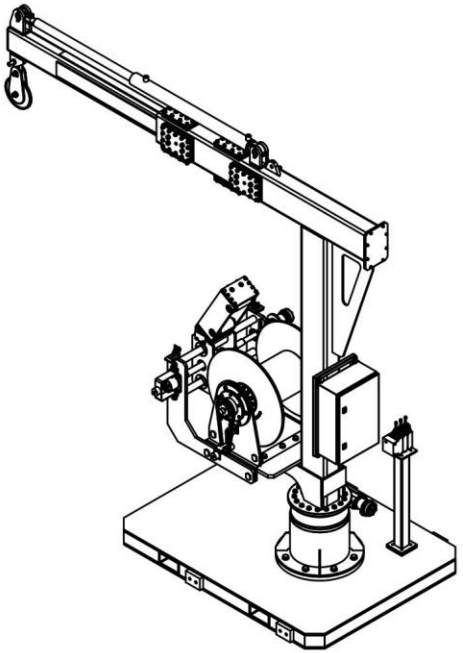
Back to contents

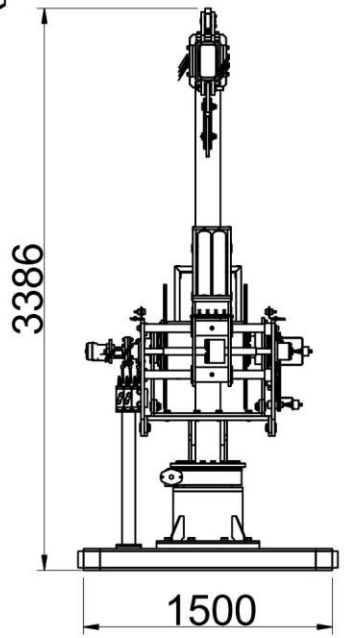
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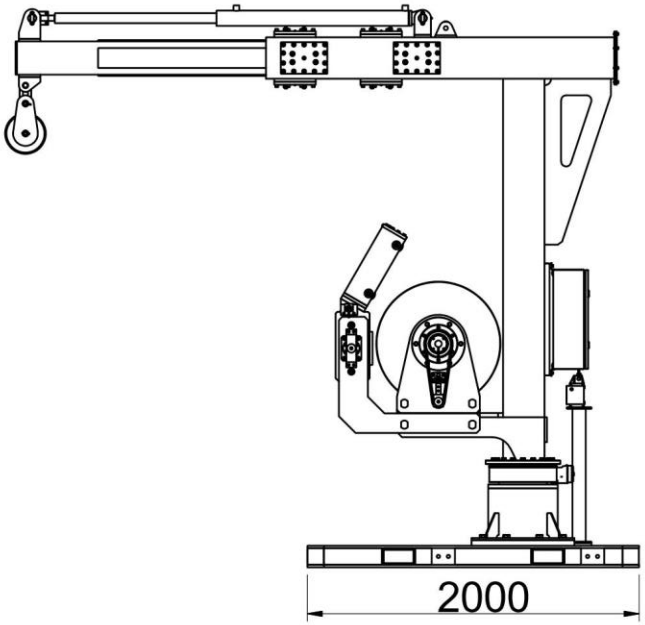




THIRD ANGLE PROJECTION







ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Ilyes Andras							
CHECKED	Meril Bertalan							
APPROVED	Mihai Struczuj							
DATE	05.15.2015							

romica engineering
Romica Engineering Limited, Romica Business Centre, Beck View Road, Beverley,HU17 0JT, England, United Kingdom
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www.romica.co.uk

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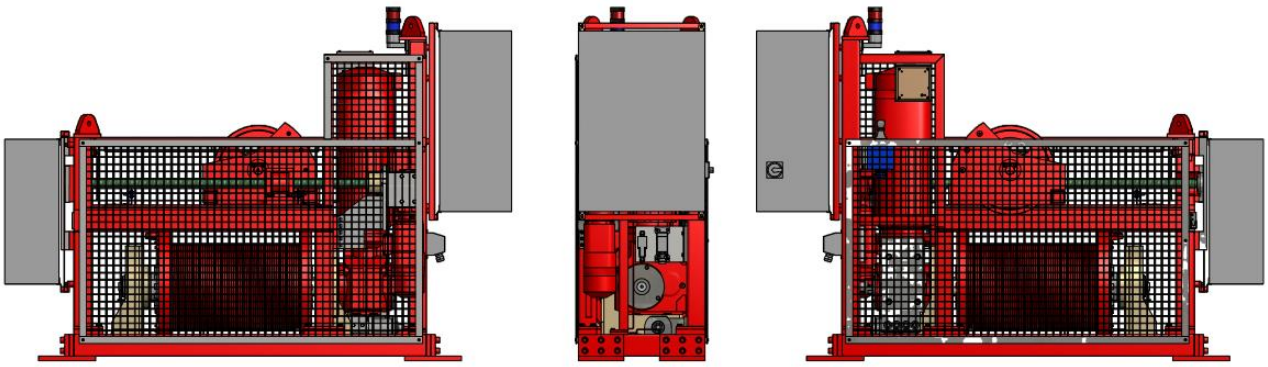
ORIGINAL SCALE 1:30

TITLE
1.2 Te WLL - 1700m - Hydraulic ADCP LARS Winch

DRG. No.
DS69

A3
SHT 1
OF 1

1.29 Te WLL - 700m - Electric Winch – DS12



TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
2160	11.43	700	90	1290	1000	1940	1500

Supply Required	380-440V-3 Ph- 50/60 Hz	Cable Lead-off Angle	+/-10° Horizontal plane Min + 0° Max + 25° Vertical plane
Winch Electrical Motor Level Wind Electrical Motor	18.5 KW IP56 IE3 1.5 KW IP56 IE3	Frame details	Crash frame with guards and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick	Winch drum dimensions	Drum core Ø 456 mm, Drum Length 712 mm, Flange Ø 630 mm
Level wind	Right Angled - Electrically automatic pulse driven level wind with manual adjustment	Drum details	Plain drum: the cable is stored in 8 lays with 59 turns per lay
Dimensions (LxWxH) Footprint	2805.5 x 700 x 1930 mm 2000 x 700 mm	Cable	Rochester A 302799
Slip ring	Designed to accept Focal 180 or similar not within scope of supply		

Principle of Operation:

The winch drum is mounted on the output shaft of an 18.5 kW SEW electric gearmotor fitted with a failsafe brake unit and is connected to the corresponding drive inverter in the control panel. The speed of the drum is proportionally; its direction is determined by a 3 position, spring return to centre, joystick. These are mounted locally on the Electric Winch Enclosure.

The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position. The non-drive side housings a bearing and a slipring.

The Level wind electrically driven from the 1.5 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

The winch is supplied with the following:

- 1 Set - sacrificial steel feet/mounting plates for mounting at ship
- Marine grade paint system (Details can be supplied on application)
- 12 Month Warranty
- 1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles
- 1 Off – Winch running flashing lights and/or Klaxon
- Remote Control wired
- Canvas Cover for transport and storage
- Operation and Maintenance Manual in Electronic Format

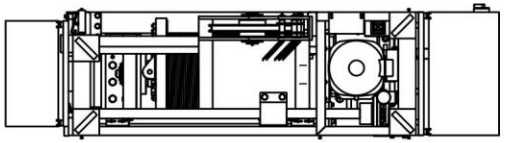
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- 1 Off – Slip Ring details to be supplied with order
- 1 Off – Extended Warranty
- 1 Off – Full Spares Kit
- 1 Off – Spare Programmed SD Card for level wind control.
- 1 Set – Spare sacrificial feet/mounting plates
- 1 Off – Laptop c/w software and leads for on-site fault diagnosis.

Back to contents

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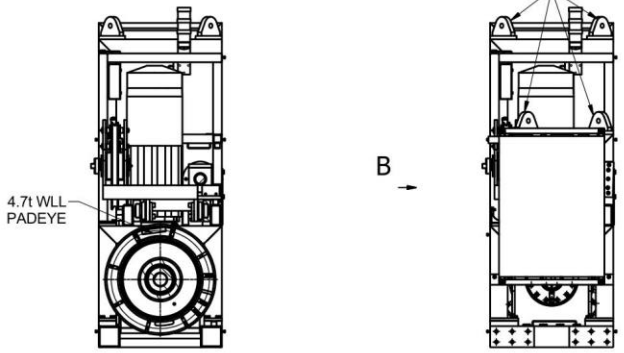
TOP VIEW (1 : 20)



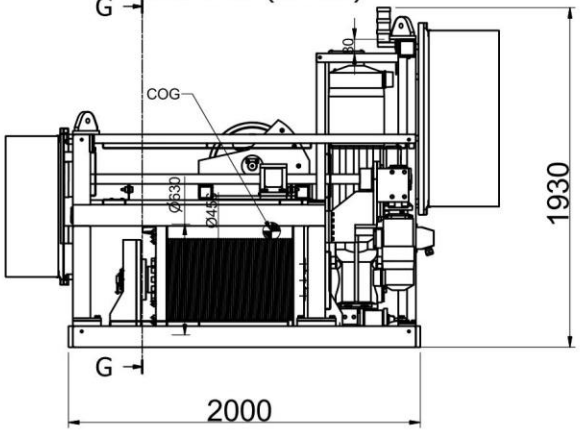
Load Testing Padeye			
PADEYE WLL	LINE PULL / SWL	BRAKE HOLD	Remarks
4.7 Te	1.08 Te	1.62 Te	Corresponds to Ø11.43mm Rope 5'th Layer

STERN VIEW (1 : 20)

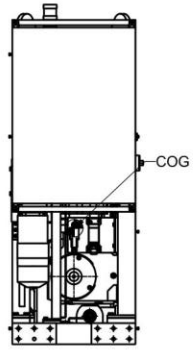
G-G (1 : 20)



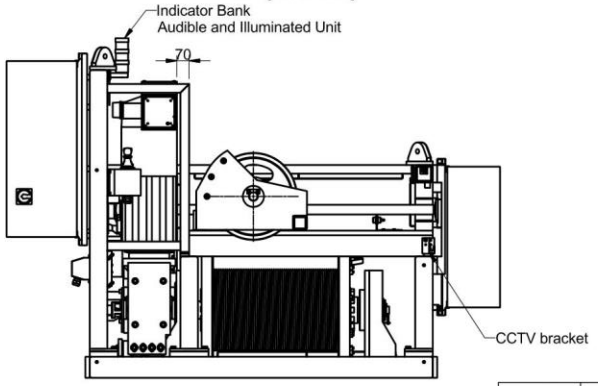
STB VIEW (1 : 20)



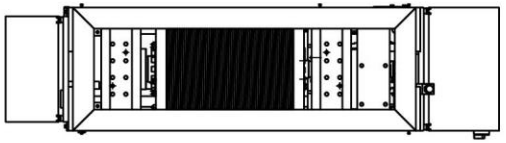
FORWARD VIEW (1 : 20)



PORT VIEW
B (1 : 20)



BOTTOM VIEW (1 : 20)



Note:
The position of the COG is without cable.

Colour:
Traffic white RAL 9016.

Electric power requiem:
In = 54.4 A
Vn = 440 V

Technical specification								
Weight without Cable	Drum core diameter	Cable diameter	Capacity	Line speed	Line pull / SWL		Brake holding	
					Top layer	Drum layer	Top layer	Drum layer
2100 Kg	456 mm	11.4 mm	700 m	1.5 m/s	1 Te	1.29 Te	1.5 Te	1.94 Te

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Merli B.		Merli B.	Merli B.	Merli B.	Merli B.	Merli B.	Merli B.
CHECKED	C. Balan		C. Balan	C. Balan	C. Balan	C. Balan	C. Balan	C. Balan
APPROVED	M. Struczuj		M. Struczuj	M. Struczuj	M. Struczuj	M. Struczuj	M. Struczuj	M. Struczuj
DATE	10.06.2015		27.08.2015	07.09.2015	23.09.2015	12.11.2015	16.12.2015	19.01.2016

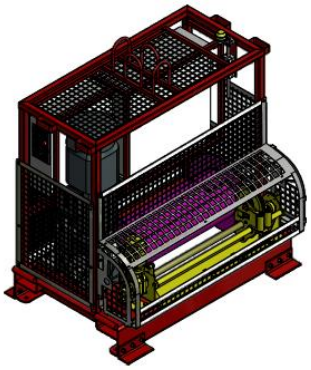
ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

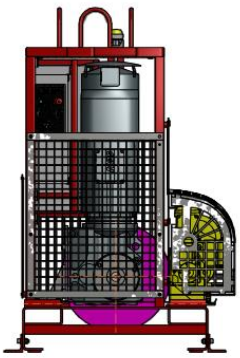
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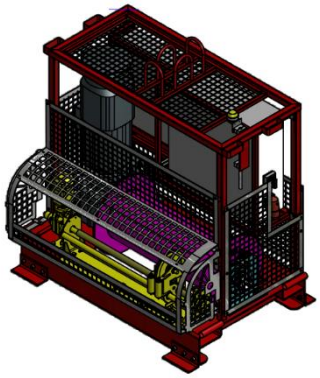
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ORIGINAL SCALE	TITLE	DRG. No.	
1:15	1.29 Te WLL - 700m - Electric Winch	DS12	A2 SHT 1 OF 5

1.32 Te WLL – 15kW - 2000m - Electric Winch – DS88







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1600	8.18	2000	62 first layer 95 top layer	1321	868	2725	1790

Supply Required	**380-440V-3 Ph- 50/60 Hz**	**Cable Lead-off Angle**	**+/-15° Horizontal plane Min + 0° Max + 45° Vertical plane**
Winch Electrical Motor	**15 Kw IP56 IE3**	**Frame details**	**Crash frame with guards and fork lifting pockets**
Local Proportional Control Hardwired Remote Control	**Bi-directionally proportional joystick and speed control potentiometer, 50m hard wired remote**	**Winch drum dimensions**	**Drum core Ø 368 mm, Drum Length 1000mm, Flange Ø 600 mm**
Level wind	**Electrically automatic pulse driven level wind with manual adjustment**	**Drum details**	**Plain drum; the wire is stored in 13 lays with 116 turns per lay**
Dimensions (LxWxH) Footprint	**1761 x 1270 x 1898 mm 1700 x 1220 mm**	**Cable**	**Rochester A302327**
Slip ring	**Designed to accept CSW-112A Slip Ring or similar not within scope of supply**	**Render function**	**HMI and Load Pin to set and measure line tension and limit**

Principle of Operation:

The Winch drum is driven by a 15 kW SEW electric gearmotor through an output shaft. The drum motor Variable Speed Drive drives the electrical motor of the Drum with variable speed according to the control signals and rpm setpoint of the potentiometer. The non-drive side housings the bearing and slipring. The Slipring is not within the scope of supply.

The SEW Electric Motor combination is fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost or the joystick is in its centre (neutral) position.

The level wind electrically driven from the 0.37 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

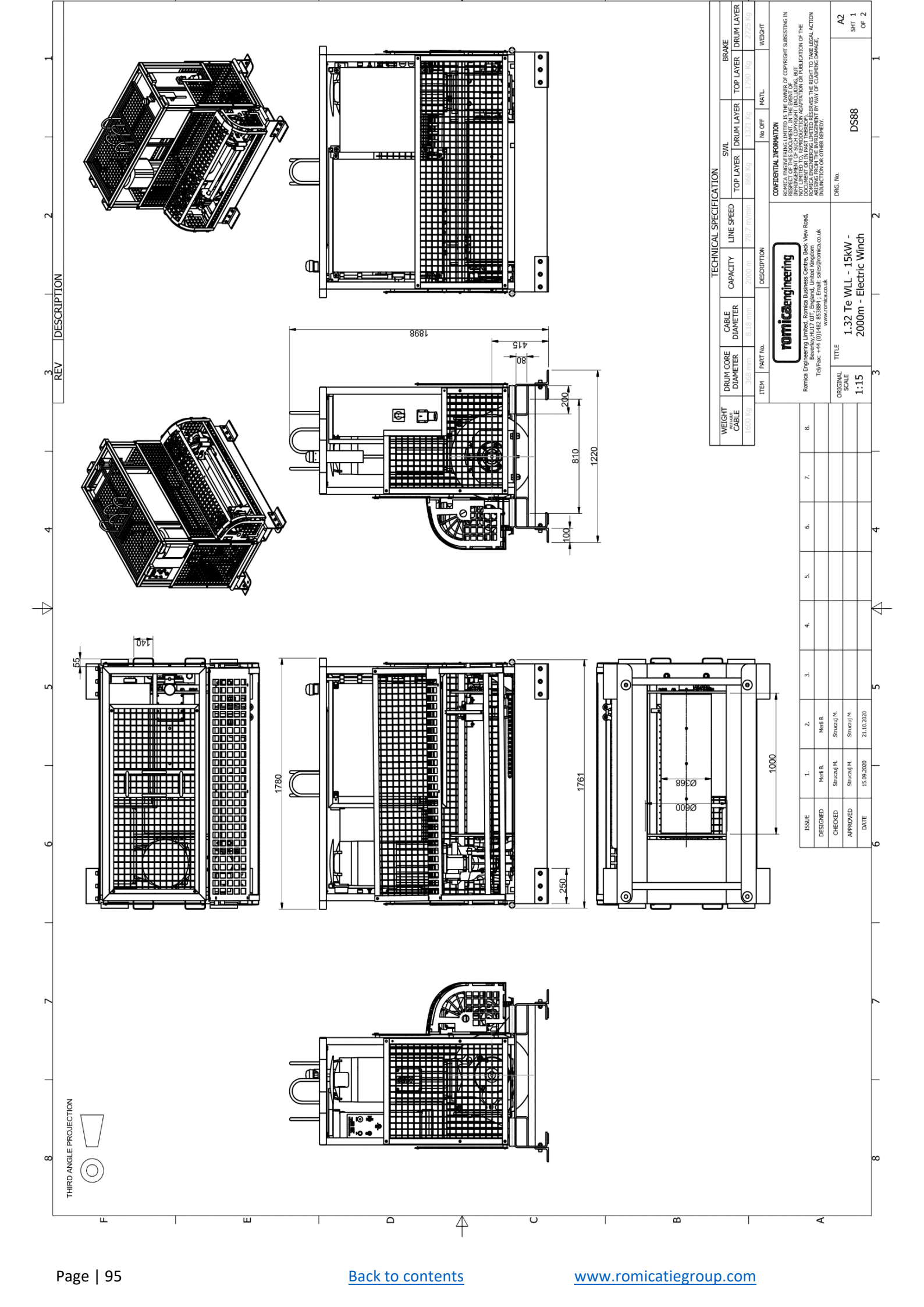
The winch is controlled via a joystick and speed potentiometer which are mounted locally on the Electric SSS Winch Enclosure and are duplicated on the remote control console.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **1 Off – Winch running flashing lights**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wireless**

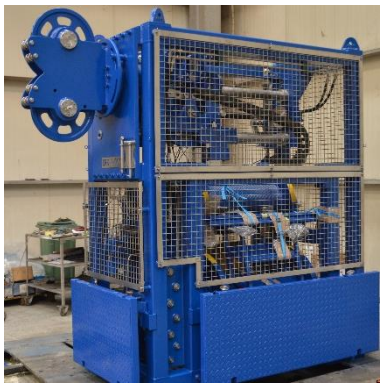

REV
DESCRIPTION
TECHNICAL SPECIFICATION
WEIGHT WITHOUT CABLE
DRUM CORE DIAMETER
CABLE DIAMETER
CAPACITY
LINE SPEED
SWL
BRAKE
TOP LAYER
DRUM LAYER
TOP LAYER
DRUM LAYER
WEIGHT
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
romicaengineering
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Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
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ORIGINAL SCALE
1:15
TITLE
1.32 Te WLL - 15kW - 2000m - Electric Winch
DRG. No.
DS88
A2
SHT 1 OF 2
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
1.
Merli B.
Struczuj M.
Struczuj M.
15.09.2020
2.
Merli B.
Struczuj M.
Struczuj M.
21.10.2020
3.
4.
5.
6.
7.
8.
THIRD ANGLE PROJECTION
1898
415
80
200
810
1220
100
140
55
1780
1761
250
1000
Ø600
Ø368

1.5 Te WLL - 800m & 2000m - Hydraulic Winch – DS07









TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
4200	12	800	60	1500	1080	4100	2960
	11.4	2000	60	1500	890	4100	2440

Winch Hydraulic Drive Supply Required	200 bar 90 l/min per winch drum	Cable Lead-off Angle	Min + 0° Max + 45° Vertical plane
Level Wind Hydraulic Drive Supply Required	200 bar 50 l/min	Frame details	Crash frame with guards and certified lifting lugs
Local Proportional Control	Only for manual level wind adjustment	Winch drum dimensions	Drum core Ø 425 mm, Drum Length 804 mm, Flange Ø 650 mm and Drum core Ø 460 mm, Drum Length 804 mm, Flange Ø 850 mm
Level wind	Right Angled - hydraulic driven, automatic pulse driven level wind with manual adjustment	Drum details	Lebus shell drums; 12 mm wire is stored in 8 lays with 66 turns per lay. 11.4 wire is stored in 15 lays with 70 turns per lay
Dimensions (LxWxH) Footprint	2764 x 1131 x 2682 mm 2020 x 1050 mm, 4693 x 3409 mm platforms deployed	Cable	12 mm Steel wire 11.4 mm Rochester A 302799
Slip ring	Designed to accept Trolex 4845-4 or similar not within scope of supply	Hydraulic Ports	P G1/2” BSP, T G3/4” BSP, D G1/2” BSP, A & B G3/4” BSP

Principle of Operation:

Each winch drum is independent and mounted one above the other and are driven directly from a SAI gearbox, hydraulic motor and load valve combination. The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position. The non-drive side housings the bearings and the lower drum a slipring.

The 90 degree right angled hydraulic driven Level wind is coupled with a dual sheave, PLC controlled and is automatic with a manual override via a local proportional valve. The lower sheave can be swung down to enable easy reconfiguration between the different cable diameters as required. The Level wind is adjusted via the HMI during reconfiguration between the different cable diameters

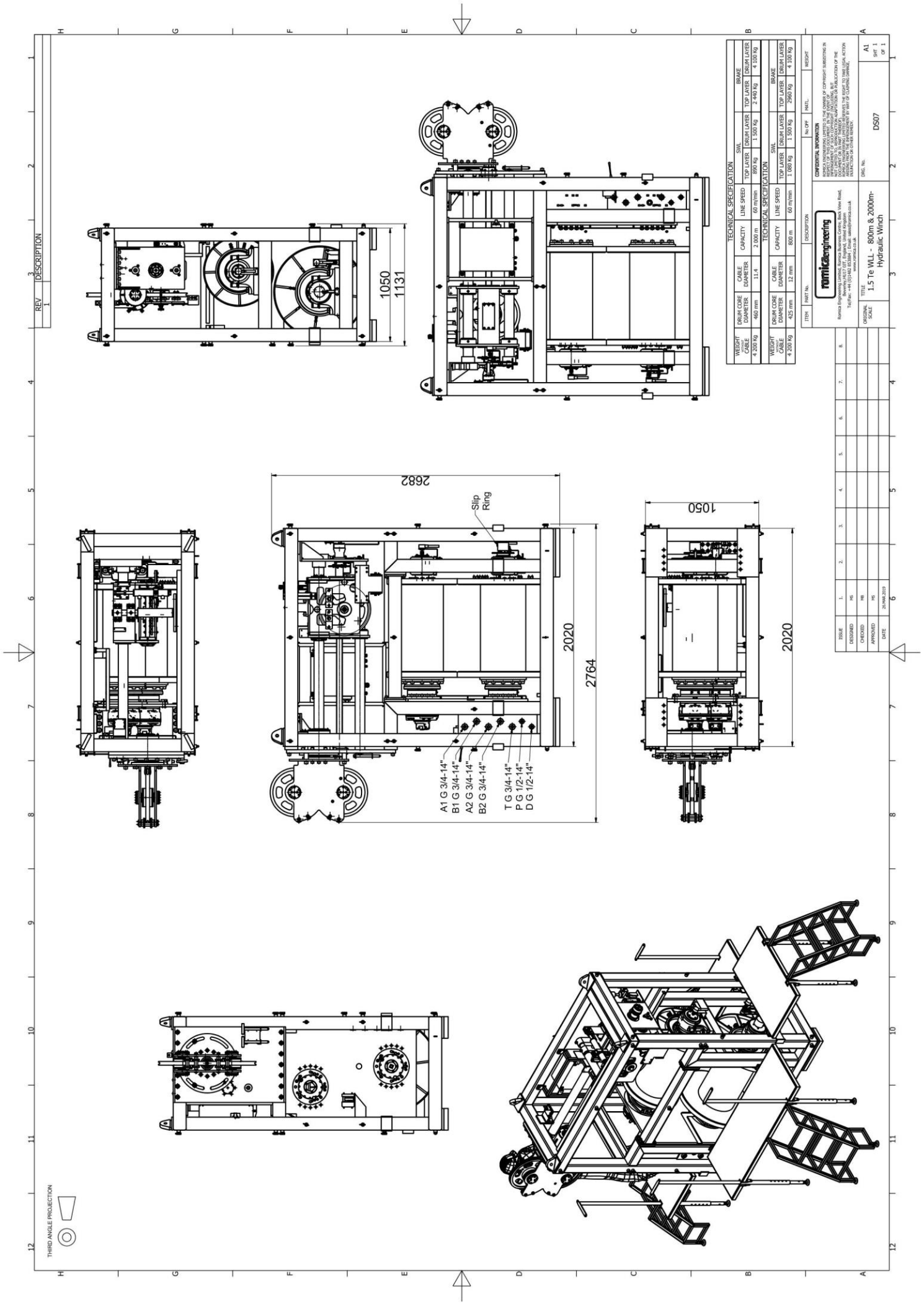
HMI displays cable/wire tension and line measurement via a load pin within the level wind sheave.

The winch is supplied with the following:

- 1 Set - sacrificial steel feet/mounting plates for mounting at ship
- Marine grade paint system (Details can be supplied on application)
- 1 Off – Winch running flashing lights and/or Klaxon
- 1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles
- 12 Month Warranty
- Detachable and foldable maintenance platforms
- Canvas Cover for transport and storage
- Operation and Maintenance Manual in Electronic Format
- Remote HMI Display

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- 1 Off – Slip Ring details to be supplied with order
- 1 Off – Extended Warranty
- Remote Control wired or wireless
- 1 Off – Spare Programmed SD Card for level wind control.
- 1 Set – Spare sacrificial feet/mounting plates
- 1 Off – Full Spares Kit


TECHNICAL SPECIFICATION
SWL
BRAKE
WEIGHT CABLE
DRUM CORE DIAMETER
CABLE DIAMETER
CAPACITY
LINE SPEED
TOP LAYER
DRUM LAYER
4 200 Kg
460 mm
11.4
2 000 m
60 m/min
890 Kg
1 500 Kg
2 440 Kg
4 100 Kg
4 200 Kg
425 mm
12 mm
800 m
60 m/min
1 080 Kg
1 500 Kg
2960 Kg
4 100 Kg
1050
1131
2682
Slip Ring
2020
2764
1050
2020
A1 G 3/4-14"
B1 G 3/4-14"
A2 G 3/4-14"
B2 G 3/4-14"
T G 3/4-14"
P G 1/2-14"
D G 1/2-14"
romicaengineering
TITLE
1.5 Te WLL - 800m & 2000m- Hydraulic Winch
DWG. No.
D507
A1
SHT 1 OF 1
THIRD ANGLE PROJECTION

1.75 Te WLL - 3000m - Electric Winch – DS51







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) WLL	
				First Layer	Top Layer	First Layer	Top Layer
3300	11.4	3000	60	1750	1206	2500	1725

Supply Required	**380-440V-3 Ph- 50/60 Hz**	**Cable Lead-off Angle**	**+/-15° Horizontal plane Min -6° Max + 64° Vertical plane**
Level Wind Electrical Motor Level Wind Electrical Motor	**18.5 KW IP56 IE3 0.75 KW IP56 IE3**	**Frame details**	**Crash frame with guards and certified lifting lugs**
Local Proportional Control Hardwired Remote Control	**Bi-directionally proportional joystick, tension control and speed control potentiometer**	**Winch drum dimensions**	**Drum core Ø 419 mm, Drum Length 1033 mm, Flange Ø 900 mm**
Level wind	**Electrically automatic pulse driven level wind with manual adjustment**	**Drum details**	**Lebus shell drum; the wire is stored in 18 lays with 84 turns per lay**
Dimensions (LxWxH) Footprint	**1640 x 2240 x 1995 mm 1640 x 2240 mm**	**Cable**	**11.4 mm diam. Electro-mechanical cable, Rochester type A302799**
Slip ring	**Designed to accept Mercotac 215-2K or similar not within scope of supply**		

Principle of Operation:

The Constant Tension Winch drum is driven by a 18.5 kW SEW electric gearmotor through an output shaft. The drum motor Variable Speed Drive drives the electrical motor of the Drum with variable speed according to the control signals and rpm setpoint of the potentiometer. The SEW Electric Motor combination is fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost, or the joystick is in its centre (neutral) position.

The non-drive side housings the bearing and slipring. The Slipring is not within the scope of supply.

The Level wind electrically driven from the 0.75 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override.

The winch has a Constant Tension function that can provide CT up to a value of 1.75 Te. Once the CT setpoint value is entered via the HMI, and the CT control is activated, the winch drum electric gearmotor will pay-in or pay-out to maintain the tension set on the HMI.
A load pin provides the Line Tension and the signal is displayed on the HMI.

The winch is supplied with the following:

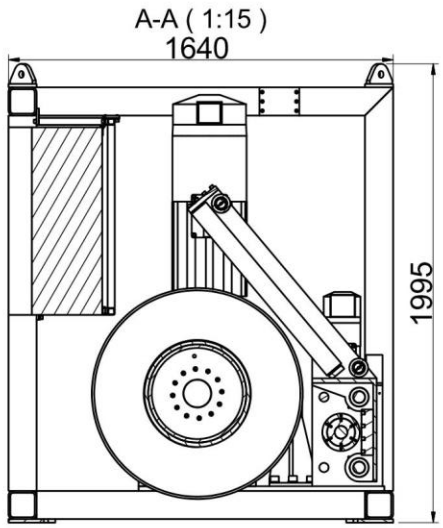
- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

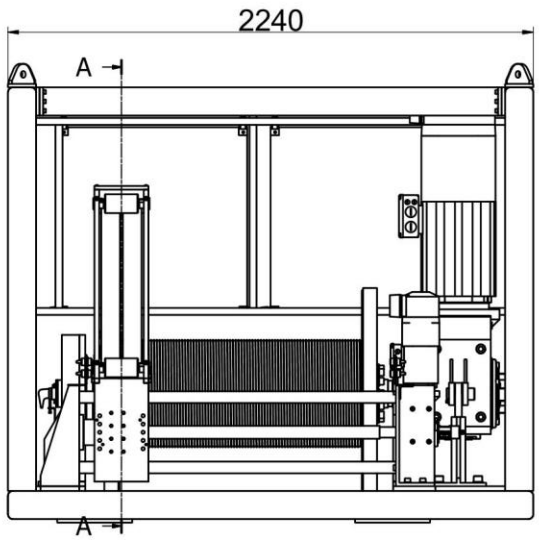
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

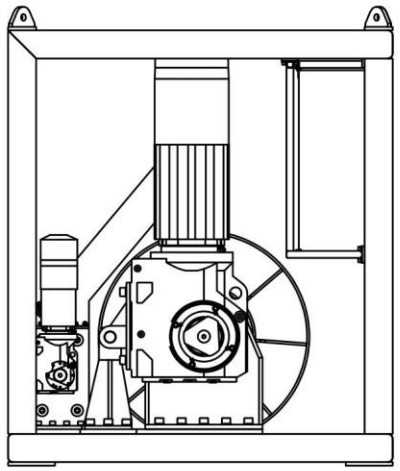
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wireless**

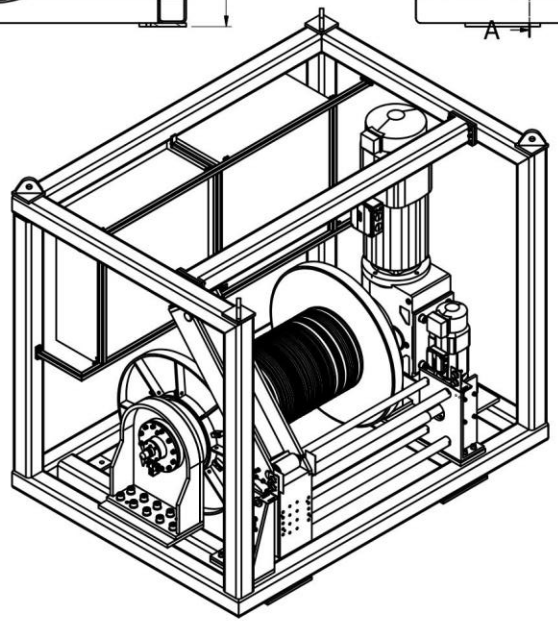
Back to contents

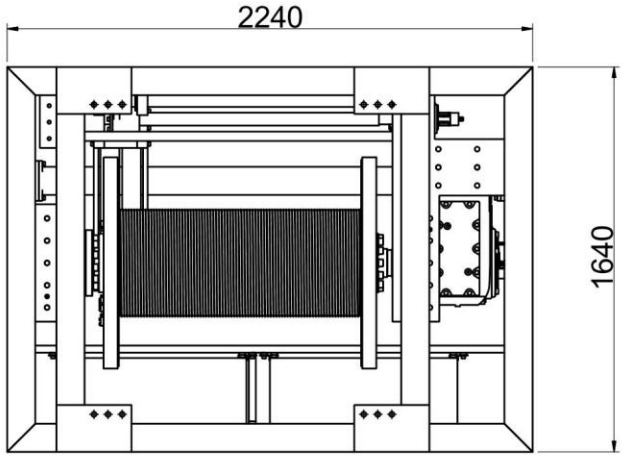
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Technical specification								
Weight without Cable	Drum core diameter	Cable diameter	Capacity	Line speed	Line pull / SWL		Brake holding	
					Top layer	Drum layer	Top layer	Drum layer
3300 Kg	419 mm	11.43 mm	3000 m	60 m/min	1.206 Te	1.75 Te	1.725 Te	2.5 Te

GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS							
0 UP TO 3	3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1000	OVER 1000 UP TO 2000	OVER 2000 UP TO 4000
± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	DIMENS.	SIZE - REMARKS

NOTES

USED ON

DRAWN		13.12.2012	ISSUE	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
	DATE		D.O.CHECKED										
			T.O.CHECKED										
			T.O.APPL.										
			STATUS										
			DATE										

SUPERSEDED BY

SUPERSEDES

ORIGINAL SCALE

A2

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Email: sales@romica.co.uk

ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS

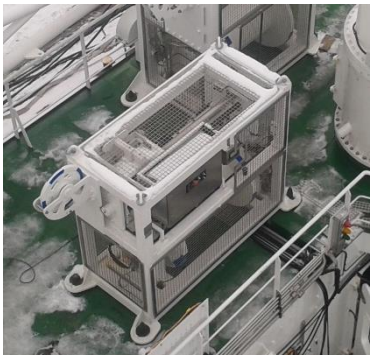
TITLE: 1.75 Te WLL - 3000m - Electric Winch

DRG. No. DS51

SHT 1 OF 1

2.5 Te WLL - 3000m - Hydraulic Winch – DS06



TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
3200	11.43	3000	90	2545	1500	3900	2250

Winch Hydraulic Drive Supply Required	200 bar 130 l/min	Cable Lead-off Angle	Min + 0° Max + 45° Vertical plane
Level Wind Electrical Motor Supply Required	1.5 KW IP56 IE3 380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick	Winch drum dimensions	Drum core Ø 480 mm, Drum Length 1070 mm, Flange Ø 900 mm
Level wind	Right Angled - Electrically automatic pulse driven level wind with manual adjustment	Drum details	Lebus shell drum; the wire is stored in 16 lays with 90 turns per lay
Dimensions (LxWxH) Footprint	1260 x 2842 x 2207 mm 1260 x 2735 mm with twist lock option	Cable	Rochester A 302799
Slip ring	Designed to accept Focal 180 or similar not within scope of supply	Hydraulic Ports	P G1” BSP, T G1” BSP, D G1/2” BSP

Principle of Operation:

The winch drum is driven directly from a Bonfiglioli gearbox, hydraulic motor and load valve combination. The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position. The non-drive side housings a bearing and a slipring.

The 90 degree right angled Level wind electrically driven from the 1.5 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

HMI displays Line Speed, Line Load, Line Out and Line In with the provision of load monitoring with user selectable limits for line tensioning.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**

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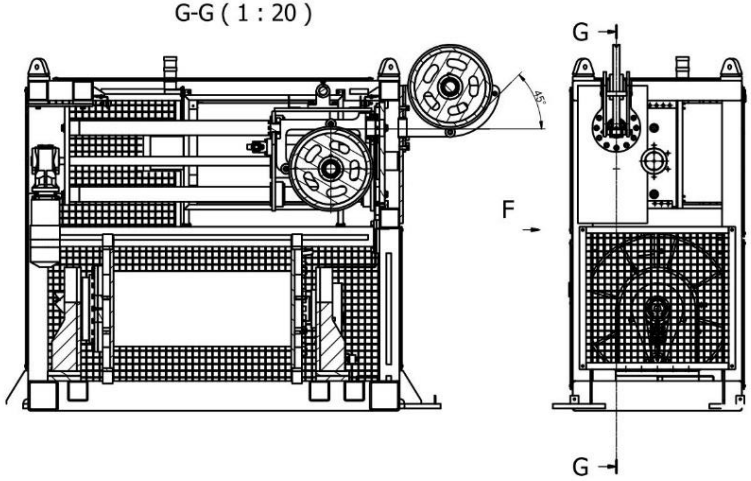
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THIRD ANGLE PROJECTION

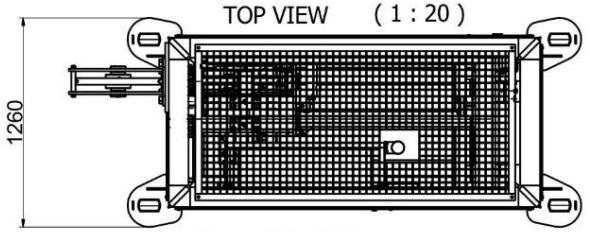
REV	DESCRIPTION
1	

STERN VIEW

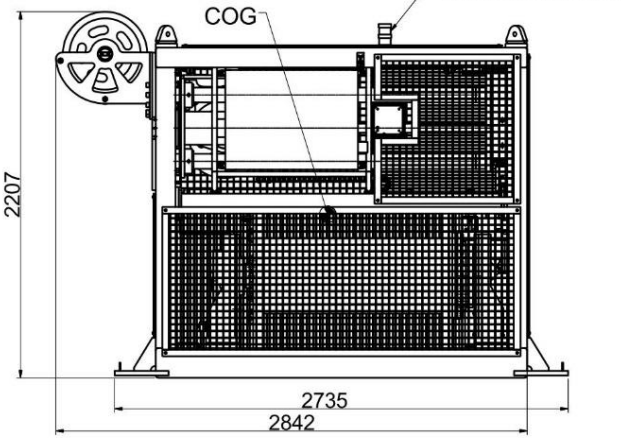
G-G (1 : 20)



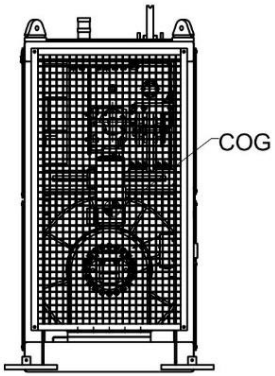
TOP VIEW (1 : 20)



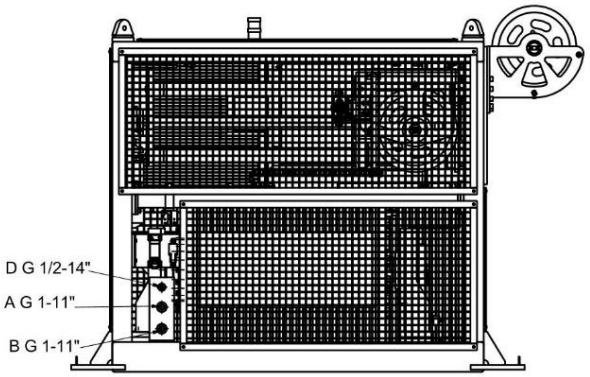
STB VIEW (1 : 20)

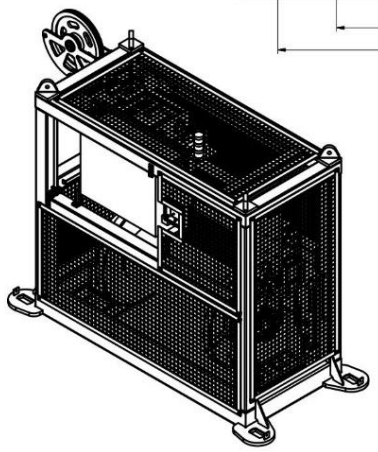


FORWARD VIEW (1 : 20)

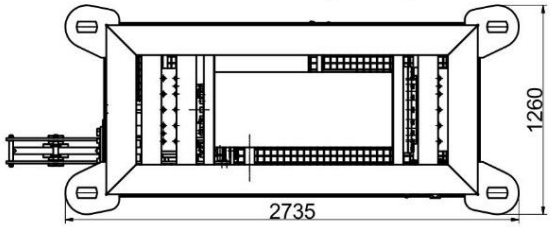


PORT VIEW F (1 : 20)





BOTTOM VIEW (1 : 20)



Technical specification								
Weight without Cable	Drum core diameter	Cable diameter	Capacity	Line speed	Line pull / SWL		Brake holding	
					Top layer	Drum layer	Top layer	Drum layer
3200 kg	480 mm	11.43 mm	3000 m	90 m/min	1500 Kg	2545 Kg	2250 Kg	3900 Kg

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	MB							
CHECKED	CB							
APPROVED	MS							
DATE	28 JAN 2016							

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

romicaengineering

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www.romica.co.uk

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ORIGINAL SCALE

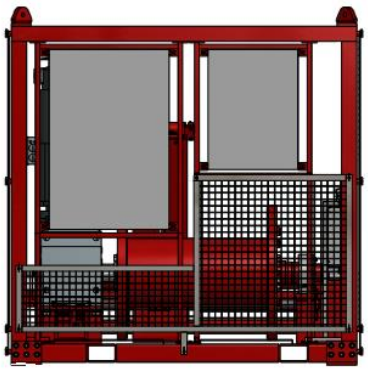
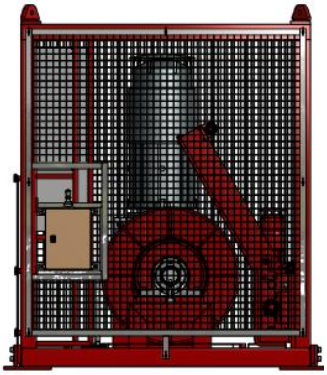
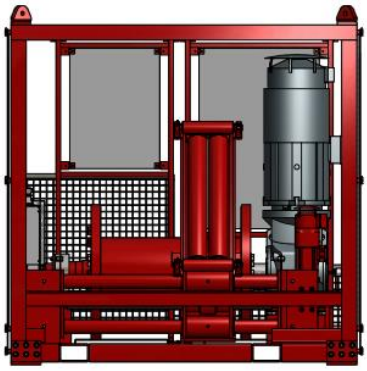
TITLE: 2.5 Te WLL - 3000m - Electric Winch

DRG. No.: DS06

A1

SHT 1 OF 1

2.25 Te WLL - 3000m - Electric Winch – DS90

TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
3574	11.43	3000	75	2250	1233	3375	1850

Supply Required	**380-440V-3 Ph- 50/60 Hz**	**Cable Lead-off Angle**	**+/-15° Horizontal plane Min - 10° Max + 45° Vertical plane**
Winch Electrical Motor	**37 Kw IP56 IE3**	**Frame details**	**Crash frame with guards, fork lifting pockets and certified lifting lugs**
Local Proportional Control	**Bi-directionally proportional joystick and HMI**	**Winch drum dimensions**	**Drum core Ø 460 mm, Drum Length 930mm, Flange Ø 900 mm**
Hardwired Remote Control	**25mtr with Bi-directionally proportional joystick and HMI**	**Drum details**	**Lebus shell; the wire is stored in 18 lays with 81 turns per lay**
Level wind	**Electrically automatic pulse driven level wind with manual adjustment**	**Cable**	**Rochester A302799 Armoured Coax**
Dimensions (LxWxH) Footprint	**2381 x 2120 x 2368 mm 2300 x 2120 mm**	**Slip ring**	**Designed to accept Trolex 4845 Slip Ring or similar not within scope of supply**

Principle of Operation:

The Winch drum is driven by a 37 kW SEW electric gearmotor through an output shaft. The drum motor Variable Speed Drive drives the electrical motor of the Drum with variable speed according to the control signals and rpm setpoint of the potentiometer. The non-drive side housings the bearing and slipring. The Slipring is not within the scope of supply.

The SEW Electric Motor combination is fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost or the joystick is in its centre (neutral) position.

The level wind electrically driven from the 0.75 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

The winch is controlled via a joystick and speed potentiometer which are mounted locally on the Electric SSS Winch Enclosure and are duplicated on the remote control console.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **1 Off – Winch running flashing lights**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

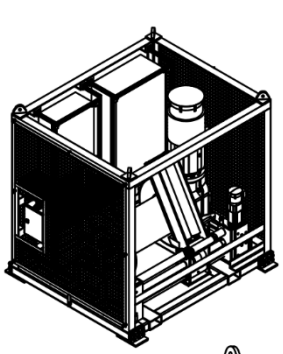
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

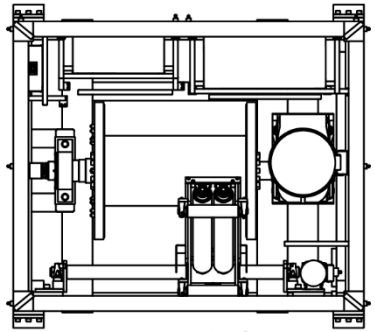
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wireless**

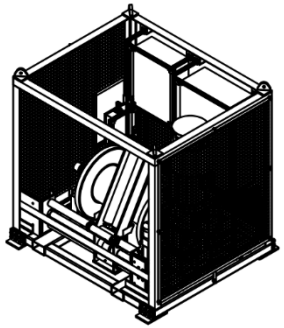
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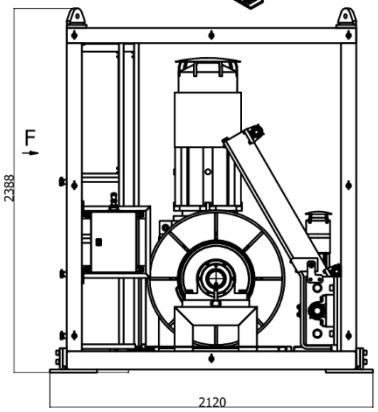
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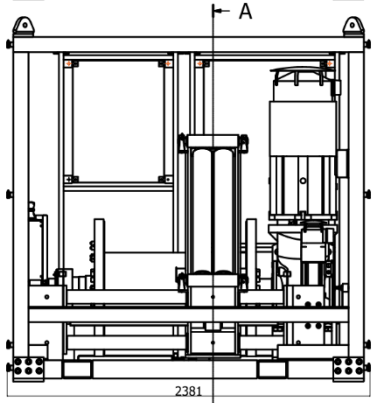
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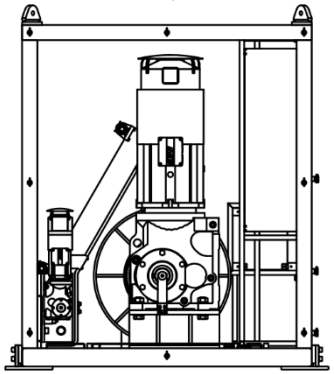




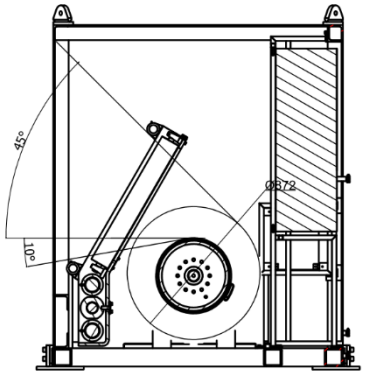




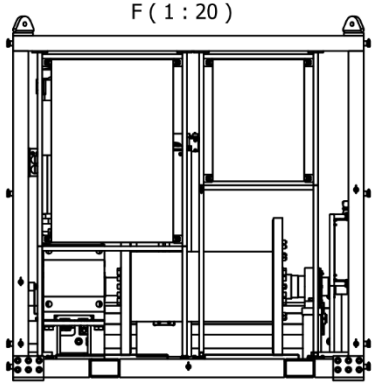


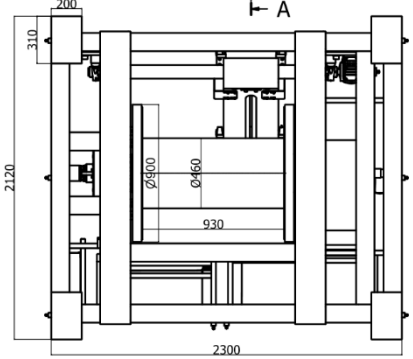


A-A (1 : 20)



F (1 : 20)





TECHNICAL SPECIFICATION								
WEIGHT WITHOUT CABLE	DRUM CORE DIAMETER	CABLE DIAMETER	CAPACITY	LINE SPEED	SWL		BRAKE	
					TOP LAYER	DRUM LAYER	TOP LAYER	DRUM LAYER
4 200 Kg	460 mm	11.43 mm	3 000 m	75 m/min	1 233 Kg	2 250 Kg	1 850 Kg	3 375 Kg

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

THIRD ANGLE PROJECTION

Extract from BS EN 22768-1:1993 Medium tolerance class U.O.S.

from 0.5 upto 3	over 3 upto 6	over 6 upto 30	over 30 upto 120	over 120 upto 400	over 400 upto 1000	over 1000
Linear tolerances for ranges of dimensions (not rads and chamfers)						
+/- 0.1	+/- 0.1	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8	+/- 1.2
Linear tolerances for ranges of dimension on rads and chamfers						
+/- 0.2	+/- 0.5	+/- 1	+/- 1	+/- 1	+/- 1	+/- 1

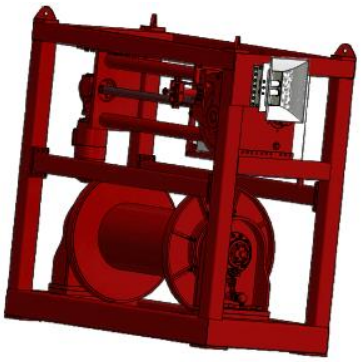
Angular tolerances					
upto 10	over 10 upto 50	over 50 upto 120	over 120 upto 400	over 400	
+/- 1 deg.	+/- 1 deg.	+/- 0.5 deg.	+/- 1 deg.	+/- 0.5 deg.	

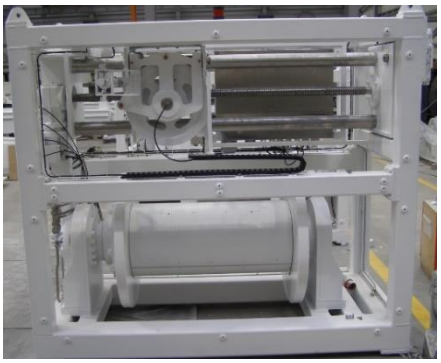
ROMICA TIE GROUP
Tel: +44 (0)1482 853884; Email: sales@romica.co.uk
www.romica.co.uk

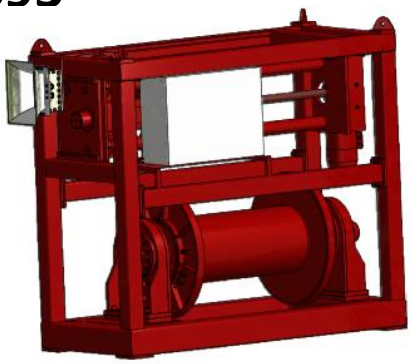
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ORIGINAL SCALE	TITLE	DRG. No.	
	2,25 Te - WLL 3000m - Electrcic Winch	DS90	A2 SHT 1 OF 1

2.5 Te WLL - 3000m –Hydraulic Winch - DS93







TECHNICAL SPECIFICATION

Weight without cable/oil (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
3200	11.43	3000	90	2500	1480	3750	2210

Winch Hydraulic Drive Supply Required	200 Bar 160 lpm	Cable Lead-off Angle	Min - 5° Max + 5° Horizontal plane Min + 5° Max + 45° Vertical plane
Level Wind Electrical Motor Supply Required	1.5 Kw IP56 IE3 380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards, certified lifting lugs
Local Proportional Control	Bi-directionally proportional	Winch drum dimensions	Drum core Ø 454 mm, Drum Length 1033 mm, Flange Ø 900 mm
Level wind	Right Angled - Electrically automatic pulse driven level wind with manual adjustment	Drum details	Lebus shell the cable is stored in 16 lays with 90 turns per lay
Dimensions (LxWxH) Footprint	2600 x 1020 x 2100 mm 2315 x 1020 mm	Cable	Electro- mechanical cable, Rochester type A 302799
Slip ring	Designed to accept Focal 180 or similar not within scope of supply	Load monitoring	Load pin and HMI

Principle of Operation:

The winch drum is driven directly from a SAI gearbox, hydraulic motor and load valve combination. The brake, being failsafe, always defaults to on should, for any reason, hydraulic supply is lost or the control joystick is in its centre position. The non-drive side housings the bearings and the slipring.

The 90 degree right angled level wind electrically driven from the 1.5 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The speed of rotation of the drum is measured by a rotary incremental encoder.

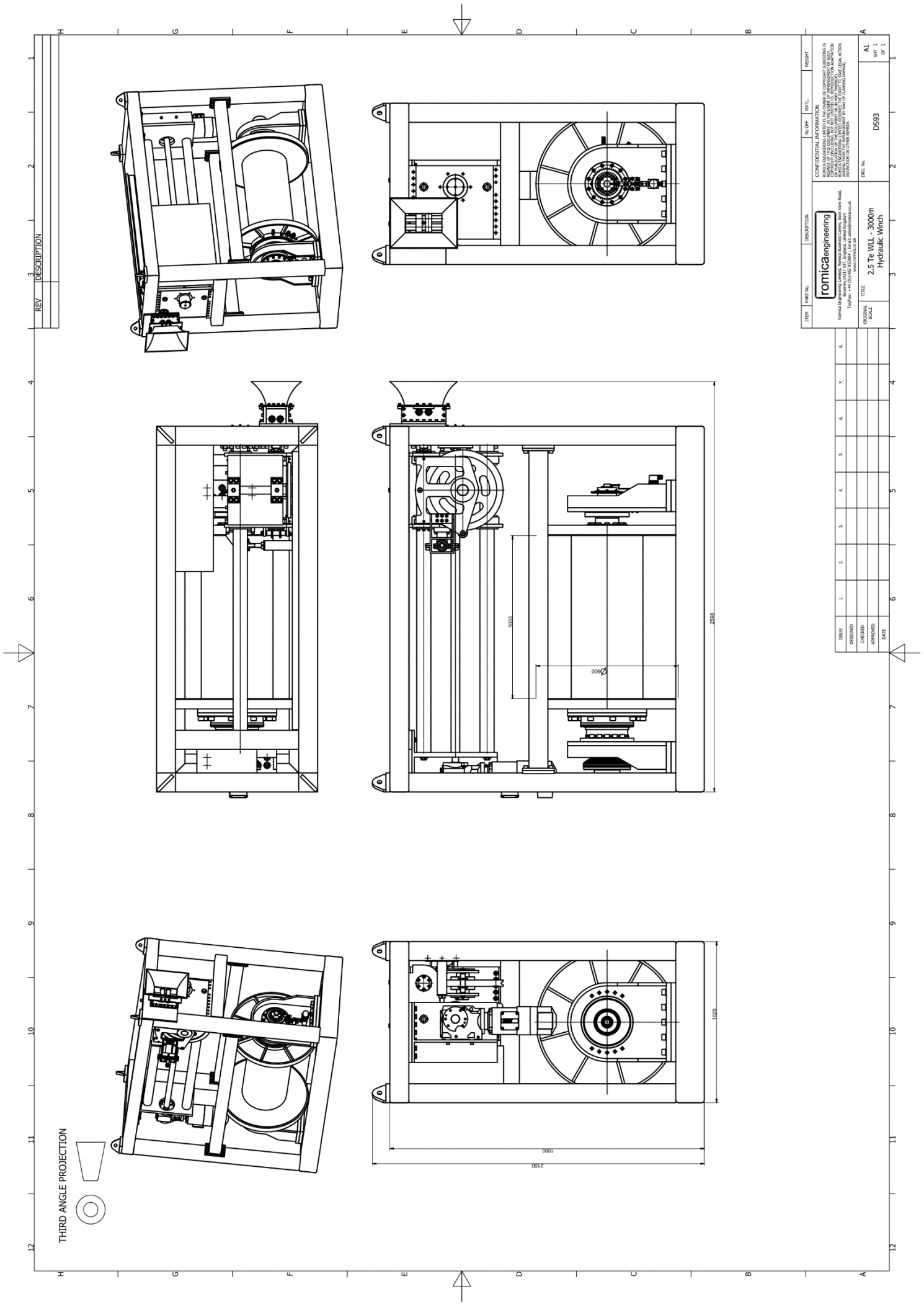
HMI displays Line Speed, Line Load, Line Out and Line In with the provision of load monitoring with user selectable limits for line tensioning.

The winch is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **Load pin and HMI**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **Canvas Cover for transport and storage**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**


REV
DESCRIPTION
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romicaengineering
Romica Engineering Limited, Romco Business Centre, Stock View Road, Rayleigh, Essex, SS6 7EL, United Kingdom
Tel/Fax: +44 (0)1482 853364 / Email: sales@romica.co.uk
www.romica.co.uk
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DRG. No.
D593
A1
SHT 1
OF 1
ORIGINAL SCALE
TITLE
2.5 Te WLL - 3000m Hydraulic Winch
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
1033
Ø900
2598
1020
1990
2100
THIRD ANGLE PROJECTION

2.75 Te WLL - 3500m - Electric Winch – DS01





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
4032	14	3500	78	2760	1500	4140	2250

Supply Required	380-440V-3 Ph- 50/60 Hz	Cable Lead-off Angle	+/-15° Horizontal plane Min + 0° Max + 45° Vertical plane
Winch Electrical Motor Level Wind Electrical Motor	30 KW IP56 IE3 1.5 KW IP56 IE3	Frame details	Crash frame with guards, forklifting pockets and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick and speed control potentiometer	Winch drum dimensions	Drum core Ø 508 mm, Drum Length 1260 mm, Flange Ø 1050 mm
Level wind	Electrically automatic pulse driven level wind with manual adjustment	Drum details	Plain drum: the wire is stored in 17 lays with 90 turns per lay
Dimensions (LxWxH) Footprint	2570 x 2020 x 1811 mm 2570 x 2020 mm	Cable	Dyneema 14 strand D-Tract
Slip ring	Designed to accept Focal 180 or similar not within scope of supply	Monitoring	Cable line in / Out via HMI

Principle of Operation:

The winch drum is mounted on the output shaft of a 30 kW SEW electric gearmotor fitted with a failsafe brake unit and is connected to the corresponding drive inverter in the control panel. The speed of the drum is proportionally controlled via a potentiometer; its direction is determined by a 3 position, spring return to centre, joystick. These are both mounted locally on the Electric Winch Enclosure.

The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position. The non-drive side housings a bearing and a slipring.

The Level wind electrically driven from the 1.5 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

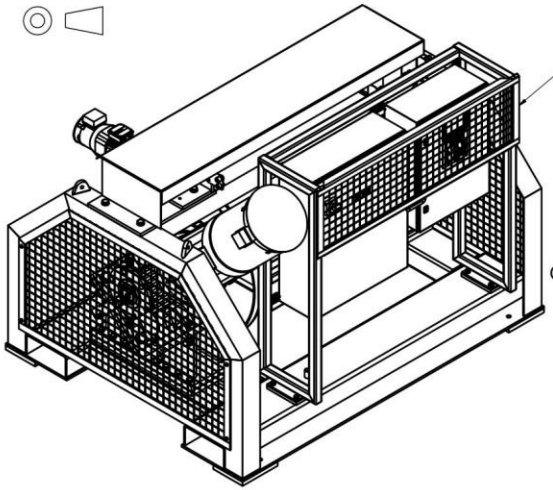
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**

Back to contents

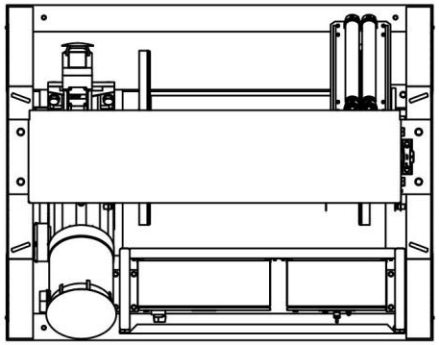
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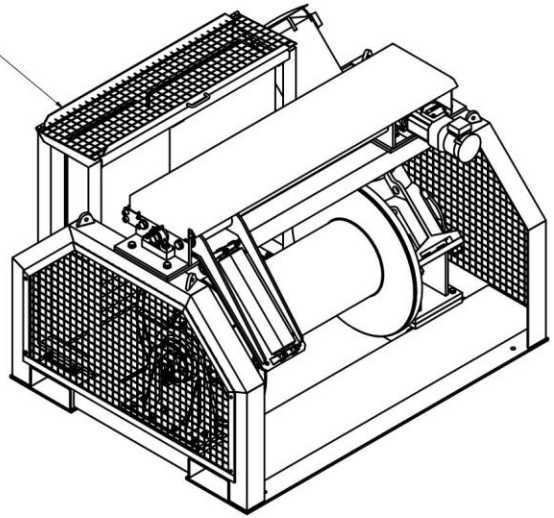
THIRD ANGLE PROJECTION

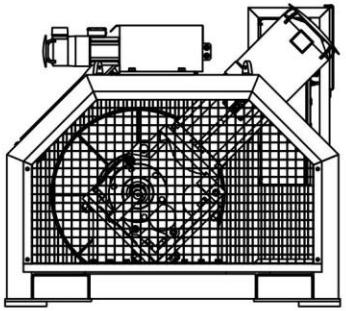


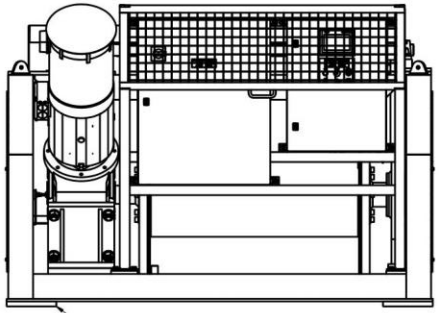
PANEL GUARD FOLD DOWN WINCH NOT OPERATING



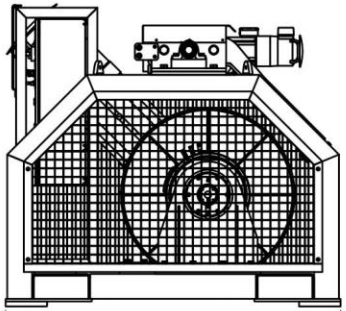
PANEL GUARD FOLD UP WINCH OPERATING



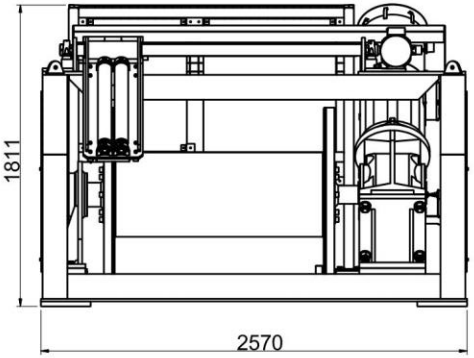




SACRIFICIAL PLATES WELD TO DECK



2020



1811

2570

TECHNICAL SPECIFICATION

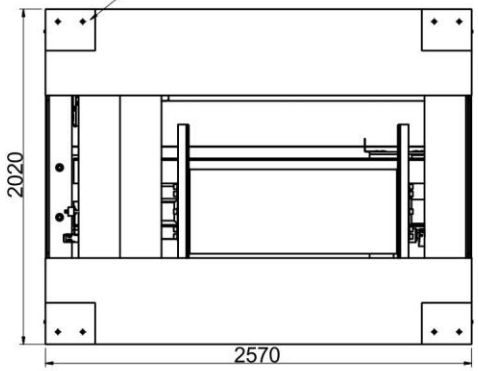
Line pull at mid layer 2000kgf
Brake holding capacity 3000kgf at mid layer
Line speed at mid layer 1.3m/s
Cable diameter 14mm
Cable capacity 3500m
No. of layers 17
Drum core diameter 508mm
PLC controlled level wind
Cable off lead angle
+/- 15 deg. in horizontal plane
0-45 deg. in vertical plane
Estimated weight 4000.kg
Colour RAL TBC
Allows Focal slip ring at the non drive shaft

C (1/15)



4 Off. Pad eye type B
3.25 Te

SACRIFICIAL PLATES WELD TO DECK



2020

2570

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	MS	MS						
CHECKED	MB	MB						
APPROVED	MS	MS						
DATE	18.JAN.2019	25.JAN.2019						

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

romicaengineering

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www.romica.co.uk

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ORIGINAL SCALE	TITLE	DRG. No.	
	2.75 Te WLL - 3500m - Electric Winch	DS01	A1 SHT 1 OF 1

3 Te WLL - 400m - Hydraulic Winch – DS19






TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
420	10	400	50	3030	2000	4552	3000

Winch Hydraulic Drive Supply Required	150 -200 bar 50-60 l/min	Cable Lead-off Angle	Vertically cable lead up from the winch drum between 70° and 90°.
Electrical Supply Required	380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards and certified lifting lugs
Local Proportional Control	3 position, spring return to centre directional control valve	Winch drum dimensions	Drum core Ø 290 mm, Drum Length 450 mm, Flange Ø 500 mm
Remote Control Pendant	Hard wired 30 m with proportional control and E-Stop	Drum details	Plain drum: the cable is stored in 8 lays with 45 turns per lay
Dimensions (LxWxH) Footprint	1387 x 620 x 1226 mm 866 x 480 mm	Cable	10 mm Wire Rope
Slip ring / Level Wind	N/A	Hydraulic Ports	P G3/4” BSP, T G3/4” BSP, D G1/2” BSP

Principle of Operation:

The winch barrel is driven directly from a Reggiana gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any, reason hydraulic pressure is lost, or the direction control valve is in its centre (neutral) position. The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve and pressure reducing valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool.

The winch free fall function - is manually operated and consists of a manual lever, clutch and band brake.

Counter panel with 6-digit LED pulse counter, via drum proximity count and direction sensors. Last wrap sensor ensures electrical control is disabled.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

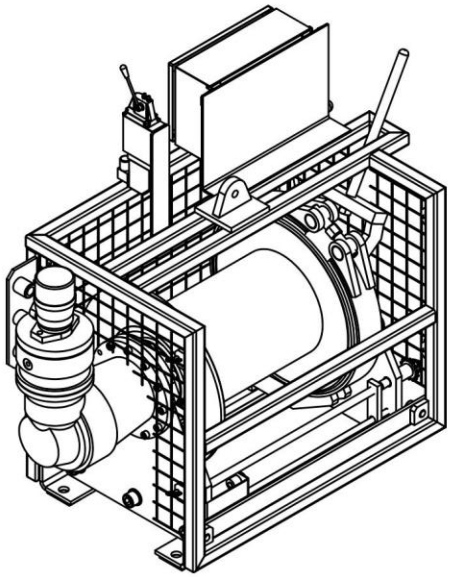
- **1 Off – Proportional directional control valve**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**

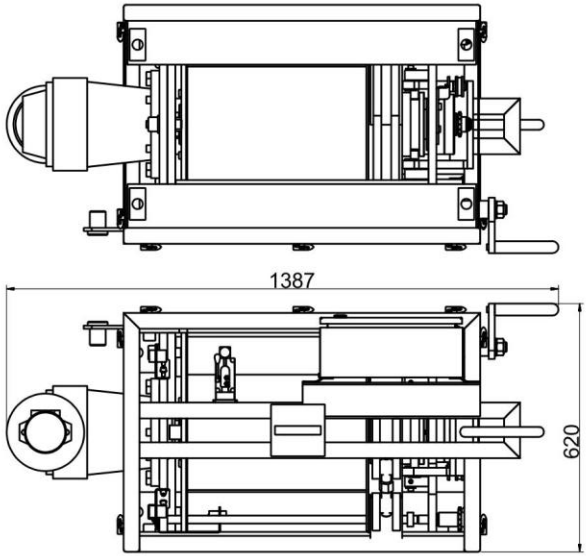
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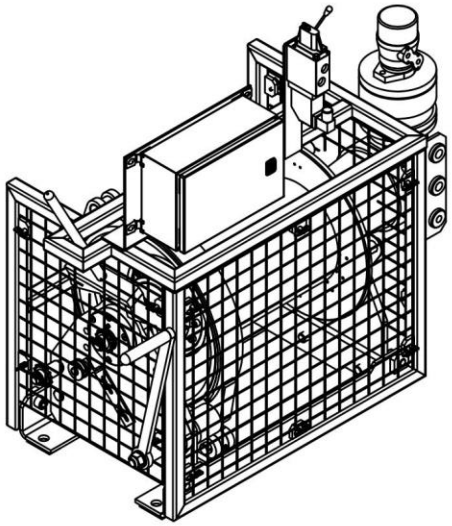
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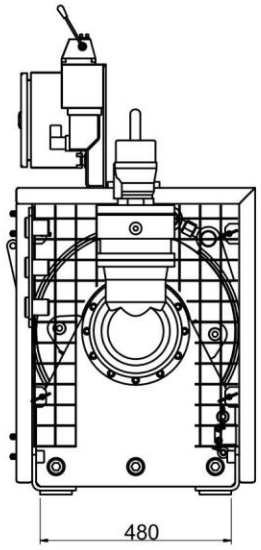
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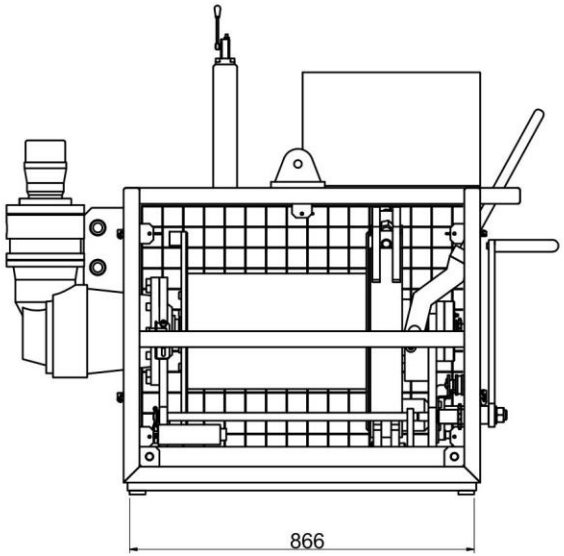
THIRD ANGLE PROJECTION

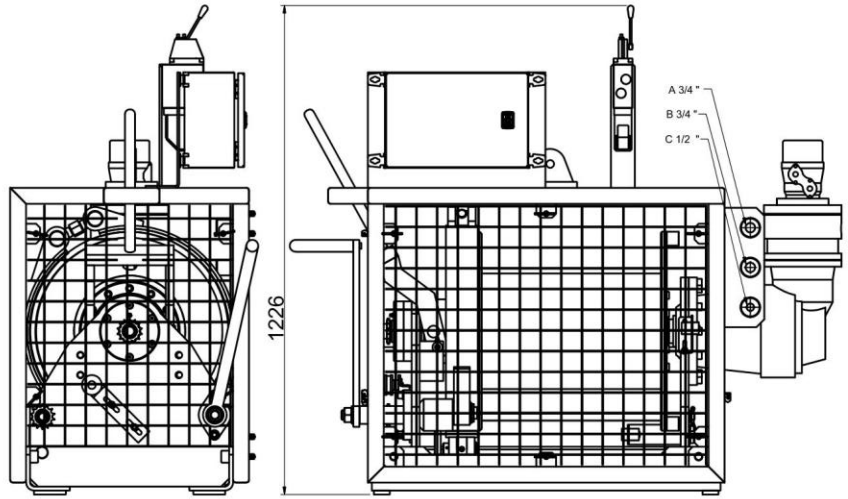












ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Mihai Strucos							
CHECKED								
APPROVED								
DATE	15.Jan.2019							

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

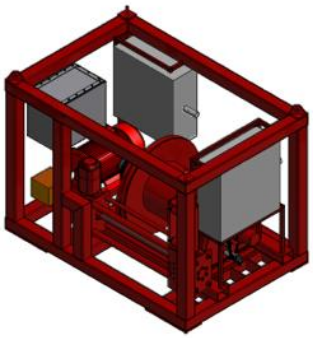
romicaengineering

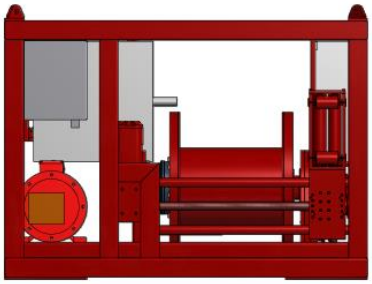
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Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
www.romica.co.uk

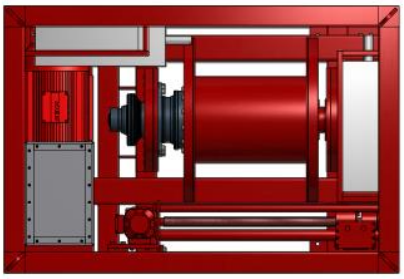
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ORIGINAL SCALE	TITLE	DRG. No.	
	3 Te WLL - 400m - Hydraulic Winch	DS19	A1 SHT 1 OF 4

3 Te WLL - 2000m - Electro-Hydraulic Winch & Integral 37 kW HPU– DS91







TECHNICAL SPECIFICATION

Weight without cable/oil (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.2 WLL	
				First Layer	Top Layer	First Layer	Top Layer
3100	11.4	2000	60	3000	1800	3900	2200

Winch Hydraulic Drive Supply Required	Integral 37 kW HPU 62 lpm @ 240 Bar 380-440V-3 Ph- 50/60 Hz	Cable Lead-off Angle	Min - 5° Max + 5° Horizontal plane Min -2° Max + 18° Vertical plane
Level Wind Electrical Motor Supply Required	2.2 Kw IP56 380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards, certified lifting lugs and forklift pockets
Local Proportional Control	Bi-directionally proportional joystick and speed control potentiometer and HMI	Winch drum dimensions	Drum core Ø 500 mm, Drum Length 650 mm, Flange Ø 950mm
Level wind	Electrically automatic pulse driven level wind with manual adjustment	Drum details	Plain drum: the cable is stored in 17 lays with 57 turns per lay
Dimensions (LxWxH) Footprint	2300 x 1550 x 1735 mm 2300 x 1550 mm	Health Monitoring	Full temperature, level monitoring limit switches
Slip ring	Designed to accept Cavotec GSK 45-03 or similar not within scope of supply	Cooling and heating	Sea water oil cooler. Thermostatically controlled tank heater 2 kW – 3Ph
Cable	Electro- mechanical cable, Rochester type A302799		

Principle of Operation:

The winch drum is driven directly from a SAI gearbox, hydraulic motor and load valve combination. The brake, being failsafe, always defaults to on should, for any reason, hydraulic supply is lost or the control joystick is in its centre position. The non-drive side housings the bearings and the slipring.

The level wind electrically driven from the 2.2 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The speed of rotation of the drum is measured by a rotary incremental encoder.

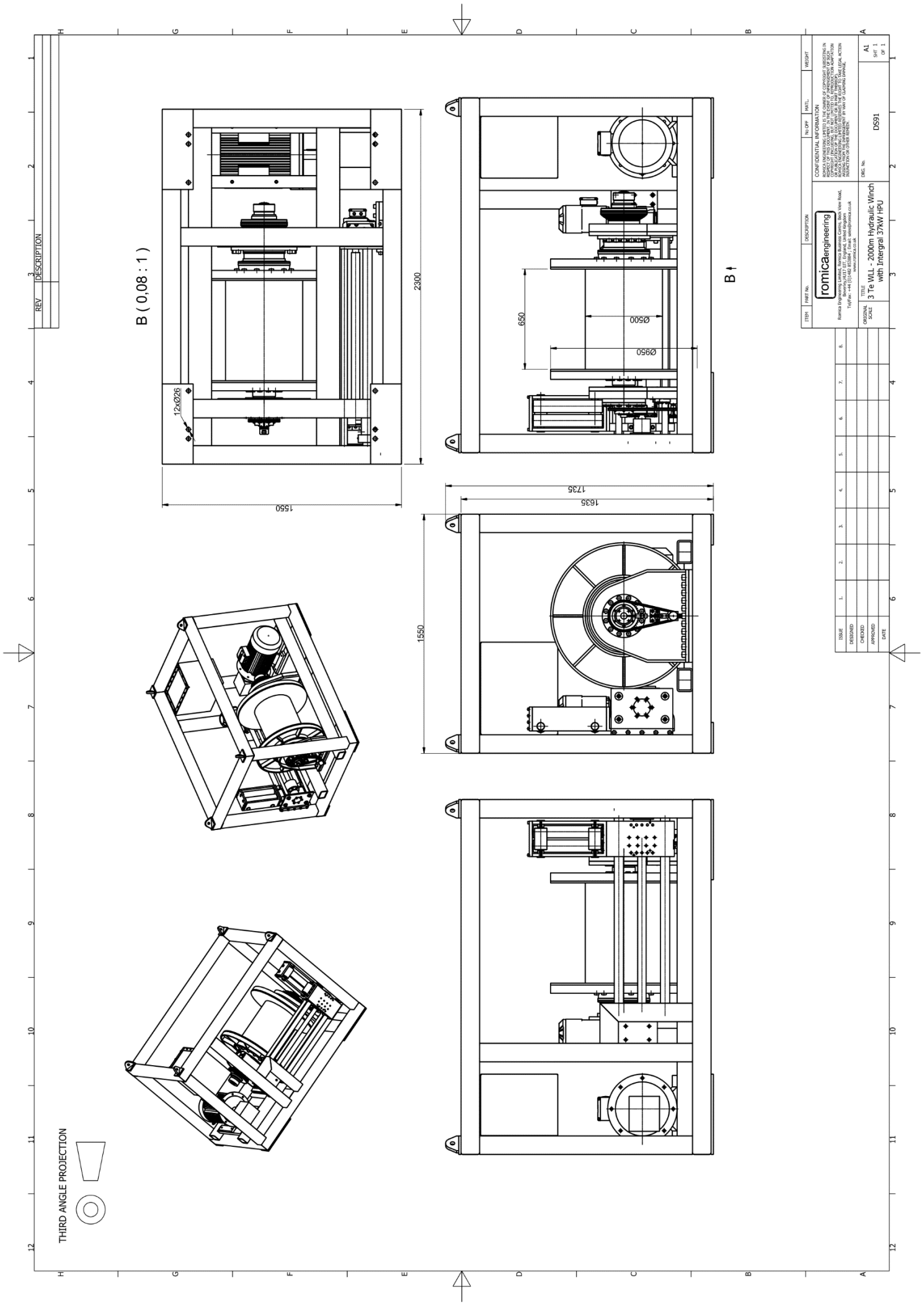
The winch is controlled via a joystick and speed potentiometer which are mounted locally on the SSS Winch Enclosure and are duplicated on the remote control console. The HPU is controlled locally from the HPU Enclosure.

The winch is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **Canvas Cover for transport and storage**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**


B (0,08 : 1)
12xØ26
2300
1550
650
Ø500
Ø950
B
1550
1635
1735
THIRD ANGLE PROJECTION
romicaengineering
3 Te WLL - 2000m Hydraulic Winch with Intergral 37kW HPU
DS91
A1

5 Te WLL - 5500m - Electric Winch – DS05






TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
6200	17.3	5500	60	5657	3360	10498	6236

Supply Required	**380-440V-3 Ph- 50/60 Hz**	**Cable Lead-off Angle**	**+/-15° Horizontal plane Min -10° Max + 20° Vertical plane**
Level Wind Electrical Motor Level Wind Electrical Motor	**45 KW IP56 IE3 0.75 KW IP56 IE3**	**Frame details**	**Crash frame with guards and certified lifting lugs**
Local Proportional Control Hardwired Remote Control	**Bi-directionally proportional joystick**	**Winch drum dimensions**	**Drum core Ø 720 mm, Drum Length 1910 mm, Flange Ø 1360 mm**
Level wind	**Electrically automatic pulse driven level wind with manual adjustment**	**Drum details**	**Spiral groove drum: the wire is stored in 17 lays with 125 turns per lay**
Dimensions (LxWxH) Footprint	**3120 x 2400 x 2448 mm 3120 x 2400 mm**	**Cable**	**17.3 mm Coax 45 Ohm B.S.17.8 Te Spec 1SSA6 NOVACAVI**
Slip ring	**Designed to accept Trolex TX4847 or similar not within scope of supply**	**Overboard Sheave**	**WLL 5 Te with 12 Te wireless load shackle**

Principle of Operation:

The winch barrel is mounted on an externally toothed slewing bearing. The bearing is driven by a pinon mounted on the output shaft of a SEW Electric Geared Motor fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost the brake will automatically be applied.

The Level wind electrically driven from the 0.75 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

Speed control is continuously variable in increments of less than 0.05 m/s via the proportional joystick and a HMI displays Line Speed, Line Load, Line Out and Line In.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wireless**

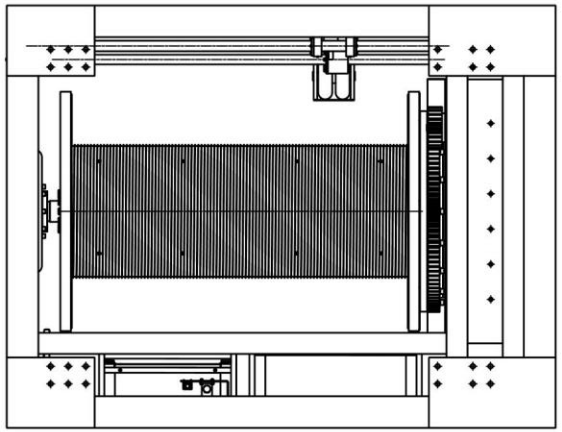
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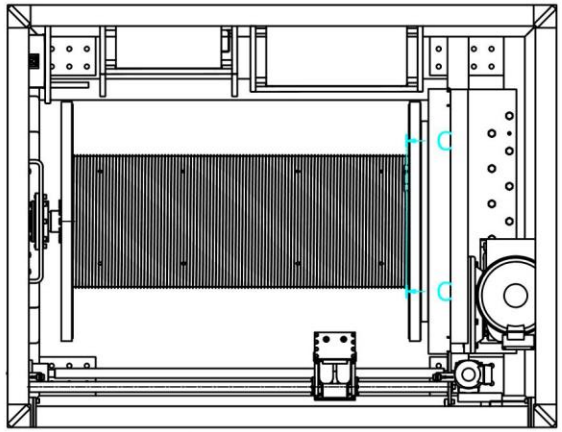
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THIRD ANGLE PROJECTION

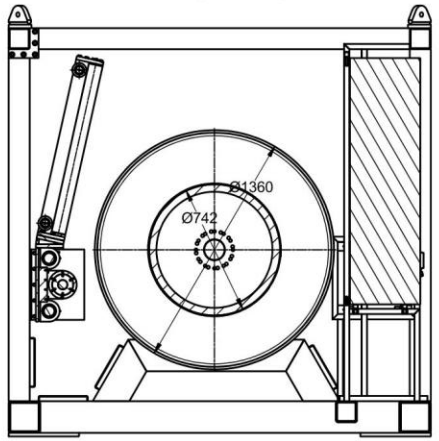
REV	DESCRIPTION

E (1 : 20)





A-A (1 : 20)

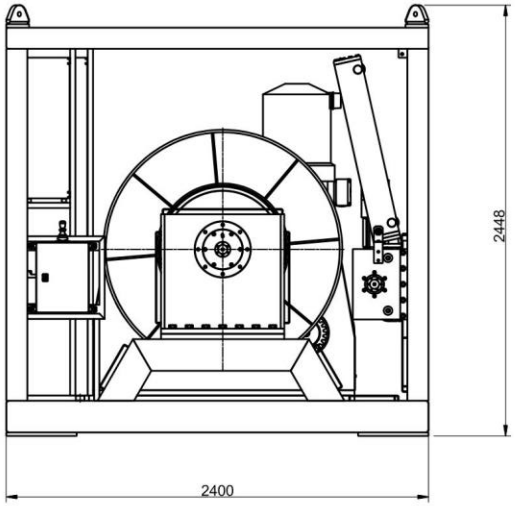


Ø17.7

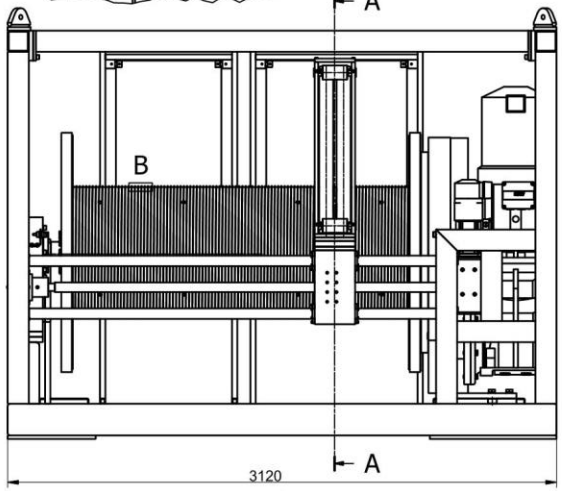
B (1 : 2)

Left hand thread

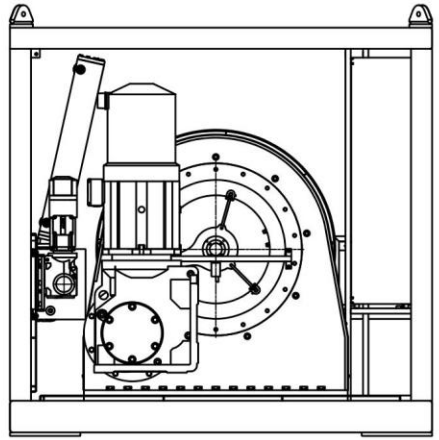




C-C (1 : 20)



E



TECHNICAL SPECIFICATION

WEIGHT WITHOUT CABLE	DRUM CORE DIAMETER	CABLE DIAMETER	CAPACITY	LINE SPEED	LINE PULL / SWL			
					TOP LAYER	DRUM LAYER	TOP LAYER	DRUM LAYER
5800 Kg	742 mm	17.3 mm	5500 m	60 m/min	2858 Kg	5000 Kg	5144 Kg	9000 Kg
ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Merli B.							
CHECKED	C. Balan							
APPROVED	M. Struczuj							
DATE	02.09.2016							

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

romica engineering

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Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
www.romica.co.uk

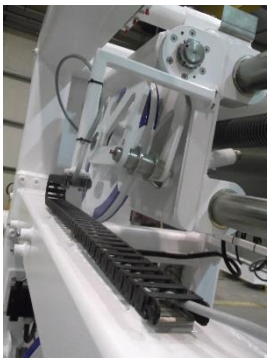
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ORIGINAL SCALE	TITLE	DRG. No.	
1:20	5 Te WLL - 5500m - Electric Winch	DS05	A2 SHT 1 OF 1

5.6 Te WLL - 5000m - Hydraulic Winch – DS10



TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
4800	11.43- 14	Up to 5000	90	5650	3000	8460	4500

Winch Hydraulic Drive Supply Required	200 bar 240 l/min	Cable Lead-off Angle	Min + 5° Max + 25° Vertical plane
Level Wind Electrical Motor Supply Required	3 KW IP56 IE3 380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards and certified lifting lugs
Local Proportional Control	None	Winch drum dimensions	Drum core Ø 560 mm, Drum Length 1156 mm, Flange Ø 1200 mm
Level wind	Right Angled - Electrically automatic pulse driven level wind with manual adjustment	Drum details	Lebus shell drum; the 11.43 mm wire is stored in 23 lays with 88 turns per lay
Dimensions (LxWxH) Footprint	3110 x 1250 x 2535 mm 2735 x 1440 mm with twist lock option	Cable	Rochester A 302799 / A 301301 Amsteel Blue Steel Wire Rope
Slip ring	Designed to accept Focal 180 or similar not within scope of supply	Hydraulic Ports	A G1.1/4" BSP, B G1.1/4" BSP, D G3/4" BSP

Principle of Operation:

The winch drum is driven directly from a Bonfiglioli gearbox, hydraulic motor and load valve combination. The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position. The non-drive side housings a bearing and a slipring.

The 90 degree right angled Level wind electrically driven from the 3 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

HMI displays Line Speed, Line Load, Line Out and Line In with the provision of load monitoring with user selectable limits for line tensioning.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **Remote Control wired**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**

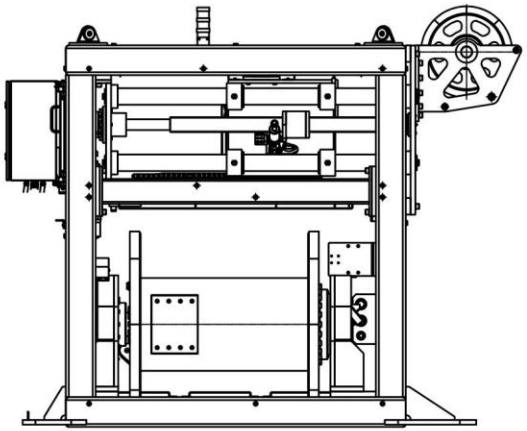
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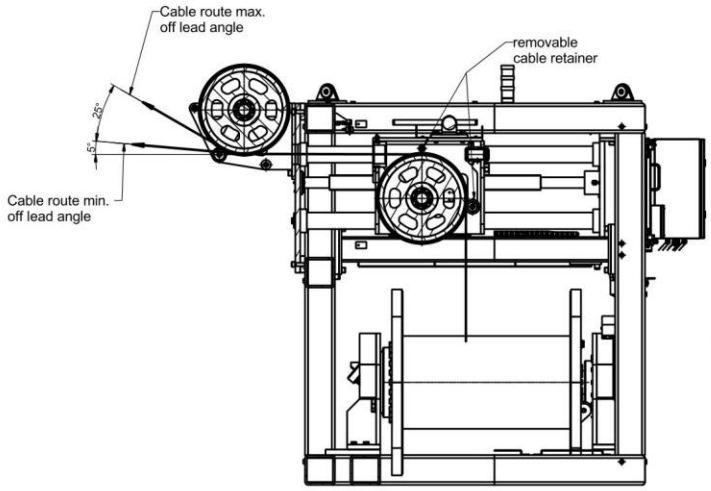
REV	DESCRIPTION
1	

THIRD ANGLE PROJECTION

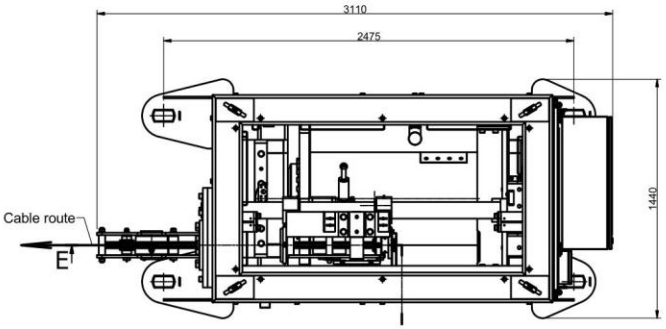
PORT VIEW
B (1 : 20)



E-E (1 : 20)



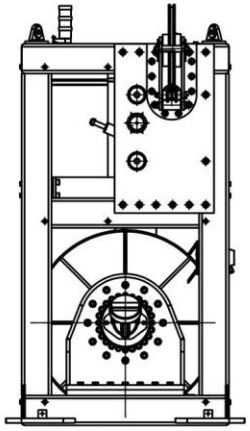
TOP VIEW
(1 : 20)



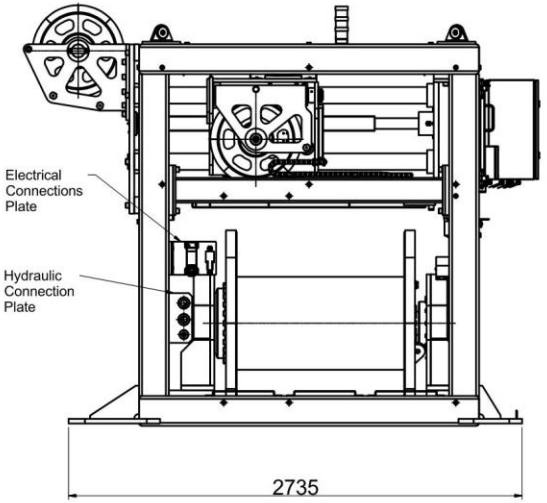
STB VIEW
(1 : 20)

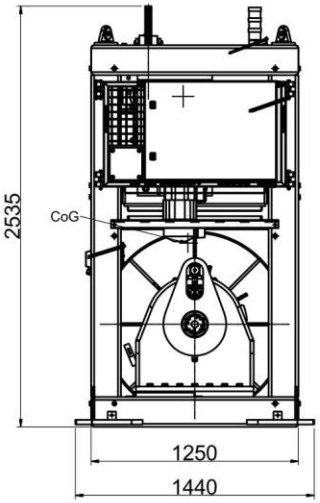
FORWARD VIEW
(1 : 20)

STERN VIEW
(1 : 20)



4 X 6.5TE WLL Lifting Lugs





Technical specification								
Weight without Cable	Drum core diameter	Cable diameter	Capacity	Line speed	Line pull / SWL		Brake holding	
					Top layer	Drum layer	Top layer	Drum layer
4800 Kg	560 mm	12 mm	4500 m	n/a	3 T	5.64 T	4.5 T	8.46 T
4800 Kg	560 mm	14 mm	3200 m	n/a	3 T	5.48 T	4.5 T	8.23 T
4800 Kg	560 mm	11.4 mm	5000 m	n/a	3 T	5.65 T	4.5 T	8.46 T
4800 Kg	560 mm	12.65 mm	4000 m	n/a	3 T	5.51 T	4.5 T	8.27 T

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	GP							
CHECKED	MB							
APPROVED	MS							
DATE	25.OCT.2016							

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

romicaengineering
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ORIGINAL SCALE	TITLE	DRG. No.	
	5.6 Te WLL - 5000m - Hydraulic Winch	DS10	A1 SHT 1 OF 1

1.5 Man-riding

5 Te WLL - 27m - Hydraulic Winch – DS20 118

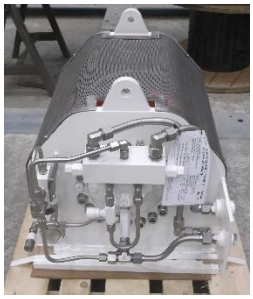
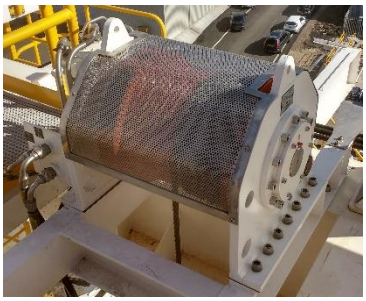
6.2 Te WLL - 150m - Hydraulic Winch – DS24..... 120

Man-riding Winch Description

A Man Riding winch is specifically designed to reduce the risks when lifting personnel. These are often built to client specification and to classification society and will incorporate safety features such as: emergency lowering, dual brakes etc.

RTG can provide these winches with either electric or hydraulic drive systems.

5 Te WLL - 27m - Hydraulic Winch – DS20



TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
430	19	27	20	5000	N/A	9000	N/A

Winch Hydraulic Drive Supply Required	160 bar 80 l/min	Cable Lead-off Angle	Maximum fleeting angle of +/- 4°
Level Wind	N/A	Frame details	Side supports, guards and certified lifting lugs
Local Proportional Control	None	Winch drum dimensions	Drum core Ø 416 mm, Drum Length 390 mm, Flange Ø 510 mm
Remote hydraulic control station	• proportional winch pay in/out speed control. • controls are lockable to prevent unauthorised/inadvertent operation.	Drum details	Drum machined with helical grooves; the cable is stored in 1 lay with 20 turns
Dimensions (LxWxH) Footprint	1000 x 600 x 640 mm 832 x 600 mm	Cable	6 x 36 IWRC Wire Rope
Slip ring	N/A	Hydraulic Ports	A G3/4" BSP, B G3/4" BSP, D G1/2" BSP

Principle of Operation:

The winch barrel is driven directly from a Bonfiglioli gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any, reason hydraulic pressure is lost, or the direction control valve is in its centre (neutral) position. The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve and pressure reducing valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool.

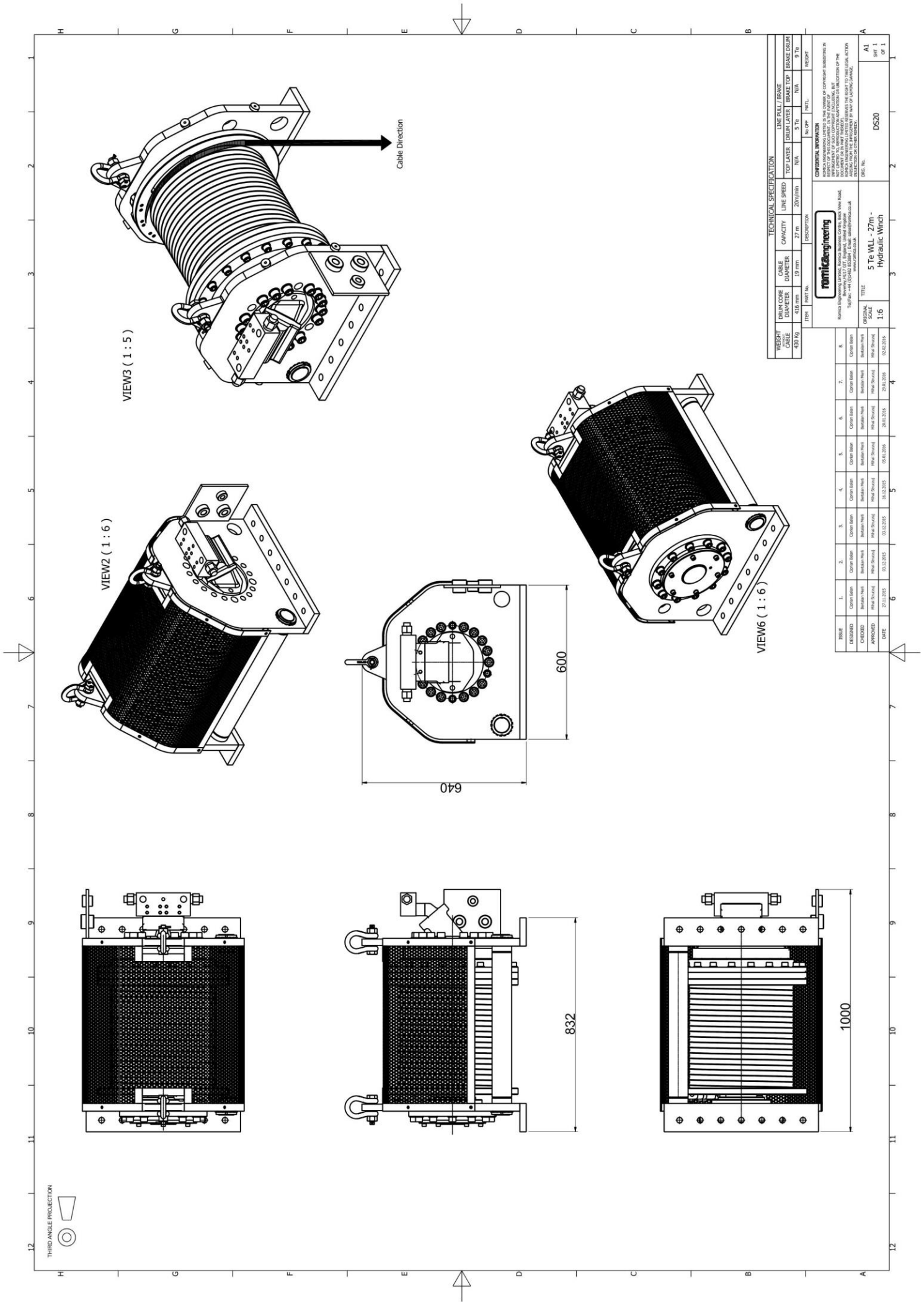
In the event of hydraulic power failure, the winch load can be lowered to a safe position under control, this includes a method for overriding the failsafe brake. Built and surveyed in accordance with DNV 2.2

The winch is supplied with the following:

- **Built and surveyed in accordance with DNV 2.2**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **Wire rope c/w open Spelter socket and Crosby Shur-Loc Swivel Hook**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Spare Wire rope c/w open Spelter socket and Crosby Shur-Loc Swivel Hook**


Cable Direction
VIEW3 (1 : 5)
VIEW2 (1 : 6)
VIEW6 (1 : 6)
600
640
832
1000
THIRD ANGLE PROJECTION
TECHNICAL SPECIFICATION
LINE PULL / BRAKE
CAPACITY
LINE SPEED
TOP LAYER
DRUM LAYER
BRAKE TOP
BRAKE DRUM
WEIGHT
DRUM CORE DIAMETER
CABLE DIAMETER
WEIGHT CABLE
5 Te
20m/min
N/A
N/A
9 Te
27 m
19 mm
416 mm
430 Kg
romicaengineering
5 Te WLL - 27m - Hydraulic Winch
DS20
A1
SHT 1 OF 1

6.2 Te WLL - 150m - Hydraulic Winch – DS24





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
900	19	150	30	6200	5000	9300	7500

Winch Hydraulic Drive Supply Required	210 bar 140 l/min	Cable Lead-off Angle	Maximum fleeting angle of +/- 4°
Local Proportional Control	Bi-directionally 3 position 4-way directional control valve	Frame details	Side supports, guards and certified lifting lugs
Emergency Stop Electrical Supply Required	220-240V-2 Ph- 50/60 Hz	Winch drum dimensions	Drum core Ø 470 mm, Drum Length 510 mm, Flange Ø 716 mm
Emergency Stop Valve	Fitted with an electric emergency stop, electric isolation switch and a deck lead.	Drum details	Plain drum: the cable is stored in 4 lay with 26 turns
Dimensions (LxWxH) Footprint	1416 x 1510 x 1255 mm 1300 x 1510 mm	Cable	6 x 36 IWRC Wire Rope Overwound
Slip ring	N/A	Hydraulic Ports	P G1” BSP, T G1.1/4” BSP, D G3/4” BSP LS G1/4” BSP

Principle of Operation:

The winch barrel is driven directly from a Bonfiglioli gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any, reason hydraulic pressure is lost, or the direction control valve is in its centre (neutral) position. The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve and pressure reducing valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool.

In the event of hydraulic power failure, the winch load can be lowered to a safe position under control, this includes a method for overriding the failsafe brake. Built and surveyed in accordance with DNV GL - DNV-OS-E101 Drilling Plant

The winch is supplied with the following:

- **Built and surveyed in accordance with DNV GL - DNV-OS-E101 Drilling Plant**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**
- **1 Set – Sacrificial feet/mounting plates**

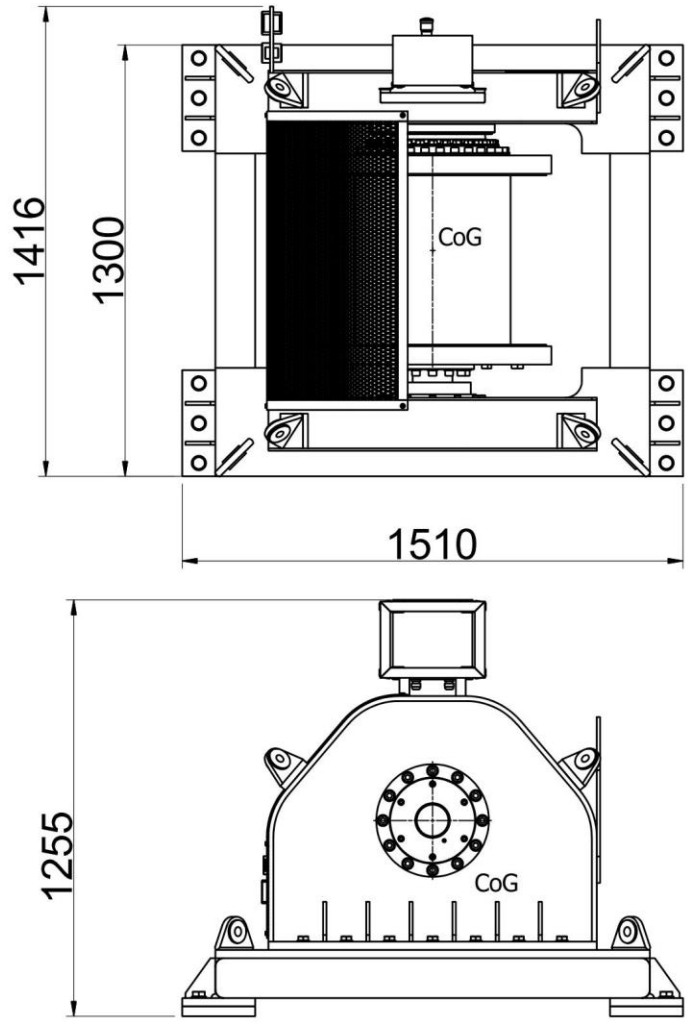
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **Rotating Table base (10-degree orientation segments)**
- **1 Off – Full Spares Kit**
- **Piggyback Base with man riding winch**
- **1 Set – Spare sacrificial feet/mounting plates**

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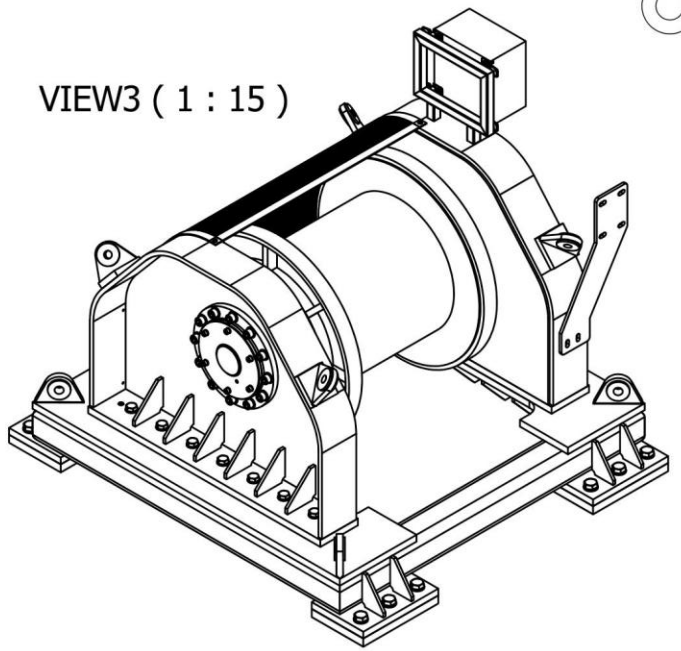
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ISSUE	DESCRIPTION
1	



THIRD ANGLE PROJECTION

VIEW3 (1 : 15)



ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Ciprian Balan							
CHECKED	Bertalan Merli							
APPROVED	Mihai Struczuj							
DATE	17.12.2015							

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ORIGINAL SCALE	TITLE	DRG. No.	
1:12	6.2 Te WLL - 150m - Hydraulic Winch	DS24	A3 SHT 1 OF 1

1.6 Aerostat

2.5 Te WLL - 762m - Hydraulic Winch – DS22..... 124

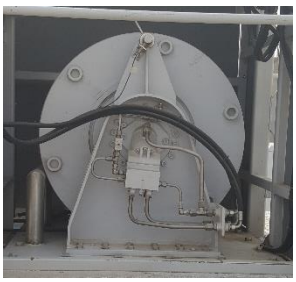
Aerostat Winch Description

Aerostat winch can be hydraulic or electric driven. These are used to deploy and recover various aerostat surveillance balloons. The tether cable can vary depending on the requirements of the aerostat surveillance balloon. Typical payloads are cameras, surveillance radars and radio transmissions.

Features that **RTG** can include:

Fibre optic cables with slip rings
Variable speed payout and recovery
Proximity sensor to prevent winch from being operated should the cable be fully paid out or full pulled in
Manual retrieval in case of power failure

2.5 Te WLL - 762m - Hydraulic Winch – DS22







TECHNICAL SPECIFICATION							
Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1200	13.97	762	30	2500	1500	4500	2700

Winch Hydraulic Drive Supply Required	200 bar 40 l/min	Cable Lead-off Angle	Maximum fleeting angle of +/- 4°
HPU Electrical Motor Supply Required	15KW IP56 IE3 415V-3 Ph- 50 Hz	Frame details	Winch - Side supports & base plate HPU - Crash frame & certified lifting lugs
Local Proportional Control	Bi-directionally 3 position 4-way directional control valve	Winch drum dimensions	Drum core Ø 580 mm, Drum Length 346 mm, Flange Ø 1020 mm
Dimensions (LxWxH) Footprint Winch	1280 x 1674.5 x 1120 mm 1280 x 1317 mm	Drum details	Plain drum: the cable is stored in 14 layers with 24 turns per lay
Dimensions (LxWxH) Footprint HPU	1200 x 1000 x 1488 mm 1200 x 1000 mm	Cable	Linden Photonics Inc. Part. 5-CU-2-FO-O-20-155-Q-155-550
Slip ring	Designed to accept TX4820 or similar within scope of supply	Hydraulic Ports	P G3/4" BSP, T G1" BSP, D G1/2" BSP

Principle of Operation:

The winch barrel is driven directly from a Brevini gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, hydraulic pressure is lost, or the direction control valve is in its neutral position.

The gearbox is mounted on to a support fabrication and a second support assembly is positioned at the non-drive end. This assembly also supports the slip ring unit.

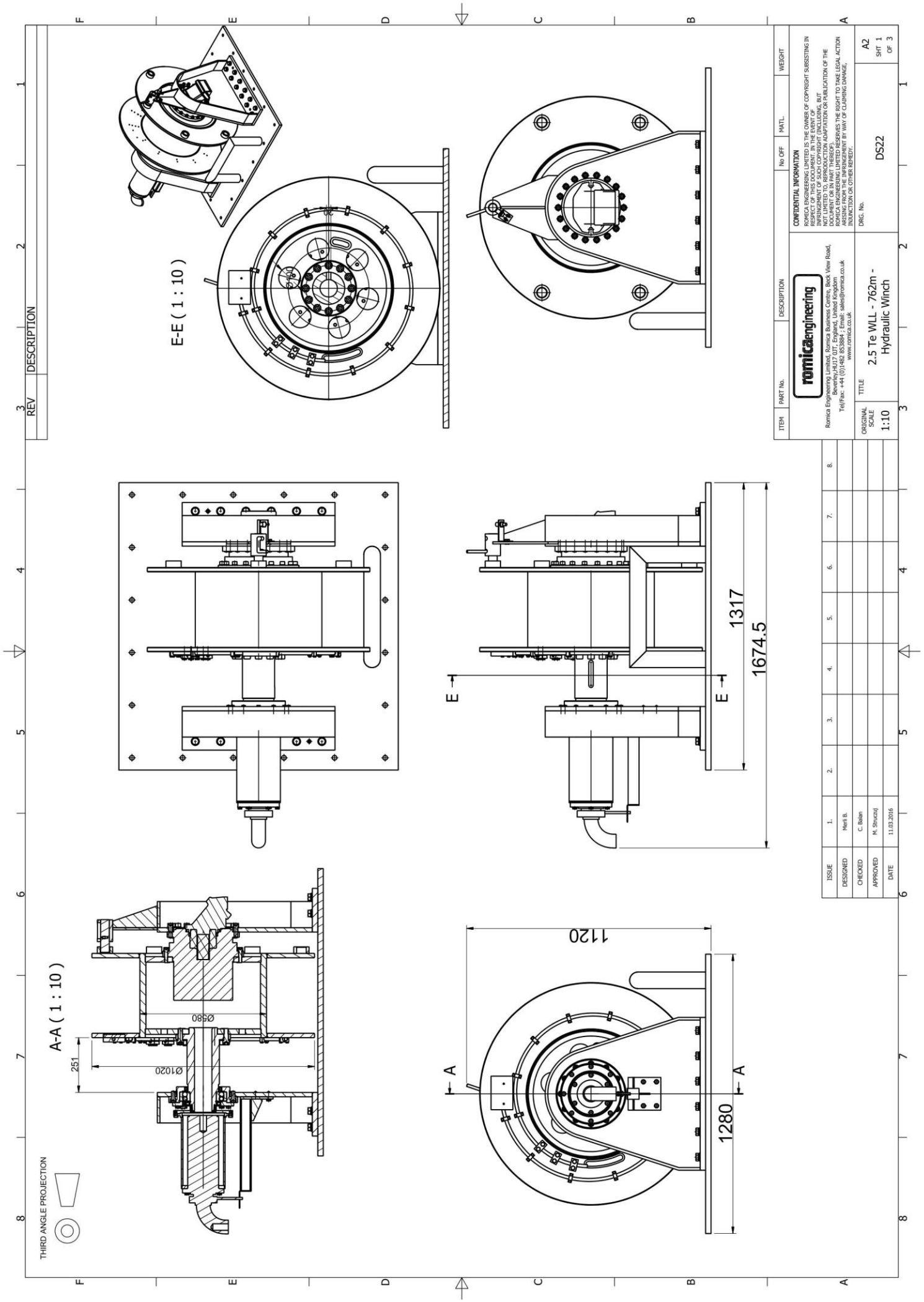
An electro-hydraulic power unit is also supplied with the winch and through the directional control valve this drives the winch in heave and pay-out.

The winch is supplied with the following:

- **3 Te load cell**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **HPU - Air Blast cooler, Reservoir 180 litres**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**


REV
DESCRIPTION
E-E (1 : 10)
A-A (1 : 10)
Ø580
Ø1020
251
1120
1280
1317
1674.5
A
E
THIRD ANGLE PROJECTION
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romica engineering
Romica Engineering Limited, Romica Business Centre, Beck View Road, Beverley,HU17 0JT, England, United Kingdom
Tel/Fax: +44 (0)1482 853894 ; Email: sales@romica.co.uk
www.romica.co.uk
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ORIGINAL SCALE
1:10
TITLE
2.5 Te WLL - 762m - Hydraulic Winch
DRG. No.
DS22
A2
SHT 1 OF 3
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
1.
Meril B.
C. Balan
M. Strucuj
11.03.2016
2.
3.
4.
5.
6.
7.
8.

1.7 Lift

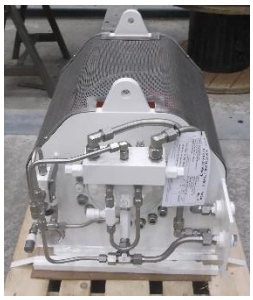
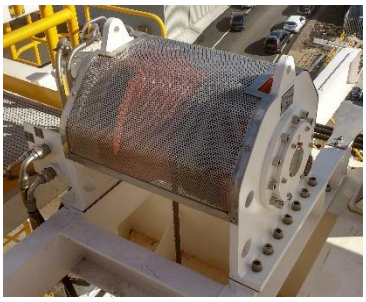
5 Te WLL - 27m - Hydraulic Winch – DS20 128
6.2 Te WLL - 150m - Hydraulic Winch – DS24 130
7.4 Te WLL - 1000m - Hydraulic Winch – DS04 132
7.4 Te WLL - 1500m - Hydraulic Winch – DS40 134
3x10 Te WLL - 3x55m - Hydraulic Triple Drum Winch – DS09 136
12 Te WLL - 70m - Hydraulic Winch – DS21 138
15 Te WLL - 210m - Hydraulic Winch – DS73 140
15.7 Te WLL - 900m - Hydraulic Winch – DS82 142
30 Te WLL - 350m - Hydraulic Winch – DS74 144
30 Te WLL - 350m - Hydraulic Winch – DS80 146
48 Te WLL - 950m - Hydraulic Winch – DS75 148

Lift Winch Description

RTG offers a range of Lift Winches. The lift capabilities and cable storage depend upon the drive system. Drive systems offered are hydraulic or electric driven. Due to the varying lengths of cable plain, helicoidal grooved drum and Lebus shells are options as well as mechanical, electrical and hydraulic level wind systems.

These can be complex lift winches with additional features and extras such as HMI and wired/wireless remote control.

5 Te WLL - 27m - Hydraulic Winch – DS20



TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
430	19	27	20	5000	N/A	9000	N/A

Winch Hydraulic Drive Supply Required	160 bar 80 l/min	Cable Lead-off Angle	Maximum fleeting angle of +/- 4°
Level Wind	N/A	Frame details	Side supports, guards and certified lifting lugs
Local Proportional Control	None	Winch drum dimensions	Drum core Ø 416 mm, Drum Length 390 mm, Flange Ø 510 mm
Remote hydraulic control station	• proportional winch pay in/out speed control. • controls are lockable to prevent unauthorised/inadvertent operation.	Drum details	Drum machined with helical grooves; the cable is stored in 1 lay with 20 turns
Dimensions (LxWxH) Footprint	1000 x 600 x 640 mm 832 x 600 mm	Cable	6 x 36 IWRC Wire Rope
Slip ring	N/A	Hydraulic Ports	A G3/4" BSP, B G3/4" BSP, D G1/2" BSP

Principle of Operation:

The winch barrel is driven directly from a Bonfiglioli gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any, reason hydraulic pressure is lost, or the direction control valve is in its centre (neutral) position. The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve and pressure reducing valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool.

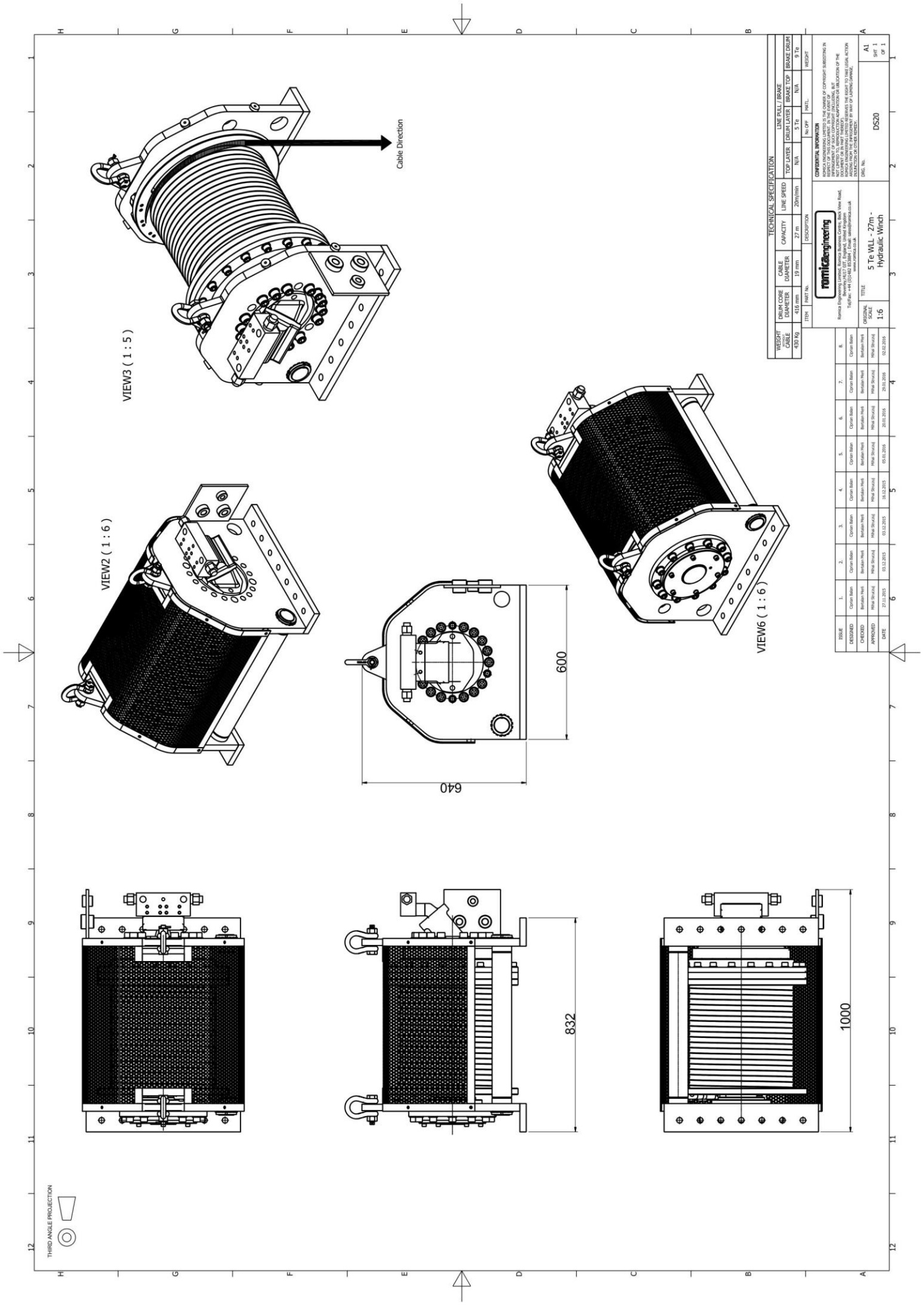
In the event of hydraulic power failure, the winch load can be lowered to a safe position under control, this includes a method for overriding the failsafe brake. Built and surveyed in accordance with DNV 2.2

The winch is supplied with the following:

- **Built and surveyed in accordance with DNV 2.2**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **Wire rope c/w open Spelter socket and Crosby Shur-Loc Swivel Hook**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Spare Wire rope c/w open Spelter socket and Crosby Shur-Loc Swivel Hook**


Cable Direction
VIEW3 (1 : 5)
VIEW2 (1 : 6)
VIEW6 (1 : 6)
600
640
832
1000
THIRD ANGLE PROJECTION
TECHNICAL SPECIFICATION
LINE PULL / BRAKE
CAPACITY
LINE SPEED
TOP LAYER
DRUM LAYER
BRAKE TOP
BRAKE DRUM
5 Te
20m/min
N/A
5 Te
N/A
9 Te
DRUM CORE DIAMETER
CABLE DIAMETER
WEIGHT CABLE
416 mm
19 mm
430 Kg
27 m
No OFF
WEIGHT
CONFIDENTIAL INFORMATION
romicaengineering
TITLE
5 Te WLL - 27m - Hydraulic Winch
DRG. No.
DS20
ORIGINAL SCALE
1:6
A1
SHT 1 OF 1
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
Ciprian Balan
Bertalan Peti
Mihai Dinculeț
27.11.2015
03.12.2015
05.02.2016
29.01.2016
02.02.2016

6.2 Te WLL - 150m - Hydraulic Winch – DS24





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
900	19	150	30	6200	5000	9300	7500

Winch Hydraulic Drive Supply Required	210 bar 140 l/min	Cable Lead-off Angle	Maximum fleeting angle of +/- 4°
Local Proportional Control	Bi-directionally 3 position 4-way directional control valve	Frame details	Side supports, guards and certified lifting lugs
Emergency Stop Electrical Supply Required	220-240V-2 Ph- 50/60 Hz	Winch drum dimensions	Drum core Ø 470 mm, Drum Length 510 mm, Flange Ø 716 mm
Emergency Stop Valve	Fitted with an electric emergency stop, electric isolation switch and a deck lead.	Drum details	Plain drum: the cable is stored in 4 lay with 26 turns
Dimensions (LxWxH) Footprint	1416 x 1510 x 1255 mm 1300 x 1510 mm	Cable	6 x 36 IWRC Wire Rope Overwound
Slip ring	N/A	Hydraulic Ports	P G1” BSP, T G1.1/4” BSP, D G3/4” BSP LS G1/4” BSP

Principle of Operation:

The winch barrel is driven directly from a Bonfiglioli gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any, reason hydraulic pressure is lost, or the direction control valve is in its centre (neutral) position. The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve and pressure reducing valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool.

In the event of hydraulic power failure, the winch load can be lowered to a safe position under control, this includes a method for overriding the failsafe brake. Built and surveyed in accordance with DNV GL - DNV-OS-E101 Drilling Plant

The winch is supplied with the following:

- **Built and surveyed in accordance with DNV GL - DNV-OS-E101 Drilling Plant**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**
- **1 Set – Sacrificial feet/mounting plates**

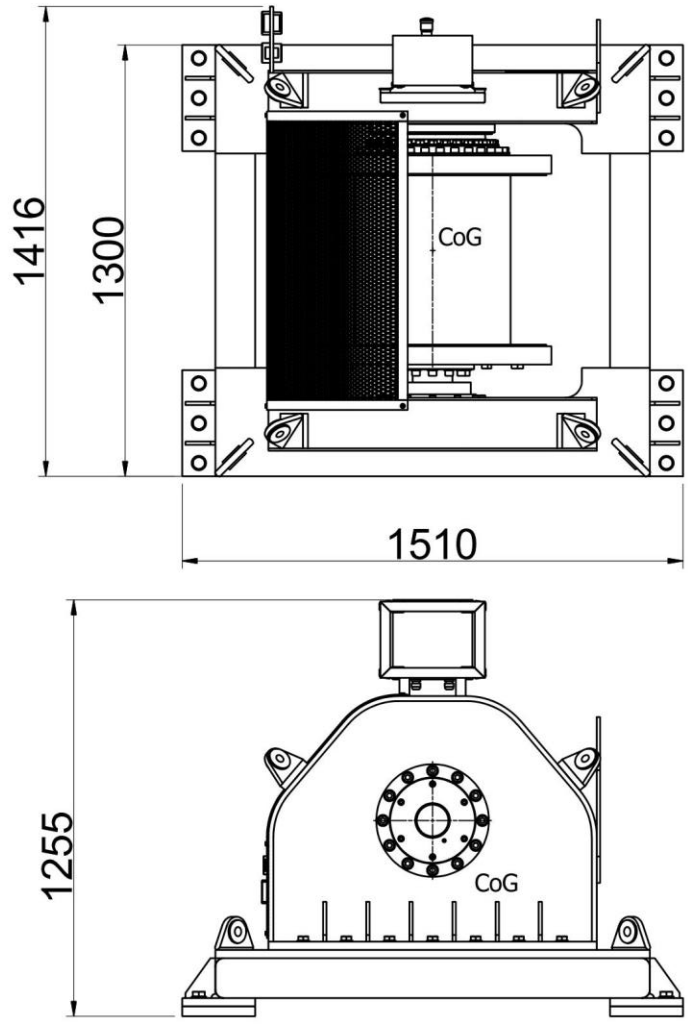
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **Rotating Table base (10-degree orientation segments)**
- **1 Off – Full Spares Kit**
- **Piggyback Base with man riding winch**
- **1 Set – Spare sacrificial feet/mounting plates**

Back to contents

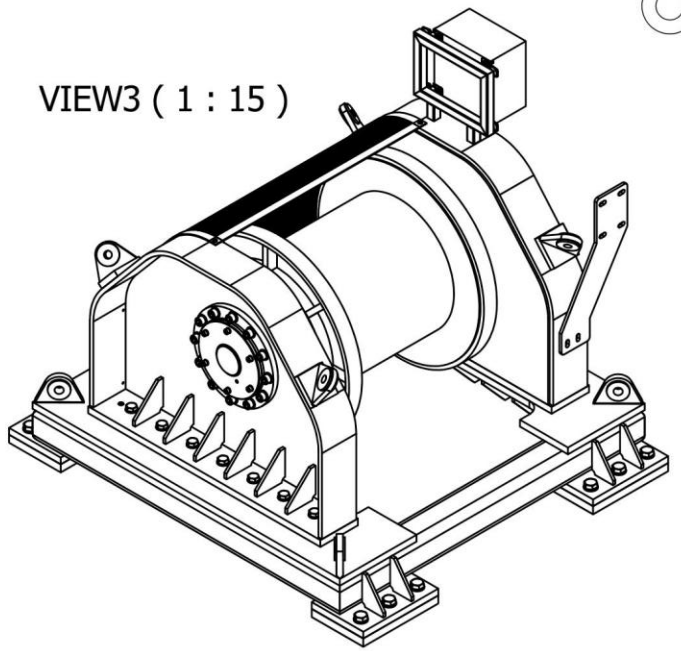
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ISSUE	DESCRIPTION
1	



THIRD ANGLE PROJECTION

VIEW3 (1 : 15)



ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Ciprian Balan							
CHECKED	Bertalan Merli							
APPROVED	Mihai Struczuj							
DATE	17.12.2015							

romica engineering
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ORIGINAL SCALE	TITLE	DRG. No.	
1:12	6.2 Te WLL - 150m - Hydraulic Winch	DS24	A3 SHT 1 OF 1

7.4 Te WLL - 1000m - Hydraulic Winch – DS04





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
4500	22	1000	30	7430	4500	11145	6750

Winch Hydraulic Drive Supply Required	PWD3700 200-300 bar 120-240 l/min	Cable Lead-off Angle	+/-15° Horizontal plane Min + 4° Max + 40° Vertical plane
Level Wind Electrical Motor Supply Required	1.5 KW IP56 IE3 380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards, forklifting pockets and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick	Winch drum dimensions	Drum core Ø 500 mm, Drum Length 836 mm, Flange Ø 1180 mm
Level wind	Electrically automatic pulse driven level wind with manual adjustment	Drum details	Plain drum: the wire is stored in 12 lays with 38 turns per lay
Dimensions (LxWxH) Footprint	2410 x 1750 x 2063 mm 2410 x 1750 mm	Cable	22 mm but can accept the range 8 to 22 mm wire rope, overwound
Slip ring	Designed to accept Focal 180 or similar not within scope of supply	Hydraulic Ports	P G3/4” BSP, T G1” BSP, D G1/2” BSP

Principle of Operation:

The winch drum is driven directly from a Brevini gearbox, hydraulic motor and load valve combination. The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position. The non-drive side housings a bearing and a slipring.

The Level wind electrically driven from the 1.5 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required. The top vertical roller is easily removed to allow the cable to be removed from the level wind carriage as required, hence preserving the end termination during cable changes.

The front crash bar is secured with bolts and is removable and stored within the winch in the ‘Working Position’.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

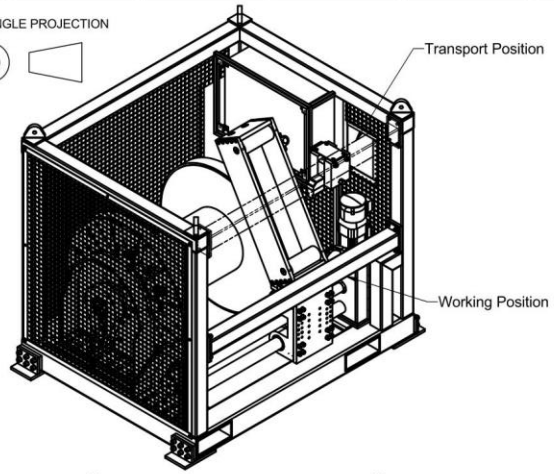
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**

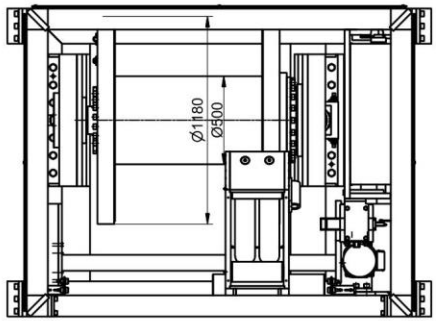
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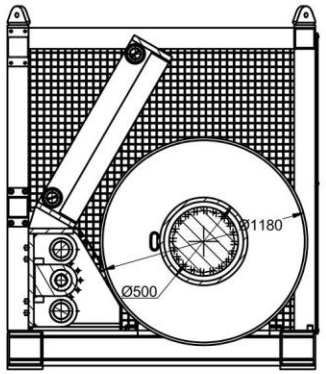
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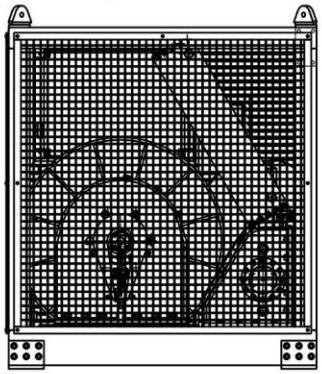
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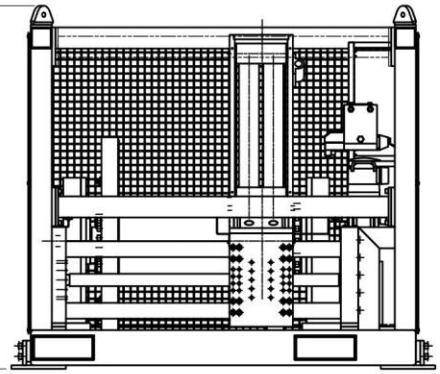
THIRD ANGLE PROJECTION

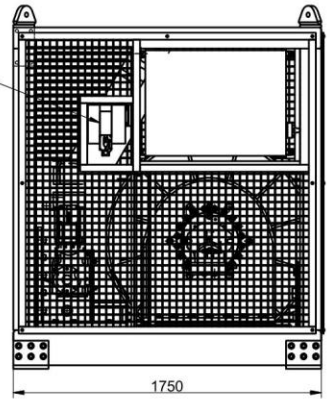




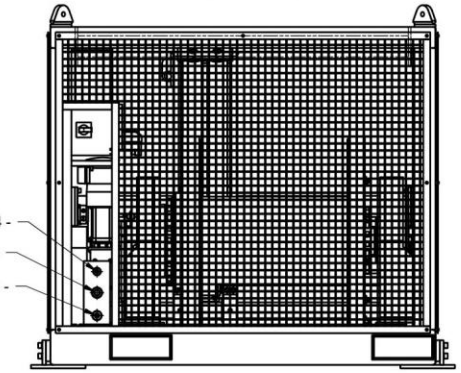








B (1 : 20)



TECHNICAL SPECIFICATION								
WEIGHT (WITHOUT CABLE)	DRUM CORE DIAMETER	CABLE DIAMETER	CAPACITY	LINE SPEED	SWL		BRAKE	
					TOP LAYER	DRUM LAYER	TOP LAYER	DRUM LAYER
4500 Kg	500 mm	22 mm	1000 m	30 m/min	4500 Kg	7430 Kg	6750 Kg	11145 Kg

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Merli B.							
CHECKED	Struczuj M.							
APPROVED	Struczuj M.							
DATE	15.01.2018							

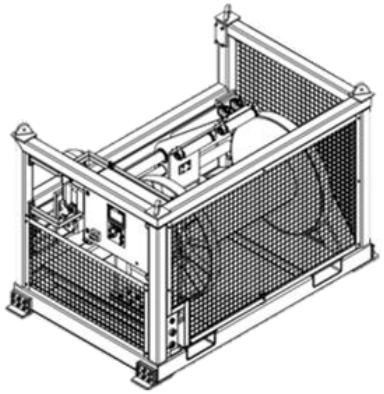
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Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
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ORIGINAL SCALE	TITLE	DRG. No.	
1:20	7.4 Te WLL - 1000m - Hydraulic Winch	DS04	A2 SHT 1 OF 1

7.4 Te WLL - 1500m - Hydraulic Winch – DS40







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
4000	22	1500	78	7430	4500	11145	6750

Winch Hydraulic Drive Supply Required	PWD3700 200-300 bar 120-240 l/min	Cable Lead-off Angle	+/-15° Horizontal plane Min + 4° Max + 40° Vertical plane
Level Wind Electrical Motor Supply Required	1.5 KW IP56 IE3 380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards, forklifting pockets and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick	Winch drum dimensions	Drum core Ø 500 mm, Drum Length 1258 mm, Flange Ø 1140 mm
Level wind	Electrically automatic pulse driven level wind with manual adjustment	Drum details	Plain drum: the wire is stored in 12 lays with 57 turns per lay
Dimensions (LxWxH) Footprint	2840 x 1765 x 1903 mm 2840 x 1765 mm	Cable	22 mm but can accept the range 8 to 22 mm wire rope, overwound
Slip ring	Designed to accept Focal 180 or similar not within scope of supply	Hydraulic Ports	P G3/4” BSP, T G1” BSP, D G1/2” BSP

Principle of Operation:

The winch barrel is driven directly from a Brevini gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any, reason hydraulic pressure is lost, or the direction control valve is in its centre (neutral) position. The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve and pressure reducing valve within the load control valve. Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor.

The winch can be driven bi-directionally using a 3 position 4-way proportional directional control valve (with motor spool A B to tank in the neutral position and P blocked), the proportional valve controls both the direction and the speed of the winch in heave and pay out. The level wind guides the wire rope with an electrically driven SEW Electric Geared Motor with PLC control; the speed of rotation of the drum is measured by a rotary incremental encoder.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**

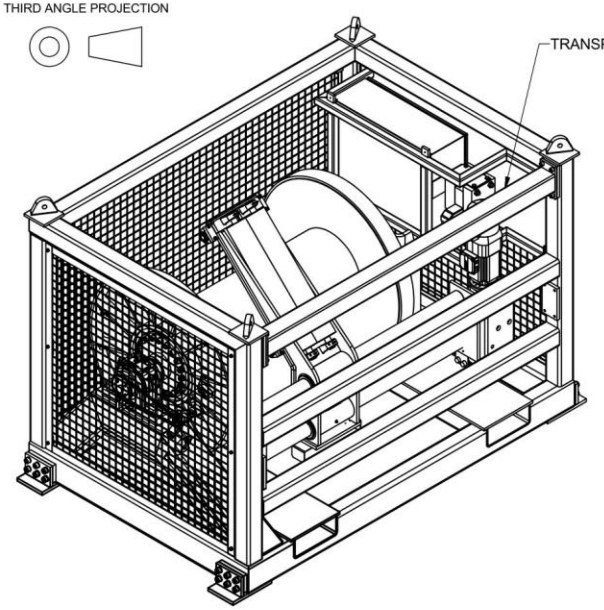
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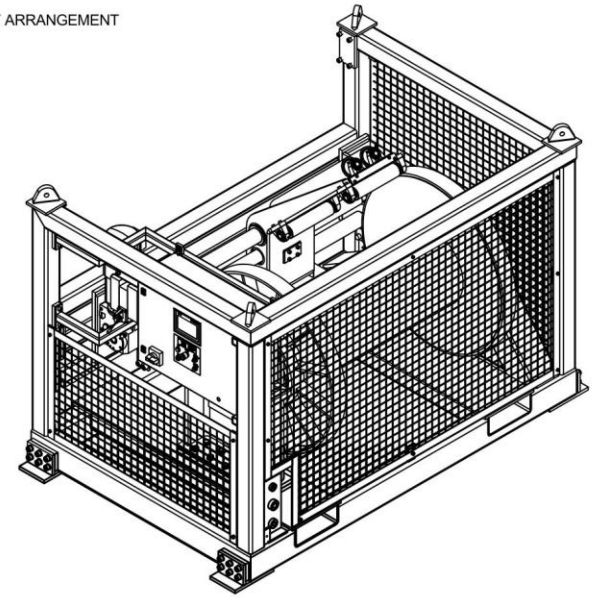
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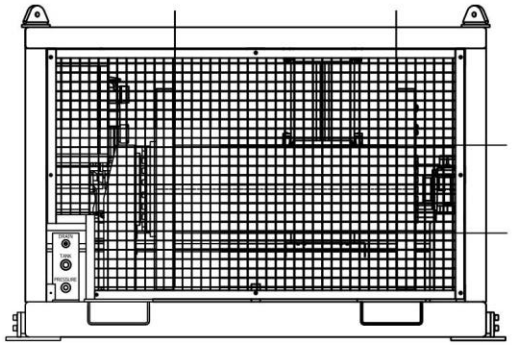
REV	DESCRIPTION
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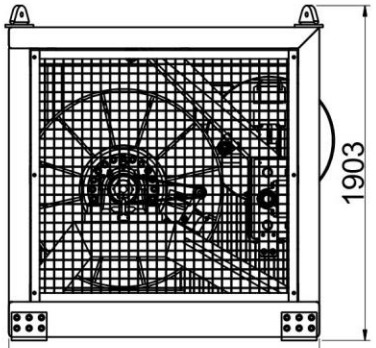
THIRD ANGLE PROJECTION

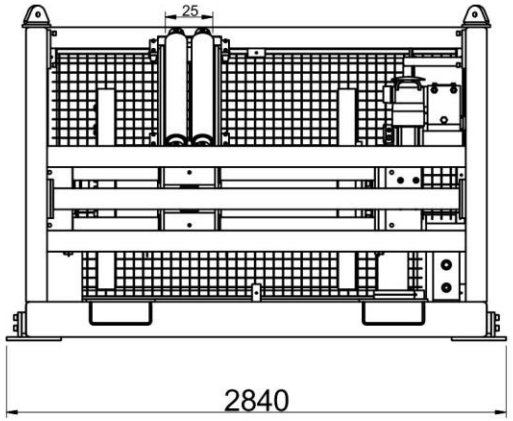
TRANSPORT ARRANGEMENT

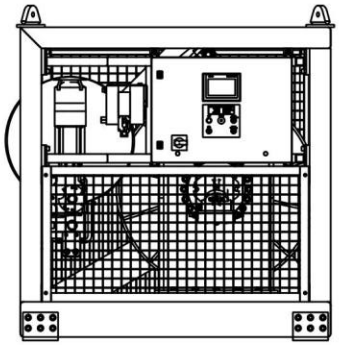


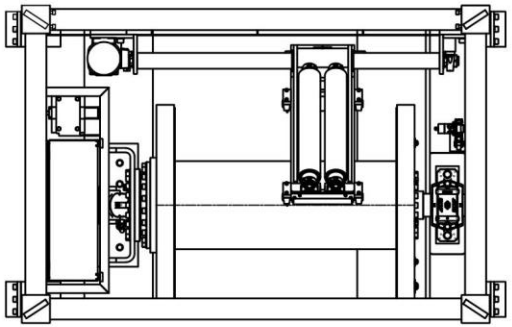












ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Struczuj M.							
CHECKED	Merli B.							
APPROVED	Struczuj M.							
DATE	19.07.2019							

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

romica engineering
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Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
www.romica.co.uk

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ORIGINAL SCALE	TITLE	DRG. No.	
1:20	7.4 Te WLL - 1500m - Hydraulic Winch	DS40	A2 SHT 1 OF 3

3x10 Te WLL - 3x55m - Hydraulic Triple Drum Winch – DS09





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
2300	24	3 x 55	5	32000	30000	57600	54000

Winch Hydraulic Drive Supply Required	220 bar 85 l/min	Frame details	Frame with guards and certified lifting lugs
Level Wind Electrical Motor Supply Required	None	Winch drum dimensions	3 x Drum core Ø 660 mm, Drum Length 290 mm, Flange Ø 880 mm
Local Proportional Control	None	Drum details	Helical grooved drum: the wire is stored in 2 lays with 58 turns per lay
Level wind	None	Cable	Bridon - Endurance Dyform 34LR (Galvanized) 34 x 7 (6/1) WSC, RH Langs Lay SF 5:1
Dimensions (LxWxH) Footprint	1700 x 915 x 960 mm 1583 x 915 mm	Hydraulic Ports	A G1" BSP, B G1" BSP, D G3/4" BSP
Slip ring	None	Design Standards	Designed in accordance with, but not approval to, DNV 2.22

Principle of Operation:

The 10 Te Triple Section Drum Winch comprises of three drums that are supplied with eleven suitable machined helical grooves, the wire exits each drum by a bottom rear exit and is secured to each drum by three suitable fixings, this allows each drum section to pull 10 Te simultaneously.

The winch drum is driven directly from a Bonfiglioli gearbox, hydraulic motor and load valve combination. The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position. The non-drive side housings a bearing and a slipring.

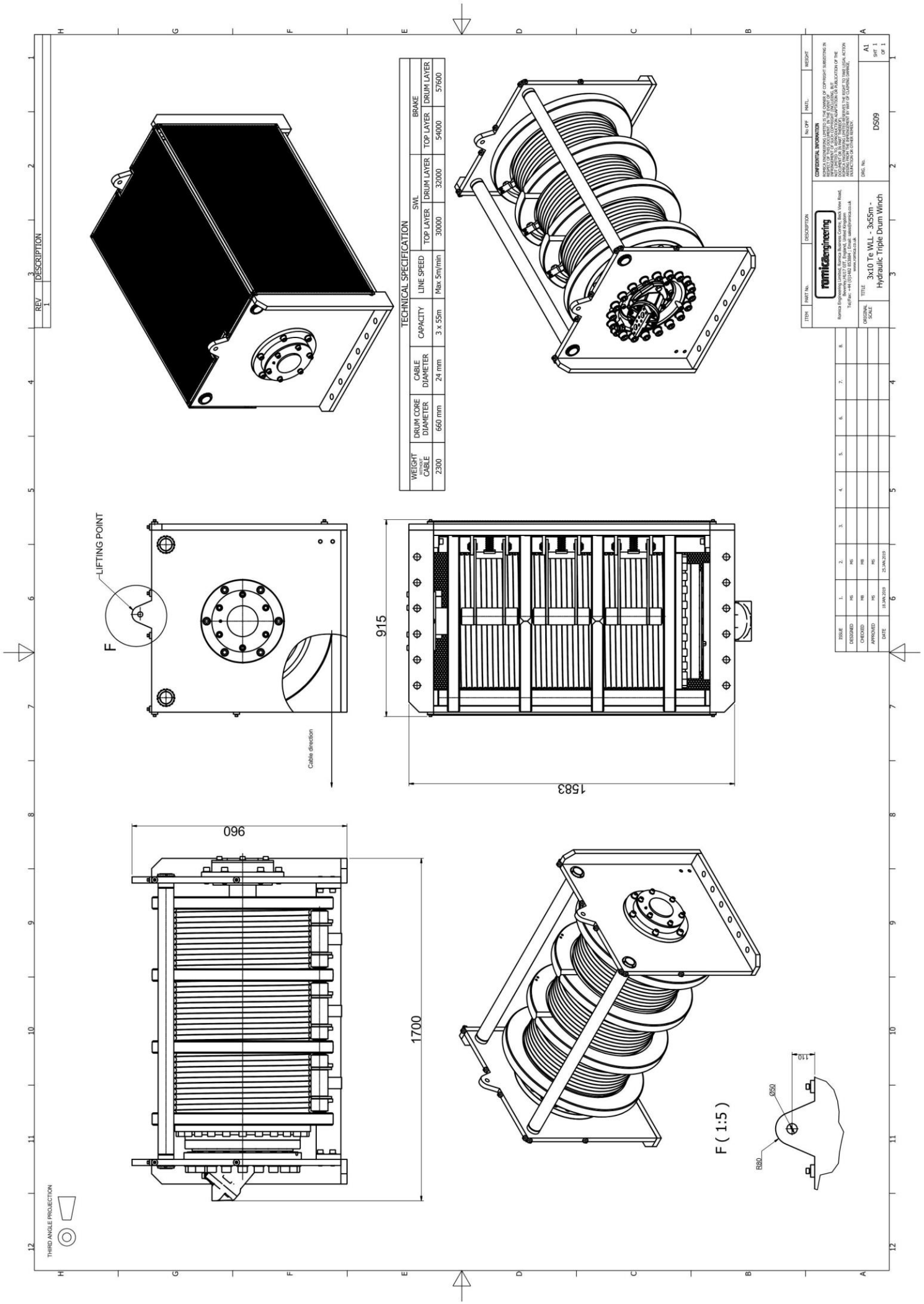
The Winch assembly has been fitted with sprung single retaining roller assembly, to prevent the wire rope from "bird caging" should the wire become slack for any reason, this has been fitted to each drum section.

The winch is supplied with the following:

- **3 x Open Spelter socket and 3 x Wirelock® polyester resin kit**
- **Marine grade paint system (Details can be supplied on application)**
- **Bridon - Endurance Dyform 34LR (Galvanized) 3 x 55 m**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**


TECHNICAL SPECIFICATION
WEIGHT CABLE
DRUM CORE DIAMETER
CABLE DIAMETER
CAPACITY
LINE SPEED
SWL
TOP LAYER
DRUM LAYER
BRAKE
TOP LAYER
DRUM LAYER
2300
660 mm
24 mm
3 x 55m
Max 5m/min
30000
32000
54000
57600
LIFTING POINT
F
Cable direction
915
1583
960
1700
F (1:5)
Ø50
110
R80
THIRD ANGLE PROJECTION
romicaengineering
3x10 Te W.L.L - 3x55m - Hydraulic Triple Drum Winch
DS09
A1

12 Te WLL - 70m - Hydraulic Winch – DS21






TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1400	28	70	10	12000	10000	21600	18000

Winch Hydraulic Drive Supply Required	210 bar 67 l/min	Cable Lead-off Angle	Maximum fleeting angle of +/- 4°
Level Wind Electrical Motor Supply Required	N/A	Frame details	Side supports, guards and certified lifting lugs
Local Proportional Control	None	Winch drum dimensions	Drum core Ø 559 mm, Drum Length 373 mm, Flange Ø 875 mm
Level Wind	N/A	Drum details	Drum machined with helical grooves; the cable is stored in 3 layers with 20 turns per lay
Dimensions (LxWxH) Footprint	998 x 960 x 995 mm 900 x 885 mm	Cable	6 x 36 IWRC Wire Rope
Slip ring	N/A	Hydraulic Ports	A &B M20 x 1.5 12S Female D M20 x 1.5 12S Female

Principle of Operation:

The winch barrel is driven directly from a Bonfiglioli gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any, reason hydraulic pressure is lost, or the direction control valve is in its centre (neutral) position. The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve and pressure reducing valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool, this is not included in the scope of supply

In the event of hydraulic power failure, the winch load can be lowered to a safe position under control, this includes a method for overriding the failsafe brake. Built and surveyed in accordance with DNV 2.2

The winch is supplied with the following:

- **Built and surveyed in accordance with DNV 2.2**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **Wire rope c/w open Spelter socket & UB500 series top swivelling overhaul ball**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

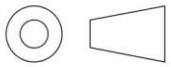
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

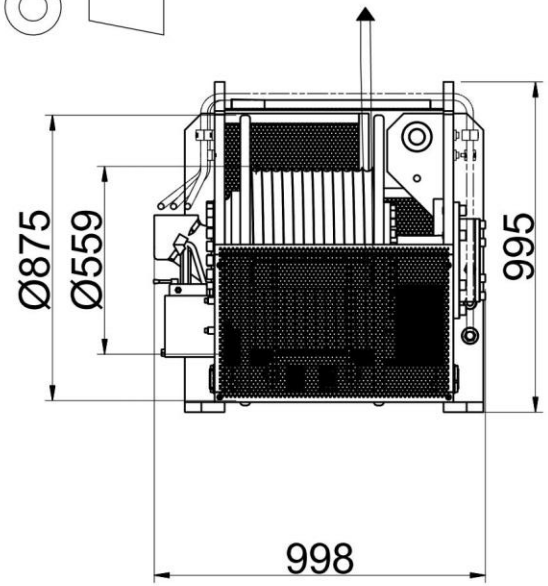
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Spare Wire rope c/w open Spelter socket & UB500 series top swivelling overhaul ball**

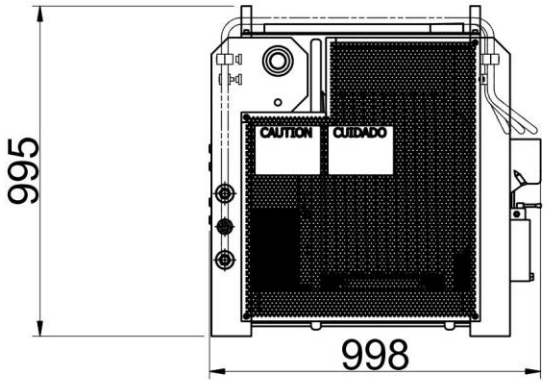
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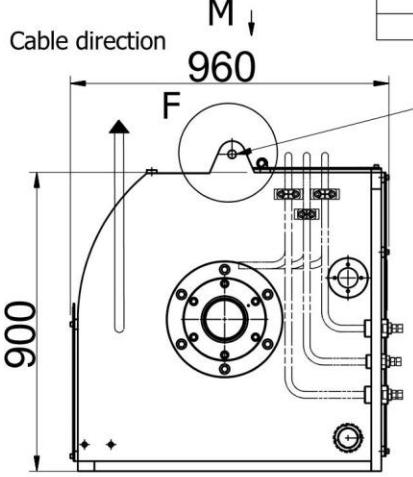
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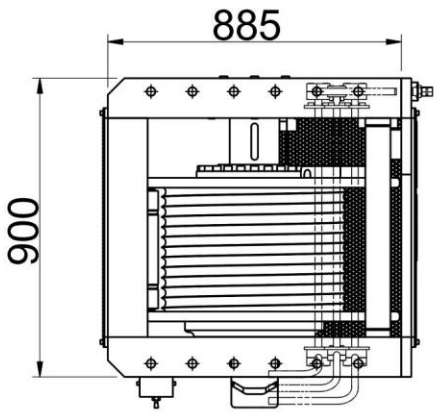
THIRD ANGLE PROJECTION



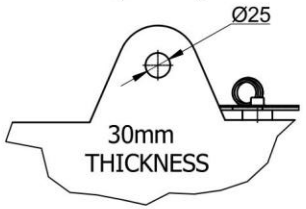




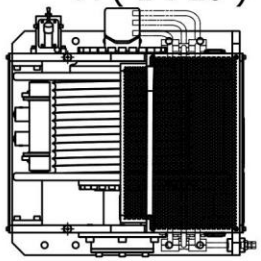




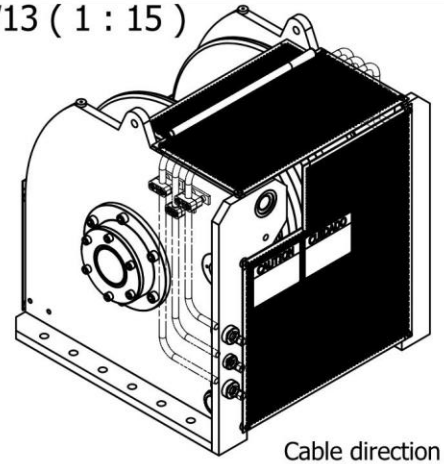
F (1:5)

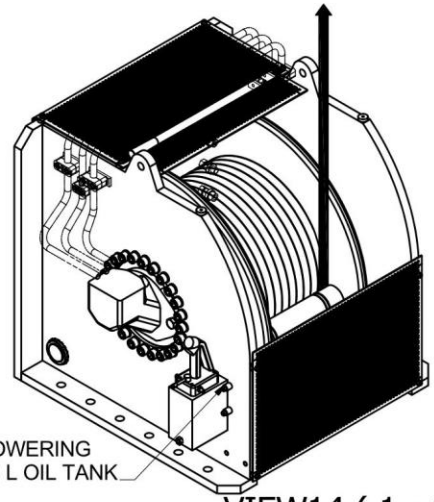


M (1 : 20)



VIEW13 (1 : 15)





VIEW14 (1 : 15)

ISSUE	DESCRIPTION
1	

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Ciprian Balan							
CHECKED								
APPROVED								
DATE	23.03.2016							

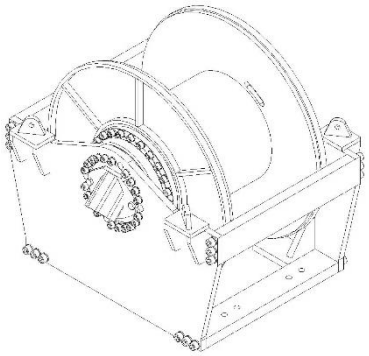
romica engineering
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Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
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ORIGINAL SCALE	TITLE	DRG. No.	
1:15	12 Te WLL - 70m - Hydraulic Winch	DS21	A3 SHT 1 OF 3

15 Te WLL - 210m - Hydraulic Winch – DS73





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1800	28	210	20	15000	9700	22500	14550

Winch Hydraulic Drive Supply Required	210 bar 260 l/min	Cable Lead-off Angle	
Level Wind Electrical Motor Supply Required	N/A	Frame details	Side supports, guards, fork lifting pockets and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick	Winch drum dimensions	Drum core Ø 508 mm, Drum Length 500 mm, Flange Ø 848 mm
Level Wind	N/A	Drum details	Plain Drum: the cable is stored in 6 layers with 17 turns per lay
Dimensions (LxWxH) Footprint	1059 x 1148 x 1243 mm 1010 x 785 mm	Cable	28 mm Steel Wire Rope
Slip ring	N/A	Hydraulic Ports Optional Remote Control Ports	P G1” BSP T G1.1/4” BSP D G1/2 BSP LS G1/4” BSP P, T, A, B G1/4” BSP

Principle of Operation:

The winch barrel is driven directly from a Bonfiglioli gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any, reason hydraulic pressure is lost, or the direction control valve is in its centre (neutral) position. The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve and pressure reducing valve within the load control valve. Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool, this is not included in the scope of supply.

The winch is fitted with a Load Control Valve. The Load Control Valve provides a rendering function. It works by preventing the peak loads that can occur in towing a wire in rough (slack) conditions.

The winch is normally supplied in the underwound configuration however it is possible to be configured to be overwound. If the winch is to be used overwound, then the motor mounted load control valve must be removed and turned 180° for the render function to function.

The winch is supplied with the following:

- **1 Set – Sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or 4 leg lifting sling and shackles**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

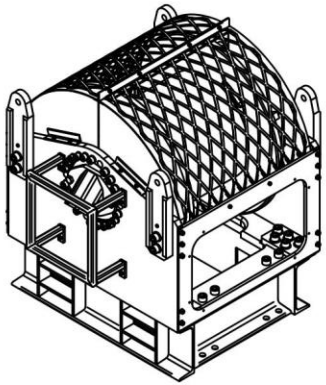
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

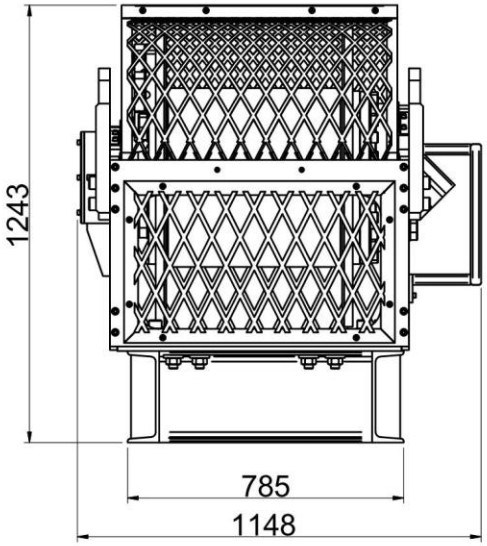
- **1 Off – Extended Warranty**
- **1 Set – Spare sacrificial feet/mounting plate**
- **1 Off – Full Spares Kit**
- **1 Off- Remote Control stand**

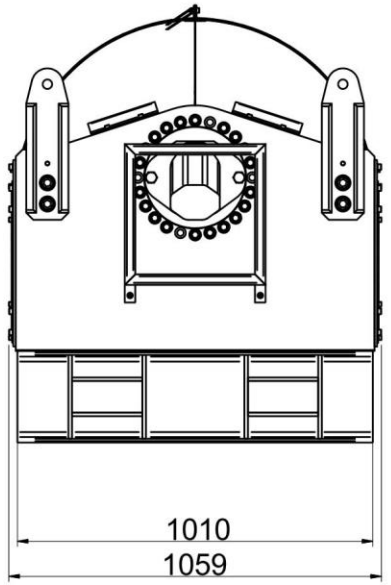
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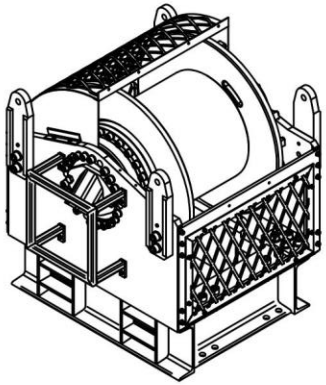
Lower guard removed for under wound configuration.







Upper guard removed for over wound configuration.



GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS							
0 UP TO 3	3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1000	OVER 1000 UP TO 2000	OVER 2000 UP TO 4000
± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2

NOTES

DESIGNED	Gabor A Peto		ISSUE	1.	2.	3.	4.	5.	6.	7.
			CHECKED	Ciprian Balan						
			APPROVED	Mihai Sztruczuj						
			DATE	10.03.2014						

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	DIMENS.	SIZE - REMARKS

ORIGINAL SCALE: A2

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romica engineering

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Email: sales@romica.co.uk
www.romica.co.uk

TITLE: 15 Te WLL - 210m - Hydraulic Winch

DRG. No.: DS73

SHT 2 OF 2

15.7 Te WLL - 900m - Hydraulic Winch – DS82







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
2750	26	900	60	15700	12000	28260	21600

Winch Hydraulic Drive Supply Required	235 bar 580 l/min	Cable Lead-off Angle	+/-2.4° Horizontal plane 0° Vertical plane
Level Wind Electrical Motor Supply Required	N/A	Frame details	Side supports, guards and certified lifting lugs
Local Proportional Control	N/A	Winch drum dimensions	Drum core Ø 1000 mm, Drum Length 910 mm, Flange Ø 1675 mm
Level Wind	Mechanical chain driven	Drum details	Lebus shell Drum: the cable is stored in 7 layers with 35 turns per lay
Dimensions (LxWxH) Footprint	1995.6 x 1751 x 1717.5 mm 1580 x 1580 mm	Cable	26 mm Steel Wire Rope
Slip ring	N/A	Hydraulic Ports	A & B G1.1/4” SAE 6000 D G1/2 BSP

Principle of Operation:

The winch barrel is driven directly from a Bonfiglioli gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any, reason hydraulic pressure is lost, or the direction control valve is in its centre (neutral) position. The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve and pressure reducing valve within the load control valve. Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool, this is not included in the scope of supply.

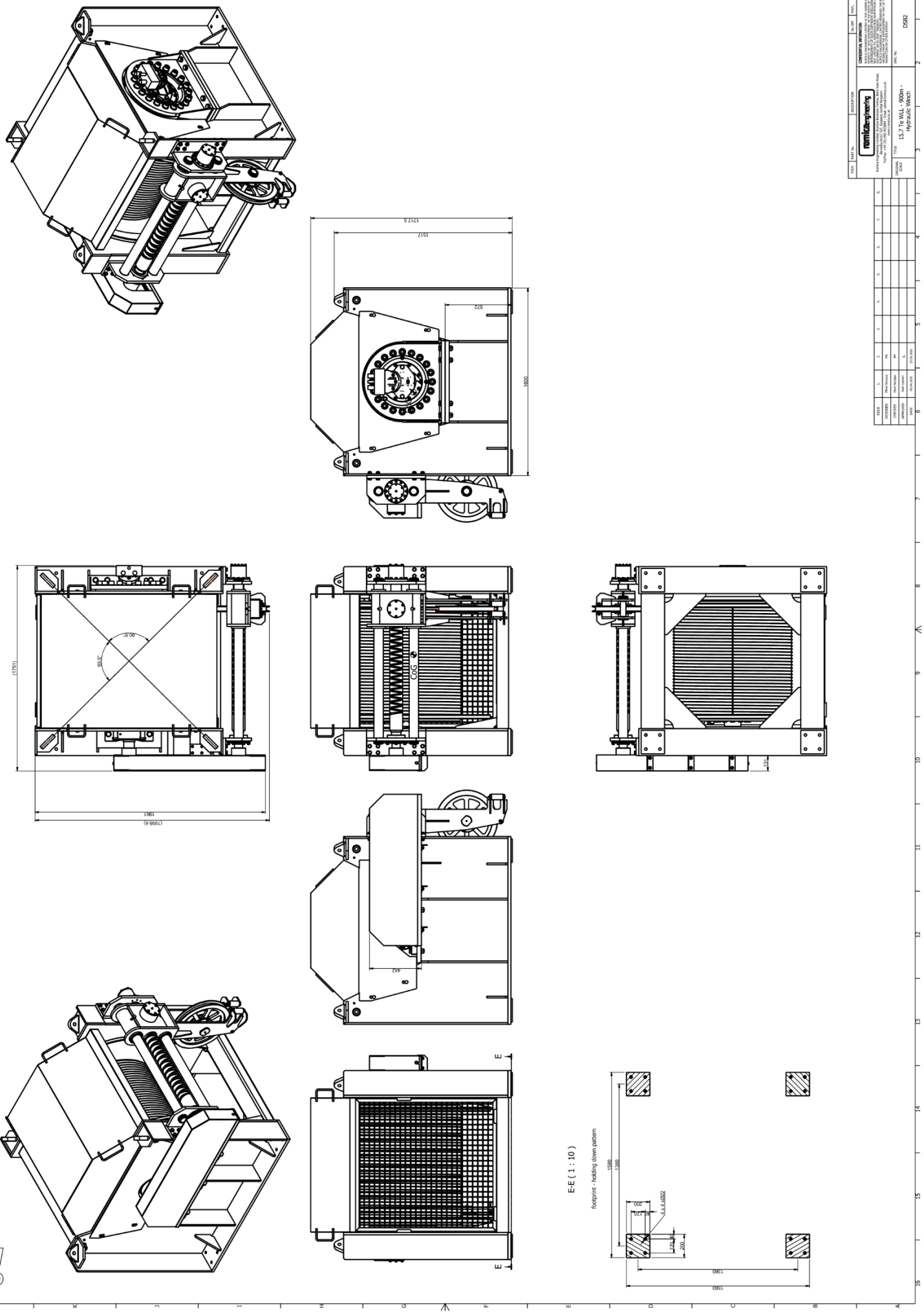
Spooling is provided by a chain driven level wind driven directly from the winch barrel in combination with a diamond screw and level wind sheave assembly.

The winch is supplied with the following:

- **1 Set – Sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or 4 leg lifting sling and shackles**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

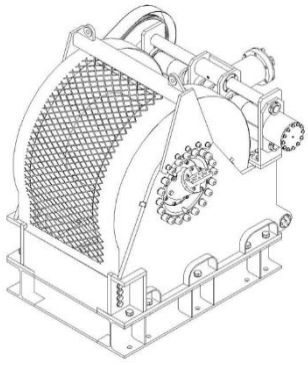
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Set – Spare sacrificial feet/mounting plate**
- **1 Off – Full Spares Kit**
- **DNVGL-OS-E101 certified and surveyed**


romicaengineering
15.7 Te WLL - 900m - Hydraulic Winch
DSR2
footprint - holding down pattern
E-E (1 : 10)
COG

30 Te WLL - 350m - Hydraulic Winch – DS74





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
3700	32 - 36	350	20	30000	20300	45000	30450

Winch Hydraulic Drive Supply Required	210 bar 300 l/min	Cable Lead-off Angle	Min – 3.37° Max + 10.62°
Level Wind Electrical Motor Supply Required	N/A	Frame details	Side supports, guards, fork lifting pockets and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick	Winch drum dimensions	Drum core Ø 660 mm, Drum Length 560 mm, Flange Ø 1280 mm
Level Wind	Mechanical chain driven	Drum details	Plain Drum: the cable is stored in 6 layers with 15 turns per lay
Dimensions (LxWxH) Footprint	1529 x 1947 x 1960 mm 1120 x 1500 mm	Cable	36 mm Steel Wire Rope
Slip ring	N/A	Hydraulic Ports Optional Remote Control Ports	P G1.1/4" BSP T G1.1/2" BSP D G1/2 BSP LS G1/4" BSP P, T, A, B G1/4" BSP

Principle of Operation:

The winch barrel is driven directly from a Bonfiglioli gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any, reason hydraulic pressure is lost, or the direction control valve is in its centre (neutral) position. The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve and pressure reducing valve within the load control valve. Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool, this is not included in the scope of supply.

The winch is fitted with a Load Control Valve. The Load Control Valve provides a rendering function. It works by preventing the peak loads that can occur in towing a wire in rough (slack) conditions. The winch is normally supplied in the underwound configuration however it is possible to be configured to be overwound. If the winch is to be used overwound, then the level wind must be removed, and the motor mounted load control valve must be removed and turned 180° for the render function to function.

The winch is supplied with the following:

- **1 Set – Sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or 4 leg lifting sling and shackles**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

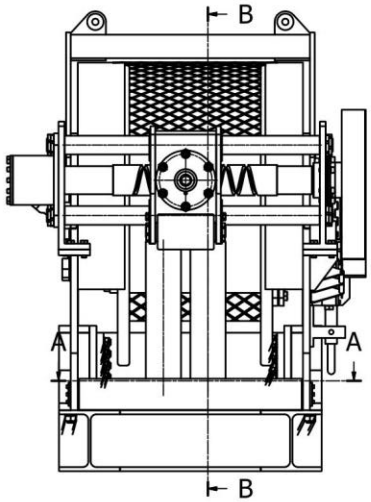
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

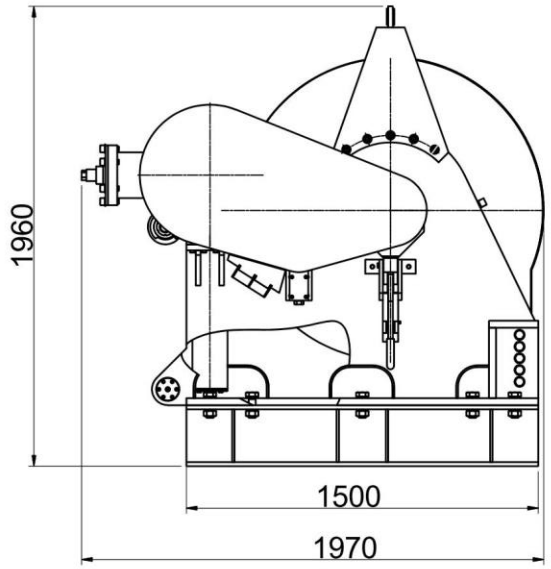
- **1 Off – Extended Warranty**
- **1 Set – Spare sacrificial feet/mounting plate**
- **1 Off – Full Spares Kit**
- **1 Off- Remote Control stand**

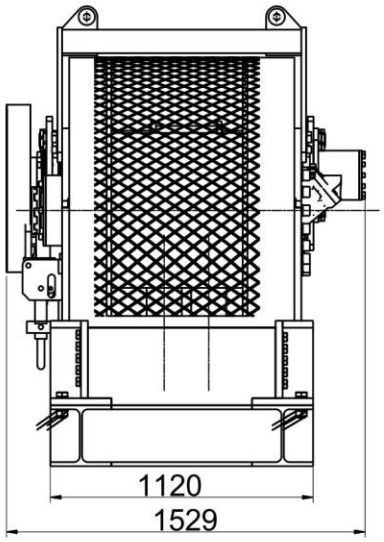
Back to contents

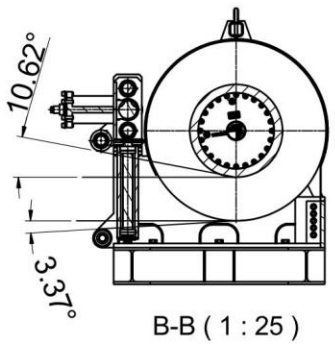
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THIRD ANGLE PROJECTION

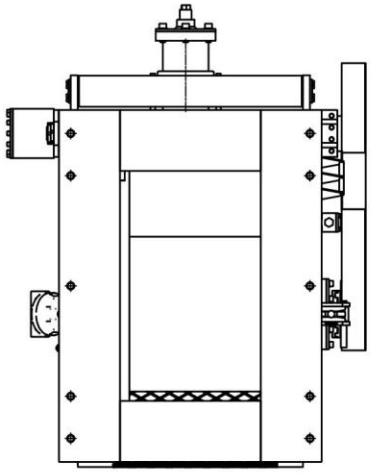


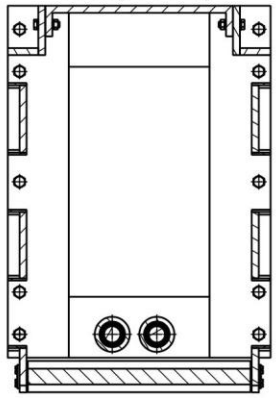




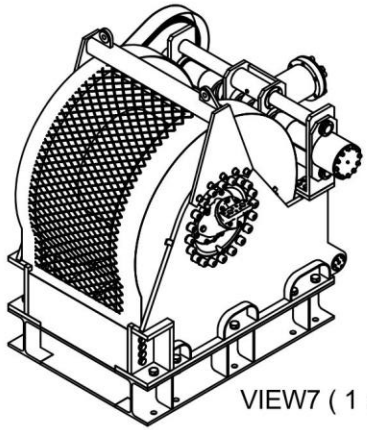


B-B (1 : 25)



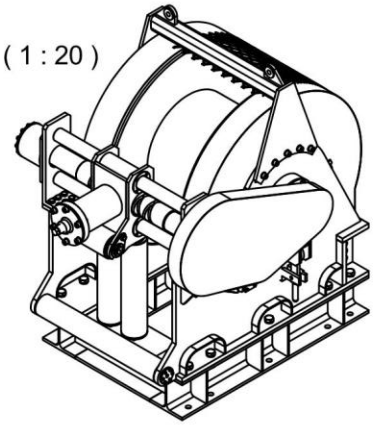


A-A (1 : 15)



VIEW7 (1 : 20)

VIEW6 (1 : 20)



ITEM	PART No.	DESCRIPTION	No OFF	MATL.	DIMENS.	SIZE - REMARKS

NOTES

DESIGNED	Balan Ciprian		ISSUE	1.	2.	3.	4.	5.	6.	7.
			CHECKED	Bertalan Merli						
			APPROVED	Mihai Struczuj						
			DATE	03.03.2014	06.03.2014	20.03.2014				

ORIGINAL SCALE 1:15

A2

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23 Flemingate,Beverley, HU17 0NP, United Kingdom
Tel/Fax: +44 (0)1482 853884 ;
Email: sales@romica.co.uk
www.romica.co.uk

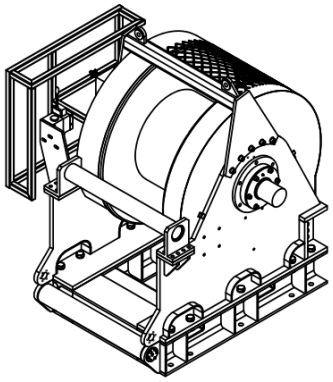
TITLE: 30 Te WLL - 350m - Hydraulic Winch

DRG. No. DS74

SHT 1 OF 1

30 Te WLL - 350m - Hydraulic Winch – DS80





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
3700	32 - 36	350	20	30000	20300	45000	30450

Winch Hydraulic Drive Supply Required	210 bar 300 l/min	Cable Lead-off Angle	Min – 3.37° Max + 10.62°
Level Wind Electrical Motor Supply Required	N/A	Frame details	Side supports, guards, fork lifting pockets and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick	Winch drum dimensions	Drum core Ø 660 mm, Drum Length 560 mm, Flange Ø 1280 mm
Level Wind	N/A	Drum details	Plain Drum: the cable is stored in 6 layers with 15 turns per lay
Dimensions (LxWxH) Footprint	1815 x 1670 x 19460 mm 1120 x 1500 mm	Cable	36 mm Steel Wire Rope
Slip ring	N/A	Hydraulic Ports Optional Remote Control Ports	P G1.1/4” BSP T G1.1/2” BSP D G1/2 BSP LS G1/4” BSP P, T, A, B G1/4” BSP

Principle of Operation:

The winch barrel is driven directly from a Bonfiglioli gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any, reason hydraulic pressure is lost, or the direction control valve is in its centre (neutral) position. The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve and pressure reducing valve within the load control valve. Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool, this is not included in the scope of supply.

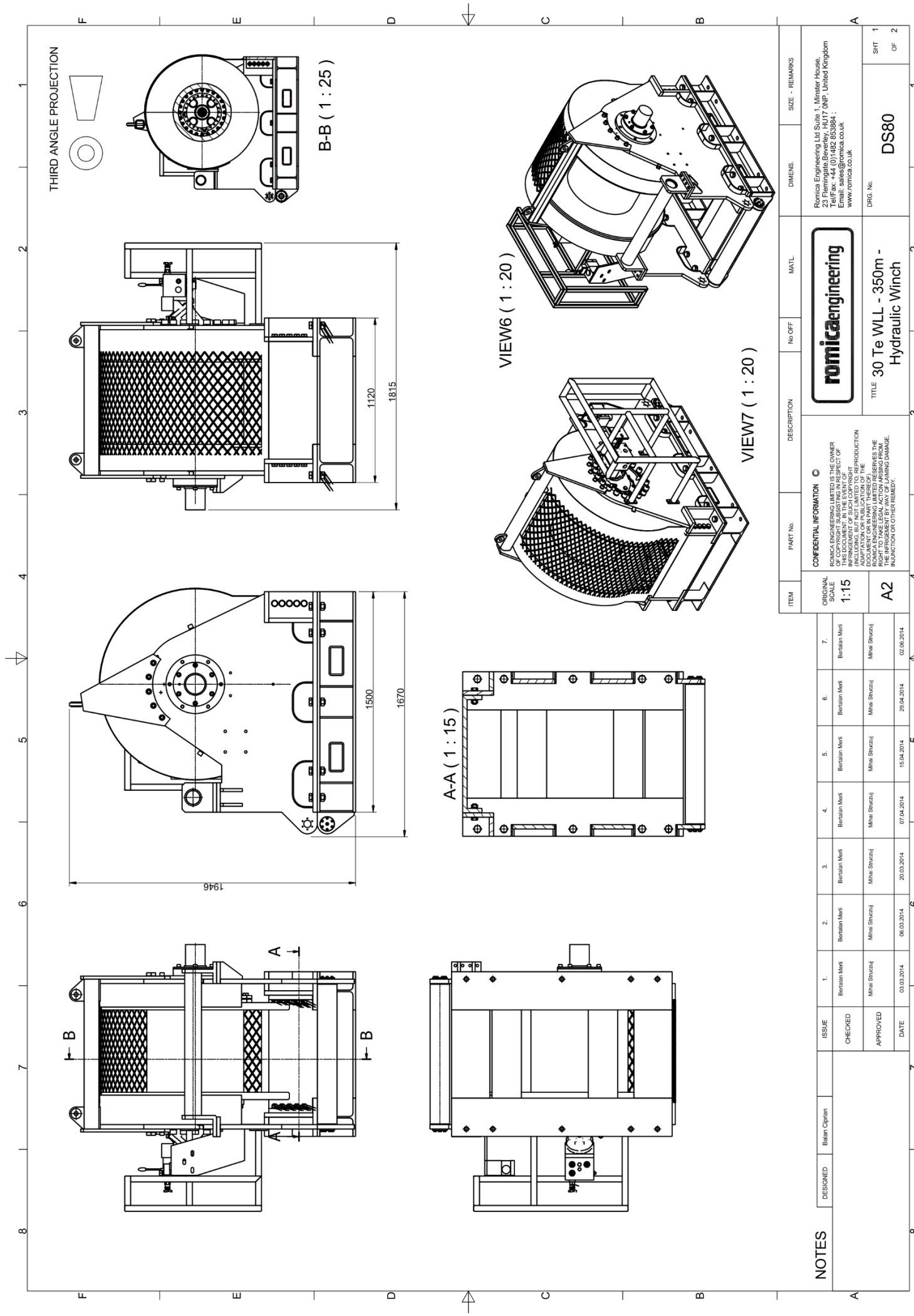
The winch is fitted with a Load Control Valve. The Load Control Valve provides a rendering function. It works by preventing the peak loads that can occur in towing a wire in rough (slack) conditions. The winch is normally supplied in the underwound configuration however it is possible to be configured to be overwound. If the winch is to be used overwound the motor mounted load control valve must be removed and turned 180° for the render function to function.

The winch is supplied with the following:

- **1 Set – Sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or 4 leg lifting sling and shackles**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

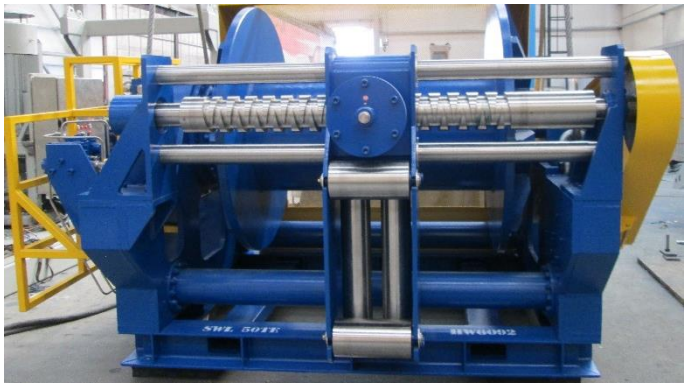
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Set – Spare sacrificial feet/mounting plate**
- **1 Off – Full Spares Kit**
- **1 Off- Remote Control stand**


THIRD ANGLE PROJECTION
B-B (1 : 25)
1120
1815
VIEW6 (1 : 20)
VIEW7 (1 : 20)
1500
1670
1946
A-A (1 : 15)
A
B
B
A
NOTES
DESIGNED
Balan Ciprian
ISSUE
CHECKED
APPROVED
DATE
Bertalan Merfi
Mihai Struczuj
03.03.2014
06.03.2014
20.03.2014
07.04.2014
15.04.2014
29.04.2014
02.06.2014
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
DIMENS.
SIZE - REMARKS
ORIGINAL SCALE 1:15
A2
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Tel/Fax: +44 (0)1482 853884 ;
Email: sales@romica.co.uk
www.romica.co.uk
TITLE
30 Te WLL - 350m - Hydraulic Winch
DRG. No.
DS80
SHT 1 OF 2

48 Te WLL - 950m - Hydraulic Winch – DS75





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
10000	38 - 44	950	20	48000	29000	72000	43500

Winch Hydraulic Drive Supply Required	220 bar 300 l/min	Cable Lead-off Angle	
Level Wind Electrical Motor Supply Required	N/A	Frame details	Side supports, guards, fork lifting pockets and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick	Winch drum dimensions	Drum core Ø 800 mm, Drum Length 1500 mm, Flange Ø 1600 mm
Level Wind	Mechanical chain driven	Drum details	Plain Drum: the cable is stored in 8 layers with 39 turns per lay
Dimensions (LxWxH) Footprint	3206 x 2368 x 2250 mm 2615 x 1800 mm	Cable	38 mm Steel Wire Rope
Slip ring	N/A	Hydraulic Ports Optional Remote Control Ports	P G1.1/4” BSP T G1.1/2” BSP D G1/2 BSP LS G1/4” BSP P, T, A, B G1/4” BSP

Principle of Operation:

The winch barrel is driven directly from a Bonfiglioli gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any, reason hydraulic pressure is lost, or the direction control valve is in its centre (neutral) position. The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve and pressure reducing valve within the load control valve. Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool, this is not included in the scope of supply.

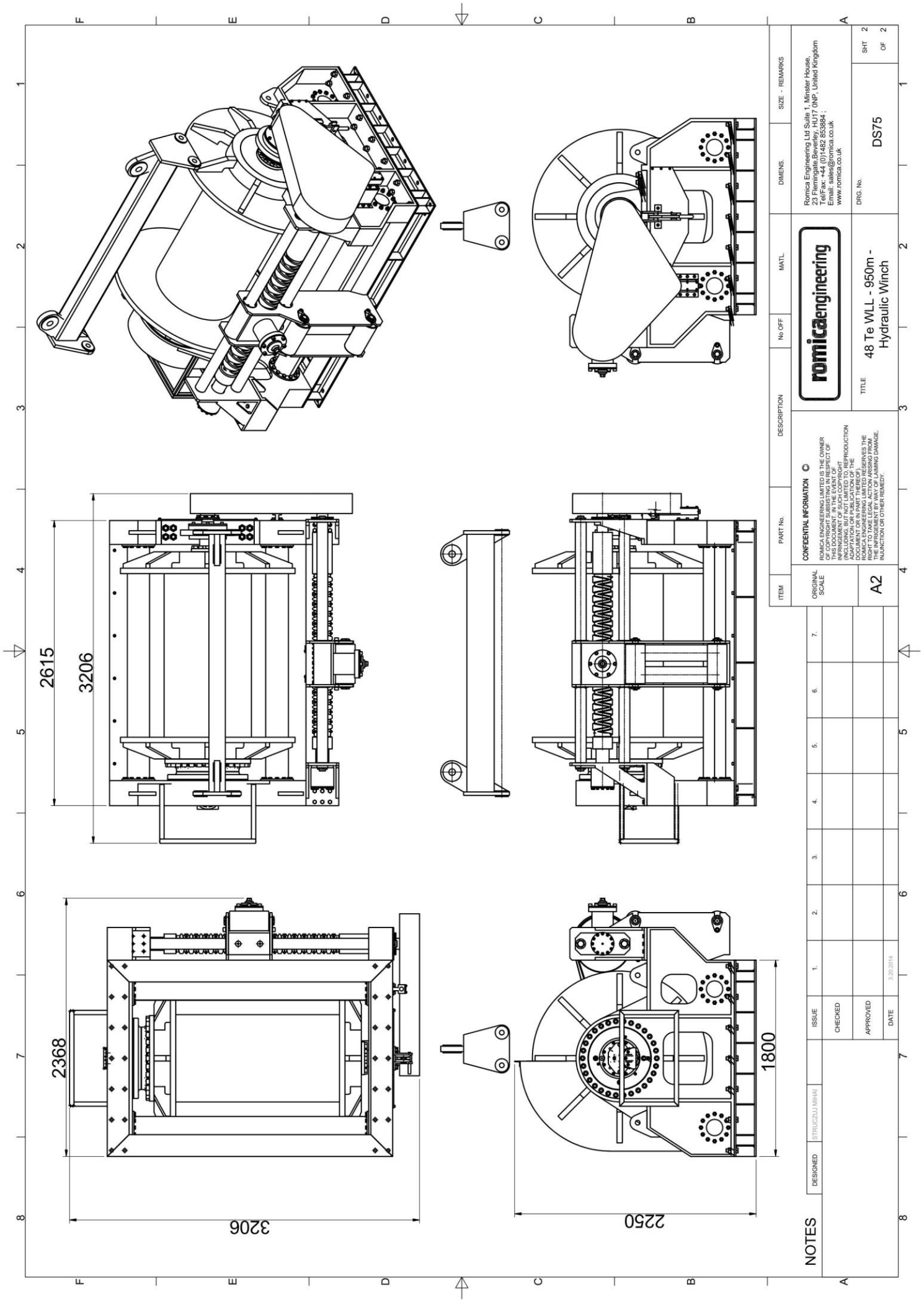
The winch is fitted with a Load Control Valve. The Load Control Valve provides a rendering function. It works by preventing the peak loads that can occur in towing a wire in rough (slack) conditions. The winch is normally supplied in the underwound configuration however it is possible to be configured to be overwound. If the winch is to be used overwound, then the level wind must be removed, and the motor mounted load control valve must be removed and turned 180° for the render function to function.

The winch is supplied with the following:

- **1 Set – Sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or 4 leg lifting sling and shackles**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Set – Spare sacrificial feet/mounting plate**
- **1 Off – Full Spares Kit**
- **1 Off- Remote Control stand**


2615
3206
2368
3206
1800
2250
NOTES
DESIGNED
STRUCZUJ MIHAI
CHECKED
APPROVED
DATE
ISSUE
ORIGINAL SCALE
A2
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
DIMENS.
SIZE - REMARKS
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Romica Engineering Ltd Suite 1, Minster House, 23 Flemingate,Beverley, HU17 0NP, United Kingdom Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk www.romica.co.uk
TITLE
48 Te WLL - 950m - Hydraulic Winch
DRG. No.
DS75
SHT 2 OF 2

1.8 ROV Winch

0.3 Te WLL - 1000m - Electric Winch – DS02 152

2.24 Te WLL - 1500m - Electric Winch – DS17 154

17 Te WLL - 3300m - Hydraulic Winch & HPU – DS39..... 156



ROV Winch Description

RTG offers a range of hydraulic or electrical driven ROV winches. Depending on the umbilical design these can provide different combinations of these parameters; data, power and lifting capabilities for the various subsea equipment's.

Additional features and extras such as proportional control, tension control, active heave compensation, HMI and wired/wireless remote control.

0.3 Te WLL - 1000m - Electric Winch – DS02







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1750	25.7	1000	67	400	278	850	588

Supply Required	380-440V-3 Ph- 50/60 Hz	Cable Lead-off Angle	+/-30° Horizontal plane Min + 4° Max + 45° Vertical plane
Winch Electrical Motor	4 KW IP56 IE3	Frame details	Crash frame with guards, forklifting pockets and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick and speed control potentiometer	Winch drum dimensions	Drum core Ø 668 mm, Drum Length 1242 mm, Flange Ø 1160 mm
Level wind	Mechanical chain driven	Drum details	Lebus shell drum; the wire is stored in 7 lays with 55 turns per lay
Dimensions (LxWxH) Footprint	2100 x 1691 x 1890 mm 2240 x 1650 mm	Cable	Umbilical CS 7292
Slip ring	Designed to accept MOFLON MF0180 or similar not within scope of supply		

Principle of Operation:

The winch drum is mounted on the output shaft of a 4 kW SEW electric gearmotor fitted with a failsafe brake unit and is connected to the corresponding drive inverter in the control panel. The speed of the drum is proportionally controlled via a potentiometer; its direction is determined by a 3 position, spring return to centre, joystick. These are both mounted locally on the Electric Winch Enclosure.

The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position. The non-drive side housings a bearing and a slipring.

The Level wind is mechanically chain driven from the SEW Electric gearmotor drive shaft and the cable is guided via the level wind carriage assembly.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

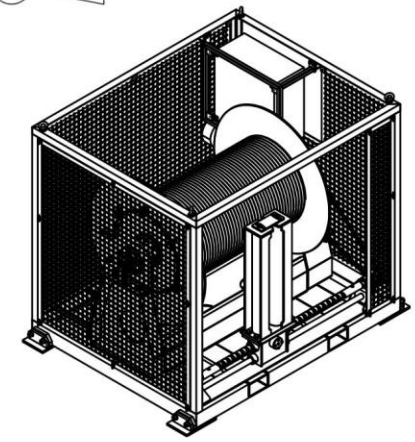
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**

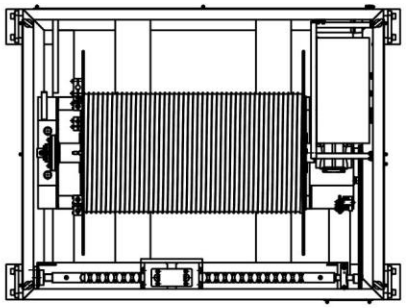
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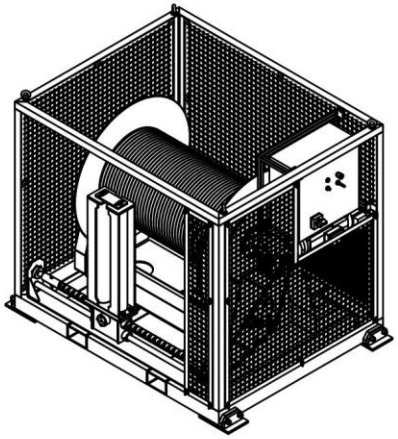
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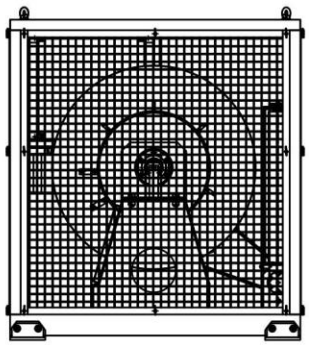
THIRD ANGLE PROJECTION

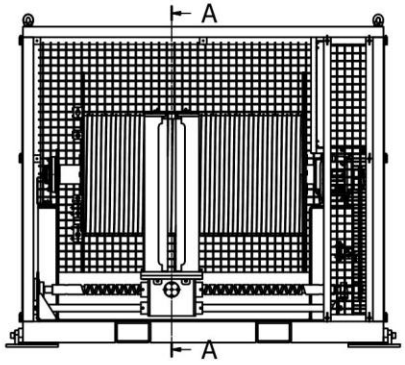
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2	

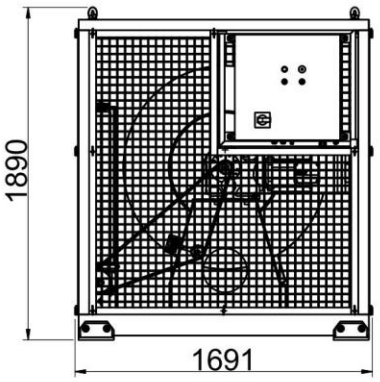


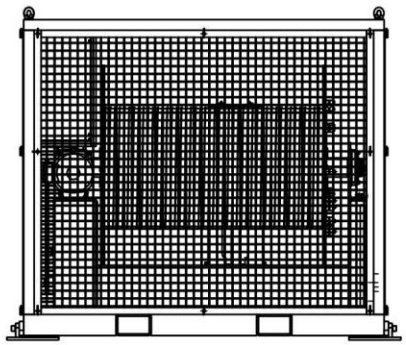




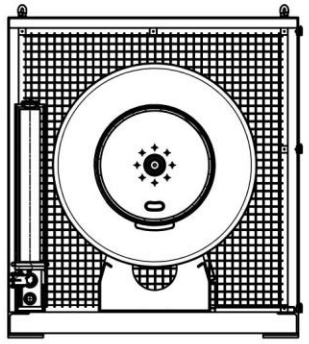


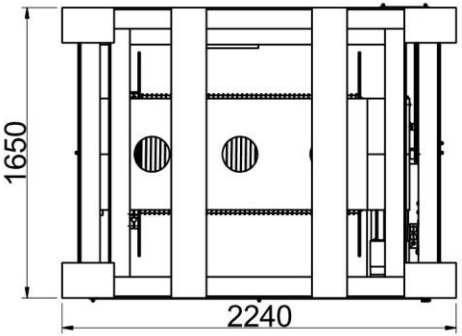






A-A (1 : 20)





TECHNICAL SPECIFICATION								
WEIGHT WITHOUT CABLE	DRUM CORE DIAMETER	CABLE DIAMETER	CAPACITY	LINE SPEED	WLL		BRAKE	
					TOP LAYER	DRUM LAYER	TOP LAYER	DRUM LAYER
1750 Kg	668 mm	25.7 mm	1000	67 m/min	278 Kg	400 Kg	588 Kg	850 Kg

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Merli B.	Merli B.	Merli B.					
CHECKED	Struczuj M.	Struczuj M.	Struczuj M.					
APPROVED	Struczuj M.	Struczuj M.	Struczuj M.					
DATE	11.10.2018	24.10.2018	29.11.2018					

romica engineering
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Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
www.romica.co.uk

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ORIGINAL SCALE 1:20

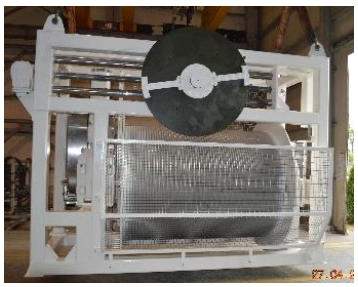
TITLE: 0.4 Te WLL - 1000m - Electric Winch

DRG. No. DS02

A2

SHT 1 OF 1

2.24 Te WLL - 1500m - Electric Winch – DS17







Principle of Operation:

TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
15290	38	1500	30	2240	2000	3360	3000

Supply Required	**440V-3 Ph- 60 Hz**	**Cable Lead-off Angle**	**Min - 5° Max + 45° Vertical plane**
Winch Electrical Motor Level Wind Electrical Motor	**15 KW IP56 IE3- (Brake down-rated to 150 Nm) 7.5 KW IP56 IE3**	**Frame details**	**Crash frame with guards and certified lifting lugs**
Local / Remote pendant Proportional Control	**Bi-directionally proportional joystick / Pendant remote with speed control. HMI - Constant Tension & speed control 0.3-30 m/min via HMI**	**Winch drum dimensions**	**Drum core Ø 1862 mm, Drum Length 2500 mm, Flange Ø 2420 mm**
Level wind	**Right angled - Electrically automatic pulse driven level wind with manual adjustment**	**Drum details**	**Lebus shell drum; the umbilical is stored in 4 lays with 65 turns per lay**
Dimensions (LxWxH) Footprint	**4932 x 2654 x 3670 mm 4610 x 1800 mm**	**Cable**	**Nexan RA651-TD-04E Synthetic Armoured**
Slip ring	**Designed to accept TX4820 or similar not within scope of supply**	**Remote control (optional)**	**Profinet remote control ready**

The Umbilical Winch drum is driven by a 15-kW electric gearmotor through an output shaft. The drum motor Variable Speed Drive drives the electrical motor of the Drum with variable speed according to the control signals and rpm setpoint provided by the PLC (Programmable Logic Controller).

The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position. The non-drive side housings the bearing, slipring and High Voltage junction boxes (JBs). The JBs and slipring are not within the scope of supply.

The Level wind electrically driven from the 7.5 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

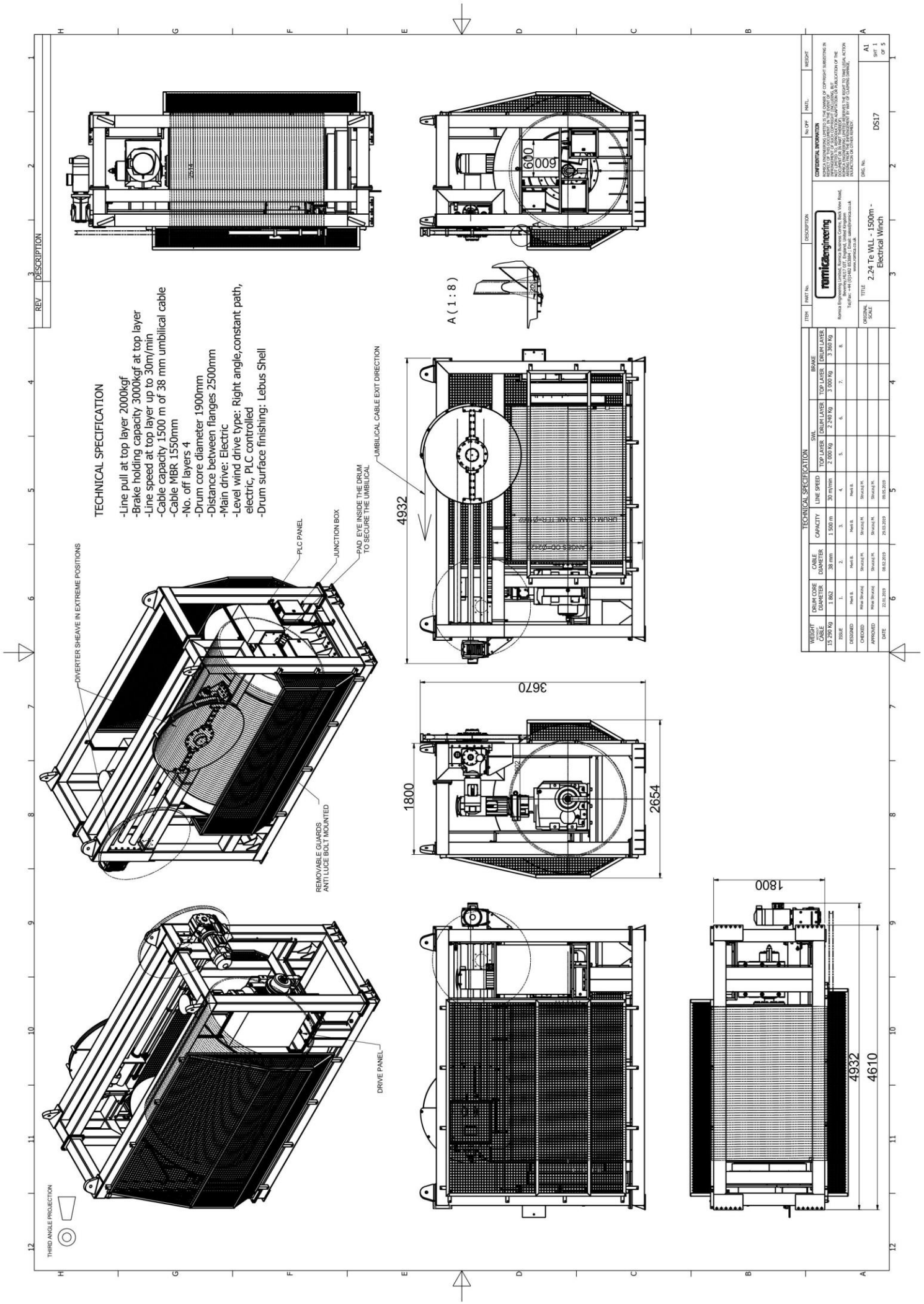
The winch has a Constant Tension function that can provide CT up to a value of 2 Te. Once the CT setpoint value is entered via the HMI, and the CT control is activated, the winch drum electric gearmotor will pay-in or pay-out to maintain the tension set on the HMI.
A load pin provides the Line Tension and the signal is displayed on the HMI.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Load pin**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control via Profinet**


TECHNICAL SPECIFICATION
-Line pull at top layer 2000kgf
-Brake holding capacity 3000kgf at top layer
-Line speed at top layer up to 30m/min
-Cable capacity 1500 m of 38 mm umbilical cable
-Cable MBR 1550mm
-No. off layers 4
-Drum core diameter 1900mm
-Distance between flanges 2500mm
-Main drive: Electric
-Level wind drive type: Right angle,constant path, electric, PLC controlled
-Drum surface finishing: Lebus Shell
DIVERTER SHEAVE IN EXTREME POSITIONS
PLC PANEL
JUNCTION BOX
PAD. EYE INSIDE THE DRUM TO SECURE THE UMBILICAL
UMBILICAL CABLE EXIT DIRECTION
REMOVABLE GUARDS ANTI LUCE BOLT MOUNTED
DRIVE PANEL
THIRD ANGLE PROJECTION
A (1 : 8)
4932
3670
1800
2654
4610
DS17
2.24 Te WLL - 1500m - Electrical Winch
romicaengineering

17 Te WLL - 3300m - Hydraulic Winch & HPU – DS39







Principle of Operation:

TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
17900	31.55	3300	72	17000	10600	25500	16000

Winch Hydraulic Drive Supply Required	240 bar 800 l/min Dedicated HPU 2 x 75kW	Cable Lead-off Angle	+/- 75.2° Horizontal plane Min -3° Max + 60° Vertical plane
Electrical Supply Required	3 ph 380 / 415 / 440 / 460 V, 50/60Hz Note Qty 2 160A required for two pump operation	Frame details	Crash frame with guards, forklifting pockets and certified lifting lugs
Local Control (Emergency) and Remote-Control Station	Local and Remote-control station 15 m interconnection cable	Winch drum dimensions	Drum core Ø 1224 mm, Drum Length 1632 mm, Flange Ø 2165 mm
Level wind	Hydraulic Passive Automatic / Local manual adjustment mode	Drum details	Lebus shell drum; the cable is stored in 12 layers with 51 turns per lay
Dimensions (LxWxH) Footprint	4451 x 2837 x 4529 mm (with level wind fitted) 4160 x 2185 mm	Cable	Electro-mechanical umbilical
Slip ring	Designed to accept Cavotec HV or similar not within scope of supply	Hydraulic Ports	Flat faced QD connectors with Qty 5 20 meters interconnecting hydraulic hoses for A, B, P, T and D lines

The Winch consists of a winch drum mounted on a support structure, the drum is mounted directly onto a Hägglund Viking hydraulic motor fitted with two failsafe hydraulic cylinders and band brake assembly. The hydraulic closed-loop system governs the position of the swash plate in the pump(s) to control the direction and speed of rotation of the drum eliminating the need of a directional control valve.
Line pull can be set or altered by adjusting the pressure across the hydraulic motor, and hence altering the torque developed by the motor.
Manual control for full and half speed displacement providing low speed high torque or high-speed low torque.
Mooring and breakout mode for seabed operation.
Line speed can be smoothly adjusted between zero and 90 metres per minute using a proportional joystick.
The level wind system comprises a right angled passively driven 1280 mm root diameter exit sheave, complete with 25.5 Te load pin for tension control and is fitted with removable guide rollers to enable the required vertical plane cable lead off angle to be obtained.
The level wind and level wind support bar are mounted to the winch and both are detachable for ease of transportation and provided with transportation frames.

The winch is supplied with the following:

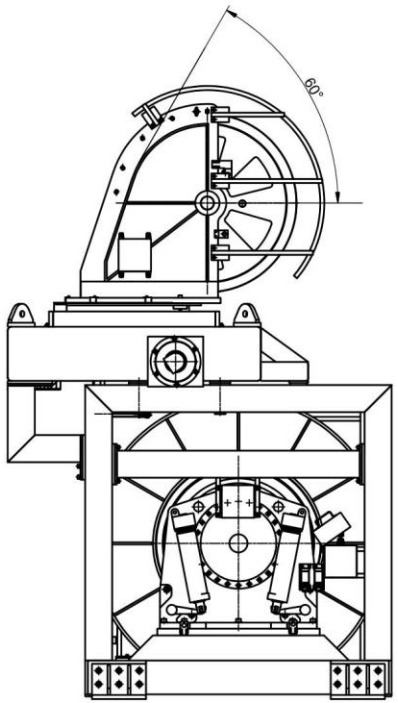
- **2 Off - Remote control stations**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **12 Month Warranty**
- **HMI - Cable counting, Tension control Running hours**
- **Operation and Maintenance Manual in Electronic Format**

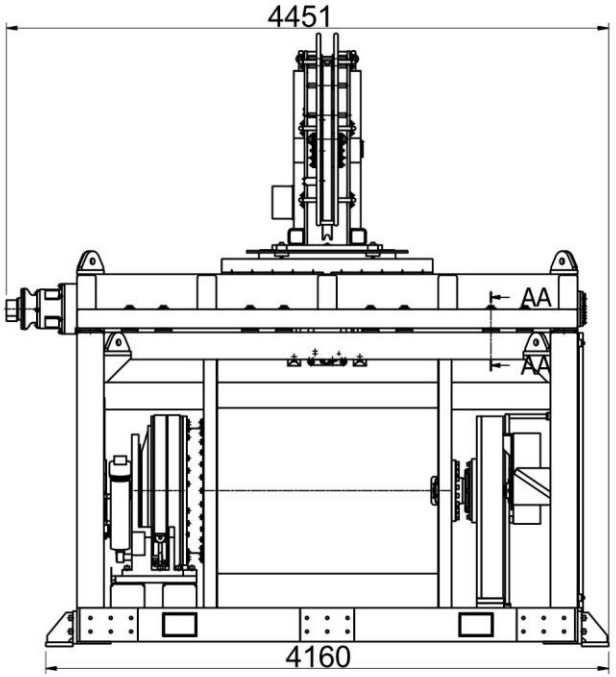
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

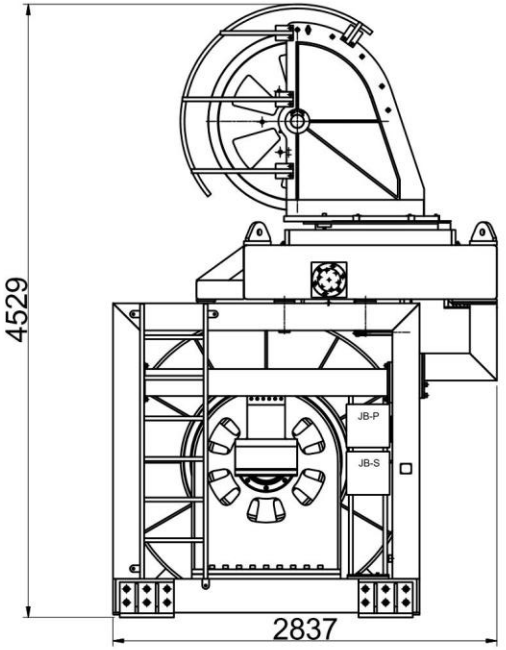
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Full Spares Kit**
- **Hanging sheave for use with an A-Frame and transportation frame**

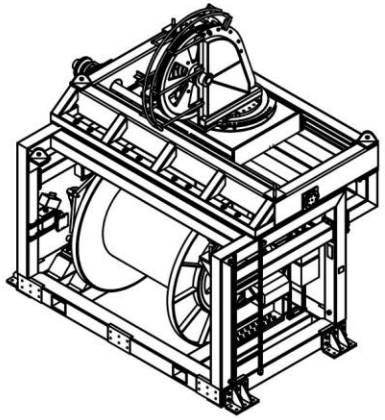
Back to contents

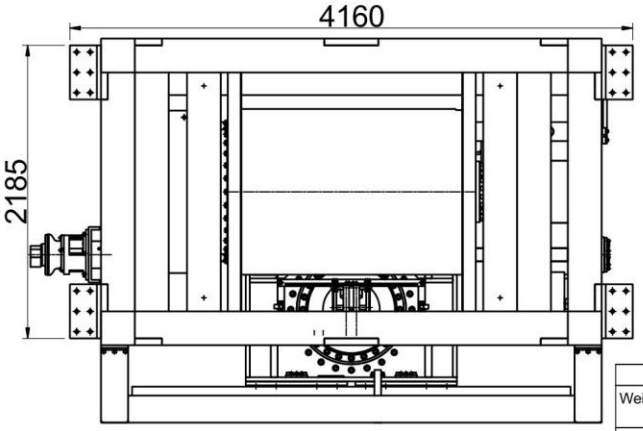
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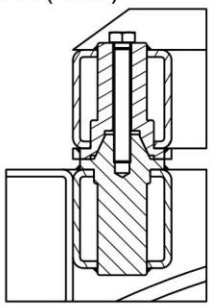


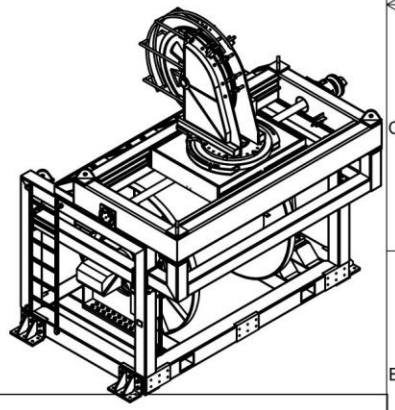






AA-AA (1 :5)





Technical specification								
Weight without Cable	Drum core diameter	Cable diameter	Capacity	Line speed	Line pull / SWL		Brake holding	
					Top layer	Drum layer	Top layer	Drum layer
17 900 Kg	1248 mm	31.55 mm	3 300 m	72 m/min	10.6 Te	17 Te	16 Te	25.5 Te

GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS							
0 UP TO 3	3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1000	OVER 1000 UP TO 2000	OVER 2000 UP TO 4000
± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	DIMENS.	SIZE - REMARKS

SUPERSEDED BY

SUPERSEDES

NOTES

USED ON

THIRD ANGLE PROJECTION

DRAWN		12/6/2011	ISSUE	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
		DATE	D.O.CHECKED										
			T.O.CHECKED										
			T.O.APPL.										
			STATUS										
			DATE										

ORIGINAL SCALE

A2

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ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS

TITLE

17 Te - WLL - 3300m - Hydraulic Winch

DRG. No.

DS39

SHT 1

OF 11

2 x 75kW Closed Loop Hydraulic Power Unit







TECHNICAL SPECIFICATION			
Pressure and Flow	**Max 240 Bar @ 800 lpm with both pumps**	**Frame**	**Crash frame with forklifting pockets and certified lifting lugs**
Pump and Motor Assy (Qty 2)	**355cc variable displacement pump with boost pressure pump - closed loop 28cc pressure compensated pump – open loop 75kW Electrical motor**	**Supply tank**	**1200 litres manufactured from 316 stainless steel with front access and desiccant Air breather 3-micron rating ensures air entering the reservoir is cleaned and dried**
Supply Required	**3 ph 380 / 415 / 440 / 460 V, 50/60Hz Note 2 independent 160A supplies into the starter panel is required for two pump operation**	**Supply tank filling point**	**G1" BSPP M suitable for QRC**
Cooling and heating	**Bowman heat exchanger - seawater oil cooler flow max 200 lpm dependant on sea water temp. Thermostatically controlled Tank heater 1.5 kW – 3ph**	**Filtration**	**Pressure and Return Filters 10-micron elements, with bypass & visual indicators**
Oil Cleanliness	**Suitable for proportional valve systems ISO 4406 17/15/12, NAS 6**	**Health Monitoring**	**Full temperature & level monitoring**
Controls	**Local and remote control**	**Port connections**	**P G3/4" BSP, T G1" BSP, D 1" BSP A & B G1.1/2" BSP**
Dimensions (LxWxH) Footprint	**2305 x 1800 x 2300 mm 2220 x 1800 mm**	**Weight**	**Dry weight: 4100 Kg**

Principle of Operation:

The 2 x 75kW Electrical Hydraulic Power Unit consists of, crash frame with lifting lugs, which affords protection during transportation and installation. The frame will enclose and protect the vulnerable equipment and provide stowage for hydraulic hoses.

Each 75kW 3 phase electrical motor is coupled to an independent closed-circuit variable displacement pump, boost pump and open circuit pressure commentated pump. The PLC control ensure that the pump provides the required pressure, flow rates and winch drum direction as per the demand. Horsepower limiting is only active in the PLC active position.

An interface connection plate with suitable sized connections for Pressure, Tank and Drain and Winch drum A & B lines enables the HPU to be connected via stainless steel Quick Release Couplings.

The winch/hpu is supplied with the following:

- **1 Set - 20-meter interconnecting hoses and stainless steel flat faced couplings, other lengths available upon request**
- **Marine grade paint system (Details can be supplied on application**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**

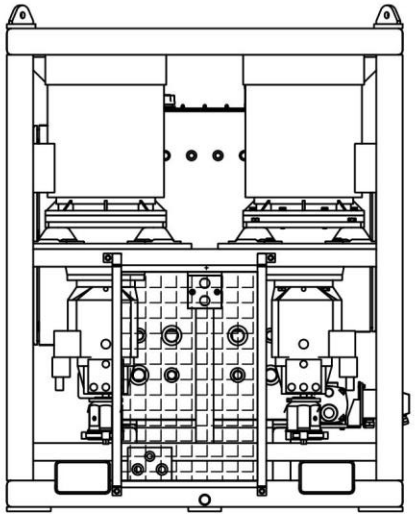
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

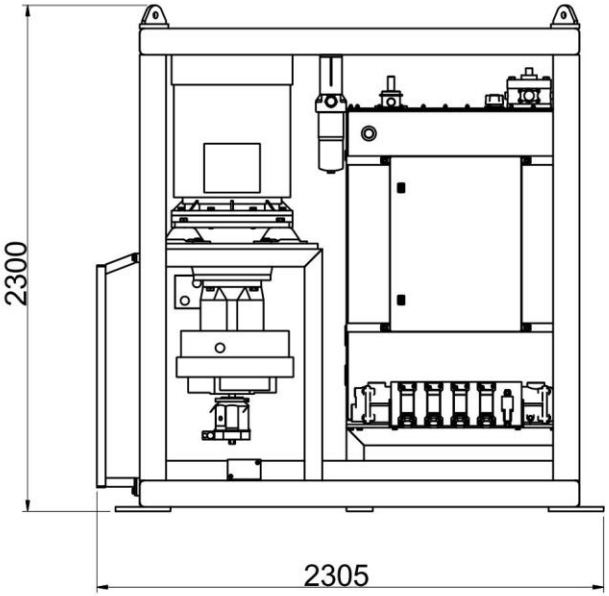
- **1 Off – Extended Warranty**
- **1 Set – stainless steel Quick Release Couplings**
- **1 Off – Full Spares Kit**

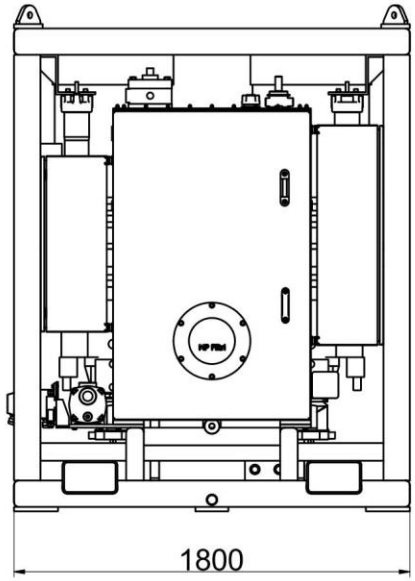
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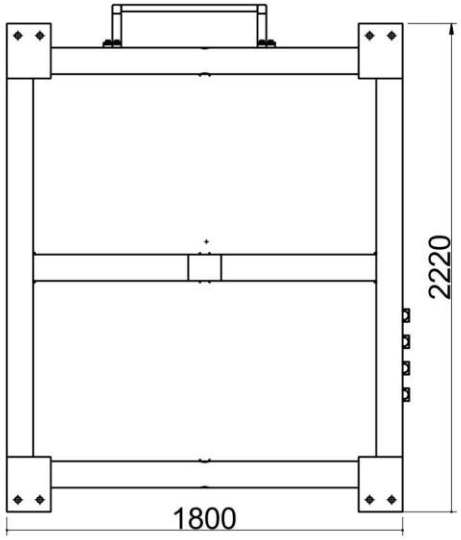
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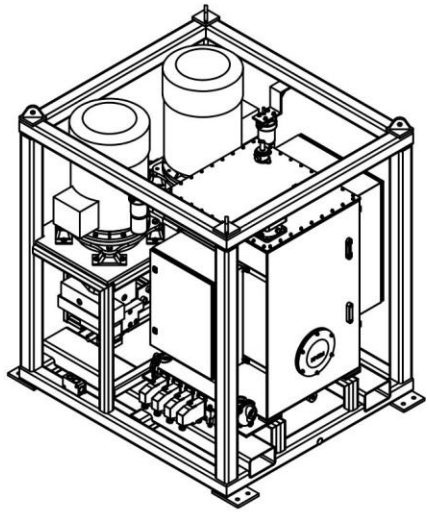
THIRD ANGLE PROJECTION











GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS

0 UP TO 3	3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1000	OVER 1000 UP TO 2000	OVER 2000 UP TO 4000
±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2

NOTES

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DRAWN	Peto Gabor A	9/20/2013
	DATE	

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
D.O.CHECKED										
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T.O.APPL.										
STATUS										
DATE										

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	DIMENS.	SIZE - REMARKS

SUPERSEDED BY

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ORIGINAL SCALE

A2

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ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS

TITLE: 2 x 75 kW Closed Loop Hydraulic Power Unit

DRG. No. DS39

SHT 1 OF 3

1.9 TOW Winch

15 Te WLL - 300m - Hydraulic Winch – DS60..... 162

TOW Winch Description

RTG can offer a vareity of different TOW winches. These can be supplied with either an electrical of hydarulic drive with various drum configurations including waterfall arrangements, which can significantly reduce valuable deck space.

Due to the varying lengths of cable plain, helicoidal grooved drum and Lebus shells are options as well as mechanical, electrical and hydraulic level wind systems.

Additional features such as render function, constant tension, active heave compensation can be offered as options.

15 Te WLL - 300m - Hydraulic Winch – DS60





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1650	22	300	30	15000	12060	21540	17240

Winch Hydraulic Drive Supply Required	Bonfiglioli 715 C3B 200 Bar 250 l/min	Cable Lead-off Angle	N/A
Level Wind Electrical Motor Supply Required	N/A	Frame details	Side supports without guards, certified lifting lugs
Local Proportional Control	None	Winch drum dimensions	Drum core Ø 570 mm, Drum Length 500 mm, Flange Ø 860 mm
Level wind	N/A	Drum details	Plain drum; the wire is stored in 6 lays with 22 turns per lay
Dimensions (LxWxH) Footprint	1351 x 1200 x 887.5 mm 1351 x 1200 mm	Cable	synthetic or wire rope
Slip ring	N/A	Hydraulic Ports	A G1/2 BSP, B 1/2” BSP, D G1/4” BSP

Principle of Operation:

The Winch barrel is mounted directly between two side supports. One side support houses the Gearbox and Hydraulic Motor and the other houses the bearing assembly and encoder. The hydraulic motor drives the gearbox assembly and thus turn the winch barrel in either direction.

The gearbox is fitted with a hydraulically actuated spring applied failsafe brake unit and a hydraulic motor.

The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor.

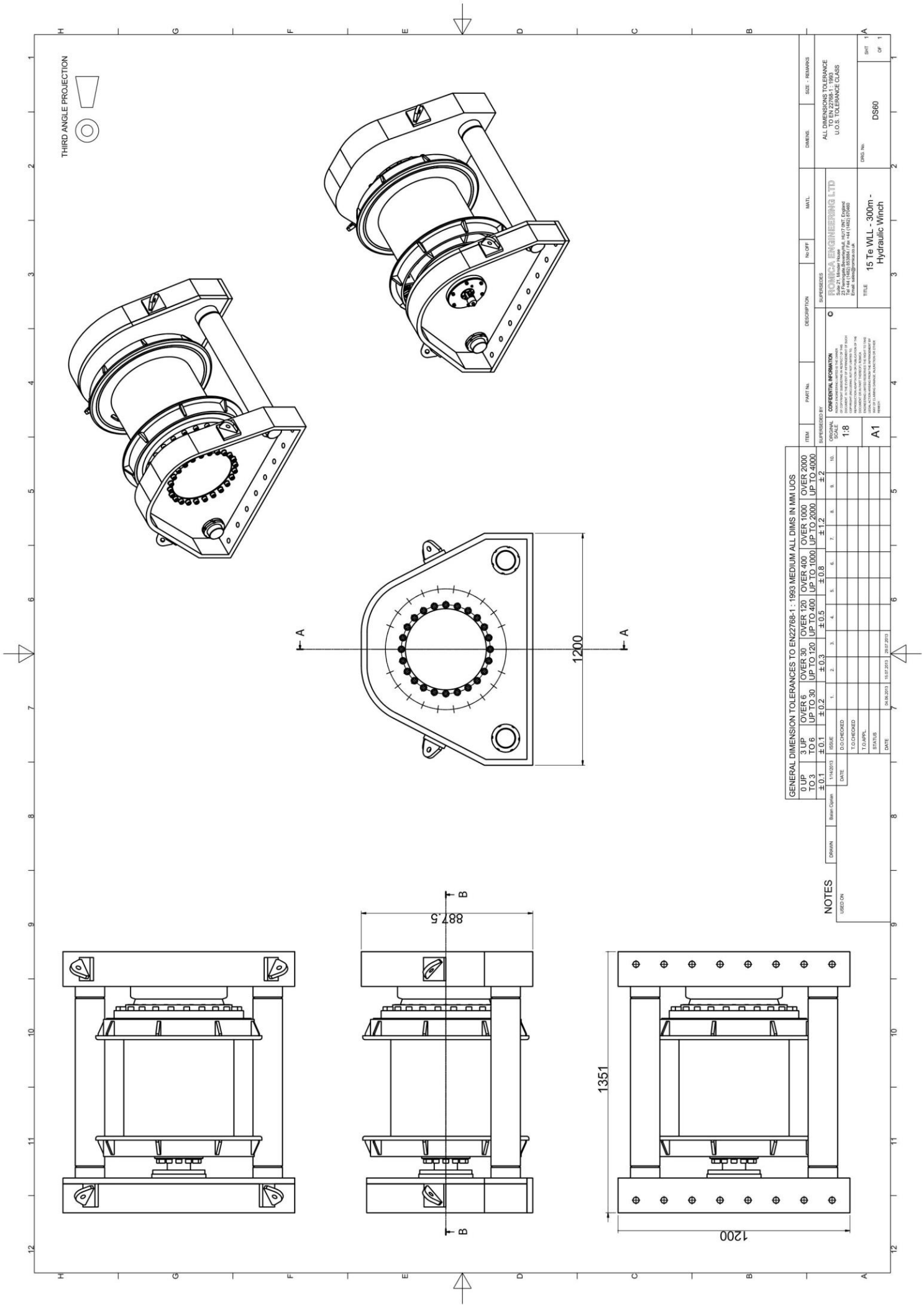
The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Proportional directional control valve**
- **1 Off – Full Spares Kit**
- **1 Off – Extended Warranty**


THIRD ANGLE PROJECTION
A
A
1200
B
B
887.5
1351
1200
NOTES
GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS
0 UP TO 3 ±0.1
3 UP TO 6 ±0.1
OVER 6 UP TO 30 ±0.2
OVER 30 UP TO 120 ±0.3
OVER 120 UP TO 400 ±0.5
OVER 400 UP TO 1000 ±0.8
OVER 1000 UP TO 2000 ±1.2
OVER 2000 UP TO 4000 ±2
ALL DIMENSIONS TOLERANCE TO EN 22768 - 1 MEDIUM U.O.S. TOLERANCE CLASS
ROMICA ENGINEERING LTD
TITLE: 15 Te WLL - 300m - Hydraulic Winch
DRG. No: DS60
SHT 1 OF 1
A1
ORIGINAL SCALE: 1:8
DRAWN Blain Cipriani 17/4/2013
ISSUE
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T.O.APPL
STATUS
DATE 04.06.2013 15.07.2013 29.07.2013
USED ON

1.10 Array Winch

0.3 Te WLL - 200m - Electric Winch – DS03 166

0.5 Te WLL - 200m - Electric Winch – DS99 168

Array Winch Description

RTG offers a range of hydraulic or electric driven winches that are suitable for Towed Array handling Systems

The wide variety of Towed Array Systems required in the industry that support the Ultra high resolution, 2D, 2DHR, 3D requirements for inshore and offshore seismic survey work require a variety of configurations, including drum capacity, pull capacity, static and dynamic tension monitoring system.

0.3 Te WLL - 200m - Electric Winch – DS03





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1620	48	200	30	300	229	450	344

Supply Required	**380-440V-3 Ph- 50/60 Hz**	**Frame details**	**Crash frame with guards, forklifting pockets and certified lifting lugs**
Winch Electrical Motor	**2.2 KW IP56 IE3**	**Winch drum dimensions**	**Drum core Ø 1200 mm, Drum Length 480 mm, Flange Ø 1980 mm**
Local Proportional Control	**Bi-directionally proportional joystick and speed control potentiometer**	**Drum details**	**Plain drum: the umbilical is stored in 5 lays with 10 turns per lay**
Level wind	**N/A**	**Drum flanges 4 off - Ø 20 mm holes**	**To enable the winch drum to be "stoppered" off to a lug on the frame during long tow**
Dimensions (LxWxH) Footprint	**2165 x 1258 x 2080 mm 2120 x 1170 mm**	**Cable**	**Mini-Streamer Ø 48 mm**
Slip ring	**Designed to accept Focal 180 or similar not within scope of supply**	**Forward support cross bar**	**Easily removable, via bolts, to allow equipment to pass**

Principle of Operation:

The winch barrel is mounted directly onto the outer face of a vertically mounted slew-ring bearing. The inner ring of the bearing has been mounted onto the frame support.

The winch barrel is driven directly from a Brevini gearbox and a 2.2 kW SEW Electric Motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost or the joystick is in its centre (neutral) position.

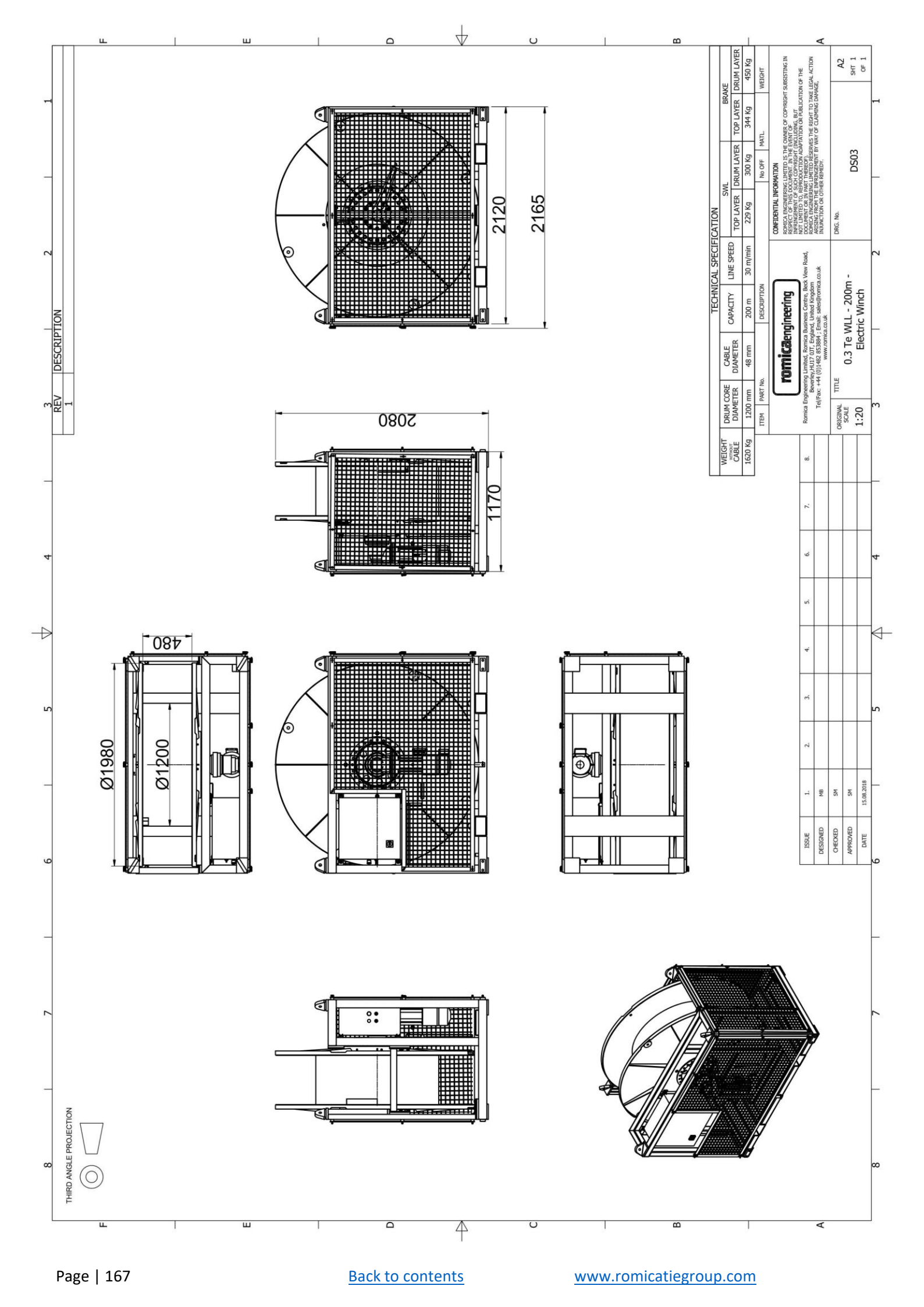
The Electric Survey Winch can be driven bi-directionally using a proportional joystick, which is mounted locally on the side of the electrical enclosure, the proportional joystick controls both the direction and the speed of the winch in heave and pay out.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**


REV
DESCRIPTION
1
2120
2165
2080
1170
480
Ø1980
Ø1200
TECHNICAL SPECIFICATION
WEIGHT WITHOUT CABLE
1620 Kg
DRUM CORE DIAMETER
1200 mm
CABLE DIAMETER
48 mm
CAPACITY
200 m
LINE SPEED
30 m/min
SWL
TOP LAYER
229 Kg
DRUM LAYER
300 Kg
BRAKE
TOP LAYER
344 Kg
DRUM LAYER
450 Kg
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romicaengineering
Romica Engineering Limited, Romica Business Centre, Beck View Road, Beverley,HU17 0JT, England, United Kingdom
Tel/Fax: +44 (0)1482 853894 ; Email: sales@romica.co.uk
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DESIGNED
CHECKED
APPROVED
DATE
MB
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SM
15.08.2018
ORIGINAL SCALE
1:20
TITLE
0.3 Te WLL - 200m - Electric Winch
DRG. No.
DS03
A2
SHT 1 OF 1
THIRD ANGLE PROJECTION

0.5 Te WLL - 200m - Electric Winch – DS99







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
2200	45	200	30	500	405	750	607.5

Supply Required	380-440V-3 Ph- 50/60 Hz	Frame details	Crash frame with guards, fork lifting pockets, ISO Corners and certified lifting lugs
Winch Electrical Motor	5.5 Kw IP56 IE3	Winch drum dimensions	Drum core Ø 1500 mm, Drum Length 360 mm, Flange Ø 2100 mm
Local Proportional Control	Bi-directionally proportional joystick and speed control potentiometer	Drum details	Plain drum; the umbilical is stored in 5 lays with 11 turns per lay
Level wind	N/A	Drum flanges 4 off - Ø 20 mm holes	To enable the winch drum to be “stoppered” off to a lug on the frame during long tow
Dimensions (LxWxH) Footprint	2240 x 1250 x 2192 mm 2200 x 1210 mm	Cable	GeoEel Solid LH-16 Digital Solid Streamer
Slip ring	Designed to accept IEC Corporation ISM-16-7FT-4FT-3500-CS slip ring or similar not within scope of supply	Forward support cross bar	Easily removable, via bolts, to allow equipment to pass

Principle of Operation:

The winch barrel is mounted directly onto the outer face of a vertically mounted slew-ring bearing. The inner ring of the bearing has been mounted onto the frame support.

The winch barrel is driven directly from a right angled 4 stage planetary gearbox and a 5.5 kW Electric Motor, an electromagnetic failsafe brake unit is fitted between the electrical motor and gearbox. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost or the joystick is in its centre (neutral) position.

The Electric Survey Winch can be driven bi-directionally using a proportional joystick, which is mounted locally on the side of the electrical enclosure, the proportional joystick controls both the direction and the speed of the winch in heave and pay out.

The winch is supplied with the following:

- **Qty4 standard ISO castings corners for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

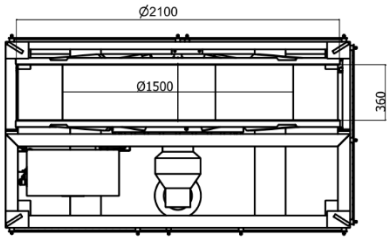
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

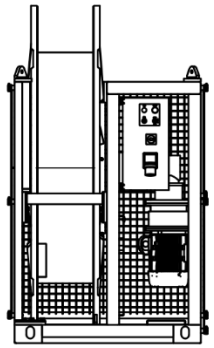
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **Remote Control wired or wireless**

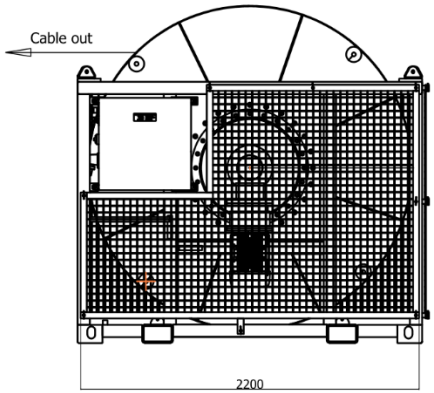
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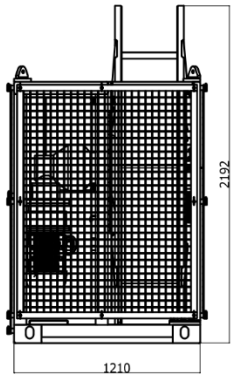
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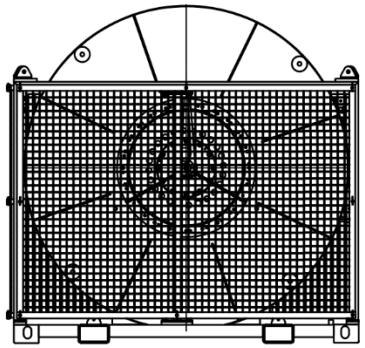
REV.	DATE	DESCRIPTION	DESG.	CKD.	APPD.

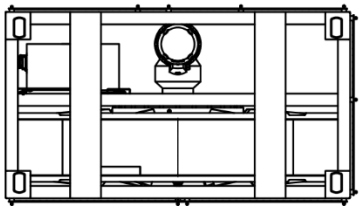


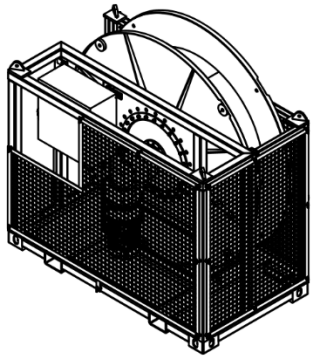






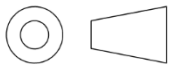






TECHNICAL SPECIFICATION
-Max. line pull at 1_st layer 500kgf
-Max. line pull at top layer 405kgf
-Max. brake holding capacity at 1_st layer 750kgf
-Nominal line speed 30m/min
-Capacity 200m of 45mm streamer
-Drum core diameter 1500mm
-Electric motor size 5.5kW
-Estimated mass without streamer 2200kg

THIRD ANGLE PROJECTION



Extract from BS EN 22768-1:1993 Medium tolerance class U.O.S.	from 0.5 upto 3	over 3 upto 6	over 6 upto 30	over 30 upto 120	over 120 upto 400	over 400 upto 1000	over 1000
	Linear tolerances for ranges of dimensions (not rads and chamfers)						
	+/- 0.1	+/- 0.1	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8	+/- 1.2
	Liear tolerances for ranges of dimension on rads and chamfers						
	+/- 0.2	+/- 0.5	+/- 1	+/- 1	+/- 1	+/- 1	+/- 1
	Angular tolerances						
	upto 10	over 10 upto 50	over 50 upto 120	over 120 upto 400	over 400		
	+/- 1 deg.	+/- 1 deg.	+/- 0.2 deg.	+/- 1 deg.	+/- 0.5 deg.		

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

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ORIGINAL SCALE	TITLE	DRG. No.	A3
	0.5 Te WLL - 200m - Electric Winch	DS99	SHT 1 OF 1

1.11 Auxiliary/Tugger Winch

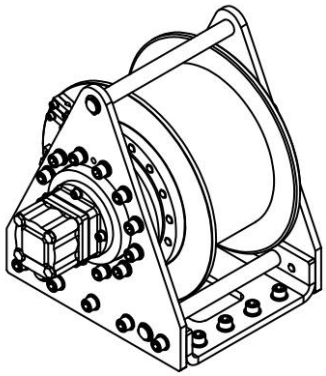
1.1 Te WLL - 30m - Hydraulic Winch – DS44 172
2.5 Te WLL - 50m - Hydraulic Winch – DS45 174
2.5 Te WLL - 500m - Hydraulic Winch – DS46 176
3.5 Te WLL - 40m - Hydraulic Winch – DS16 178
3.5 Te WLL - 200m - Hydraulic Winch – DS48 180

Auxiliary/Tugger Winch Description

RTG offers a range of Auxiliary/Tugger Winches. The capabilities and cable storage depend upon the drive system. Drive systems offered are mechanical hand operated, hydraulic or electric driven. Due to the varying lengths of cable plain, helicoidal grooved drum and Lebus shells are options as well as mechanical, electrical and hydraulic level wind systems.

1.1 Te WLL - 30m - Hydraulic Winch – DS44





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
201	9	30	20	1100	1000	1600	1500

Winch Hydraulic Drive Supply Required	200 bar 65 l/min	Cable Lead-off Angle	N/A
Level Wind Electrical Motor Supply Required	N/A	Frame details	Side supports without guards
Local Proportional Control	None	Winch drum dimensions	Drum core Ø 320 mm, Drum Length 200 mm, Flange Ø 430 mm
Level wind	N/A	Drum details	Plain drum: the wire is stored in 2 lays with 22 turns per lay
Dimensions (LxWxH) Footprint	440 x 556 x 514 mm 440 x 357 mm	Cable	7 x 19 RHL Wire Rope
Slip ring	N/A	Hydraulic Ports	A G3/4” BSP, B G3/4” BSP, D G1/2” BSP

Principle of Operation:

The Winch barrel is mounted directly between two side supports. One side support houses the Gearbox and Hydraulic Motor and the other houses the bearing assembly. The hydraulic motor drives the gearbox assembly and thus turn the winch barrel in either direction.

The gearbox is fitted with a hydraulically actuated spring applied failsafe brake unit and an open loop orbital low speed hydraulic motor.

The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor.

The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool.

The winch is supplied with the following:

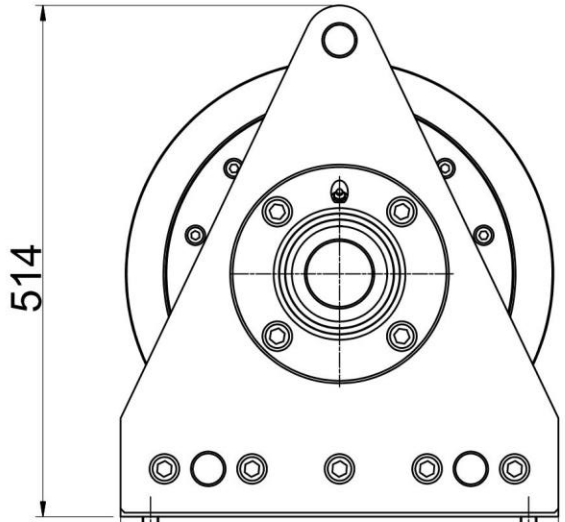
- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

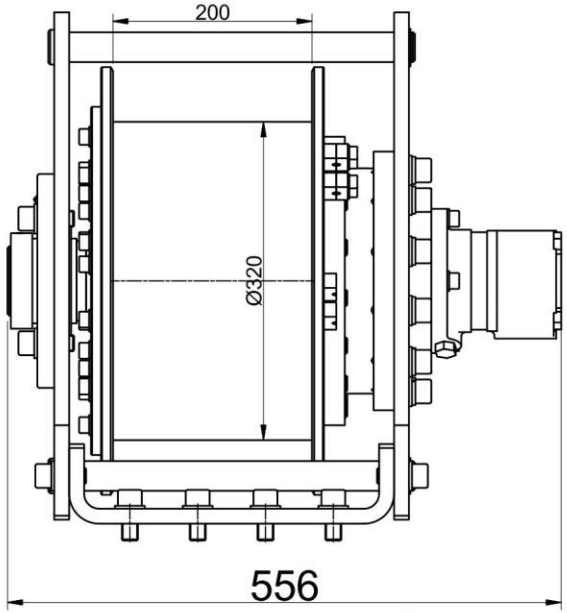
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

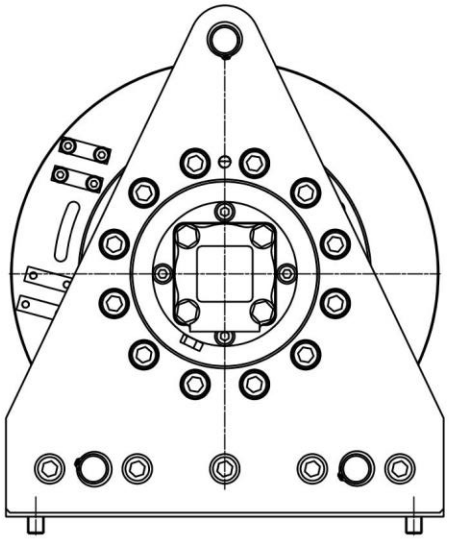
- **1 Off – Proportional directional control valve**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**

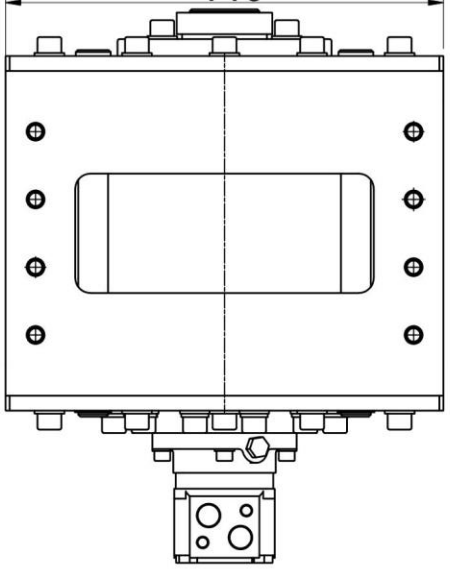
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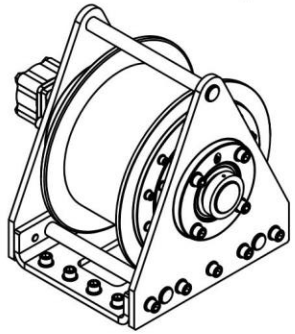
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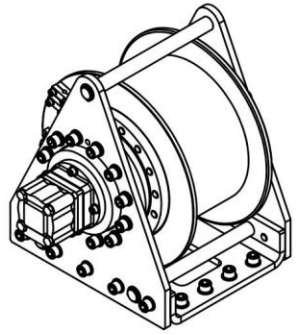












TECHNICAL SPECIFICATION								
WEIGHT WITHOUT CABLE	DRUM CORE DIAMETER	CABLE DIAMETER	CAPACITY	LINE SPEED	LINE PULL / SWL			
					TOP LAYER	DRUM LAYER	TOP LAYER	DRUM LAYER
200.8 kg	320 mm	9 mm	30 m	20 m/min	1 Te	1.1 Te	1.5 Te	1.6 Te

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Ilyes Andras							
CHECKED	Gabor Peto							
APPROVED	Struczuj Mihaly							
DATE	06.08.2015							

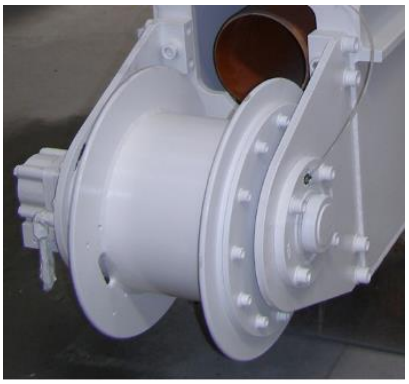
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ORIGINAL SCALE	TITLE	DRG. No.	
1:5	1.1 Te WLL - 30m - Hydraulic Winch	DS44	A3 SHT 3 OF 3

2.5 Te WLL - 50m - Hydraulic Winch – DS45





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
150	10	50	60	2500	2300	3750	3450

Winch Hydraulic Drive Supply Required	RRTD 1000DDB 160 bar 65 l/min	Cable Lead-off Angle	N/A
Level Wind Electrical Motor Supply Required	N/A	Frame details	Side supports without guards
Local Proportional Control	None	Winch drum dimensions	Drum core Ø 324 mm, Drum Length 220 mm, Flange Ø 470 mm
Level wind	N/A	Drum details	Plain drum: the wire is stored in 3 lays with 22 turns per lay
Dimensions (LxWxH) Footprint	500 x 610 x 490 mm 500 x 385 mm	Cable	7 x 19 RHL Wire Rope
Slip ring	N/A	Hydraulic Ports	A G1/2” BSP, B G1/2” BSP, D G1/4” BSP

Principle of Operation:

The Winch barrel is mounted directly between two side supports. One side support houses the Gearbox and Hydraulic Motor and the other houses the bearing assembly. The hydraulic motor drives the gearbox assembly and thus turn the winch barrel in either direction.

The gearbox is fitted with a hydraulically actuated spring applied failsafe brake unit and an open loop orbital low speed hydraulic motor.

The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor.

The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

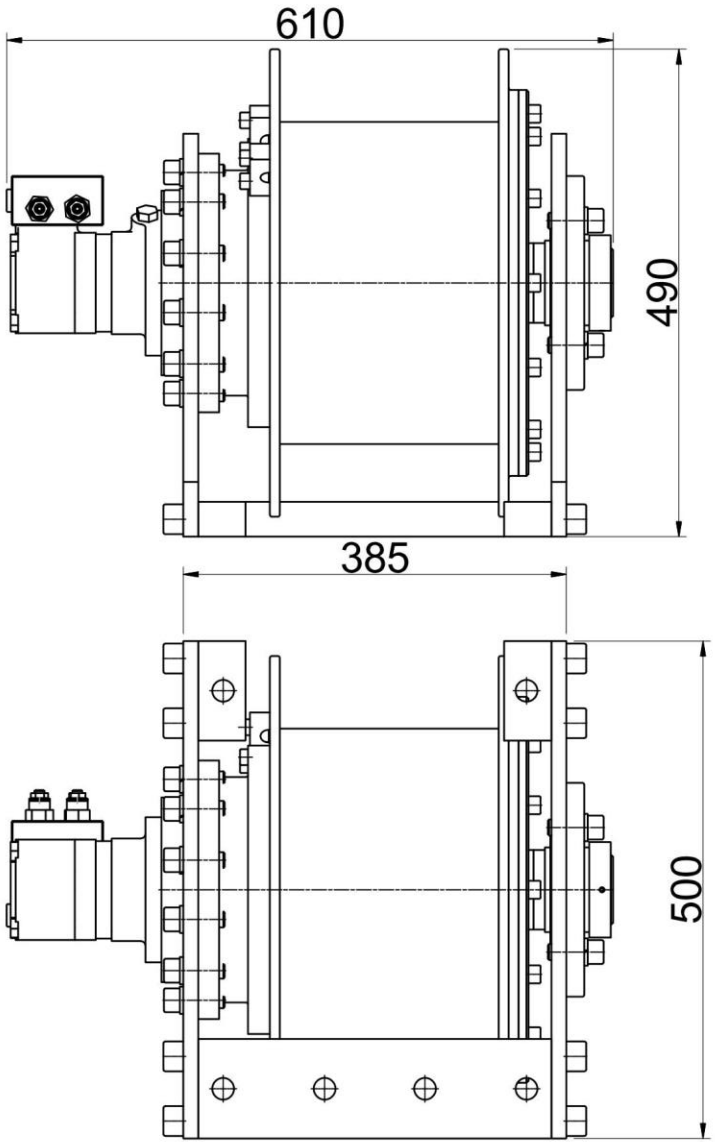
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

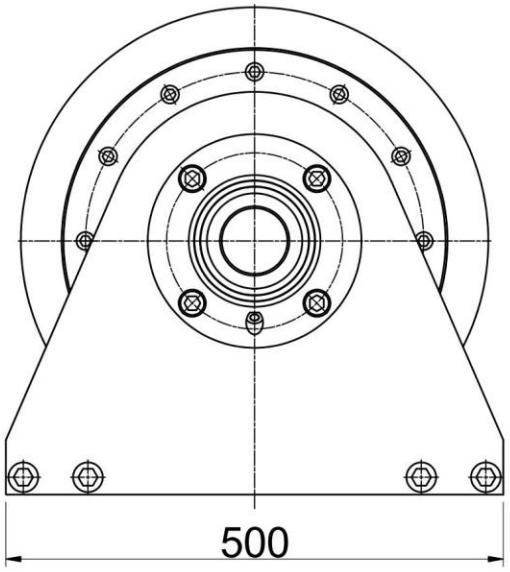
- **1 Off – Proportional directional control valve**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Chest Remote Control**

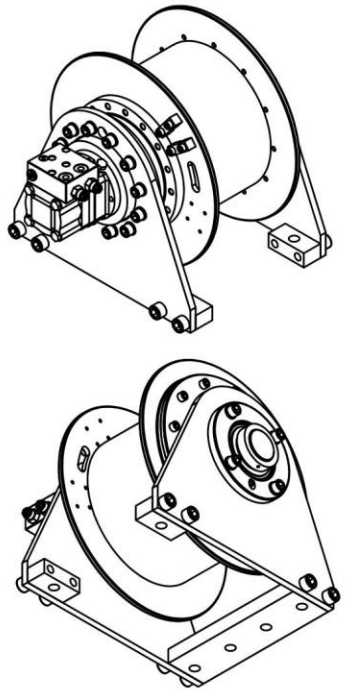
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ISSUE	DESCRIPTION
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THIRD ANGLE PROJECTION

Auxiliary Winch 1

TECHNICAL SPECIFICATION								
WEIGHT WITHOUT CABLE	DRUM CORE DIAMETER	CABLE DIAMETER	CAPACITY	LINE SPEED	SWL		BRAKE	
					TOP LAYER	DRUM LAYER	TOP LAYER	DRUM LAYER
150 kg	324 mm	10 mm	50 m	60 m/min	2.3 Te	2.5 Te	3.45 Te	3.75 Te

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Mihai Struczuj							
CHECKED								
APPROVED								
DATE	20.07.2011							

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

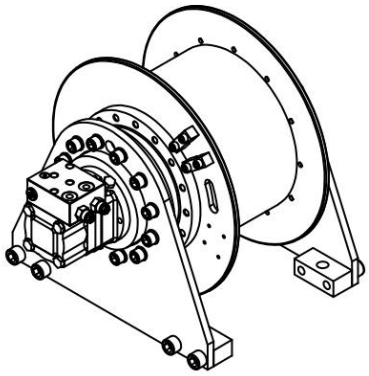
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ORIGINAL SCALE	TITLE	DRG. No.	
1:5	2.5 Te WLL - Hydraulic Winch - 50m	DS45	A3 SHT 1 OF 1

2.5 Te WLL - 500m - Hydraulic Winch – DS46





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
150	6	500	60	2500	1900	3750	2850

Winch Hydraulic Drive Supply Required	RRTD 1000DDB 160 bar 65 l/min	Cable Lead-off Angle	N/A
Level Wind Electrical Motor Supply Required	N/A	Frame details	Side supports without guards
Local Proportional Control	None	Winch drum dimensions	Drum core Ø 324 mm, Drum Length 220 mm, Flange Ø 470 mm
Level wind	N/A	Drum details	Plain drum: the wire is stored in 3 lays with 36 turns per lay
Dimensions (LxWxH) Footprint	500 x 610 x 490 mm 500 x 385 mm	Cable	7 x 19 RHL Wire Rope
Slip ring	N/A	Hydraulic Ports	A G1/2” BSP, B G1/2” BSP, D G1/4” BSP

Principle of Operation:

The Winch barrel is mounted directly between two side supports. One side support houses the Gearbox and Hydraulic Motor and the other houses the bearing assembly. The hydraulic motor drives the gearbox assembly and thus turn the winch barrel in either direction.

The gearbox is fitted with a hydraulically actuated spring applied failsafe brake unit and an open loop orbital low speed hydraulic motor.

The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor.

The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

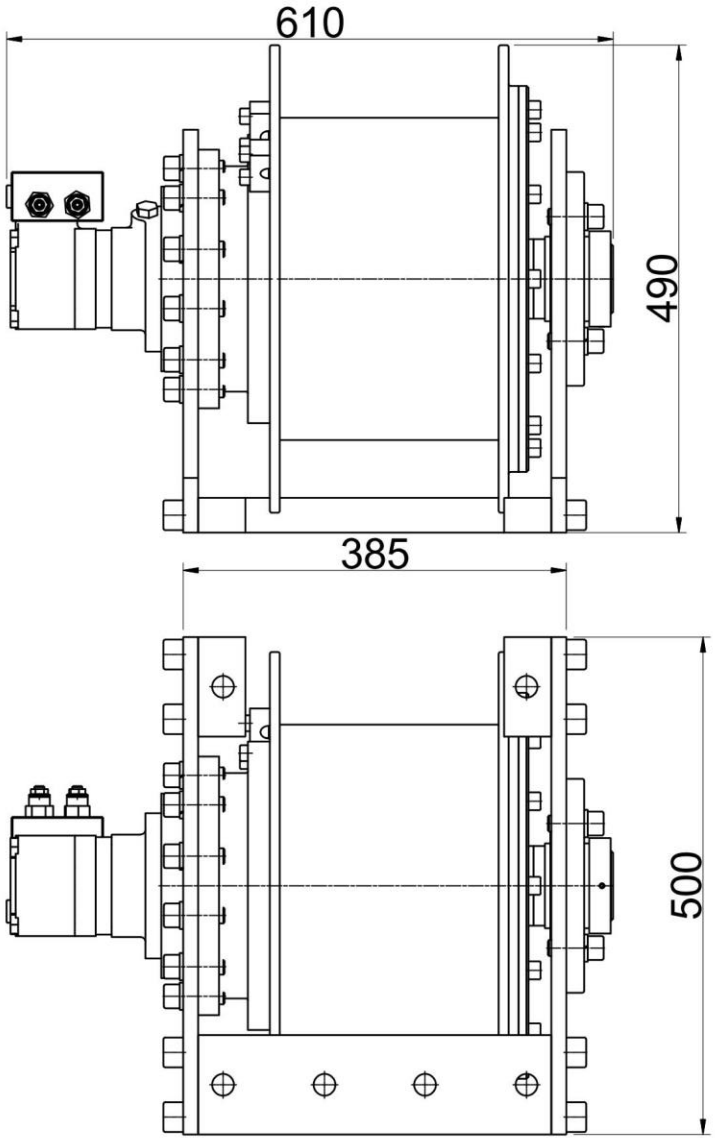
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

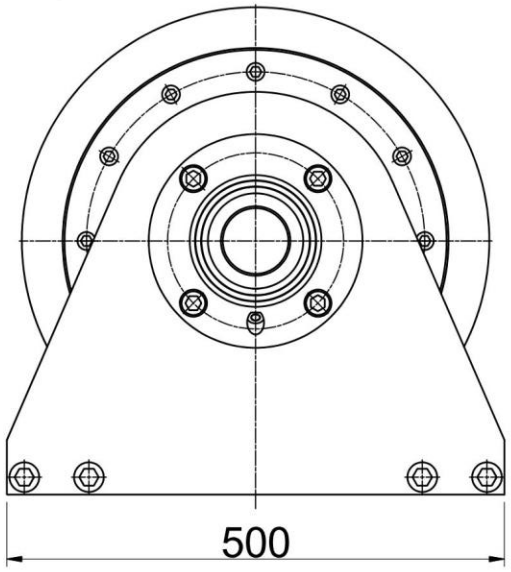
- **1 Off – Proportional directional control valve**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Chest Remote Control**

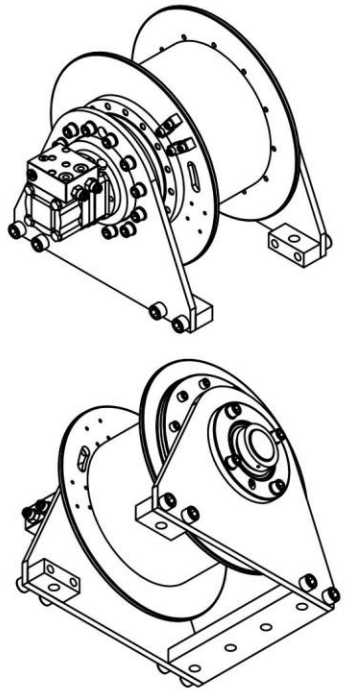
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ISSUE	DESCRIPTION
1	







THIRD ANGLE PROJECTION

Auxiliary Winch 2

TECHNICAL SPECIFICATION								
WEIGHT WITHOUT CABLE	DRUM CORE DIAMETER	CABLE DIAMETER	CAPACITY	LINE SPEED	SWL		BRAKE	
					TOP LAYER	DRUM LAYER	TOP LAYER	DRUM LAYER
150 kg	324 mm	6 mm	500 m	60 m/min	1.9 Te	2.5 Te	2.85 Te	3.75 Te

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Mihai Struczuj							
CHECKED								
APPROVED								
DATE	20.07.2011							

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

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ORIGINAL SCALE	TITLE	DRG. No.	
1:5	2.5 Te WLL - Hydraulic Winch - 500m	DS46	A3 SHT 1 OF 1

3.5 Te WLL - 40m - Hydraulic Winch – DS16





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
350	16	40	20	3500	3000	5250	4500

Winch Hydraulic Drive Supply Required	190 bar 65 l/min	Cable Lead-off Angle	N/A
Level Wind Electrical Motor Supply Required	N/A	Frame details	Side supports with guards
Local Proportional Control	None	Winch drum dimensions	Drum core Ø 390 mm, Drum Length 228 mm, Flange Ø 570 mm
Level wind	N/A	Drum details	Plain drum: the wire is stored in 2 lays with 13 turns per lay
Dimensions (LxWxH) Footprint	618 x 668 x 709 mm 590 x 410 mm	Cable	7 x 19 RHL Wire Rope
Slip ring	N/A	Hydraulic Ports	A G1/2" BSP, B G1/2" BSP, D G1/2" BSP

Principle of Operation:

The Winch barrel is mounted directly between two side supports. One side support houses the Gearbox and Hydraulic Motor and the other houses the bearing assembly. The hydraulic motor drives the gearbox assembly and thus turn the winch barrel in either direction.

The gearbox is fitted with a hydraulically actuated spring applied failsafe brake unit and an open loop orbital low speed hydraulic motor.

The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor.

The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Proportional directional control valve**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**

Back to contents

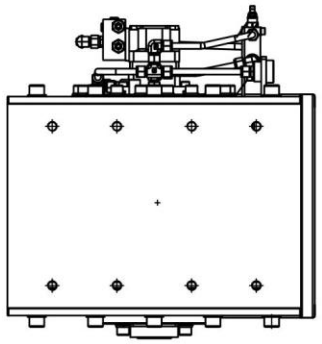
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Note:

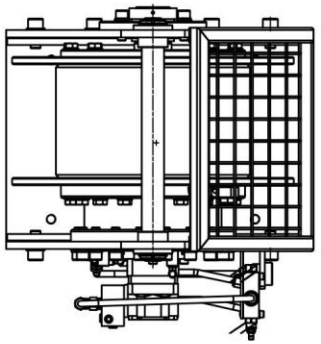
- The position of the CoG is without cable.
- Colour: Traffic white RAL 9016
- Hydraulic power requirements
  pressure = 190 Bar
  flow = 65 l/min

Hydraulic Connections	
SBTWA1	G ½
SBTWB1	G ½
D	G ½

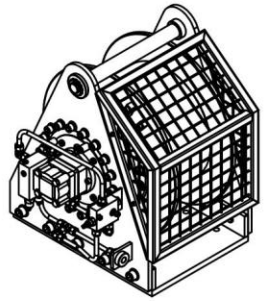
A (1:10)



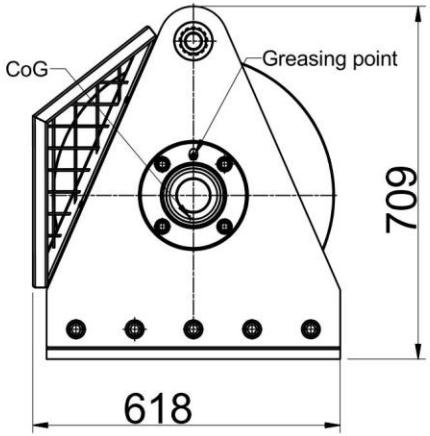
Top VIEW (1:10)



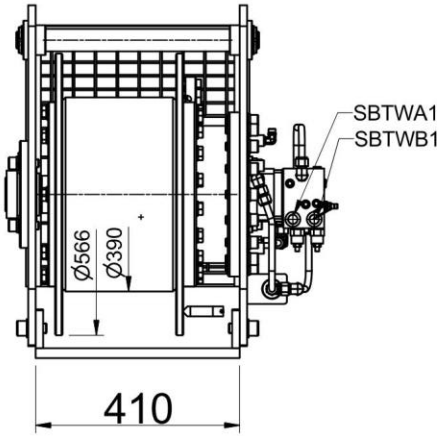
THIRD ANGLE PROJECTION



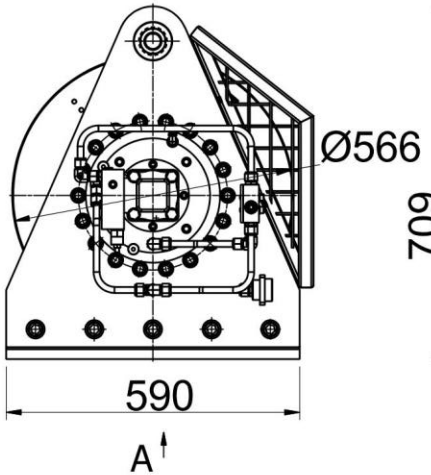
Stern VIEW2 (1:10)



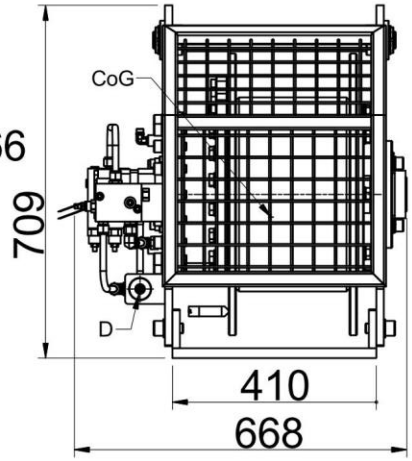
Port VIEW (1:10)



Forward VIEW1 (1:10)



STB VIEW (1:10)



TECHNICAL SPECIFICATION								
WEIGHT WITHOUT CABLE	DRUM CORE DIAMETER	CABLE DIAMETER	CAPACITY	LINE SPEED	LINE PULL / SWL			
					TOP LAYER	DRUM LAYER	TOP LAYER	DRUM LAYER
410 kg	390 mm	16 mm	40 m	20 m/min	3000 kgf	3500 kgf	4500 kgf	5250 kgf

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Gabor A Peto	Gabor A Peto	Gabor A Peto					
CHECKED	Bertalan Merli		Bertalan Merli					
APPROVED	Ioan Lipovan		Ioan Lipovan					
DATE	29.10.2015	07.01.2016	18.03.2016					

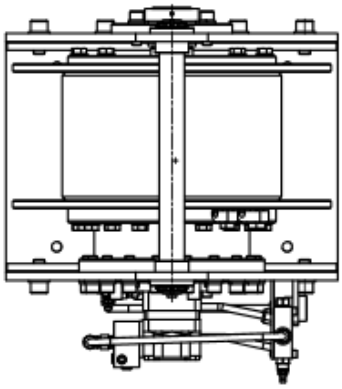
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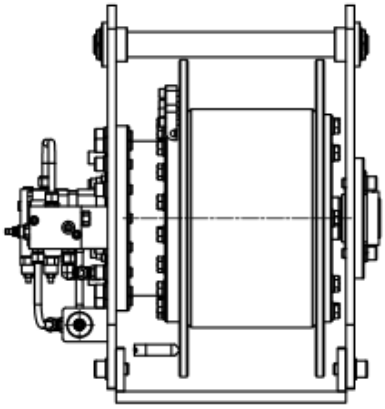
romica engineering
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ORIGINAL SCALE	TITLE	DRG. No.	
1:10	3.5 Te WLL - 40m - Hydraulic Winch	DS16	A3 SHT 1 OF 4

3.5 Te WLL - 200m - Hydraulic Winch – DS48





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
350	16	200	20	3500	3000	5250	4500

Winch Hydraulic Drive Supply Required	Bonfiglioli 706C2B 200 Bar 65 l/min	Cable Lead-off Angle	N/A
Level Wind Electrical Motor Supply Required	N/A	Frame details	Side supports without guards
Local Proportional Control	None	Winch drum dimensions	Drum core Ø 390 mm, Drum Length 228 mm, Flange Ø 570 mm
Level wind	N/A	Drum details	Plain drum: the wire is stored in 9 lays with 14 turns per lay
Dimensions (LxWxH) Footprint	618 x 668 x 709 mm 590 x 410 mm	Cable	7 x 19 RHL Wire Rope
Slip ring	N/A	Hydraulic Ports	A G3/4” BSP, B G3/4” BSP, D G1/2” BSP

Principle of Operation:

The Winch barrel is mounted directly between two side supports. One side support houses the Gearbox and Hydraulic Motor and the other houses the bearing assembly. The hydraulic motor drives the gearbox assembly and thus turn the winch barrel in either direction.

The gearbox is fitted with a hydraulically actuated spring applied failsafe brake unit and an open loop orbital low speed hydraulic motor.

The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor.

The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

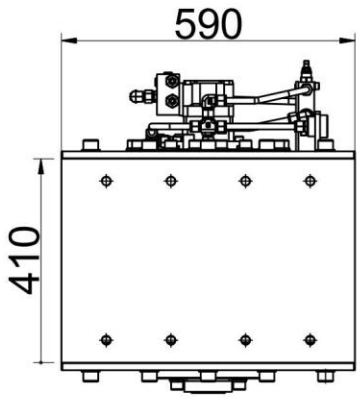
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Proportional directional control valve**
- **1 Off – Full Spares Kit**
- **1 Off – Chest Remote Control**
- **1 Off – Extended Warranty**

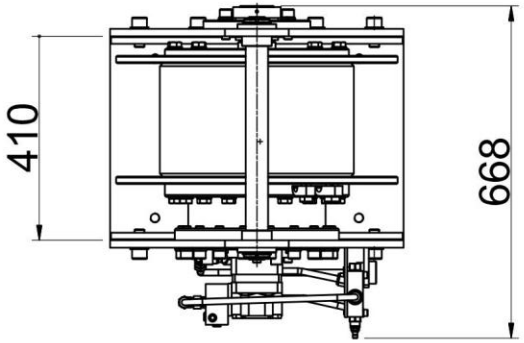
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G (1:10)

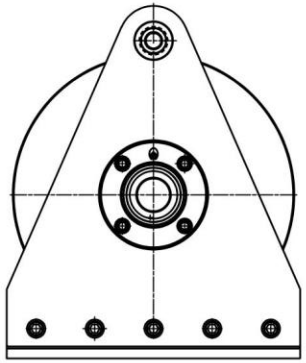


Top VIEW (1:10)

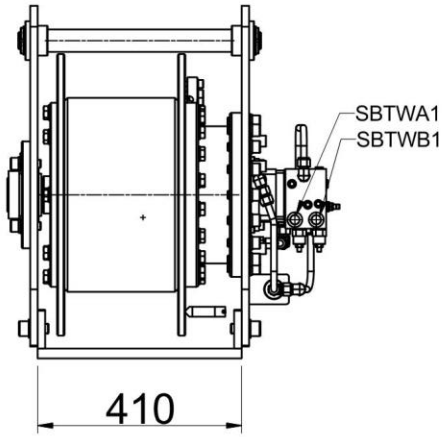


Hydraulic Connections	
SBTWA1	G ¾
SBTWB1	G ¾
D	G ½

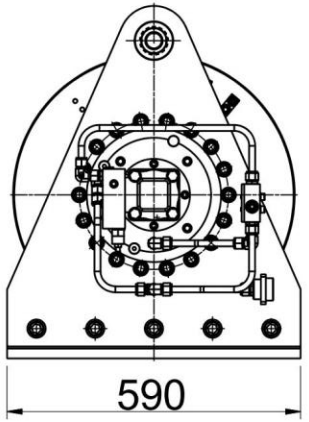
Stern VIEW2 (1:10)



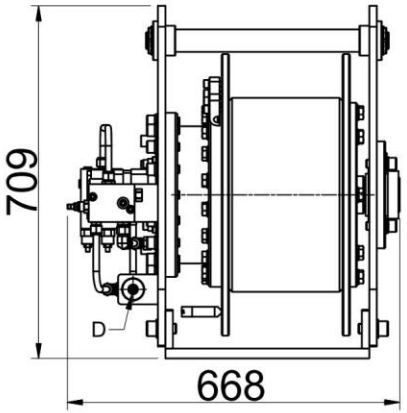
Port VIEW (1:10)



Forward VIEW1 (1:10)



STB VIEW (1:10)



TECHNICAL SPECIFICATION								
WEIGHT WITHOUT CABLE	DRUM CORE DIAMETER	CABLE DIAMETER	CAPACITY	LINE SPEED	LINE PULL / SWL			
					TOP LAYER	DRUM LAYER	TOP LAYER	DRUM LAYER
410 kg	390 mm	16 mm	40 m	20 m/min	3000 kgf	n/a	4500 kgf	n/a
ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Gabor A Peto	Gabor A Peto	Gabor A Peto					
CHECKED	Bertalan Merli		Bertalan Merli					
APPROVED	Ioan Lipovan		Ioan Lipovan					
DATE	29.10.2015	07.01.2016	18.03.2016					

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

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ORIGINAL SCALE	TITLE	DRG. No.	
1:10	3.5 Te WLL - 200m - Hydraulic Winch	DS48	A3 SHT 5 OF 5

2 Hydraulic Power Units

55kW Open Loop Hydraulic Power Unit – DS25 184

4 x 90kW Open Loop Hydraulic Power Unit – DS64 186

Hydraulic Power Unit Overview

RTG offers a range of electro-hydraulic power units to support the equipment it provides.

In basic terms, a hydraulic power pack is a self-contained unit that consists mainly of a motor, a reservoir and a hydraulic pump. Using fluid to transmit power from one location to another, hydraulic power packs can generate massive amounts of power which can be used to drive hydraulic machinery.

These are provided in the following configurations, either Open Loop, Closed loop. These can be standalone or can be integrated into the equipment if desired.

Open Loop Circuits:
These are circuits where both the inlet to the hydraulic pump and the motor (or valve) return are connected to a hydraulic reservoir. The hydraulic flow from the pressure port on the pump is directed to the device that it is powering and then returned back to the reservoir. A relief valve or directional valve in the circuit may divert any unused fluid back to the reservoir. Suction strainers and return filters keep the fluid clean. We can also offer either seawater or air blast cooling as required.

Closed Loop Circuits:
These are circuits where the motor return is connected directly to the hydraulic pump inlet. To maintain pressure in the loop, the circuits have a charge pump (a small gear pump) that supplies cooled and filtered oil to the low-pressure side. Closed-loop circuits are generally used for hydrostatic transmissions in mobile applications. The reservoir only has to have enough capacity to feed the small charge pump. These circuits are mainly used with higher-pressure piston hydraulic pumps and motors. We can also offer either seawater or air blasting cooling as required.

55kW Open Loop Hydraulic Power Unit – DS25









TECHNICAL SPECIFICATION

Pressure and Flow	**250 Bar @ 120 lpm and 200 Bar @ 150 lpm**	**Frame**	**Crash frame with guards, forklifting pockets and certified lifting lugs**
Pump and Motor Assy	**100cc Open Loop pressure compensating piston pump 0 - 350 Bar is driven by a 55 kW IP56 3ph IE3 with Star/Delta complete with Softex coupling and anti-vibration frame.**	**Supply tank**	**500 litres manufactured from 316 stainless steel with front access and desiccant Air breather 3-micron rating ensures air entering the reservoir is cleaned and dried**
Supply Required	**3 ph 380 / 415 / 440 / 460 V, 50/60Hz**	**Supply tank filling point**	**G1" BSPP M suitable for QRC**
Pressure Relief Valve	**Solenoid operated un-loading relief valve, PRV adjustable up to 350 bar**	**Starter/Meter Panels**	**IP66 rated for ingress protection complete with 0-500V and 0-200A**
Cooling and heating	**Thermostatically controlled air blast oil cooler 1.1 kW - 3 Ph Thermostatically controlled Tank heater 1.5 kW - 3 Ph**	**Filtration**	**Pressure and Return Filters 10-micron elements, with bypass & visual indicators**
Oil Cleanliness	**Suitable for proportional valve systems ISO 4406 17/15/12, NAS 6**	**Health Monitoring**	**Full temperature & level monitoring**
Controls	**Local and remote unloading control via optional remote E-Stop**	**Port connections**	**P G3/4" BSP, T G1" BSP, D G1/2" BSP**
Dimensions (LxWxH) Footprint	**1747 x 1390 x 2060 mm 1700 x 1350 mm**	**Weight**	**Dry weight: 1620 Kg**

Principle of Operation:

The 55kW Electrical Hydraulic Power Unit consists of, crash frame with lifting lugs, which affords protection during transportation and installation. The frame will enclose and protect the vulnerable equipment and provide stowage for hydraulic hoses.

A 55kW 3 phase electrical motor coupled to an A3HG100 Yuken pressure compensated piston pump provides the required pressure and flow rates. A solenoid operated un-loading relief valve has been fitted to allow remote hydraulic soft starting and unloading control. It is possible to remotely activate this valve to unload the pack as required.

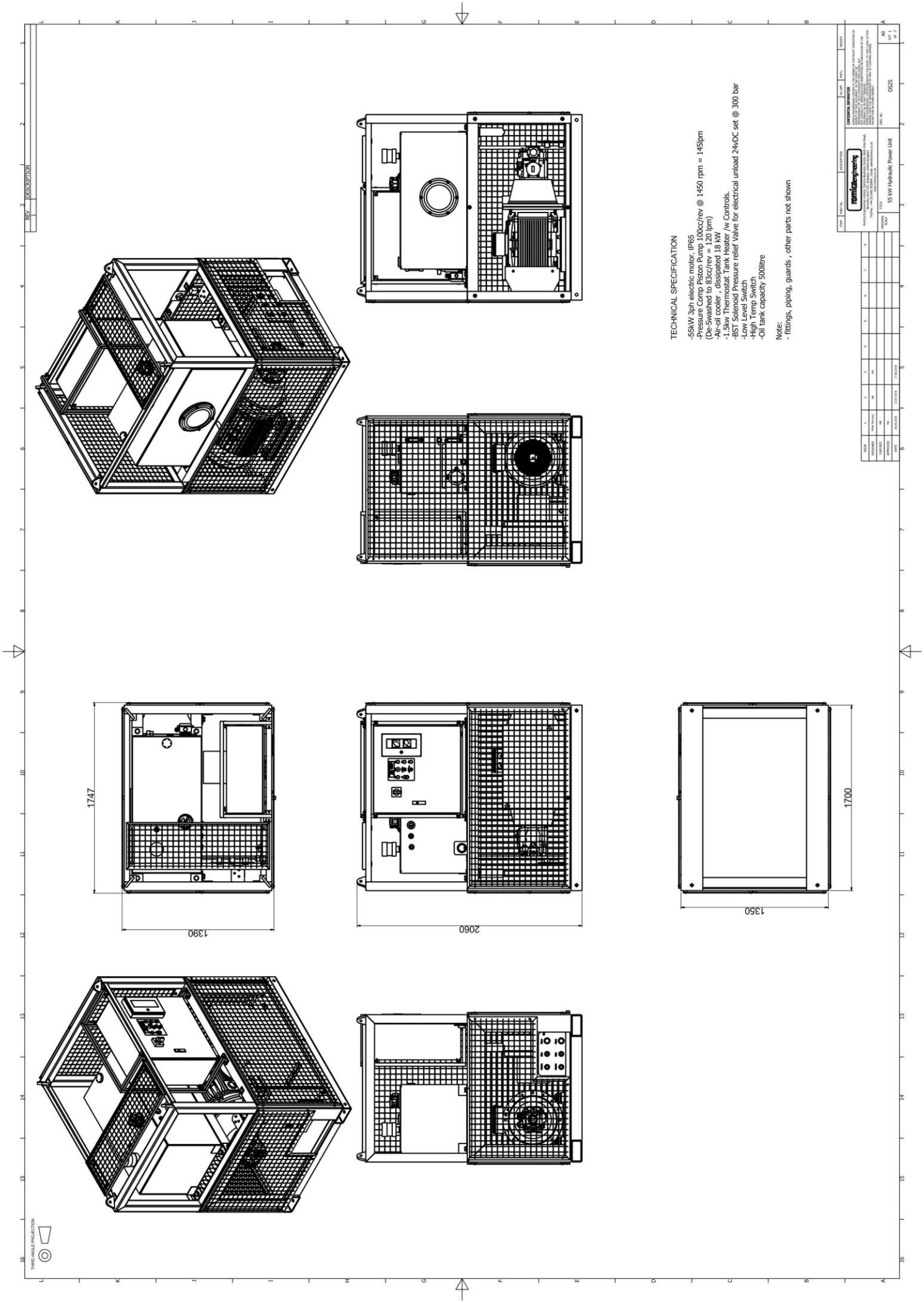
An interface connection plate with duplicated and suitable sized connections for Pressure, Tank and Drain enables the HPU to be connected via stainless steel Quick Release Couplings, which are not within the scope of supply.

The winch is supplied with the following:

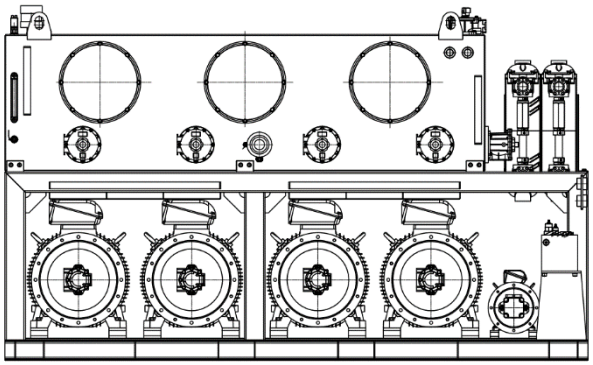
- **1 Set - 10-meter interconnecting hoses and stainless steel flat faced couplings, other lengths available upon request**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **1 Set – Sacrificial feet/mounting plates**
- **Operation and Maintenance Manual in Electronic Format**
- **1 Set –Canvas Cover for transport and storage**

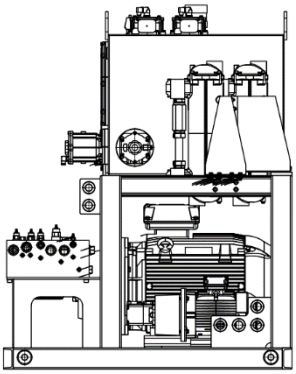
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – stainless steel Quick Release Couplings**
- **1 Set – Spare sacrificial feet/mounting plates**


TECHNICAL SPECIFICATION
-55kW 3ph electric motor, IP65
-Pressure Comp Piston Pump 100cc/rev @ 1450 rpm = 145lpm
(De-Swashed to 83cc/rev = 120 lpm)
-Air-oil cooler , dissipated 18 KW
-1.5kw Thermostat Tank Heater /w Controls.
-BST Solenoid Pressure relief Valve for electrical unload 24vDC set @ 300 bar
-Low Level Switch
-High Temp Switch
-Oil tank capacity 500litre
Note:
- fittings, piping, guards , other parts not shown
1747
1390
2060
1350
1700

4 x 90kW Open Loop Hydraulic Power Unit – DS64





TECHNICAL SPECIFICATION			
Pressure and Flow	**215 Bar @ 960 lpm**	**Frame**	**Skid frame with certified lifting lugs**
Pump and Motor Assy	**4 x 70.3cc Open Loop Tandem Vane Pump (120lpm @ 215 Bar) driven by 90kW IP56 3ph IE3 1 x 34.1cc Open Loop Vane Pump (50lpm @ 215 Bar) driven by 7.5kW IP56 3ph IE3**	**Supply tank**	**2000 litres manufactured from 316 stainless steel with front access and desiccant Air breather 2-micron rating ensures air entering the reservoir is cleaned and dried**
Supply Required	**3 ph 380 / 415 / 440 / 460 V, 50/60Hz**	**Supply tank filling point**	**G1" BSPP M suitable for QRC**
Weight	**Dry weight: 6000 Kg**	**Starter Panel**	**IP66 rated for ingress protection externally mounted**
Cooling and heating	**Bowman heat exchanger – water oil cooler Thermostatically controlled Tank heater 1.5 kW – 3Ph**	**Filtration**	**Return Filters 10-micron elements, with bypass & visual indicators**
Oil Cleanliness	**Suitable for proportional valve systems ISO 4406 17/15/12, NAS 6**	**Health Monitoring**	**Full temperature, level monitoring and suction filter limit switches**
Dimensions (LxWxH) Footprint	**3400 x 1640 x 2067 mm 3400 x 1640 mm**	**Port connections via a single manifold block**	**P1, P2 G1.1/2" BSPP, P3 G3/4" BSPP, P4 G3/4" BSPP, T1, T2 1.1/2" BSPP, D 1.1/4" BSPP**

Principle of Operation:

The Electrical Hydraulic Power Unit consists of a 2000 litre reservoir mounted above the hydraulic pump and motor assemblies that are all contained within a skid frame complete with lifting lugs. The skid frame has been designed to act as a bund to prevent oil spillage.

Qty 4 90kW 3 phase electrical motor coupled to Parker Denison T6CC tandem vane pump and Qty 1 7.5kW 3 phase electrical motor coupled to a Parker Denison T6CM vane pump to provide the required pressure and flow rates.

A custom interface connection manifold provides suitable sized connections for the cooling, fill point and all Pressure, Tank and Drain lines, complete with NRVs and PRVs to provide a compact solution reducing space, weight and unnecessary pipework.

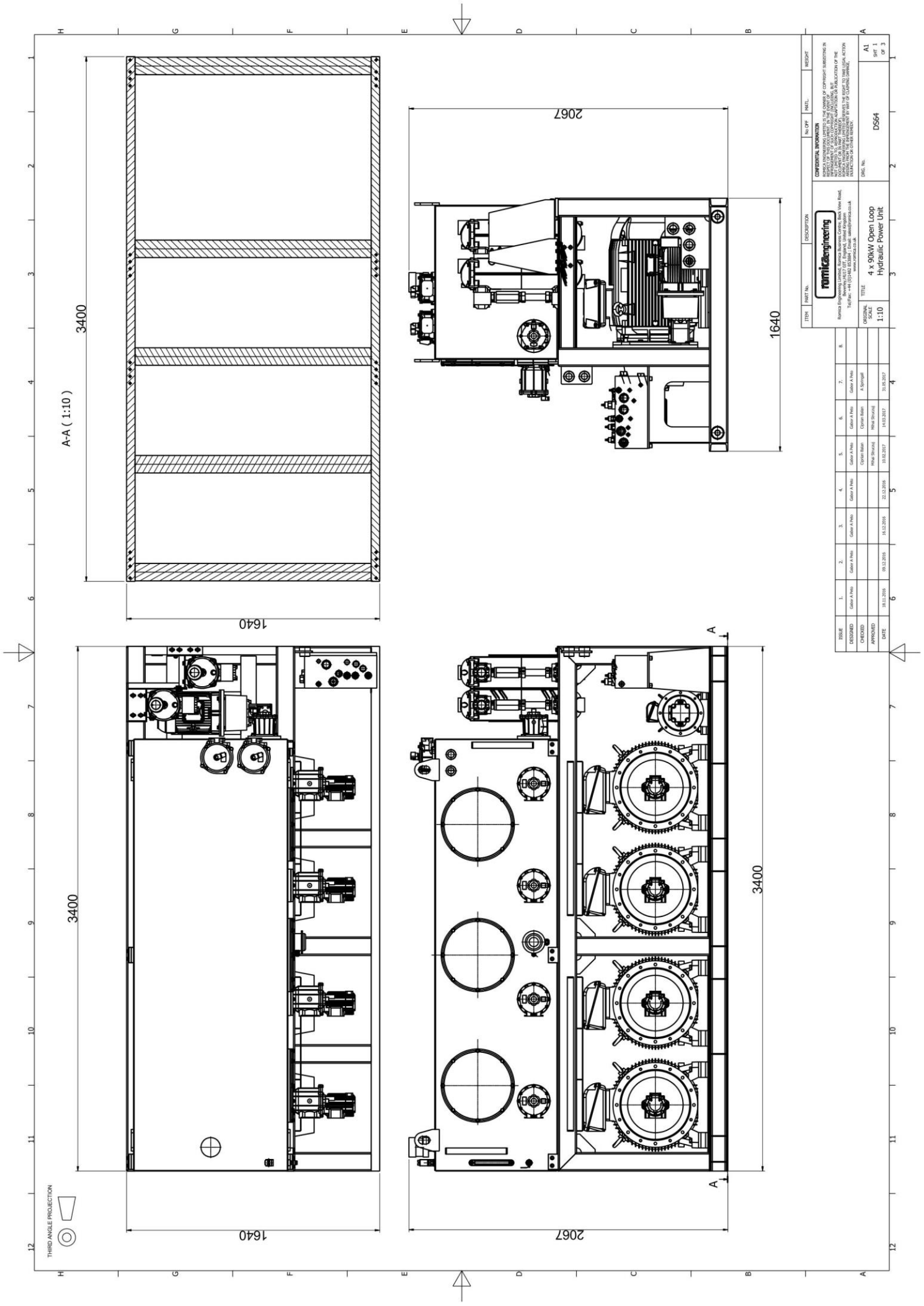
Suction filters with integrated shot-off valve that close automatically when the cover is removed allowing the filter replacement without any fluid loss with an additional electrical limit switch that provides a signal when the shut-off vale is closed and inhibits the start-up procedure – thus protecting the pump. The HPU has been designed to be installed in a vessel with minimum space/access required externally for maintenance tasks and the electrical starter panel enclosures would be mounted adjacent.

The winch is supplied with the following:

- **12 Month Warranty**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**
- **1 Set – Sacrificial feet/mounting plates**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**


3400
A-A (1:10)
1640
2067
1640
3400
3400
2067
A
A
THIRD ANGLE PROJECTION
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
Gabor A Peto
18.11.2016
09.12.2016
16.12.2016
22.12.2016
10.02.2017
14.03.2017
31.05.2017
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romicaengineering
Romica Engineering Limited, Romica Business Centre, Bodi View Road, Penrhyn Bay, Llandudno, Conwy, LL30 3PJ
Tel/Fax: ++44 (0)1492 853684 - Email: sales@romica.co.uk
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ORIGINAL SCALE
1:10
TITLE
4 x 90kW Open Loop
Hydraulic Power Unit
DRG. No.
DS64
A1
SHT 1
OF 3

3 Seismic Handling Systems

Gun Storage and Handling 190
Z Frame..... 202
Stainless Steel Chute..... 208
Seismic Winches 212

Seismic Handling Systems Overview

RTG has extensive experience in the development of Seismic Handling Systems for the wide range of Seismic equipment to be stored, deployed and recovered.

RTG has developed solutions to overcome many of the problems associated with the storage, deployment and recover of equipment.

Gun Storage and Handling

1.5 Te WLL – 4.4 m – Side Deployment Boom – DS49 192

1.7 Te WLL - 160m - Hydraulic Winch – DS14 196

2.5 Te WLL – 9m – Over Stern Boom – DS42 198

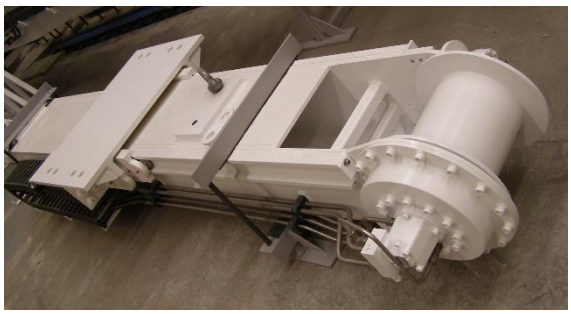
3 Te WLL – 8.5 m – Over Stern Boom – DS47 200

Gun Storage and Handling Description

RTG offers a range of gun storage and handling systems. Hydraulic winches with high-pressure air can provided with either a single or dual drum.

The over stern booms provide a solution to deploy and recover the gun equipment with a wide range of lifting capabilities, reach and additional auxiliary winches as required.

1.5 Te WLL – 4.4 m – Side Deployment Boom – DS49







TECHNICAL SPECIFICATION			
Working load limit	**1.5 Te WLL**	**Boom Length** **Total Travel**	**4.4 m** **2.2 m**
Sea state (Lloyds) **Significant wave height**	**5/6** **3.9 m**	**Hydraulic boom working pressure** **Required hydraulic flow**	**200 Bar** **25 Litres per Minute**
Operating temperature	**-20 to +40^{0}C**	**Mount Configuration**	**8 Bolts**
Design	**Lloyds**	**Remote proportional control**	**3 position, spring return to centre directional control valves – 2 slice**
Weight	**Weight without cable: 1600 Kg**	**Auxiliary winch**	**2.1 Te WLL 500m**
Dimensions (LxWxH) **Footprint**	**4640 x 965 x 544 mm** **700 x 945 mm**		

Principle of Operation:

The Side Deployment Boom allows seismic arrays to be launched and recovered over the vessel's stern in a safe and secure manner. The boom is driven in and out by a power screw. The power screw is mounted on to the boom and the power nut is held at rest, mounted to the bearing support assembly, the power screw rotates as it moves axially driven by a hydraulic motor.

Dynamic braking will be achieved via a load control valve mounted directly onto the hydraulic motor. Static braking will be via the power screw and drive nut, hence self-locking when hydraulic power is not supplied. The boom will be controlled via a 2 slice 3 position, spring return to centre directional control valve. The valves will be fitted with a motor spool. When the directional control valve is returned to centre (neutral) hydraulic pressure is drained to tank and the power screw and drive nut, ensure that the boom drive is locked. Please not that should hydraulic pressure be lost then the power screw and drive nut automatically become self-locking.

The Boom is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **1 Off – 1.5 Te Pivoting Sheave Block**
- **2 Off – 4.7 Te PADEYE**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

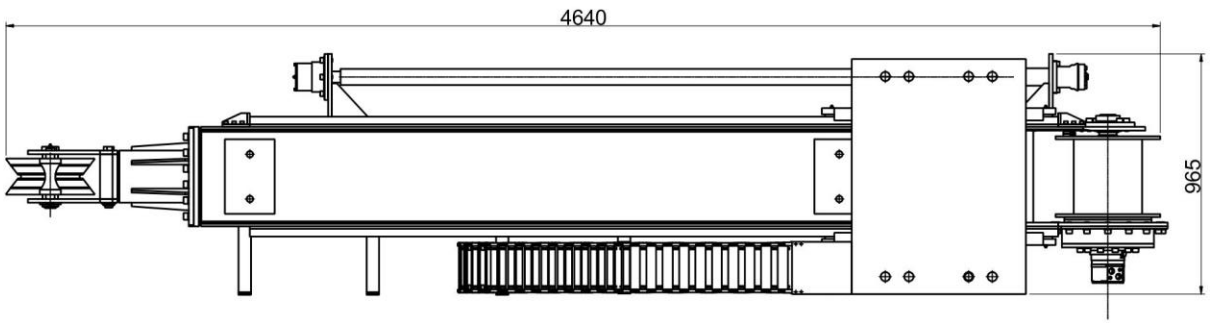
- **1 Off – Extended Warranty**
- **DNV Certification**
- **1 Off – Full Spares Kit**
- **Chest mounted remote control**

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THIRD ANGLE PROJECTION

OVERBOARD
TOP VIEW2 (1 : 10)



Lifting pad eyes load chart	
Description	Pad eyes
WLL	4.7 Te
Overboard , maximum line tension	1.5 Te
Inboard , maximum line tension	1.5 Te

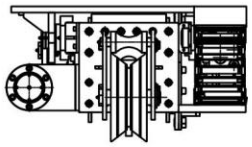
PAD EYE , WLL 4.7 Te

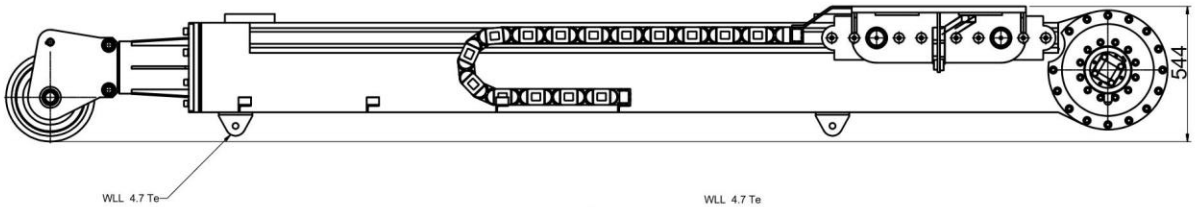
Pad eye details
(1 : 4)



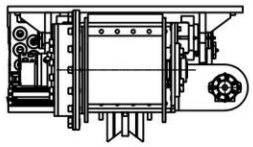
OVERBOARD
STARBOARD VIEW1 (1 : 10)

AFT VIEW5 (1 : 10)

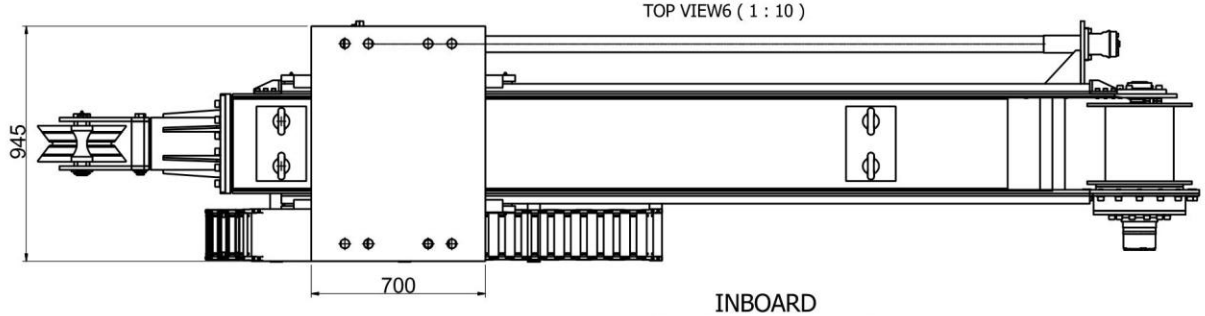




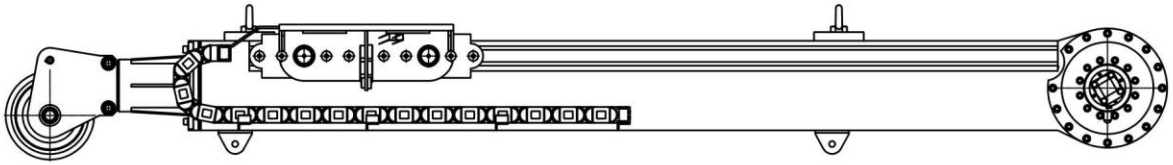
FORWARD VIEW4 (1 : 10)



INBOARD
TOP VIEW6 (1 : 10)



INBOARD
STARBOARD VIEW3 (1 : 10)



ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED								
CHECKED								
APPROVED								
DATE								

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

romicaengineering

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www.romica.co.uk

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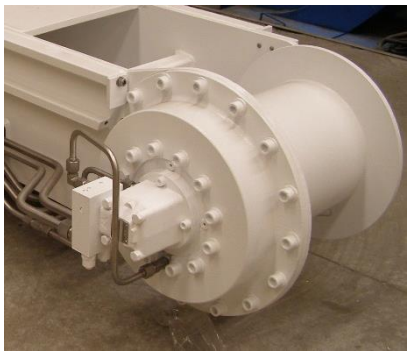
ORIGINAL SCALE 1:10

TITLE 1.5 Te WLL - 4.4 m - Side Deployment Boom

DRG. No. DS49

A1 SHT 1 OF

2.1 Te WLL - 500 m - Hydraulic Winch





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
174	6	500m	50	2100	1500	3150	2250

Winch Hydraulic Drive Supply Required	RRTD 1000 DB 200 bar 65 l/min	Cable Lead-off Angle	N/A
Level Wind Electrical Motor Supply Required	N/A	Frame details	Incorporated into Boom (DS49)
Local Proportional Control	None	Winch drum dimensions	Drum core Ø 275 mm, Drum Length 301 mm, Flange Ø 420 mm
Level wind	N/A	Drum details	Plain drum: the wire is stored in 10 lays with 50 turns per lay
Dimensions (LxWxH)	676 x 420 x 420 mm	Cable	7 x 19 RHL Wire Rope
Slip ring	N/A	Hydraulic Ports	A G3/4" BSP, B G3/4" BSP, D G1/2" BSP

Principle of Operation:

The Tugger Winch barrel is mounted as an integral component of the boom assembly. One side supports the Gearbox and Hydraulic Motor and the other supports the bearing assembly. The hydraulic motor drives the gearbox assembly and thus turn the winch barrel in either direction.

The gearbox is fitted with a hydraulically actuated spring applied failsafe brake unit and an open loop orbital low speed hydraulic motor.

The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor.

The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool.

The winch is supplied with the following:

- **12 Month Warranty**
- **Marine grade paint system (Details can be supplied on application)**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Proportional directional control valve**
- **1 Off – Full Spares Kit**
- **1 Off – Chest Remote Control**
- **1 Off – Extended Warranty**

1.7 Te WLL - 160m - Hydraulic Winch – DS14







Principle of Operation:

TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
2500	50	160	15	1700	1500	2820	2250

Winch Hydraulic Drive Supply Required	160 bar 50 l/min	Cable Lead-off Angle	N/A
Level Wind Electrical Motor Supply Required	N/A	Frame details	Deck pedestal with guards and certified lifting lugs
Local Proportional Control	None	Winch drum dimensions	Drum core Ø 1660 mm, Drum Length 535 mm, Flange Ø 2100 mm
Level wind	N/A	Drum details	Plain drum: the umbilical is stored in 4 lays with 8 turns per lay
Dimensions (LxWxH) Footprint	1772 x 2200 x 2250 mm 1430 x 1500 mm with twist lock option	Cable	Teledyne Storm - 13 Quad Air Gun Umbilical
Slip ring	Designed to accept Focal Model 176 or similar not within scope of supply	Hydraulic Ports	A G3/4” BSP, B G3/4” BSP, D G1/2” BSP

The winch barrel is mounted directly onto the outer, toothed, face of a vertically mounted slew-ring bearing. The inner ring of the bearing has been mounted onto a common fixed deck pedestal. A toothed pinion drives the outer ring of the bearing and thus turns the Winch barrel in either direction. The pinion is fitted to the output shaft of a multi-stage planetary gearbox, the gearbox has been fitted with a hydraulically actuated spring applied failsafe brake unit and an open loop orbital low speed hydraulic motor. Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position.

The winch barrel is not supported at the non-drive side and as such the provision for the slipring is made at either end of the winch barrel.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

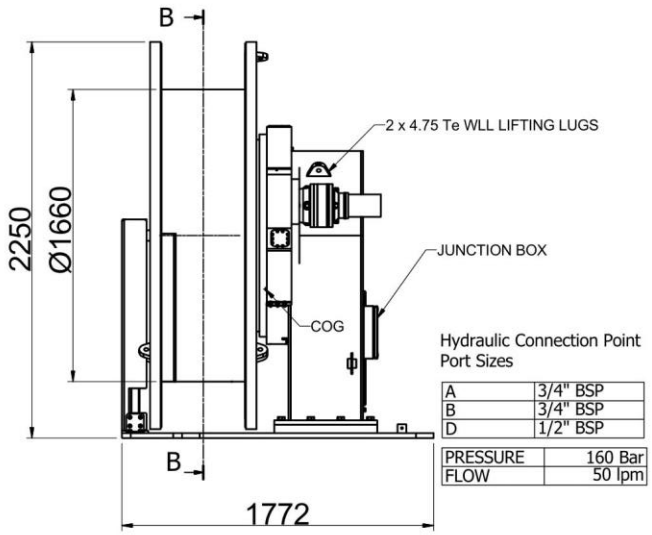
- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**

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THIRD ANGLE PROJECTION

STERN VIEW (1 : 20)

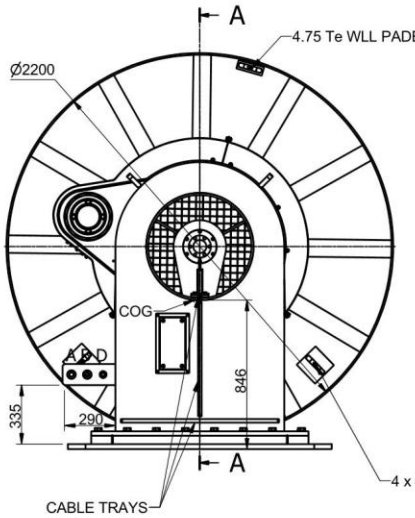


Hydraulic Connection Point Port Sizes

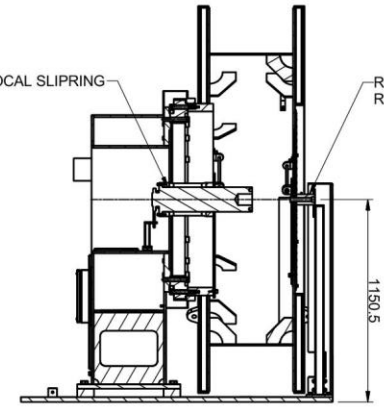
A	3/4" BSP
B	3/4" BSP
D	1/2" BSP

PRESSURE	160 Bar
FLOW	50 lpm

STB VIEW (1 : 20)

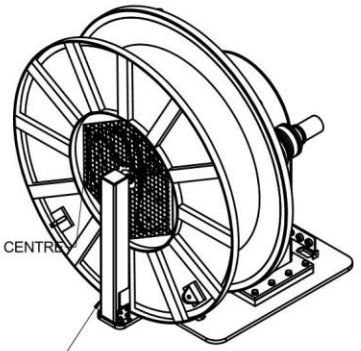


A-A (1 : 20)

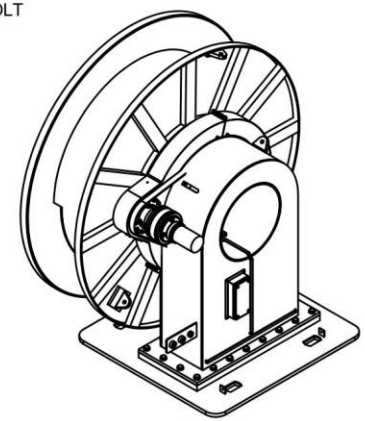


STAINLESS STEEL PLATE COVER OVER HP ROTARY UNION TUBE WITH ACCESS HOLE FOR BOLT FASTENING

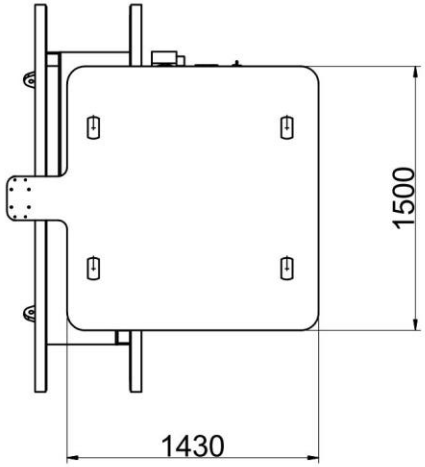
VIEW6 (1 : 25)



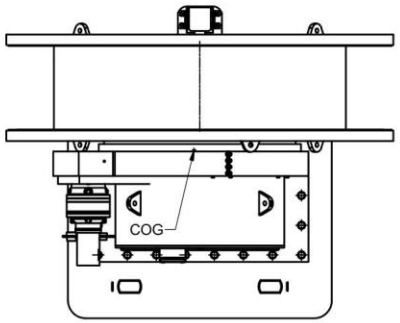
VIEW5 (1 : 25)



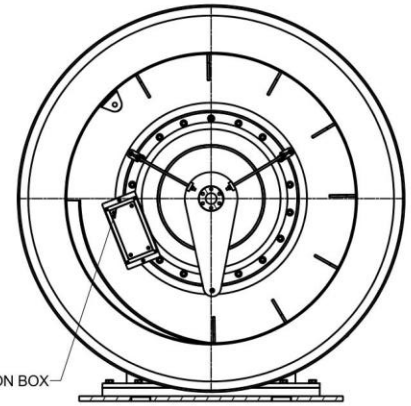
BOTTOM VIEW (1 : 20)



TOP VIEW (1 : 20)



B-B (1 : 20)



Load Testing Padeye			
PADEYE WLL	LINE PULL / SWL	BRAKE HOLD	Remarks
4.7 Te	1.5 Te	2.5 Te	Corresponds to Ø50 mm Cable 4'th Layer

TECHNICAL SPECIFICATION								
WEIGHT WITHOUT CABLE	DRUM CORE DIAMETER	CABLE DIAMETER	CAPACITY	LINE SPEED	LINE PULL / SWL			
					TOP LAYER	DRUM LAYER	TOP LAYER	DRUM LAYER
2.4 Te	1660 mm	50 mm	160 m	15 m/min	1.5 Te	1.68 Te	2.5 Te	2.82 Te
ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Ilyes Andras	Ilyes Andras	Ilyes Andras	Ilyes Andras	Ilyes Andras	Ilyes Andras	Ilyes Andras	
CHECKED	Struczuj Mihaly	Struczuj Mihaly	Struczuj Mihaly	Struczuj Mihaly	Struczuj Mihaly	Struczuj Mihaly	Struczuj Mihaly	
APPROVED								
DATE	09.23.2015	10.06.2015	10.10.2015	10.16.2015	10.26.2015	10.27.2015	12.11.2015	

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

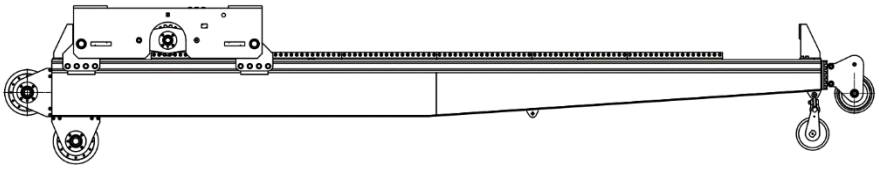
romica engineering
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Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
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ORIGINAL SCALE	TITLE	DRG. No.	
1:20	1.7 Te WLL - 160m - Hydraulic Winch	DS14	A2 SHT 1 OF 1

2.5 Te WLL – 9m – Over Stern Boom – DS42







TECHNICAL SPECIFICATION

Working load limit	**2.5 Te WLL**	**Boom Length** **Total Travel**	**9.04 m** **5.3 m**
Sea state (Lloyds) **Significant wave height**	**5/6** **3.9 m**	**Hydraulic boom working pressure** **Required hydraulic flow**	**200 Bar** **25 Litres per Minute**
Operating temperature	**-20 to +40^{0}C**	**Mount Configuration**	**20 Bolts**
Design	**Lloyds**	**Remote proportional control**	**3 position, spring return to centre directional control valves – 3 slice**
Weight	**Weight without cable: 3600 Kg**	**Auxiliary winch 1**	**2.5 Te WLL 50m (refer to DS45)**
Dimensions (LxWxH) **Footprint**	**9041 x 1143 x 1642 mm** **1960 x 860 mm**	**Auxiliary winch 2**	**2.5 Te WLL 500m (refer to DS46)**

Principle of Operation:

The Over Stern Boom allows seismic arrays to be launched and recovered over the vessel's stern in a safe and secure manner. The boom is driven in and out by a peg drive. The drive sprocket is mounted into the outlet shaft of an inline gearbox. The gearbox is fitted with a failsafe brake and hydraulic motor. Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor and the gearbox.

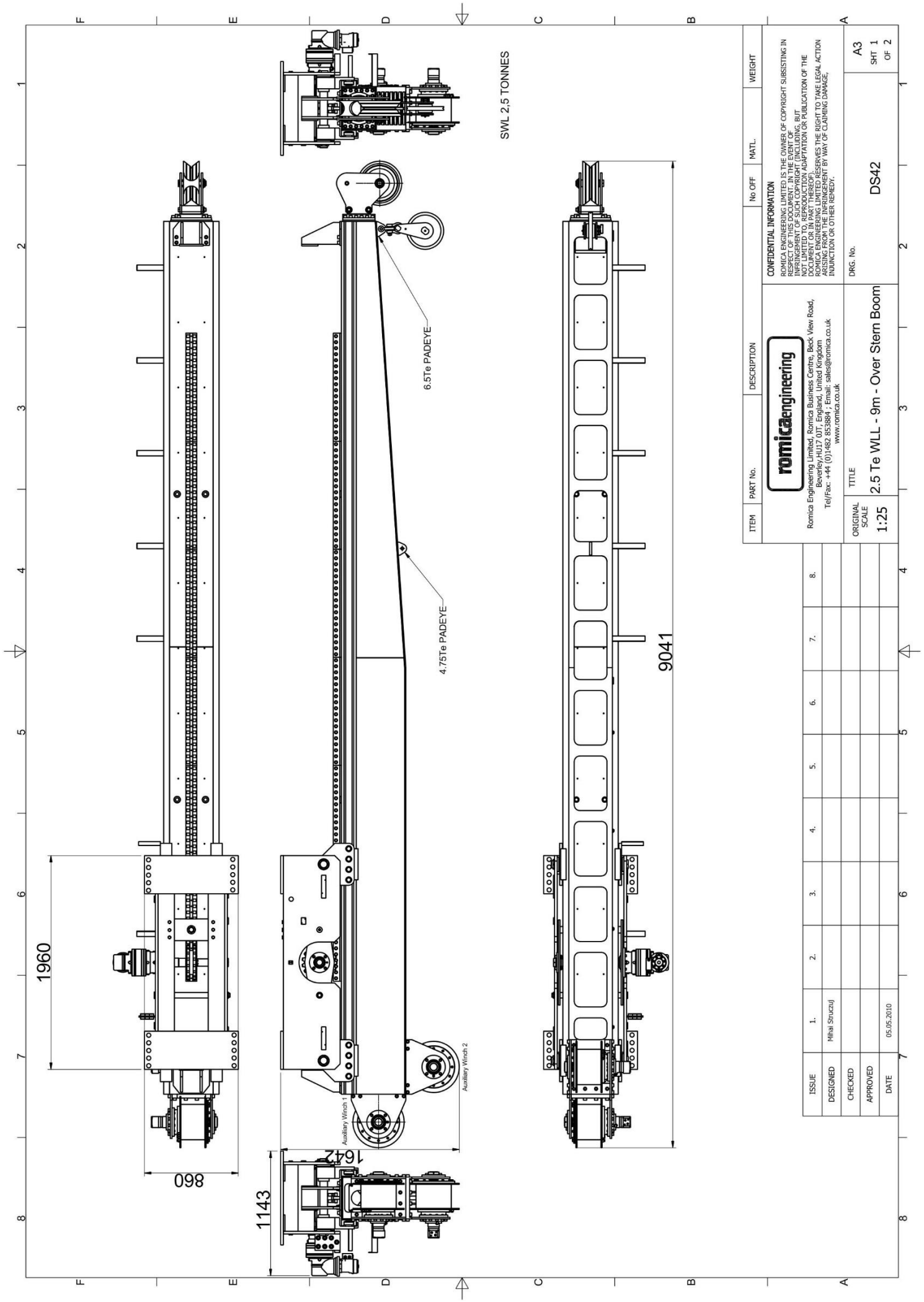
The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve within the load control valve. The stern boom is controlled via a 3 slice 3 position, spring return to centre directional control valve. The valves are fitted with motor spools. One slice controls the boom, drive in and out, the other two slices control the two auxiliary winches. A progressive greasing system is fitted.

The Boom is supplied with the following:

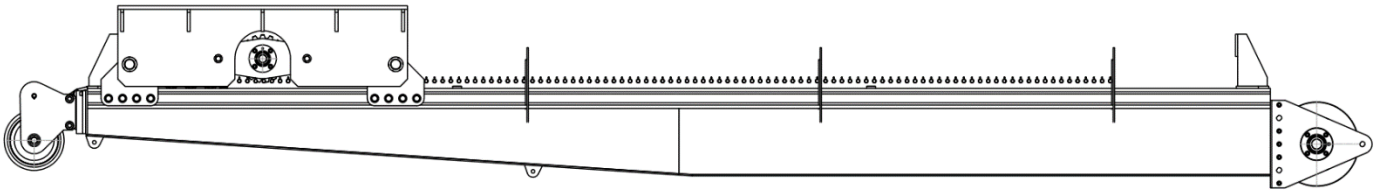
- **Marine grade paint system (Details can be supplied on application)**
- **Greasing manifold installed for impossible direct local access points**
- **12 Month Warranty**
- **Pivoting Sheave**
- **1 Off – 2.5 Te Sheave Block**
- **1 Off – 4.75 Te PADEYE**
- **1 Off – 6.5 Te PADEYE**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Auxiliary Winch 2 (500m)**
- **1 Off – Full Spares Kit**
- **Chest mounted remote control**


SWL 2,5 TONNES
6.5Te PADEYE
4.75Te PADEYE
9041
1960
860
1642
1143
Auxiliary Winch 1
Auxiliary Winch 2
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
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ORIGINAL SCALE
1:25
TITLE
2.5 Te WLL - 9m - Over Stern Boom
DRG. No.
DS42
A3
SHT 1 OF 2
ISSUE
1.
2.
3.
4.
5.
6.
7.
8.
DESIGNED
Mihai Struczuj
CHECKED
APPROVED
DATE
05.05.2010

3 Te WLL – 8.5 m – Over Stern Boom – DS47



TECHNICAL SPECIFICATION			
Working load limit	**3 Te WLL**	**Boom Length** **Total Travel**	**8.5 m** **5.5 m**
Sea state (Lloyds) **Significant wave height**	**5/6** **3.9 m**	**Hydraulic boom working pressure** **Required hydraulic flow**	**160 Bar** **25 Litres per Minute**
Operating temperature	**-20 to +40^{0}C**	**Mount Configuration**	**24 Bolts**
Design	**Lloyds**	**Remote proportional control**	**3 position, spring return to centre directional control valves – 2 slice**
Weight	**Weight without cable: 3500 Kg**	**Auxiliary winch**	**3.5 Te WLL 200m (refer to DS48)**
Dimensions (LxWxH) **Footprint**	**9251 x 1063 x 1228 mm** **1960 x 860 mm**		

Principle of Operation:

The Over Stern Boom allows seismic arrays to be launched and recovered over the vessel's stern in a safe and secure manner. The boom is driven in and out by a peg drive. The drive sprocket is mounted into the outlet shaft of an inline gearbox. The gearbox is fitted with a failsafe brake and hydraulic motor. Dynamic braking will be achieved via a load control valve mounted directly onto the hydraulic motor. Static braking will be via the failsafe brake unit fitted in between the hydraulic motor and the gearbox.

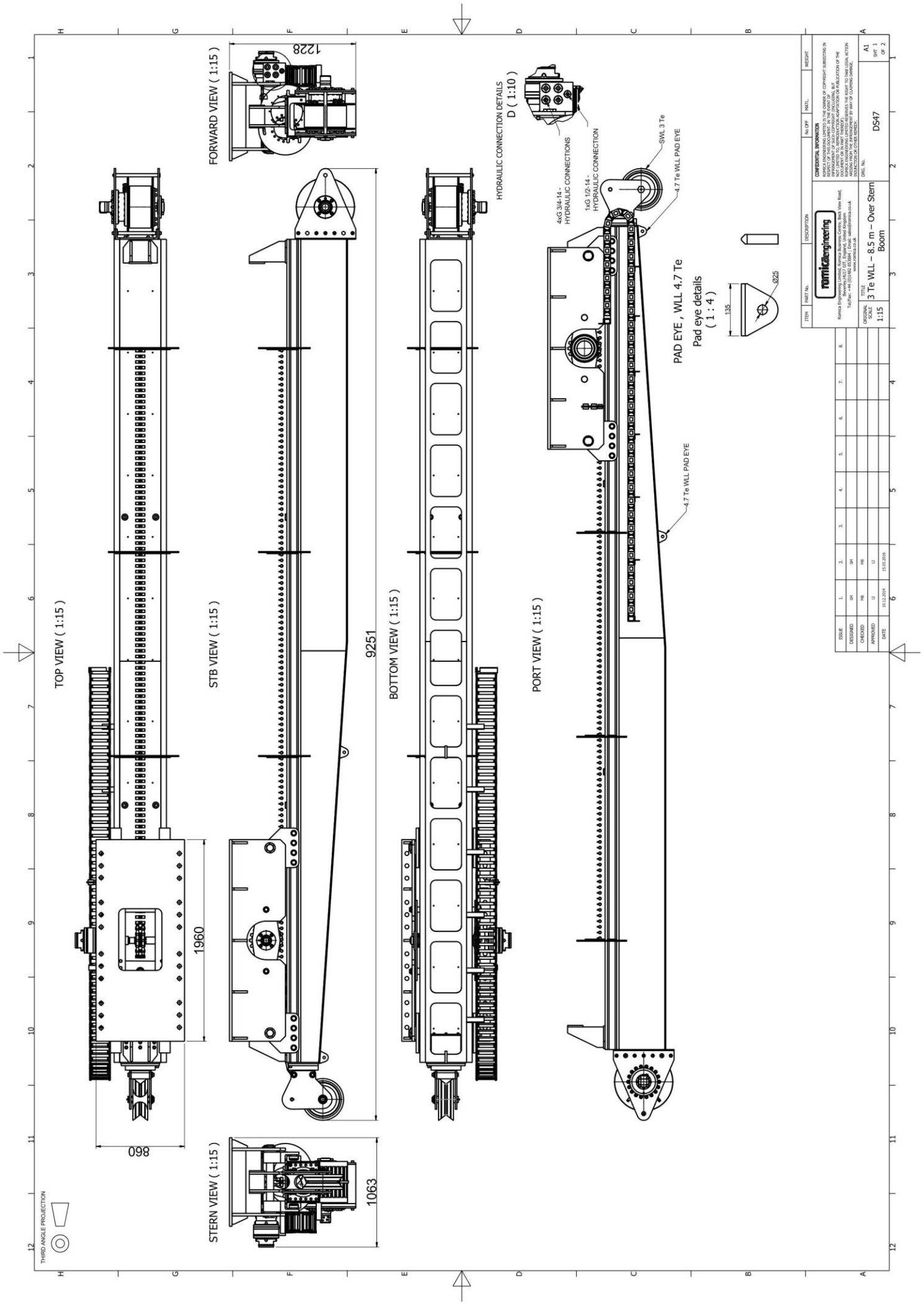
The hydraulic signal to the failsafe brake will be achieved via a brake shuttle valve within the load control valve. The boom will be controlled via a 2 slice 3 position, spring return to centre directional control valve. The valves will be fitted with a motor spool. When the directional control valve is returned to centre (neutral) brake pressure is drained to tank and the brake is automatically applied and the boom drive is locked. Please not that should hydraulic pressure be lost then the failsafe brake is automatically applied.

The Boom is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **1 Off – 3 Te Pivoting Sheave Block**
- **2 Off – 4.75 Te PADEYE**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **DNV Certification**
- **1 Off – Full Spares Kit**
- **Chest mounted remote control**


TOP VIEW (1:15)
FORWARD VIEW (1:15)
STB VIEW (1:15)
BOTTOM VIEW (1:15)
PORT VIEW (1:15)
STERN VIEW (1:15)
HYDRAULIC CONNECTION DETAILS
D (1:10)
4xG 3/4-14 - HYDRAULIC CONNECTIONS
1xG 1/2-14 - HYDRAULIC CONNECTION
SWL 3 Te
4.7 Te WLL PAD EYE
4.7 Te WLL PAD EYE
PAD EYE , WLL 4.7 Te
Pad eye details
(1 : 4)
Ø25
135
1228
9251
1960
860
1063
THIRD ANGLE PROJECTION
romicaengineering
CONFIDENTIAL INFORMATION
TITLE
3 Te WLL – 8.5 m – Over Stern Boom
DRG. No.
D547
A1
SHT 1 OF 2
ORIGINAL SCALE
1:15
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
10.12.2014
15.03.2016

Z Frame

Z Frame Handling System – DS65 204

2.5 Te WLL - m - Hydraulic Winch – DS66 206

Z Frame Description

The Z Frame is designed to deploy and recover long payloads both in an efficient and safe manner over the stern of a vessel where the deck-head height or available deck length is restricted. The total extent of the overall overboard outreach depends on both the length of the payload and the design of the vessel.

The Z frame is particularly suited to handling Rigid Gun Floats and multi-air gun arrays although the Z frame can easily be adapted for handling other types of payloads, towed bodies, AUV's etc.

Z Frame Handling System – DS65



TECHNICAL SPECIFICATION			
Working load limit		**Height**	**3975 mm fully extended 2745 mm fully retraced**
Hydraulic Supply Required	**210 Bar 80 Litres per Minute**	**Distance between legs**	**1.58 m**
Electrical Supply Required	**380-440V-3 Ph- 50/60 Hz**	**Control**	**Local PVG or wireless remote control (DC 24V)**
Operating temperature	**-15 to +50^{0}C**	**Mount configuration**	**20 bolts per leg**
Weight		**Auxiliary winch (Qty4)**	**2.5 Te WLL (refer to DS66)**
Dimensions (LxWxH) Footprint	**9530 x 2236 x 3975 mm (max) 3600 x 2236 mm**		

Principle of Operation:

The Z Frame is designed to handle long payloads up to 9 meters in length safely.
It consists of an upper frame which is supported on four legs which are luffed and moved over centre on hydraulic cylinders.
Two of the legs are powered each having two hydraulic cylinders and each incorporate a swing link, which allows the Z FRAME to operate over the possible operating arc.

The upper frame is the lift frame and is 9 m long. This frame is fitted with four lift winches, two fix and two mobile, one fitted on the after-end, the second spaced apart with 1.6 m.

The third and fourth lifting winches are fixed on a mobile carriage the distance between them is 2 m, and together with the carriage they can be moved with 3 m close to the back-end. The carriage is moved with a hydraulic cylinder. A pair of rigidifying crossbeams connects the legs.

All four winches are designed to act as both a towing and lift winch, they are all rated to a maximum bare barrel pull of 2.5 Te. They are used to pick up the gun clusters and where necessary to assist with the handling of the float.

The Z frame is also fitted with 2 rails and 10 trolleys, 5 on each rail, these rails and trolleys are fitted to have options available during the launch and recovery of the array and for the maintenance of the gun array and float.

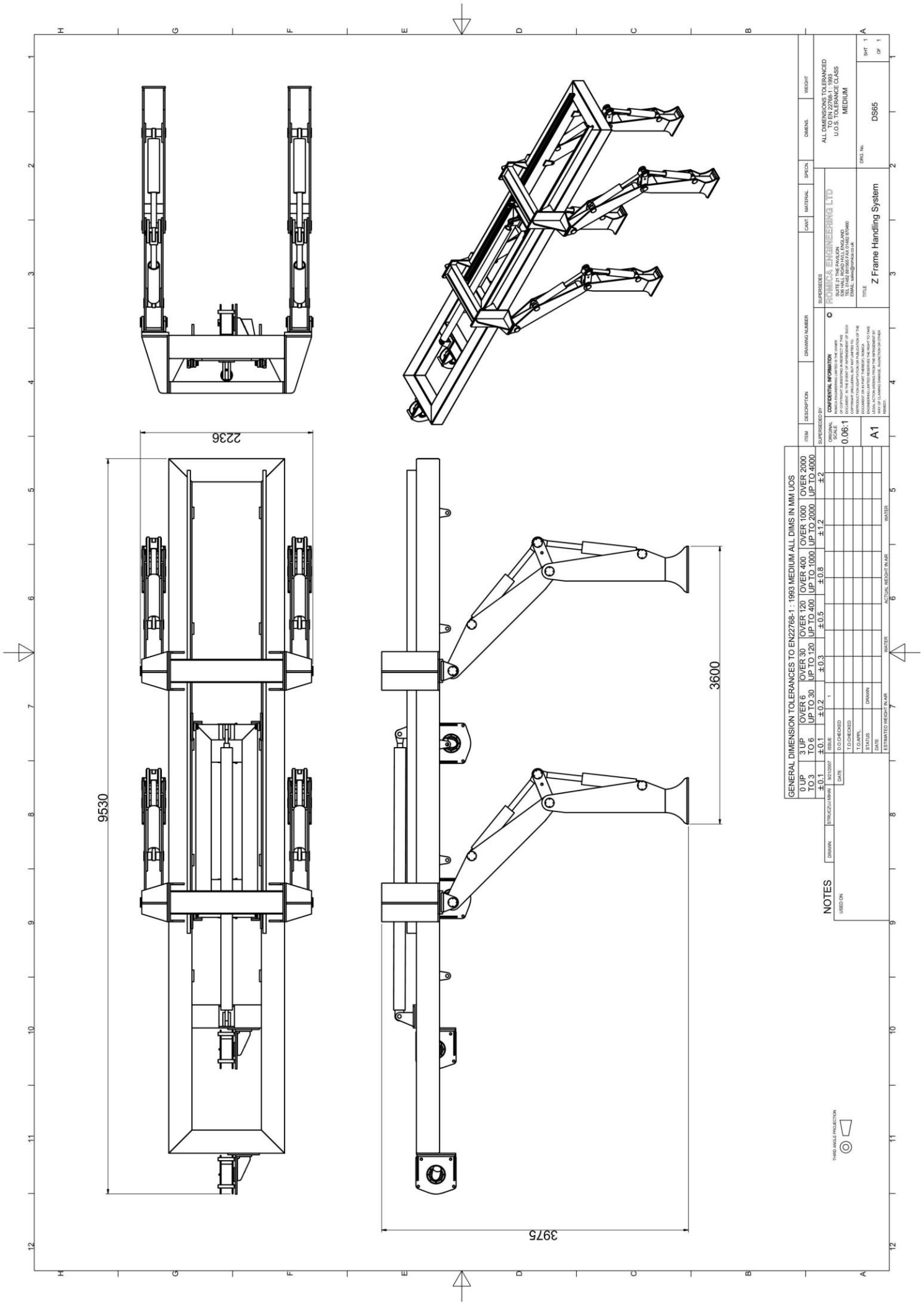
The Z Frame is supplied with a 6 Function, multi-slice electro-hydraulic directional control valve, fitted with hand levers, for local control. A radio remote control console is also included in the scope of supply.

The Z-Frame is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **Local and remote chest pack control**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – 4 x Floodlights**


2236
9530
3600
3975
Z Frame Handling System
DS65
ROMICA ENGINEERING LTD
NOTES
GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS
ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS MEDIUM
THIRD ANGLE PROJECTION

2.5 Te WLL - m - Hydraulic Winch – DS66





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
				2500		3750	

Winch Hydraulic Drive Supply Required	**160 bar 60 l/min**	**Cable Lead-off Angle**	**N/A**
Level Wind Electrical Motor Supply Required	**N/A**	**Frame details**	**Side support drive side**
Local Proportional Control	**None**	**Winch drum dimensions**	**Drum core Ø 260 mm, Drum Length 138 mm, Flange Ø 530 mm**
Level wind	**N/A**	**Drum details**	**Plain Drum**
Dimensions (LxWxH) Footprint	**530 x 398 x 530 mm 490 x 190 mm**	**Cable**	**7 x 19 RHL Wire Rope**
Slip ring	**N/A**		

Principle of Operation:

The Winch barrel is mounted directly between two side supports. One side support houses the Gearbox and Hydraulic Motor and the other houses the bearing assembly. The hydraulic motor drives the gearbox assembly and thus turn the winch barrel in either direction.

The gear box is fitted with a hydraulically actuated spring applied failsafe brake unit and an open loop orbital low speed hydraulic motor.

The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor.

The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

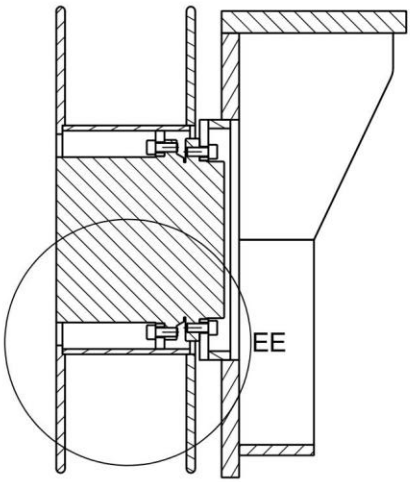
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

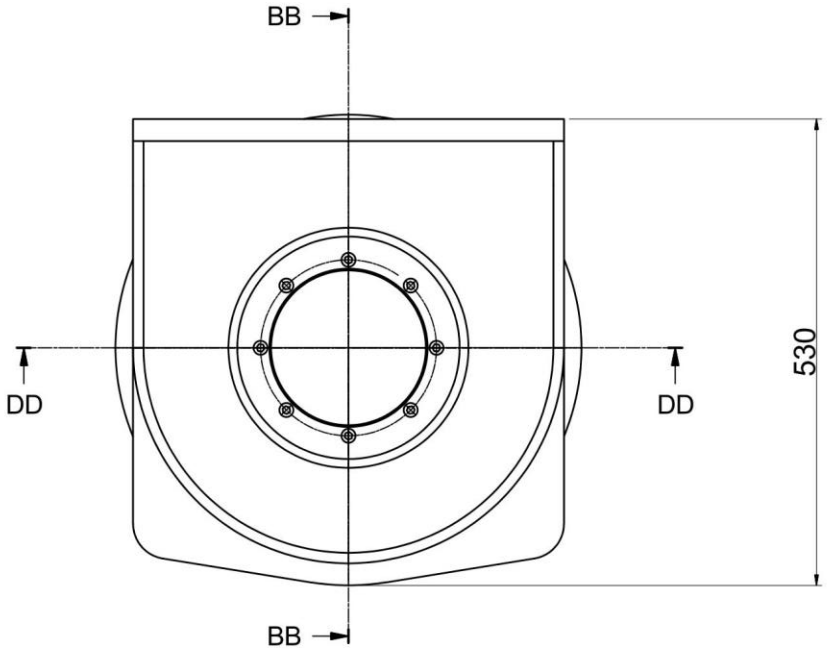
- **1 Off – Proportional directional control valve**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**

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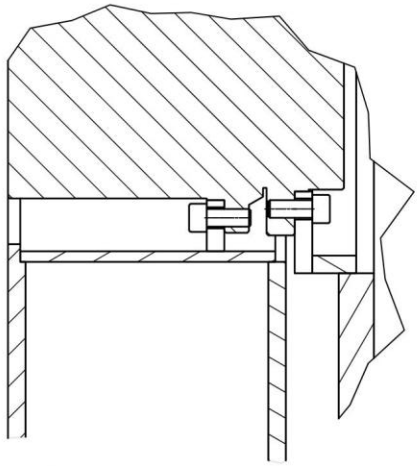
BB-BB (1 : 4)



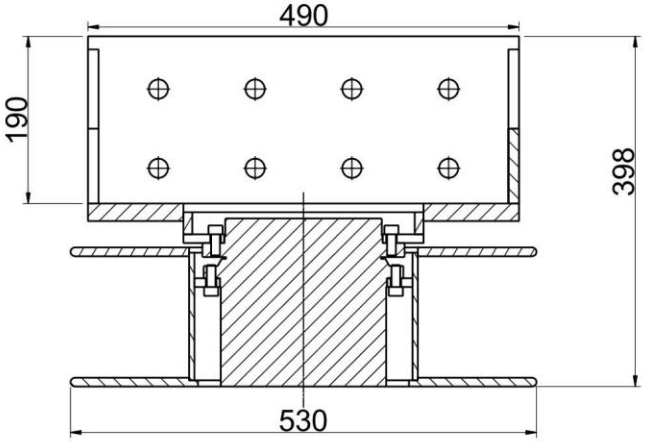


THIRD ANGLE PROJECTION

EE (1 : 2)



DD-DD (1 : 4)



GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS

0 UP TO 3	3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1000	OVER 1000 UP TO 2000	OVER 2000 UP TO 4000
± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2

NOTES

USED ON

DRAWN	STRUCZUJ MIHAI	9/21/2007	ISSUE 1
	DATE		D.O.CHECKED
			T.O.CHECKED
			T.O.APPL.
			STATUS DRAWN
			DATE 13.06.2008

ESTIMATED WEIGHT IN AIR WATER ACTUAL WEIGHT IN AIR WATER

ITEM	DESCRIPTION	DRAWING NUMBER	CANT.	MATERIAL	SPECN.	DIMENS.	WEIGHT

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ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993
U.O.S. TOLERANCE CLASS
MEDIUM

TITLE
2.5 Te WLL - xx m - Hydraulic Winch

DRG. No.
DS66

SHT 1
OF 1

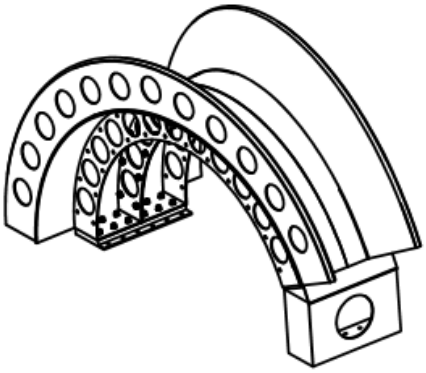
Stainless Steel Chute

Stainless Steel Chute – DS77 210

Stainless Steel Chute Description

The Stainless Steel Chute is designed primarily to allow the streamer cable to pass safely over the stern of the vessel, during deployment and recovery of the streamer cable. The chute will typically have the same bend radius as the streamer winch. The chute also has a secondary advantage of allowing the streamer birds to be attached/removed by the operator inboard at a safe and comfortable height.

Stainless Steel Chute – DS77





TECHNICAL SPECIFICATION			
Material	**Stainless Steel 4404**	**Entry throat dimensions**	**270 min - 640 max mm width**
Weight	**600 Kg (Estimated)**	**Exit throat dimensions**	**570 min - 1125 max mm width**
Dimensions (LxWxH)	**2145 x 1125 x 1450 mm (Estimated)**	**Mount configuration**	**Bolted to the deck fore and aft**

Principle of Operation:

The Chute allows seismic arrays/umbilical's of various diameters to deployed and recovered over the vessel's stern in a safe and secure manner. The Chute manufactured in Marine Grade Stainless Steel 4404.

This is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**

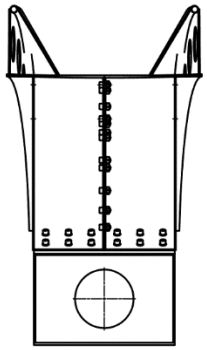
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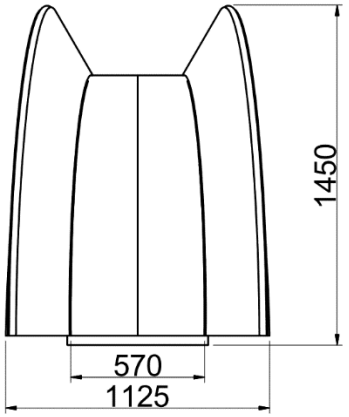
- **1 Set – Certified lifting lugs**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**

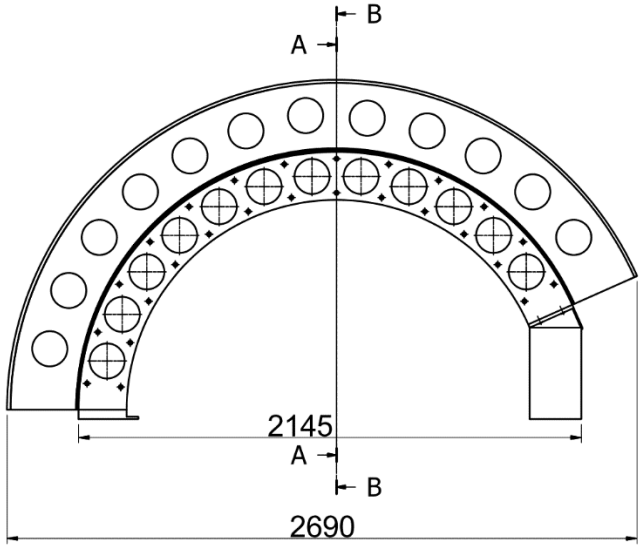
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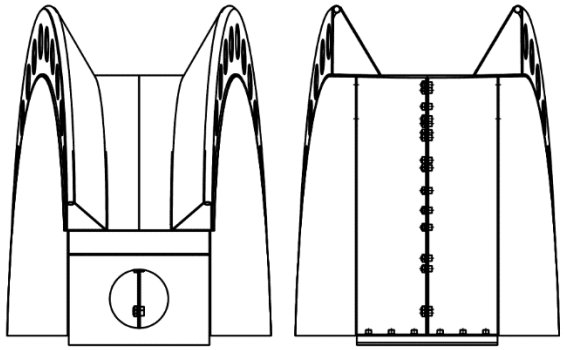
A-A (1 : 15)

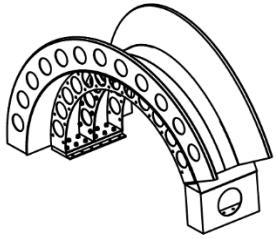


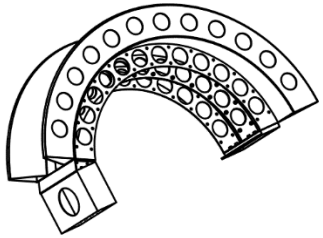


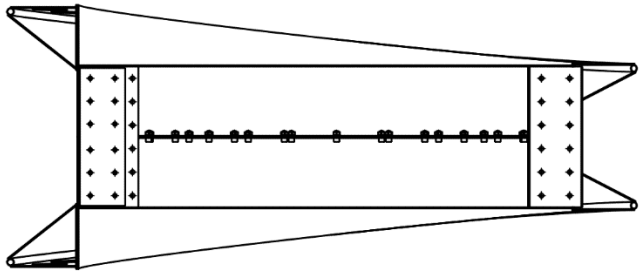


B-B (1 : 15)









GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS

0 UP TO 3	3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1000	OVER 1000 UP TO 2000	OVER 2000 UP TO 4000
± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2

NOTES

USED ON

THIRD ANGLE PROJECTION

DRAWN		09-Nov-10	ISSUE	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
	DATE		D.O.CHECKED										
			T.O.CHECKED										
			T.O.APPL.										
			STATUS										
			DATE	09.11.2010									

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	DIMENS.	SIZE - REMARKS

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ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS

TITLE

Stainless Steel Chute

DRG. No.

DS77

SHT 1

OF 1

Seismic Winches

0.3 Te WLL - 200m - Electric Winch – DS03 44

0.37 Te WLL - 2 x 600m - Electric Winch – DS15 46

0.4 Te WLL - 1000m - Electric Winch – DS02 48

0.5 Te WLL - 200m - Electric Winch – DS99 50

0.7 Te WLL - 500m - Electric Winch – DS08 52

0.7 Te WLL - 500m - Electric Winch – DS79 54

1.5 Te WLL - 150m - Hydraulic Winch – DS78 56

1.7 Te WLL - 160m - Hydraulic Winch – DS14 58

1.75 Te WLL - 585m & 290m - Electric Winch – DS41 60

2.1 Te WLL - 1500m - Hydraulic Winch – DS11 62

2.24 Te WLL - 1500m - Electric Winch – DS17 64

2.5 Te WLL - 2250m - Hydraulic Winch – DS81 66

7.5 Te WLL - 350m - Hydraulic Winch with Integral 37 kW HPU– DS76 68

Seismic Winch Description

RTG offers a range of hydraulic or electric driven seismic winches that can be split into 4 main categories.

1. **Streamer**

The wide variety of steamers required in the industry that support the Ultra high resolution, 2D, 2DHR, 3D requirements for inshore and offshore seismic survey work require a variety of configurations, including drum capacity, pull capacity, static and dynamic tension monitoring system.

2. **Umbilical**

Depending on the Umbilical design these can provide different combinations of these parameters: data, power and lifting capabilities for the various subsea equipment's e.g. ROV

3. **Utility**

These winches are generally compact and of light weight design, with limited storage capacity. They enable the data transfer between the various subsea appliances and the survey room.

4. **Storage reels**

The streamer storage reels are available both as single and double drum configurations, with different sizes to suit the lengths of streamer's/umbilical's to be stored.

4 A-Frames, Cranes and Lifting

1.1 A-Frame 216
4.2 Mini Survey LARS 234
4.3 Boom Cranes 240
4.4 Man-Riding Abandonment System 244
4.5 ROV Lars 248
4.6 CTD LARS 256
4.7 Diver Tool Basket System 264
4.8 Sonar Pole 278

A-Frame, Cranes and Lifting Overview

RTG offers a range of A-Frames, Cranes and Lifting solutions that can be split into 3 main categories.

1. **A-Frame**

   A-Frames consist of a cross beam supported by two legs. The application of these is to support the marine industry in the recovery and deployment of subsea assets.

2. **Cranes**

   A crane is a type of machine, generally equipped with a hoist rope, wire ropes or chains, and sheaves, that can be used both to lift and lower materials and to move them horizontally. It is mainly used for lifting heavy things and transporting them to other places.

3. **Lifting Equipment**

   A range of different devices that assist and support other lifting equipment such as A-Frames and cranes to help move equipment safely on a vessel.

4.1 A-Frame

5 Te WLL A-Frame – DS36 218
10 Te WLL A-Frame – DS98 220
10 Te WLL A-Frame – DS94 222
12.5 Te WLL Telescopic A-Frame – DS97 224
15 Te WLL A-Frame – DS35 226
20 Te WLL A-Frame – DS96 228
30 Te WLL A-Frame – DS95 230
40 Te WLL A-Frame – DS33 232

A-Frame Description

RTG have designed, manufactured and supplied a wide range of A Frames. These have had working load limits for 500 kg up to 30 Te to a wide variety of clients worldwide.

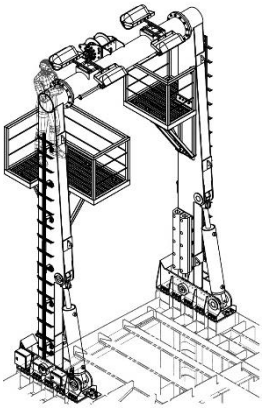
As well as standard over stern and over side A Frames **RTG** can also offer Wide Angled A Frames and Hydraulically Extending A Frames.
All A frames are supplied with fully tested and stamped Lifting Lugs.

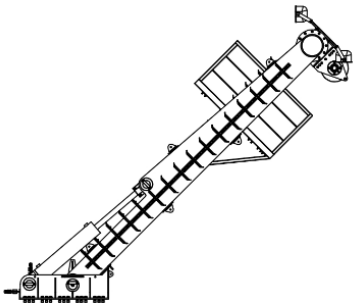
All A frames are supplied fully load tested on RTG's dedicated A Frame test bed.
RTG can also supply the following ancillary items with the A frames

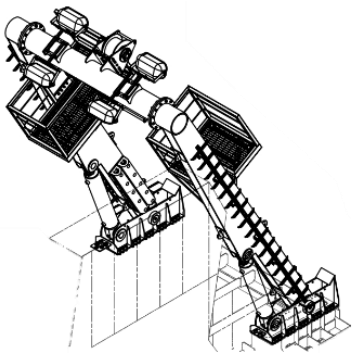
- Over Boarding Sheaves, Fully Tested and certified
- Swing Frames, for controlling the pendulum effect of the payload when launching and recovering payloads. Fully Tested and certified
- A Frame leg mounted auxiliary winches for the safe control of heavy/large payloads. Fully Tested and certified
- Rotators, with or without latch boxes, for launching and recovering ROV's, CPT assemblies etc. Fully Tested and certified

All A frames can be supplied with manual and remote control as required by the client.

5 Te WLL A-Frame – DS36







TECHNICAL SPECIFICATION			
Safe working load **Working load limit**	**2.5 Te SWL** **5 Te WLL**	**Height under cross beam** **Distance between legs**	**5.4 m** **3 m**
Sea state (Lloyds) **Significant wave height**	**5/6** **3.9 m**	**Angel inboard** **Angle outboard**	**30°** **45°**
Operating temperature	**-20 to +40^{0}C**	**Hydraulic cylinder working pressure** **Required hydraulic flow**	**200 Bar** **130 Litres per Minute**
Design	**Lloyds**	**Local and remote proportional control**	**3 position, spring return to centre directional control valves**
Head Sheave	**N/A**	**Mount configuration**	**20 bolts per base**
Weight	**Weight without cable: 4400 Kg**	**Auxiliary winch**	**1.1 Te WLL 30m (refer to DS44)**
Dimensions (LxWxH) **Footprint**	**1850 x 3816 x 6200 mm** **1388 x 3660 mm**		

Principle of Operation:

The A-Frame consists of a rigid frame pivoting on to supports mounted directly on the ship's deck. The rigid frame has three main components: two arms and one square section cross beam. The two arms are rigidly connected with the crossbeam. The arms are connected to the crossbeam with square plate flanges using bolts. The accurate positioning of the cross beam into the A-Frame legs by bolted joints.

Each arm is driven by a hydraulic cylinder. The hydraulic cylinders are connected to the arms with eyes and pins. The cylinder is connected on a deck mounted support also with eyes and pins. When the rod of the cylinder is fully retracted the A-Frame is in its maximum inboard position. When the rods are extended the A-Frame starts to rotate around its pivoting axis and it reaches its final maximum overboard position when the hydraulic cylinders reach their maximum extended length. To move back the A-Frame in its inboard position the cylinders are retracted back. Due to the hydraulic control system and the method of mechanical attachment to the A-Frame cylinders works synchronously. The A-Frame and Auxiliary Winch will be controlled via 3 position, spring return to centre directional control valves.

The A-Frame is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **Greasing manifold installed for impossible direct local access points**
- **12 Month Warranty**
- **Ladder access with fall arrestor on both legs**
- **D section rubber fenders on lowest 2m of A-Frame legs**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **2 Off – Skookum A-12R wide throat hanging blocks**
- **1 Set – 4 x Floodlights**
- **DNV Certification**

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Lifting pad eyes load chart		
Description	Central pad eye on the cross beam	Auxiliary pad eyes
WLL	6.5 Te	4.75 Te
Overboard, maximum line tension	3.78 Te	2.76 Te
Up, maximum line tension	3.35 Te	2.45 Te
Inboard, maximum line tension	3.25 Te	2.37 Te

6.5 Te WLL PADEYE
- designed to accommodate
GP bow shackle 6.5t WLL
SCALE (1 : 5)

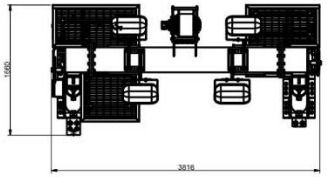


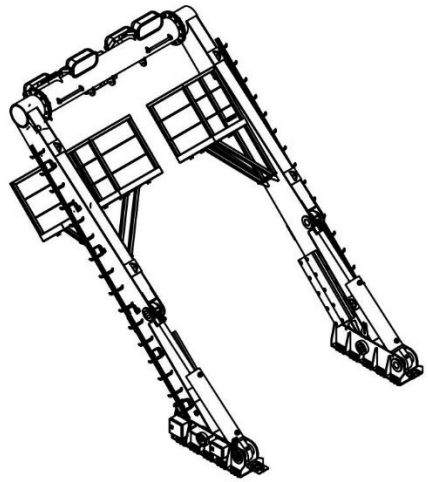
4.75 TE WLL PADEYE
- designed to accommodate
IMES STD 4.75t GP Load Shackle
SCALE (1 : 5)



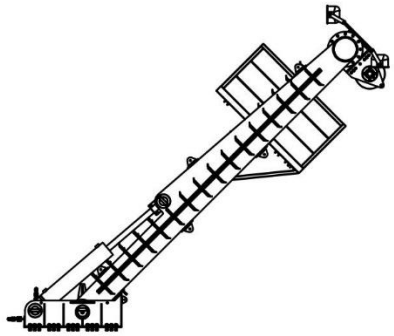
THIRD ANGLE PROJECTION

TOP VIEW
(1 : 25)

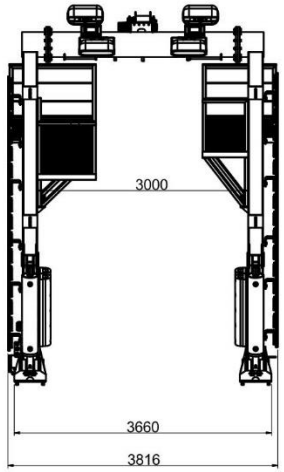




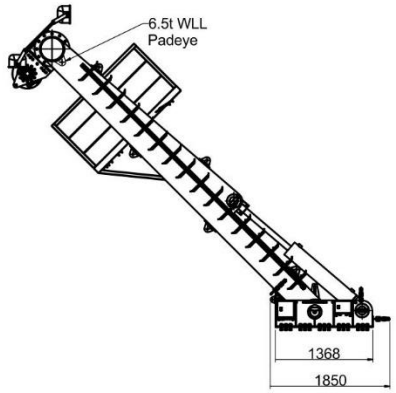
PORT VIEW (1 : 25)



FORWARDS VIEW (1 : 25)



STBD SIDE VIEW (1 : 25)



ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

romicaEngineering

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ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
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APPROVED								
DATE								

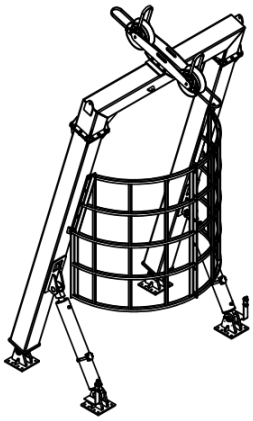
ORIGINAL SCALE 1:25

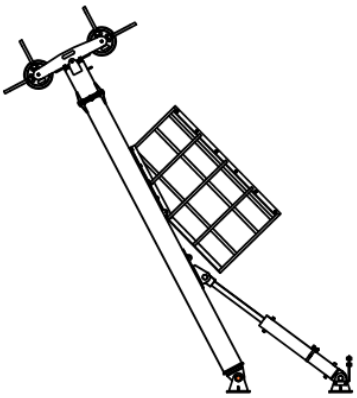
TITLE
2.5 Te WLL A-Frame

DRG. No.
DS36

A0
SHT 1 OF 4

10 Te WLL A-Frame – DS98





TECHNICAL SPECIFICATION			
Safe working load **Working load limit**	**10 Te SWL** **10 Te WLL**	**Height under cross beam (inboard)** **Distance between legs**	**6.4 m** **3.1m**
Sea state (Beaufort) **Significant wave height**	**5** **3.9m**	**Angle inboard** **Angle outboard**	**17°** **28°**
Operating temperature	**-20 to +40^{0}C**	**Hydraulic cylinder working pressure** **Max hydraulic flow**	**200 Bar** **150 Litres per Minute**
Design	**Lloyds**	**Local proportional control**	**3 position, spring return to centre directional control valves**
Head sheave	**Twin sheave head arrangement**	**Mount configuration**	**8 bolts per base**
Weight	**Weight without cable: 6300 Kg**	**Auxiliary winch**	**N/A**
Dimensions (LxWxH) **Footprint**	**2450 x 3993 x 7985 mm** **2450 x 3950 mm**		

Principle of Operation:

The A-Frame consists of a rigid frame pivoting on to supports mounted directly on the ship's deck. The rigid frame has three main components: two arms and one square section cross beam. The two arms are rigidly connected with the crossbeam. The arms are connected to the crossbeam with square plate flanges using bolts. The accurate positioning of the cross beam into the A-Frame legs by bolted joints.

Each arm is driven by a hydraulic cylinder. The hydraulic cylinders are connected to the arms with eyes and pins. The cylinder is connected on a deck mounted support also with eyes and pins. When the rod of the cylinder is fully retracted the A-Frame is in its maximum inboard position. When the rods are extended the A-Frame starts to rotate around its pivoting axis and it reaches its final maximum overboard position when the hydraulic cylinders reach their maximum extended length. To move back the A-Frame in its inboard position the cylinders are retracted back. Due to the hydraulic control system and the method of mechanical attachment to the A-Frame the cylinders work synchronously. The A-Frame and Auxiliary Winches will be controlled via 3 position, spring return to centre directional control valves.

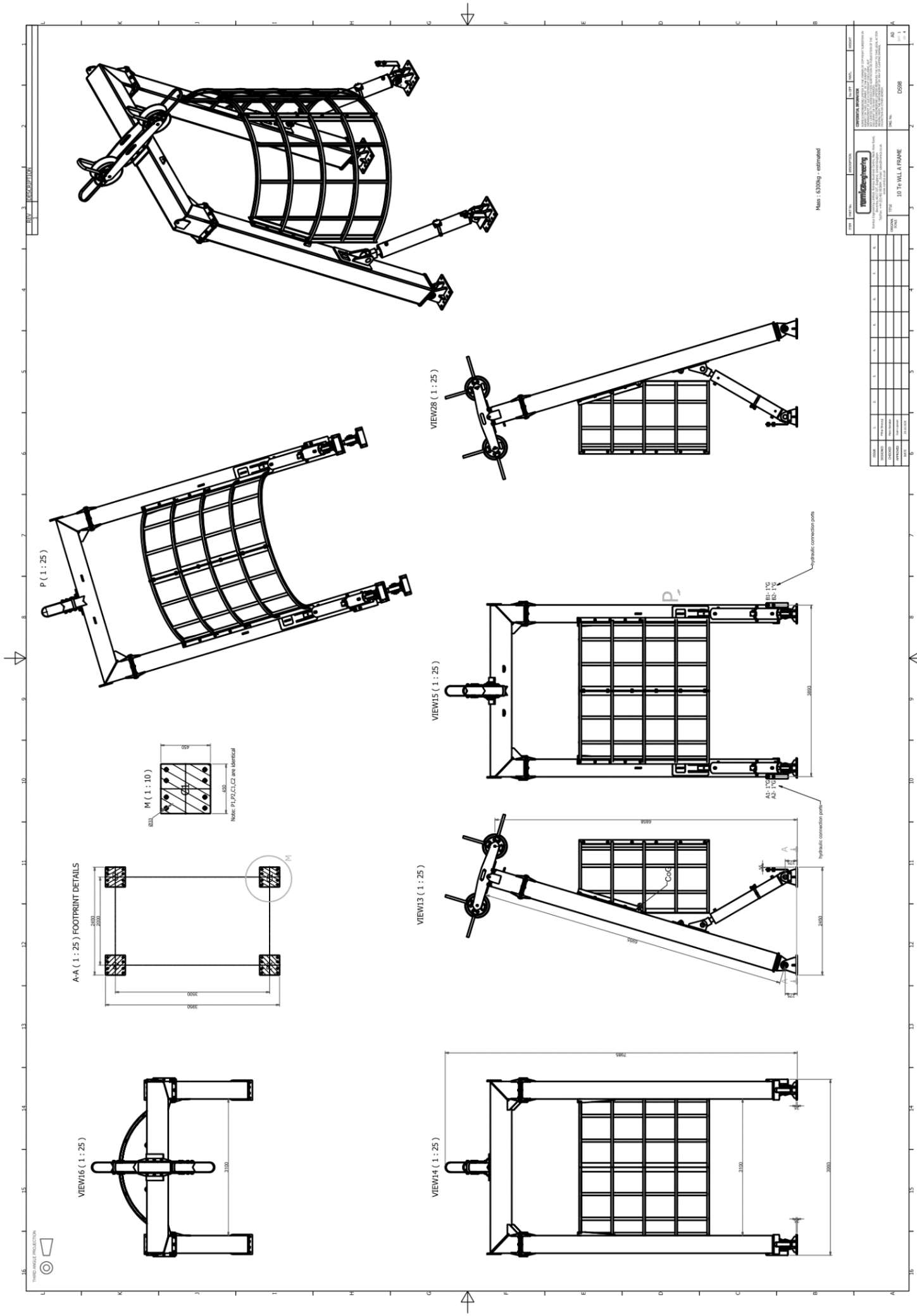
The A-Frame is manufactured in modular segments, so that is can be disassembled to allow for standard road transportation.

The A-Frame is supplied with the following:

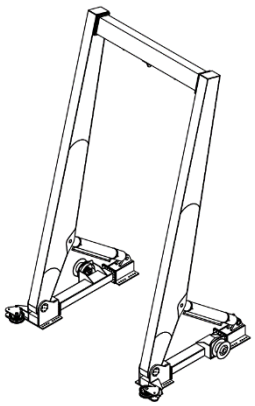
- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **Pad eyes for assembly**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **Buoy Storage frame**
- **1Off – Auxiliary Winches**
- **PVG – directional control valves**
- **1 Set – 4 x Floodlights**
- **Greasing manifold installed for impossible direct local access points**


Mass : 6300kg - estimated
VIEW28 (1 : 25)
P (1 : 25)
VIEW15 (1 : 25)
M (1 : 10)
Note: P1,P2,C1,C2 are identical
VIEW13 (1 : 25)
A-A (1 : 25) FOOTPRINT DETAILS
VIEW16 (1 : 25)
VIEW14 (1 : 25)
10 Te WLL A FRAME
DS98

10 Te WLL A-Frame – DS94





TECHNICAL SPECIFICATION			
Safe working load **Working load limit**	**7.5 Te SWL** **10 Te WLL**	**Height under cross beam** **Distance between legs**	**8.5m** **4m**
Sea state (Beaufort) **Significant wave height**	**5** **3.9m**	**Angle inboard** **Angle outboard**	**15°** **30°**
Operating temperature	**-20 to +40^{0}C**	**Hydraulic cylinder working pressure** **Required hydraulic flow**	**200 Bar** **280 Litres per Minute**
Design	**Lloyds**	**Local and remote proportional control**	**3 position, spring return to centre directional control valves**
Head sheave	**N/A**	**Mount configuration**	**32 bolts per base**
Weight	**Weight without cable: 11000 Kg**	**Auxiliary winch (Pt & Stbd)**	**2.5 Te WLL 30m (refer to DS45)**
Dimensions (LxWxH) **Footprint**	**4200 x 5818 x 9286 mm** **3716 x 730 mm**		

Principle of Operation:

The A-Frame consists of a rigid frame pivoting on to supports mounted directly on the ship's deck. The rigid frame has three main components: two arms and one square section cross beam. The two arms are rigidly connected with the crossbeam. The arms are connected to the crossbeam with square plate flanges using bolts. The accurate positioning of the cross beam into the A-Frame legs by bolted joints.

Each arm is driven by a hydraulic cylinder. The hydraulic cylinders are connected to the arms with eyes and pins. The cylinder is connected on a deck mounted support also with eyes and pins. When the rod of the cylinder is fully retracted the A-Frame is in its maximum inboard position. When the rods are extended the A-Frame starts to rotate around its pivoting axis and it reaches its final maximum overboard position when the hydraulic cylinders reach their maximum extended length. To move back the A-Frame in its inboard position the cylinders are retracted back. Due to the hydraulic control system and the method of mechanical attachment to the A-Frame the cylinders work synchronously. The A-Frame and Auxiliary Winches will be controlled via 3 position, spring return to centre directional control valves.

The A-Frame is manufactured in modular segments, so that is can be disassembled to allow for standard road transportation.

The A-Frame is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**

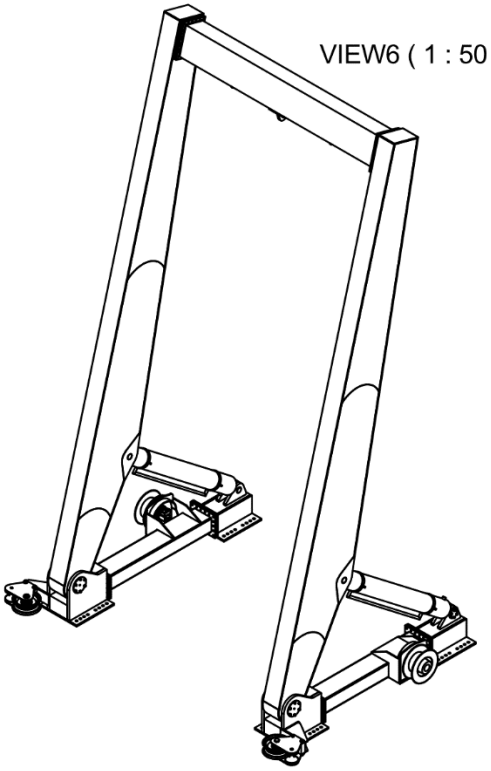
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **D section rubber fenders on lowest 2m of A-Frame legs**
- **2 Off – Auxiliary Winches & sheaves**
- **PVG – directional control valves**
- **Greasing manifold installed for impossible direct local access points**
- **1 Set – 4 x Floodlights**
- **DNV Certification**

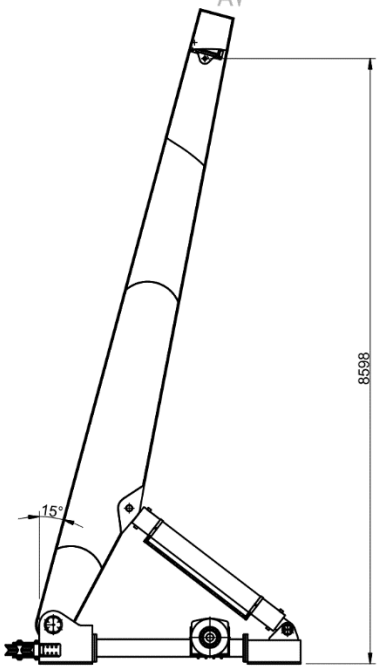
Back to contents

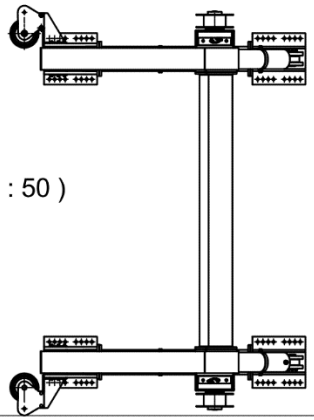
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THIRD ANGLE PROJECTION

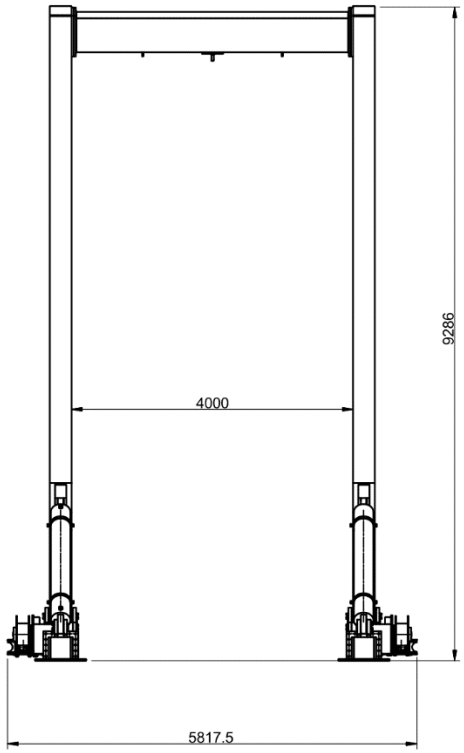


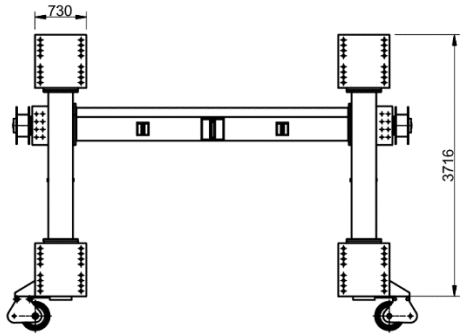
VIEW6 (1 : 50)





A (1 : 50)





Technical specification					
Max. dynamic load SWL	**Max. static load SWL**	Height under crossbeam	Angle outboard	Angle inboard	Weight
7.5 Te	10 Te	8.5 m	30	15	11 Te

GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS								
0 UP TO 3	3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1000	OVER 1000 UP TO 2000	OVER 2000 UP TO 4000
± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2

NOTES

USED ON

DRAWN	Balan C.	25.06.2009	ISSUE	3									
		DATE	D.O.CHECKED										
			T.O.CHECKED										
			T.O.APPL.										
			STATUS	PROD									
			DATE	30.06.2010									

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	SPECN.	DIMENS.	SIZE - REMARKS

SUPERSEDED BY

SUPERSEDES

ORIGINAL SCALE 1:50

A2

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HU17 0NT United Kingdom of Great Britain
TEL 01482 881565
EMAIL: sales@romica.co.uk

ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS

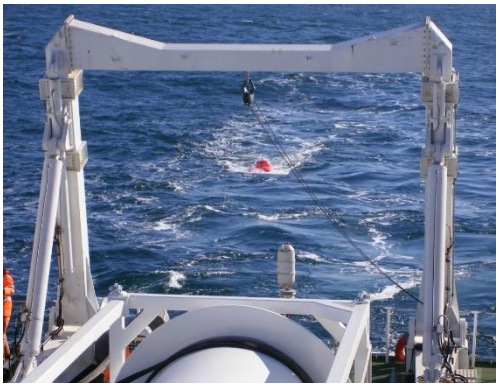
TITLE: 10 Te WLL A-Frame

DRG. No. DS94

SHT 1 OF 3

12.5 Te WLL Telescopic A-Frame – DS97







TECHNICAL SPECIFICATION			
Safe working load **Working load limit**	**7.5 Te SWL** **12.5 Te WLL**	**Height under cross beam**	**7.8m extended** **4.92m retracted**
Sea state (Beaufort) **Significant wave height**	**5** **3.9m**	**Distance between legs**	**5.57m**
Operating temperature	**-20 to +40^{0}C**	**Angle inboard** **Angle outboard**	**16.4°** **61.8°**
Design	**Lloyds**	**Hydraulic cylinder working pressure** **Required hydraulic flow**	**200 Bar** **150 Litres per Minute**
Head sheave	**N/A**	**Local and remote proportional control**	**3 position, spring return to centre directional control valves**
Weight	**Weight without cable: 15000 Kg**	**Mount configuration**	**12 bolts per base**
Dimensions (LxWxH) **Footprint**	**4540 x 7175 x 8680 mm (extended)** **1000 x 1000 mm**	**Auxiliary winch**	**N/A**

Principle of Operation:

The A-Frame consists of a rigid frame pivoting on to supports mounted directly on the ship's deck. The rigid frame has three main components: two telescopic arms and one square section cross beam. The two arms are rigidly connected with the crossbeam. The arms are connected to the crossbeam with square plate flanges using bolts. The accurate positioning of the cross beam into the A-Frame legs by bolted joints.

Each arm is driven by a hydraulic cylinder. The hydraulic cylinders are connected to the arms with eyes and pins. The cylinder is connected on a deck mounted support also with eyes and pins. When the rod of the cylinder is fully retracted the A-Frame is in its maximum inboard position. When the rods are extended the A-Frame starts to rotate around its pivoting axis and it reaches its final maximum overboard position when the hydraulic cylinders reach their maximum extended length. To move back the A-Frame in its inboard position the cylinders are retracted back.
The telescopic arms are driven by a second hydraulic cylinder. The hydraulic cylinders are connected to the crossbeam with eyes and pins. The cylinder is connected to a trunnion support to the lower non extending arms. The telescopic arms retract into the lower arms. When the rod of the cylinder is fully extended the A-Frame is in its maximum extension.

Due to the hydraulic control system and the method of mechanical attachment to the A-Frame the hydraulic cylinders work synchronously. In pairs, crossbeam extension/retraction and arm extension/retraction. The A-Frame will be controlled via 3 position, spring return to centre directional control valves.

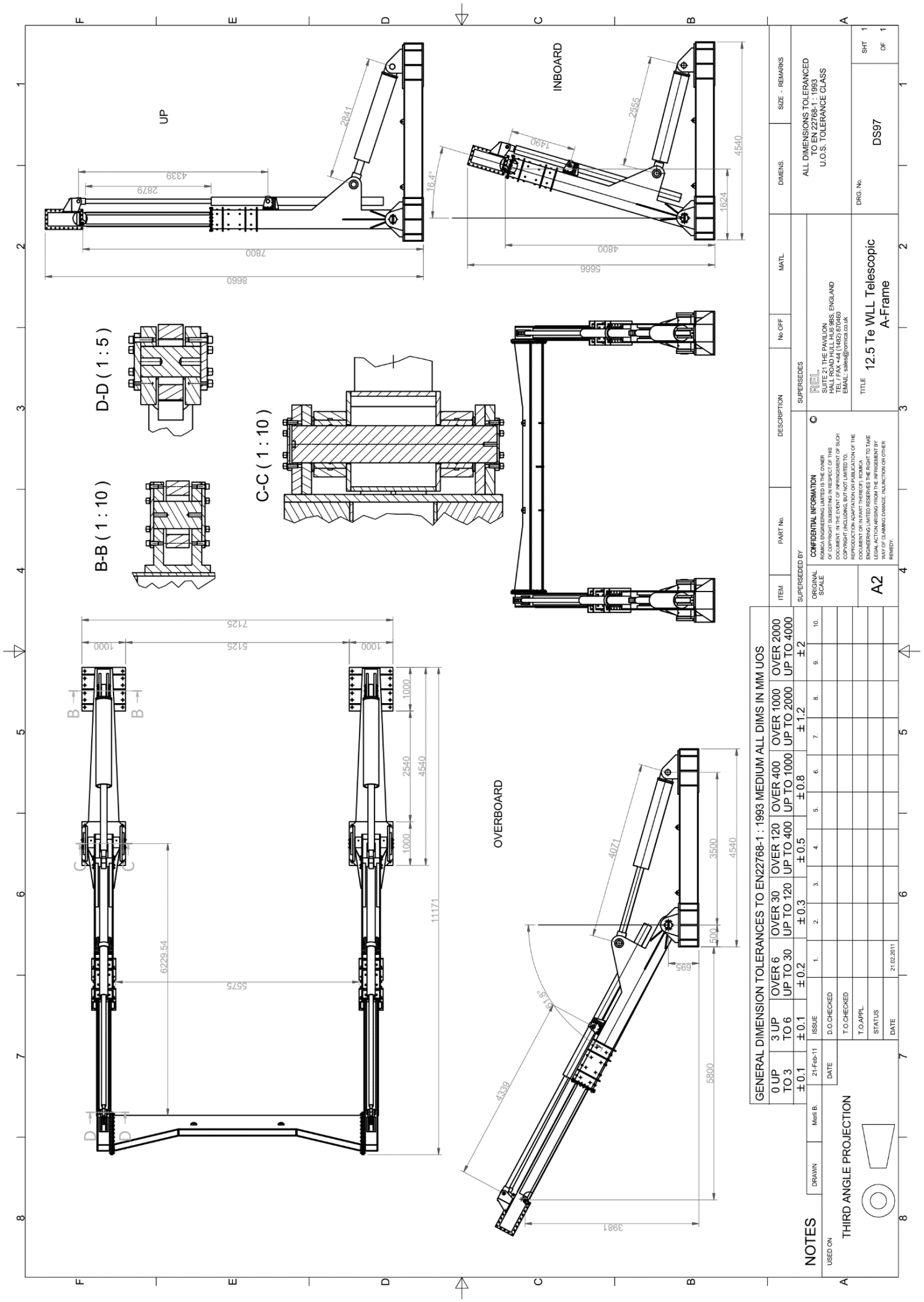
The A-Frame is manufactured in modular segments, so that is can be disassembled to allow for standard road transportation.

The A-Frame is supplied with the following:

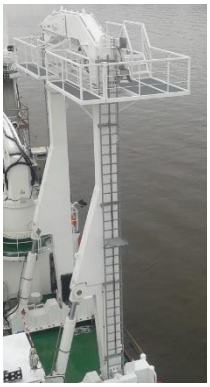
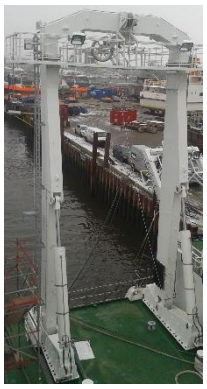
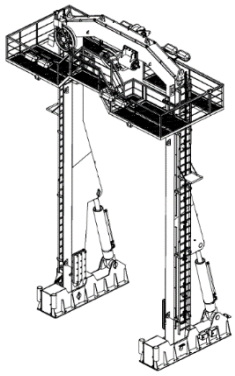
- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **D section rubber fenders on lowest 2m of A-Frame legs**
- **PVG – directional control valves**
- **Greasing manifold installed for impossible direct local access points**
- **1 Set – 4 x Floodlights**
- **DNV Certification**


UP
INBOARD
OVERBOARD
D-D (1 : 5)
B-B (1 : 10)
C-C (1 : 10)
GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS
NOTES
THIRD ANGLE PROJECTION
USED ON
DRAWN
Marti B.
21-Feb-11
DATE
ISSUE
D.O.CHECKED
T.O.CHECKED
T.O.APPL.
STATUS
DATE
21.02.2011
ITEM
PART No.
DESCRIPTION
No. OFF
MATL.
DIMENS.
SIZE - REMARKS
SUPERSEDED BY
SUPERSEDES
ORIGINAL SCALE
A2
ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS
DRG. No.
DS97
SHT 1
OF 1
TITLE
12.5 Te WLL Telescopic A-Frame
REL
SUITE 21 THE PAVILION
HALL ROAD HULL HU6 9BS, ENGLAND
TEL/ FAX +44 (1482) 870460
EMAIL: sales@romica.co.uk
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15 Te WLL A-Frame – DS35


TECHNICAL SPECIFICATION			
Safe working load **Working load limit**	**7.5 Te SWL** **15 Te WLL**	**Height under cross beam** **Distance between legs**	**11 m** **4.5 m**
Sea state (Lloyds) **Significant wave height**	**5/6** **3.9 m**	**Angel inboard** **Angle outboard**	**20°** **30°**
Operating temperature	**-20 to +40^{0}C**	**Hydraulic cylinder working pressure** **Required hydraulic flow**	**200 Bar** **240 Litres per Minute**
Design	**Lloyds**	**Local and remote proportional control**	**3 position, spring return to centre directional control valves**
Head sheave	**11 Te load cell (wireless)**	**Mount configuration**	**28 bolts per base**
Weight	**Weight without cable: 18000 Kg**	**Auxiliary winch**	**3.5 Te WLL 40m (refer to DS16)** **The auxiliary winch is not fitted with guards as illustrated in DS16.**
Dimensions (LxWxH) **Footprint**	**5094 x 7460 x 11780 mm** **3500 x 5830 mm**		

Principle of Operation:

The A-Frame consists of a rigid frame pivoting on to supports mounted directly on the ship's deck. The rigid frame has three main components: two arms and one square section cross beam. The two arms are rigidly connected with the crossbeam. The arms are connected to the crossbeam with square plate flanges using bolts. The accurate positioning of the cross beam into the A-Frame legs by bolted joints. Each arm is driven by a hydraulic cylinder. The hydraulic cylinders are connected to the arms with eyes and pins. The cylinder is connected on a deck mounted support also with eyes and pins.

When the rod of the cylinder is fully retracted the A-Frame is in its maximum inboard position. When the rods are extended the A-Frame starts to rotate around its pivoting axis and it reaches its final maximum overboard position when the hydraulic cylinders reach their maximum extended length. To move back the A-Frame in its inboard position the cylinders are retracted back. Due to the hydraulic control system and the method of mechanical attachment to the A-Frame cylinders works synchronously. The A-Frame and Auxiliary Winch will be controlled via 3 position, spring return to centre directional control valves.

The A-Frame and Working platform are manufactured in modular segments, so that is can be disassembled to allow for standard road transportation.

The A-Frame is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **Greasing manifold installed for impossible direct local access points**
- **12 Month Warranty**
- **Ladder access with fall arrestor on both legs**
- **D section rubber fenders on lowest 2m of A-Frame legs**
- **Operation and Maintenance Manual in Electronic Format**

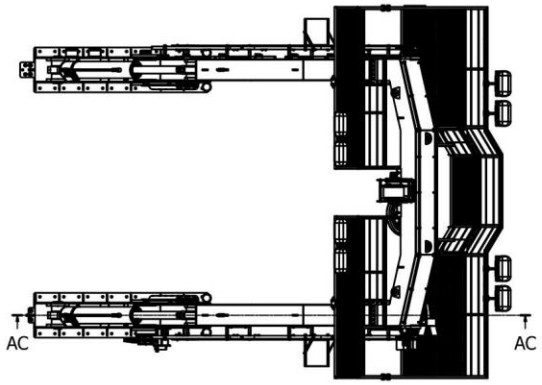
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **2 x Skookum A-8R wide throat hanging blocks**
- **1 Set – 4 x Floodlights**
- **DNV Certification**

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TOP VIEW45 (1:50)



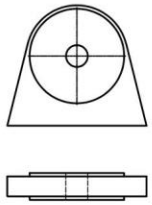
LIFTING PAD EYES

Lifting pad eyes and central pivoting sheave load chart

Description	Central pivoting sheave	Central pad eye on the cross beam	Auxiliary pad eyes
WLL	7.5 Te	17 Te	9 Te
Overboard, maximum line tension	7.5 Te	7.5 Te	4.94 Te
Up, maximum line tension	7.5Te	7.5 Te	4.63 Te
Inboard,maximum line tension	7.5Te	7.5Te	4.5 Te

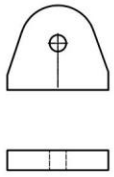
CENTRAL PAD EYE , WLL 17 Te

VIEW52 (1 : 5)



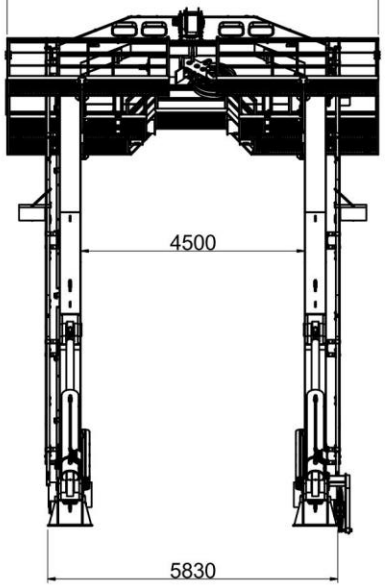
AUXILIARY PAD EYES , WLL 9 Te

VIEW54 (1 : 5)

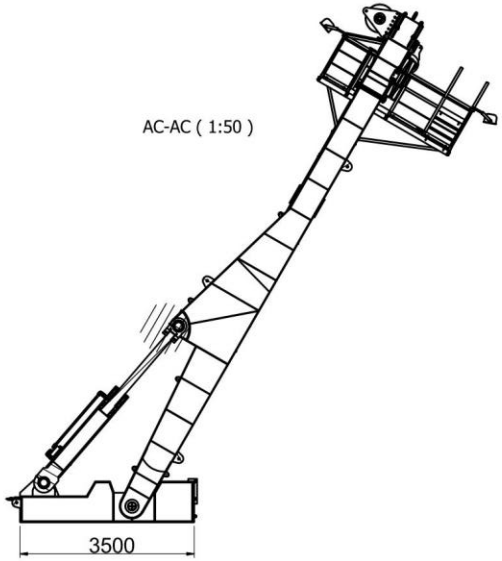


7460

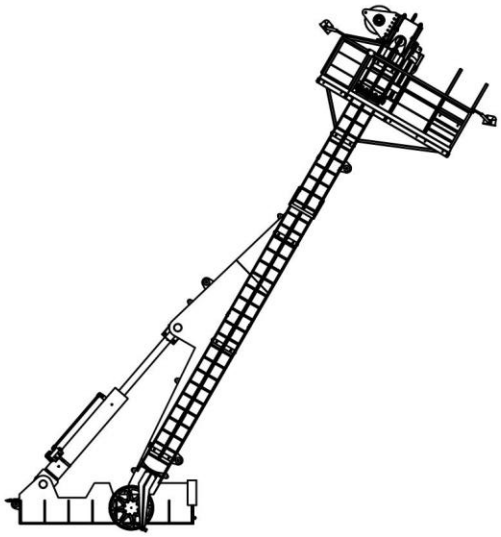
PORT VIEW46 (1:50)



AC-AC (1:50)



STERN VIEW47 (1:50)



ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Mihai Struczuj	Mihai Struczuj	Stelian Codat	Stelian Codat				
CHECKED	Stelian Codat	Stelian Codat	Mihai Struczuj	Mihai Struczuj				
APPROVED	Mihai Struczuj	Mihai Struczuj	Mihai Struczuj	Mihai Struczuj				
DATE	07.12.2015	10.02.2016	18.02.2016	16.03.2016				

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

romicaengineering

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Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
www.romica.co.uk

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ORIGINAL SCALE	TITLE	DRG. No.	
1:50	15 Te WLL A-Frame	DS35	A1 SHT 1 OF 11

20 Te WLL A-Frame – DS96







TECHNICAL SPECIFICATION			
Safe working load **Working load limit**	**12 Te SWL** **20 Te WLL**	**Height under cross beam (inbd)** **Distance between legs**	**5.2m max 4.3m min** **3.5m**
Sea state (Beaufort) **Significant wave height**	**5** **3.9m**	**Maximum Outreach Overboard** **Maximum Reach Inboard**	**5m** **6.7m**
Operating temperature	**-20 to +40^{0}C**	**Angle inboard** **Angle outboard**	**30°** **20°**
Design	**Lloyds**	**Hydraulic cylinder working pressure** **Required hydraulic flow**	**200 Bar** **150 Litres per Minute**
Head sheave	**N/A**	**Local and remote proportional control**	**3 position, spring return to centre directional control valves**
Weight	**Weight without cable: 24000 Kg**	**Mount configuration**	**26 bolts per base**
Dimensions (LxWxH) **Footprint**	**3517 x 4950 x 5225 mm (extended)** **3100 x 950 mm**	**Auxiliary winch (Pt & Stbd)**	**3000kg**

Principle of Operation:

The A-Frame consists of a rigid frame pivoting on to supports mounted directly on the ship's deck. The rigid frame has three main components: two arms and one square section cross beam. The two arms are rigidly connected with the crossbeam. The arms are connected to the crossbeam with square plate flanges using bolts. The accurate positioning of the cross beam into the A frame legs by bolted joints.
Each arm is driven by 2 hydraulic cylinders. The hydraulic cylinders are connected to the arms with eyes, pins, and a swing link.
The upper cylinders are mounted on the link pieces, the link pieces pivot also on the main pivot axes and they are rotated by the two lower cylinders (Trunnion mounted types) connected on the support.
When the upper cylinders rods are extended, and the lower cylinders are fully retracted the A frame is in its maximum overboard position
When the upper cylinders are fully retracted, and the lower cylinders are fully retracted the A frame is approximately in vertical position.
When the upper cylinders are fully retracted, and the lower cylinders are fully extended the A frame is in its maximum inboard position.

The A-Frame will be controlled via 3 position, spring return to centre directional control valves.

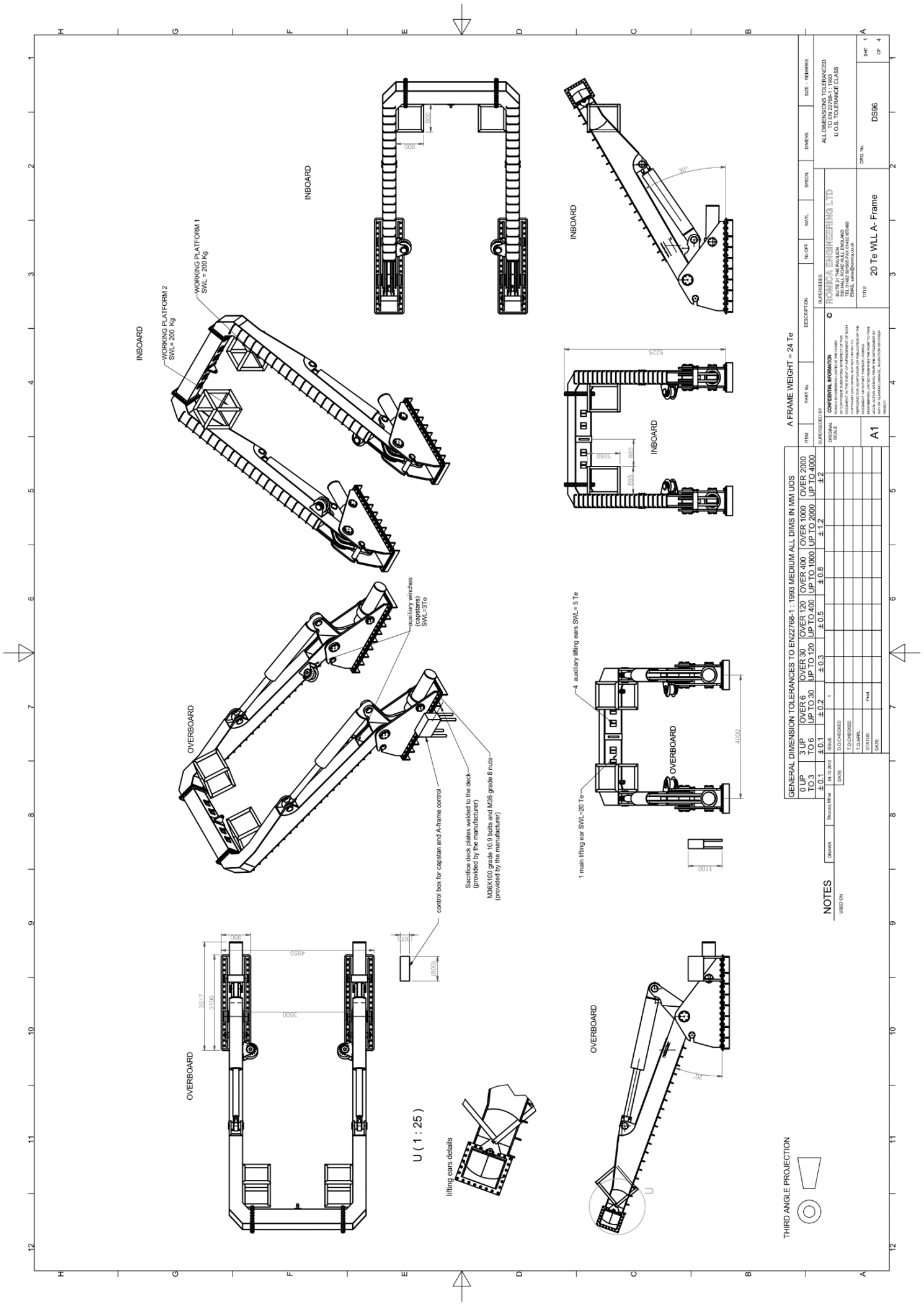
The A-Frame is manufactured in modular segments, so that is can be disassembled to allow for standard road transportation.

The A-Frame is supplied with the following:

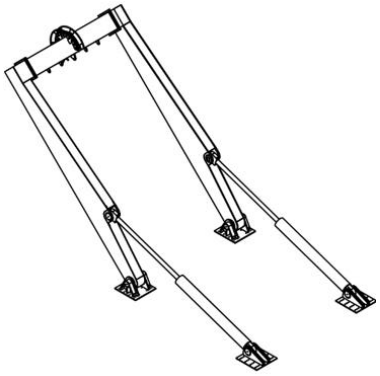
- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **D section rubber fenders on lowest 2m of A-Frame legs**
- **2 Off – Auxiliary winches**
- **PVG – directional control valves**
- **Greasing manifold installed for impossible direct local access points**
- **Ladders and platforms**
- **1 Set – 4 x Floodlights**
- **DNV Certification**


INBOARD
WORKING PLATFORM 2
SWL= 200 Kg
WORKING PLATFORM 1
SWL = 200 Kg
INBOARD
INBOARD
INBOARD
OVERBOARD
auxiliary winches
(capstans)
SWL=3Te
control box for capstan and A-frame control
Sacrifice deck plates welded to the deck
(provided by the manufacturer)
M36X100 grade 10.9 bolts and M36 grade 8 nuts
(provided by the manufacturer)
4 auxiliary lifting ears SWL= 5 Te
1 main lifting ear SWL=20 Te
OVERBOARD
OVERBOARD
OVERBOARD
lifting ears details
U (1 : 25)
A FRAME WEIGHT = 24 Te
GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS
NOTES
THIRD ANGLE PROJECTION
ALL DIMENSIONS TOLERANCED TO EN 22768-1: 1993 U.O.S. TOLERANCE CLASS
TITLE
20 Te WLL A- Frame
DRG. No
DS96
A1
ROMICA ENGINEERING LTD

30 Te WLL A-Frame – DS95





TECHNICAL SPECIFICATION			
Safe working load **Working load limit**	**12 Te SWL** **30 Te WLL**	**Height under cross beam** **Distance between legs**	**10m** **5.6m**
Sea state (Beaufort) **Significant wave height**	**5** **3.9m**	**Angle inboard** **Angle outboard**	**30°** **45°**
Operating temperature	**-20 to +40^{0}C**	**Hydraulic cylinder working pressure** **Required hydraulic flow**	**200 Bar** **280 Litres per Minute**
Design	**Lloyds**	**Local and remote proportional control**	**3 position, spring return to centre directional control valves**
Head sheave	**N/A**	**Mount configuration**	**24 bolts per base**
Weight	**Weight without cable: 25000 Kg**	**Auxiliary winch**	**N/A**
Dimensions (LxWxH) **Footprint**	**8695 x 7350 x 11400 mm** **1265 x 1245 mm**	**Head Chute with rollers**	**allows seismic arrays/umbilical's of various diameters to deployed and recovered in a safe manner**

Principle of Operation:

The A-Frame consists of a rigid frame pivoting on to supports mounted directly on the ship's deck. The rigid frame has three main components: two arms and one square section cross beam. The two arms are rigidly connected with the crossbeam. The arms are connected to the crossbeam with square plate flanges using bolts. The accurate positioning of the cross beam into the A-Frame legs by bolted joints.

Each arm is driven by a hydraulic cylinder. The hydraulic cylinders are connected to the arms with eyes and pins. The cylinder is connected on a deck mounted support also with eyes and pins. When the rod of the cylinder is fully retracted the A-Frame is in its maximum inboard position. When the rods are extended the A-Frame starts to rotate around its pivoting axis and it reaches its final maximum overboard position when the hydraulic cylinders reach their maximum extended length. To move back the A-Frame in its inboard position the cylinders are retracted back. Due to the hydraulic control system and the method of mechanical attachment to the A-Frame the cylinders work synchronously. The A-Frame will be controlled via 3 position, spring return to centre directional control valves.

The A-Frame is manufactured in modular segments, so that is can be disassembled to allow for standard road transportation.

The A-Frame is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**

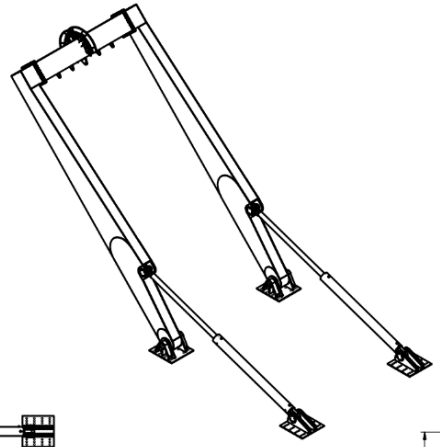
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

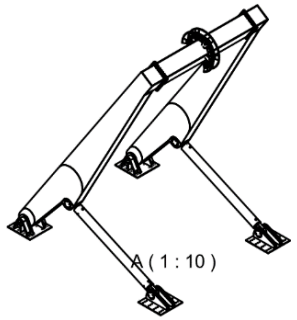
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **D section rubber fenders on lowest 2m of A-Frame legs**
- **1 Off – Head Chute with rollers**
- **PVG – directional control valves**
- **Greasing manifold installed for impossible direct local access points**
- **1 Set – 4 x Floodlights**
- **DNV Certification**

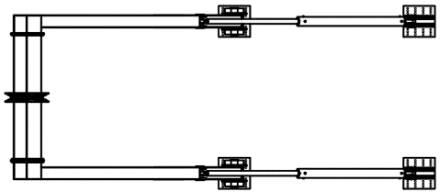
Back to contents

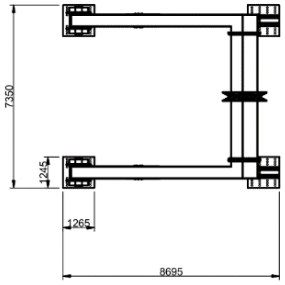
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THIRD ANGLE PROJECTION

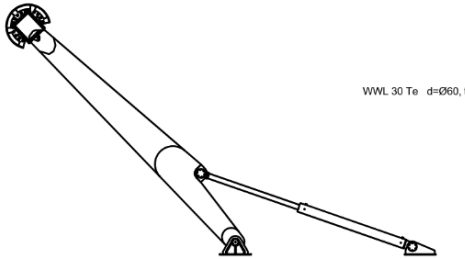


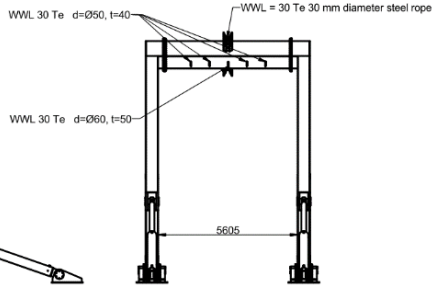


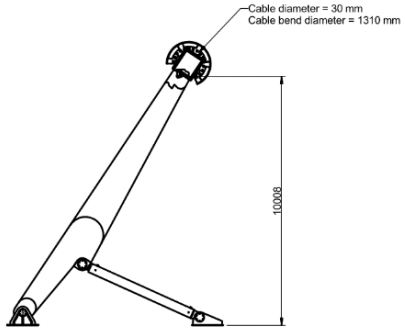


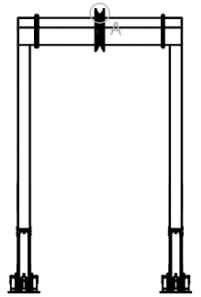












TOTAL WEIGHT 25 Te

GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS

0 UP TO 3	3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1000	OVER 1000 UP TO 2000	OVER 2000 UP TO 4000
± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2

NOTES

USED ON

DRAWN	STRUCZUJ MIHAI	05.09.2011	ISSUE
		DATE	D.O.CHECKED
			T.O.CHECKED
			T.O.APPL.
			STATUS
			DATE

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	DIMENS.	SIZE - REMARKS

SUPERSEDED BY

SUPERSEDES

ORIGINAL SCALE

A1

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EMAIL: sales@romica.co.uk

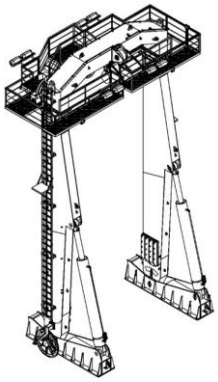
ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS

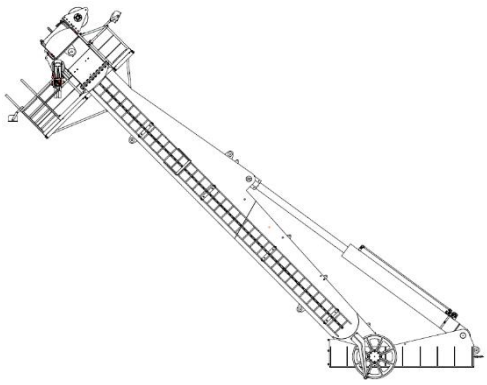
TITLE 30 Te WLL A-Frame

DRG. No. DS95

SHT 1 OF 1

40 Te WLL A-Frame – DS33







TECHNICAL SPECIFICATION			
Safe working load **Working load limit**	**20 Te SWL** **40 Te WLL**	**Height under cross beam** **Distance between legs**	**12 m** **5 m**
Sea state (Lloyds) **Significant wave height**	**5/6** **3.9 m**	**Angel inboard** **Angle outboard**	**30°** **45°**
Operating temperature	**-20 to +40^{0}C**	**Hydraulic cylinder working pressure** **Required hydraulic flow**	**200 Bar** **240 Litres per Minute**
Design	**Lloyds**	**Local and remote proportional control**	**3 position, spring return to centre directional control valves**
Head sheave	**29 Te load cell (wireless)**	**Mount configuration**	**32 bolts per base**
Weight	**Weight without cable: 28200 Kg**	**Auxiliary winch**	**3.5 Te WLL 40m (refer to DS16)** **The auxiliary winch is not fitted with guards as illustrated in DS16.**
Dimensions (LxWxH) **Footprint**	**4350 x 7958 x 13103 mm** **4002 x 6330 mm**		

Principle of Operation:

The A-Frame consists of a rigid frame pivoting on to supports mounted directly on the ship's deck. The rigid frame has three main components: two arms and one square section cross beam. The two arms are rigidly connected with the crossbeam. The arms are connected to the crossbeam with square plate flanges using bolts. The accurate positioning of the cross beam into the A-Frame legs by bolted joints.

Each arm is driven by a hydraulic cylinder. The hydraulic cylinders are connected to the arms with eyes and pins. The cylinder is connected on a deck mounted support also with eyes and pins. When the rod of the cylinder is fully retracted the A-Frame is in its maximum inboard position. When the rods are extended the A-Frame starts to rotate around its pivoting axis and it reaches its final maximum overboard position when the hydraulic cylinders reach their maximum extended length. To move back the A-Frame in its inboard position the cylinders are retracted back. Due to the hydraulic control system and the method of mechanical attachment to the A-Frame cylinders works synchronously. The A-Frame and Auxiliary Winch will be controlled via 3 position, spring return to centre directional control valves.

The A-Frame and Working platform are manufactured in modular segments, so that is can be disassembled to allow for standard road transportation.

The A-Frame is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **Greasing manifold installed for impossible direct local access points**
- **12 Month Warranty**
- **Ladder access with fall arrestor on both legs**
- **D section rubber fenders on lowest 2m of A-Frame legs**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **2 Off – Skookum A-12R wide throat hanging blocks**
- **1 Set – 4 x Floodlights**
- **DNV Certification**

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LIFTING PAD EYES

Lifting pad eyes and central pivoting sheave load chart			
Description	Central pivoting sheave	Central pad eye on the cross beam	Auxiliary pad eyes
WLL	20 Te	25 Te	12 Te
Overboard , maximum line tension	20 Te	13.4 Te	6.4 Te
Up, maximum line tension	20 Te	12.7 Te	6.1 Te
Inboard,mximum line tension	20 Te	12.5 Te	6 Te

CENTRAL PAD EYE , WLL 25 Te

VIEW90 (1 :10)



VIEW89 (1 :10)



AUXILIARY PAD EYES , WLL 12 Te

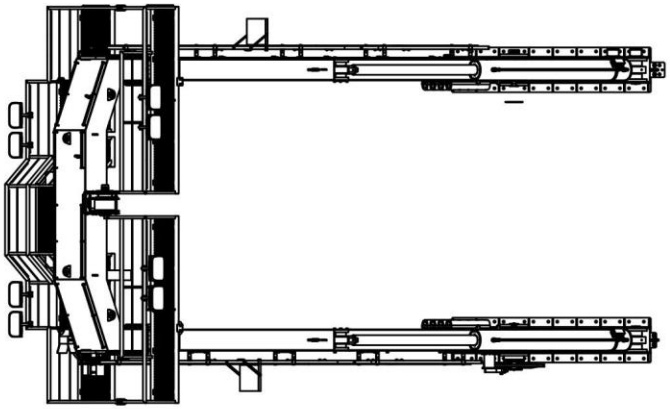
VIEW91 (1 :10)



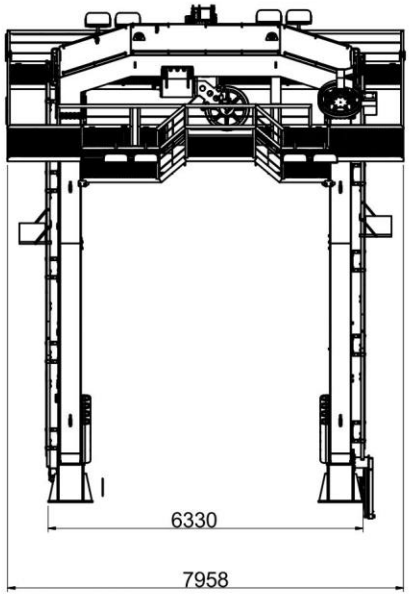
VIEW92 (1 :10)



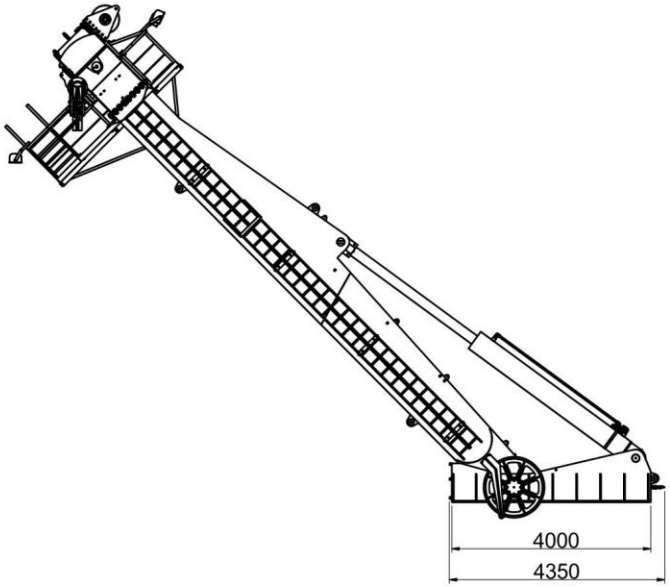
TOP VIEW81 (1 : 50)



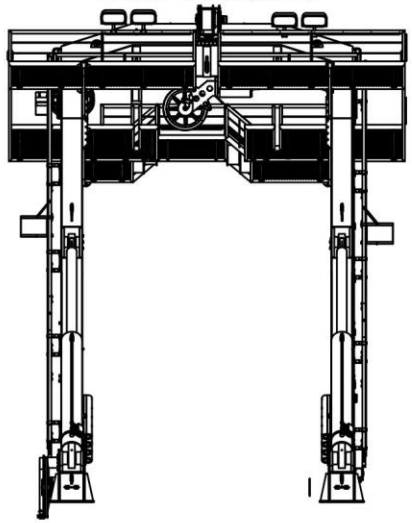
AFT VIEW80 (1 : 50)



STBD VIEW78 (1 : 50)



FORWARD VIEW79 (1 : 50)



ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED								
CHECKED								
APPROVED								
DATE								

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

romicaengineering

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www.romica.co.uk

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ORIGINAL SCALE	TITLE	DRG. No.	
	40 Te WLL A-Frame	DS33	A1 SHT 1 OF 12

4.2 Mini Survey LARS

0.3 Te WLL - 200m - Electric ADCP LARS Winch – DS23 236

1.2 Te WLL - 1700m - Hydraulic ADCP LARS Winch – DS69 238

Mini Survey LARS Description

RTG design, manufacture and supply a mini-survey LARS system with a WLL of 500 Kg.
This LARS system can be used for handling a variety of payloads and in different applications.

This LARS is designed to be compact and robust and can be used on both fixed platforms (for dipping survey equipment) of on sea going vessels (for both towing and dipping applications.)

RTG can also supply a much smaller system which in manually operated.

This equipment can be used with such equipment as.

- Dipping Sonars
- Side Scan Sonars
- Sub Bottom Profilers
- Sampling Equipment
- Magnetometers

0.3 Te WLL - 200m - Electric ADCP LARS Winch – DS23








TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
730	14	200	15	321	250	481.5	375

Supply Required	**220-240V-2 Ph- 50/60 Hz**	**Frame details**	**Fork lifting pockets and certified lifting lug**
Winch Electrical Motor	**1.1 KW IP56 IE3**	**Winch drum dimensions**	**Drum core Ø 400 mm, Drum Length 220.5 mm, Flange Ø 730 mm**
Remote Control Pendant	**Bi-directionally pendant control - 5m hardwired**	**Drum details**	**Plain drum; the cable is stored in 9 lays with 15 turns per lay**
Level wind	**N/A**	**Cable**	**Ø 14 mm**
Dimensions (LxWxH) Footprint	**3527 x 1005 x 3007 mm 900 x 1000 mm**	**Maximum SWL and outreach**	**maximum SWL of 250 kg and a maximum outreach of 3 metres**
Slip ring	**Designed to accept Focal 180 or similar not within scope of supply**	**Adjustable operation angle**	**247.5° indexable at every 22.5°,may be limited depending on cable route**

Principle of Operation:

The ADCP LARS drum is driven by a 1.1 kW SEW electric gearmotor through an output shaft. The drum motor inverter drives the electrical motor of the Drum with a constant speed according to the control signals.

The non-drive side housings the bearing and slipring. The Slipring is not within the scope of supply.

The SEW Electric Motor combination is fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, the electrical supply is lost or there is no input from the control signal form the remote pendant.

The Electrical ADCP LARS can be driven bi-directionally via the control pendant, which has a 5-meter hardwired cable.

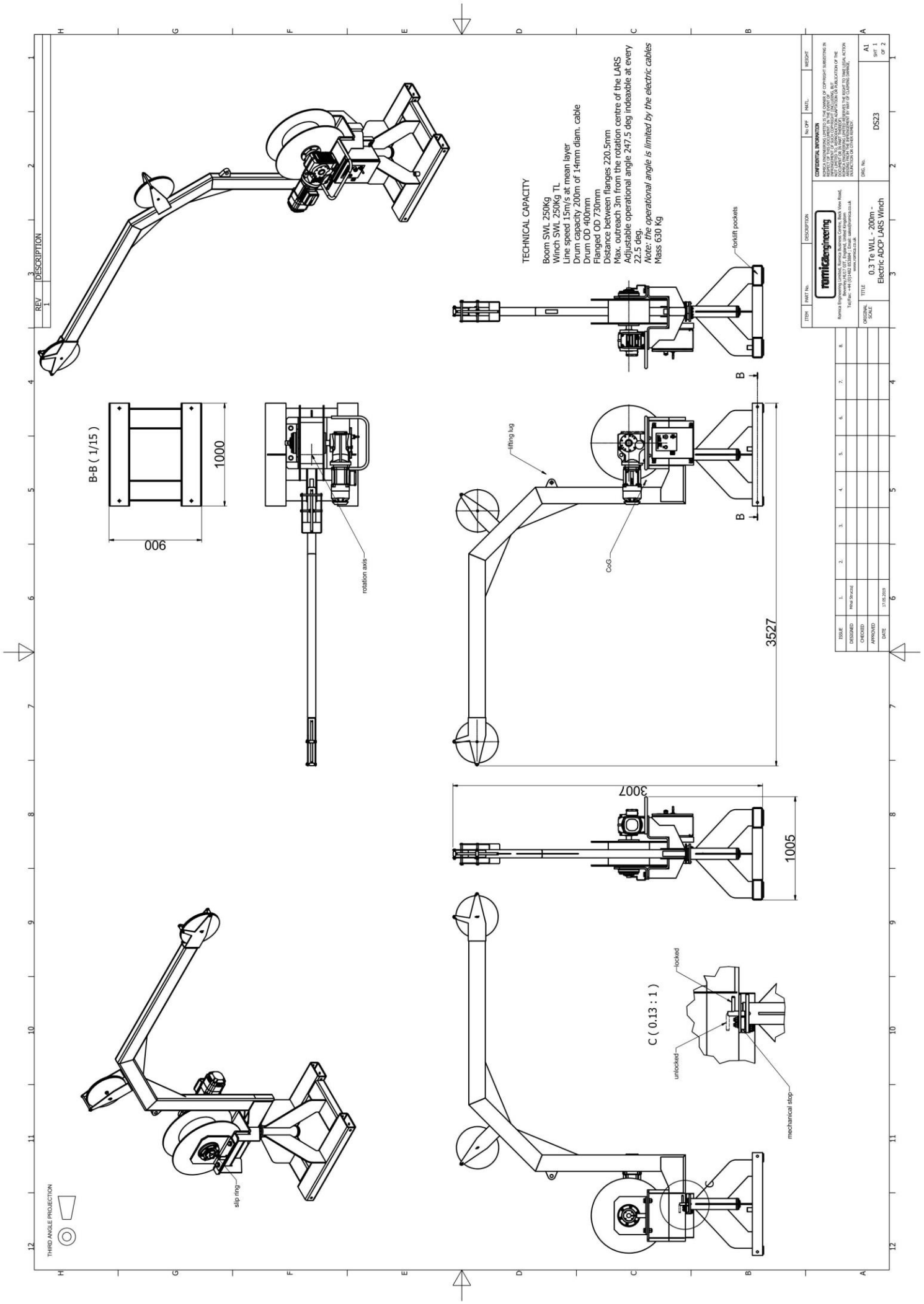
The winch has been designed with a maximum SWL of 250 kg and a maximum outreach of 3 metres from the rotation centre of the ADCP LARS and has an adjustable operation angle of 247.5° indexable at every 22.5°

The winch is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Drum assy**
- **1 Set - Master Link and Shackle or a single leg lifting sling and shackle**


TECHNICAL CAPACITY
Boom SWL 250Kg
Winch SWL 250Kg TL
Line speed 15m/s at mean layer
Drum capacity 200m of 14mm diam. cable
Drum OD 400mm
Flanged OD 730mm
Distance between flanges 220.5mm
Max. outreach 3m from the rotation centre of the LARS
Adjustable operational angle 247.5 deg indexable at every 22.5 deg.
Note: the operational angle is limited by the electric cables
Mass 630 Kg
forklift pockets
B-B (1/15)
1000
900
rotation axis
lifting lug
CoG
3527
3007
1005
C (0.13 : 1)
locked
unlocked
mechanical stop
slip ring
THIRD ANGLE PROJECTION
REV
DESCRIPTION
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romicaengineering
CONFIDENTIAL INFORMATION
TITLE
0.3 Te WLL - 200m - Electric ADCP LARS Winch
DRG. No.
DS23
A1
SHT 1 OF 2
ORIGINAL SCALE
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
Mihai Stroicel
17.05.2019

1.2 Te WLL - 1700m - Hydraulic ADCP LARS Winch – DS69







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
3000	9.8	1700	60	1200	500	1800	750

Winch Hydraulic Supply Required	210 bar 70 l/min	Maximum SWL and outreach	Maximum SWL of 500 kg and a Maximum outreach of 3 metres
Local Proportional Control	Bi-directionally proportional joystick local pedestal	Slewing angle	Proportional range of 135°
Level wind	Hydraulic driven, automatic pulse driven level wind with manual adjustment	Frame details	Fork lifting pockets and certified lifting lug
		Winch drum dimensions	Drum core Ø 305 mm, Drum Length 470 mm, Flange Ø 750 mm
Slip ring	Designed to accept Focal 180 or similar not within scope of supply	Drum details	Plain drum: the wire is stored in 23 lays with 47 turns per lay
Dimensions (LxWxH) Footprint	3823 x 1566 x 3386 mm (Extended) 2000 x 1500 mm	Cable	Ø 9.8 mm Umbilical

Principle of Operation:

The winch drum is driven directly from a Brevini gearbox, hydraulic motor and load valve combination. The brake, being failsafe, always defaults to on should, for any reason, the hydraulic supply is lost, or the control joystick is in its centre position. The non-drive side housings a bearing and a slipring. The Slipring is not within the scope of supply.

The 4 slice bi-directional joystick PVG mounted on a pedestal controls all the hydraulic features of the ADCP LARS, slewing, extension, speed of winch in both the forward and reverse direction and the manual override for the Level wind.

The Level wind is hydraulically driven from an ADAN motor. The Level wind is PLC controlled and is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

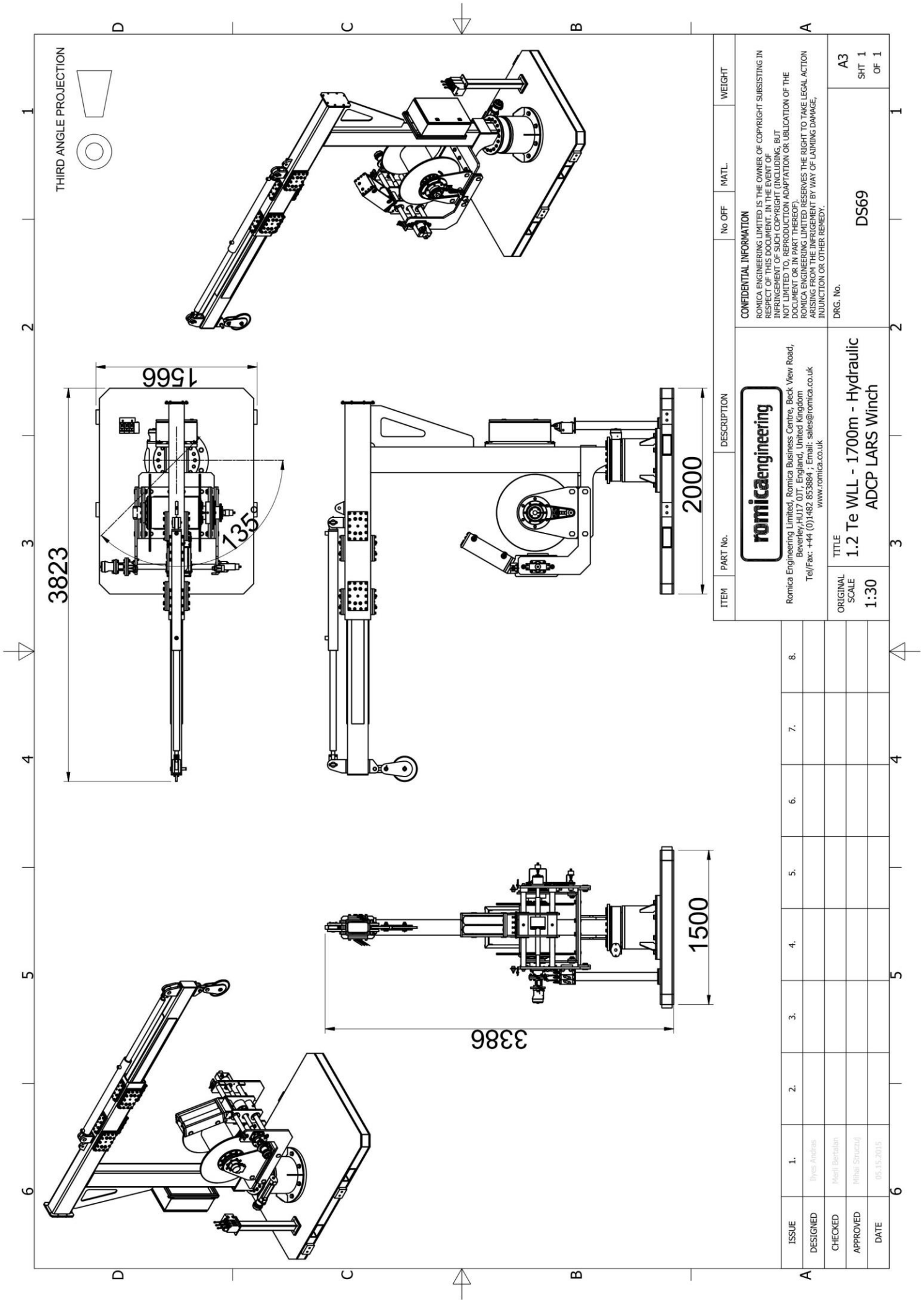
The winch has been designed with a maximum SWL of 500 kg and a maximum outreach of 3 metres from the rotation centre of the ADCP LARS and has a slewing angle of 135°. HMI displays cable/wire tension and line measurement via a Straightpoint wireless shackle.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**
- **1 Off – 0.5 Te Hanging Sheave**
- **1 off – Spare Drum Assembly**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**


THIRD ANGLE PROJECTION
1566
3823
135°
2000
1500
3386
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romicaengineering
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ORIGINAL SCALE
1:30
TITLE
1.2 Te WLL - 1700m - Hydraulic ADCP LARS Winch
DRG. No.
DS69
A3
SHT 1
OF 1
ISSUE
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APPROVED
DATE
Tyres Andras
Merli Bertalan
Mihai Struzatu
05.15.2015

4.3 Boom Cranes

7.5 Te WLL – 2.76m – Boom Crane – DS72..... 242

Boom Cranes Description

RTG have supplied a wide range a boom cranes and these boom cranes are working very successfully with a wide range of clients worldwide.

Depending on the client's requirements these boom cranes can either work over the stern or side of the vessel.

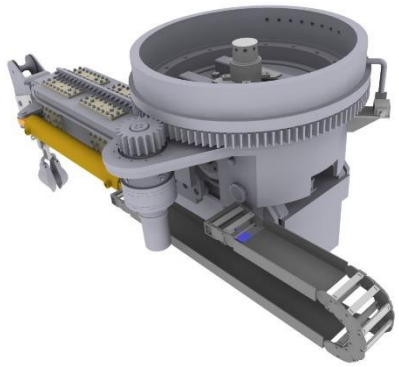
The boom cranes can either be used for general launch and recovery applications, such a towing side scan sonars units or sub bottom profilers or for more specific applications such as the launch and recovery of paravanes in seismic applications.

The boom cranes can be supplied with a variety of accessories, this include:

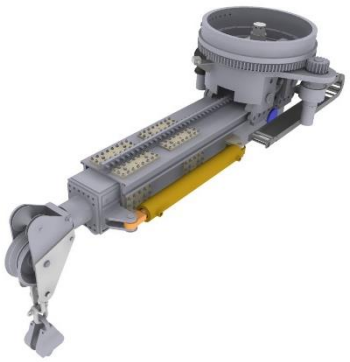
- Hanging Sheave Assemblies
- Dual Fall Lift Systems
- Auxiliary Winch Units
- Extra Lifting Lugs
- Bespoke catching frames for safely handling specific items of equipment

The boom cranes are supplied fully tested and certified.

7.5 Te WLL – 2.76m – Boom Crane – DS72







TECHNICAL SPECIFICATION			
Working load limit	**7.5 Te WLL**	**Boom Length** **Total Travel**	**4565 mm (fully extended)** **2.76 m**
Sea state (Lloyds) **Significant wave height**	**Design Condition 5° Heel and 2° Trim**	**Hydraulic working pressure** **Required hydraulic flow**	**200 Bar** **42 Litres per Minute**
Operating temperature	**-10 to +40^{0}C**	**Mount Configuration**	**24 Bolts**
Slewing Arc	**145 °**	**Remote proportional control**	**3 position, spring return to centre directional control valves – 4 slice**
Weight	**Weight without cable: 3300 Kg**	**Auxiliary winch**	**1 Te WLL 20 m**
Dimensions (LxWxH) **Footprint**	**3327 x 1475 x 1218 mm (retracted)** **Ø 1270 mm**	**Lift points underside of boom**	**Qty 2 Certified for 7.5 Te WLL**

Principle of Operation:

The Boom Crane consists of a gantry boom that can rotate and has two extensions. The boom is driven in and out by a peg drive for the first stage, a second stage further extends a telescopic boom located within the main gantry.

The boom is fitted with a 1 Te WLL auxiliary winch and several lift points arranged along the underside of the boom, each lift point rated for 7.5 Te WLL.

All gearboxes are fitted with failsafe brakes and hydraulic motors. Dynamic braking is achieved via a load control valves mounted directly onto the hydraulic motors. Static braking is via the failsafe brake unit fitted in between the hydraulic motor and the gearbox.

The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve within the load control valve. The stern boom is controlled via a 4 slice 3 position, spring return to centre directional control valve. The valves are fitted with motor spools. Two slice controls the boom (peg and telescopic), drive in and out, one slice for the slewing and the other slice controls the auxiliary winch.

The Boom is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **1 Off – Sheave Block**
- **12 Month Warranty**
- **Pivoting Sheave**
- **2 x Pad eyes 7.5 Te WLL**
- **Operation and Maintenance Manual in Electronic Format**
- **Remote hardwire control**

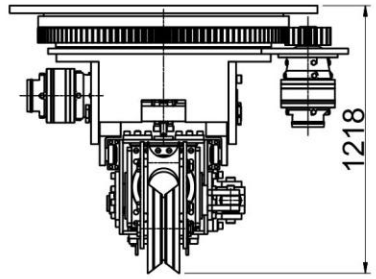
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

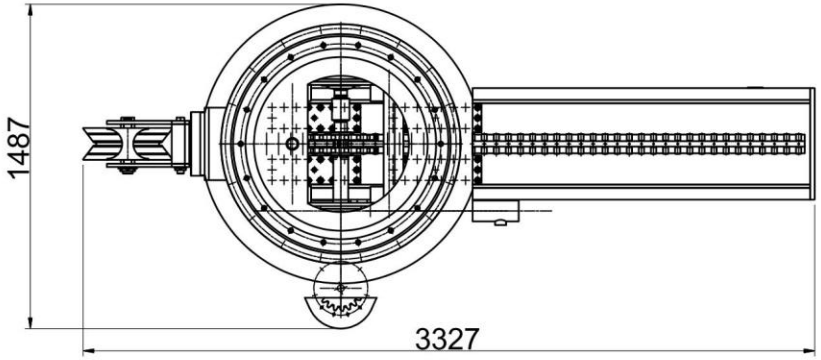
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **Wireless remote control**

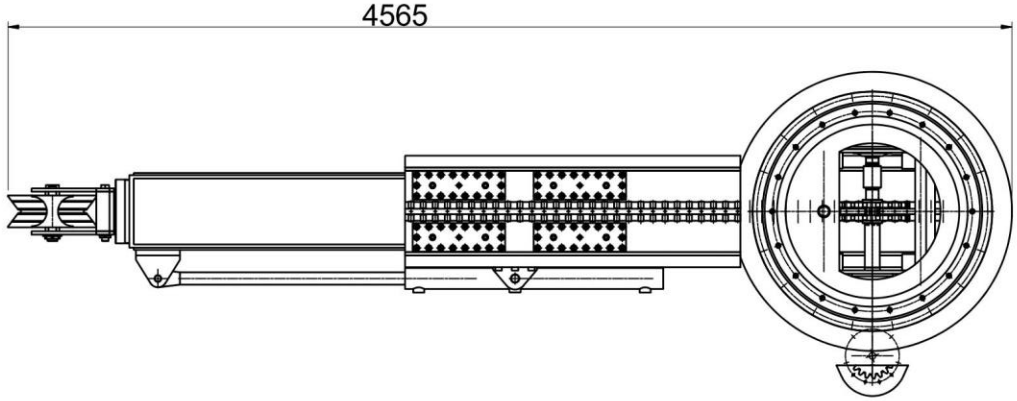
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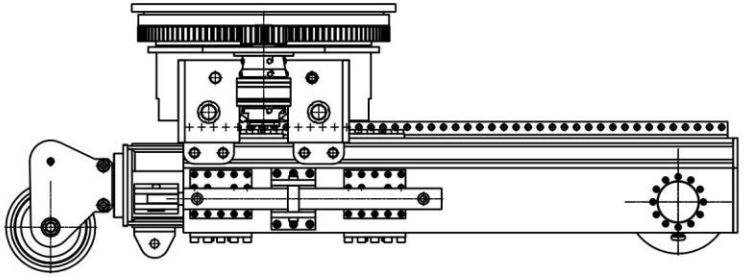
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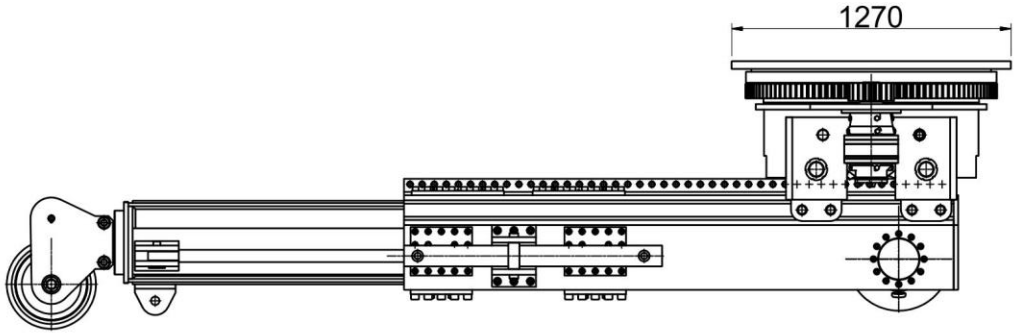
THIRD ANGLE PROJECTION











GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS								
0 UP TO 3	3 UP TO 6	OVER 6 UP TO 30	OVER 30 UP TO 120	OVER 120 UP TO 400	OVER 400 UP TO 1000	OVER 1000 UP TO 2000	OVER 2000 UP TO 4000	
± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2	

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ORIGINAL SCALE 1:12

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ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS

TITLE 7.5 Te WLL - 2.76 m - Boom Crane

DRG. No. DS72

SHT 1 OF 1

4.4 Man-Riding Abandonment System

0.2 Te WLL - 125m – Man Riding Abandonment System – DS67 246

Man-Riding Abandonment System Description

RTG designs, manufactures and supplies a man-riding abandonment system.

A man-riding abandonment system purpose is to enable safe evacuation of a casualty in an emergency from a dangerous/unsafe environment to a safe environment, e.g. toxic environment, oil or gas bulk carrier.

It comprises of a manually operated jib type crane mounted on a slew bearing fitted with a mechanism which allows the jib to me moved through 90°. The jib type crane is fitted with a suitable rated man-riding winch unit. The man-riding winch unit is electrically powered with manual emergency operation.

All equipment is supplied fully tested and certified as applicable.

0.2 Te WLL - 125m – Man Riding Abandonment System – DS67







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
730	10	125	30	200	150	300	480

Winch Pneumatic Supply	6 bar 3000 l/min 1" Air service unit	Jib and turret	Certified lifting lugs
Local Control	Proportional control joystick	Winch drum dimensions	Drum core Ø 244 mm, Drum Length 300 mm, Flange Ø 390 mm
Dimensions (LxWxH) Footprint	8304 x 1102 x 1941 mm (stowed) Ø 620 mm	Drum details	Helical grooved drum: the cable is stored in 3 lays with 5 turns per lay
Emergency lowering system ready	Requires nitrogen bottle	Cable type	65 m of 10 mm diameter Bridon Trulift cable or equivalent

Principle of Operation:

The emergency lifting hoist is designed to aid the evacuation of a casualty from an open weather environment atop a 65 m structure. The hoist is mounted atop the structure and comprises a lift winch designed for use man riding and a jib, the jib and winch are mounted on a slew bearing with a mechanism which allows the hoist to rotate through 90° and be held secure which the casualty is lowered to the ground.

A hand powered winch fitted to the turret enables the jib to be lowered into a maintenance position. A fall arrestor is fitted to the jib. Further the jib head block sheave has a full depth groove with eyebrows and wire retaining rollers.

The turret locking pawl is modified to enable the pawl to withstand the slew force generated by the worst-case combination of payload and jib and turret wind loads.

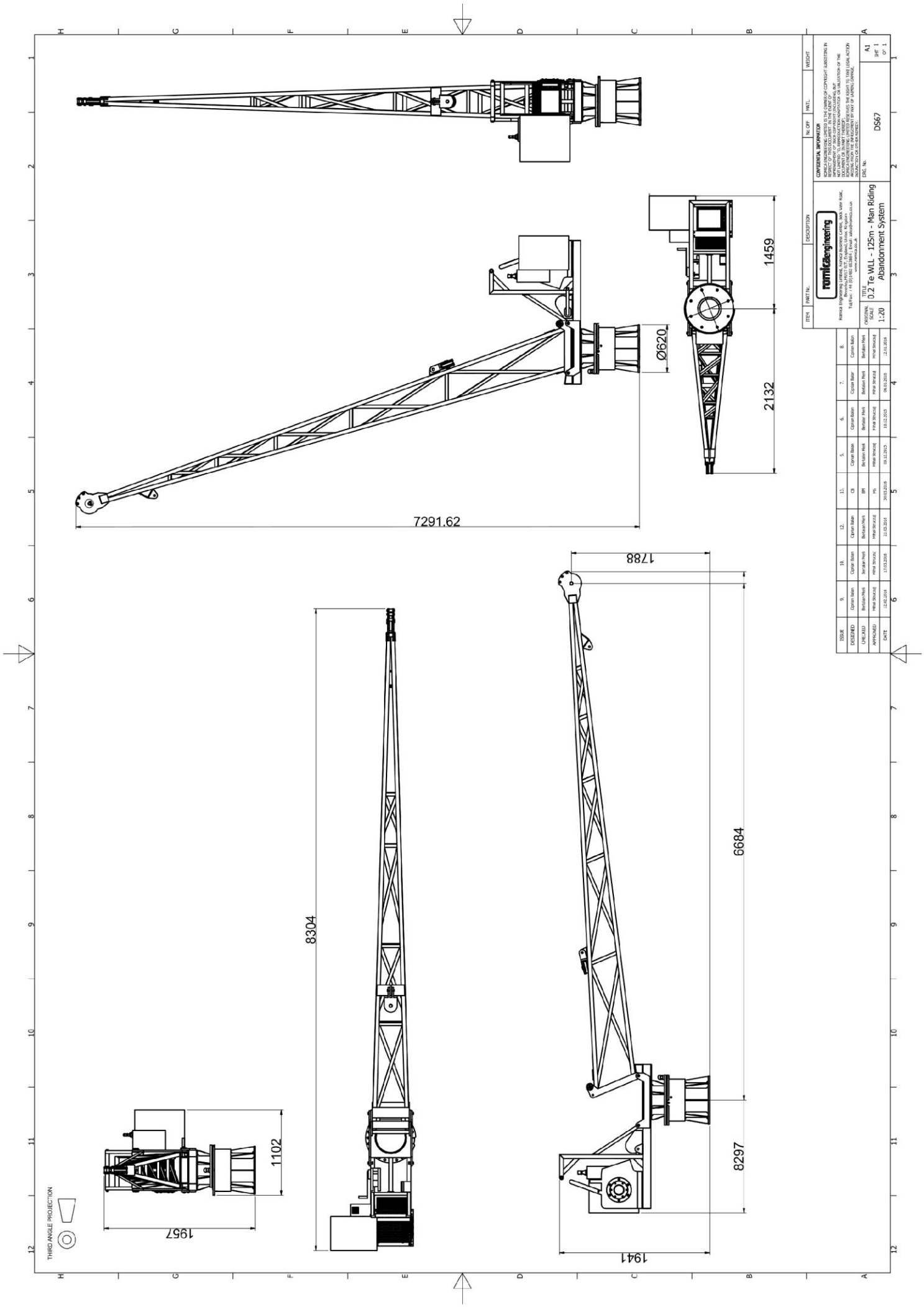
The equipment is designed as a man riding system with a factor of safety calculated from the stresses experienced with a load applied to the system equivalent to 10 times the safe working load of 150 Kg.

The winch is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **ECME MR30 FLG – pneumatic winch**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Remote pedestal or pendant**
- **1 Off – Full Spares Kit**
- **1 off – Extended Warranty**


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THIRD ANGLE PROJECTION
TITLE
0.2 Te WLL - 125m - Man Riding Abandonment System
DRG. No.
DS67
SCALE
1:20
romicaengineering

4.5 ROV Lars

2.75 Te WLL – ROV LARS and HPU – DS62 250

3.5 Te WLL - 1600m - Hydraulic Winch – DS63 254

ROV LARS Description

RTG designs, manufactures and supplies a Remote Control Vehicle (ROV) Launch and Recovery System (LARS). The ROV LARS can be suppled in a variety of different sizes and working load limits.

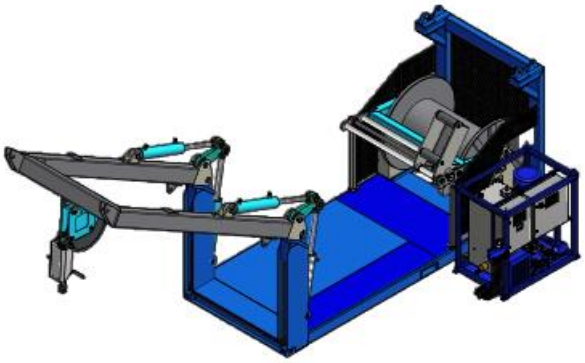
The LARS allows for the safe launch and recovery of an Underwater ROV Unit at a variety of depths and in a variety of sea states.

The LARS comprises of the following individual items:

- Self-folding A Frame and skid assembly.
- Sheave Assembly
- Snubber Assembly
- Latch Mechanism
- ROV Umbilical Winch
- Electrohydraulic Power Unit
- Hard Wired Remote Control Unit (Radio control available)

The ROV LARS is supplied fully tested and can be designed in accordance with DNV / Lloyds and, at extra cost, supplied with relevant certifications.

2.75 Te WLL – ROV LARS and HPU – DS62





TECHNICAL SPECIFICATION			
A Frame ROV	8 Te WLL 2 Te SWL in air 4 Te SWL in water	Deployment from pivot Outboard Reach Inboard Reach	3.75 m 3.2 m To stowed
Design	Lloyds	Height beneath latch Distance between legs	2.75 m 2m
Weight	Shipping weight 17.3 Te	Sheave off lead angles	45° outboard 15° inboard
Dimensions (LxWxH) Footprint	10305 x 2438 x 5187 mm (at max outboard reach) 6058 x 2438 mm	Sheave	900 mm tread diameter WLL 12 Te
Operating temperature	-20 to +40^{0}C	Docking Head	Latch – hydraulic release docking cushion and Rotator 220°
Skid design	Sacrificial deck mounting points certified lifting lugs	Mounting type	Sheave or snubber
Local proportional control	Control pedestal mounted to HPU	Dedicated 37kW HPU	250 Bar 90 Litres per Minute
Mount configuration	Sacrificial feet	Winch	5 Te WLL – 1600 m (refer to DS63)
		Umbilical	32 mm and 1550 m deployable

Principle of Operation:

The ROV LARS comprises of an A-Frame that is mounted on a common skid complete a sheave wheel and latch mechanism, an umbilical winch with level wind and is connected to its own dedicated 37kW HPU. The LARS has the ability to land the ROV on the A-frame skid.

The A-Frame incorporates a head sheave with a 900 mm tread diameter, a latch, docking cushion, load cell and 220^{0} rotator together with through frame damping control of the latch function. The sheave mounting pivots to fleet with the umbilical, further the sheave is mounted and damped to allow a transverse off lead angles of 45^{0} outboard and 15^{0} inboard.

The LARS is supplied with the following:

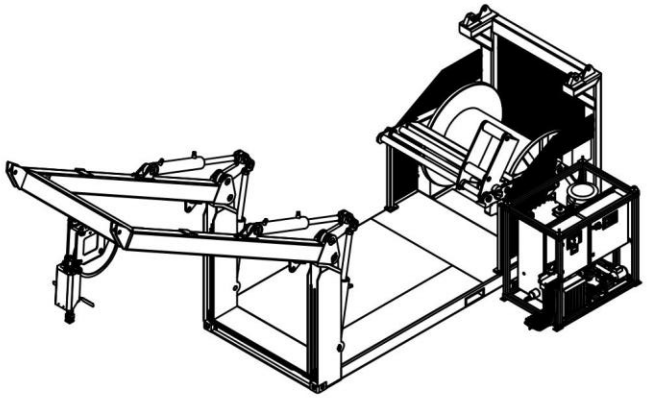
- **Marine grade paint system (Details can be supplied on application)**
- **Lights illuminate spooling and splash zone**
- **12 Month Warranty**
- **Removable handrails to seaward elevation**
- **5 leg lifting sling and shackles**
- **Operation and Maintenance Manual in Electronic Format**
- **2 x Inertia reel pad-eyes mounted to A Frame, SWL 1 tonne**

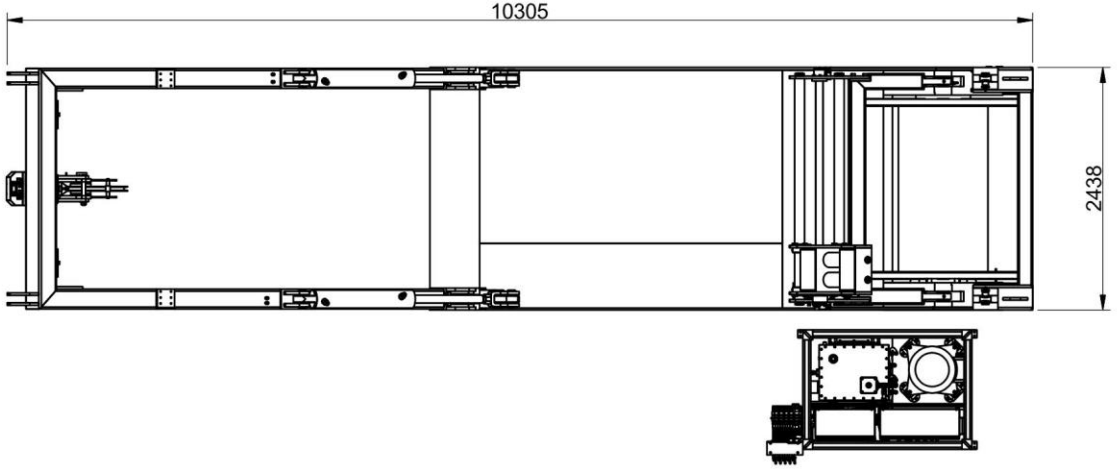
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

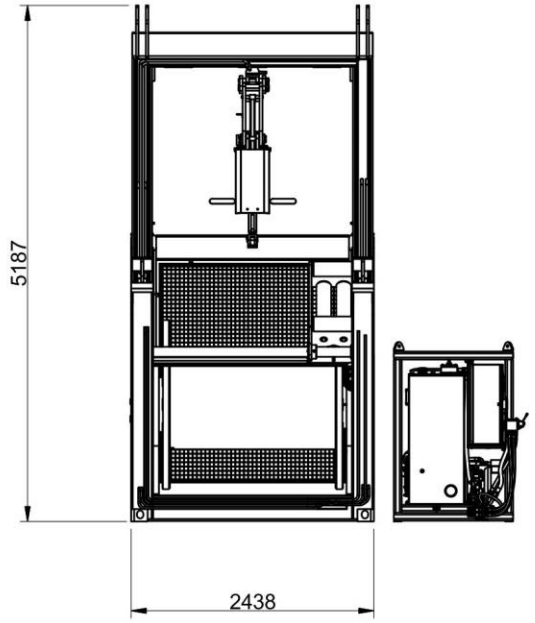
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **Remote control upgrade**
- **1 Set – Spare sacrificial feet/mounting plates**
- **DNV Certification**

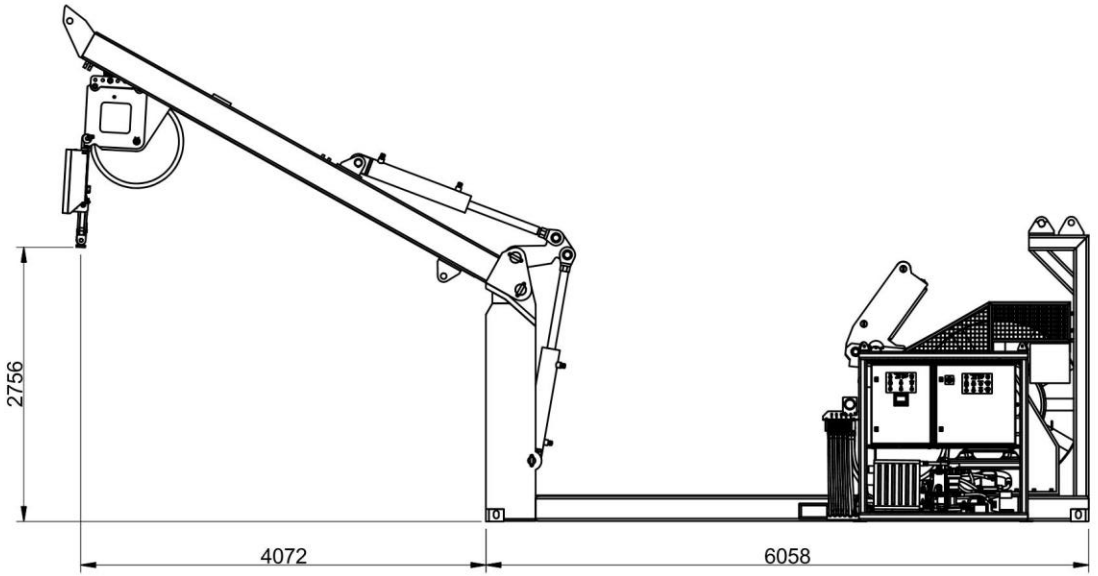
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THIRD ANGLE PROJECTION

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
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ORIGINAL SCALE	TITLE	DRG. No.	
1:50	2.75 Te WLL - ROV LARS & HPU	DS62	A3 SHT 1 OF 1

37kW Open Loop Hydraulic Power Unit





TECHNICAL SPECIFICATION			
Pressure and Flow	**90 lpm @ 250 Bar**	**Frame**	**Crash frame with certified lifting lugs**
Pump and Motor Assy	**65cc Open Loop pressure compensating piston pump 0 - 250 Bar is driven by a 37 kW IP56 3ph IE3 with Star/Delta complete with Softex coupling and anti-vibration frame.**	**Supply tank**	**450 litres manufactured from 316 stainless steel with air breather and filling point**
Supply Required	**3 ph 380 / 415 / 440 / 460 V, 50/60Hz**	**Health Monitoring**	**Full temperature & level monitoring**
Cooling and heating	**Bowman heat exchanger – freshwater oil cooler Air-Oil cooler Thermostatically controlled Tank heater 1.5 kW – 3Ph**	**Filtration**	**Pressure and Return Filters 10-micron elements, with bypass & mechanical indicators**
Oil Cleanliness	**Suitable for proportional valve systems ISO 4406 17/15/12, NAS 6**	**Weight**	**Dry weight: 1500 Kg**
Controls	**Local proportional control PVG 5 slice**	**Port connections (Quick Connect Couplings)**	**A1 – A4 & B1 – B4 G 1/2" BSP A5 & B5 G 3/4" BSP D G 1/2" BSP**
Dimensions (LxWxH) Footprint	**2070 x 1315 x 1803 mm (inc local controls) 1800 x 1200 mm**		

Principle of Operation:

The 37kW Electrical Hydraulic Power Unit consists of, crash frame with lifting lugs, which affords protection during transportation and installation. The frame will enclose and protect the vulnerable equipment and provide stowage for hydraulic hoses.

A 37kW 3 phase electrical motor coupled to a J Frame Series 45 Sauer Danfoss pressure compensated piston pump provides the required pressure and flow rates.

A control pedestal incorporates the following functions controlled hydraulically by a multi-slice Sauer Danfoss PVG32 valve:

- A frame in out
- Winch in out
- Snubber rotate
- Powered latch unlatch
- transverse damping

The HPU is supplied with the following:

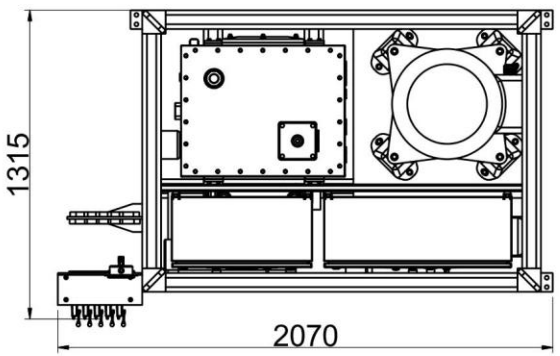
- **12 Month Warranty**
- **4 leg lifting sling and shackles**
- **Marine grade paint system (Details can be supplied on application**
- **Operation and Maintenance Manual in Electronic Format**

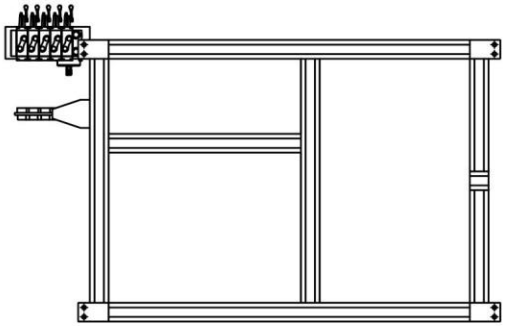
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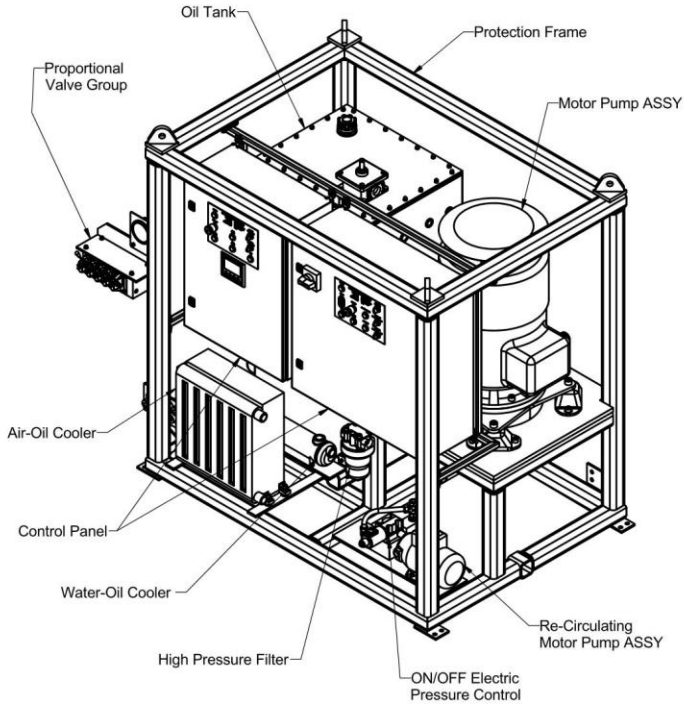
- **1 Off – Extended Warranty**
- **1 Set – Spare hose assembly**
- **1 Off – Full Spares Kit**

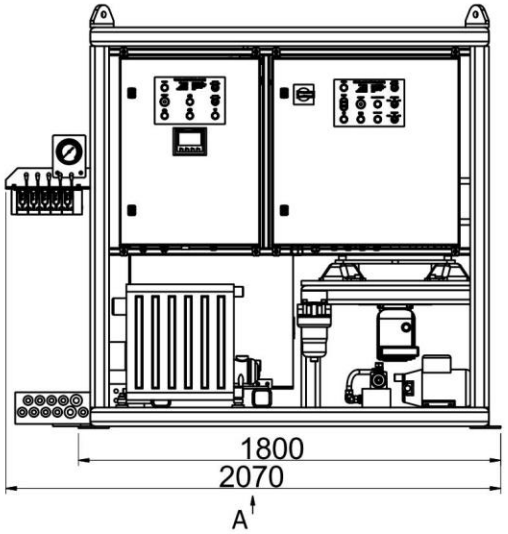
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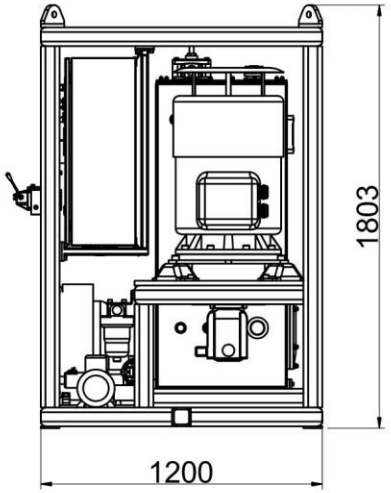
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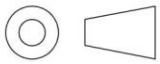








THIRD ANGLE PROJECTION



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			APPROVED							
			DATE	28.07.2014						

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	DIMENS.	SIZE - REMARKS

ORIGINAL SCALE

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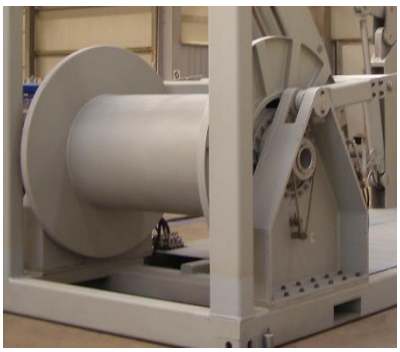
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Email: sales@romica.co.uk
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TITLE
37kW Closed Loop Hydraulic Power Unit

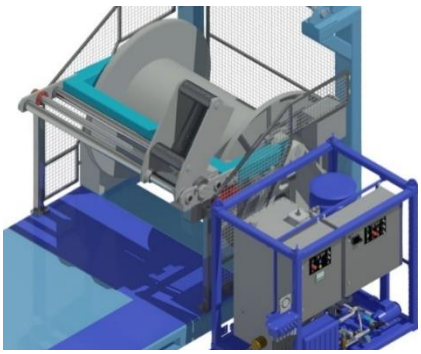
DRG. No.
DS62

SHT 2
OF 6

3.5 Te WLL - 1600m - Hydraulic Winch – DS63







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
3677	32	1600	40	3586	2314	7510	4847

Winch Hydraulic Drive Supply Required	WD 1523 200 bar 90 l/min	Cable Lead-off Angle	
Level Wind Electrical Motor Supply Required	0.75 KW IP56 IE3 380-440V-3 Ph- 50/60 Hz	Frame details	Side supports without guards
Local Proportional Control	Bi-directionally proportional joystick	Winch drum dimensions	Drum core Ø 900 mm, Drum Length 1664 mm, Flange Ø 1700 mm
Level wind	Electrically automatic pulse driven level wind with manual adjustment	Drum details	Lebus shell; the wire is stored in 9 lays with 52 turns per lay
Slip ring	Designed to accept Focal 180 or similar not within scope of supply	Cable	32 mm umbilical
Slip ring Junction Box	GRP rotary junction box 3000 v rated	Hydraulic Ports	P G1” BSP, T G1” BSP, D G3/4” BSP
Dimensions (LxWxH) Footprint	1750 x 2436 x 1756 mm (without level wind) 1200 x 2436 mm		

Principle of Operation:

The winch drum is driven directly from a Dinamic Oil gearbox, hydraulic motor and load valve combination. The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position. The non-drive side housings a bearing and a slipring.

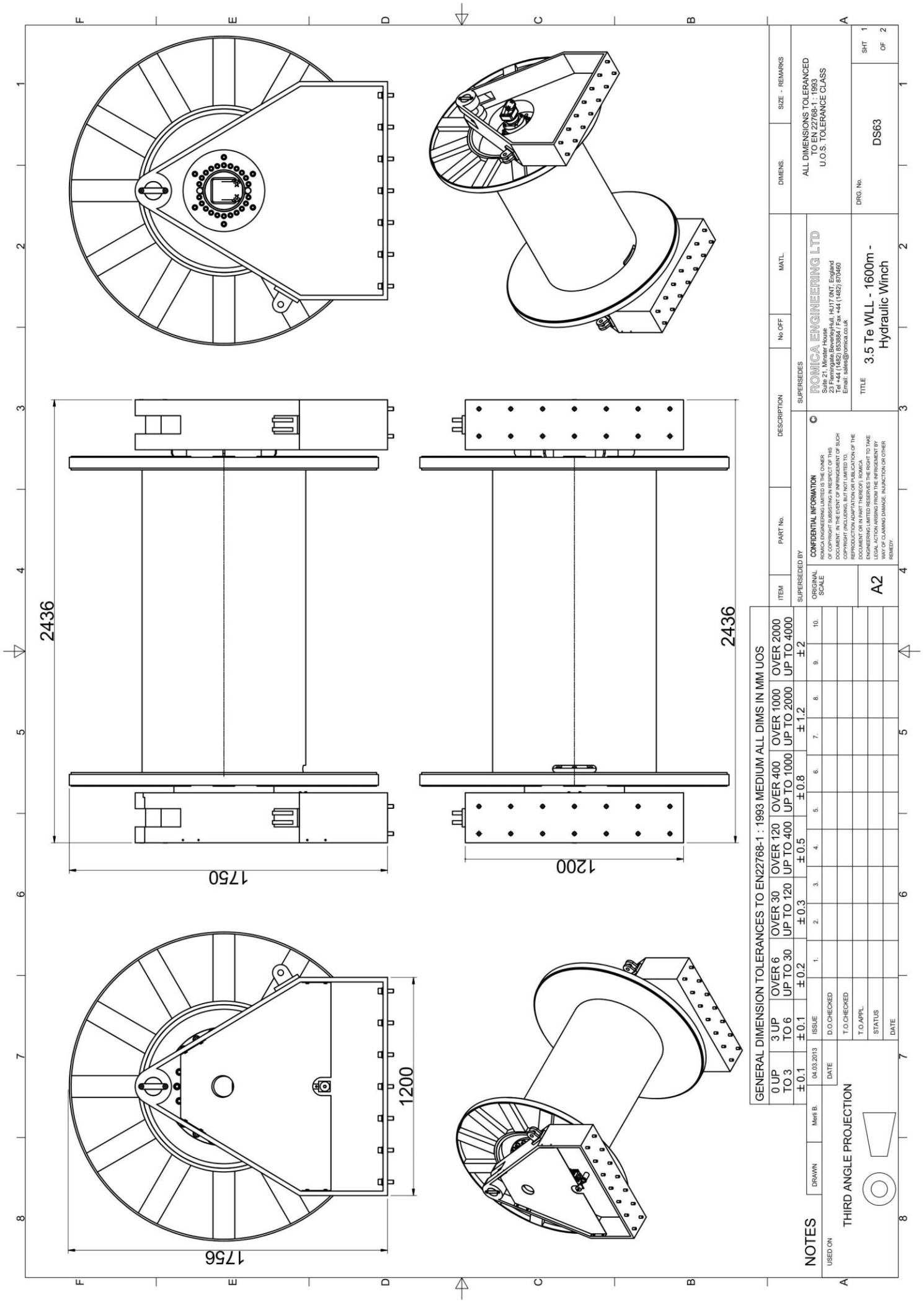
The Level wind electrically driven from the 0.75 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override. The Level wind can be adjusted to accept a variety of cable diameters if required.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Slip Ring details to be supplied with order**
- **1 Off – Extended Warranty**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Off – Full Spares Kit**
- **1 Off – Spare Programmed SD Card for level wind control.**
- **1 Off – Laptop c/w software and leads for on-site fault diagnosis.**
- **1 Set – Spare sacrificial feet/mounting plates**
- **Remote Control wired or wireless**


2436
1750
1200
2436
1200
1756
GENERAL DIMENSION TOLERANCES TO EN22768-1 : 1993 MEDIUM ALL DIMS IN MM UOS
0 UP TO 3 ± 0.1
3 UP TO 6 ± 0.1
OVER 6 UP TO 30 ± 0.2
OVER 30 UP TO 120 ± 0.3
OVER 120 UP TO 400 ± 0.5
OVER 400 UP TO 1000 ± 0.8
OVER 1000 UP TO 2000 ± 1.2
OVER 2000 UP TO 4000 ± 2
NOTES
USED ON
THIRD ANGLE PROJECTION
DRAWN
Merdi B.
04.03.2013
ISSUE
DATE
D.O.CHECKED
T.O.CHECKED
T.O.APPL.
STATUS
DATE
ITEM
PART No.
DESCRIPTION
No. OFF
MATL.
DIMENS.
SIZE - REMARKS
SUPERSEDES
SUPERSEDED BY
ORIGINAL SCALE
A2
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Tel +44 (1482) 8533884 / Fax +44 (1482) 870460
Email: sales@romica.co.uk
TITLE
3.5 Te WLL - 1600m - Hydraulic Winch
DRG. No.
DS63
SHT 1 OF 2
ALL DIMENSIONS TOLERANCED TO EN 22768-1 : 1993 U.O.S. TOLERANCE CLASS

4.6 CTD LARS

4 Te WLL – 10,000m CTD LARS System – DS68..... 258

CTD LARS Description

RTG have designed, manufactured and supplied a CTD launch and recovery system for handling a CTD unit in up to 10,000 metre water depths.

The CTD LARS comprises of the following individual parts:

- Traction Winch Unit
- Cable Storage Winch
- Electro-Hydraulic Power Unit
- Wide Angled A Frame
- Sheave Head
- Snubber
- Latch Mechanism

RTG can also offer Davit, A Frame and Deck Head mounted options for the launch and recovery of CTD units. **RTG** also supply a wide range of different capacity CTD winches.

All equipment is supplied fully tested and certified as applicable.

4 Te WLL – 10,000m CTD LARS System – DS68







TECHNICAL SPECIFICATION

CTD LARS	**4 Te WLL**	**Outboard Reach** **Distance between legs**	**4.2 m** **1.8 m**
Sea State	**Sea State 6** **Significant wave height: 6 m** **Significant wave period: 8.2 s**	**Sheave**	**430 mm tread diameter** **WLL 4 Te with a Load Cell**
Weight	**21 Te without cable** **23.7 Te with cable**	**Sheave Encoder**	**Provide Speed and direction to AHC Panel**
Dimensions (LxWxH) **Footprint**	**6060 x 2440 x 3330 mm (for transport)** **6060 x 2440 mm**	**Snubber and Latch Mechanism**	**CTD dead latch – hydraulic damped rotation**
Operating temperature	**-20 to +45^{0}C**	**Mounting type**	**Latch bullet**
Skid design	**A common skid frame mounted with A-Frame, traction and storage winches and HPU complete with certified lifting lugs**	**Dedicated Closed Loop and Open Loop HPU**	**Max 220 Bar** **345 Litres per Minute**
Control	**Local and Remote control**	**Single Traction Capstan Winch**	**4 Te WLL at 1.5 m/s**
Mount configuration	**ISO casting corners, mounted at each corner**	**Speed and Render Control**	**Via HMI control**
Cable	**10,000 metres of 8.03 mm Rochester A216314 Electro-mechanical**	**Active Heave Compensation**	**Traction Capstans control and AHC and Vessel Motion Monitor functions.**

Principle of Operation:

The CTD LARS is a single unit that comprises of an A-Frame that is mounted on a common skid complete with a sheave head, snubber and latch mechanism, a traction winch with a right-angled level wind, storage drum and is connected to its own dedicated HPU.

The A-Frame incorporates the snubber and latch assembly suspended centrally from the crossbeam and allowed two axes of damped rotation, the damping will comprise a double acting cylinder in the transverse plane and two single acting cylinders in the longitudinal plane. The transverse movement will account for the A frame movement and the longitudinal movement will be ±15°. The snubber is designed to ensure that the CTD latching force is reduce during and maintained when the CTD lift cable tension is reduced post latch.

The CTD dead latch will be fitted within the sheave snubber assembly, a sensor will indicate when the CTD is latched. The snubber travel will be arranged to prevent contact between the CTD termination and the over boarding sheave. The latch will be failsafe and will be able to be remotely un-latched only when under no load. The CTD will be lowered to the deck by taking the weight of the CTD with the cable and traction winch. Once the weight of the CTD has been taken up the latch will be disengaged and the CTD can be lowered to the deck in a controlled manner.

The CTD LARS system can be transported on 40 ft standard flat rack.

The LARS is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **Active Heave Compensation**
- **12 Month Warranty**
- **4 leg lifting sling and shackles**
- **Operation and Maintenance Manual in Electronic Format**

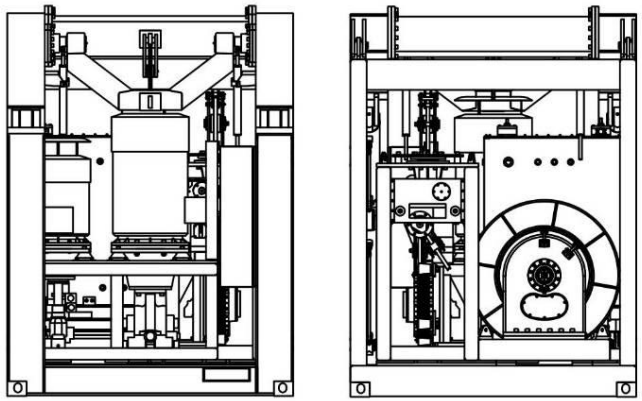
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

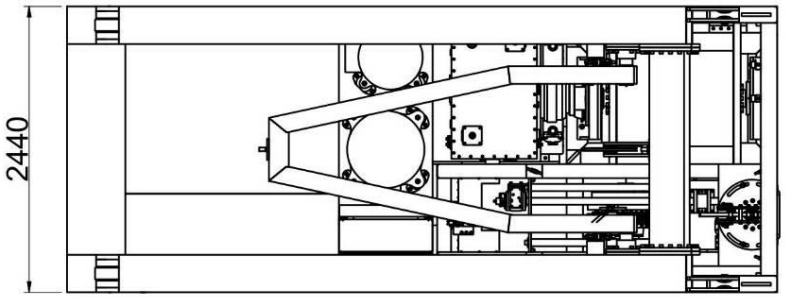
- **1 Off – Extended Warranty**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Off – Full Spares Kit**

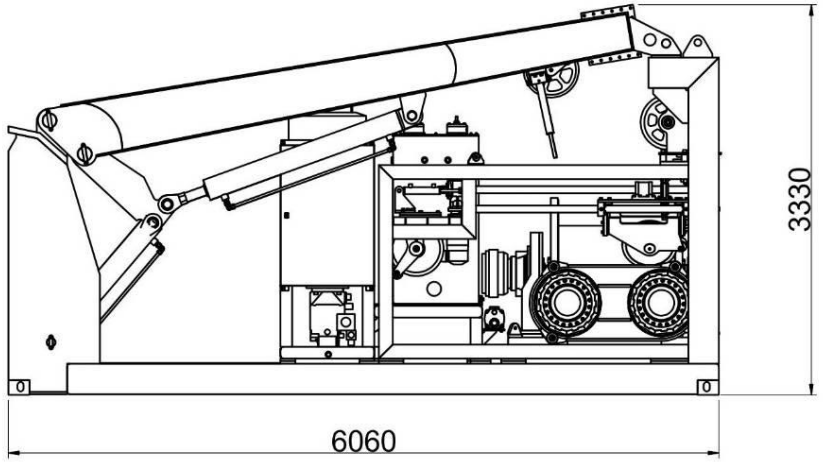
Back to contents

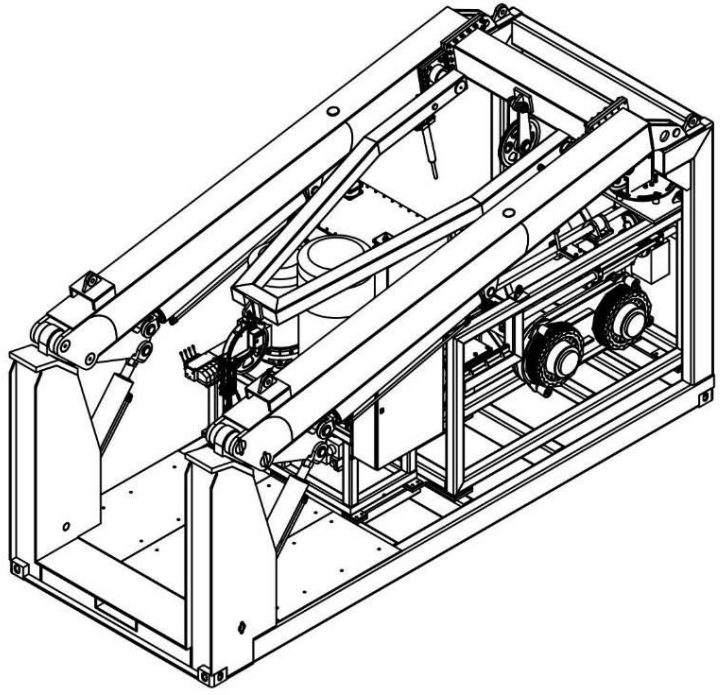
www.romicatiegroup.com

THIRD ANGLE PROJECTION









NOTES

DESIGNED	Balan Ciprian		ISSUE	1.	2.	3.	4.	5.	6.	7.
			CHECKED	Bertalan Merli						
			APPROVED	Mihai Struczuj						
			DATE	05.05.2014						

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	DIMENS.	SIZE - REMARKS

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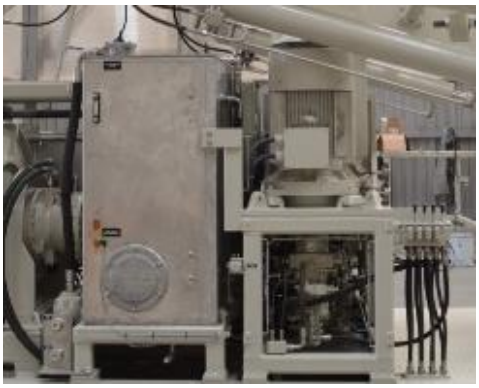
Romica Engineering Ltd Suite 1, Minster House, 23 Flemingate,Beverley, HU17 0NP, United Kingdom
Tel/Fax: +44 (0)1482 853884 ;
Email: sales@romica.co.uk
www.romica.co.uk

TITLE 2.75 Te WLL - CTD LARS and HPU

DRG. No. DS68

SHT 1 OF 1

132kW Closed Loop & 55kW Open Loop Hydraulic Power Unit





TECHNICAL SPECIFICATION			
Pressure and Flow	**345 lpm @ 220 Bar 132kW 90 lpm @ 180 Bar 55kW**	**Frame**	**All components mounted a minimum of 610 mm above deck. Within frames with lifting points**
Pump and Motor Assy	**250cc Closed Loop Variable displacement pump driven by a 132 kW, 71cc Closed Loop Variable displacement pump and 45cc Open Loop pressure compensating piston pump driven by a 55 kW both are IP56 3ph IE3 with Star/Delta complete with Softex coupling and anti-vibration frame**	**Supply tank**	**1200 litres manufactured from 316 stainless steel with air breather and filling point**
Supply Required	**3 ph 380 / 415 / 440 / 460 V, 50/60Hz**	**Health Monitoring**	**Full temperature & level monitoring**
Cooling and heating	**Bowman heat exchanger – freshwater/seawater oil cooler Thermostatically controlled Tank heater 1.5 kW – 3Ph**	**Filtration**	**Pressure and Return Filters 10-micron elements, with bypass & mechanical indicators**
Oil Cleanliness	**Suitable for proportional valve systems ISO 4406 17/15/12, NAS 6**		

Principle of Operation:

The Hydraulic power unit is designed to run all functions of the CTD LARS.

The unit is supplied with 1 Off 132 kW TEFC electric motor driving the closed loop pump for the main Traction winch drive and a 1 Off 55 kW electric motor driving the closed loop pump for the storage winch. This pump is fitted with a second open loop pump. This open loop pump is used to operate the A-Frame and pressure compensator for the tail wire tension control.

The main pumps are horse power limited fitted with electrical swash control and adjustable pressure compensator pump capable of delivering flow to give minimum line speed from bare of 1.5 m/s in highest sea state with winch pull of 4 Te and a maximum line pull of 3 Te at the highest pressure set. The maximum line speed at the 4 Te pull will be approximately 1. 5m/s

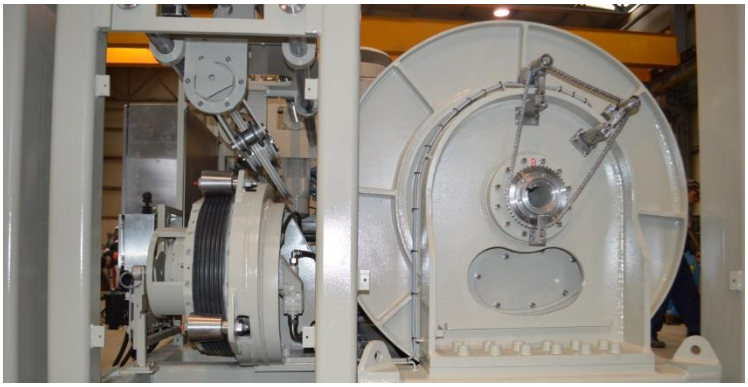
The following functions controlled hydraulically by a multi-slice Sauer Danfoss PVG32 valve:

- A-Frame in out
- Anti-swing cylinder
- Snubber rotate
- Powered latch unlatch

The HPU is designed for use on an open weather deck. Starters and electrical terminal boxes are a minimum of IP67, further all components are mounted a minimum of 610 mm above deck.

Hydraulic Traction Winch, including level wind and wire tension control





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
N/A	8.03	N/A	90	5066	N/A	10751	N/A

Winch Hydraulic Drive Supply Required	220 bar 345 l/min	Capstan Head Qty 2	Grooved Capstan Head the wire is stored in 1 lay with 37 turns per lay
Level Wind Electrical Motor Supply Required	1.5 KW IP56 IE3 380-440V-3 Ph- 50/60 Hz	Tail Wire Tension Control	2.5 Ltr Accumulator
Traction Capstan Encoder	Provide Speed and direction to AHC Panel		
Level wind	Right Angled - Electrically automatic pulse driven level wind with manual adjustment	Local Proportional Control	Via PLC Panel for adjustment

Principle of Operation:

The traction winch comprises of two capstan hydraulic drives, driven directly from a Bonfiglioli gearbox, hydraulic motor combination. The brake, being failsafe, always defaults to on should, for any reason, hydraulic supply is lost, or the control joystick is in its centre position. Additionally, the traction capstan hydraulic drives are fitted with a hydrostatic dynamic braking system.

A slip control system prevents the situation where slip between capstan head and rope or cable takes place.

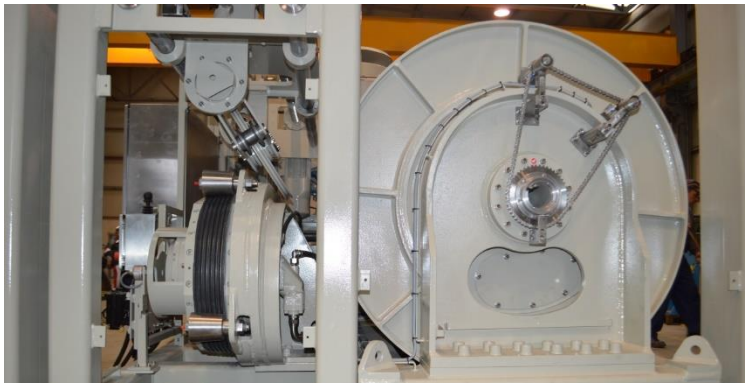
The 90 degree right angled Level wind electrically driven from the 1.5 kW SEW Electric gearmotor. The level wind is PLC controlled, is automatic with a manual override.

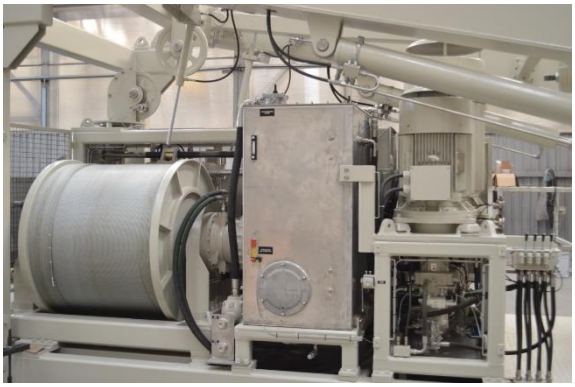
HMI displays Line Speed, Line Load, Line Out and Line In with the provision of load monitoring with user selectable limits for line tensioning.

The wire from the Traction Winch is led to storage drum via a, tail wire tension, control accumulator parallel to the axis of the storage drum. Level wind is fitted with a 430 mm root diameter diverter sheave.

Speed and Render Control - Continuously variable in increments of 0.05 m/s between zero and maximum throughout length, render tension adjustable between 20% and 60% of minimum braking load, (MBL) is controlled by the AHC and PLC.

0.75 Te WLL – 10,000m - Hydraulic Storage Drum





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1700	8.03	10,000	90	750	305	1500	458

Winch Hydraulic Drive Supply Required	250 bar 120 l/min	Frame details	Frame and certified lifting lugs
Proportional Control	Bi-directionally proportional joystick local and remote pedestals	Winch drum dimensions	Drum core Ø 850 mm, Drum Length 992 mm, Flange Ø 1290 mm
Dimensions (LxWxH) Footprint	2019 x 1500 x 1390 mm 1857 x 1500 mm	Drum details	Lebus shell drum; the wire is stored in 24 lays with 123 turns per lay
Slip ring	Designed to accept Focal 180 or similar not within scope of supply	Cable	Rochester A216314
Encoder	Provide Storage Drum Speed and direction to AHC Panel		

Principle of Operation:

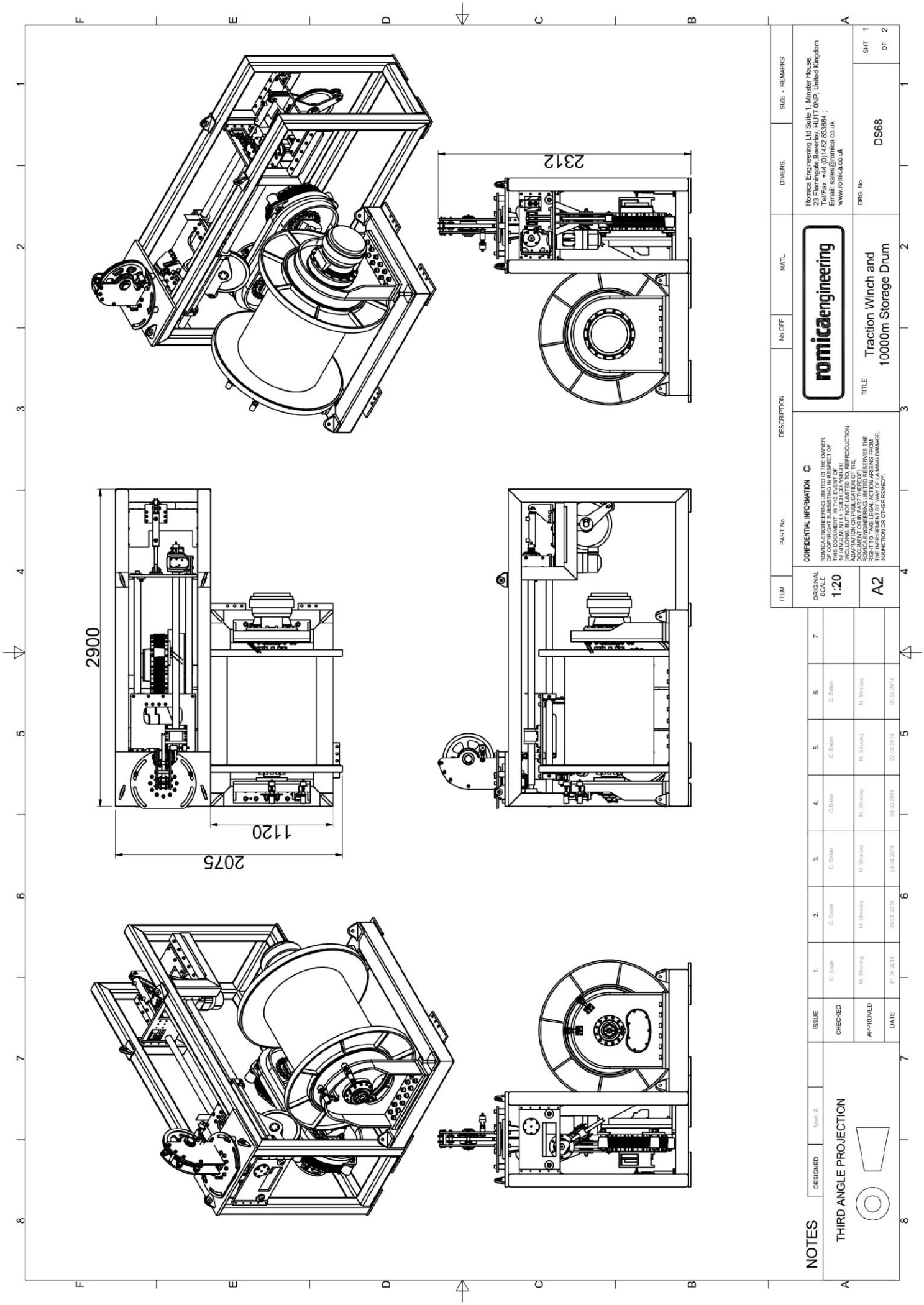
The winch drum is driven directly from a Bonfiglioli gearbox, hydraulic motor combination. The brake, being failsafe, always defaults to on should, for any reason, hydraulic supply is lost, or the control joystick is in its centre position.

The non-drive side housings the bearing, encoders and a slipring.

A slip control system prevents the situation where slip between capstan head and rope or cable takes place.

The wire from the level wind sheave is led to storage drum via a, tail wire tension, control accumulator parallel to the axis of the storage drum.

Speed and Render Control - Continuously variable in increments of 0.05 m/s between zero and maximum throughout length, render tension adjustable between 20% and 60% of minimum braking load, (MBL) is controlled by the AHC and PLC.


2312
2900
1120
2075
NOTES
THIRD ANGLE PROJECTION
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ITEM
PART No.
DESCRIPTION
No. OFF
MATL.
DIMENS.
SIZE - REMARKS
ORIGINAL SCALE
1:20
A2
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23 Flemingate,Beverley, HU17 0NP, United Kingdom
Tel/Fax: +44 (0)1482 853884 ;
Email: sales@romica.co.uk
www.romica.co.uk
TITLE
Traction Winch and
10000m Storage Drum
DRG. No.
DS68
SHT 1
OF 2

4.7 Diver Tool Basket System

2.5 Te WLL – 3 x 400m - Hydraulic Winch & HPU – DS53 266

4 Te WLL – Tooling Basket LARS & HPU – DS54 270

1.24 Te WLL - 400m - Hydraulic Winch – DS56 274

2.4 Te WLL - 400m - Hydraulic Winch – DS55 276

Diver Tool Basket System Description

To support diving operations **RTG** offers a complete tooling / driver support system that comprises of a Tooling A-Frame and a Triple Drum Winch.

Triple Drum Winch and dedicated Hydraulic Power Unit – suitable for delivering service hoses and lines to support diving operations.

Tooling A-Frame and dedicated Hydraulic Power Unit – suitable for lowering a single tool basket to the seafloor, with capability to maintain constant tension when required.

2.5 Te WLL – 3 x 400m - Hydraulic Winch & HPU – DS53







TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
6900	36	3 x 400	20	2500	1940	4500	3260

Winch Hydraulic Drive Supply Required	42 lpm @ 20 Bar, 120 lpm @ 78 Bar Dedicated HPU 2 x 18.5kW	Cable Lead-off Angle	
Electrical Supply Required	3 ph 380 / 415 / 440 / 460 V, 50/60Hz	Frame details	Crash frame with guards and certified lifting lugs
Local and Remote Control	Local and wireless chest pack	Winch drum dimensions	Drum core Ø 1200 mm, Drum Length 700 mm, Flange Ø 1820 mm
Level wind	N/A	Drum details	Plain drum: the cable is stored in 5 lays with 19 turns per lay
Dimensions (LxWxH) Footprint	5554 x 2183 x 2163 mm 5554 x 2183 mm	Cable	36 mm umbilical
Slip ring	N/A	Hydraulic Ports	P G1" BSP, T G1 1/4" BSP, D G3/4" BSP LS G1/4" BSP

Principle of Operation:

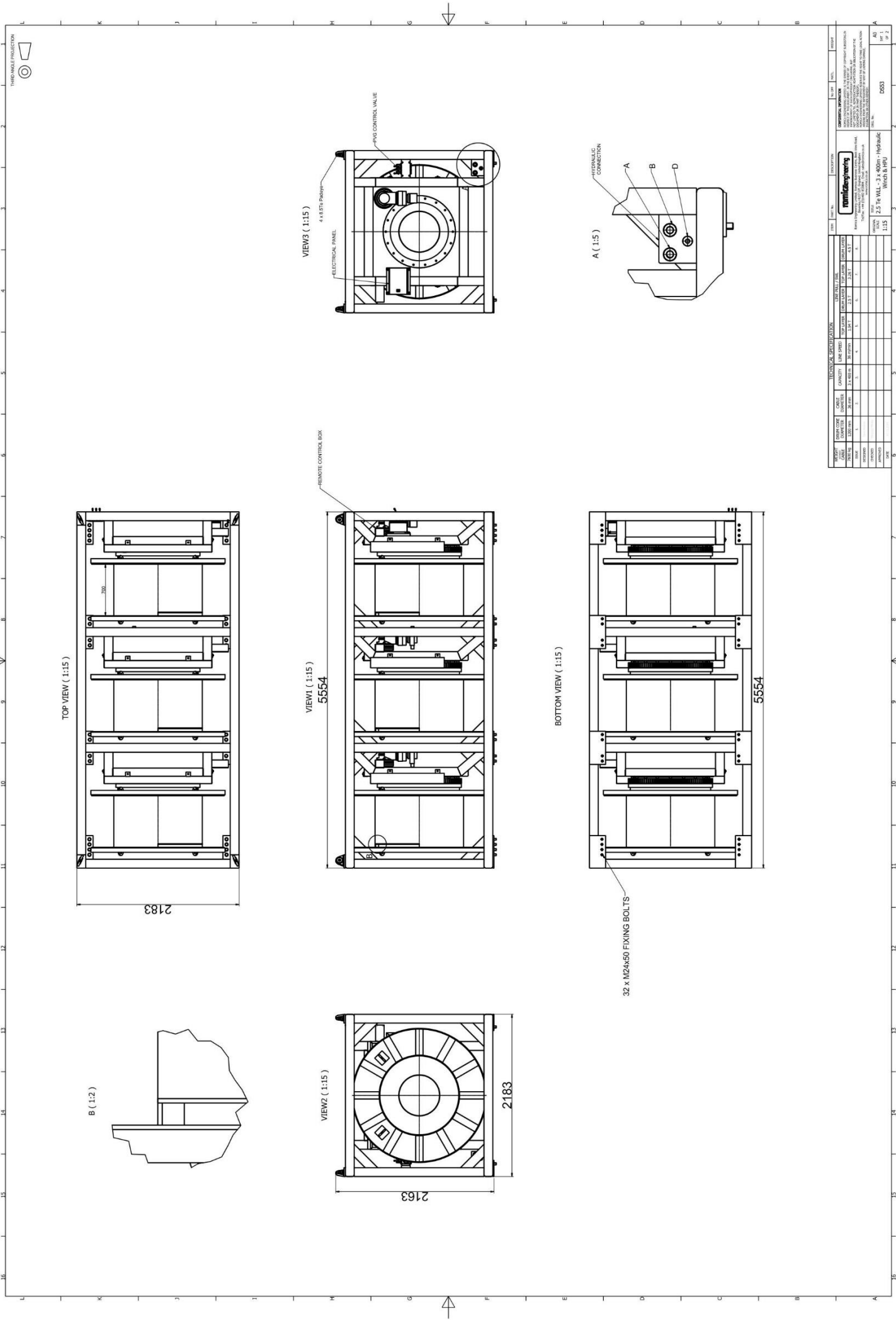
The Triple Drum Winch is suitable for delivering service hoses and lines to support diving operations. There are no rotary unions or slip-rings, provision has been made on the drums for access to the trailing hose tails. The winch drums each have sufficient capacity for 400m of 36 mm OD hose. The winches have been designed as separate stand-alone units, and although the Triple Drum Winch system is mounted on a common skid it comprises of three separate winch units, allowing a level of redundancy in the system (to carry out maintenance etc.), or to use individual winches for other tasks in the future, from the skid, or demounted in another location on-board. Each drum has been fitted with its own brake to allow independent working whilst the other drums are locked on their brakes. The winch is capable of 0-20 rpm; it does not have any constant tension capability. Three over boarding sheaves are supplied and are to be mounted in line with the winch and divert the hoses over the vessel side. Each sheave is attached via a Yoke contact angular swivel (jaw to eye) to the vessels structure and a pad eye that has been supplied. Each winch barrel is driven via a slewing ring, SAI gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, hydraulic pressure is lost, or the direction control valve is in its centre position. The hydraulic motors have been fitted with load-holding valves. All winches can be driven bi-directionally using a modular 3 bank directional control valve so that each winch has individual control. This is achieved with individual 3 position 4-way proportional valve modules (with motor spool A B to tank in the neutral position and P blocked). The Triple Drum Winch is connected to its own dedicated HPU

The winch is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**
- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **12 Month Warranty**
- **Wireless remote control**
- **Operation and Maintenance Manual in Electronic Format**

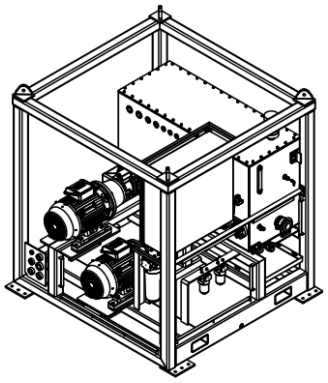
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **Canvas Cover for transport and storage**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**


THIRD ANGLE PROJECTION
VIEW3 (1:15)
4 x Ø.87in Pad eye
ELECTRICAL PANEL
PVG CONTROL VALVE
A (1:5)
HYDRAULIC CONNECTION
A
B
D
TOP VIEW (1:15)
700
2183
VIEW1 (1:15)
REMOTE CONTROL BOX
5554
BOTTOM VIEW (1:15)
5554
32 x M24x50 FIXING BOLTS
B (1:2)
VIEW2 (1:15)
2183
2163
TECHNICAL SPECIFICATION
LINE PULL / 5MIL
WEIGHT CABLE
INNER CORE DIAMETER
CABLE DIAMETER
CAPACITY
LINE SPEED
TOP LAYER
DRUM LAYER
TOP LAYER
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TITLE 2.5 Te WLL - 3 x 400m - Hydraulic Winch & HPU
DWG No. DS53
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SHT 1 OF 2
romicatiegroup
CONFIDENTIAL INFORMATION

2 x 18.5kW Open Loop Hydraulic Power Unit





TECHNICAL SPECIFICATION			
Pressure and Flow	**42 lpm @ 220 Bar, 120 lpm @ 78 Bar**	**Frame**	**Crash frame with certified lifting lugs and forklifting pockets**
Pump and Motor Assy (Qty 2)	**80cc axial piston pump – open loop 18.5kW Electrical motor**	**Supply tank**	**900 litres manufactured from 316 stainless steel with desiccant Air breather 2-micron rating**
Supply Required	**3 ph 380 / 415 / 440 / 460 V, 50/60Hz**	**Supply tank filling point**	**G3/4" BSPP M suitable for QRC**
Cooling and heating	**Bowman heat exchanger – freshwater oil cooler flow max 30 lpm dependant on sea water temp. Thermostatically controlled Tank heater 1.5 kW – 3Ph**	**Filtration**	**Pressure and Return Filters 10-micron elements, with bypass & electrical indicators**
Oil Cleanliness	**Suitable for proportional valve systems ISO 4406 17/15/12, NAS 6**	**Health Monitoring**	**Full temperature & level monitoring**
Controls	**Local**	**Port connections**	**P G1" BSP, T G1 1/4" BSP, D G3/4" BSP LS G1/4" BSP**
Dimensions (LxWxH) Footprint	**1990 x 1980 x 2097 mm 1990 x 1980 mm**	**Weight**	**Dry weight: 2080 Kg**

Principle of Operation:

The system flow rate is produced by two open loop hydraulic variable volume axial piston pumps driven via electric motors. Each motor/pump set is connected via a bell housing which ensures concentric alignment of the drive shafts which are connected via a flexible drive coupling. The pump-sets are mounted horizontally adjacent to the reservoir on damping rods. Pump suction valves are fitted to isolate the reservoir for maintenance; the suction valves have proximity switches to inhibit start up if the valves aren't fully open. Due to the installed power (18.5kW) the open loop pumps are capable of a maximum flow of 120 l/min @ 78 bar to 42 l/min @ 220 bar, this must be controlled manually. The pump control is load sensing and pressure compensating.

Return flow from the winch is via a return filter, after the filter a shell and tube water cooler before returning to the reservoir. The cooler is protected with a 6 bar bypass check valve. There are three unfiltered case drain return connections and a spare. The reservoir fill point via QR coupling, is positioned to ensure that oil enters the system only through the return filter.

The hpu is supplied with the following:

- **12 Month Warranty**
- **Marine grade paint system (Details can be supplied on application**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

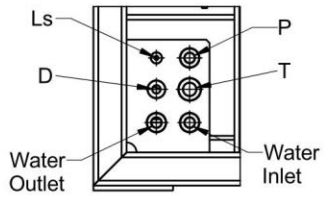
- **1 Off – Extended Warranty**
- **1 Set – Spare hose assembly**
- **1 Off – Full Spares Kit**

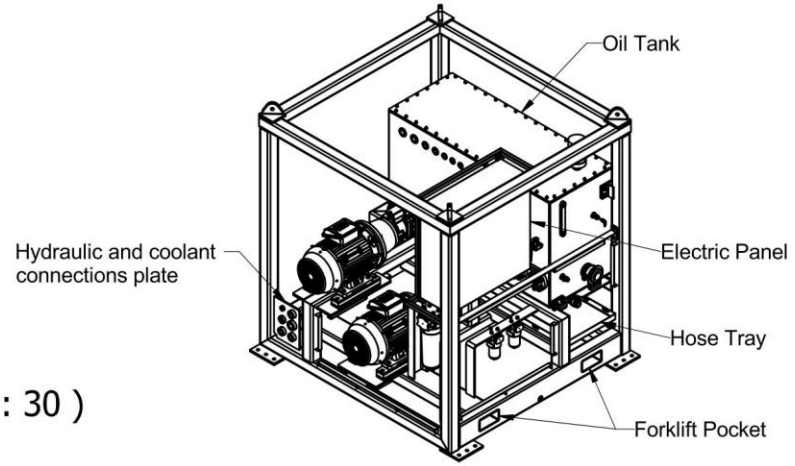
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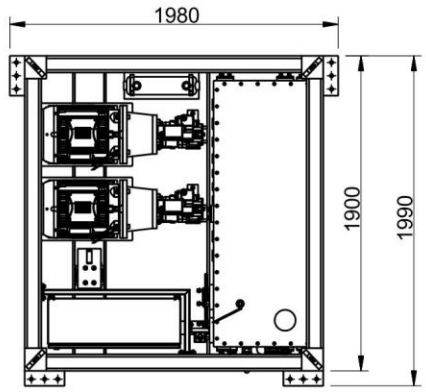
THIRD ANGLE PROJECTION

G (1 : 15)

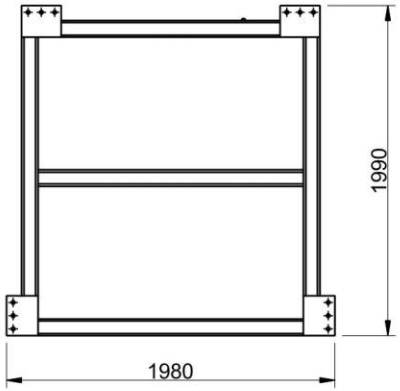


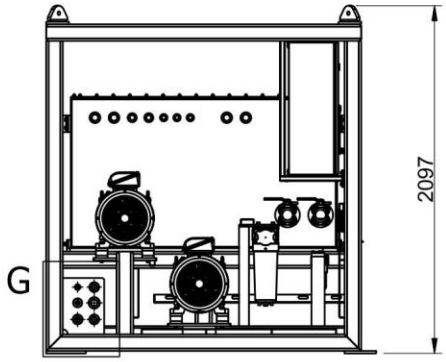


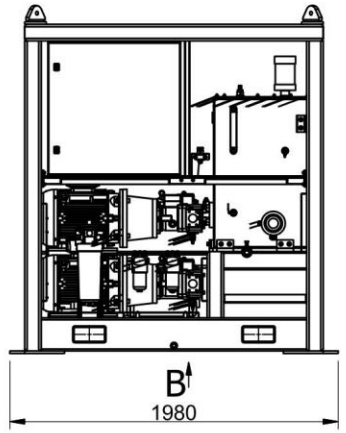
TOP VIEW (1 : 30)



B (1 : 30)







ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Gabor A Peto	Gabor A Peto	Gabor A Peto					
CHECKED								
APPROVED								
DATE	10.11.2015	27.01.2016	18.04.2016					

romica engineering
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Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
www.romica.co.uk

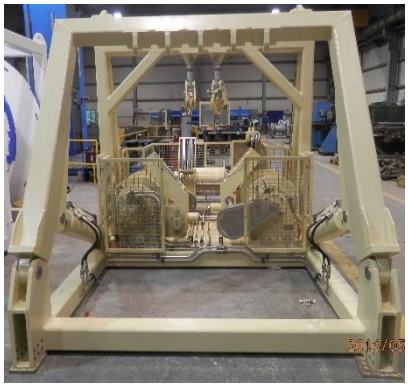
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ORIGINAL SCALE	TITLE	DRG. No.	
1:30	2 x 18.5 kW Open Loop Hydraulic Power Unit	DS53	A3 SHT 1 OF 4

4 Te WLL – Tooling Basket LARS & HPU – DS54







TECHNICAL SPECIFICATION			
Safe working load **Working load limit**	**2 Te SWL** **4 Te WLL**	**Height under cross beam** **Distance between legs**	**1.8 m** **2.02 m**
Significant wave height	**2m**	**Angel inboard** **Angle outboard**	**31°** **67°**
Operating temperature	**-20 to +40^{0}C**	**Hydraulic cylinder working pressure** **Required hydraulic flow**	**220 Bar** **42 Litres per Minute**
Design	**DNV**	**Local proportional control**	**3 position 4-way proportional valve modules (with motor spool A B to tank in the neutral position and P blocked)**
Head sheave	**4.2 Te Load Cell (wired)**	**Mount configuration**	**8 sacrificial feet**
Weight	**Weight without cable: 7300 Kg**	**CT Winch**	**2.4 Te WLL - 400m (refer to DS55)**
Dimensions (LxWxH) **Footprint**	**3938 x 2521 x 2424 mm** **3938 x 2521 mm**	**Auxiliary winch**	**1.24 Te WLL 400m (refer to DS56)**

Principle of Operation:

The Tooling Basket LARS comprises of a 2 Te SWL A-Frame that is mounted on a common skid with two constant tension 2.4 Te winches, a 1.24 Te auxiliary winch and is connected to its own dedicated HPU.

The 4 Te A-Frame is designed for lowering a single tooling basket to the seafloor, with the capability to remain under constant tension when required. The provision of the 1.24 Te non constant winch provides auxiliary handling.

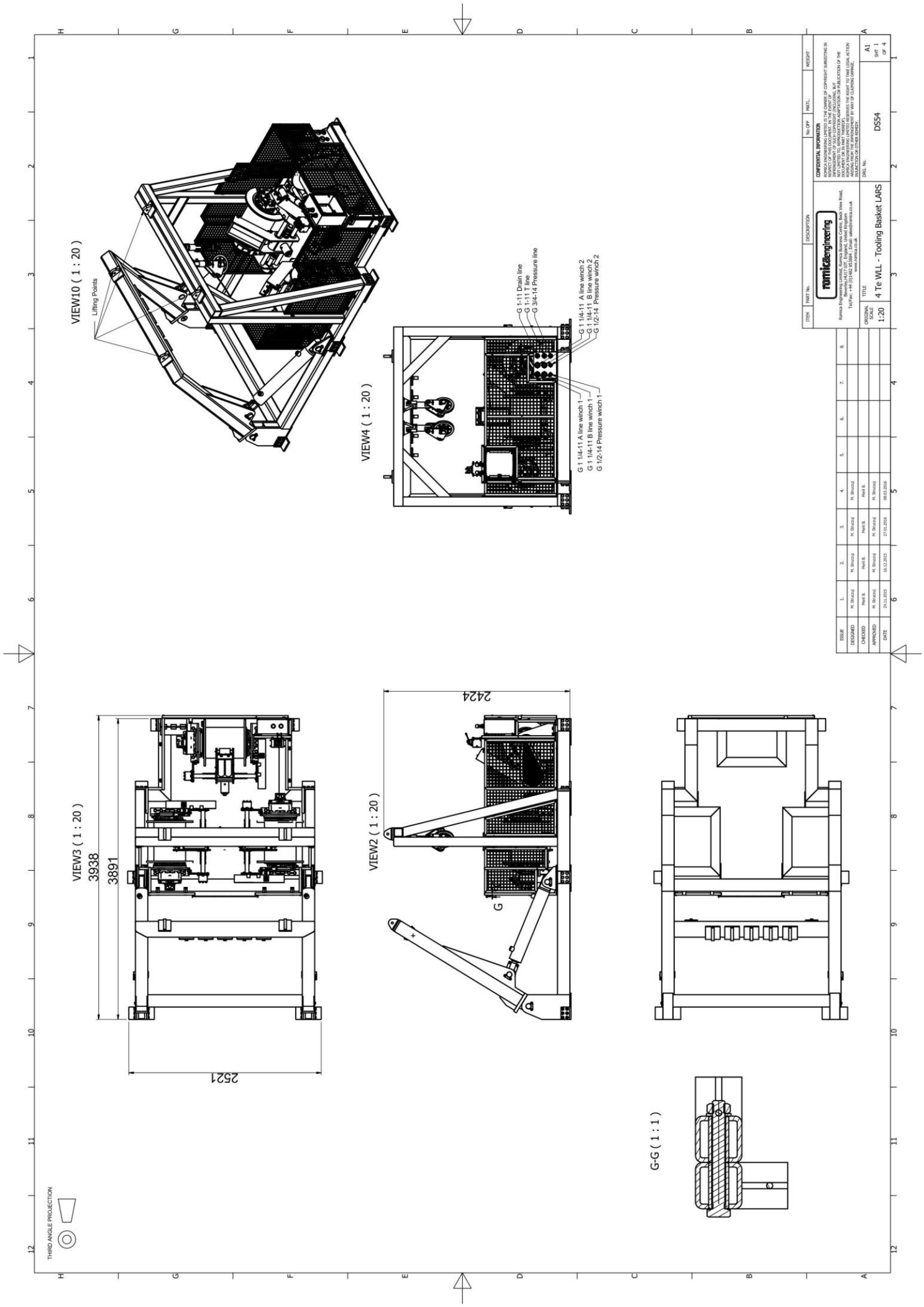
The winches have been designed as separate stand-alone units, and although the Tooling Basket LARS system is mounted on a common skid it comprises of three separate winch units, allowing a level of redundancy in the system (to carry out maintenance etc.), or to use individual winches for other tasks in the future, from the skid, or demounted in another location on-board as shown on the GA. Each winch barrel is driven via a gearbox and hydraulic motor combination fitted with a failsafe brake unit. The brake, being failsafe, always defaults to on should, for any reason, hydraulic pressure is lost, or the direction control valve is in its centre position. The hydraulic motors have been fitted with dual over centre valves and brake shuttle valves. Spooling is provided by a chain driven level wind driven directly from the winch barrel in combination with a diamond screw and level wind roller box.

The A-Frame is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **2 Off – Diverter Sheave Assemblies**
- **12 Month Warranty**
- **2 Off – Tooling Baskets**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**
- **1 Set – Spare sacrificial feet/mounting plates**
- **DNV Certification**


VIEW10 (1 : 20)
Lifting Points
VIEW4 (1 : 20)
G 1-11 Drain line
G 1-11 T line
G 3/4-14 Pressure line
G 1 1/4-11 A line winch 2
G 1 1/4-11 B line winch 2
G 1/2-14 Pressure winch 2
G 1 1/4-11 A line winch 1
G 1 1/4-11 B line winch 1
G 1/2-14 Pressure winch 1
VIEW3 (1 : 20)
3938
3891
2521
VIEW2 (1 : 20)
2424
G-G (1 : 1)
THIRD ANGLE PROJECTION
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
M. Shortal
Mark B.
24.11.2015
16.12.2015
27.01.2016
09.03.2016
romicaengineering
Romica Engineering Limited, Romica Business Centre, Bock View Road, Biggleswade, Bedfordshire, SG18 8QT, UK
Tel/Fax: +44 (0)1462 813684 / Email: sales@romica.co.uk
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ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
ORIGINAL SCALE
1:20
TITLE
4 Te WLL - Tooling Basket LARS
DRG. No.
DSS4
A1
SHT 1 OF 4

2 x 22kW Open Loop Hydraulic Power Unit





TECHNICAL SPECIFICATION			
Pressure and Flow	**42 lpm @ 220 Bar, 170 lpm @ 50 Bar**	**Frame**	**Crash frame with certified lifting lugs and forklifting pockets**
Pump and Motor Assy (Qty 2)	**98cc variable volume axial piston pump – closed loop, 21.3cc + 26.4cc open loop fixed displacement tandem vane pump 22kW Electrical motor**	**Supply tank**	**900 litres manufactured from 316 stainless steel with desiccant Air breather 3-micron rating**
Supply Required	**3 ph 380 / 415 / 440 / 460 V, 50/60Hz**	**Supply tank filling point**	**G3/4" BSPP M suitable for QRC**
Cooling and heating	**Bowman heat exchanger – freshwater oil cooler flow max 80 lpm dependant on sea water temp. Thermostatically controlled Tank heater 1.5 kW – 3Ph**	**Filtration**	**Pressure and Return Filters 10-micron elements, with bypass & electrical indicators**
Oil Cleanliness	**Suitable for proportional valve systems ISO 4406 17/15/12, NAS 6**	**Health Monitoring**	**Full temperature & level monitoring**
Controls	**Local**	**Port connections**	**P G3/4" BSP, T G1" BSP, D G1" BSP P1 & P2 G1/2" BSP A1 & A2 & B1 & B2 G1 1/2" BSP**
Dimensions (LxWxH) Footprint	**1990 x 1980 x 2306 mm 1990 x 1980 mm**	**Weight**	**Dry weight: 2580 Kg**

Principle of Operation:

The system flow rate is produced by two off closed loop hydraulic variable volume axial piston pumps driven via electric motors. Each motor/pump set is connected via a bell housing which ensures concentric alignment of the drive shafts which are connected via a flexible drive coupling. A double vane pump is mounted on the through drive of the closed loop pump. One section provides boost flow to the closed loop pump whilst the second section provides flow and pressure to the A-Frame. The pump-sets will be mounted horizontally alongside the reservoir on damping rods. Pump suction valves will be fitted to isolate the reservoir for maintenance; the suction valves will have proximity switches to inhibit start up if the valves aren't fully open. The closed loop pump will provide 170 L/min @ 50 bar for all CT winches, and 40 L/min @ 220 bar this will be torque limited via electrical means. Flow for the A-Frame will be unloaded to the reservoir at a minimum pressure until solenoid S3 (or S6) is energised. When energised the pump will provide approx. 60 L/min @ 140 bar. Each pump has its own pressure filter and check valve; flow is joined to a common port after the check valves. Oil purged from each closed loop pump will be joined together before going through a low pressure filter, this will then go through a water cooler sized to dissipate approx. 30% of the installed power. Return oil from the A-Frame will also go through a return filter before entering the same cooler mentioned above. The cooler is protected with a 6 bar bypass check valve. The HPU will operate as normal for pay-out & heave by controlling the pumps swash either side of centre. It will incorporate a 'Constant Tension' (CT) function also, this is switched in and out via a local control panel or via a belly pack. For normal operation solenoid S1 (or S5 for pump set 2) will stay de-energised, this will allow the pumps to operate normally for pay-out & heave. When CT is required solenoid S1 (or S4) will be energised. CT pressure is controlled via a 4-20 mA signal to a proportional pressure controller, S2 (or S5).

The hpu is supplied with the following:

- **12 Month Warranty**
- **Marine grade paint system (Details can be supplied on application**
- **Operation and Maintenance Manual in Electronic Format**

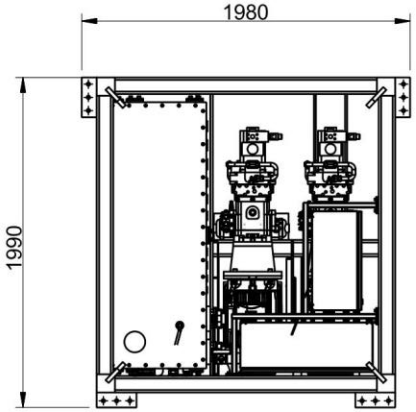
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

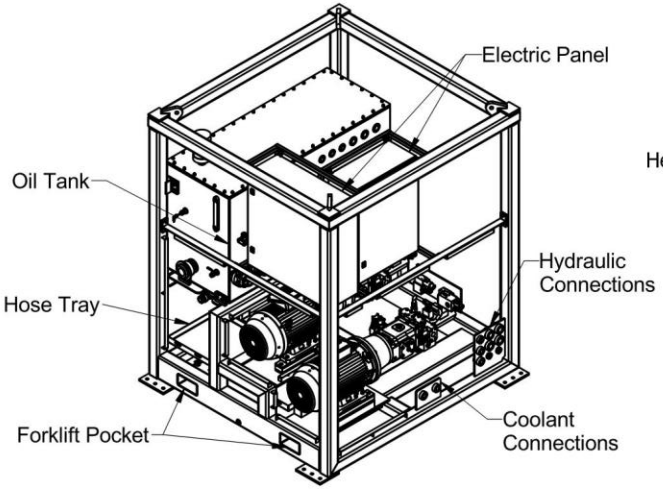
- **1 Off – Extended Warranty**
- **1 Set – Spare hose assembly**
- **1 Off – Full Spares Kit**

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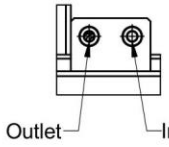
TOP VIEW (1 : 30)



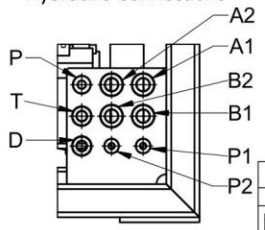


A (1 : 30)

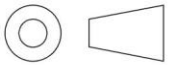
G (1 : 15)
Heat Exchanger Connection



E (1 : 15)
Hydraulic Connections

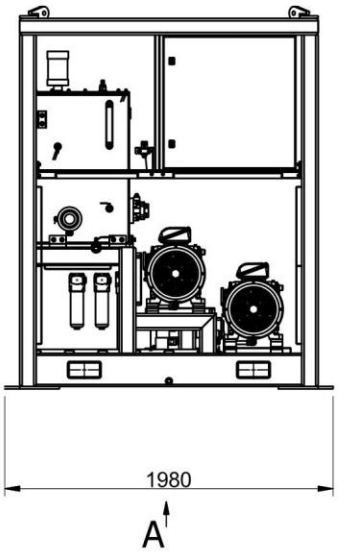


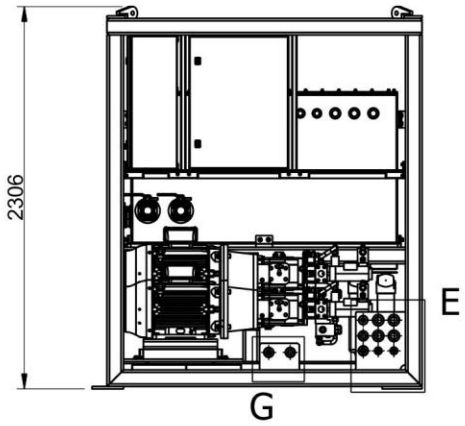
THIRD ANGLE PROJECTION

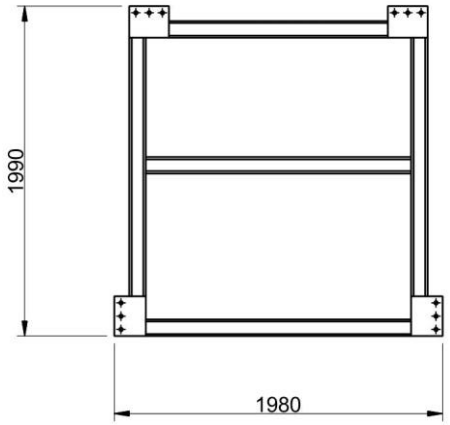


Hydraulic Connections	
P1	G ½"
A1	G 1 ¼"
B1	G 1 ¼"
P2	G ½"
A2	G 1 ¼"
B2	G 1 ¼"
D	G 1 "
P	G ¾"
T	G 1 "

Heat Exchanger Connections	
Inlet	G 1"
Outlet	G 1"







Technical specification

Absorbed power: 2x22kW
Working Pressure: 220 Bar
Oil tank capacity: 900 litre
Cooling system : Fresh Water - oil
Dry weight: 2580kg

ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

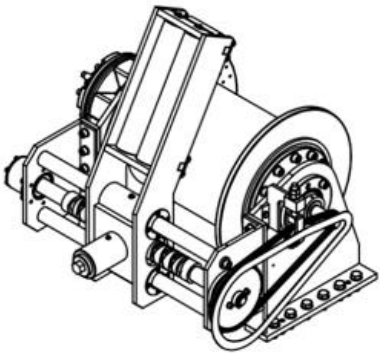
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DESIGNED	Gabor A Peto	Gabor A Peto	Gabor A Peto					
CHECKED								
APPROVED								
DATE	10.11.2015	27.01.2016	18.04.2016					

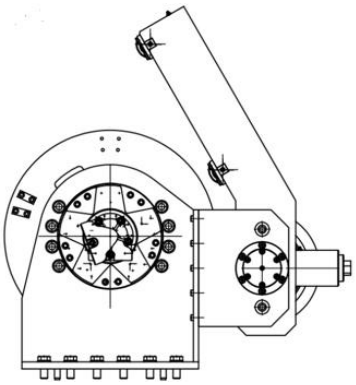
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ORIGINAL SCALE	TITLE	DRG. No.	
1:30	2 x 22 kW - Closed Loop - Hydraulic Power Unit	DS54	A3 SHT 1 OF 4

1.24 Te WLL - 400m - Hydraulic Winch – DS56





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
630	10	400	36	1240	1000	1865	1500

Winch Hydraulic Drive Supply Required	220 bar 42 l/min	Cable Lead-off Angle	
Local Proportional Control	None	Frame details	Side supports without guards
Level wind	Mechanical chain driven	Winch drum dimensions	Drum core Ø 410 mm, Drum Length 500 mm, Flange Ø 600 mm
Dimensions (LxWxH) Footprint	981 x 1152 x 1025 mm 500 x 874 mm	Drum details	Plain drum: the wire is stored in 6 lays with 50 turns per lay
Slip ring	N/A	Cable	7 x 19 RHL Wire Rope
		Hydraulic Ports	A G1” BSP, B G1” BSP, D G1/2” BSP

Principle of Operation:

The Winch barrel is mounted directly between two side supports. One side support houses the Gearbox and Hydraulic Motor and the other houses the bearing assembly. The hydraulic motor drives the gearbox assembly and thus turn the winch barrel in either direction.

The gearbox is fitted with a hydraulically actuated spring applied failsafe brake unit and hydraulic motor.

The hydraulic signal to the failsafe brake is achieved via a brake shuttle valve within the load control valve.

Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor.

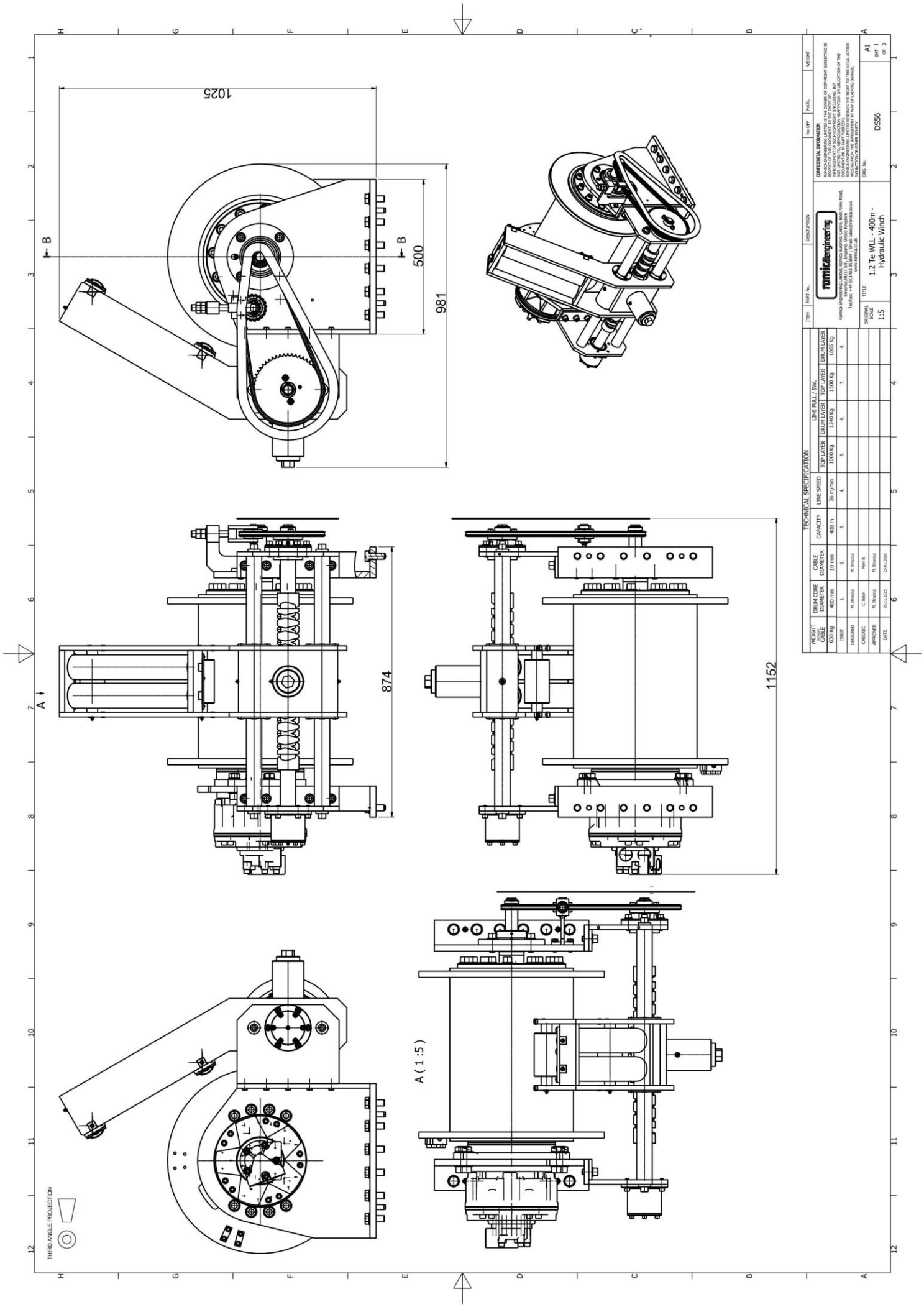
The winch is controlled via a 3 position, spring return to centre directional control valve, fitted with a motor spool.

The winch is supplied with the following:

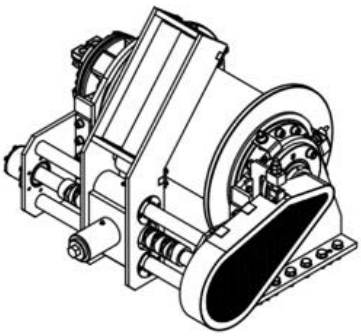
- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

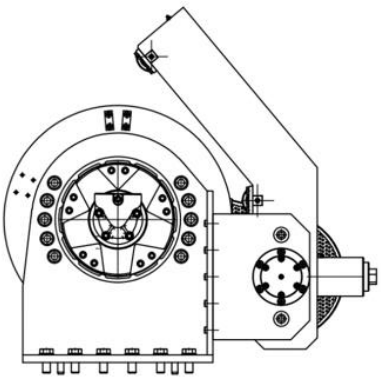
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Proportional directional control valve**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**


1025
B
B
500
981
874
A
1152
A (1 : 5)
THIRD ANGLE PROJECTION
TECHNICAL SPECIFICATION
LINE PULL / SWL
WEIGHT CABLE
DRUM CORE DIAMETER
CABLE DIAMETER
CAPACITY
LINE SPEED
TOP LAYER
DRUM LAYER
TOP LAYER
DRUM LAYER
630 Kg
400 mm
10 mm
400 m
36 m/min
1000 Kg
1240 Kg
1500 Kg
1865 Kg
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
M. Shirzad
C. Bilin
M. Shirzad
05.11.2015
M. Shirzad
Hanif B.
M. Shirzad
25.01.2016
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romicaengineering
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Tel/Fax: +44 (0)1462 813849 / Email: sales@romica.co.uk
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ORIGINAL SCALE
1:5
TITLE
1.2 Te WLL - 400m - Hydraulic Winch
DRG. No.
DS56
A1
SHT 1 OF 3

2.4 Te WLL - 400m - Hydraulic Winch – DS55





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
635	10	400	36	2487	2000	3731	3000

Winch Hydraulic Drive Supply Required	200 bar 42 l/min	Cable Lead-off Angle	
Local Proportional Control	None	Frame details	Side supports without guards
Level wind	Mechanical chain driven	Winch drum dimensions	Drum core Ø 410 mm, Drum Length 500 mm, Flange Ø 600 mm
Dimensions (LxWxH) Footprint	981 x 1152 x 932 mm 500 x 874 mm	Drum details	Plain drum: the wire is stored in 6 lays with 50 turns per lay
Slip ring	N/A	Cable	7 x 19 RHL Wire Rope
		Hydraulic Ports	A G1" BSP, B G1" BSP, D G1/2" BSP

Principle of Operation:

The 2.4 Te Constant Tension winches achieves a constant line-pull set by the operator when the Tension Control is activated.

The line pull is measured by a load cell, mounted in the external sheave above the winch, and the PLC processes this signal. The cable tension is displayed on the HMI.

Constant tension control is provided from the closed loop variable displacement pump drive system and the input value as set by the tension potentiometer from the operator.

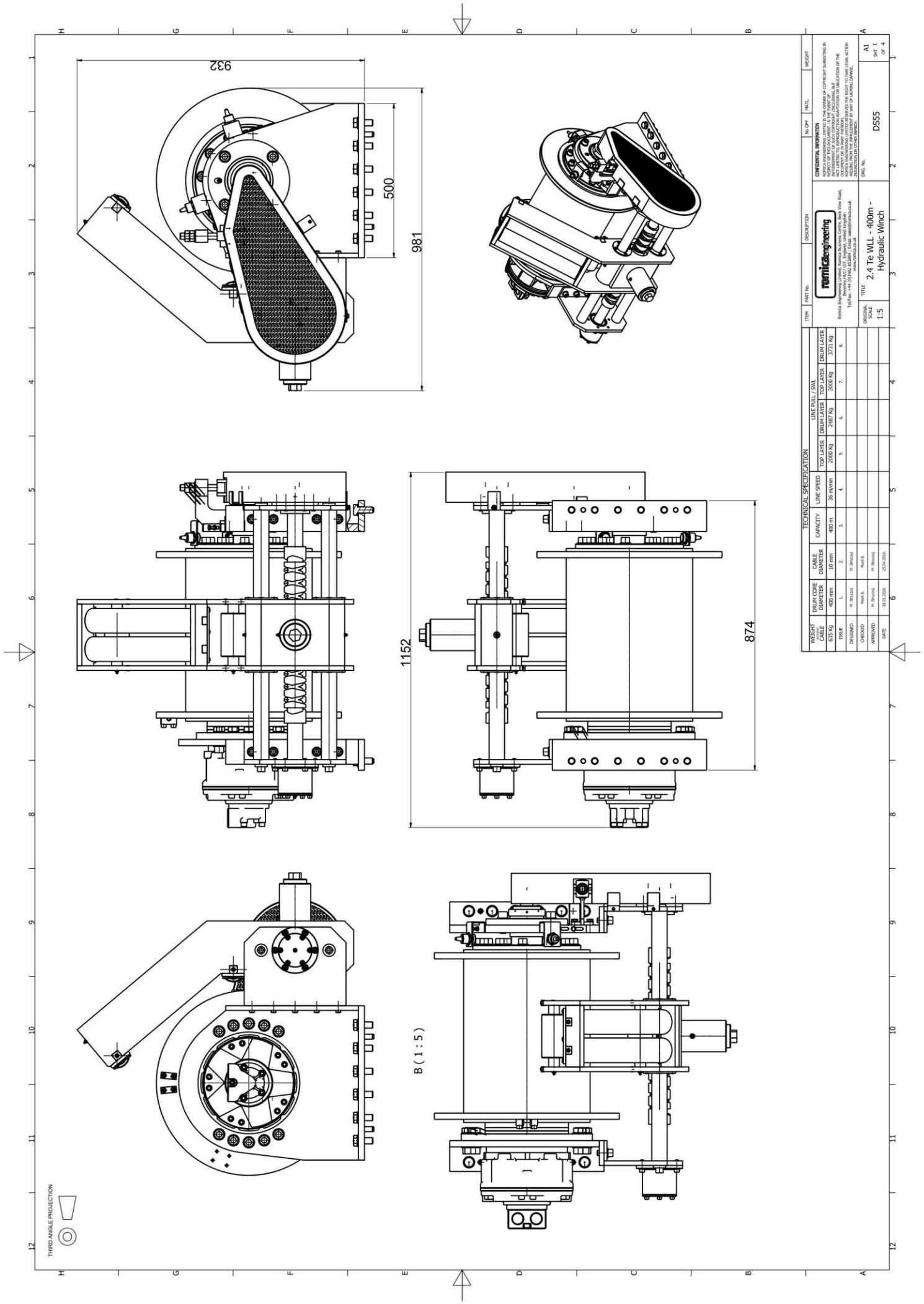
When Tension Control is not activated the speed and direction of the rum is controlled from the joystick at maximum system pressure.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Proportional directional control valve**
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**


932
500
981
1152
874
B (1 : 5)
THIRD ANGLE PROJECTION
TECHNICAL SPECIFICATION
LINE PULL / SWL
WEIGHT CABLE 635 Kg
DRUM CORE DIAMETER 400 mm
CABLE DIAMETER 10 mm
CAPACITY 400 m
LINE SPEED 36 m/min
TOP LAYER 2000 Kg
DRUM LAYER 2467 Kg
TOP LAYER 3000 Kg
DRUM LAYER 3731 Kg
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
CONFIDENTIAL INFORMATION
romicaengineering
Romica Engineering Limited, Romica Business Centre, Beck View Road, Beverley, East Yorkshire, HU17 0JG, England
Tel/Fax: ++44 (0)1482 863884 / Email: sales@romica.co.uk
www.romica.co.uk
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
TITLE
2.4 Te WLL - 400m - Hydraulic Winch
ORIGINAL SCALE 1:5
DRG. No.
DS55
A1
SHT 1 OF 4

4.8 Sonar Pole

11m - Modular Over-The-Side Deployment Pole – DS43..... 280

Sonar Pole Description

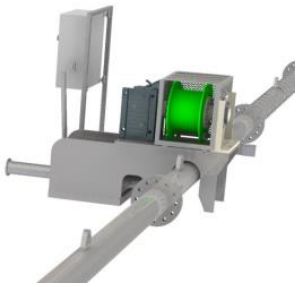
RTG have a proven design for a sectional electrically powered sonar pole. The sonar poll is designed to be sectional to allow the sonar to operate at a variety of depths.

The RTG sonar pole is of robust design and is very cost effective and proven in the field. The sonar pole can also be fitted with a variety of different types and models of sonars by means of adaptor plates, exact sonar specifications to be deployed must be confirmed at time of ordering.

The Sonar pole assemblies are supplied fully tested and certified.

11m - Modular Over-The-Side Deployment Pole – DS43





TECHNICAL SPECIFICATION			
Pole Design	**Sectional with vortex suppression strakes and lifting lugs**	**Maximum Operational Speed**	**5 kN at sea state 4 for pole nominal length**
Nominal Operational Length	**11 m (not including Transceiver length)**	**Short Term Survival Speed**	**10 kN at sea state 4 for pole nominal length**
Increased Operational Length	**14 m (not including Transceiver length)**	**Pole Weight**	**1930 Kg, maximum length, without transceiver**
Maximum Deployed Length	**17 m (not including Transceiver length)**	**Pole Sectional Length**	**3 m**
Controls – deployment/ recovery winch	**Local - Electrical from electrical enclosure Bi-directionally proportional joystick**	**Transceiver Mount**	**Adaptor supplied to attach client specific transceiver**
Mechanically Locks	**Manual release and automatic engage for deployment and recovery**	**Transceiver Electrical Connection**	**Routing internal for transceiver electrical cable & connection**
Electrical Winch Motor Supply Required	**3 KW IP56 IE3 380-440V-3 Ph- 50/60 Hz**	**Mechanical Brake**	**Automatically applies to secure in both the deployed and recovered states.**

Principle of Operation:

The Modular Over-The-Side Deployment Pole is designed full easy installation and operation for vessels where a through-hull deployment option is not available.

The self-contained unit can be easily mobilised and transported by road, with both deck and hull mounting options and the ability to increase and decrease the poles length, only an electrical power supply is required to operate the built in deployment/recovery winch with integral brake. Mechanically locks ensure that the pole is secure in both the deployed and recovered states.

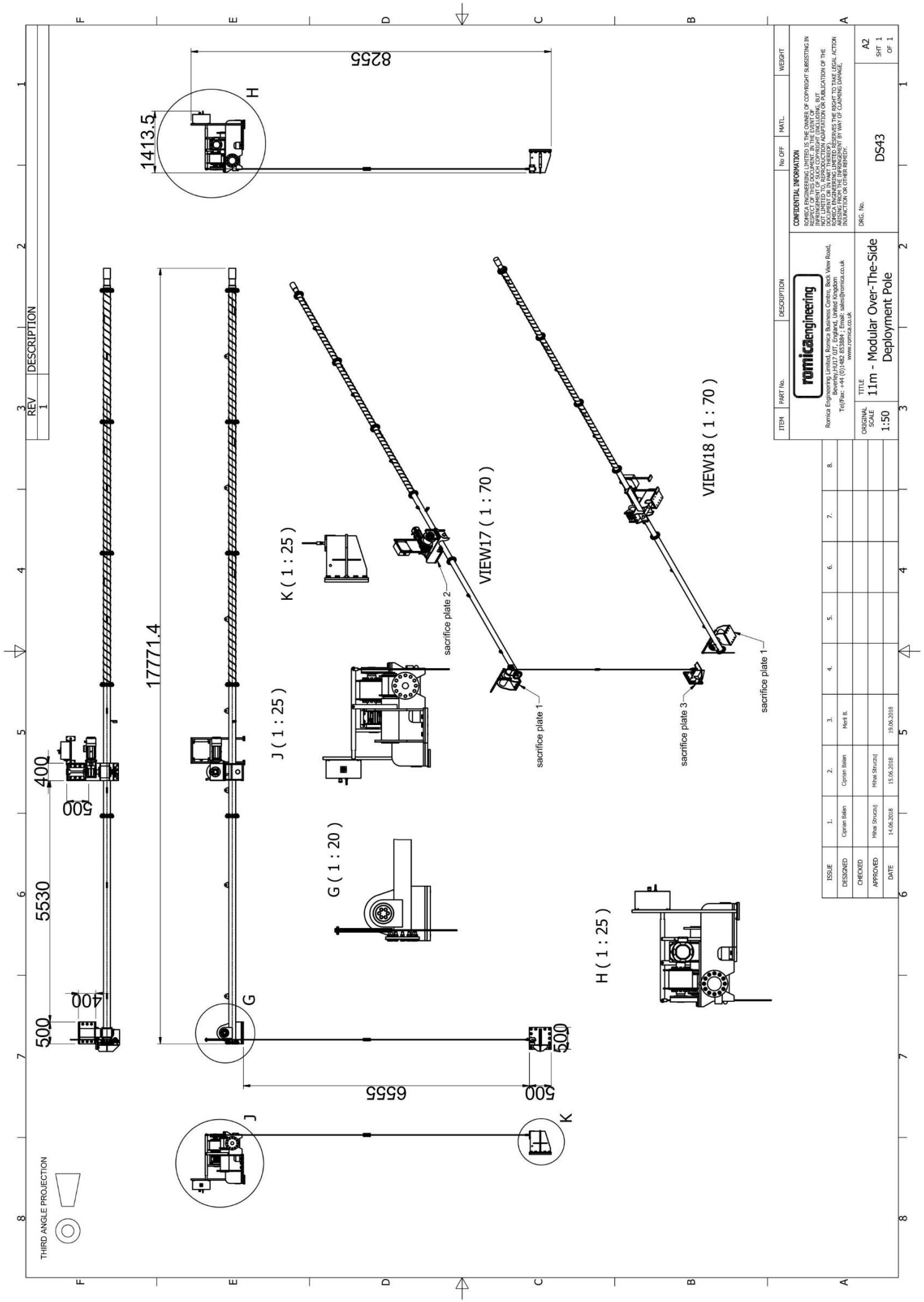
The winch motor is electrically driven from the 3 kW SEW Electric gearmotor. The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the proportional joystick is in its centre position.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **Designed in accordance with DNV**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **DNV certification**
- **1 Set – Spare sacrificial feet/mounting plates**
- **1 Off – Winch running flashing lights and/or Klaxon**


8255
1413.5
H
17771.4
400
500
5530
400
500
G
6555
500
500
J
K
K (1 : 25)
J (1 : 25)
G (1 : 20)
H (1 : 25)
VIEW17 (1 : 70)
VIEW18 (1 : 70)
sacrifice plate 1
sacrifice plate 2
sacrifice plate 3
sacrifice plate 1
THIRD ANGLE PROJECTION
REV
DESCRIPTION
1
ITEM
PART No.
DESCRIPTION
No OFF
MATL.
WEIGHT
romicaengineering
Romica Engineering Limited, Romica Business Centre, Beck View Road, Beverley,HU17 0JT, England, United Kingdom
Tel/Fax: +44 (0)1482 853894 ; Email: sales@romica.co.uk
www.romica.co.uk
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TITLE
11m - Modular Over-The-Side Deployment Pole
DRG. No.
DS43
A2
SHT 1 OF 1
ORIGINAL SCALE
1:50
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
1.
Ciprian Balan
14.06.2018
2.
Ciprian Balan
Mihai Shucuj
15.06.2018
3.
Mirli B.
19.06.2018
4.
5.
6.
7.
8.

5 Pipe and Cable Laying Systems

15 Te – Electro-Hydraulic 2 Track Tensioner with integrated HPU – DS57..... 284

Pipe and Cable Laying Systems Overview

RTG supply a variety of pipe and cable laying equipment to a variety of clients worldwide.

This equipment includes the following:

- Direct Pull Winches
- Traction Winch Systems
- Tracked Cable Engines

Depending on the client's requirements all the above can be supplied for either hydraulic or electric power systems.

RTG can also supply electro-hydraulic power units matched to any of the above equipment as required. All equipment can be supplied for both marine and land based applications. RTG can supply control cabins if required.

All equipment is supplied fully tested and certified as applicable.

15 Te – Electro-Hydraulic 2 Track Tensioner with integrated HPU – DS57







TECHNICAL SPECIFICATION			
Maximum Tension (Bi-directional)	**Manually varied in the range 0 - 10 Te**	**Linear Speed**	**Variable in the range 0 - 1200 m/hr, 20 m/min**
Squeeze Tension	**Variable in the range 0.5 - 25 Te**	**Static Parking Brake**	**Fail safe, maximum holding tension 20 Te**
Hydraulic Drives	**2 off fail safe braked hydraulic geared motors**	**Product diameter (standard pad)**	**50mm to 450mm**
Track configuration	**Dual track, vertically aligned, 600mm stroke**	**Supply Required**	**3 ph 380/480 V - 50/60 Hz (dual supply)**
Track contract length and guide opening	**Track length 2.5m. Symmetrical guide opening**	**Tension and Squeeze Measurement**	**X 4 Load pins interfaced with Siwarex weighing modules**
Track Pad Type	**V-grooved rubber bonded pads (bolted)**	**IP Rating**	**Tensioner IP65, Control Cabin IP55**
Min product friction at SWL	**μ = 0.2**	**Control Station Local and Remote**	**Rotary controllers, illuminated push buttons and a 9" HMI**
Tensioner Weight	**17500 Kg Dry and without cable**	**Control Cabin Weight**	**2580 Kg**
Dimensions (LxWxH) Footprint	**5900 x 2505 x 2931 mm 5450 x 2375 mm**	**Control Cabin Dimensions (LxWxH) Footprint**	**1500 x 1500 x 2000 mm 1500 x 1500 mm**

Principle of Operation:

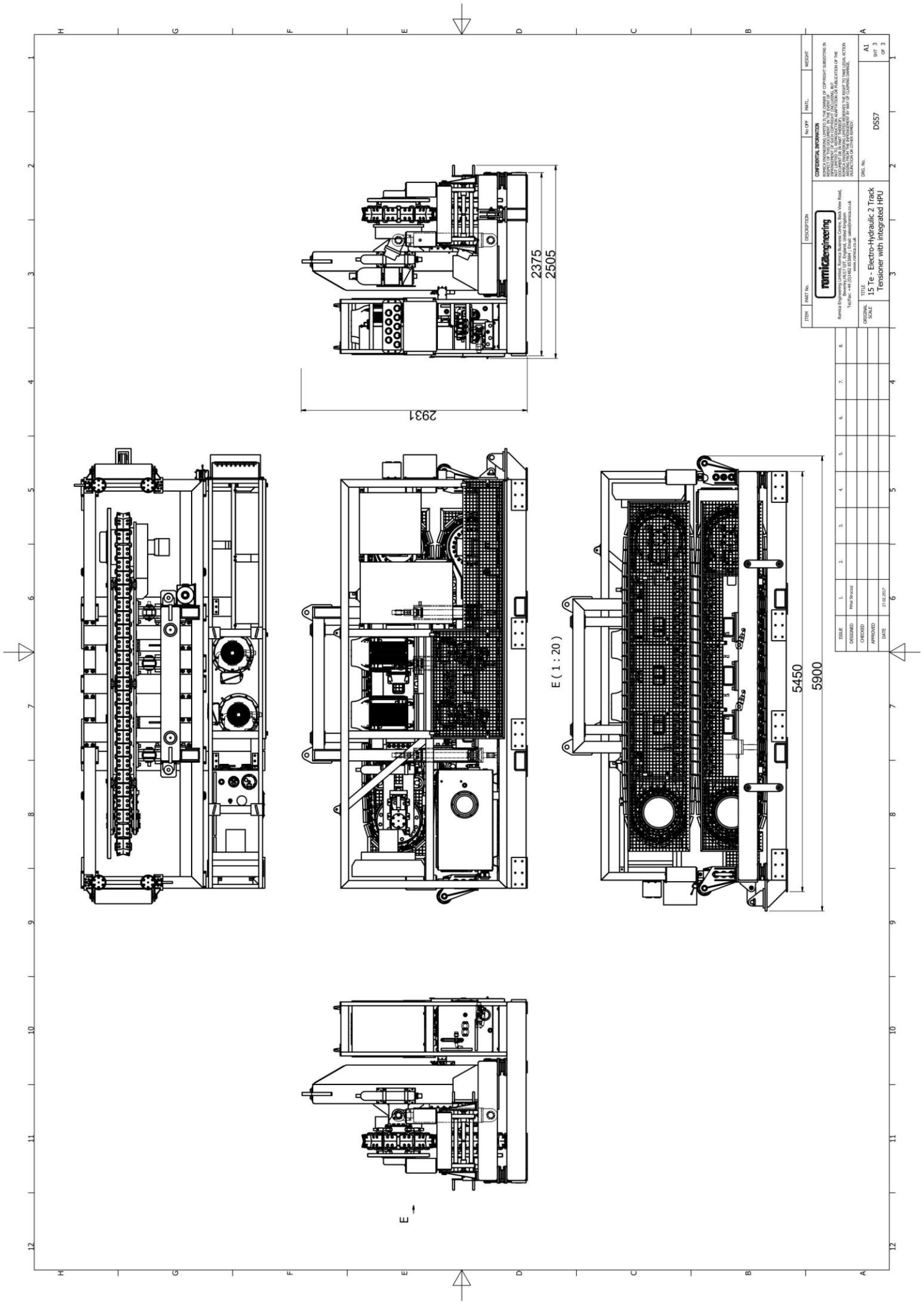
The Romica Engineering self-contained electro-hydraulic 2 track tensioner is designed to operate in an open deck working environment. The tensioner is completely self-contained, on a common skid, and requires only an electrical power supply to the tensioner and optional remote control cabin. A single Ethernet cable, 20 metres, provides the necessary control signals between the tensioner and remote console. The self-contained unit can be easily mobilised and transported by road.
Tensioner controls and instrumentation is provided via stay put rotary controllers, illuminated push buttons and a 9" HMI screen with a comprehensive alarms and monitoring system.

The winch is supplied with the following:

- **1 Off – Control Cabin**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**
- **1 Off – Winch running flashing lights and/or Klaxon**


2375
2505
2931
E (1 : 20)
5450
5900
E
CONFIDENTIAL INFORMATION
romicaengineering
TITLE
15 Te - Electro-Hydraulic 2 Track Tensioner with integrated HPU
DWG. No.
DS57
A1
SHT 3 OF 3
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
27.02.2017

2 x 55kW Closed Loop Integrated Hydraulic Power Unit





TECHNICAL SPECIFICATION			
Pressure and Flow	**350 Bar maximum, but set to 230 Bar 140 l/min @ 50 Hz 170 l/min @ 60 Hz**	**Frame**	**Integral crash frame**
Pump and Motor Assy (Qty 2)	**98cc variable displacement pump - closed loop 45cc Boost pressure pump 10.8cc fixed displacement, tandem vane pump - open loop 55kW Electrical motor**	**Supply tank**	**600 litres manufactured from 316 stainless steel with front access and desiccant Air breather 2-micron rating ensures air entering the reservoir is cleaned and dried**
Supply Required	**3 ph 380 / 415 / 440 / 460 V, 50/60Hz**	**Supply tank filling point**	**G1" BSPP M suitable for QRC**
Cooling and heating	**Cooling - Air Blast Heat Exchanger Thermostatically controlled Tank heater 1.5 kW – 3Ph**	**Filtration**	**Pressure and Return Filters 10-micron elements, with bypass & electrical indicators**
Oil Cleanliness	**Suitable for proportional valve systems ISO 4406 17/15/12, NAS 6**	**Health Monitoring**	**Full temperature & level monitoring**
Controls	**Local and remote control**	**Weight**	**Dry weight: 2580 Kg**
Dimensions (LxWxH) Footprint	**5300 x 2315 x 946 mm Integral part of frame**		

Principle of Operation:

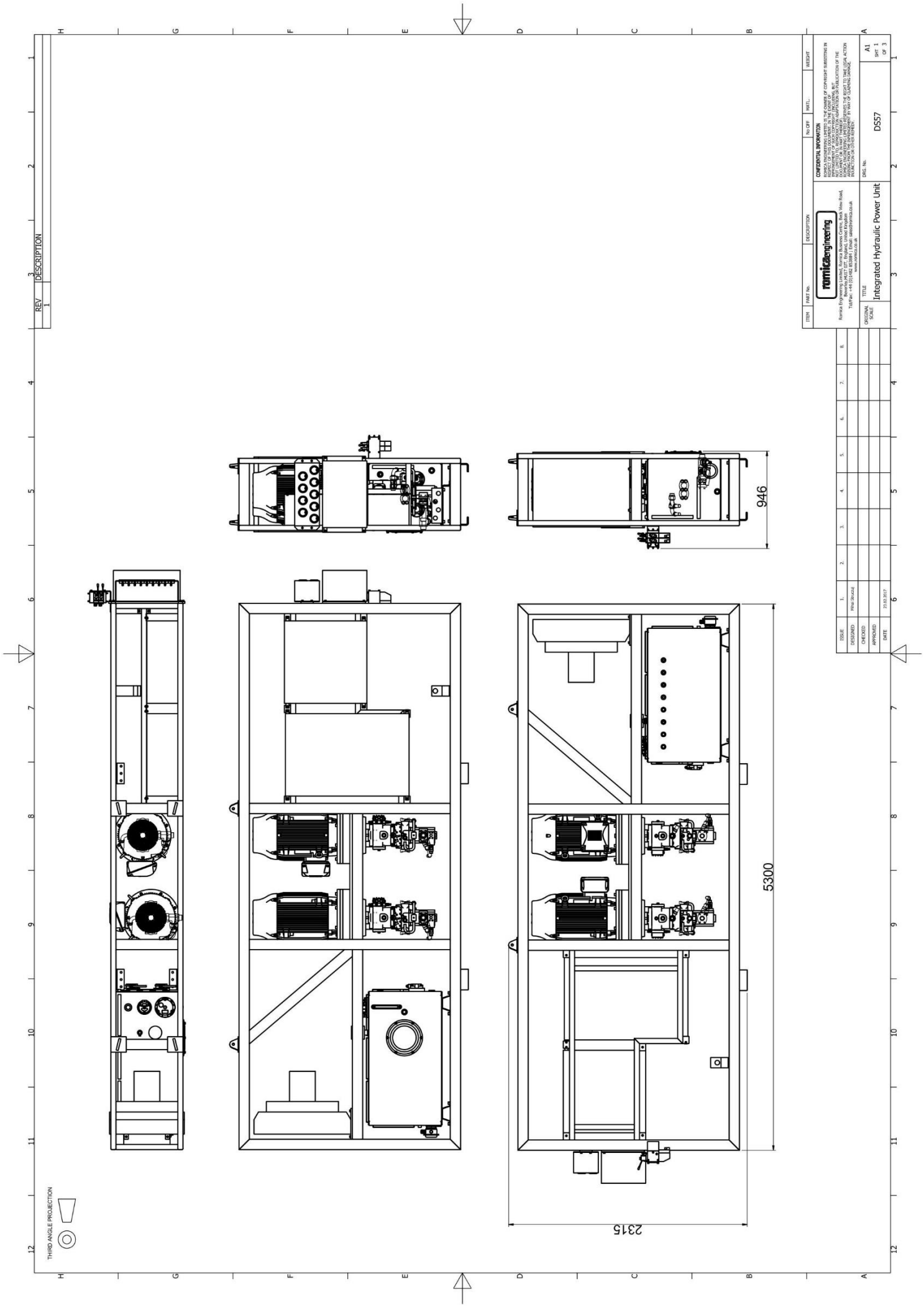
The Electro-Hydraulic Power Unit (HPU), consists of HPU, reservoir, a blast air heat exchanger, all within a crash frame that is attached to the common skid of the Tensioner, allowing access for operation and maintenance tasks. The system flow rate is produced by two off closed loop hydraulic variable volume axial piston pumps driven via electric motors. Each motor/pump set is connected via a bell housing which ensures concentric alignment of the drive shafts which are connected via a flexible drive coupling. A double vane pump is mounted on the through drive of the closed loop pump. One section provides boost flow to the closed loop pump whilst the second section provides flow and pressure to the Track hydraulic cylinders and gearbox brakes. The pump-sets are mounted vertically alongside the reservoir on damping rings. Pump suction valves are fitted to isolate the reservoir for maintenance; the suction valves have proximity switches to inhibit start up if the valves aren't fully open. The closed loop pump provides 170 L/min @ 60 Hz for the Track gearboxes. Flow for the Track hydraulic cylinders is unloaded to the reservoir at a minimum pressure until solenoid SPEA1 is energised. When energised the pump provides approx. 18 L/min @ 60 Hz. Each pump has its own check valve; flow is joined to a common port after the check valves. Oil purged from each closed loop pump is joined together before going through an air blast cooler, this then goes through a low pressure filter, the air blast cooler is sized to dissipate approx. 30% of the installed power. Return oil from the Track hydraulic cylinders also returns to the reservoir via a filter.

The winch/hpu is supplied with the following:

- **1 Set - 20-meter interconnecting hoses and stainless steel flat faced couplings, other lengths available upon request**
- **Marine grade paint system (Details can be supplied on application**
- **12 Month Warranty**
- **Operation and Maintenance Manual in Electronic Format**
- **1 Set –Transit crash bar**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Set – stainless steel Quick Release Couplings**
- **1 Off – Full Spares Kit**


946
5300
2315
Integrated Hydraulic Power Unit
D557
THIRD ANGLE PROJECTION

6 Cable Storage and Cable Spooler

0.37 Te WLL - 2 x 600m - Electric Winch – DS15 290

1.75 Te WLL - 585m & 290m - Electric Winch – DS41 292

13.5Te Shipboard Hydraulic Cable Spooler System – DS59 294

Cable Storage and Cable Spooler Overview

RTG design, manufacture and supply a range of cable storage reels and cable spoolers for a range of clients and market sectors.

Cable storage reels can be supplied as simple cable reels for the transport and storage of steel wire rope, aramid ropes or cables, both armoured and coated. Powered cable storage reels can also be supplied either with hydraulic or electric drives.

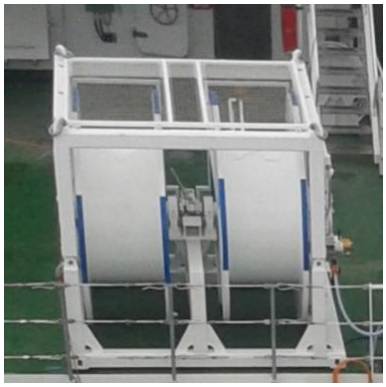
RTG also supply cable spooling systems in a variety of configurations. The cable spoolers can also be supplied with adjustable back tension function if required, this allows the rope to be loaded on to winches under tension.

The cable storage reels have been supplied into a variety of markets including:

- Seismic Industry
- Research Industry
- Cable Manufacturing Industry
- Rope Storage and Transport

0.37 Te WLL - 2 x 600m - Electric Winch – DS15







Principle of Operation:

TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
5800	56	2 x 600	15	375	250	565	750

Supply Required	380-440V-3 Ph- 50/60 Hz	Cable Lead-off Angle	N/A
Winch Electrical Motor Level Wind Electrical Motor	3 KW IP56 IE3 N/A	Frame details	Crash frame with guards and certified lifting lugs
Local Proportional Control	Bi-directionally proportional joystick and speed control potentiometer	Winch drum dimensions	Drum core Ø 1500 mm, Drum Length 800 mm, Flange Ø 2400 mm
Level wind	N/A	Drum details	Plain drum: the cable is stored in 8 lays with 59 turns per lay per drum
Dimensions (LxWxH) Footprint	3110.5 x 2437 x 2625 mm 2990.5 x 2437 mm	Cable	Seamux 2 Digital Steamer
Slip ring	N/A		

The winch barrel is mounted directly onto the outer, toothed, face of a vertically mounted slew-ring bearing. The inner ring of the bearing has been mounted onto a common fixed deck pedestal. A toothed pinion drives the outer ring of the bearing and thus turns the Winch barrel in either direction. The pinion is fitted to the output shaft of a multi-stage planetary gearbox, the gearbox has been fitted with a hydraulically actuated spring applied failsafe brake unit and an open loop orbital low speed hydraulic motor. Dynamic braking is achieved via a load control valve mounted directly onto the hydraulic motor. Static braking is via the failsafe brake unit fitted in between the hydraulic motor. The brake, being failsafe, always defaults to on should, for any reason, electrical supply is lost, or the control joystick is in its centre position.

The winch barrel is not supported at the non-drive side and as such the provision for the slipring is made at either end of the winch barrel.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **Operation and Maintenance Manual in Electronic Format**
- **12 Month Warranty**

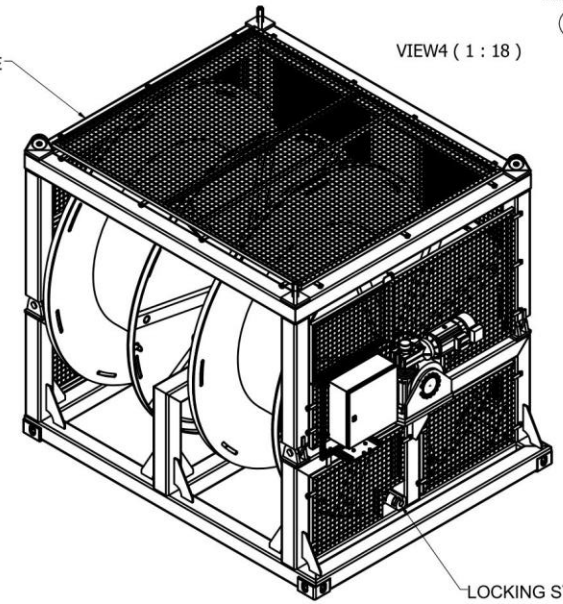
Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

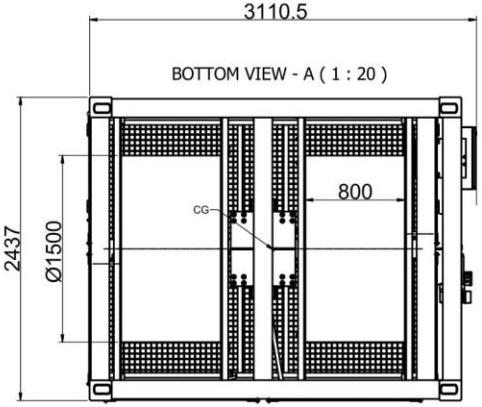
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**

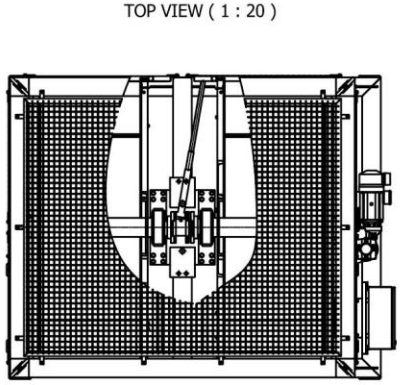
Back to contents

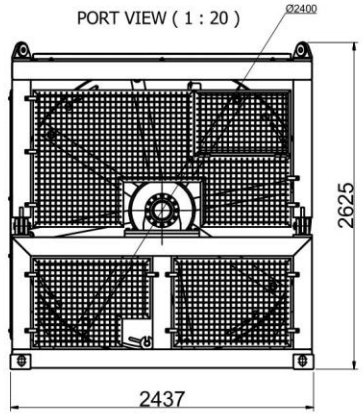
www.romicatiegroup.com

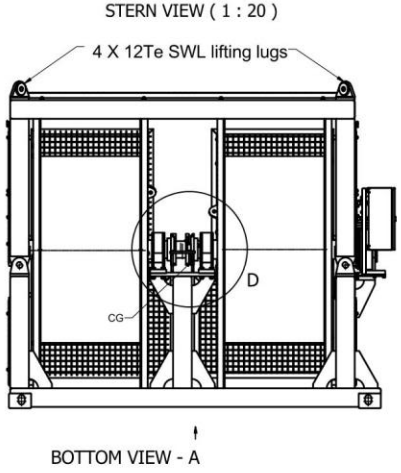
THIRD ANGLE PROJECTION

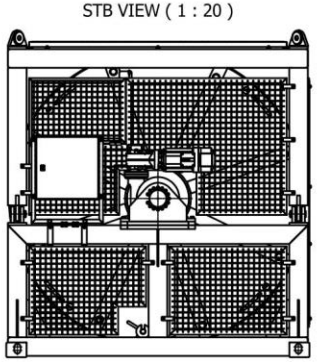


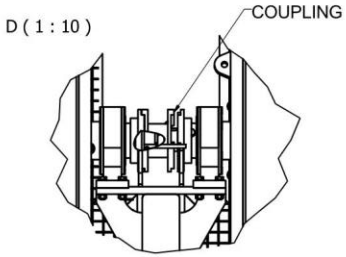












Note:
The COG is without cable.

Colour:
White RAL 9016

Power Requirements:
3 AC 440v 60 Hz - 3kW

TECHNICAL SPECIFICATION								
WEIGHT WITHOUT CABLE	DRUM CORE DIAMETER	CABLE DIAMETER	CAPACITY	LINE SPEED	SWL / Brake			
					TOP LAYER	DRUM LAYER	TOP LAYER	DRUM LAYER
5650 kg	1500 mm	56 mm	2 x 600 m	15 m/min	250 kgf	375 kgf	750 kgf	565 kgf

Load Testing Padeye			
PADEYE	LINE PULL / SWL	BRAKE HOLD	Remarks
4.7 Te	250 Kg	750 Kg	Corresponds to Ø56mm Rope 7'th Layer

ISSUE	1.	2.	3.	4.	5.	6.	7.	8.
DESIGNED	Strucsg Mhai							
CHECKED								
APPROVED								
DATE	26.06.2015							

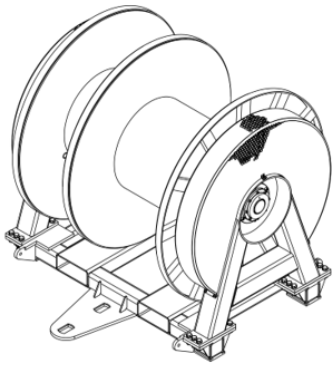
ITEM	PART No.	DESCRIPTION	No OFF	MATL.	WEIGHT

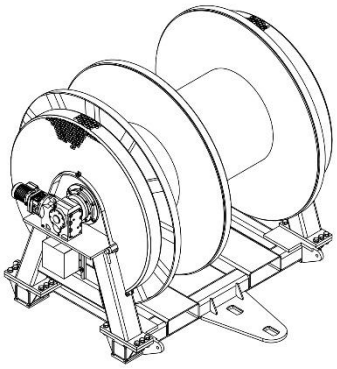
romicaengineering
Romica Engineering Limited, Romica Business Centre, Beck View Road, Beverley,HU17 0JT, England, United Kingdom
Tel/Fax: +44 (0)1482 853884 ; Email: sales@romica.co.uk
www.romica.co.uk

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ORIGINAL SCALE	TITLE	DRG. No.	
1:20	0.37 Te WLL - 2 x 600m - Electric Winch	DS15	A1 SHT 1 OF 1

1.75 Te WLL - 585m & 290m - Electric Winch – DS41





TECHNICAL SPECIFICATION

Weight without cable (Kg)	Cable diameter (mm)	Capacity (m)	Line speed (m/min)	WLL (Kg)		Brake (Kg) Minimum 1.5 WLL	
				First Layer	Top Layer	First Layer	Top Layer
1700	56	Drum 1 - 585 Drum 2 - 290	10	175	100	N/A	N/A

Supply Required	**380-440V-3 Ph- 50/60 Hz**	**Cable Lead-off Angle**	**N/A**
Winch Electrical Motor	**0.25 KW IP56 IE3**	**Frame details**	**Frame with guards, forklifting pockets and certified lifting lugs**
Local Control	**Reversing switch – maintained type 1-0-2, 60°**	**Drum dimensions**	**Drum core Ø 800 mm, Drum Length 931 mm, Flange Ø 1800 mm**
Level wind	**N/A**	**Drum 1 details**	**Plain drum: the umbilical is stored in 9 lays with 17 turns per lay for drum 1**
Dimensions (LxWxH) Footprint	**2317 x 1800 x 1855 mm 2144 x 1850 mm**	**Drum 2 details**	**Plain drum: the umbilical is stored in 9 lays with 8 turns per lay for drum 1**
Slip ring	**N/A**	**Cable**	**Seamux 2 Digital Streamer**

Principle of Operation:

The Streamer Storage Winch has two drums which are mounted on the same barrel, adjacent to each other.

The winch drum is mounted on the output shaft of a 0.25 kW SEW electric gearmotor which is not fitted with a failsafe brake unit.

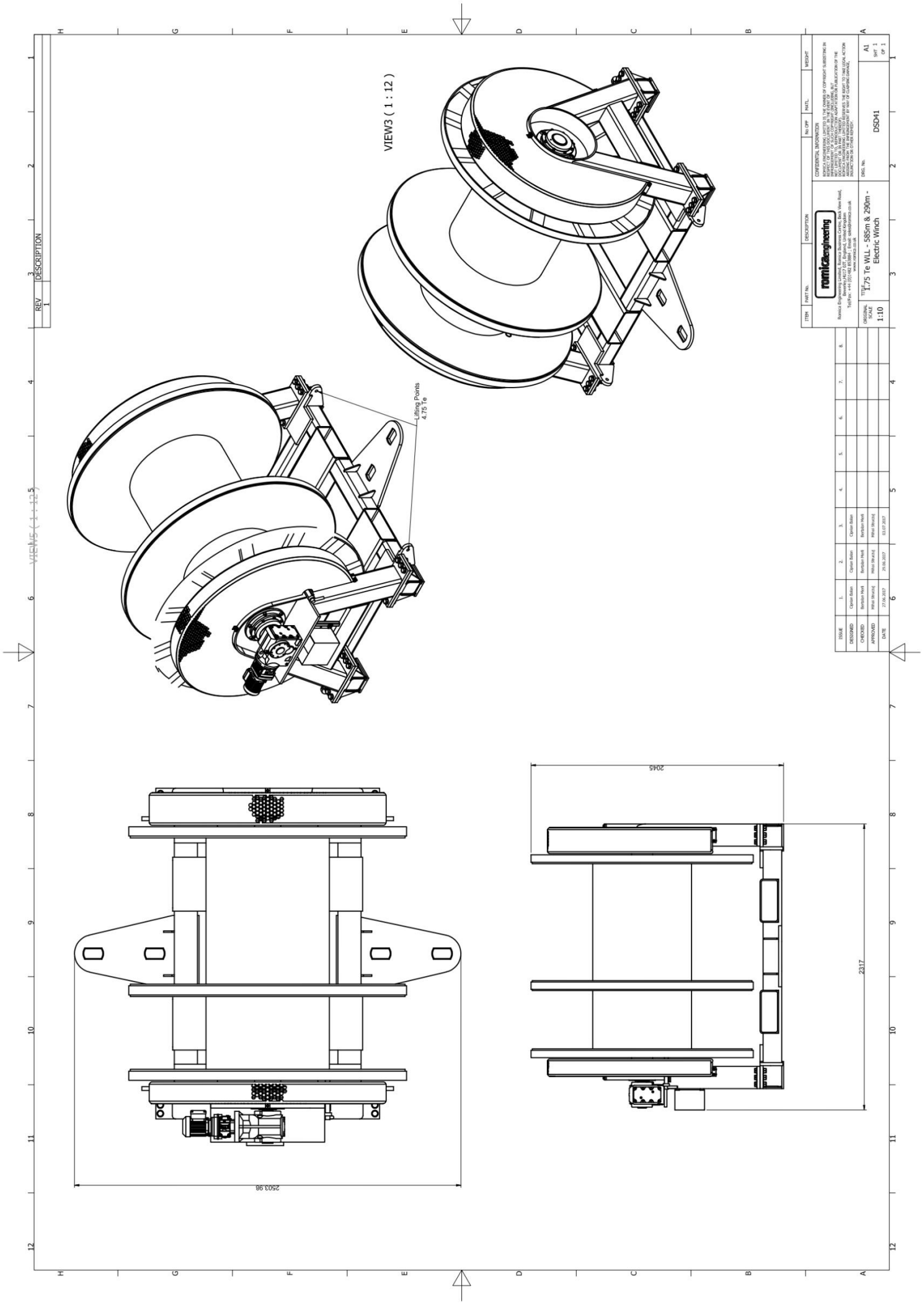
The Streamer Storage Winch can be driven bi-directionally using a reversing switch – which is of the maintained type 1-0-2, 60 and is mounted locally on the Drive Panel door.

The winch is supplied with the following:

- **1 Set - sacrificial steel feet/mounting plates for mounting at ship**
- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4-leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

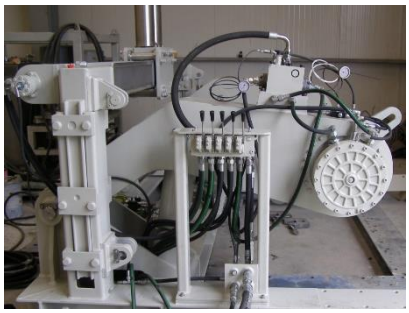
- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Set – Spare sacrificial feet/mounting plates**


VIEW3 (1 : 12)
Lifting Points
4.75 Te
2045
2317
2503.98
DSD41
1:10
1.75 Te WLL - 585m & 290m - Electric Winch

13.5Te Shipboard Hydraulic Cable Spooler System – DS59







Principle of Operation:

TECHNICAL SPECIFICATION			
Hydraulic Drive Supply Required	**180 bar 40 l/min**	**Maximum storage reel/drum weight**	**13.5 Te**
Weight Empty - without storage reel/drum	**5000 Kg**	**Maximum storage reel/drum flange diameter**	**2133 mm (84")**
Level Wind Carriage	**Maximum vertical travel adjustment 400 mm (15.8")**	**Maximum storage reel/drum length Minimum storage reel/drum length**	**1828 mm (72") 1066 mm (42")**
Local Proportional Control	**Valve stand - 5 bank directional control valve**	**Maximum line pull**	**15 kN on a 1066 mm (42") diameter barrel**
Dimensions (LxWxH) Footprint	**2714 x 3833 x 2328 mm 2396 x 3693 mm**	**Maximum brake holding capacity**	**13.5 kN on a 2133 mm (84")) diameter barrel**
Frame/Skid details	**Complete with fork lifting pockets and certified lifting lugs**	**Maximum barrel speed**	**10 rpm**
Hydraulic Ports	**P G3/4" BSP, T G1" BSP, D G1/2" BSP, Ls G1/4" BSP**	**Maximum Back tension**	**19.5 kN**
Safety Bar	**4 position - restrains the drum once it has been mounted within the arms.**	**Vertical Arm**	**maximum height travel of 762 mm (30")**

The 13.5Te Shipboard Cable Spooler System has been designed to handle various drums of cable/storage reels. The spooler skid design allows drums of cable to be positioned between the arms. A safety bar restrains the drum once it has been mounted within the arms.

A rack consists of two arms, one static and one moveable. The movable arm has a centre steady. The static arm has the drive head installed this comprises of a drum interface plate, a planetary gearbox and a braked hydraulic motor, the two arms are supported on beams and are linked by hydraulic cylinders. Another hydraulic cylinder adjusts the distance between the static and movable arms to accommodate the barrel length.

The level wind is driven hydraulically, and hydraulic cylinders adjust the vertical travel of the level wind to correspond with the diameter of the drum. The level wind carriage is fitted with a roller box with 6" (150 mm) clearance width between the rollers, thus allowing the passage of a range of cable diameters. The drive head motor gear develops torque that allows cable transfer to the main streamer reel under back tension. The drive motor gear has been fitted with a failsafe multidisc brake.

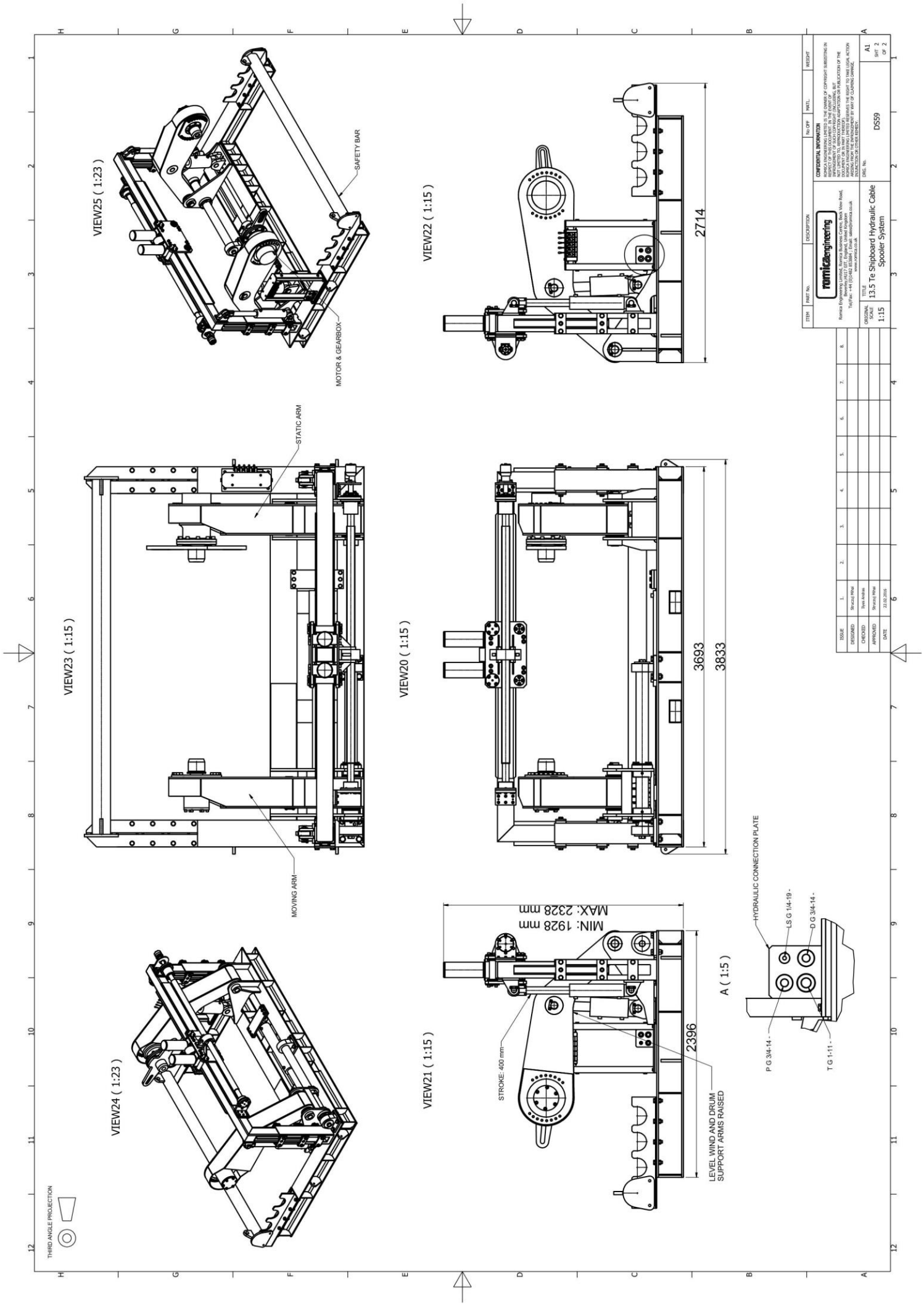
A valve stand is included to mount the direction control valves for the drive head, independent control of the cylinders to adjust the height of the arms, the distance between the arms, the height of the level wind carriage and the position of the level wind carriage..

The winch is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **1 Set - Master Links and Shackles or a 4 leg lifting sling and shackles**
- **12 Month Warranty**
- **Canvas Cover for transport and storage**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Off – Full Spares Kit**
- **1 Off – Winch running flashing lights and/or Klaxon**


VIEW25 (1:23)
SAFETY BAR
MOTOR & GEARBOX
VIEW22 (1:15)
2714
VIEW23 (1:15)
STATIC ARM
MOVING ARM
VIEW20 (1:15)
3693
3833
VIEW24 (1:23)
VIEW21 (1:15)
MIN: 1928 mm
MAX: 2328 mm
STROKE: 400 mm
2396
LEVEL WIND AND DRUM
SUPPORT ARMS RAISED
A (1:5)
HYDRAULIC CONNECTION PLATE
LS G 1/4-19 -
D G 3/4-14 -
P G 3/4-14 -
T G 1-11 -
THIRD ANGLE PROJECTION
romicaengineering
CONFIDENTIAL INFORMATION
Romica Engineering Limited, Romica Business Centre, Black View Road, Ystrad Mynach, Hengoed, CF82 7FF, United Kingdom
Tel/Fax: +44 (0)1443 815884 / Email: sales@romica.co.uk
www.romica.co.uk
TITLE
13.5 Te Shipboard Hydraulic Cable Spooler System
DRG. No.
DS59
ORIGINAL SCALE
1:15
A1
SHT 2 OF 2
ISSUE
DESIGNED
CHECKED
APPROVED
DATE
Struzaj Mihai
Ryan Adrian
Struzaj Mihai
22.02.2016

7 Corer Handling Systems

5 Te WLL - Hydraulic Gravity Corer Chute – DS61 298

Corer Handling Systems Overview

RTG have designed. manufactured and supplied a variety of corer handling systems to the worldwide research industry.

The equipment supplied include deck head mounted and deck mounted systems for various types corer units up to 15 metres long

RTG also have experience in designing giant piston corer systems for handling piston corers up to 40m plus in length.

RTG have designs for the following equipment associated with the launch and recovery of gravity and piston corers:

- Corer Buckets
- Corer Rotators
- Corer Handling Davits
- Corer Overhead, deck head mounted cranes
- Corer Tube deck handling and storage systems

As well as corer handling systems RTG manufacture a very successful range of corer winches with free fall function specifically for the launch and recovery of gravity corers. RTG have supplied these winch to a variety of clients for operation worldwide.

5 Te WLL - Hydraulic Gravity Corer Chute – DS61





TECHNICAL SPECIFICATION			
Hydraulic Luffing Cylinder Supply Required	**160 bar 16 l/min**	**Working Load Limit**	**5000 Kg**
Proportional Control	**None**	**Operating temperature**	**-20 to +40^{0}C**
Dimensions (LxWxH) Deployed	**3088 x 1714 x 3391 mm**	**Locking Mechanism**	**Corer Locking Pin**
Dimensions (LxWxH) Stowed	**2274 x 2832 x 2300 mm**	**Load pin**	**32 Te**
Footprint	**1600 x 743 mm to be bolted to a foundation plate**	**Hydraulic Ports**	**A & B G3/4" BSPP**
Weight Empty (without Corer)	**1150 Kg**	**Chute Rotating Mechanism**	**90 degrees of travel to aid loading/unloading**

Principle of Operation:

The Gravity Corer Chute assembly has been designed to launch and recover a dart core or a piston corer depending on the operation.

The gravity corer chute assembly will luff in and out hydraulically via a double acting hydraulic cylinder. The hydraulic cylinder will be operated via a directional control valve. Please note that the directional control valve is not included in the scope of supply.

All other functions of the gravity corer chute will be manually operated.

The chute is swung outboard and manual locks are provided to secure the chute in various operating positions.

The double acting hydraulic cylinder can be driven bi-directionally using a 3 position 4-way directional control valve (with spool A B to tank in the neutral position and P blocked), it is recommended that a proportional valve is used such that the speed of the Gravity Corer Chute can be controlled.

A locking pin secures the corer in the chute, preventing the corer from any uncontrolled movement/deployment whenever the cable is disconnected.

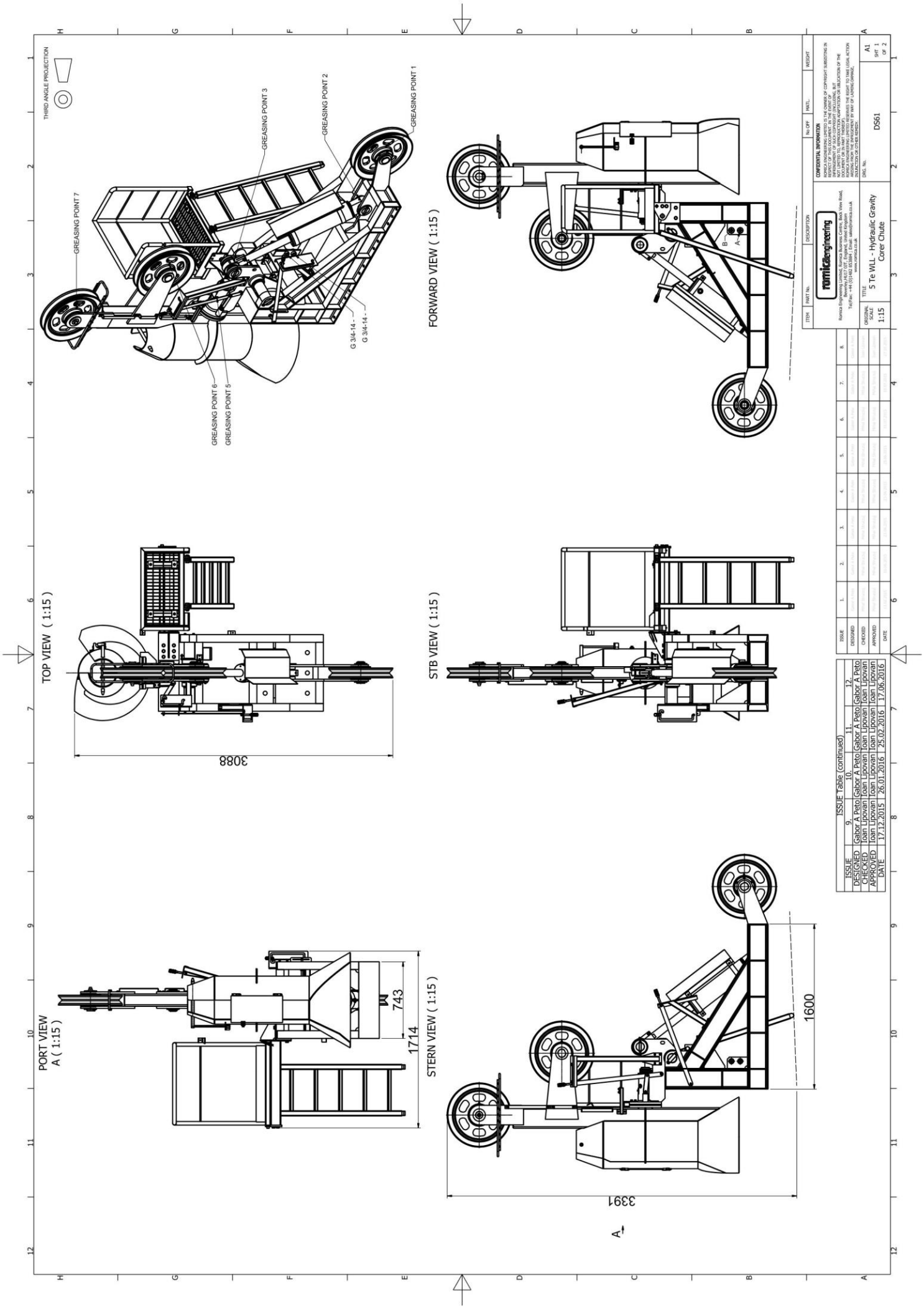
An access door, fastened by a latch, enables access to the chute when loading/unloading the Corer.

The winch is supplied with the following:

- **Marine grade paint system (Details can be supplied on application)**
- **12 Month Warranty**
- **1 Set – sacrificial steel feet/mounting plates for mounting at ship**
- **Operation and Maintenance Manual in Electronic Format**

Optional extras: - please note these are not in the scope of supply but can be offered at extra cost.

- **1 Off – Extended Warranty**
- **1 Set – sacrificial steel feet/mounting plates for mounting at ship**
- **1 Off – Full Spares Kit**
- **1 Off – Proportional directional control valve**


THIRD ANGLE PROJECTION
GREASING POINT 7
GREASING POINT 3
GREASING POINT 2
GREASING POINT 1
G 3/4-14 -
G 3/4-14 -
GREASING POINT 6
GREASING POINT 5
FORWARD VIEW (1:15)
TOP VIEW (1:15)
3088
STB VIEW (1:15)
PORT VIEW
A (1:15)
743
1714
STERN VIEW (1:15)
1600
3391
A
romicaengineering
CONFIDENTIAL INFORMATION
Romica Engineering Limited, Romica Business Centre, Back View Road, Pontypool, Torfaen, NP4 6YS
Tel/Fax: +44 (0)1495 853884 - Email: sales@romica.co.uk
www.romica.co.uk
TITLE
5 Te WLL - Hydraulic Gravity Corer Chute
DRG. No.
D561
ORIGINAL SCALE
1:15
A1
SHT 1 OF 2
ISSUE Table (continued)
ISSUE 9. 10. 11. 12.
DESIGNED Gabor A Peto Gabor A Peto Gabor A Peto Gabor A Peto
CHECKED Ioan Lipovan Ioan Lipovan Ioan Lipovan Ioan Lipovan
APPROVED Ioan Lipovan Ioan Lipovan Ioan Lipovan Ioan Lipovan
DATE 17.12.2015 26.01.2016 25.02.2016 17.06.2016

Annex

8 Optional Extras

In the following section is a range of optional extras that are available to be supplied at an additional cost thus are not in the scope of supply. The following extras are examples of products that are available, however the exact product that is required may differ from the following datasheets, due to the different equipment applications and technical specifications necessary to meet the project requirements.

Load Cells

Wireless Load shackle 301

Elite Transducers 303

Sliprings

Focal 180 304

Trolex TX4845/6 306

Remote Control Systems

Cavotec Radio Remote Control and Receiver Unit 307

Scanreco Control Unit Maxi 311

Wireless Load shackle

Wireless Loadshackle



Features and benefits:

- Proprietary 2.4 GHz wireless
- Error free data transmission
- Industry Leading Wireless Range of 700m/2300ft
- Environmentally sealed to IP67/NEMA6
- Internal antennae
- Remote on/off
- Unrivalled resolution
- Unmatched battery life of 1200hrs
- Low headroom solution
- Manufactured using leading brand shackles
- Each WLS is supplied with a load-centring bobbin
- Design validated by F.E.A.

Available from stock in capacities 3.25t to 120t and available up to 1,550t, the WLS is manufactured from Crosby's industry leading 2130 Carbon and 2140 Alloy Bolt Type Anchor Shackles (3.25te – 120te) and the GN H10 Alloy Bolt Type Anchor Shackle (200te on up).

Straightpoint's Wireless Loadshackle provides the perfect solution to limited headroom applications. Each Wireless Loadshackle is proof tested, then equipped with a hard anodised aluminium electronics enclosure. Contained within this aluminium enclosure is a new internal chassis providing IP67/NEMA6 environmental protection even with the battery cover plate missing.

Featuring industry leading wireless technology and range of 700m/2300ft, the Wireless Loadshackle is supplied with an update rate of 3Hz and can be easily configured to run at industry leading speeds of up to 200Hz. Data is transmitted wirelessly utilising the latest in IEEE 802.15.4 (2.4 GHz) technology providing safe, high integrity, error free transmission of both static weight and dynamic load to a wireless handheld controller or wireless Windows PC data logging software package. Straightpoint's wireless data logging software allows for simultaneous control, display and real time data logging of up to 100 Straightpoint telemetry load cells. Logged data is captured in a .csv file format and opens in MS Excel providing easy visual presentation, analysis of logged data, and simple test certificate generation.

The Wireless Loadshackle may also be used with Straightpoint's SW-PTP software package allowing the operator to perform load tests at a safe distance and generate real time test certificates on site.

Straightpoint's Wireless Loadshackle utilises easily sourced AA alkaline batteries and features advanced circuitry designed to protect the unit from damage associated with incorrectly installed batteries. This advanced circuitry extends battery life and the use of easily sourced alkaline batteries eliminates issues associated with rechargeable battery pack charging, failure and replacement. Straightpoint's huge range of tooling allows the engineers to calibrate in shackle for extra accuracy unlike many other load cell manufacturers.

A full array of wireless accessories are also available including signal boosters, LED wireless scoreboards and base stations with analogue (4-20mA, 0-10v, 0-5v) or digital (RS232/485, Modbus RTU, and ASCII serial communications protocol) outputs. There is no better choice than Straightpoint's Wireless Loadshackle for limited headroom applications.

making the lifting industry a safer place

Also available with hazardous area approval

ATEX / IECEx

Ex ia II C T4 Ga

Certification numbers:

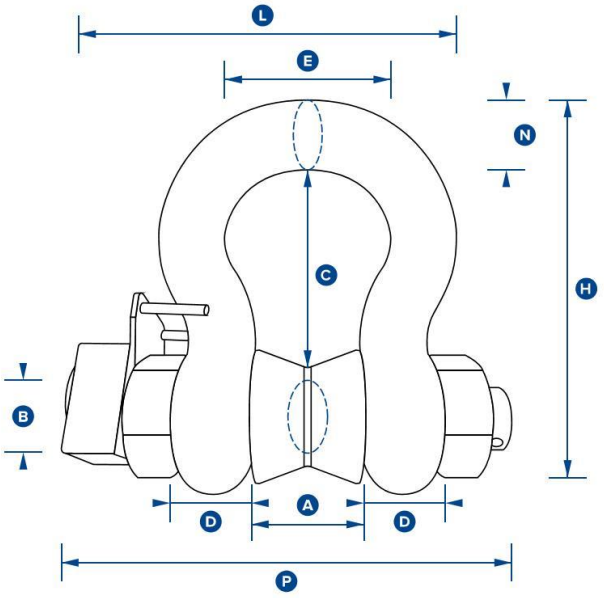
WLS ATEX

IECEx SIR 16.0041X / Sira 16ATEX2108X

SW-HHP ATEX

IECEx SIR 15.0072X / Sira 15ATEX2196X

Add 'ATEX' to the part number when ordering ATEX/IECEx products. For example: WLS3.25T-ATEX



Part Number	WLS3.25T	WLS6.5T	WLS12T	WLS25T	WLS55T	WLS85T	WLS120T	WLS200T	WLS300T	WLS400T
Capacity	3.25te	6.5te	12te	25te	55te	85te	120te	200te	300te	400te
	7150lb	14300lb	26400lb	55000lb	120000lbs	185000lbs	260000lbs	440000lbs	660000lbs	880000lbs
Resolution	0.005te	0.005te	0.01te	0.02te	0.05te	0.05te	0.1te	0.2te	0.5te	0.5te
	10lb	10lb	20lb	50lb	100lb	100lb	200lb	200lb	1000lb	1000lb
Units	tonne									
	lb									
Weight	2.8kg	3.2kg	8kg	18kg	25kg	45kg	85kg	254kg	374kg	614kg
	6.16lb	7lb	17.6lb	40lb	55lb	99lb	187lb	560lb	825lb	1354lb
Safety Factor	5:1 when used with load bobbin									
Battery Type	Load cell 4 x AA Alkaline									
Battery Life	Load cell 1,200 hours continuous									
Operating Temp	-10°C to +50°C / 14°F to 122°F									
Accuracy	±1% of applied load									
Frequency	2.4 GHz									
System Range	700 metres / 2300 feet									
Data Rate	3 updates per second									
Protection	IP67 / NEMA 6									
Dimension A	26.9	36.6	51.5	73	82.5	105	127	180	205	230
	1.06"	1.44"	2.03"	2.87"	3.25"	4.13"	5.00"	7.09"	8.07"	9.06"
Dimension ØB	19.1	25.4	35.1	51	57	70	82.5	125	150	175
	0.75"	1.00"	1.38"	2.01"	2.24"	2.76"	3.25"	4.92"	5.91"	6.89"
Dimension C	56.9	79.7	113	170	189.5	253	319.5	334	398	440
	2.24"	3.14"	4.45"	6.69"	7.46"	9.96"	12.58"	13.15"	15.67"	17.32"
Dimension D	16	22.4	31.8	44.5	51	66.5	76	120	130	165
	0.63"	0.88"	1.25"	1.75"	2.01"	2.62"	2.99"	4.72"	5.12"	6.50"
Dimension E	42.9	58	82.5	127	164	184	200	290	305	325
	1.69"	2.28"	3.25"	5.00"	6.46"	7.24"	7.87"	11.42"	12.01"	12.80"
Dimension H	106	148	210	313	348	453	546	810	950	1100
	4.17"	5.83"	8.27"	12.32"	13.70"	17.83"	21.50"	31.89"	37.40"	43.31"
Dimension L	127.1	156.5	196	281	306	368	408	580	615	705
	5.00"	6.16"	7.72"	11.06"	12.05"	14.49"	16.06"	22.83"	24.21"	27.76"
Dimension N	17.5	24.6	35.1	57	61	79	92	120	130	165
	0.69"	0.97"	1.38"	2.24"	2.40"	3.11"	3.62"	4.72"	5.12"	6.50"
Dimension P	143	173	218	293	317	394	441	565	615	711
	5.63"	6.81"	8.58"	11.54"	12.48"	15.51"	17.36"	22.24"	24.21"	27.99"

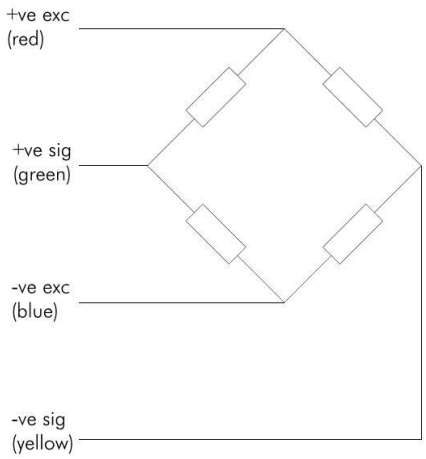
Elite Transducers



Load Pin Series

Double shear pins

- Range 0.1 to 1000 tonne
- Externally or internally strain gauged
- Sealed to IP67
- ATEX certification available
- A variety of cable and connector options
- No change to existing structure required

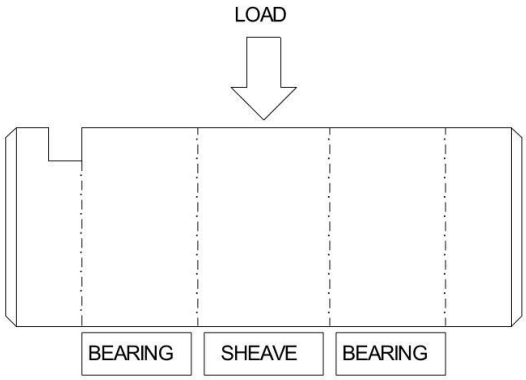


Capacities	0.1 to 1000+	tonne
Proof Load	150	% of rated load
Ultimate breaking load	500	% of rated load
Bridge Resistance	350/700/1000	ohms
Excitation	5 to 10	Volts (dc)
Output	1.0 to 1.5	mV/V
Non-Linearity	±1%	typical
Non-Repeatability	±0.04%	optimum
Environmental	IP67	
Compensated Temp. Range	-10 to +40	°C
Operating Temp. Range	-20 to +60	°C
Temp. Coefficient on Zero	<0.005	% Capacity/°C
Temp Coefficient on Span	<0.005	% Capacity/°C
Cable Length	4	m

Specifications subject to change without notice

Product Description

Load measuring pins are designed for many diverse applications as direct replacements for clevis or pivot pins. They have many advantages over other load sensors in that they do not normally require any change to the mechanical structure being monitored. Load pins are typically used in rope, chain and brake anchors, sheaves, shackles, bearing blocks and pivots.



Options :

Special anti-rotation / locking plates
Internal greaseways
Plug / Socket breakdown at pin
Second redundancy gauge bridge
Internal signal amplifier
Witness by Lloyds Reg. Of Shipping, ABS etc.
Single shear pins

Elite Transducers Ltd
5&6 Zephyr House, Calleva Park, Aldermaston, Reading, RG7 8JN
Tel: (+44) 0118 9811750 Fax: (+44) 0118 9811751
E-mail: info@elitetransducers.co.uk

DELP
ATEX / IECEx Approved to
Ex ia IIC T6
Ex tb IIIC Db T85°C
(-20°C ≤ T_a ≤ +60°C)

Issue 4 - 2015

Focal 180

Slip Rings

FO180

Slip ring

Description

Ideal for small systems, the FO180 is a compact, rugged unit designed for harsh operating conditions. For the hazardous area environment, the FO180-X is a fully certified flameproof enclosure. When underwater operational capability is required, the FO180 can also be adapted for use as a fluid filled pressure compensated unit. Available in both standard "L" lengths or custom designs.

Features

- Stainless steel enclosure for open deck use
- Sealed housing design tested to IP66 standards
- Can accommodate variety of wire and cable types
- Hazardous area certification available
- Reliable operation under shock and vibration
- Compact size

Benefits

- Each unit designed, manufactured, and tested in accordance with the highest quality standards
- Maintenance free operation
- More than 20 years of proven field performance
- Integration with fiber optic rotary joints and fluid rotary unions to provide a complete rotating interface solution



Typical Applications

- Remote operated vehicles (ROV)
- Winch and TMS applications
- Industrial machinery
- Seismic surveying

FOCAL TECHNOLOGIES

Slip Rings

Electrical	
Voltage	Maximum 1000 VAC [1]
Current	Maximum 7 A per pass [2] Maximum 100 A total current [3]
[1] Maximum 600 V for KEMA certified Model 180-X	
[2] Higher current ratings possible by wiring passes in parallel	
[3] All current ratings based on a 20 °C ambient temperature	

Electrical Performance	
Contact Resistance	20 mΩ nominal
Flashover Voltage	2500 VAC
Insulation Resistance [1]	Minimum 500 MΩ @ 1 kVDC
Insertion Loss (nominal) RG179 coax	1.5 dB maximum up to 30 MHz
Crosstalk (nominal) RG179 coax	-40 dB maximum up to 30 MHz
Bit Error Rate	Digital data transmission is greater than 25 Mbps at BER of 10^{-9}
[1] Value dependent on wire type	

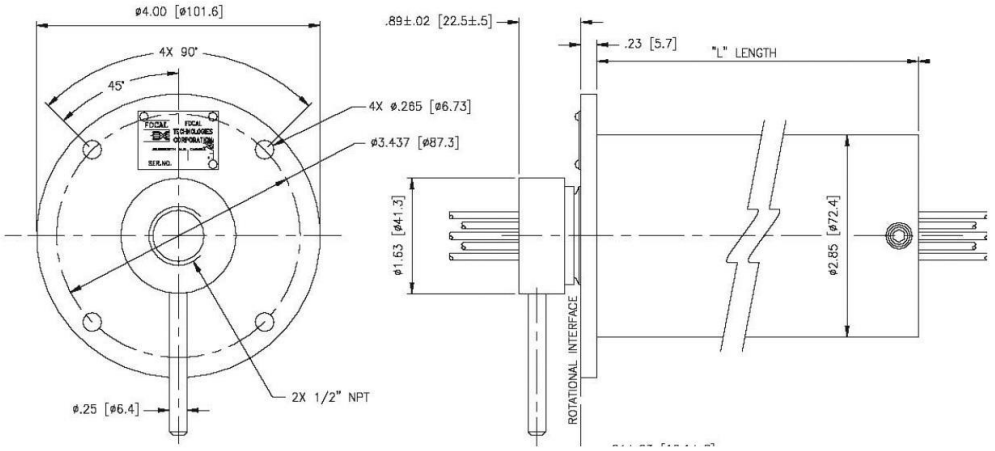
Mechanical	
Rotation Speed	Maximum 100 rpm continuous [1]
Ingress Protection	IP 66
Operating Temperature	-20 °C to + 55 °C [2]
Housing	Stainless steel (304)
Length "L"	Varies with number of electrical passes [3]
[1] Higher rotational speeds possible. Please consult factory.	
[2] -20 °C to +40 °C for CSA certified Model 180-X	
[3] Maximum number of electrical passes is 60	

Hazardous Area Option: FO180-X	
CSA Certification	Class 1, Group C, D Zone 1 Group IIB
KEMA Certification	ATEX CE Ex II 2 G EEx d IIB T5 (in accordance with ATEX directive 94/9/EC)
Can be certified as associated apparatus (EEx d[ib] IIB T5) on special order (EN50020)	

Terminations	
Standard	Wire pigtails, 4 ft [1.2 m] in length, exiting via ½" or ¾" NPT female port
Special [1]	Supply and installation of connectors, terminals, conduit, cable, glands, junction boxes
[1] Integration of customer supplied product possible	

Additional Options	
Optics [1]	Fiber Optic Rotary Joint (FORJ) or Optical Converter
Fluid	Fluid Rotary Union (FRU)
Submersed Applications	Fluid filling fittings or fluid filled/pressure compensated at factory
Other Devices [2]	RF Rotary Joint, Shaft Encoder, Sensors
Ingress Protection	IP 68
Extended Temperature Range	
[1] Maximum number of electrical passes is reduced to 30	
[2] Integration of customer supplied product possible	

FO180 Dimensions

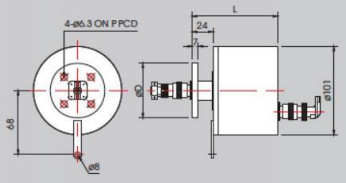


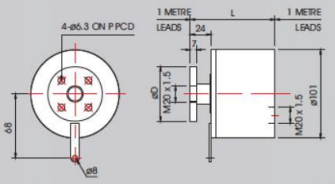
Dimensi

Trolex TX4845/6

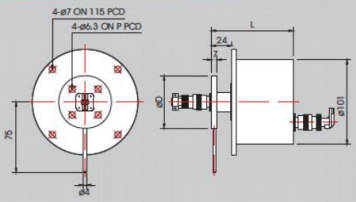


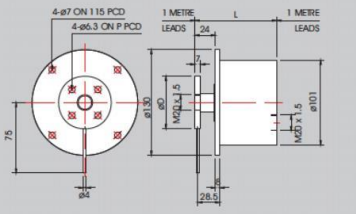
TX4845





TX4846





Compact IP65 Stainless Steel Housing
Up to 26 7.5 Amp 1200 Volt Circuits
Precious metal plated rings for low loss signal
Cable entry options

OPERATING SPECIFICATION

Temperature Limits	-20°C to +125°C
Ring Current	7.5 Amperes continuous
Maximum Voltage	1200 AC or DC (limited to 700V by some connectors)
Maximum Speed	500 rpm (higher on request)
Cable Entry	M20 tapped entry and 1 metre leads at each end or cost option of plug and socket connector
Enclosure	IP66

TECHNICAL DETAILS

External Material	316 Stainless Steel (exc. connector)
Rings	Precious metal plated phosphor bronze
Brushes	Silver graphite
Bearings	Sealed for life, ball journal
Flying Leads	Type 44 22 a.w.g.
Connectors	To BS 9522 F0017 (pattern 105). US spec. Mil C 26482 Series 1 solder or equivalent.

ORDER REFERENCE

TX 0000 . 00 . 00 . 00

Basic Unit
2 - 02
4 - 04
8 - 08
12 - 12
19 - 19
26 - 26

Cable Entry
11 - M20 and 1m leads
12 - 700V Connectors
13 - 1200V Connectors

Special feature - No to be allocated by Trolex

DIMENSIONS

No. Rings	1m Leads 1200V			Connector 700V				Connector 1200V			
	D	P	L	D	P	L	Insert	D	P	L	Insert
2	50	39.7	86	50	39.7	86	8-2	50	39.7	86	10-5
4	50	39.7	99	50	39.7	99	8-4	50	39.7	99	14-5
8	100	90.5	125	100	90.5	125	12-8	100	90.5	125	16-8
12	100	90.5	151	100	90.5	151	14-12	N/A			
19	100	90.5	196	100	90.5	196	14-19				
26	100	90.5	242	100	90.5	242	16-26				

SLIP RING COLLECTOR
TX4845/6 SERIES

TROLEX ENGINEERING
T. E. L. Engineering Ltd t/a Trolex Engineering
Newby Road, Hazel Grove, Stockport, Cheshire, SK7 5DA, UK
T: +44 (0) 161 456 6545 | F: +44 (0) 161 456 3810
sales@txeng.co.uk | trolexengineering.co.uk

Steve Rogers Inspector

Issue A 10/14

Cavotec Radio Remote Control and Receiver Unit

CAVOTEC

datasheet

DAS-MC-03/2-EU



MC-3200/MC-3300 Radio Remote Control

Cavotec Micro-control engineers and manufactures radio remote control systems in close co-operation with our worldwide based customers. The radio remote control systems are engineered to ensure safe and efficient operations. Our systems have been designed based on the most advanced technology and components.



MC-3200 fitted with graphical display



MC-3300 with graphical display



MC-3200 fitted with character display

MC-3200/MC-3300

- Widely recognised as one of the most flexible compact radio remote control operator terminals on the market
- Digital and analogue functions
- Covers a wide range of applications, starting from control functions up to complete process control and supervision
- Usable with any electrical control of hydraulics
- MC-3300 has dual battery compartment for extended operation time and possibility of hot swapping batteries for continuous operation
- Adaptable to most known PLC including frequency drive and serial communication
- Great ergonomic with compact size, light weight and graphical display; used with either a waist belt or neck strap allowing unhindered movement
- Suitable for harsh environment including the maritime
- High mechanical and chemical resistance due to the specific moulded housing design

TYPICAL APPLICATIONS

- Oil skimmers, drilling rigs,raiser chutes, roughnecks, pipe handlers, A-frames
- Forestry winches, recovery vehicles, concrete pumps, conveyor belts, fire fighting systems, fuelling systems
- Drag lines, shovels, stackers, reclaimers, overhead cranes, crushers
- Seismic, gun reels, streamer reels, wide tow, marine cranes, L.A.R.S

FUNCTIONS

- The MC-3200/MC-3300 can be fitted with analogue or digital joysticks, pushbuttons, toggle switches and rotary switches
- Safety features with start & stop pushbutton, On/Off switch
- Operator terminal layouts are configured according to the application and customer requirements
- Optional: LEDs and displays for feedback information, cable back up

datasheet



TECHNICAL CHARACTERISTICS & OPTIONS

Operating Terminal MC-3200/MC-3300

- Operations 100% under control with an unique signal encoding preventing any unintended handling
- Activity check on start up to guarantee safe operations
- Automatic or manual frequency changes according to requirements
- Stop relay activation in 50/500ms
- Redundant radio solution
- License free frequency with low power outputs
- 418-870 MHz (other frequencies available on request)
- PLC functionality for interlocking, sequencing and timing functions programmed directly without additional hardware
- Digital and analogue feedback

Base Unit/Receiver Unit

- The MC-IRX base unit is highly flexible as it can have multiple digital and analogue inputs and outputs.
- Easy use with direct connections to most available fieldbus systems; ProfiBus, ModBus RTU, CANopen, J1939, Device Net, Modbus Plus, Modbus TCP, ControlNet, Ethernet IP, HostLink.
- Back up solution with cable connection for programming and control
- Multiple terminal and/or multiple base unit systems possible, e.g. for tandem operation
- Please see separate data sheets on our receiver units for further information

TECHNICAL DATA MC-3200/MC-3300

General	Data:
Digital functions:	Depending on functionality
Analogue functions:	Depending on functionality
LED:	Red, Green, Yellow, Blue, White
Display:	Graphical or Character Display
Battery:	Rechargeable 7.2 V 1700 mAh Li-Ion
Battery Charger:	12-24 VDC, 110-230 VAC
Operating time:	Typical 20 hours, depending on configuration & temperature
Dimensions:	280 x 180 x 180 mm (11,02 x 7,08 x 7,08 inch) & 340 x 230 x 185 mm (13,38 x 9,05 x 7,28 inch)
Weight:	Min. 2 kg, max. 4 kg (depending on configuration)
IP:	IP65 standard, IP66 optional
Temperature:	-25 to +60 Celsius, -13 to 140 Fahrenheit
Operating distance:	Approx 200 m line of sight
Frequency:	According to local authority guidelines

STANDARD COMPLIANCE AND APPROVALS

Cavotec Micro-control radio remote control systems comply with a variety of international rules and regulations. All systems are CE marked and can be used with our FCC Part 90 approved radio. The systems are designed in accordance with the Machinery Directive and comply with IEC 60204 and ISO 13849. In addition we have a wide range of compliant radios that can be used in type approvals of systems for specific countries worldwide.

Please contact your local Cavotec sales office for further information regarding country specific approvals.

For further information please visit www.cavotec.com
Disclaimer: specifications are subject to change without notice

CAVOTEC
www.cavotec.com

Datasheet

Radio Remote Control Systems

Receiver Units IRX-Lite & MC-Mini

January 2017 - DAS-MC-04-EU





Standard MC- BUE1 Receiver Unit



Opened MC-BUE2 Receiver Unit



MC-MINI-CAN Receiver Unit

Cavotec is a global engineering group that manufactures power transmission, distribution and control technologies that form the link between fixed and mobile equipment in the Ports & Maritime and Airports & Industry sectors.

One of Cavotec's eight Centres of Excellence, Cavotec Micro-control engineers advanced radio remote control systems in close co-operation with customers worldwide.

IRX-Lite & MC-Mini Receiver Units are key elements of our advanced systems offering.

Benefits

- Wireless operator panels improve system safety by enabling operators to be positioned in designated safe areas.
- Wireless technology also enables operators to move freely and to act quickly in emergency situations.
- Operators are also able to position themselves to ensure an optimal view of operations.
- Emergency safety-stop function enables termination of any operation within 50mS.
- Redundant monitoring of the stop system.
- Units fitted with primary and additional safety processors - a unique feature that uses entirely separate platforms with different design and software, thereby minimising system redundancy.
- This technology has been widely adopted and proven to be one of the most advanced safety features used, for example, in control systems for aircraft.

CAVOTEC
Inspired Engineering

Technical characteristics

General data

- The MC-IRX is one of the most advanced receiver units which can be used to control most common types of system applications.
- The flexibility of a Cavotec Micro-control systems allow almost limitless combinations of relay and proportional I/O.
- The built in PLC functionality means complicated control interlocking and sequencing are possible.
- Custom systems built around MC-IRX and are configured precisely for the application, can be delivered with a standard MC-BUE1 enclosure, a bigger MC-BUE2 enclosure or to be integrated into customers' electric panels. Both plugs and terminals are optional to ensure easy integration with customers' equipment.
- Supply voltage receiver: 12 / 24 VDC; 110-240 / 380 VAC 50/60 Hz.
- 16 relay outputs, 12 NO-relays, 4 are alternating, 5 Amp.
- Up to four analogue and/or 24 digital input for feedback.
- MUS-bus connection allows extensions up to 32 additional relays and 12 proportional outputs.



MC-MINI-ProfiBus or Din-Rail Receiver Unit

Fieldbus receivers

Cavotec fieldbus units are designed to be used with a variety of bus formats as indicated in the list below:

- ProfiBus
- ModBus RTU
- CANopen
- DeviceNet
- Modbus Plus
- Modbus TCP
- Ethernet IP
- HostLink

Supply voltage receiver: 12 / 24 VDC; 110-240 / 380 VAC 50/60 Hz
MC-MINI receiver units upon request.



Pedestals for operating and storage for terminals

Approvals & Standards

Cavotec radio remote control systems comply with a variety of international rules and regulations. All systems are CE marked and can be used with our FCC Part 90 approved radio. The systems are designed in accordance with the European Machinery Directive and comply with IEC 60204 and ISO 13849. In addition we have a wide range of compliant radios that can be used in type approvals of systems for specific countries worldwide.

Please contact your local Cavotec Sales Office for further information at **cavotec.com**.
Disclaimer: specifications are subject to change without notice.

CAVOTEC Inspired Engineering

Scanreco Control Unit Maxi

scanreco



Maxi Transmitter

Engineered for maximum performance

The Maxi is Scanreco's most advanced and versatile transmitter with room for many control elements as well as function labeling. The ergonomic housing comes in two basic versions; either with linear levers or joysticks. The Maxi has a modular design and can easily be adapted to suit your requirements.

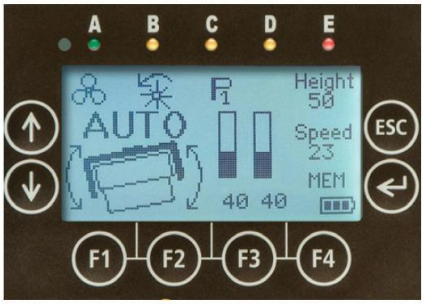
The transmitter has a bundle of both standard and optional settings and features to improve the operator experience. The maximum speed of proportional movements can be adjusted using a "turtle/rabbit" toggle switch in five steps. A high performance color display, a monochrome display or LEDs enable operator feedback from the controlled machine.

Automatic frequency management allows for continuous operation without any interruptions caused by radio interference from other wireless equipment.

The transmitter communicates with the corresponding receiver using a Scanreco protocol and a unique identity code. This guarantees that no other Scanreco transmitter or other product ever can activate the machine unintentionally. The stop function conforms to performance level "d" (PL d) as specified in EN ISO 13849-1, a legally binding standard for safety-critical components of control systems.

The Maxi transmitter is designed for heavy-duty use and we know that our customers rely on our ability to deliver functionality they can trust – we call this Never-Stop Technology™ from Scanreco.







This is the Maxi transmitter

- 1–8 linear levers or 1–4 joysticks.
- Various toggle switches, pushbuttons and rotary switches.
- Operator feedback by:
  - LEDs (light emitting diodes)
  - Monochrome display 2.5" with 128x64 px
  - Color display 4.3" with 480x272 px.
- Stop function in accordance with EN ISO 13849-1 cat. 3, PL d.
- Cable control: Standard length 10 meters / ~33 ft.
- Frequency bands: 433–434, 902–928 MHz & 2.4 GHz (other frequencies available on request).
- Operating range >100m / >~330 ft.
- Operational temperature: –20°C to +70°C / ~–4°F to +160°F.
- Protection category: IP65.
- Dimensions: (WxHxD): 350x160x190 mm / ~13.78x6.30x7.48 in (w/o color display).
- Weight: 1.9–2.6 kg / ~4.2–5.7 lbs. including battery.

Maxi Transmitter EN_2020-01. Disclaimer: Design, equipment, technical data and specification are subject to change or improvement without prior notice.

www.scanreco.com

What do you want to remote?

scanreco



4.3" Color Display

Smart Display sets a new standard

The Scanreco 4.3" Color Display increases the possibilities and enhances the performance for the operator. The High Performance Display gives excellent visibility with 16 million colors (24 bits) in all kinds of outdoor and indoor environments. The Smart Color Display with its advanced technology excels in strong sunlight were traditional displays struggle. The ambient light sensor is optimizing the display settings for all possible environments, from a dark winter night in Stockholm to a sunny day in Los Angeles. Optically bonded shock proof glass protects the display as well as providing antireflection.

The Scanreco 4.3" Color Display is compatible with existing Scanreco platforms. The Operating System, Scanreco Chameleon, is based on Linux and Qt, and is specifically optimized for the Scanreco hardware. Language bindings are in C++ or JavaScript and the Qt application has full world awareness of what is happening within the total system (software/hardware).

WiFi and 4 GB Storage – prepared for the future

Why not use the latest technologies if available? That was our thought when we equipped the Scanreco 4.3" Color Display with WiFi, 4 GB Storage, Accelerometer, Gyroscope, Real-time Clock, USB and a Compass – prepared for your future needs and opportunities. The video display capability is an excellent solution for operator manuals and instructions and the USB makes software upgrades in the field smooth and easy; it is even prepared for a WLAN video camera feature for future applications. Only imagination and compliance will set the boundaries and limitations.

This is the Scanreco 4.3" Color Display

- Excellent visibility in sunlight, superior to mobile phones.
- Size 4.3", resolution 480x272 pixels (16 million colors, 24 bits).
- 5 multi-color LEDs (red, green, yellow).
- 8 programmable push buttons.
- Available both for the Mini and Maxi transmitters.
- 4 GB storage capacity.
- Flexible and powerful graphic programming environment (Qt, open to customers).
- Runs on Scanreco Chameleon, based on Linux.
- USB interface for software upgrades.
- Optional: WiFi, Accelerometer, Gyroscope, Real-time Clock and Compass.
- Streamed video from a WiFi camera will be made available in the future







4.3" Color Display EN_2020-01. Disclaimer: Design, equipment, technical data and specification are subject to change or improvement without prior notice.

www.scanreco.com

What do you want to remote?

scanreco



G2 Receiver

The comprehensive alternative

The G2 is a versatile receiver equipped with proportional outputs, digital I/Os as well as CANopen communication. The numerous interface options and flexible software settings make the receiver suitable for all mobile hydraulic applications on the market. The proportional output signals support both current-controlled and voltage-controlled hydraulic valve blocks. If more functions are needed than what can be supported by a single receiver, more receivers can be added in a master/slave configuration to increase the number of outputs.

The G2 built-in basic controller has many features that add to the performance and functionality of the controlled crane or machine. The basic controller also reduces the need for external electronic components such as a PLC or relays and diodes.

The receiver can only be activated by its dedicated Scanreco transmitter; no other transmitter or product can ever activate the receiver unintentionally. For maximum security, the receiver is equipped with dual processors that constantly monitor all data and outputs. In the unlikely event of any error or loss of the radio link from the transmitter, all outputs will immediately be shut down.

An important key to the success of the Scanreco professional radio remote control system is the receiver. It is well known for its durability – even in extreme conditions such as shock, vibration and electromagnetic interference. One of the secrets is that it is potted with epoxy to protect it against dust and water in all forms to survive 24/7 the hottest summer in Australia or the coldest mid-winter in north Canada. This is what we call Never-Stop Technology™ from Scanreco.







This is the G2 Receiver

- 8 bi-directional proportional outputs.
- 14 digital outputs (including dump valve).
- 3 digital inputs + 1 configurable digital in or output.
- CANopen interface.
- Stop function in accordance with EN ISO 13849-1 cat. 3, PL d.
- Frequency bands: 433–434, 902–928 MHz & 2.4 GHz (other frequencies available on request).
- Two-way communication.
- Cable control: Standard length 10 meters / ~33 ft.
- Supply voltage: 12/24 VDC.
- Operational temperature: –25°C to +70°C / ~–15°F to +160°F.
- Protection category: IP 65.
- Dimensions (W x H x D): 233 x 205 x 77 mm / ~9.17 x 8.07 x 3.03 in (height incl. antenna).
- Weight: 1.2 kg / ~2.6 lbs.

G2 Receiver EN_2020-01. Disclaimer: Design, equipment, technical data and specification are subject to change or improvement without prior notice.

www.scanreco.com

What do you want to remote?

9 Accreditations and Associations

DNV·GL

WELDING WORKSHOP APPROVAL CERTIFICATE

Certificate No:
WWA00001Z4
Revision No:
1

This is to certify:

That
TIE Services International S.R.L.

Strada Spicului Nr. 17
440278 Satu Mare, Romania

is approved for
Welding

in accordance with
DNV GL rules for classification – Ships
DNV GL class programme DNVGL-CP-0352 – Approval of manufacturers – Manufacture of welded products - Welding workshop

has been approved for the following range of applications
Hull Equipment **e.g. welded constructions for research vessels, dredging vessels**
Machinery Components

and the following particulars
Manufacturer(s) approved by this certificate are accepted to deliver according to DNV GL, DNV and GL Rules.

Welding supervisor: **Bojan Marcel**
Deputy welding supervisor: **Lipovan Ioan**

Issued at **Hamburg** on **2020-01-21**

This Certificate is valid until **2023-01-13**.
DNV GL local station: **Hamburg**

Approval Engineer: **Martin Wenning**

for **DNV GL**
Digitally Signed By: Hachmoeller, Ludger
Location: DNV GL Hamburg, Germany
Signing Date: 2020-01-21 , on behalf of

Thorsten Lohmann
Head of Section

Form code: WELD 201 Revision: 2016-12 www.dnvgl.com Page 1 of 1

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DNV·GL

Certificate No:
WWA00001Z5
Revision No:
1

WELDING WORKSHOP APPROVAL CERTIFICATE

This is to certify:

That

TIE Services International S.R.L.

Strada Spicului Nr. 17
440278 Satu Mare, Romania

is approved for
fusion welding of metallic materials

in accordance with
EN ISO 3834-2

has been approved for the following range of applications

Welding and allied processes: acc. to EN ISO 4063	**135**
Parent material group(s): acc. to CEN ISO/TR 15608	**1.1 and 1.2: steels with a specified minimum yield strength up to ReH 360 N/mm2 (e.g. S355J2)**
	8.1: austenitic stainless steels with Cr ≤ 19 % (e.g. X6CrNiMoTi17-12-2)

and the following particulars
Welded constructions and machinery structures e.g. winches, cranes, general handling systems, etc.

Welding supervisor: **Bojan Marcel**

Deputy welding supervisor: **Lipovan Ioan**

Issued at **Hamburg** on **2020-01-21**

This Certificate is valid until **2023-01-13**
DNV GL local station: **Bucharest**

Approval Engineer: **Martin Wenning**

for **DNV GL**
Digitally Signed By: Hachmoeller, Ludger
Location: DNV GL Hamburg, Germany
Signing Date: 2020-01-21 , on behalf of

Thorsten Lohamnn
Head of Section

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Marine & Offshore

Certificate number: SMS.W.II./123428/A.0

www.veristar.com

RECOGNITION FOR

BV MODE II SCHEME

TIE SERVICES INTERNATIONAL SRL

Satu Mare - ROMANIA

Summary of the range of the recognition which is detailed in the subsequent page(s):

Welded and machined metal Structures; Electric and hydraulic installations for winches and cranes

This certificate is issued to attest that Bureau Veritas Marine & Offshore has performed, at the above company's request and in compliance with the requirements of NR320, a satisfactory assessment of the manufacturing facilities and associated quality procedures related to the range of the recognition.

This certificate will expire on: 15 Aug 2023

For BUREAU VERITAS,

At BV GALATI, on 07 Sep 2019,

Mario-Sorin Gheorghiu

BUREAU VERITAS SURVEYORS AT PARIS 1828 GALATI INTERNATIONAL REGISTER

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: http://www.veristarpm.com/veristarnb/jsp/viewPublicPdfRecognition.jsp?id=oxkuxqhmzh

BV Mod. Ad.E 697 June 2017

This certificate consists of 2 page(s)

Certificate number: SMS.W.II./123428/A.0

THE SCHEDULE OF RECOGNITION

1. RANGE OF THE RECOGNITION

The products corresponding to the categories listed in the table below are to be certified individually or per batch by Bureau Veritas Marine & Offshore in compliance with the applicable requirements (IBV products as defined in NR320).

Generic product	Description
A FRAME LIFTING APPLIANCES	Weight max=200t; High max=10000mm; Lenght max=15000mm
CRANE, COMPONENTS AND ACCESSORIES	Weight max=200t; High max=10000mm; Lenght max=15000mm
HYDRAULIC POWER UNIT	PN max=350barr; DN max=50mm
RUDDER ASSEMBLY	Rudder trunk max=2000mm
STRUCTURE / FRAME	Weight max=200t; High max=10000mm; Lenght max=15000mm
VALVE	RR max=1200mm
WINDLASS	Load max=50tf

2. LIMITATIONS

The certificates listed in the range of recognition are to be valid, as applicable.

Bureau Veritas Marine & Offshore is to be informed immediately of any modification to manufacturing facilities and associated quality procedures in order to agree on appropriate actions.

TIE SERVICES INTERNATIONAL SRL has to apply for the periodical audits as agreed with Bureau Veritas Marine & Offshore.

3. PERIMETER OF CERTIFICATION

Quality system of following site(s) has been assessed:

TIE SERVICES INTERNATIONAL SRL - Satu Mare - ROMANIA

4. REMARKS

Periodical audits shall be performed once per year.
The Manufacturer of the above listed eligible for fitting on board and/or offshore units or intended for classification with BUREAU VERITAS, to be subject to the satisfactory survey and testing as per Society Rules under BUREAU VERITAS inspectors and to the Manufacturer's instructions

*** END OF CERTIFICATE ***

TÜV PROFI CERT

CERTIFICATE

Management system as per

EN ISO 9001:2015

Evidence of conformity with the above standard(s) has been furnished.

ROMICA TIE GROUP

S.C. TIE SERVICES INTERNATIONAL S.R.L.
Strada Spicului nr 17
Satu Mare, jud. Satu Mare, cod 440278, Romania
including all plants acc. to annex

scope:

Design and manufacture of welded and machined structures, electrical and hydraulic installations for lifting machines, including winches, cranes and all general handling systems, components for construction machinery.

Certificate registration No. **73 100 3752**	Certificate valid* from 2020-03-12 to **2023-01-14**
Audit report No. 4366 0408	First certification 2014-01-15

TÜV HESSEN

DAkkS Deutsche Akkreditierungsstelle D-ZM-14137-01-00

TÜV HESSEN

Darmstadt, 2020-03-12
Certification body of TÜV Hessen
– Head of Certification body –

PAGE 1 OF 3.
*previous certificate was valid until 2020-01-14
This certification confirms the introduction and maintenance of the abovementioned management system and is monitored regularly.
The current validity is verifiable at www.proficert.com. Original certificates contain a glued hologram.
TÜV Technische Überwachung Hessen GmbH, Robert-Bosch-Strasse 16, D-64293 Darmstadt, Germany Tel. +49 6151/600331 Rev-GB-1911

TÜV PROFI CERT

CERTIFICATE

Management system as per

EN ISO 14001:2015

Evidence of conformity with the above standard(s) has been furnished.

ROMICA TIE GROUP

S.C. TIE SERVICES INTERNATIONAL S.R.L.
Strada Spicului nr 17
Satu Mare, jud. Satu Mare, cod 440278, Romania
including all plants acc. to annex

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Darmstadt, 2020-03-12
Certification body of TÜV Hessen
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10 Case Studies

Client: ARIM Korea
Project: Deck Equipment for Fishery and Research Training Vessel
Location/Date: South Korea/2016-2017

Description of Work:

Romica Engineering LTD developed a complete technical package, consisting of technical drawings, mathematical calculations, test procedures and an operations and maintenance manual which enabled a Korean Government financed Fishing Agency to manufacture a training vessel's deck equipment package in South Korea.

Design:

The following equipment was designed in accordance with K.R. Class and were supplied: Trawl Warp Winches (port and starboard), Net Drum Winch, 3 Auxiliary Winches, an Electro-Hydraulic Power Unit, Oceanographic Winch, CTD Winch and a Mocness Winch.

Challenges and Objectives:

Materials: The design requirements were to comply with K.R. Class and Korean Plate Standards. REL overcame this as the deck equipment was manufactured in South Korea by ARIM and the materials were able to be sourced locally ensuring the standard was met.

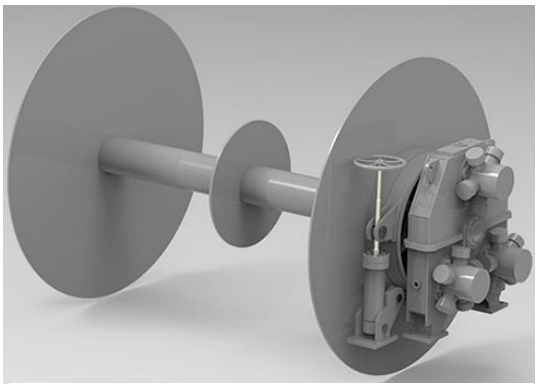
Components: All proprietary items were sourced by ARIM in South Korea. To ensure that the correct parts were sourced REL provided a list of items that were required as part of the package.

Interface: The Trawl Control System was supplied by a third party company. It was necessary for REL to work closely with the designers, ARIM engineers and the supplier of the control system to ensure compatibility.

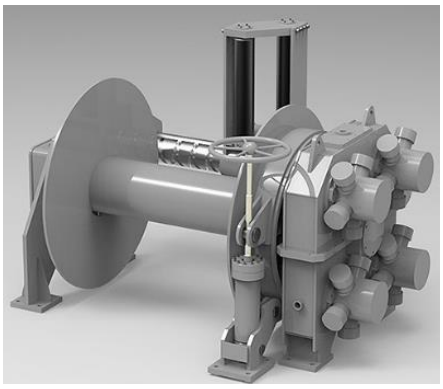
Impact:

Through constant communication and an adaptable approach, REL was able to provide ARIM with a complete Technical Package which enable the manufacture of deck equipment to be carried out in South Korea.
With the manufacturing and testing in South Korea this resulted in a large reduction in transport costs, delivery time and resulting in a competitive price and providing trade for the local economy. By locally sourcing all items it made it very easy for ARIM to source spare or replacement parts that maybe required during the lifetime of the equipment. Furthermore, by being able to locally source replacement parts this will lead to a shorter lead time to enable the vessel to spend less time in dock.

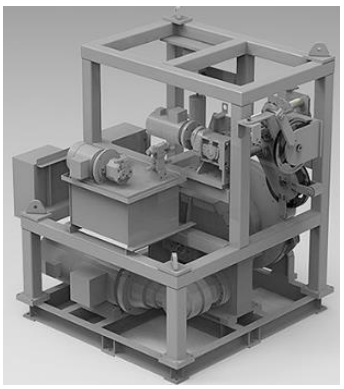




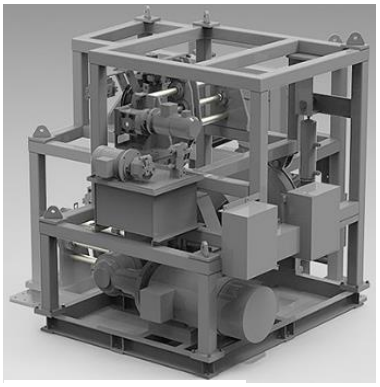
Net Drum Winch



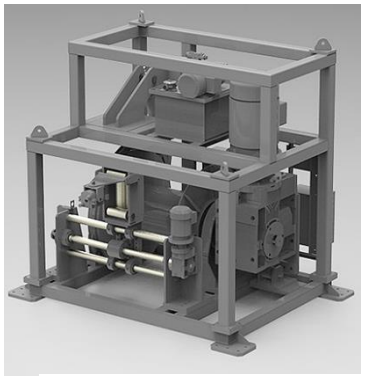
Trawl Warp Winch



Oceanographic Winch



CTD Winch



Mocness Winch

Client: Hyundai Heavy Industries
Project: Seismic Deck Equipment Package - RV Samudra Ratnakar
Location/Date: South Korea/2012-2013

Description of Work:

Romica Engineering LTD designed, built and tested a complete Seismic Deck Equipment Package for Hyundai Heavy Industries to be installed onto a new built Vessel for Geological Survey of India. The package included: full manual package, mathematical and strength calculations, deck equipment, test procedures, commissioning on-site and documents.

Design:

The deck equipment included; 2 pairs of dual umbilical winches, utility winches, gun rails, gun reel trolleys and chains, 1 high pressure air panel, a control valve manifold, independent port and starboard remote control panels, a deck mounted blister made from stainless steel, a 12,000 m streamer winch, a deck mounted streamer level wind, a deployment boom fitted with streamer fairlead, streamer deck remote control system, lead-in winch, bird storage racks and a combined Electro-Hydraulic Power Unit with full deck ring main. The equipment had to conform to the following specification: able to be disassembled for transport, have a small footprint to fit on to required vessel's deck, have easy access for maintenance,

Challenges and Objectives:

Materials: All materials were to be suitable for a marine environment.

Components: All proprietary items readily available worldwide.

Impact:

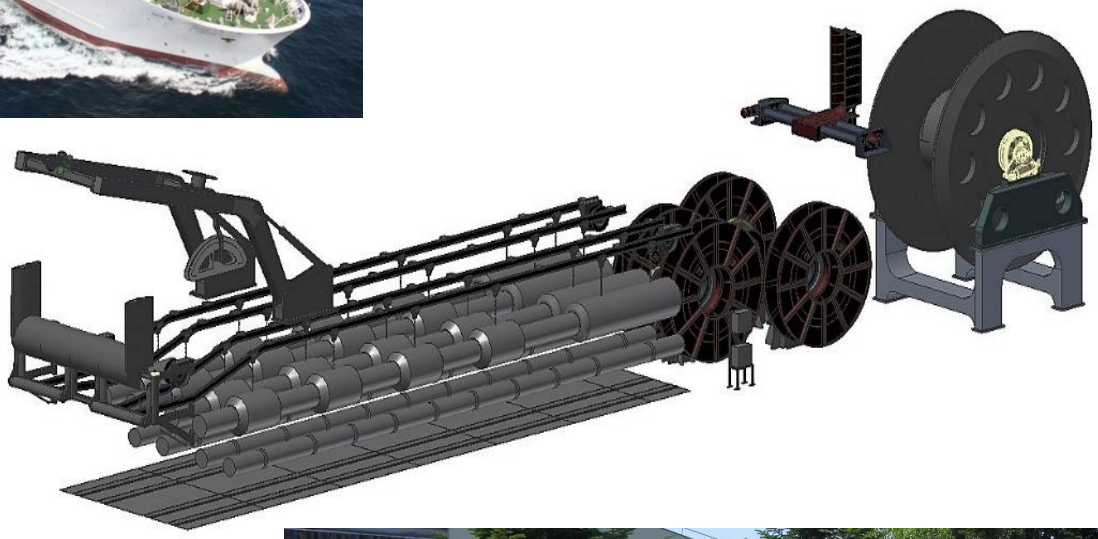
Through constant communication and an adaptable approach, REL was able to provide HHI with a bespoke Seismic Deck Equipment Package to fit onto the limited space on the GSI deck. The package was a cost effective, safe and efficient method for GSI to launch and recover a range of oceanographic, hydrographic and general sampling equipment.

Client Feedback:

Ki-su Kim, Deputy General Mangaer at Hyundai Heabvy Industries said:

"…. The quality of the design, good communication with the customer and the equiopnet delivery in-time were highly apopreciated and it contributes to the success of the GSI vessel program commissioned by HHI in September 2013."

















Client: STX Shipyard
Project: Launch and Recovery System - Korean Coast Guard Academy
Location/Date: South Korea/2010-2011

Description of Work:

Romica Engineering LTD designed, built and commissioned a bespoke Launch and Recovery System to handle the following equipment: Gravity Piston Corer, CTD Array and Day Grab.

Design:

The deck equipment included: 1 Double Drum Waterfall Winch with level wind, 1 Deck mounted Hydraulic Overhead Crane, 1 Corer Bucket, 1 Dual Pump self-contained Electro-Hydraulic Power Unit, Combined Remote Control Unit and full running gear.

Challenges and Objectives:

Materials: All materials were to be suitable for a marine environment.

Components: All proprietary items readily available worldwide.

Requirements:

- Emphasis on Cable preservation and ease of reeving of the system

  The Double Waterfall Survey winch is made up of two independent winch drum assemblies, mounted one above the other, one drum is installed with cable suitable for coring and the other for CTD operations. Each time the operation is changed the cables are required to be reeved, this is a simple operation and will take approximately 10-15 minutes using 2 operators.

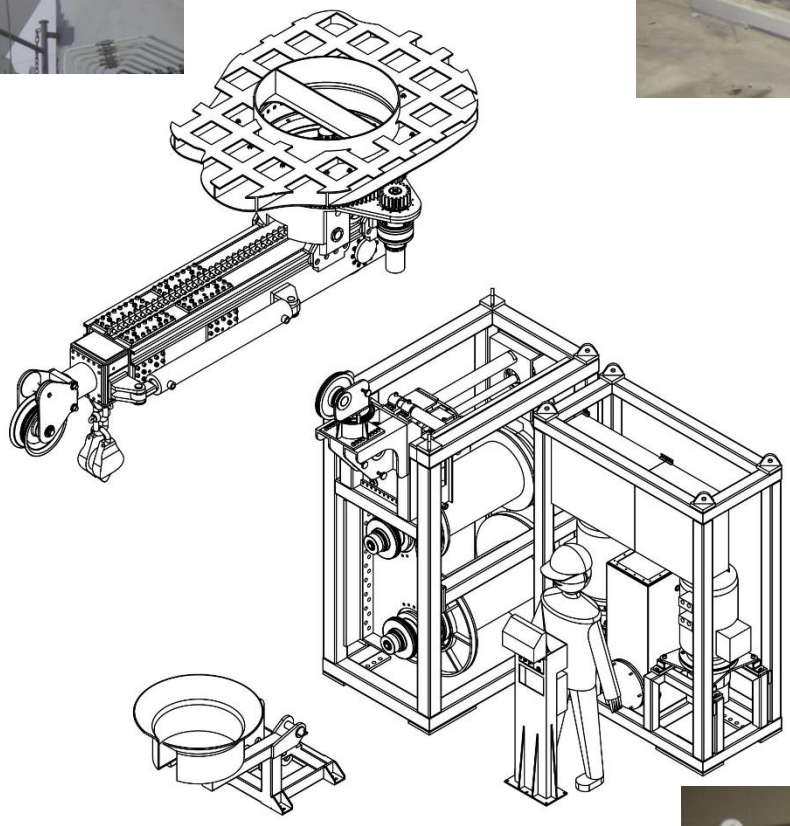
- Optimized Power consumption
- Optimize equipment footprint and deck usage
- Minimal Environmental impact
- Ensure road transportability

Impact:

Through constant communication and an adaptable approach, REL was able to provide STX with a bespoke Package to fit within the limited footprint and deck height allocated on the vessel. Additionally, the design had to be such that both the CTD unit, day grad and the corer barrels could easily be passed into the adjacent laboratory space adjacent to the launch and recovery area.











Client: Osbit Ltd
Project: Pile Cleaning Triple Drum Winch – Van Oord
Location/Date: UK/2017

Description of Work:

Romica Engineering LTD designed, built and tested a bespoke Pile Cleaning Triple Drum Winch.

Design:

Comprises of three drums that are supplied with eleven suitable machined helical grooves, the wire exits each drum by a bottom rear exit and is secured to each drum by three suitable fixings, this allows each drum section to pull 10 Te simultaneously. Designed, manufactured and tested in accordance with DNV 2.22 Lifting Appliances.

Challenges and Objectives:

Materials: All materials were to be suitable for a marine environment and to comply with DNV 2.22

Components: All proprietary items readily available worldwide.

Impact:

Through constant communication and an adaptable approach, REL was able to provide Osbit Ltd with the bespoke Package within the required time frame. The package was a cost effective, safe and efficient method for Van Oord to clean the Pile.

Client Feedback:

Melvyn Taylor, Project Manger at Osbit Ltd said:

"…. Overall it was a great project for us and Van Oord we're very happy. Romica played an important role especially given the tight deliery schedule."







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Notes


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