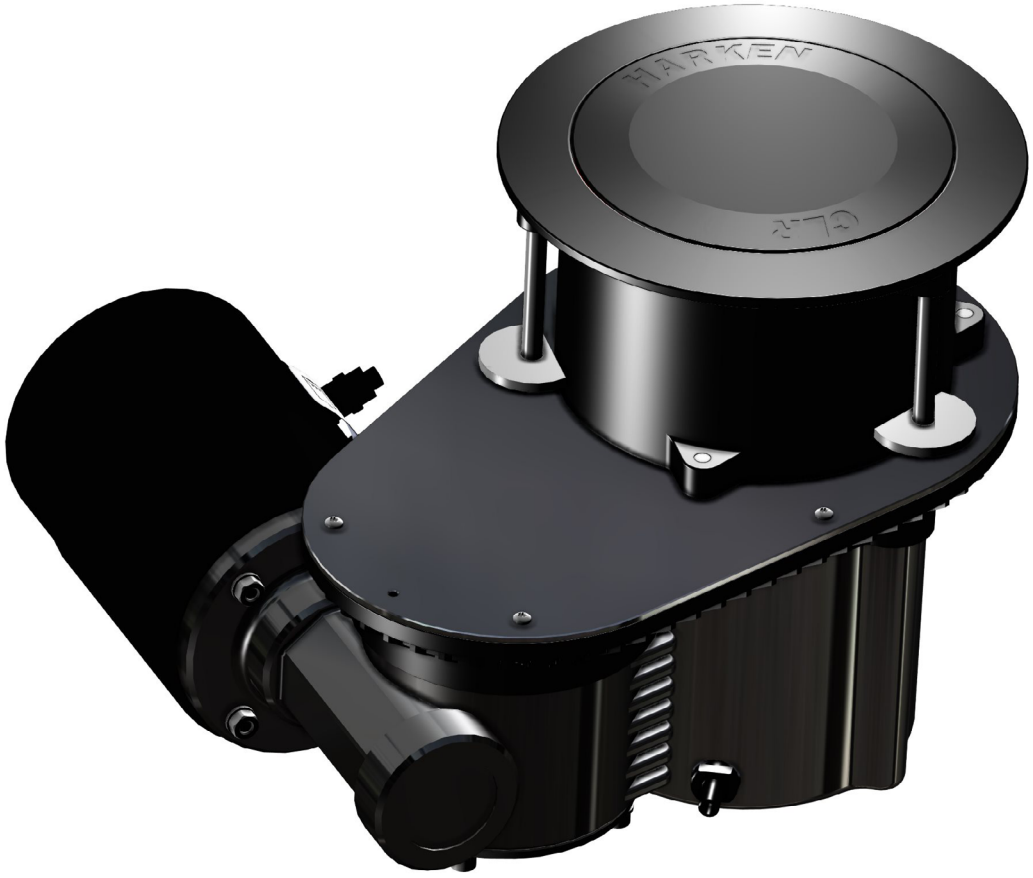
Installation and Maintenance Manual

Mod.E

Compact Light Retractable (CLR)
Mooring Winch 600 - 600 RH
Mooring Winch 1200 - 2500



HARKEN®

1. Glossary

- Intended use: specific and proper use of the winch for which it is designed.
- Improper use: use of the winch in a different way from that indicated in the instructions for use specified in this manual.
- Qualified operator: person who has attended specialisation and training about the use of the winch.
- User: person who uses the winch regularly.
- Maximum working load (MWL): maximum value of the load the winch can bear in a dynamic working condition.
- Maximum holding load (MHL): maximum value of the load the winch can bear in a static working condition.

2. Symbols

WARNING!
This denotes the existence of a potential danger, which could cause injury or damage if the information or instructions are not followed.

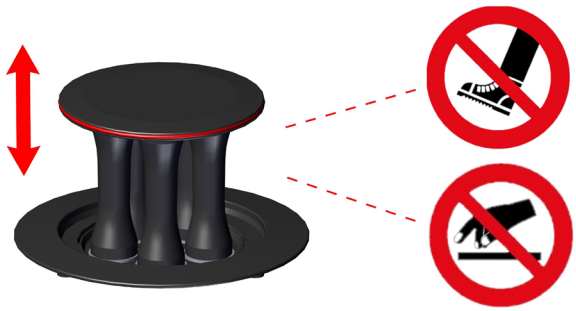
NOTE!
This denotes particularly important information concerning the device.

3. Safety information

WARNING! Read this manual carefully and fully understand it before using the system to avoid personal injury or property damage during system operation.

- This manual is an integral part of the device and it aims to provide all information needed for its safe and correct use and for proper maintenance.
- This manual gives technical information on winch installation and maintenance.
- This information is destined exclusively to qualified operators.
- Installation of the winch by personnel who are not experts may cause serious damage to users and those in the proximity of the winch.
- Install and use the winch only as described in the technical information supplied.
- Improper use can cause severe harms to users, equipment and the boat.

DANGER!
Do not put fingers, hands or feet near the winch during the working of the winch:



Deck plane

- Do not apply to the winch loads greater than the MWL (Maximum Working Load) in dynamic conditions.
- Do not apply to the winch loads greater than the MHL (Maximum Holding Load) in static conditions.
- Never substitute any winch part with one that is not original. Even though they look similar and are both made by Harken, the non-original part may not be suitable and the warranty will be invalidated.
- Modifications carried out by the user, without explicit written authorization from the manufacturer, will invalidate the warranty and relieve the manufacturer of any responsibility for damage caused by the defective product.
- Failure to install the winch will void the warranty of the winch itself and the Harken® products to which it may be connected.
- Refer to the warranty on the web site www.harken.com.

Harken® cannot be responsible for damage or injury resulting from unsafe product use, lack of maintenance or incorrect product and/or system installation or operation.

- Wear suitable clothing when using the winch, to avoid loose ends of fabric becoming entangled in the winch.
- Periodical maintenance must be carried out regularly as specified in the chapter on Maintenance. In case of doubt, contact Harken Tech Service by e-mail: techservice@harken.it
- This manual is available only in English. If you do not fully understand the English language, do not carry out the operations described in this Manual. For any doubts, questions or comments contact the Harken distributors nearest to you, or contact the Harken Italy Technical Service by e-mail: techservice@harken.it
- See www.harken.com for additional safety information.

4. General advices

Intended use

The Compact Light Rectratable (CLR) Mooring Harken Winches are designed and manufactured to moor the sailing boats and the motor boats on which they are installed.

The Compact Light Rectratable Recovery Hardware (CLR RH) Harken Winches are designed and manufactured to lift and rescue man overboard.

For any other usage, contact Harken Italy Technical Service by e-mail: techservice@harken.it.

Improper use

- The Harken winch must not be used for purposes different from those outlined in “Intended use” chapter, or for purposes not mentioned in this manual or different from those mentioned.
- The Harken winch must not be used if unauthorized modifications or interventions have been carried out.
- Do not use the winch to divert a line (cross-sheeting).
- Do not use the CLR RH for mooring operations.
- Do not apply to the winch loads greater than the MWL (Maximum Working Load) in dynamic conditions.
- Do not apply to the winch loads greater than the MHL (Maximum Holding Load) in static conditions.

NOTE!
See the User Manual for all details about the use of the winch. User manual is available in paper form, included into the packaging of the purchased winch, and available on our website www.harken.com.

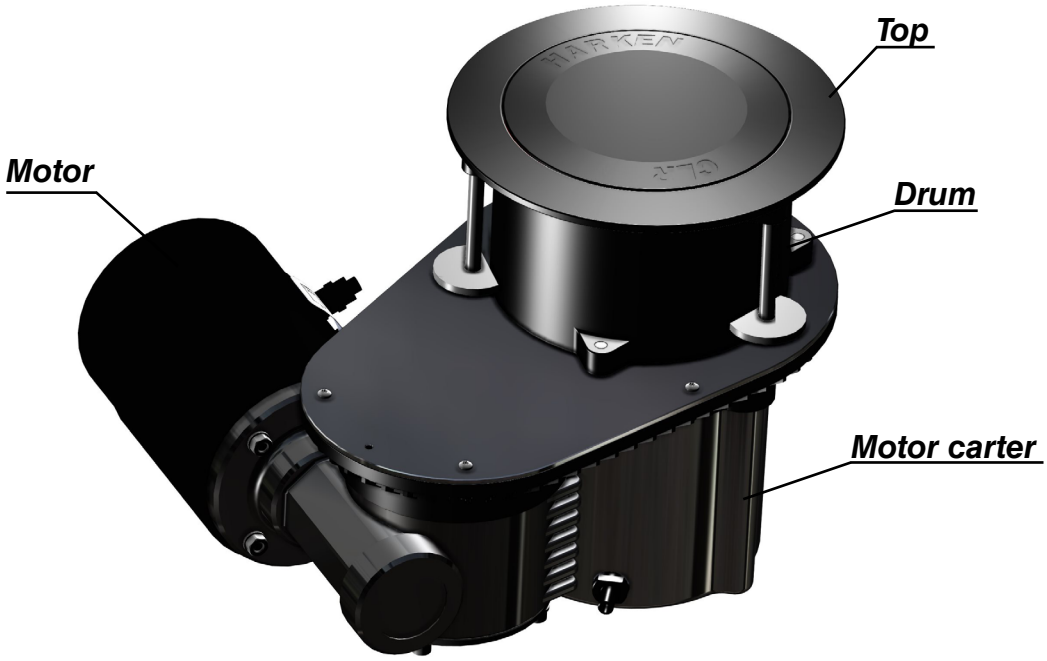
5. Product identification

This manual is destined for the following product versions:
- CLR Mooring Winch 600: electric and hydraulic version (EL/HY)
- CLR Mooring Winch 600 RH (Recovery Hardware): electric version (EL)
- CLR Mooring Winch 1200: electric and hydraulic version (EL/HY)
- CLR Mooring Winch 2500: electric and hydraulic version (EL/HY)

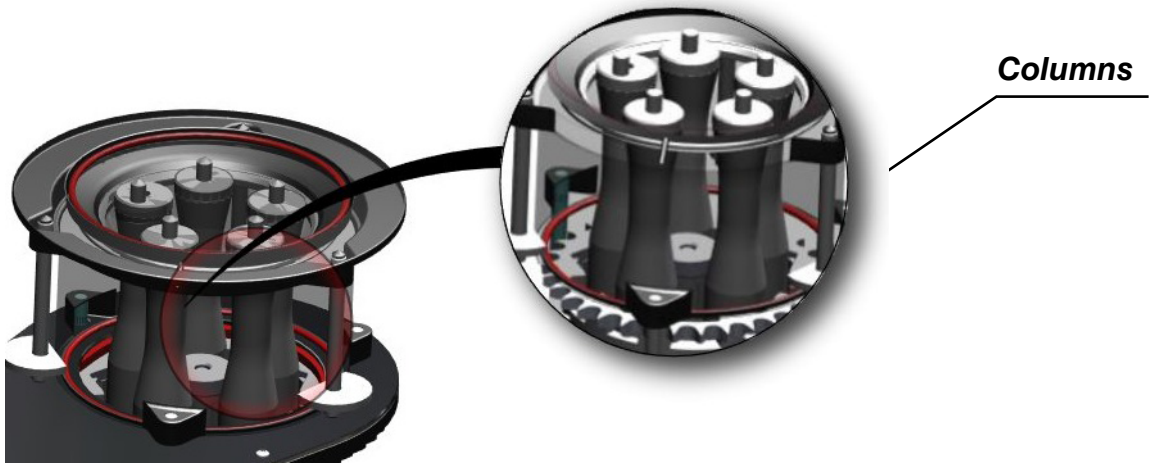
The main structure is the same for all versions, composed by top, drum, motor and its carter.

Internally, CLR Mooring Winch is equipped with columns useful to wrap the line to realize the mooring/rescue operations.

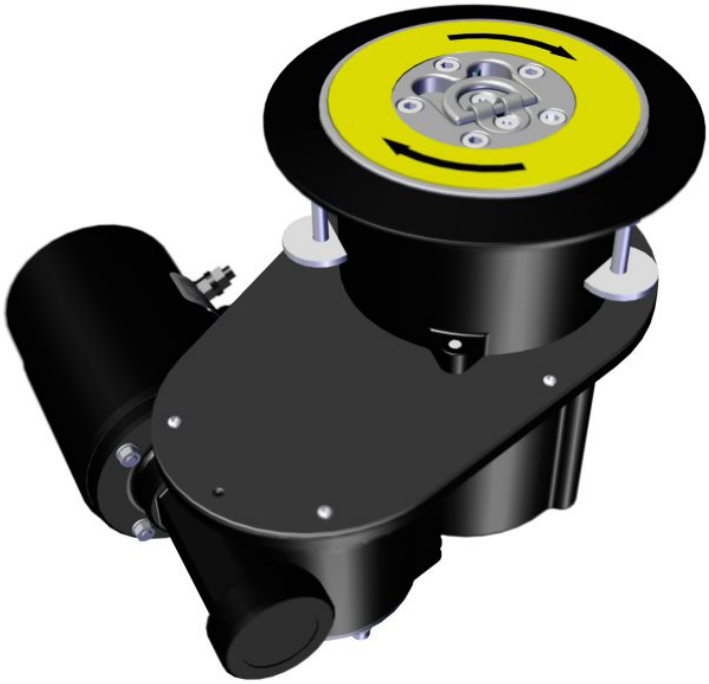
For use, all other informations and details, please refer to the user manual on Harken website www.harken.com



Internal structure



CLR 600 EL RH Recovery Hardware



CLR Mooring Winch 600 EL RH Recovery Hardware is a part of the Recovery Hardware System provided by Harken, useful to complete the several operations to rescue a man overboard fallen off of the boat into the water.

Mechanically, this product has the same characteristics of the CLR Mooring 600.

It is equipped with its own top flange, with a yellow-gripped adhesive and a folding padeye to fix the recovery line.

For the use of the product, for all other informations and details, please refer to the product user manual available in a printed format into the packaging of the product and on Harken website www.harken.com

WARNING!
CLR Mooring 600 EL RH must be installed on boats only: is not allowed any other use not clearly specified in this manual.

CLR Mooring 600 EL RH is a part of a rescue device: it's under the customer's responsability to consider the risks of the rescue operations.

Customer is the sole responsable of the risks analysis dedicated to the use of the CLR 600 RH installed aboard.

6. Maximum loads

The maximum working load (MWL) is the maximum load the winch can bear in a dynamic working condition.
The maximum holding load (MHL) is the maximum load the winch can bear with a line loaded in a static working condition.

Maximum loads	[Kg] (lb)	
CLR size	**MHL**	**MWL**
CLR 600 / CLR 600 RH	600 (1322.8)	400 (881.8)
CLR 1200	1200 (2645.6)	800 (1763.7)
CLR 2500	2500 (5511.6)	1200 (2645.5)

WARNING!
Subjecting the winch to loads above the maximum working load and the maximum holding load can cause the winch to fail or pull off the deck suddenly and unexpectedly during high loads causing severe injury or death.

7. Technical characteristics

Performance data - electric motor

CLR Mooring Winch 600

	electric horizontal motor		
	12 V (700 W)	24 V (900 W)	48 V (2000 W)
line speed [m/min]*	24	27	12,8
current absortion [A]**	160	105	73

**Line speed is measured with no load*

***Current absorption measured at Maximum Working Load (MWL)*

CLR Mooring Winch 600 RH

	electric horizontal motor
	24 V (900 W)
line speed [m/min]*	27
current absortion [A]**	110

**Line speed is measured with no load*

***Current absorption measured at Maximum Working Load (MWL)*

CLR Mooring Winch 1200

	electric horizontal motor		
	12 V (1500 W)	24 V (2000 W)	48 V (2000 W)
line speed [m/min]*	23	25	8
current absortion [A]**	340	190	105

**Line speed is measured with no load*

***Current absortion measured at Maximum Working Load (MWL)*

CLR Mooring Winch 2500

	electric horizontal motor			
	24 V (2000 W)	48 V (2000 W)	400 V High speed (3300 W)	400 V low speed (3300 W)
line speed [m/min]*	17	6,3	20,5	10
current absorption [A]**	230	108	7	9,5

**Line speed is measured with no load*

***Current absorption measured at Maximum Working Load (MWL)*

Performance data - hydraulic motor

	CLR 600	CLR 1200	CLR 2500
line speed [m/min]*	14	11	10
Oil flow [l/min]	24	24	24
max load [Kg]	400	800	1200
Pressure [bar]	60	90	160

**Line speed is measured with no load*

NOTE!
The ratio of the line load - pressure is evaluated at nominal flow rate.
The performance is evaluated measuring the pressure and flow on the motor ports.
The performance data are based on oil with a viscosity of 35mm²/s [165 SUS] and temperature of 50°C [120°F].

Weights

Weights [Kg] (lb)								
CLR size	**A EH**	**A HY**	**C EH**	**C HY**	**SS EH**	**SS HY**	**TC EH**	**TC HY**
CLR 600	18 (39.7)	14.7 (32.4)	22 (48.5)	18.7 (41.2)	-	-	19.5 (43)	15.7 (34.6)
CLR 600 RH	18.5 (40.8)	-	-	-	-	-	-	-
CLR 1200	22 (48.5)	18.7 (41.2)	26 (57.3)	22.7 (50)	-	-	19.6 (43.2)	21.2 (46.7)
CLR 2500	30 (66.1)	26 (57.3)	-	-	36 (79.4)	32 (70.5)	-	-

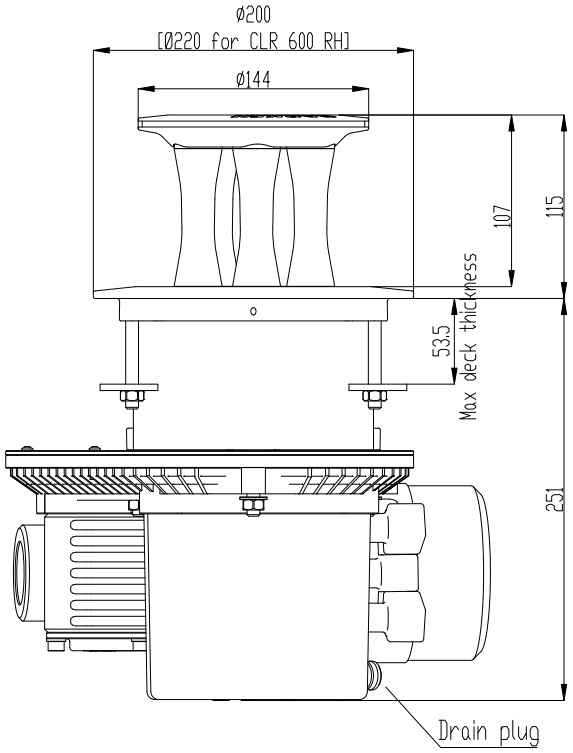
Versions:
A = all anodised aluminum
C = all chrome
TC = Top custom
SS = Stainless Steel
EH = horizontal electric winch
HY = hydraulic winch

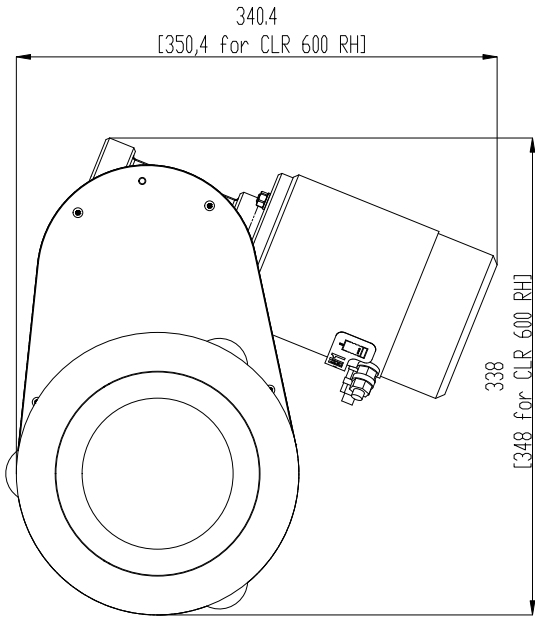
8. Outline

Outline dimensions are useful for installation and for maintenance.
As regards the under deck available standard rooms please consider the under deck dimensions outline added to the height of the motor carter (refer to the the images below).
Standard rooms are considered without any object placed nearby the motor unit.

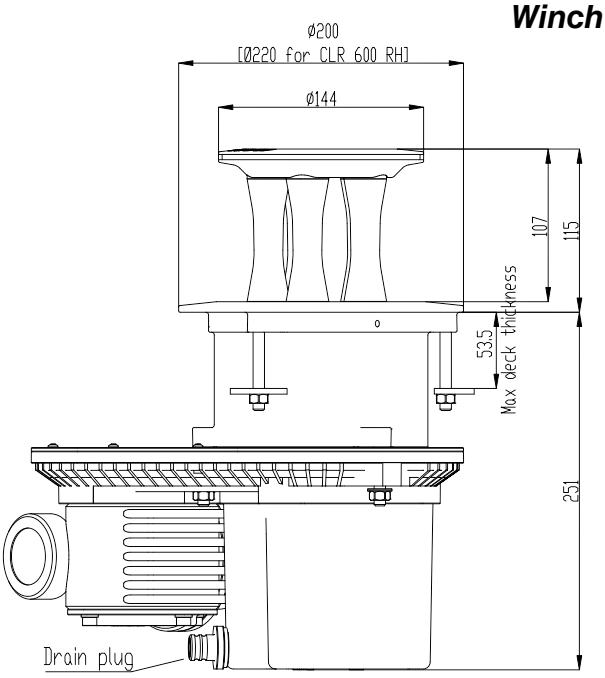
Winch CLR 600 EL
Winch CLR 600 RH EL

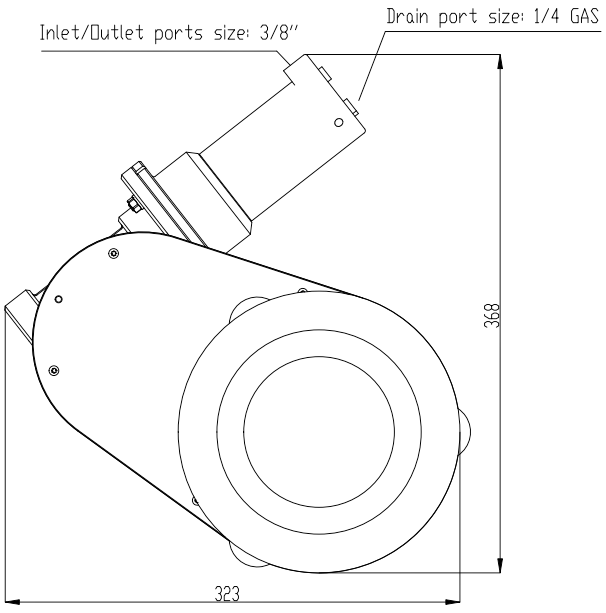
NOTE!
All dimensions are in [mm]



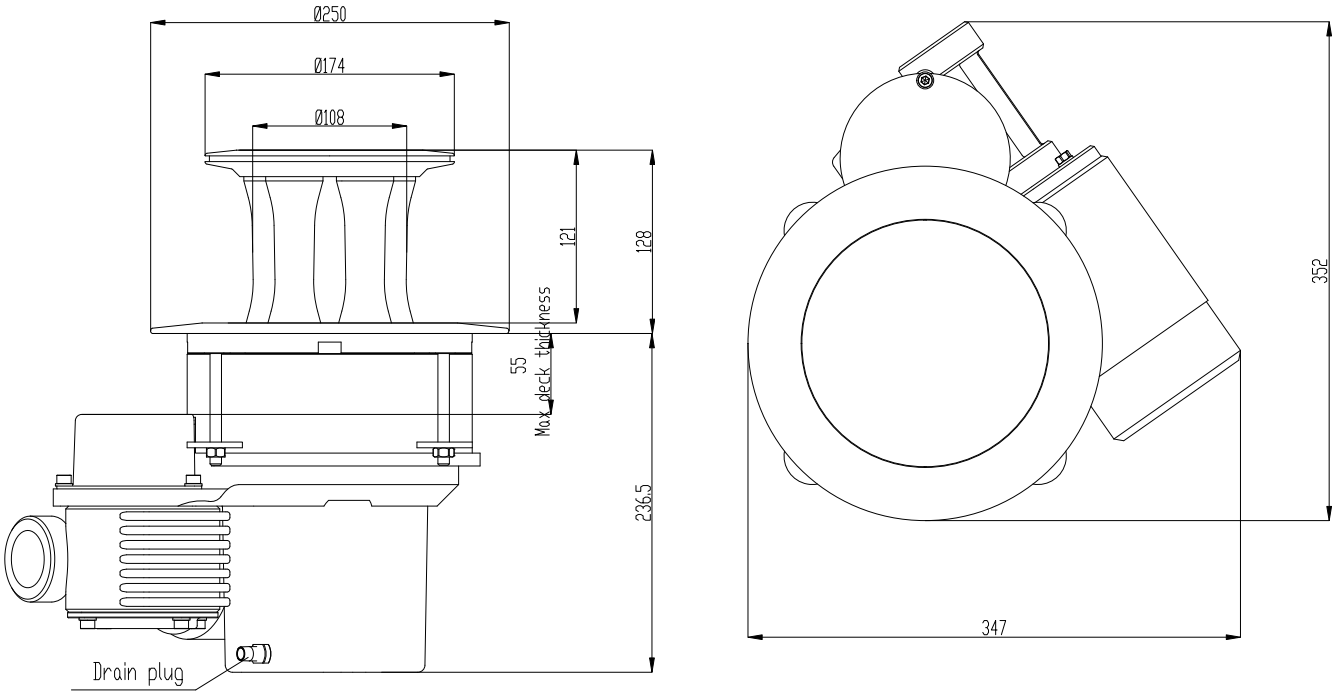


Winch CLR 600 HY

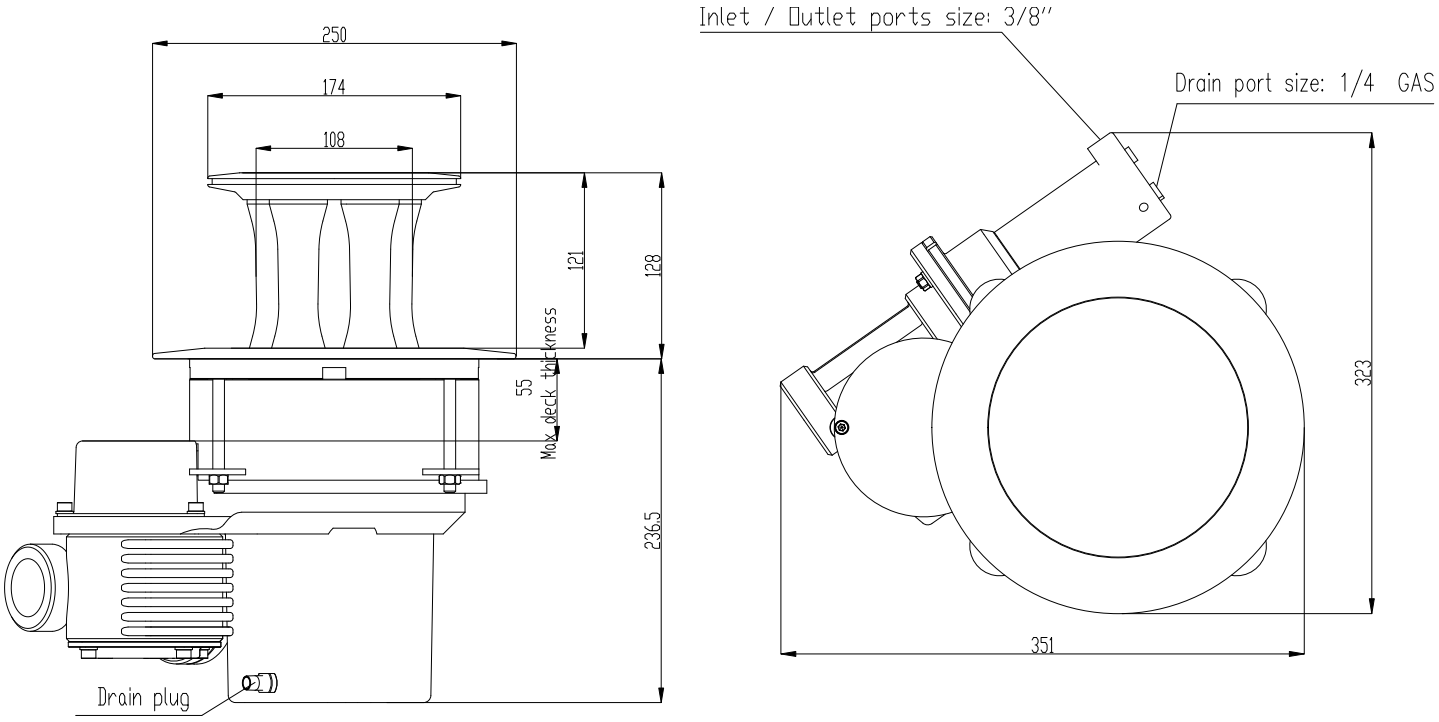




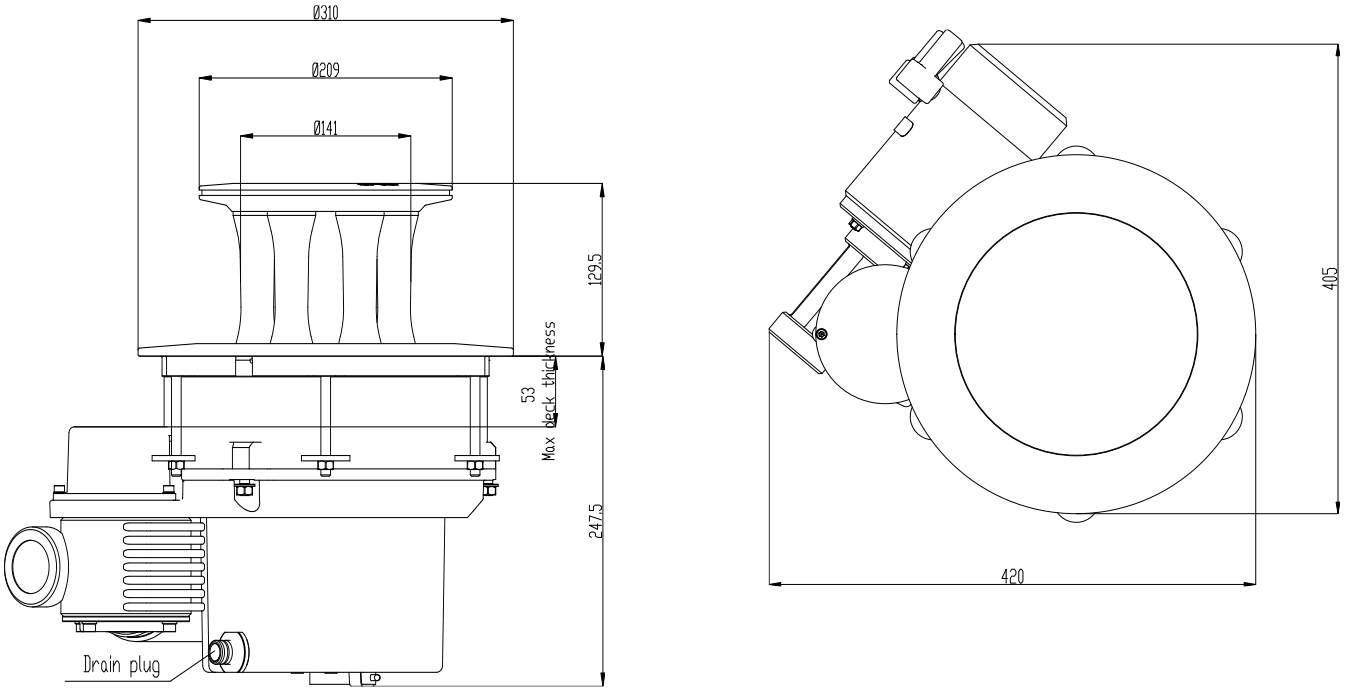
Winch CLR 1200 EL



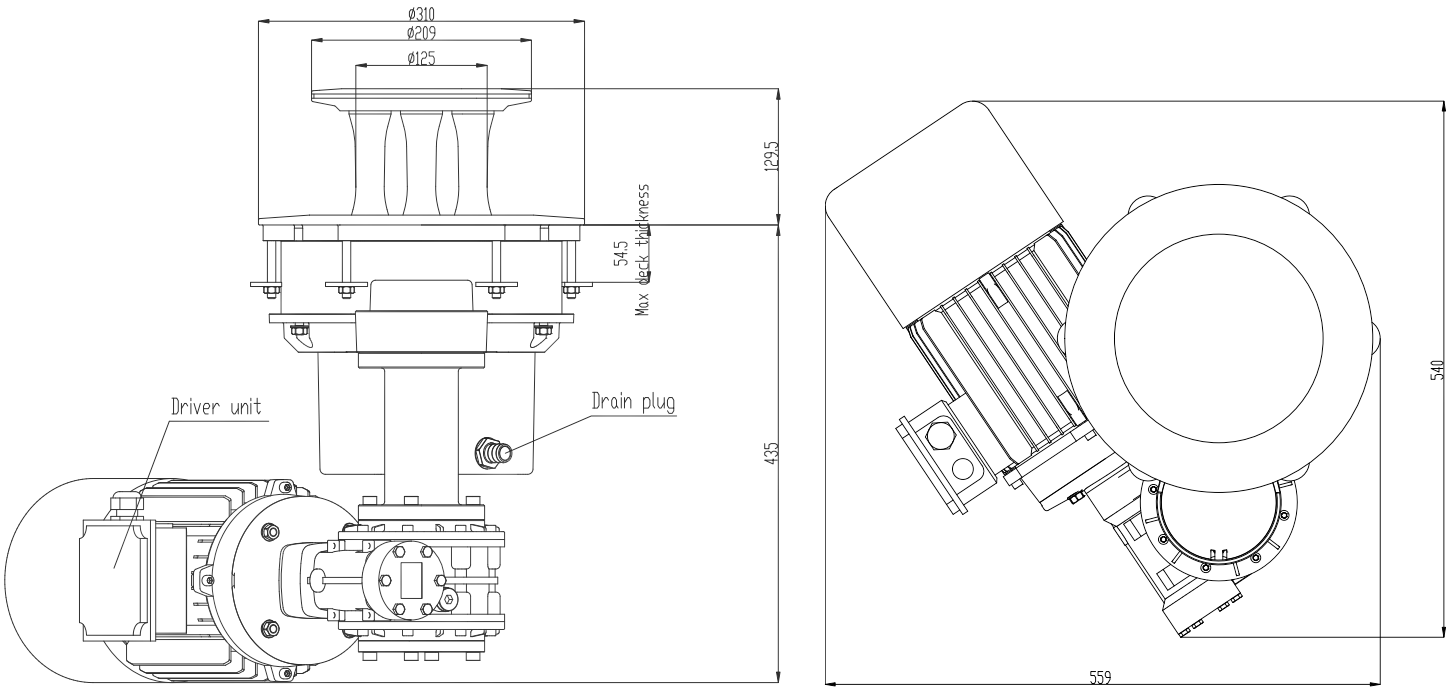
Winch CLR 1200 HY



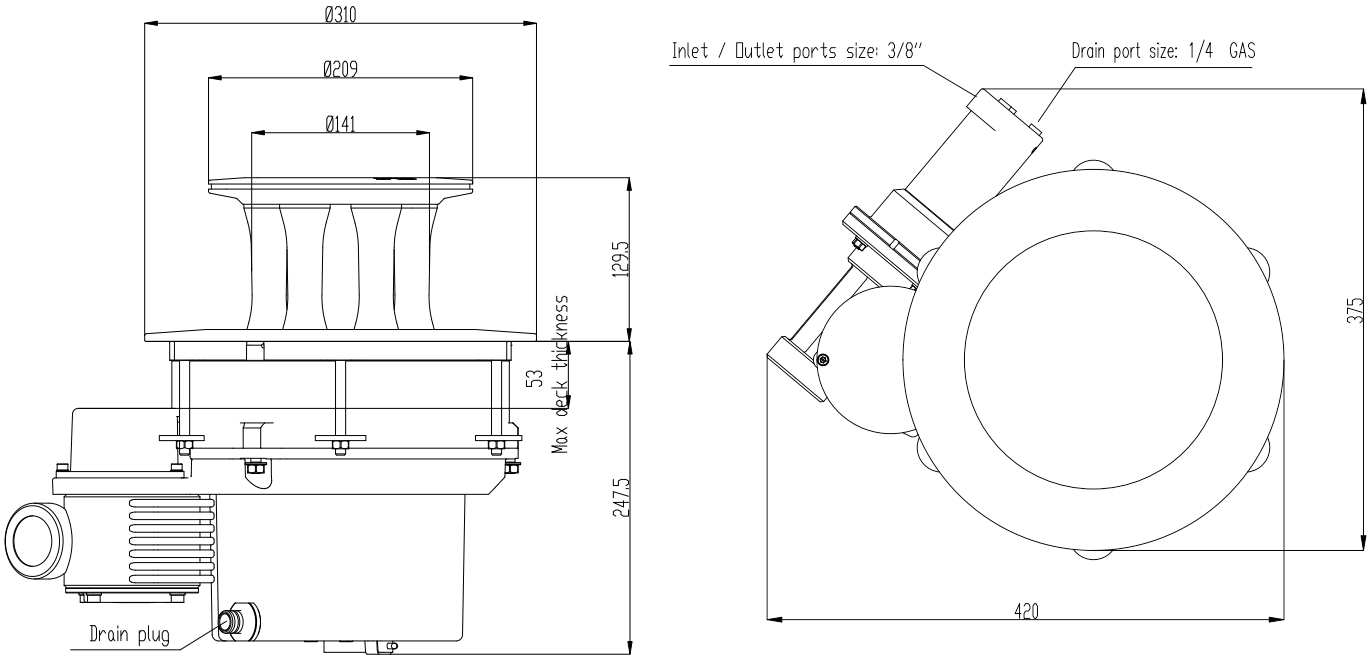
Winch CLR 2500 EL 12V/24V



Winch CLR 2500 EL 400V

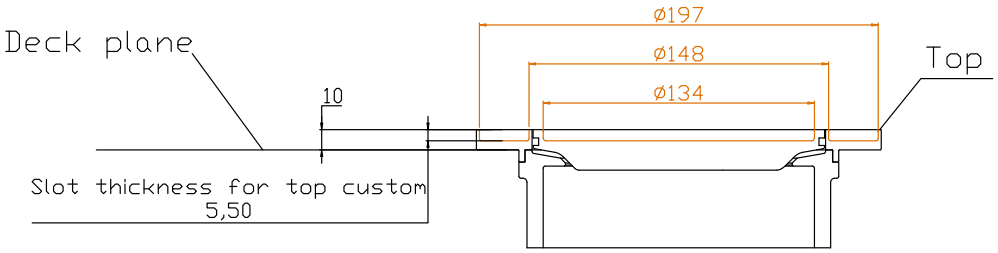


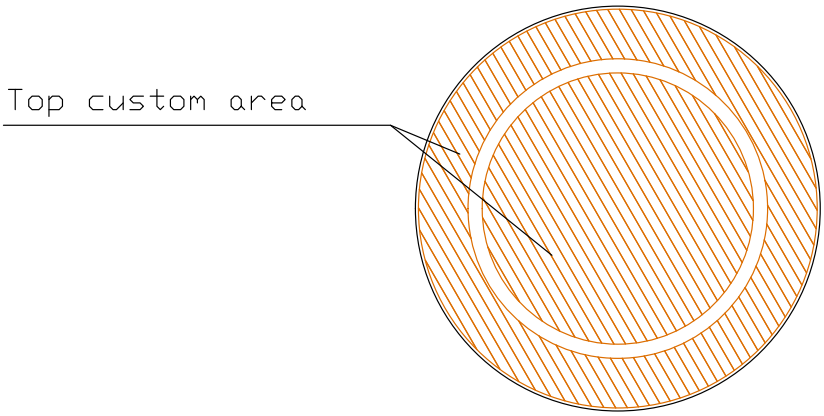
Winch CLR 2500 HY



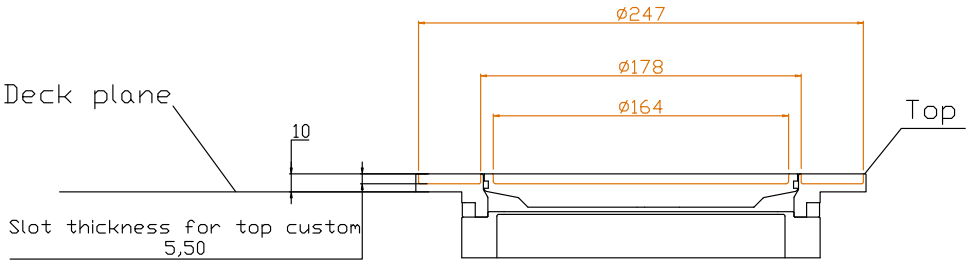
Outline dimensions of the custom top version

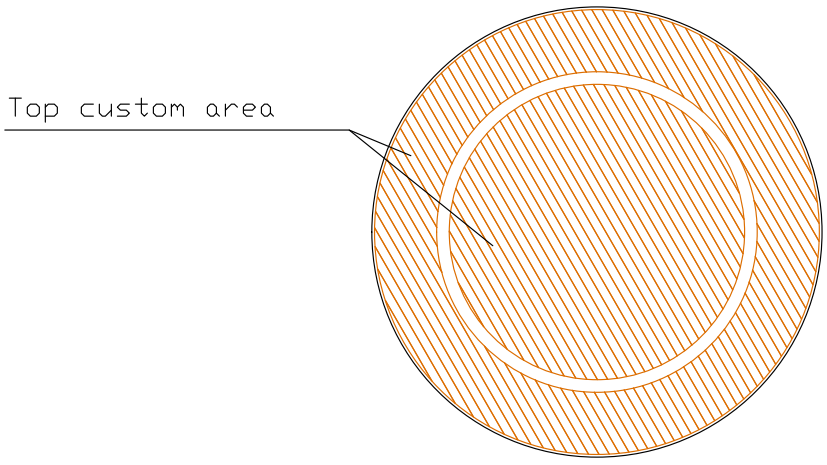
Winch CLR 600





Winch CLR 1200





9. Installation

The winch must be installed on a flat area of the deck, reinforced if necessary to bear a load equal to at least twice the maximum working load of the winch.
It is the installer's responsibility to carry out all structural tests needed to ensure that the deck can bear the load.
Harken assumes no responsibility for incorrect installation of its winches.

WARNING!
Before using the winch, pay attention to follow scrupulously the steps shown in the CLR installation procedure in the sequence written below.

DANGER!
Incorrect installation of the winch may cause severe injury or death. Consult the yard that built the boat in the case of doubt over the correct positioning of the winch.

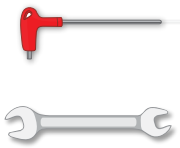
WARNING!
Keep the columns support in the position found at the moment of the opening of the packaging.
Remove the columns support only when indicated.

NOTE!
Before drilling the deck, check the space available below deck for the gearmotor assembly.

NOTE!
Do not use the drain plug in case the winch is installed in a peak tank already used for the drain (the forepeak of a motor boat for example).

9.1 CLR installation procedure

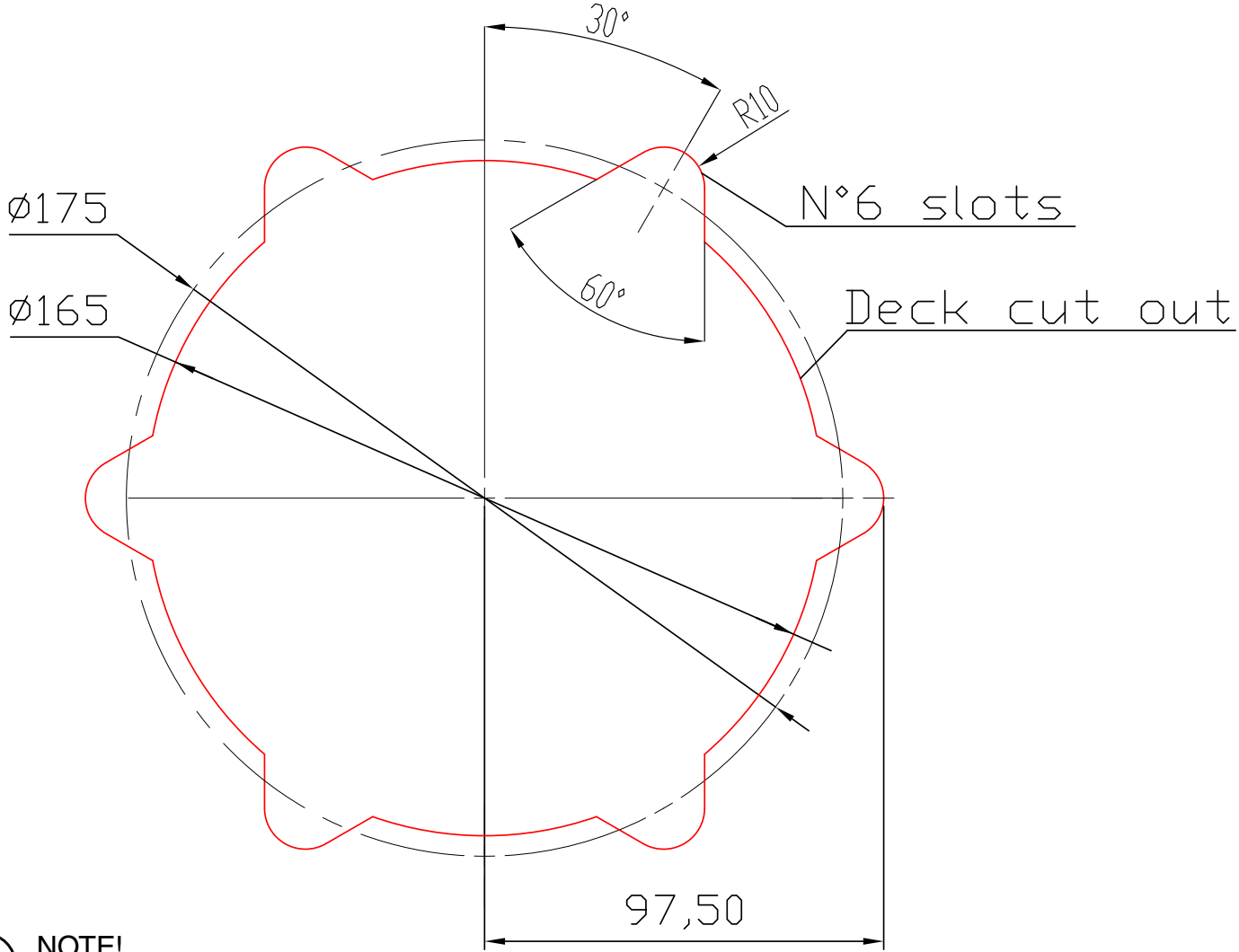
Tools needed:
- One number 5 allen wrench
- For CLR 600 RH only: one number 6 allen wrench
- Two number 13 adjustable spanner
- One number 10 adjustable spanner



1. Choose the position of the deck where user decides to place the winch.
2. Place the mounting template over the point chosen for installation.

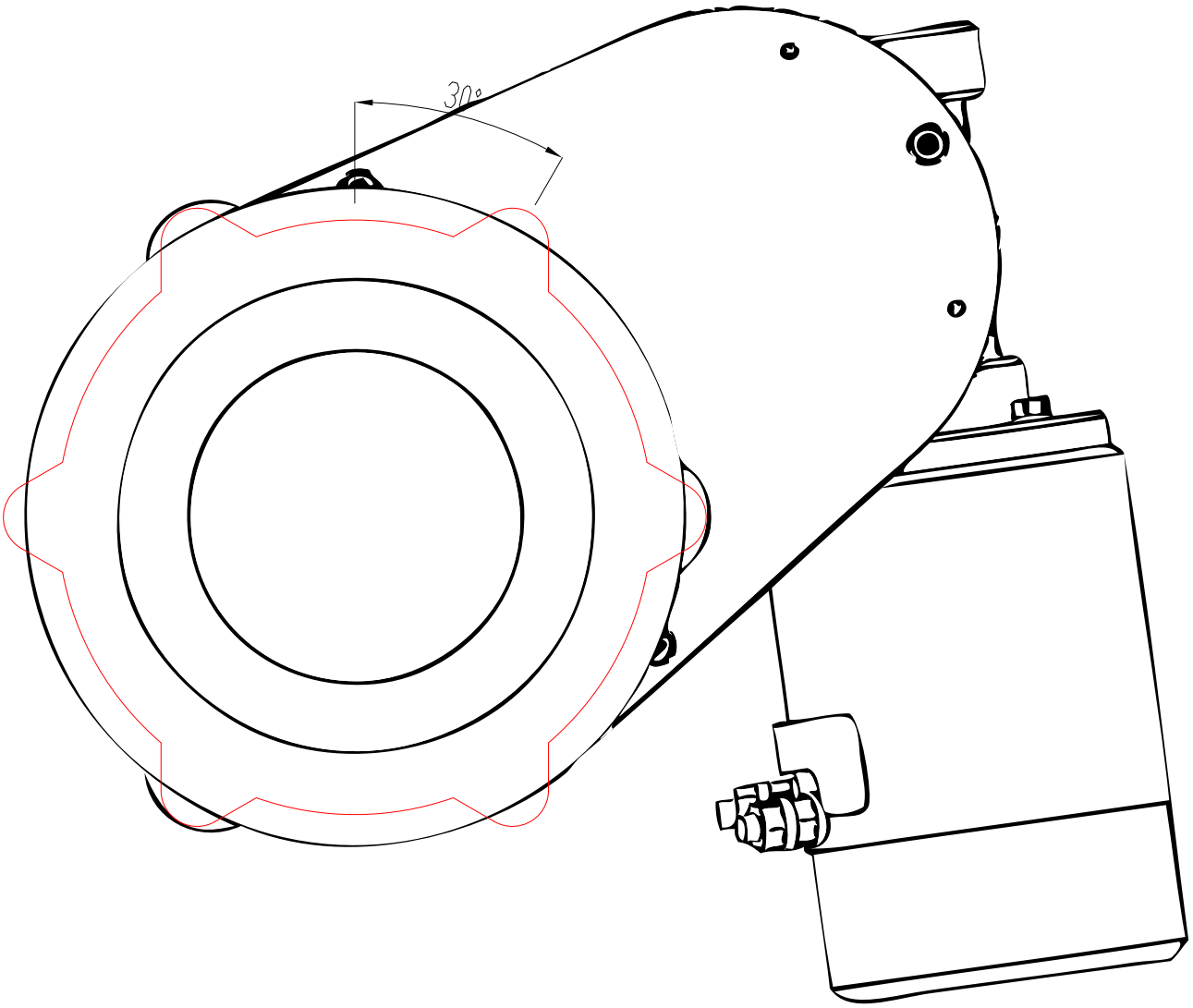
NOTE!
Below is a reduced scale diagram.
The drilling cut out template is available on the Harken® website www.harken.com

Winch CLR 600
Winch CLR 600 RH
View from above



NOTE!
Redlined slots are six: three slots are used to choose the position of the CLR Winch; the other three slots are the passages of the cables of the led lights.
For all info regarding the installation of the led lights, refer to the installation chapter of this manual.

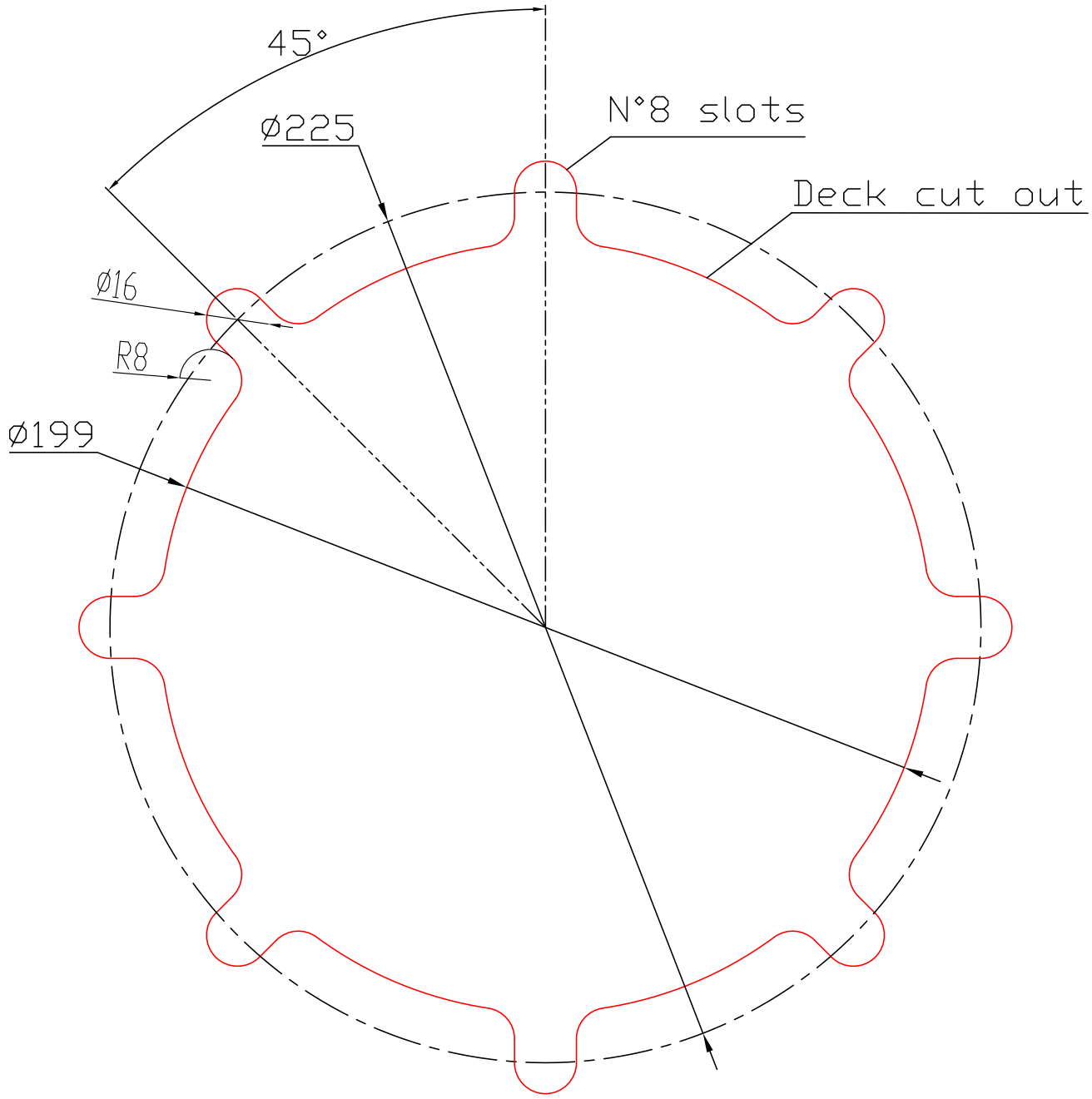
NOTE!
Orientation of the winch must be chosen taking into account 2 factors:
- The overall dimensions shown in the Outline section of this manual.
- There is only one orientation available for the coupling of the assembly support with the motor.



Right mounting - Internal motor poles

Winch CLR 1200
View from above

NOTE!
Below is a reduced scale diagram.
The drilling cut out template is available on the Harken® website www.harken.com



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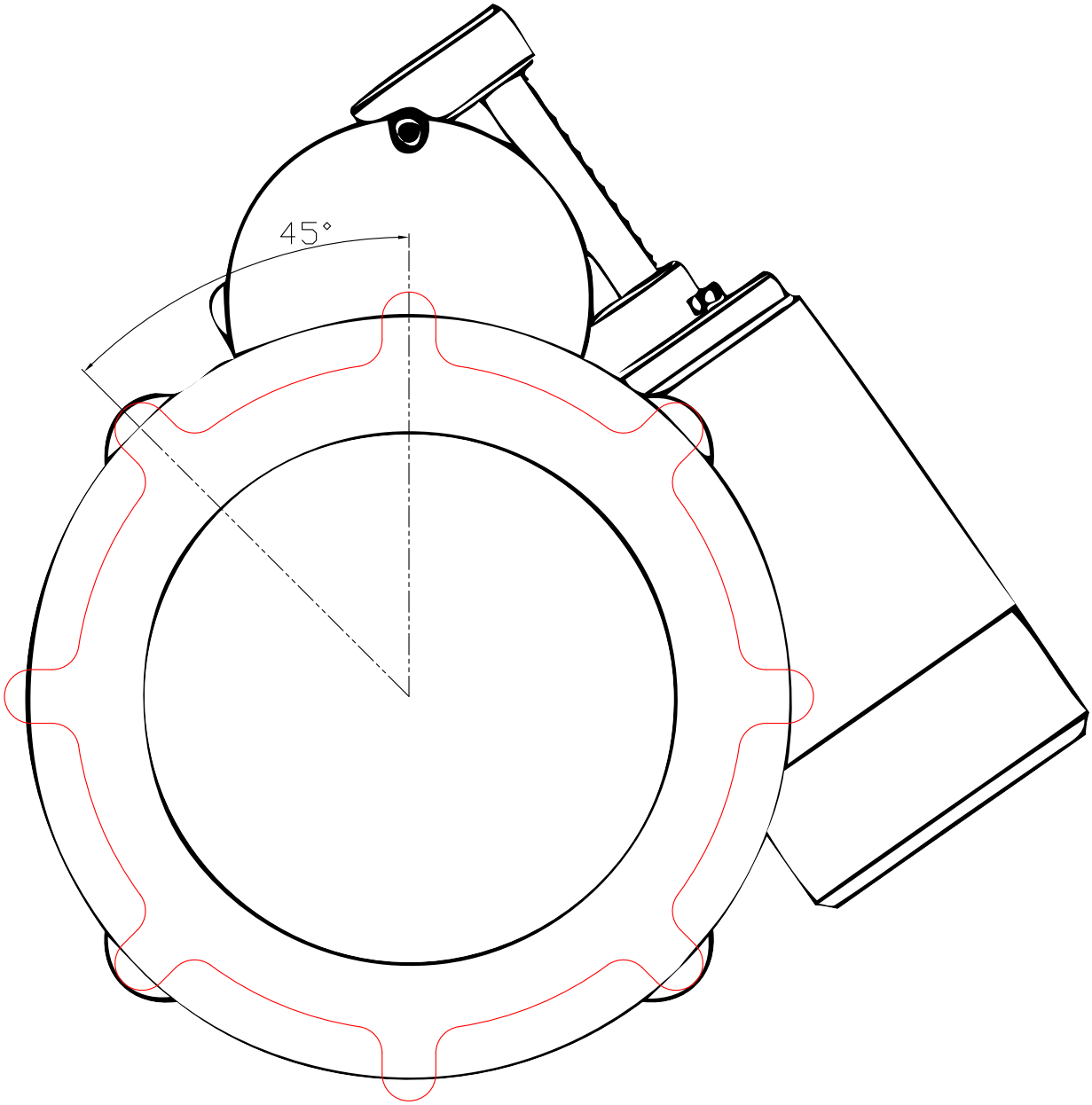
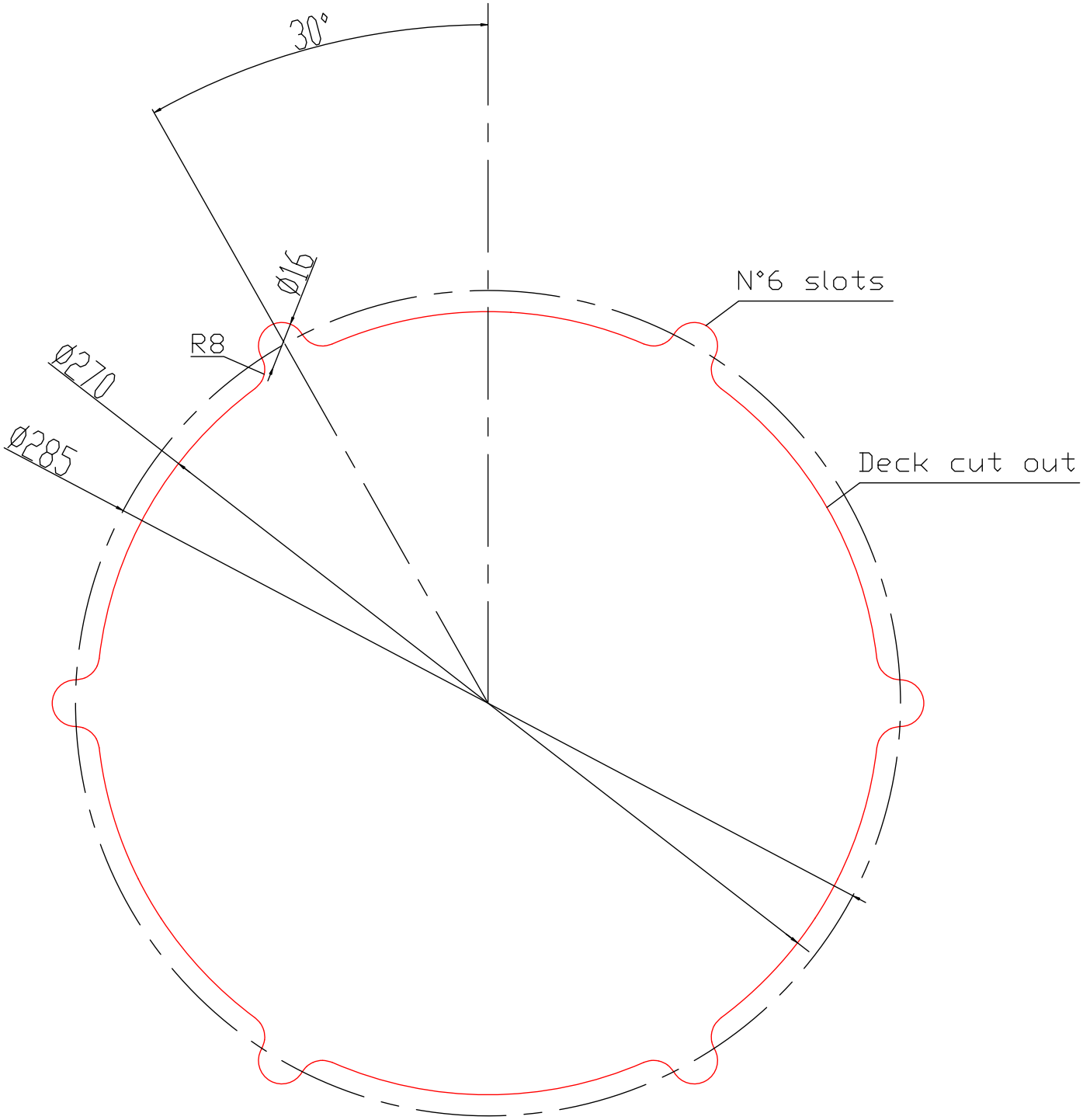


Right mounting - Internal motor poles

Winch CLR 2500
View from above

NOTE!
Below is a reduced scale diagram.
The drilling cut out template is available on the Harken® website www.harken.com



NOTE!
Orientation of the winch must be chosen taking into account 2 factors:
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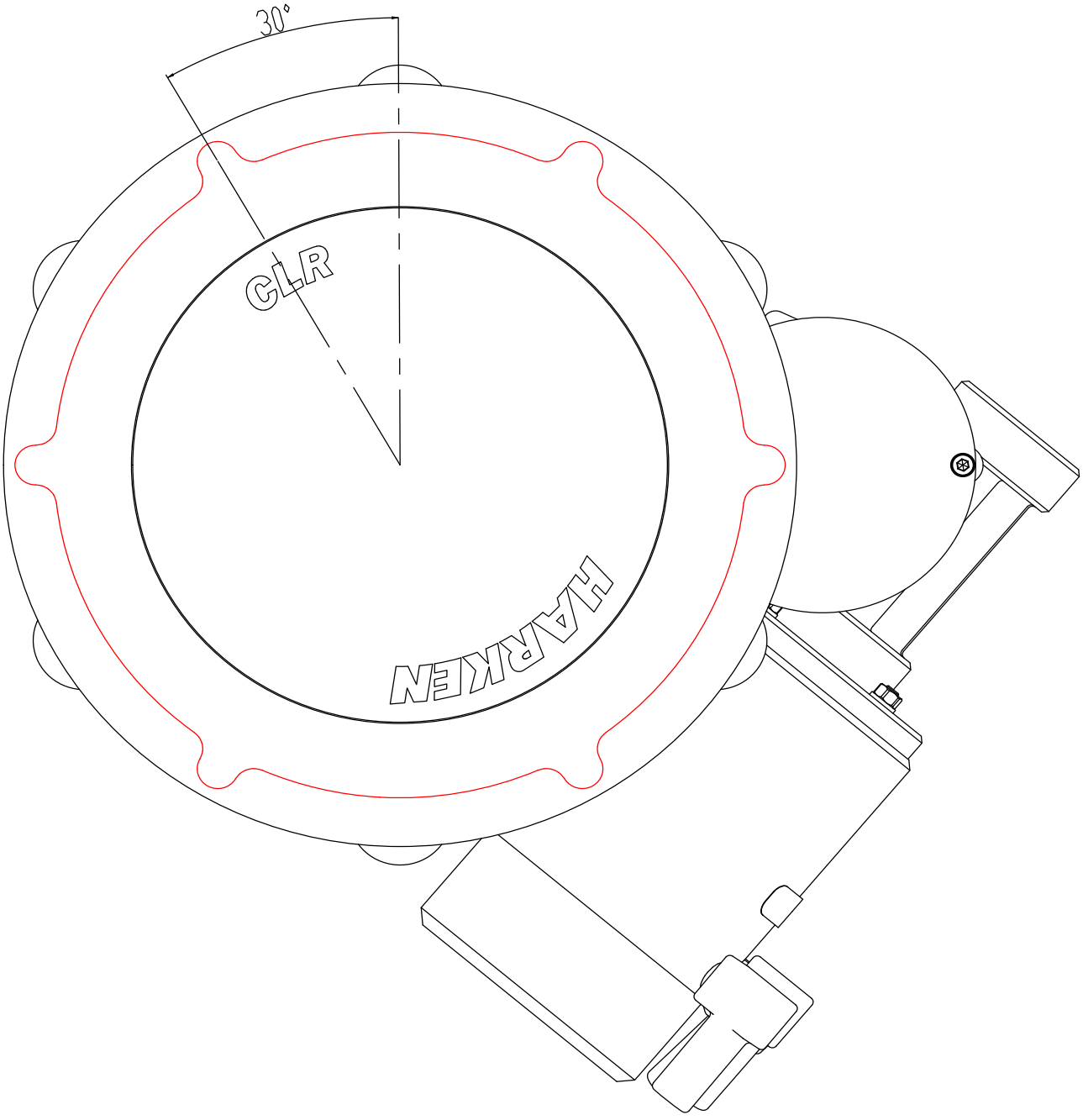
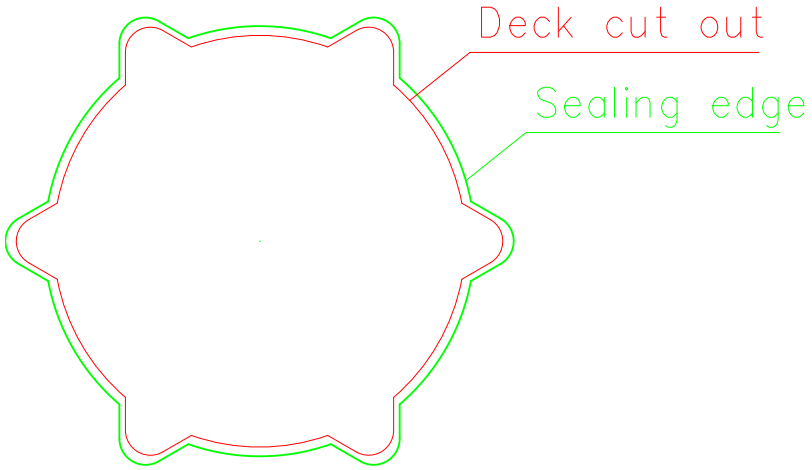
- There is only one orientation available for the coupling of the assembly support with the motor.



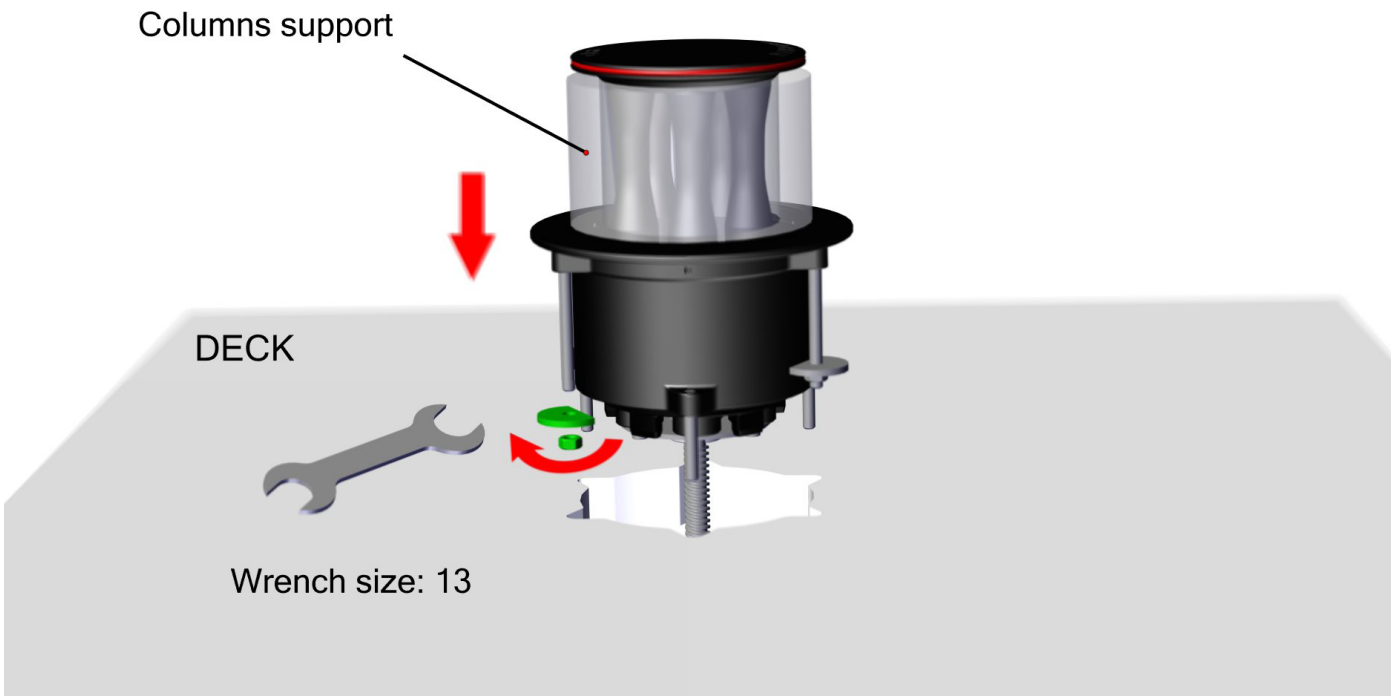
Right mounting - External motor poles

WARNING!
The mounting bolts must be isolated with anti-corrosive lubricants.
It is mandatory to prevent any direct contact between the aluminium plates from other conductive materials such as carbon fiber (deck or hull); in that case a fiberglass lamination is required to avoid any galvanic corrosion.

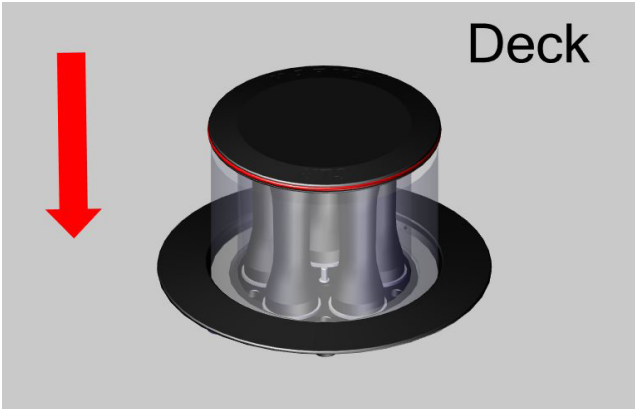
NOTE!
Installation bolts are provided by Harken: Winches CLR are equipped with M8x90 A4 stainless steel screws and deck washers.



6. Unscrew the nuts of the installation screws and the remove the deck washers (deck washers allow to close the installation screws from the underdeck side).



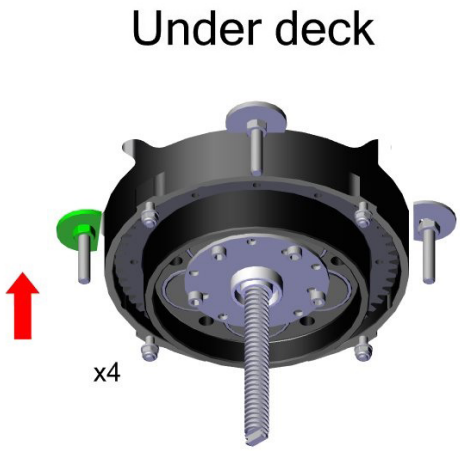
7. Insert the winch from above: pass the assembly support through the cut out hole.



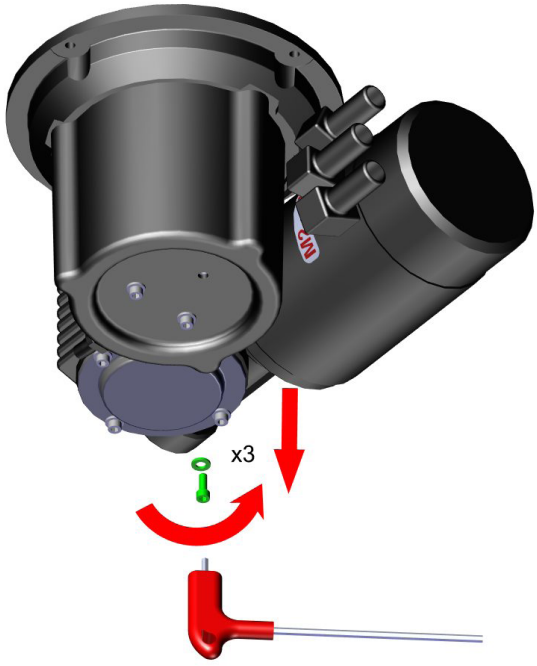
WARNING!
Do not remove the columns support.

8. Remove the excess adhesive/sealant.
9. From the underdeck side, insert the deck washers along the installation screws and close them up to the bottom surface of the deck with the proper nuts to fasten the support winch to the deck.

10. Screw the nuts and place the washers:

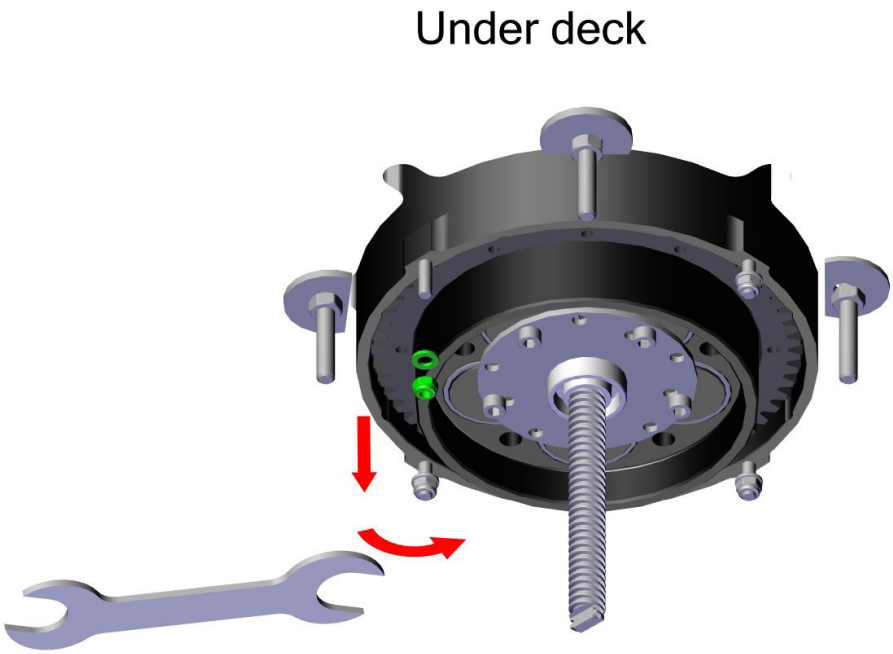


11. Remove the cover from the gearmotor assembly (view from the underdeck side):



Allen wrench size: 5

12. Unscrew nuts and remove washers:

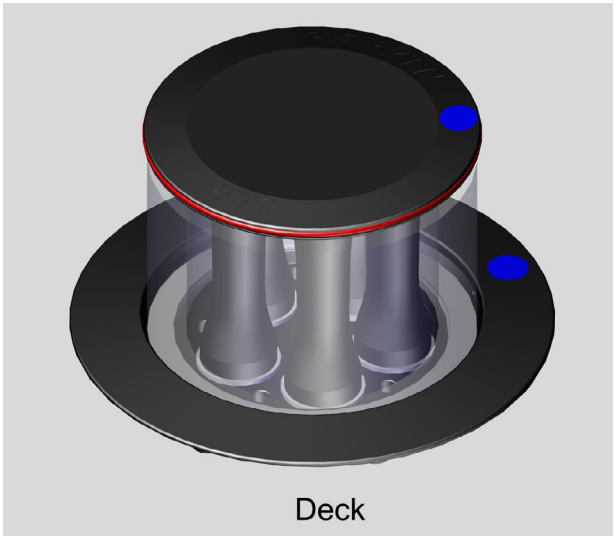


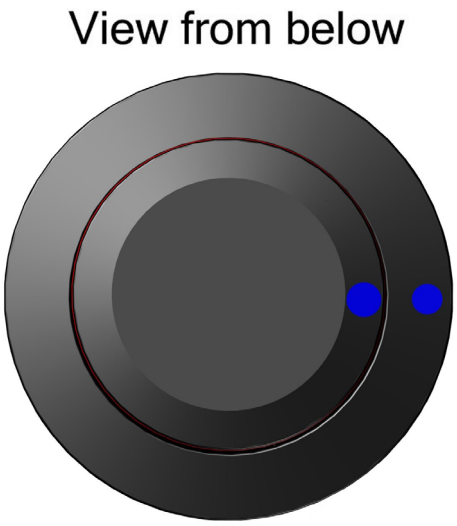
CLR 1200 - spanner size: 10

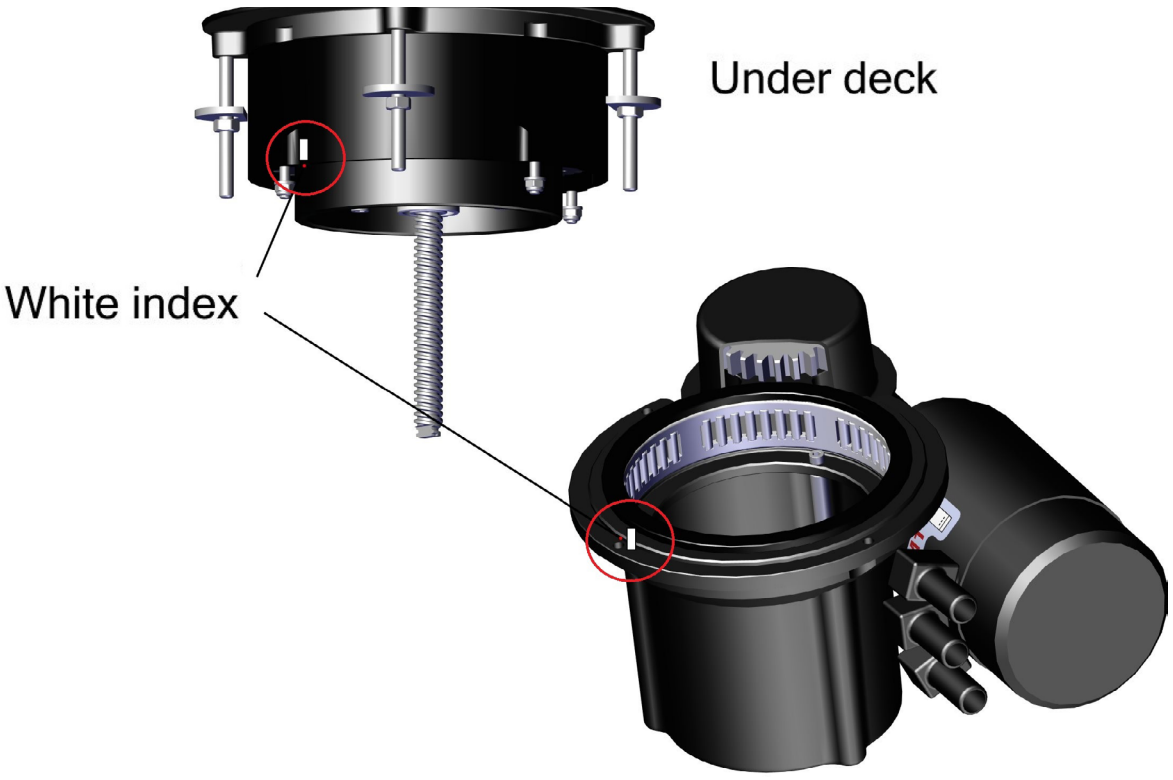
CLR 600 - 2500 - spanner size: 13

13. Once you have installed the winch on the deck, proceed with motor installation.

WARNING!
For CLR 600 and for CLR 600 RH: for the motor installation, refer to the blue index stickers placed on the top of the winch to have a positional reference from the below deck side; refer to the white tracks marked on the drum and on the motor assembly to have a positional reference from the under deck side:

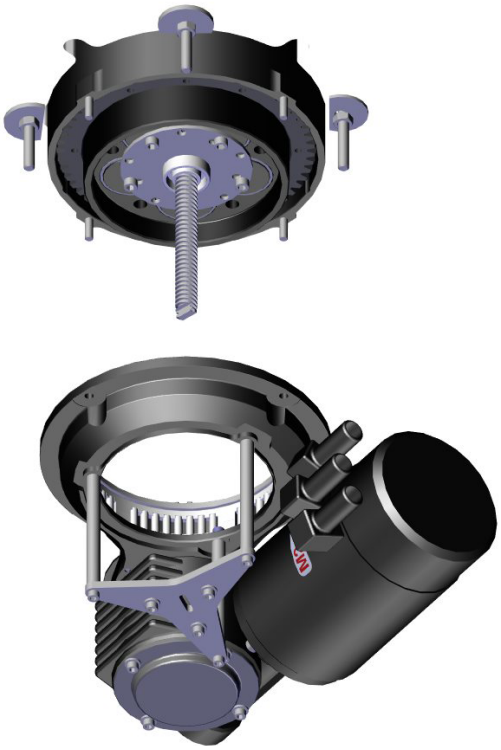




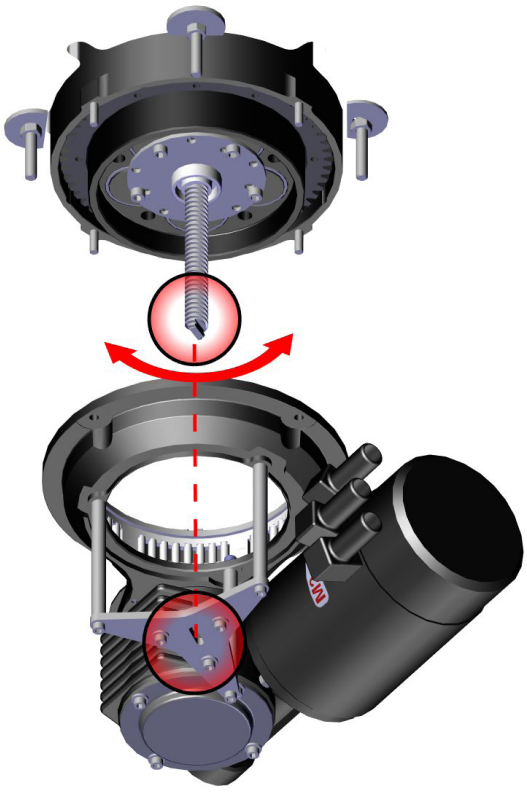


WARNING!
Make sure that the electric power is switched off before installing.

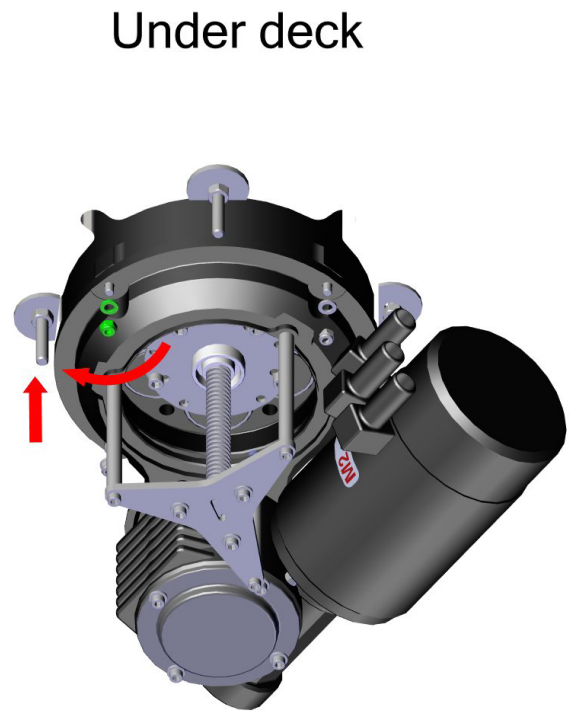
14. The gearmotor assembly must be mounted from the underdeck side:



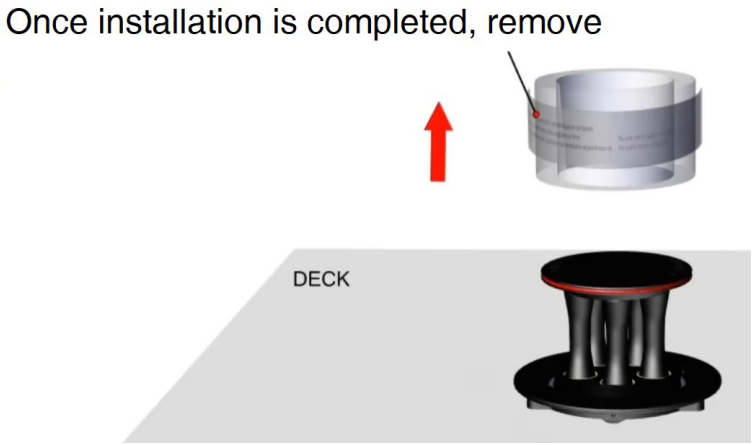
15. Once having respected the motor orientation, insert the squared end of the central screw into the slot of the base plate.



16. Screw the nuts of the gearmotor:



17. Remove the columns support.



18. Before completing the mechanical installation of the winch, proceed with the installation of the electric parts: Dual Function Control Box for the electric equipped versions and Led lights in any motorized version.

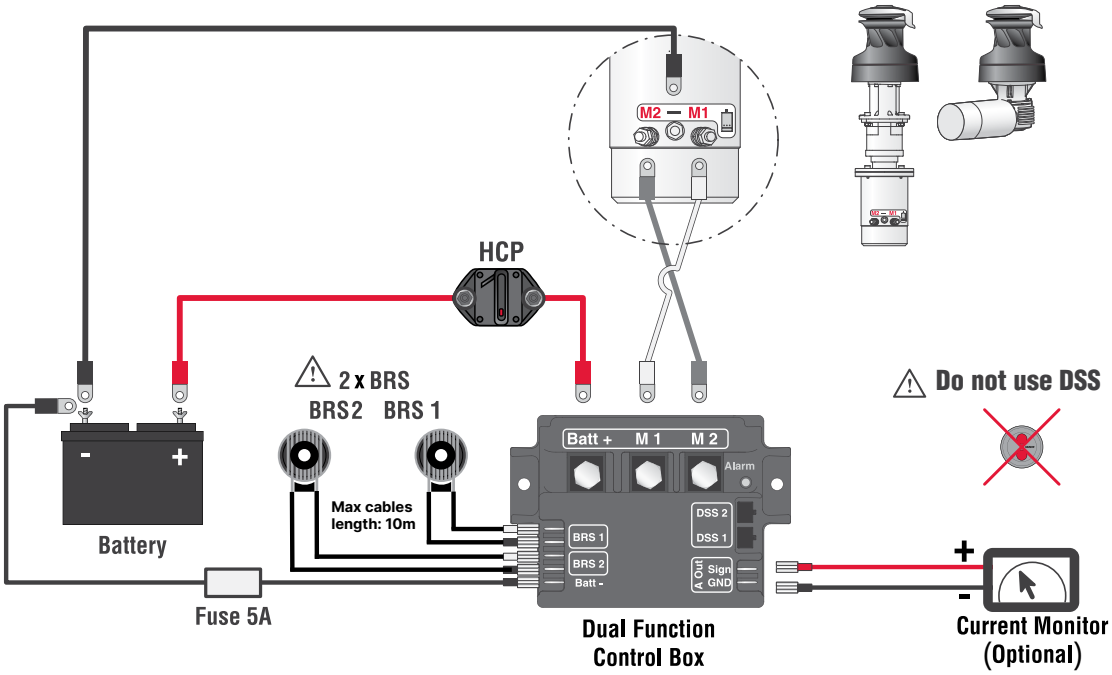
9.2 Electric wiring diagrams

To guarantee a greater efficiency in terms of safety and long life, for every CLR model (marine use) is mandatory to install the Dual Function Control Box (DFCB).

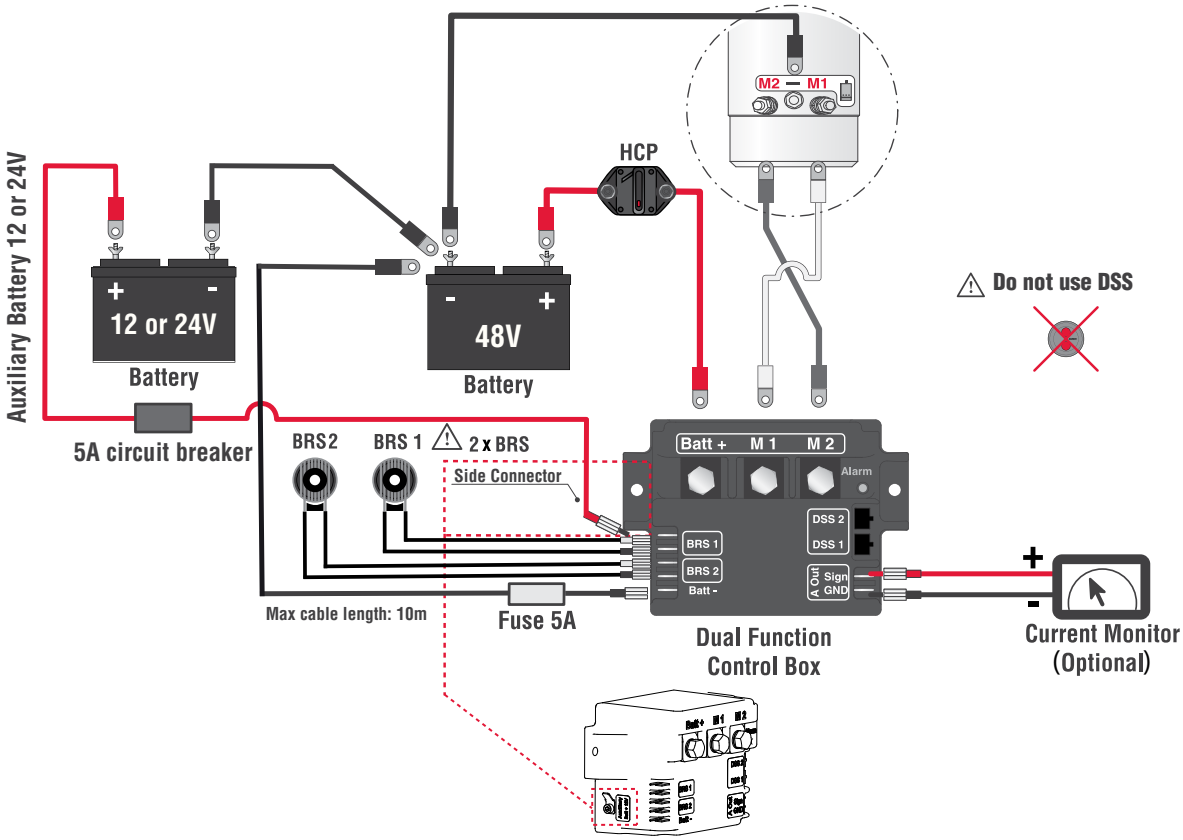
WARNING!
Read the Dual Function Control Box manual carefully before installing and using the device.

Refer to the following diagrams for the electric wiring.

12V or 24V motors



48V motors



WARNING!
Never short-cut BRS1 or BRS2 contacts to Batt+

WARNING!
Cut power off before proceeding with installation.

NOTE!
- Connect only one BRS switch to own couple of terminals, as shown in the image below.
- All ground connections (Batt -) must be connected at the same point: Batt- of DFCB to - of battery (as shown in the wiring above).
- Minimize the distance between motor and DFCB.
- Minimize the distance between DFCB and HCP.

Fasten the Dual Function Control Box containing solenoids to bulkhead or wall: refer to the Dual Function Control Box manual. Install remote circuit breaker between power supply and Dual Function Control Box. Locate the electric buttons on deck in a convenient spot for easy winch operation: for their use, please refer to user manuals of Harken analogic switches.

Refer to the following chart for wire size:

Total distance between winch and battery

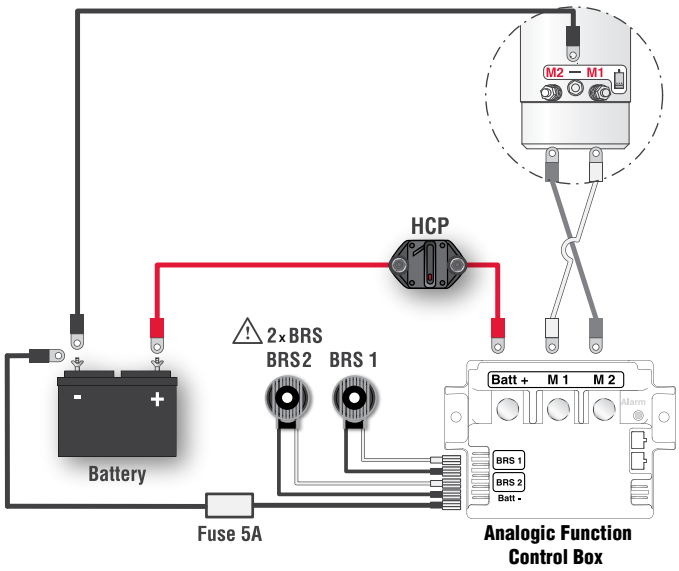
Current voltage	Under 16.4 ft AWG	Under 5 m mm²	16.4 - 32.8 ft AWG	5 m - 10 m mm²	32.8 - 49.2 ft AWG	10 m - 15 m mm²	49.2 - 65.6 ft AGW	15m - 20 m mm²
12 V	2	32	0	50	00	70	000	95
24 V	5	16	3	25	2	35	0	50

9.2.1 Electric wiring diagrams for CLR 600 RH

CLR 600 RH is equipped with the Analogic Control Box (AFCB).

WARNING!
Read the Analogic Function Control Box (AFCB) manual carefully before installing and using the device.

Refer to the following diagrams for the electric wiring, valid for 12V, 24V and 48V.



WARNING!
To realize the electric harness for CLR Mooring 600 RH, please mind the information below:

- The maximum current value of each analogic port is 0.5A
- If the customer uses the Harken analogic switches, please refer to their user manual
- The customer is the sole responsable of the cabling of the external use installed aboard
- Every customized cabling that differs from which shown in this manual must be discussed with the specialized personel by Harken
- For every cabling, it's under the customer's responsability to provide the risks analysis of the entire system
- Harken is not responsible of any risks not clearly specified in this manual.

For other information about the electric equipments and Analogic Function Control Box, please refer to the notes listed above for the standard use of the CLR Mooring 600 device.

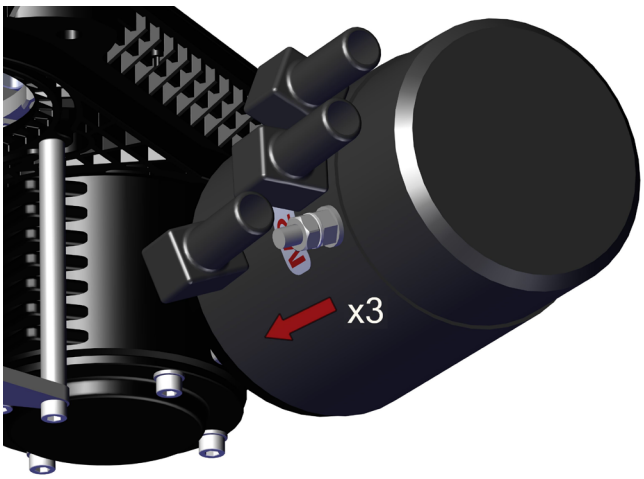
NOTE!
If the analogic switches are connected in a reverse order to the Harken Analogic Control Box, the rotational movement of the CLR Mooring 600 is inverted.

NOTE!
User can choose if installing led lights with a switch or not: if led lights are installed with the switch, their power-up and power-off states are commanded by the switch. In those cases, even if the winch is not used, lights can be lighted or switched-off.

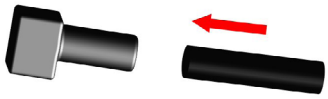
If lights are installed without switch, their control is commanded by the HCP switch. In this case, connect the led lights in correspondence of the point shown in the wiring diagrams above.

9.3 Electric motor installation procedure

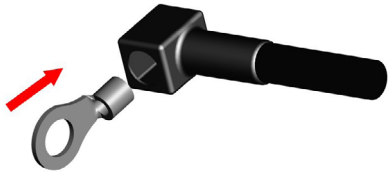
1. Before connecting the cable terminals to motor, remove the sheaths from the central spindles of the motor contacts.



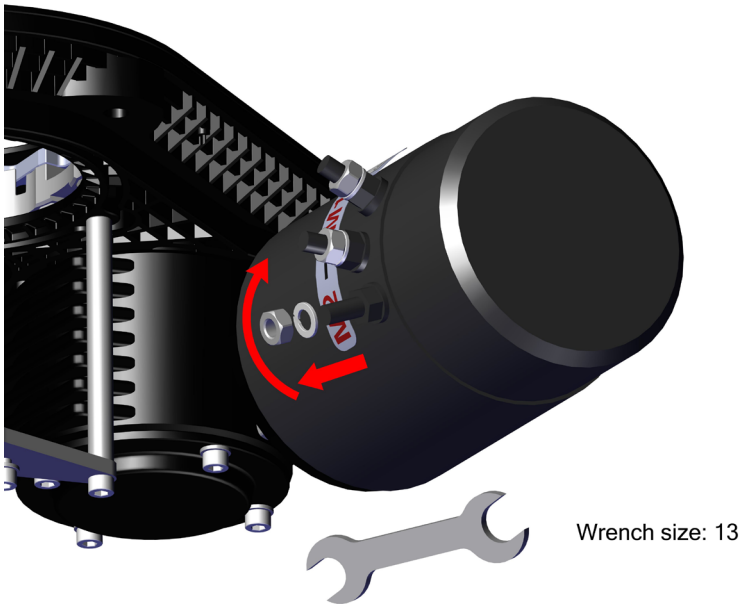
2. Insert the cables coming from the Dual Function Control Box into the sheaths



3. Crimp the cable terminals

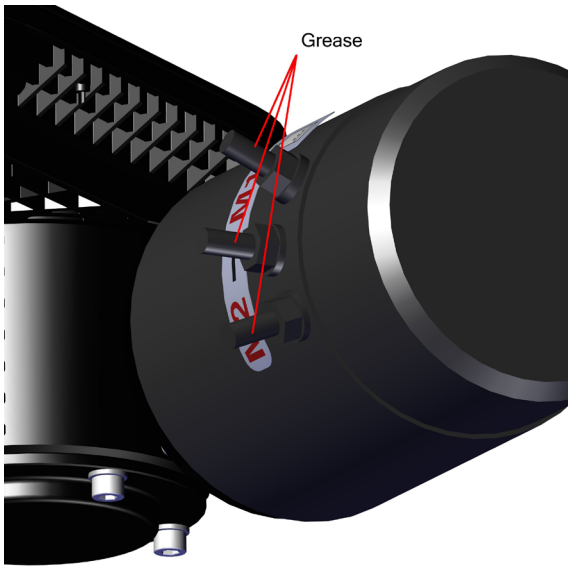


4. Unscrew nuts and remove washers from the central spindles of the motor contacts

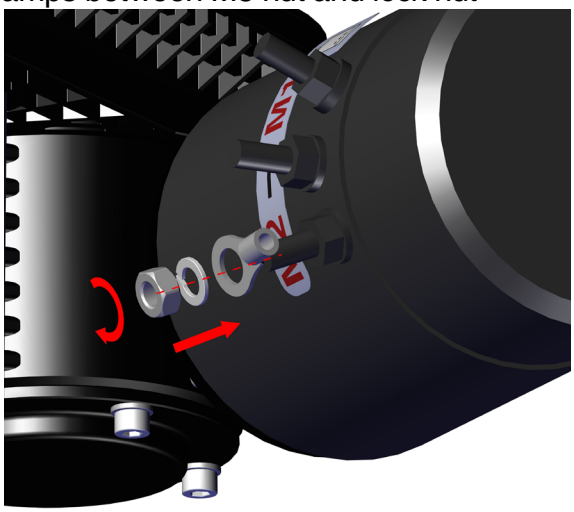


Wrench size: 13

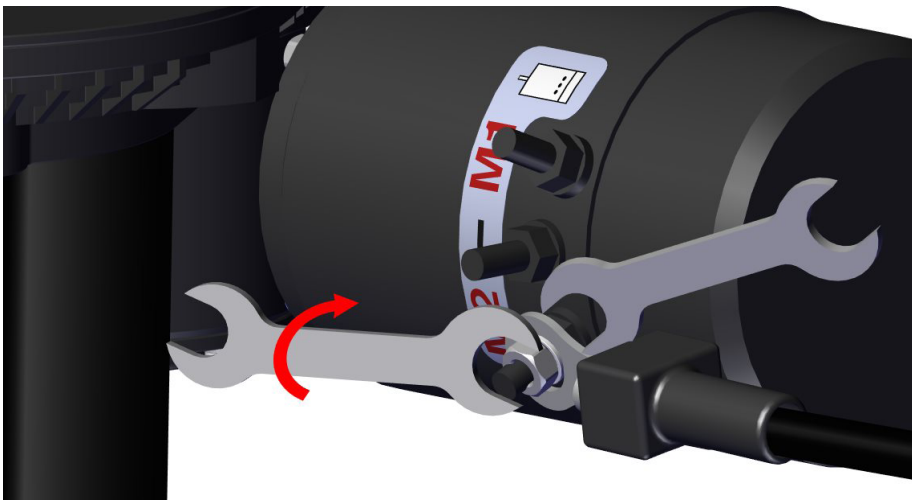
5. Apply Harken grease on the contacts of the motor



6. Attach cable terminals to clamps between M8 nut and lock nut



7. Use two counter-rotating wrenches to ensure the correct screwing of the clamps and nuts:



8. Reposition the sheath in the correct position and orientation.

NOTE! Take special care not to turn the central spindles. Be careful not to turn central spindles.

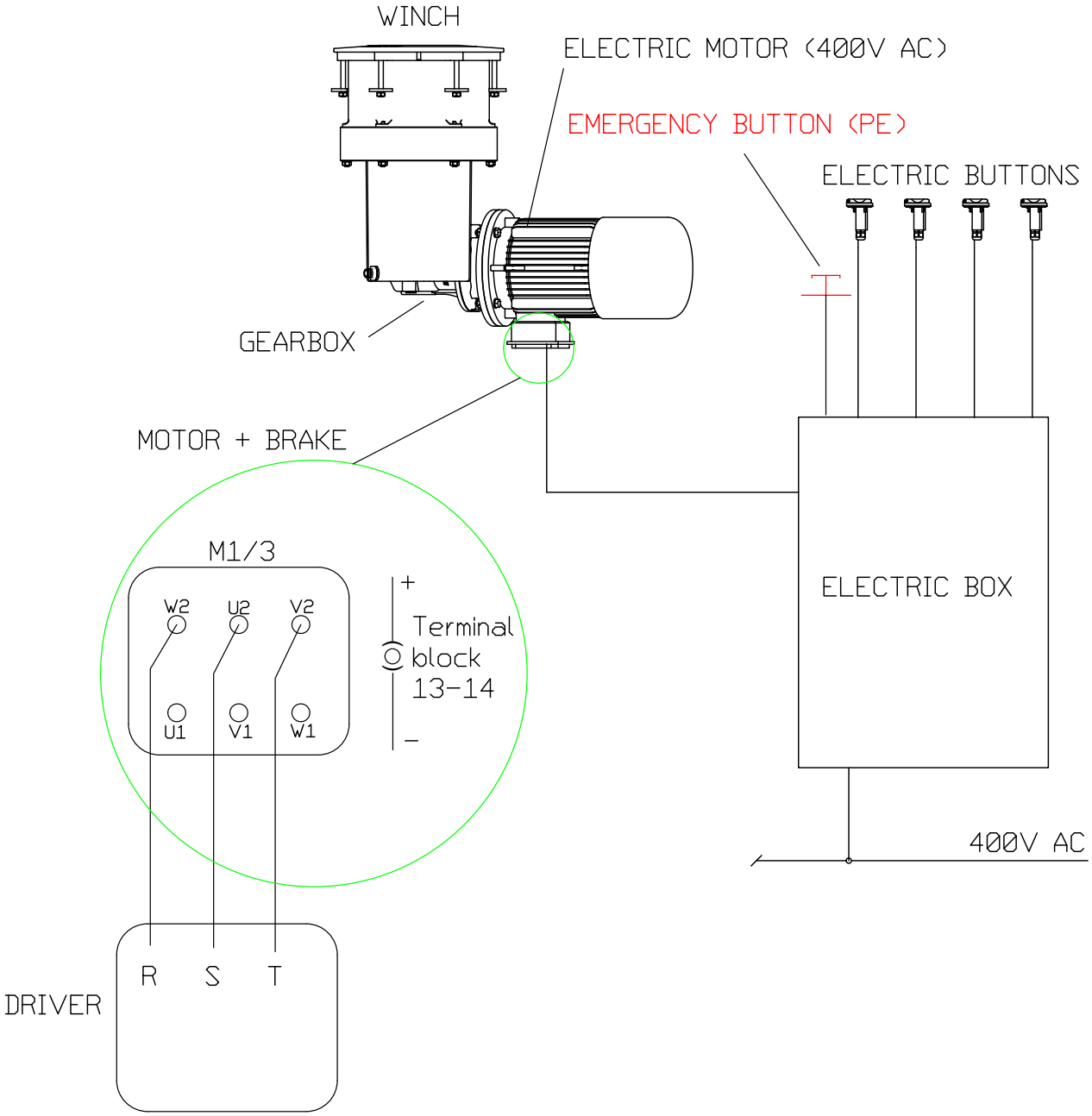
9.4 Electric wiring diagrams for 400V motor

The paper version of the 400V electric wiring system is included into the packaging of the product. During the unboxing, please verify the state of integrity of the packaging and of all the items.

NOTE!
For other information about the electric wiring shown below, please contact the Harken Tech Service at techservice@harken.it

WARNING!
Instructions to use the 400V electric system are destined exclusively to qualified operators.
Installation of the winch by personnel who are not experts may cause serious damage to users and those in the proximity of the winch.

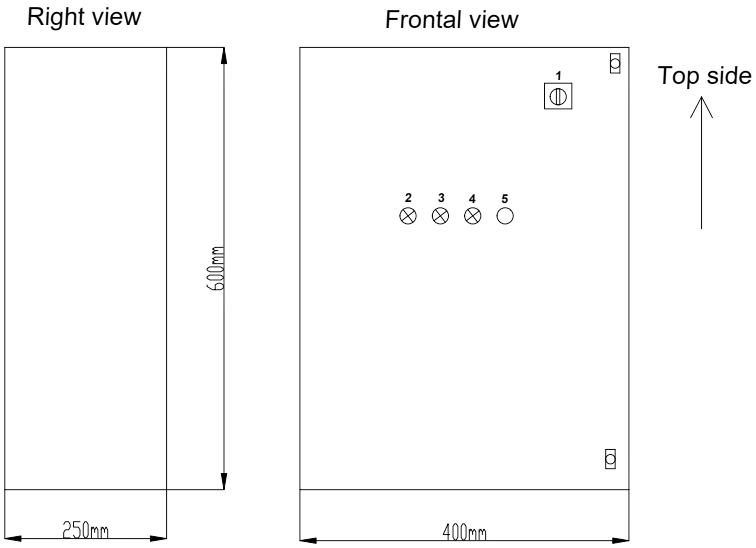
Before starting any operation, make sure having the proper personal protective equipment to operate with 400V tension.



WARNING!
Before starting any operation, wait 20 seconds for the system power-on.
For the wiring scheme of the electric box, see the printed wiring scheme included into the packaging of the electric box.

Electric box

For the installation of the electric box, please respect the proper orientation of the box as shown below:



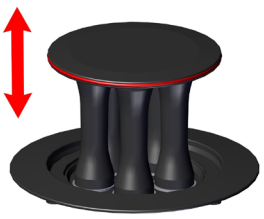
N°	Code	Description
1	Q 10.3	Main switch
2	H 50.3	Voltage ON
3	H 51.9	Auxiliary connected
4	H 50.6	Overload alarm
5	-	Spare

CLR size	CLR 2500 400V
Electric box serial number	HA2210004
Weight [Kg]	32

Electric butons

The 400V system is used with 4 electric buttons that command the following CLR operations:

- Fast clockwise command: fast opening movement of the CLR
- Fast counterclockwise command: fast closing movement of the CLR
- Slow clockwise command: slow opening movement of the CLR
- Slow counterclockwise command: slow closing movement of the CLR

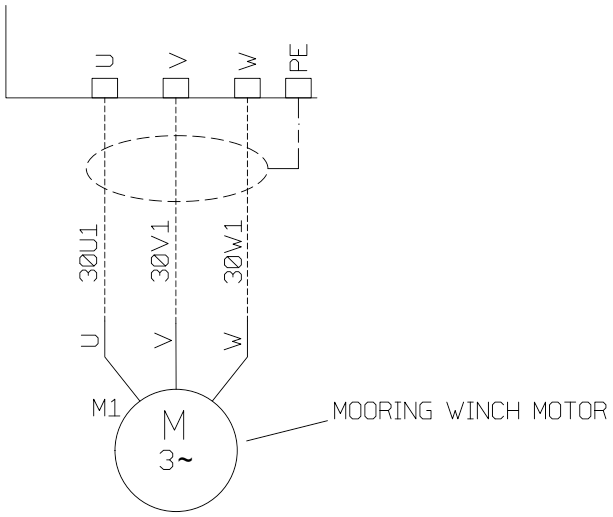


Deck plane

For wiring, please refer to page "Auxiliary circuit; Winch command circuit" of the wiring scheme available into the packaging of the electric box.

Motor + brake

The 400V electric motor is 2 speeds asynchronous three-phase.
The operating unit of the motor system is composed of the 400V electric motor and brake: the whole motor system is regulated by the driver, included into the electric box.
For the power motor supply, use shielded cables as shown in page "Power" of the wiring scheme and below:



Cable cross-section [mm²]	4
Tightening torques for terminals strip pins [Nm]	3
Max cable length [m]	25
Screw tightening torque for PE terminals [Nm]	2,4

Gearbox

The CLR 2500 EL 400V is equipped with a reduction gear worm screw gearbox.
Gear ratio is 1:15.

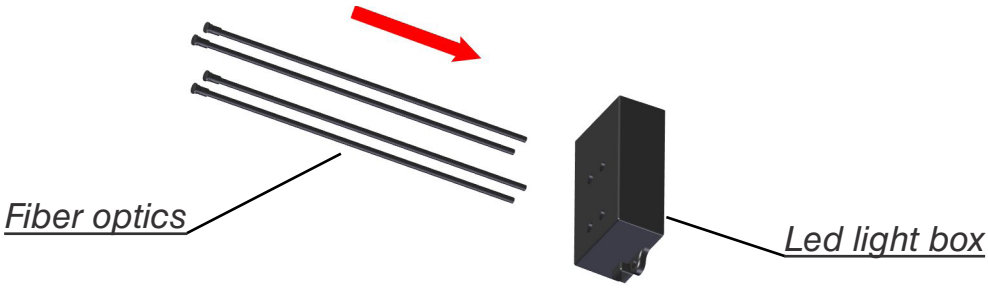
9.5 Functional test

NOTE!
Before installing the led lights and using the winch, proceed with a functional test to verify if the mechanics and the electric parts are correclty installed.
To start the functional test, follow the procedure below:
1. Switch on the motor power by pressing the HCP button (shown in the DFCB wiring diagrams).
2. Press the first electric button installed on the deck.
3. Keep pushed the electric button until the come-out stroke of the drum of the winch is completed.
In this phase, the drum rotates clockwise.
4. Press the second electric button to let the drum into the base of the winch.
In this phase the drum rotates counter-clockwise.
5. Keep pushed the electric button until the come-in stroke of the drum is completed.

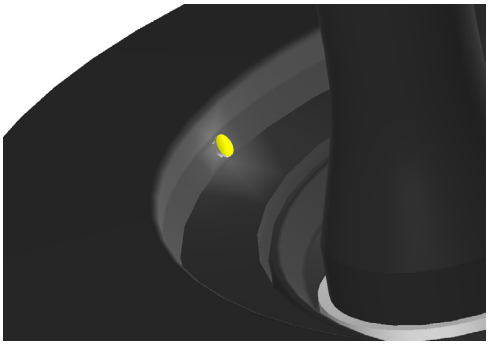
NOTE!
For all info regarding the use of the winch, refer to the User Manual available in paper form, included into the packaging of the purchased winch, and available on our website www.harken.com.

9.6 Led lights installation

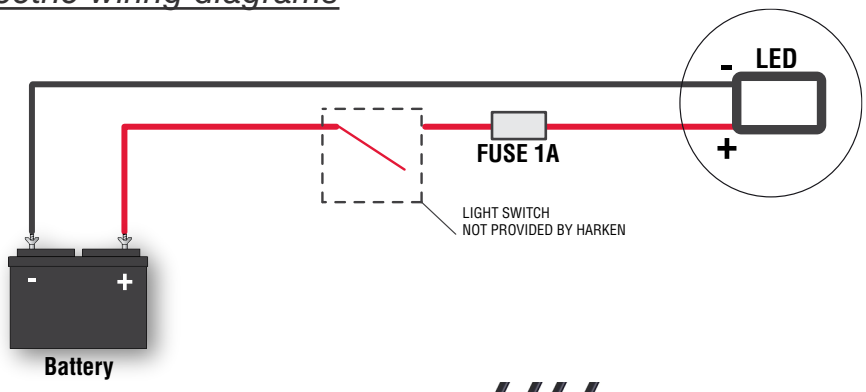
After installing the motor and the Dual Function Control Box, proceed with the installation of the led lights.
CLR Mooring Winch is equipped with 4 fiber optics that carry on the lights coming from the led lights sources to the columns of the drum of the winch.
Led lights are to be installed from the underdeck side.
Fiber optics are to be cabled to the led light box:

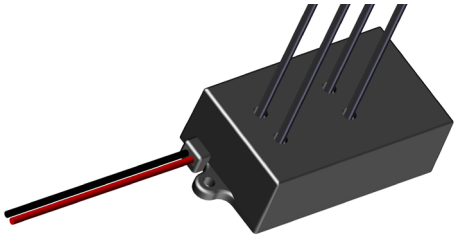


After the cabling, pass the fiber optics cables throughout the slots realized into the deck not used for the passage of the drum of the winch.
The installation of the fiber optics is completed by inserting the fiber optics cables into the holes of the top flange:



9.7 Led lights - Electric wiring diagrams





NOTE!
The cabling of the led lights sytem must be done taking into account the following data:
Voltage range: 10-30V
Current absortion: 150mA

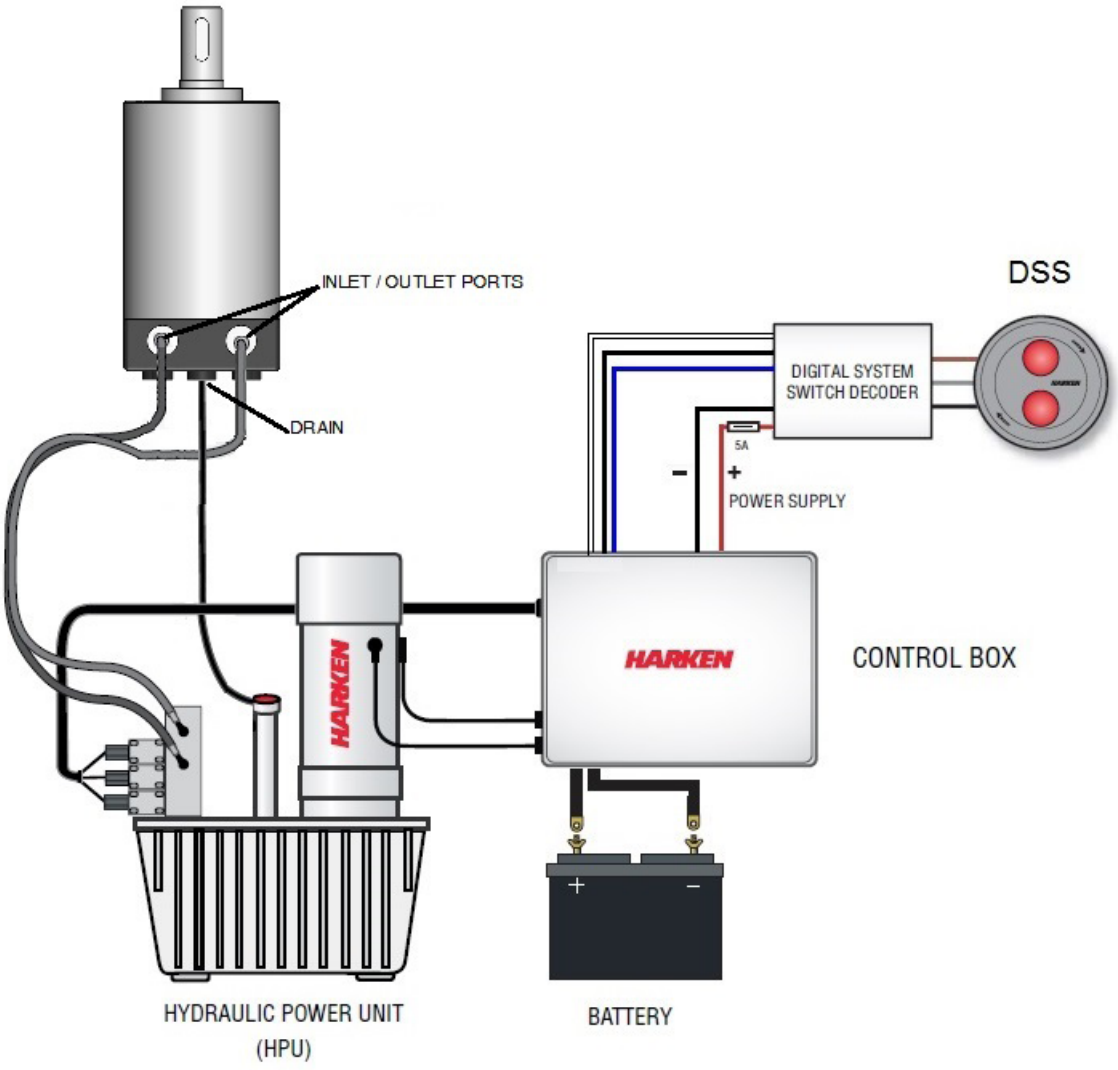
9.8 Hydraulic connections diagrams

The hydraulic motor must be connected to a hydraulic system using two high-pressure tubes which serve for input or output according to the direction in which the motor will be run. The motor also needs a third connection with a low pressure tube for drainage, so that excess oil can return to the main tank to avoid shortening the life of the motor. This motor uses a closed centre valve.

For the hydraulic motor ports size refer to the Outline section of this manual.

The hydraulic motor must be connected to a hydraulic system using two high-pressure tubes which serve for input or output according to the direction in which the motor will be run. The motor also needs a third connection with a low pressure tube for drainage, so that excess oil can return to the main tank to avoid shortening the life of the motor. This motor uses a closed centre valve.

For the hydraulic motor ports size refer to the Outline section of this manual.
Refer to the following chart for the hydraulic system:



WARNING!
Refer to the Hydraulic Power Unit and Control Box manual.

WARNING!
Refer to the Digital System Switch manual.

19. After the installations and the preliminary functional test, screw the cover to the base plate.
20. The installation procedure is completed by connecting the drain plug with a proper drain tube (not provided by Harken).

10. Maintenance

10.1 Washing

The more the winch is used, the more frequent it will be its maintenance and cleaning: environmental conditions and use influence the usury of the components of the winch and directly the maintenance and cleaning frequency by the user.

Winch must be frequently washed with fresh water, at least after each use.
In addition they must be completely overhauled, cleaned and lubricated at least every 12 months.

After an inspection, replace worn or damaged components.

Use a brush to lightly lubricate all gears, gear pins, teeth and all moving parts with grease.

Do not allow teak cleaning products or other cleaners containing caustic solutions to come into contact with winches and especially anodised, chrome plated or plastic parts.
Do not use solvents, polishes or abrasive pastes on the logos or stickers on the winches.
Do not use polishes or abrasive pastes on anodised, chrome plated, wooden or plastics surfaces.
Make sure that the holes and drainage channels in the base of the winch are not obstructed so that water does not collect.

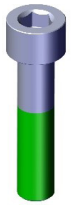
WARNING!
Periodic maintenance must be carried out regularly. Lack of adequate maintenance shortens the life of the winch, can cause serious injury and also invalidate the winch warranty.
Installation and maintenance of winches must be carried out exclusively by specialized personnel.

WARNING!
Make sure that the power is switched off before carrying out maintenance on the winch.
In case of doubt contact Harken® Tech Service at techservice@harken.it

10.2 Maintenance products

The maintenance products listed below must be used:

1. Strong threadlocker – Green (i.e. LOCTITE® 270)
Clean the parts and apply the product, spreading it all over the thread as shown.
Assemble the parts and wait at least 45 minutes before use. To remove screws sealed with threadlocker, you may need to heat the parts to reduce the effect.

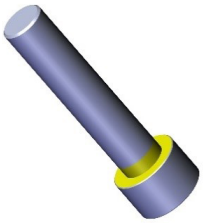


2. Medium threadlocker – Blue (i.e. LOCTITE® 243)
Clean the parts and apply the product, spreading it all over the thread as shown.
Assemble the parts and wait at least 45 minutes before use.
Generally, for use on all screws, requires no heating before removal.

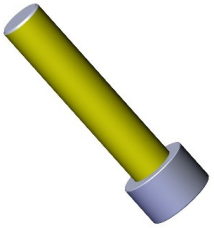
4. Synthetic GREASE Harken - BK4513
Apply a film of grease with a brush to all the parts indicated, and make sure that the film is visible. Take special care when greasing the teeth of the ring gears, the gears and the roller bearings.
It is important to keep the teeth of the ring gears of our winches greased to increase their efficiency and life.

WARNING!
Parts and especially the gears of the winch that are not sufficiently greased will undergo irreversible wear that is not covered by the warranty.

5. Anti-corrosive lubricants (i.e. TEFGEL®)
Apply sacrificial anodes or anti corrosive lubricants to prevent electrolytic corrosion between different metals in contact with one another.
NOTE! Apply the anti-corrosive lubricant with a brush on clean surfaces.



6. Anti-seizing (i.e. SAF-T-EZE® Anti-Seize or LANOCOTE®)
This product is used to prevent problems of seizing caused by oxidation.
We recommend using this or similar products on stainless steel screws where the use of Loctite is not specifically requested.



NOTE! Apply the anti-seize with a brush.

7. Vaseline OIL
This product is used to lubricate balls and roller bearings.

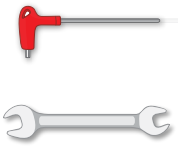
10.3 Disassembly procedure

NOTE!
In case of doubt, to identify the various parts refer to the exploded view at the end of this manual.

NOTE!
The disassembly procedure is useful for the maintenance, cleaning and lubrification of every item of the product.
In the procedure, three types of operations are described:
- Flush deck operations
- Under deck operations
- Bench operations: for all operations for which user must have a comfortable position to disassemble and reassemble the several components. For those operations, is strongly recommended to operate on a proper bench to avoid damages and to operate into the correct rooms dedicated for the tooling handling.

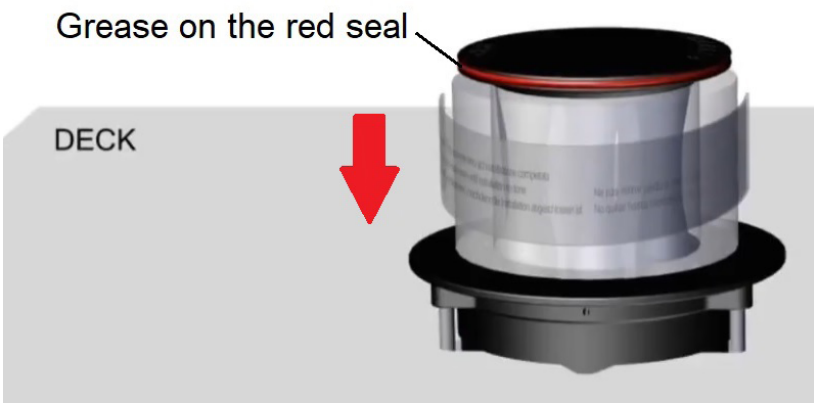
Tools needed:

- One number 5 allen wrench
- For CLR Mooring 600 MOBS only: One number 5 allen wrench
- One number 13 adjustable spanner
- One number 10 adjustable spanner
- Rags



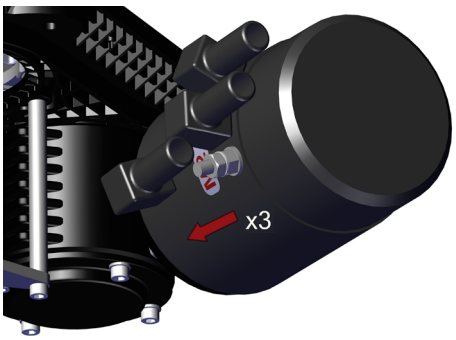
Torque to apply in assembly phase

1. Remove the fiber optics: from the open drum configuration, disconnect the fiber optics following the opposite order of the procedure specificed in the section #16.4 of this manual (Led lights installation). Only in case the fiber optics are broken or damaged, proceed with the substitution of the led kit, with the removal and the installation (for the spare kits and parts see section Ordering spare parts of this manual).
2. Flush deck operation - Place the drum support to keep open the drum:

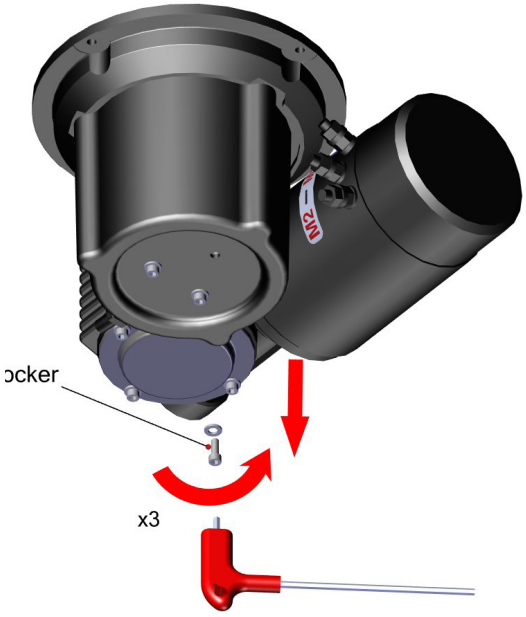


3. Under deck operation - Disconnect the motor, following the opposite order of the procedure specificed in the section #16.2 of this manual (motor installation).

3.1 Remove the sheaths from the motor poles to have a better handle during the disassembly procedure:



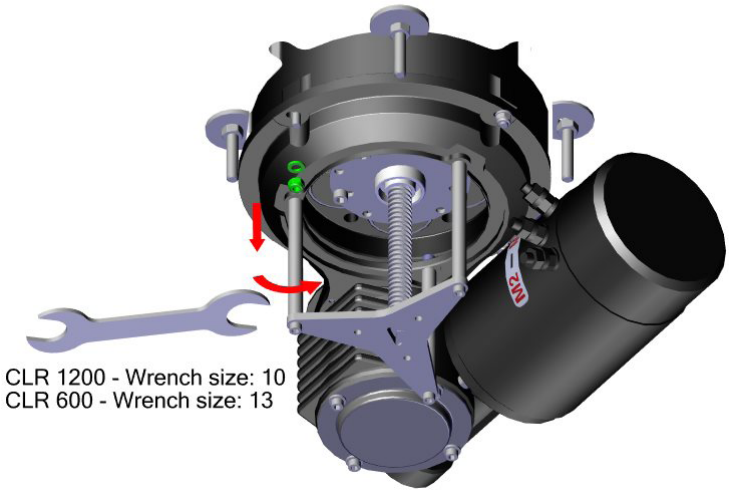
4. Under deck operation - Remove the drain plug and the motor cover:



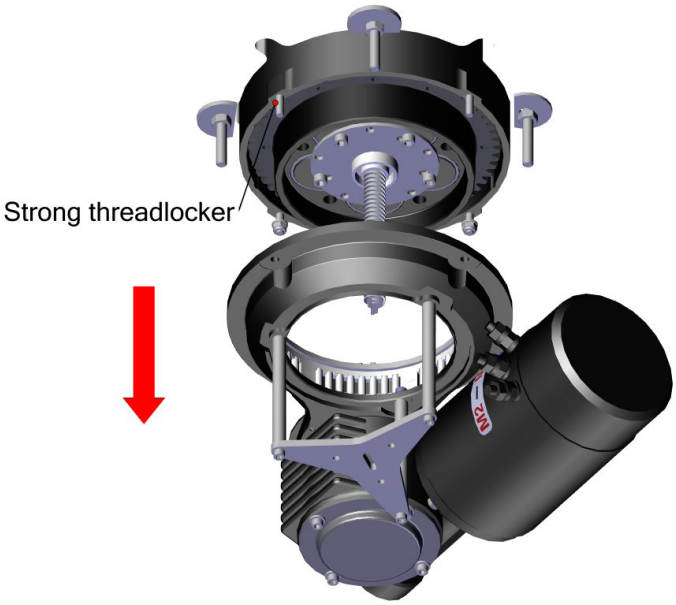
Allen wrench size: 5

5. Under deck operation - Remove the motor assembly, unscrewing nuts and removing washers:

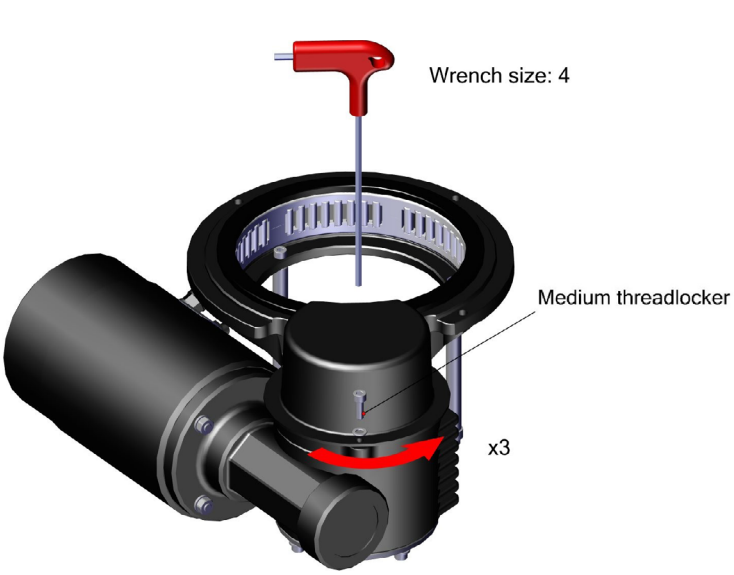
Under deck

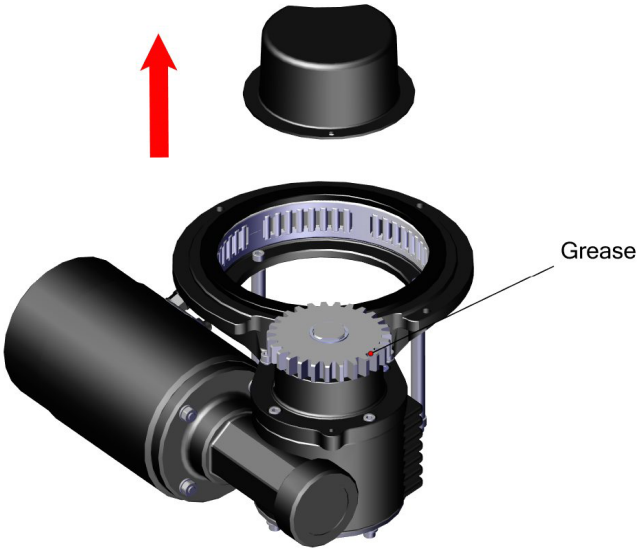


Under deck

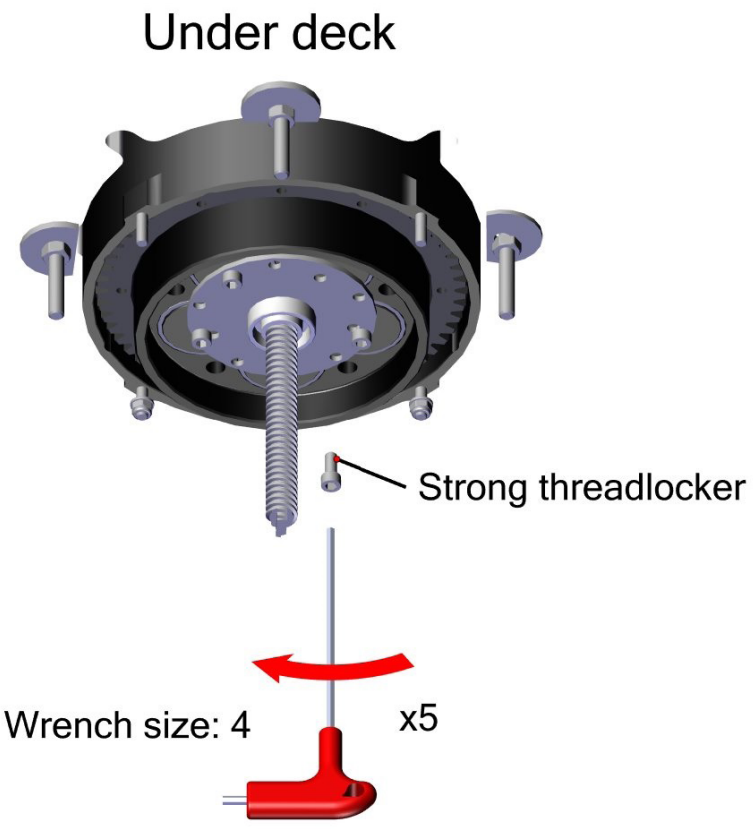


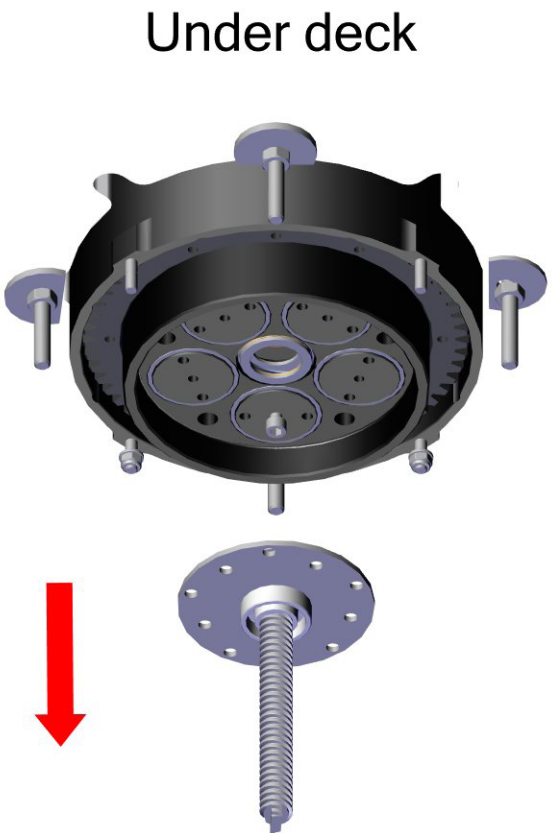
NOTE! For CLR 1200 only:
5.1 Bench operation - Unscrew n°3x M5 socket head screws and the motor cap to inspect, clean and lubricate the internal pinion:





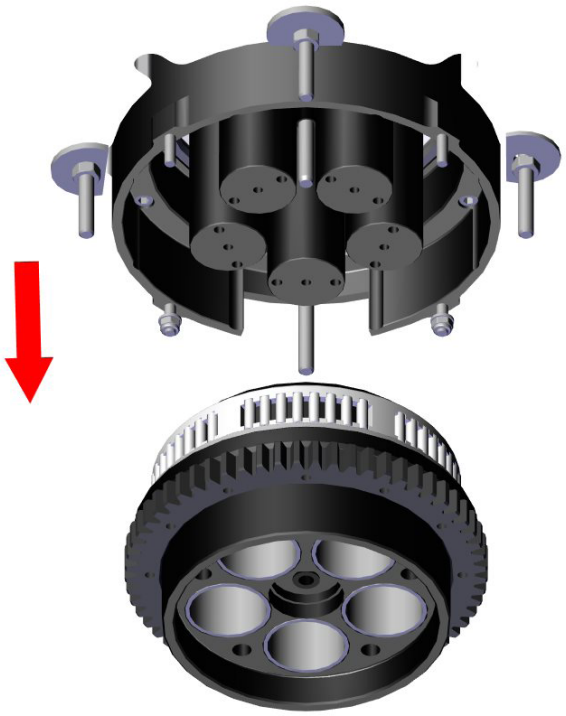
6. Under deck operation - Unscrew n°5x M6 socket head screws to remove the friction clutch group:



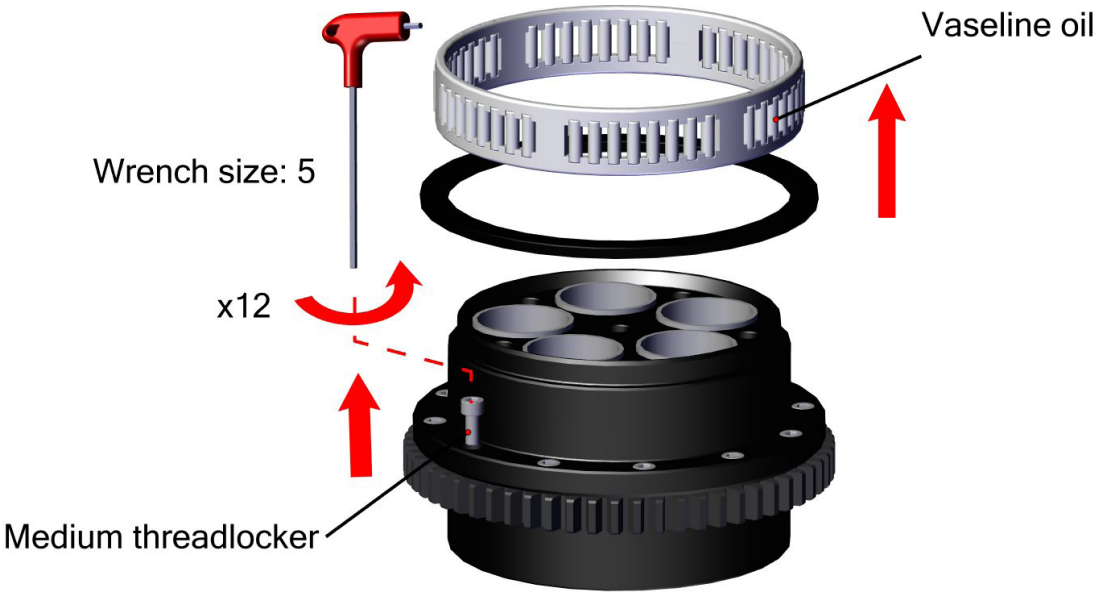


NOTE! Be careful to the hub, the washer and the needle roller bearing not axially fixed after the disassembly of the friction clutch group.

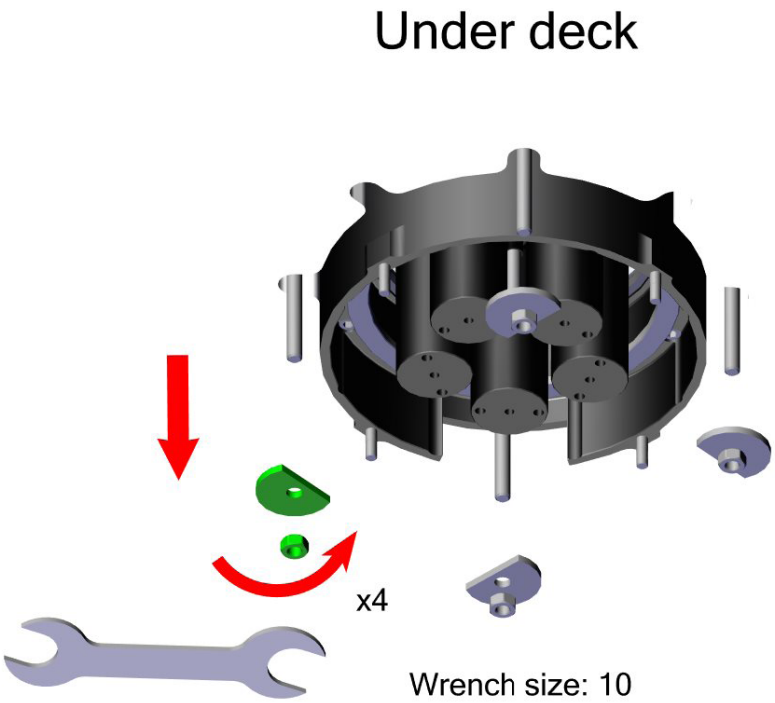
Under deck



7. Bench operation - Remove the needle roller bearing, washer and unscrew n°12x M6x14 socket head screws to remove the toothed gear from the hub:

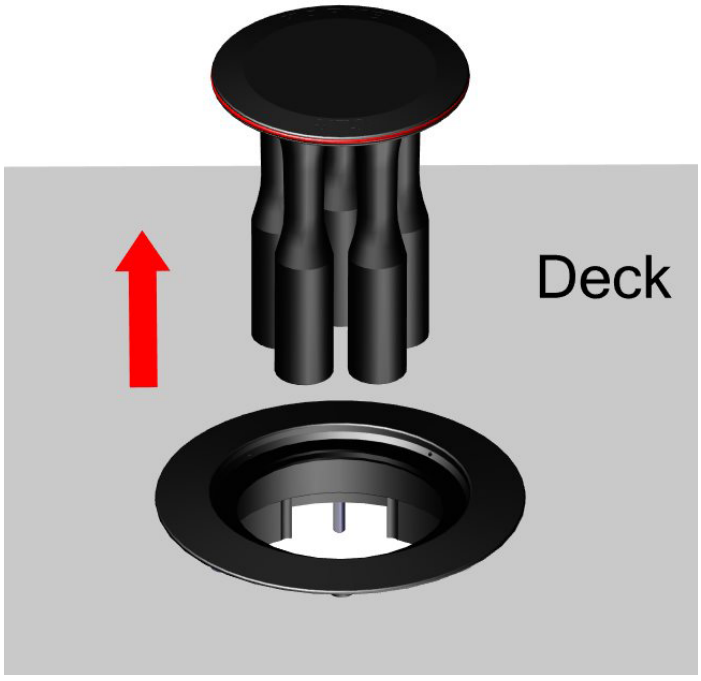


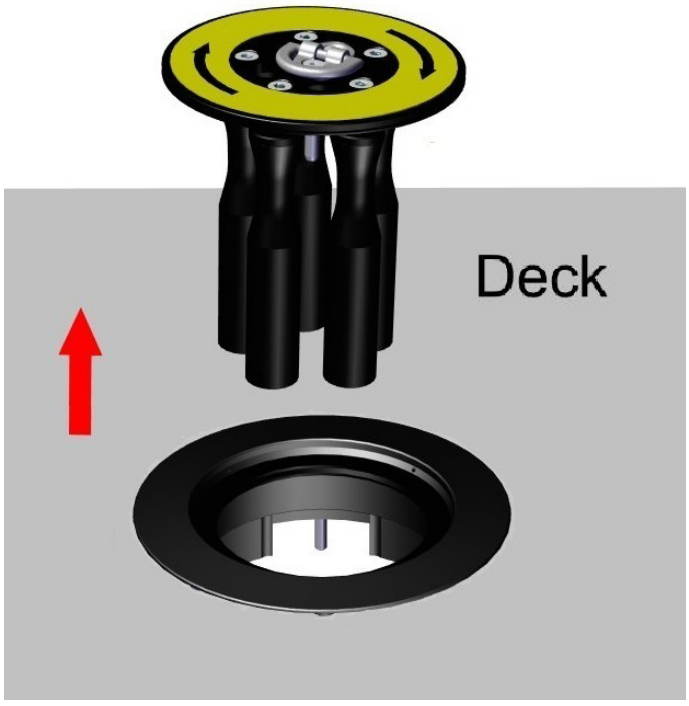
8. Unscrew 4 nuts and remove 4 washers to remove the base from the deck (opposite procedure of the section #10 of this manual):



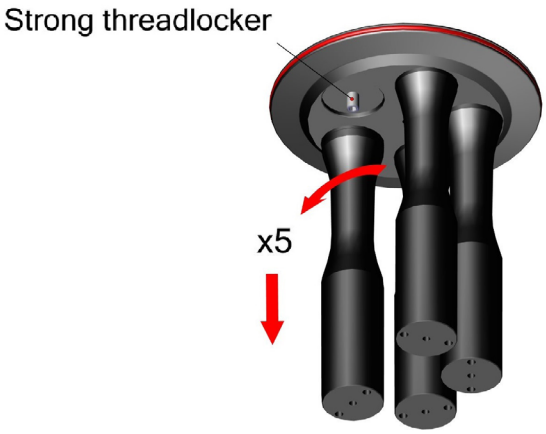
9. Flush deck operation - Remove the drum support and extract the top and the coloumns:

For CLR 600 RH

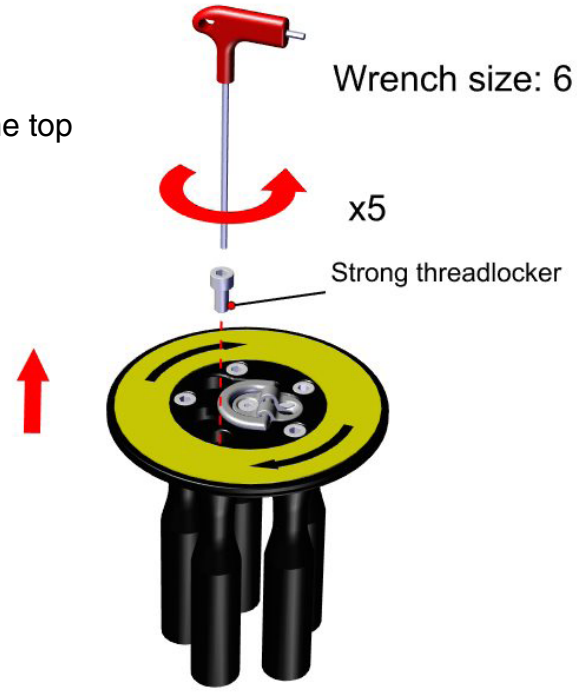




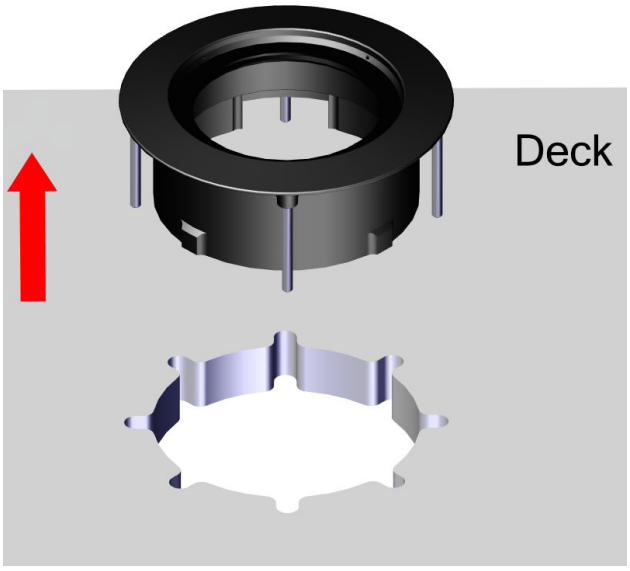
10. Flush deck operation - Unscrew the coloumns from the top:

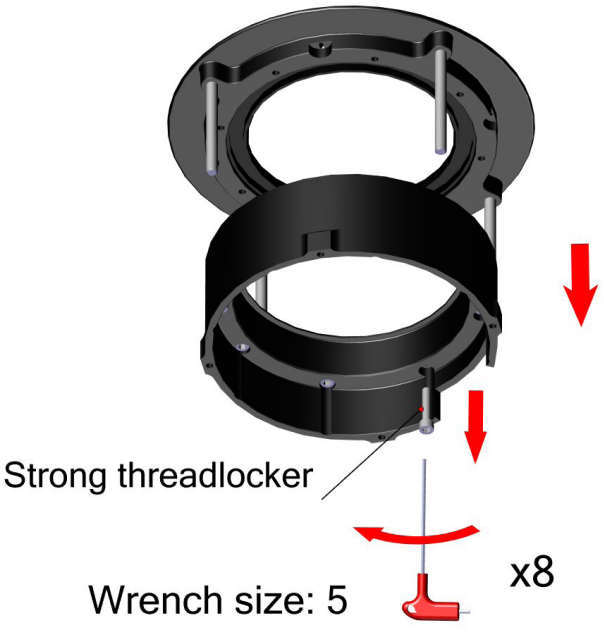


10.1 For CLR 600 RH only: unscrew the coloumns from the top



11. Bench operation - Extract the base from the deck and unscrew n°8x M6x30 socket head screws to remove the base from the top:

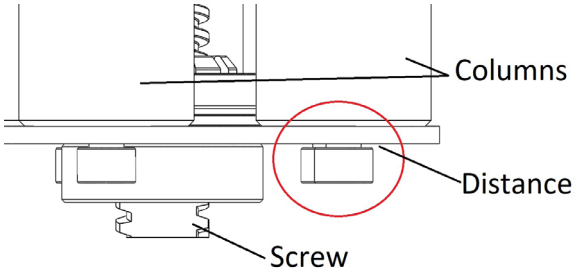




10.4 Assembly

Assemble the winch in the reverse order of the sequence in the section of the disassembly.

NOTE!
Once the screwing of the columns is completed, the distance between flange and the head of the screws is an essential design aspect for the proper mechanical working of the Winch.



In case of doubt concerning the assembly procedure contact Harken® Tech Service at techservice@harken.it

11. Harken limited worldwide warranty

Harken Winch is covered by a warranty: if during the warranty period the winch proves defective or suffers breakages, the manufacturer, after checking the device, will repair or replace the defective components as indicated in the warranty.

NOTE!
Refer to the Harken® Limited Worldwide Warranty in the Harken Catalogue and on the website www.harken.com

12. Ordering spare parts

Spare parts can be requested from Harken as described in the Harken Limited Worldwide Warranty, indicating the part number in the parts list and including the serial number of the winch for which the parts are required. The serial number of the winch is sticked on the lateral side of the winch, as shown:

Manufacturer

Harken® Italy S.p.A.
Via Marco Biagi, 14
22070 Limido Comasco (CO) Italy
Tel: **(+39) 031.3523511**
Fax: **(+39) 031.3520031**
Email: **info@harken.it**
Web: **www.harken.com**

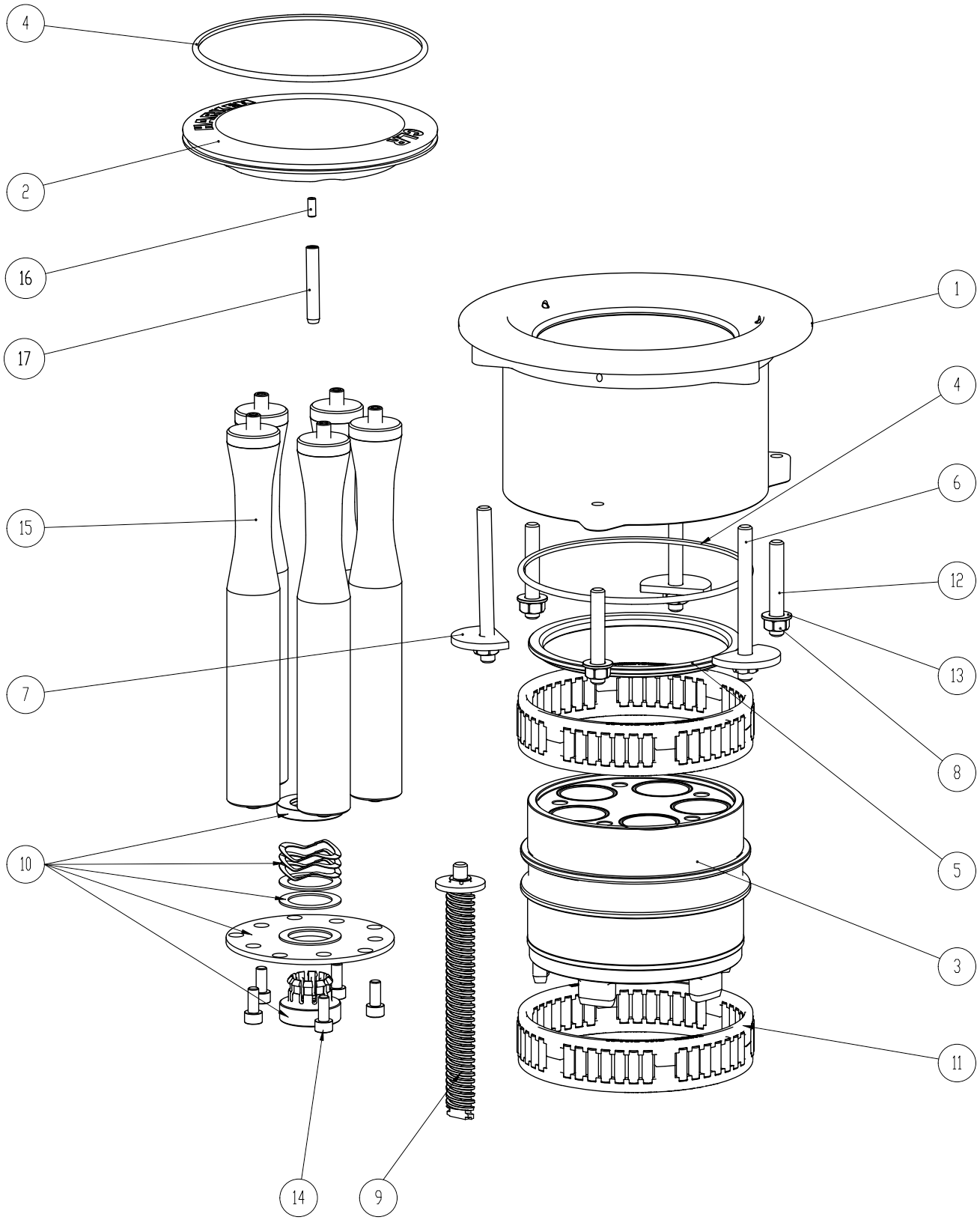
- **Tech Service**
  Email: **techservice@harken.it**
- **Customer Service**
  Tel: **(+39) 031.3523511**
  Email: **info@harken.it**

Headquarters

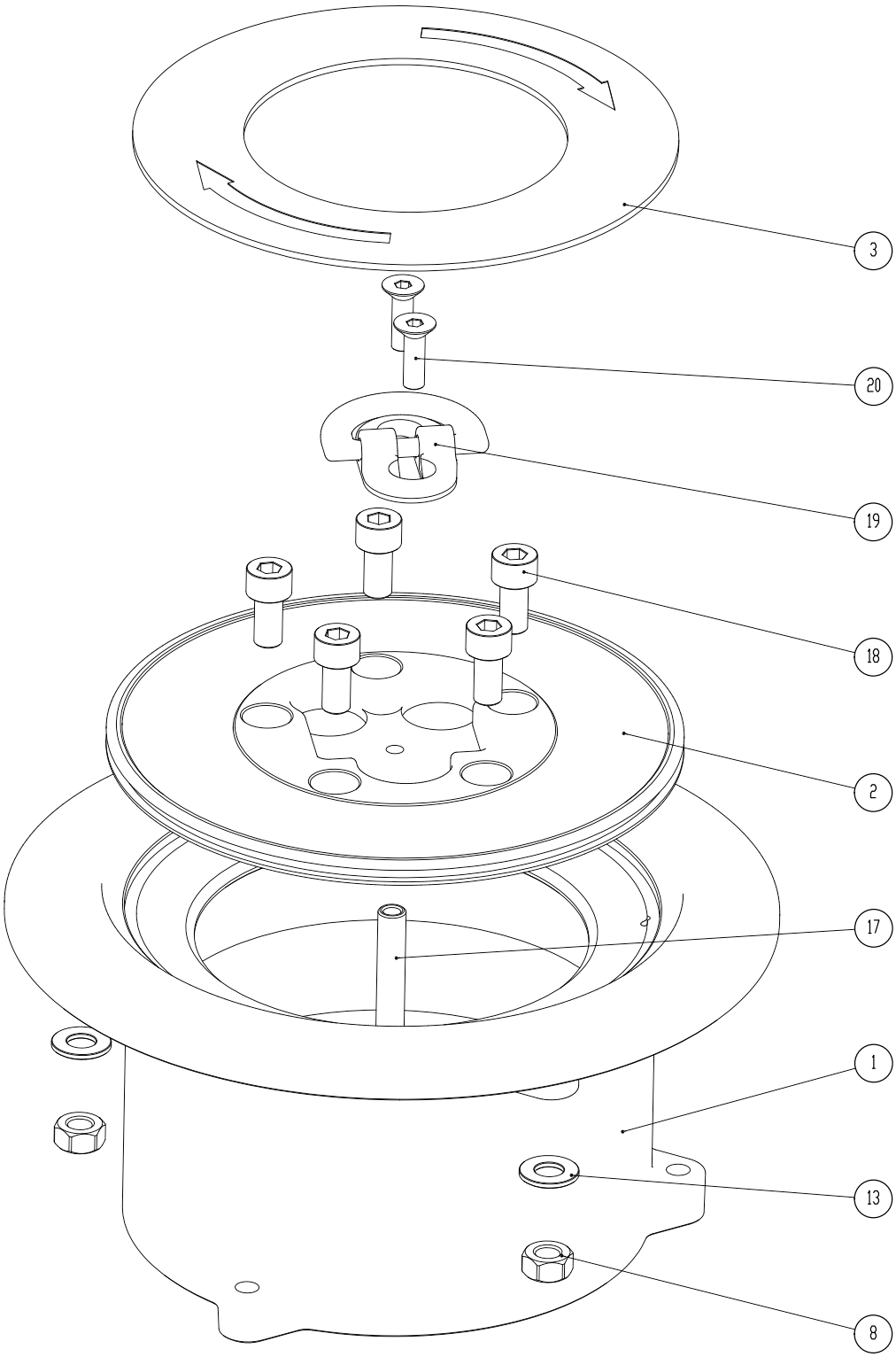
Harken®, Inc.
1251 East Wisconsin Avenue
Pewaukee, Wisconsin 53072-3755 USA
Tel: **(262) 691.3320**
Fax: **(262) 691.3008**
Email: **harken@harken.com**
Web: **www.harken.com**

- **Tech Service**
  Email: **technicalservice@harken.com**
- **Customer Service**
  Tel: **(262) 691-3320**
  Email: **customerservice@harken.com**

13. Exploded view - CLR Mooring Winch 600



13.1 Exploded view - CLR 600 RH kit



14. Parts List - CLR Mooring Winch 600

Aluminum version

Pos.	Q.ty	Code	Description
1	1	S713950053	Support
2	1	S713970053	Cover
3	1	A97139600	Hub assembly
			Hub
	10	M6076894	Bushing Ø30xØ34x49
	1	S713810081	Bushing Ø8xØ32x10
4	2	S7138300B6	O-RING Ø126,59XØ3,53 RED
5	1	S713920080	Bushing
6	3	S708330003	Threaded bar M8x90
7	3	S708320003	Washer Ø8,5xØ40x4
8	6	M0602903	Nut M8 UNI 5588
9	1	A97138200	Screw assembly
			Screw Tr 16x8 LH
			Plain washer DIN 440V 9xØ22x3 square hole
			Elastic ring D6-UNI7434-DIN6799 A4
10	1	A77083400	Clutch assembly
			Nut Tr 16x8 LH
			Flange
			Bushing Ø22,5/35,5xØ37,5x6/2
			Washer Ø25,5xØ35x1
			Washer Ø25xØ35x2
			Wave spring
11	2	A77139400	Roller Bearing Ø122xØ134x30
12	3	S427170003	Stud screw M8x55
13	3	M648703	Washer Ø8 ISO 7089
14	5	M0606803	Screw M6x14 UNI 5931
15	5	A77139800	Bar assembly
			Bar Ø30
			Set screw M8x20 UNI 5923
			Spacer 6x8x5,5
16	1	M6090803	Set screw M5x12
17	1	M6075903	Straight pin ISO 8735B Ø8x50

Chrome version

Pos.	Q.ty	Code	Description
1	1	S713950043	Support
2	1	S713970043	Cover
3	1	A97139600	Hub assembly
			Hub
	10	M6076894	Bushing Ø30xØ34x49
	1	S713810081	Bushing Ø8xØ32x10
4	2	S7138300B6	O-RING Ø126,59XØ3,53 RED
5	1	S713920080	Bushing
6	3	S708330003	Threaded bar M8x90
7	3	S708320003	Washer Ø8,5xØ40x4
8	6	M0602903	Nut M8 UNI 5588
9	1	A97138200	Screw assembly
			Screw Tr 16x8 LH
			Plain washer DIN 440V 9xØ22x3 square hole
			Elastic ring D6-UNI7434-DIN6799 A4
10	1	A77083400	Clutch assembly
			Nut Tr 16x8 LH
			Flange
			Bushing Ø22,5/35,5xØ37,5x6/2
			Washer Ø25,5xØ35x1
			Washer Ø25xØ35x2
			Wave spring
11	2	A77139400	Roller Bearing Ø122xØ134x30
12	3	S427170003	Stud screw M8x55
13	3	M648703	Washer Ø8 ISO 7089
14	5	M0606803	Screw M6x14 UNI 5931
15	5	A77139800	Bar assembly
			Bar Ø30
			Set screw M8x20 UNI 5923
			Spacer 6x8x5,5
16	1	M6090803	Set screw M5x12
17	1	M6075903	Straight pin ISO 8735B Ø8x50

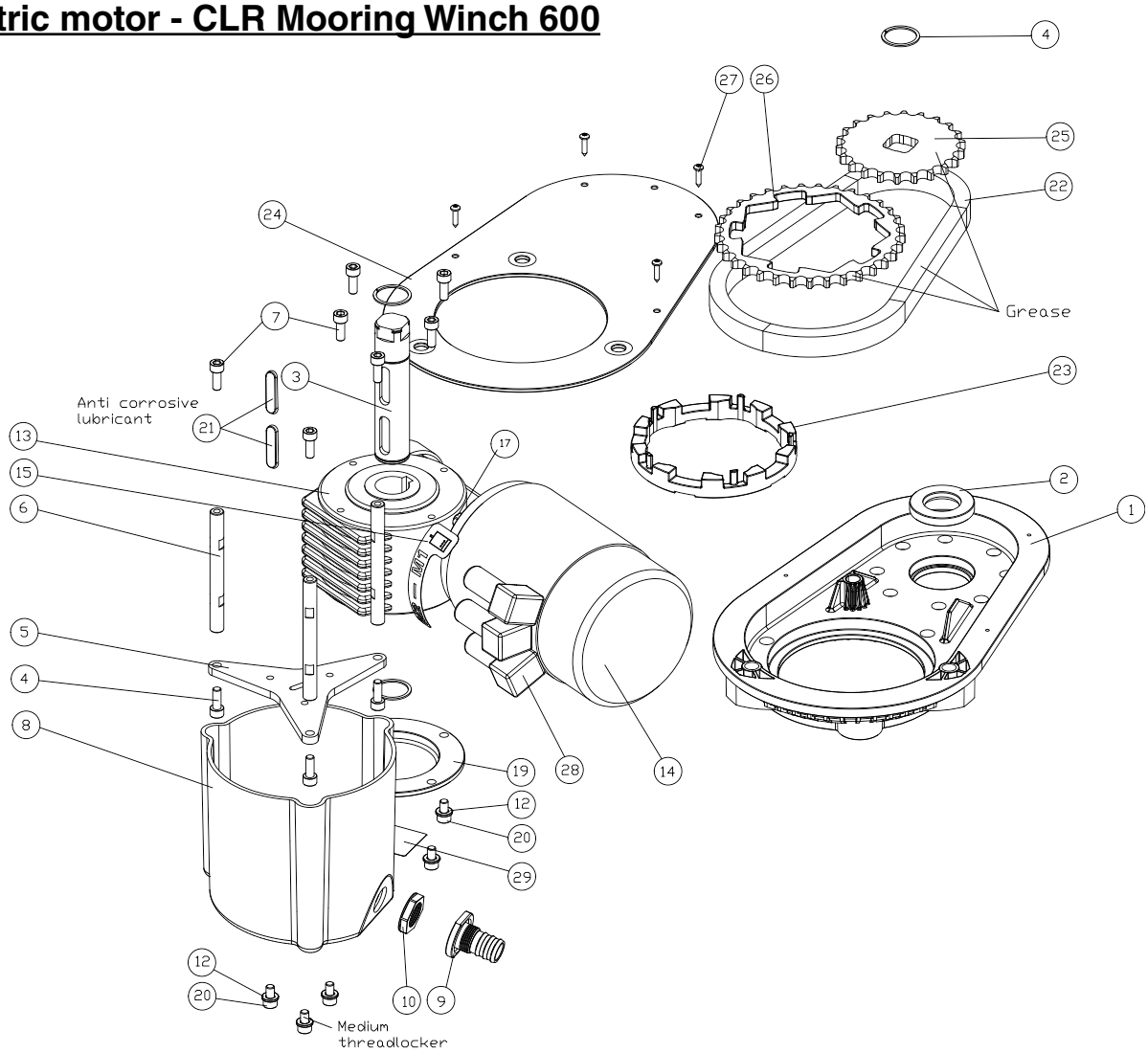
Top Custom version

Pos.	Q.ty	Code	Description
1	1	A97137900	Kit for Teck version
	1	S713800053	Support
	1	S713780003	Cover
	1	S713790003	Flange for support
2	-	-	-
3	1	A97139600	Hub assembly
			Hub
	10	M6076894	Bushing Ø30xØ34x49
	1	S713810081	Bushing Ø8xØ32x10
4	2	S7138300B6	O-RING Ø126,59XØ3,53 RED
5	1	S713920080	Bushing
6	3	S708330003	Threaded bar M8x90
7	3	S708320003	Washer Ø8,5xØ40x4
8	6	M0602903	Nut M8 UNI 5588
9	1	A97138200	Screw assembly
			Screw Tr 16x8 LH
			Plain washer DIN 440V 9xØ22x3 square hole
			Elastic ring D6-UNI7434-DIN6799 A4
10	1	A77083400	Clutch assembly
			Nut Tr 16x8 LH
			Flange
			Bushing Ø22,5/35,5xØ37,5x6/2
			Washer Ø25,5xØ35x1
			Washer Ø25xØ35x2
			Wave spring
11	2	A77139400	Roller Bearing Ø122xØ134x30
12	3	S427170003	Stud screw M8x55
13	3	M648703	Washer Ø8 ISO 7089
14	5	M0606803	Screw M6x14 UNI 5931
15	5	A77139800	Bar assembly
			Bar Ø30
			Set screw M8x20 UNI 5923
			Spacer 6x8x5,5
16	1	M6090803	Set screw M5x12
17	1	M6075903	Straight pin ISO 8735B Ø8x50

CLR 600 RH

Pos.	Q.ty	Code	Description
1	1	S713800053	Support
2	1	S746220052	Cover
3	1	A97139600	Hub assembly
			Hub
	10	M6076894	Bushing Ø30xØ34x49
	1	S713810081	Bushing Ø8xØ32x10
4	2	S7138300B6	O-RING Ø126,59XØ3,53 RED
5	1	S713920080	Bushing
6	3	S708330003	Threaded bar M8x90
7	3	S708320003	Washer Ø8,5xØ40x4
8	6	M0602903	Nut M8 UNI 5588
9	1	A97138200	Screw assembly
			Screw Tr 16x8 LH
			Plain washer DIN 440V 9xØ22x3 square hole
			Elastic ring D6-UNI7434-DIN6799 A4
10	1	A77083400	Clutch assembly
			Nut Tr 16x8 LH
			Flange
			Bushing Ø22,5/35,5xØ37,5x6/2
			Washer Ø25,5xØ35x1
			Washer Ø25xØ35x2
			Wave spring
11	2	A77139400	Roller Bearing Ø122xØ134x30
12	3	S427170003	Stud screw M8x55
13	3	M648703	Washer Ø8 ISO 7089
14	5	M0606803	Screw M6x14 UNI 5931
15	5	S713980052	Bar Ø30
	5		Spacer 6x8x5,5
16	-	-	-
17	1	S750890003	Straight pin Ø8x50
18	5	M0614403	Screw M8x16 UNI5931
19	1	H3206	Folding padeye 6mm
20	2	M0608103	Screw M6x20 UNI 5933

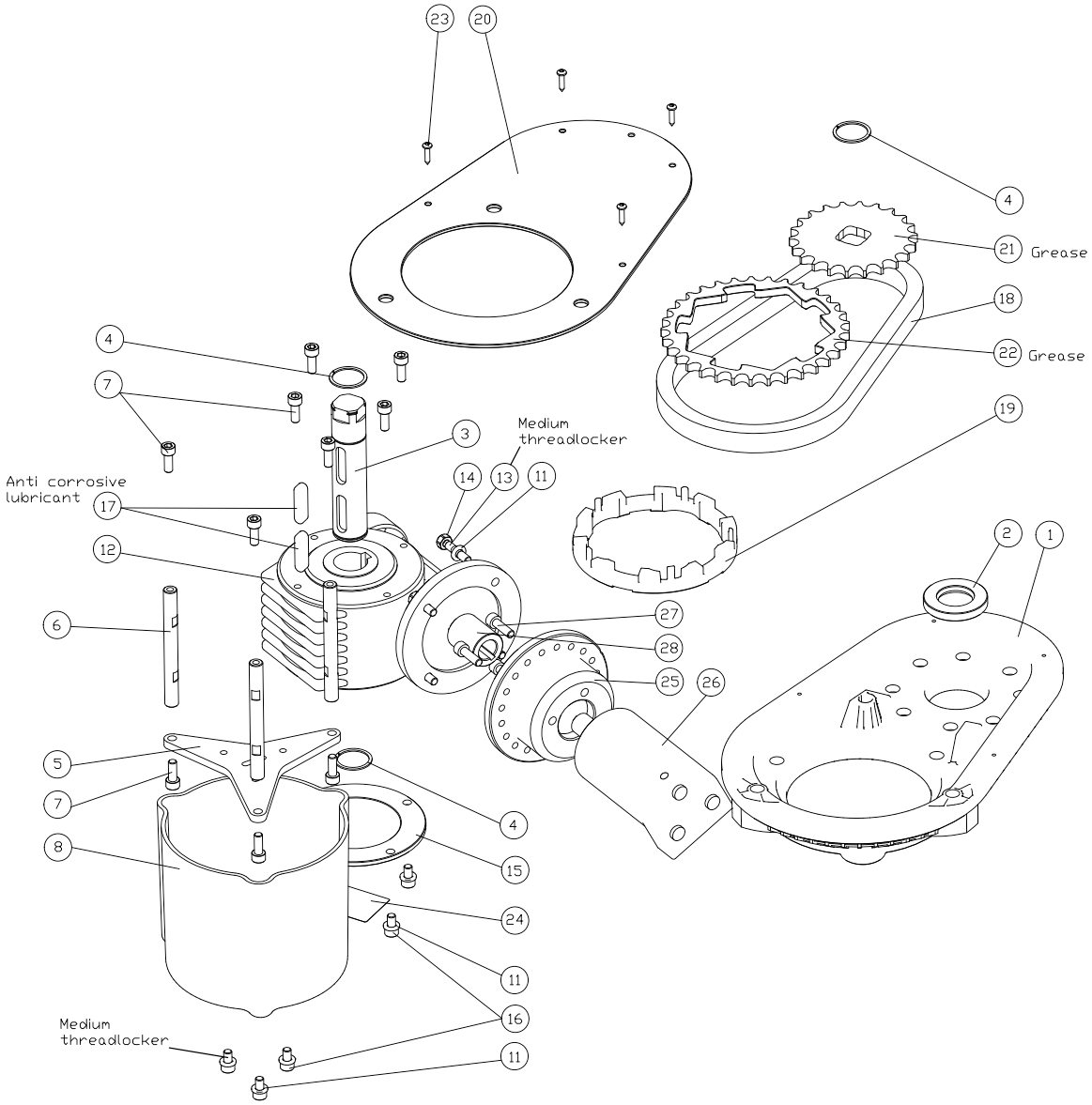
15. Electric motor - CLR Mooring Winch 600



Pos.	Q.ty	Code	Description
1	1	S7139100B7	Gearbox support
2	1	M0620697	Seal 25x47x7
3	1	S713900004	Shaft
4	3	M0630401	Elastic retaining ring shaft Ø25x1,07
5	1	S708280002	Plate
6	3	S708270002	Rod Ø10 L=100
7	10	S415360003	Screw M6x16 precote coating
8	1	S708250063	Cover
9	1	S738060080	Drain plug
10	1	M6100994	Flanged hexagon nut M20x1,5
11	1	M0648897	OR 4081
12	11	M0621303	Washer Ø6
13	1	A77137600	Black painted gear box 1/45
14	1	G060154012E	Motor 12V 0.7 kW
	1	G060157024E	Motor 24V 0.9 kW
	1	G60339000E	Motor 48V 2 kW
15	1	S480730063	Sticker motor

Pos.	Q.ty	Code	Description
16	4	S312810002	Screw stud M6x26
17	4	M0620803	Nut M6 UNI5588
18	1	M6014206	Key DIN 6885 5x5x15
19	1	S690200080	Flange
20	7	M0639103	Screw M6x10 UNI 5931
21	2	M0640403	Key 8x7x32
22	1	S713870003	Chain
23	1	S713840080	Thrust bearing
24	1	S713860052	Cover
25	1	S713890002	Pinion Z22 DIN_08B_1_8187_1
26	1	S713880002	Gear Z33 DIN_08B_1_8187_1
27	4	M6037302	Self tapping dome head screw M3,5x16
28	3	M6079597	Pipe
29	1	S477440063	Sticker for gearbox

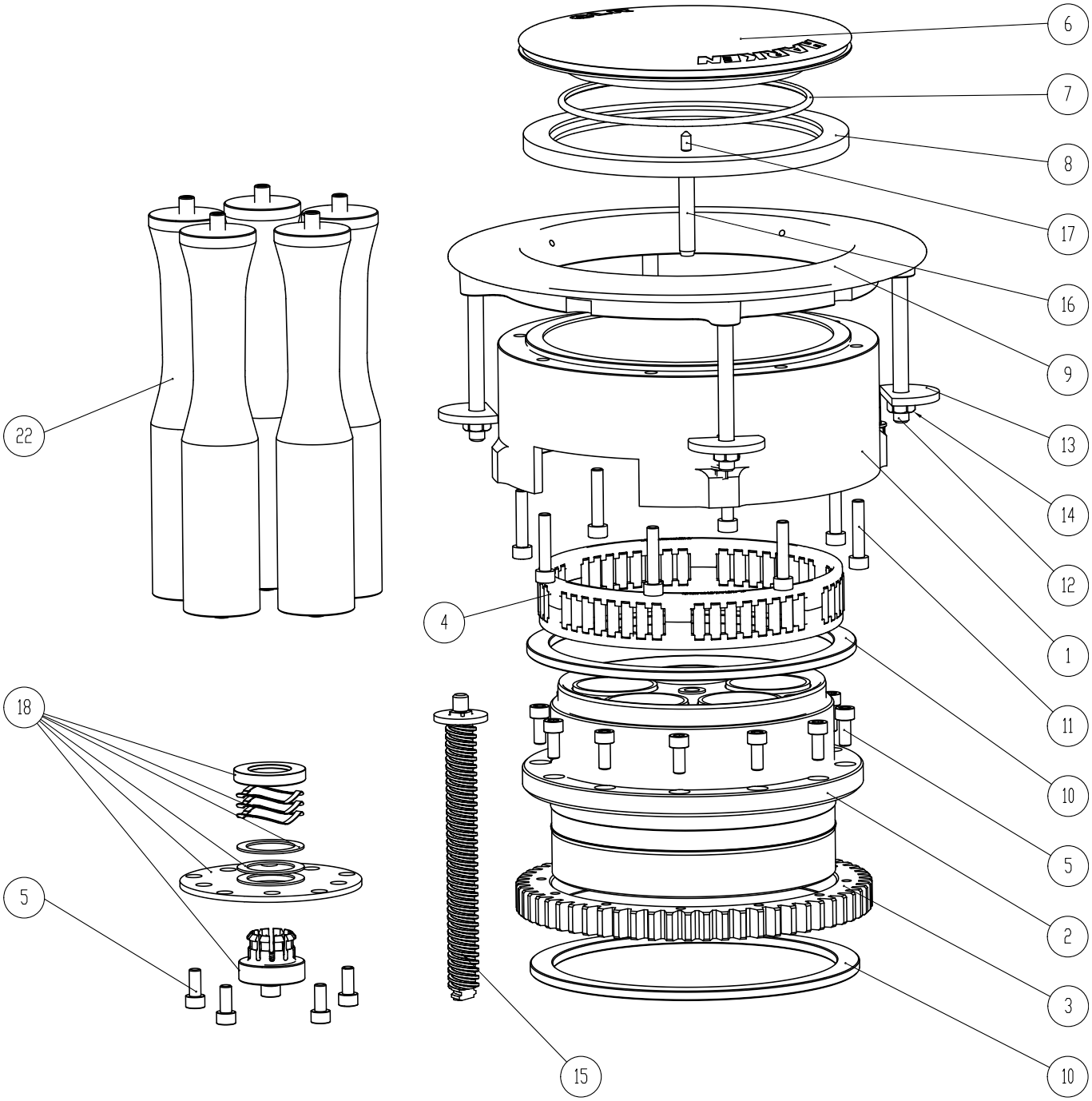
16. Hydraulic motor - CLR Mooring Winch 600



Pos.	Q.ty	Code	Description
1	1	S7139100B7	Gearbox support
2	1	M 06206 97	Seal 25x47x7
3	1	S713900004	Shaft
4	3	M0630401	Elastic retaining ring shaft Ø25x1,07
5	1	S708280002	Plate
6	3	S708270002	Rod Ø10 L=100
7	10	S415360003	Screw M6x16 precote coating
8	1	S708250063	Cover
9	1	S310810080	Drain plug winch 1120
10	1	M 06488 97	OR 4081
11	11	M 06213 03	Washer Ø6
12	1	A77137600	Black painted gear box 1/45
13	4	S312810002	Screw stud M6x26
14	4	M0620803	Nut M6 UNI5588
15	1	M 60142 06	Key DIN 6885 5x5x15
16	1	S690200080	Flange

Pos.	Q.ty	Code	Description
17	7	M0639103	Screw M6x10 UNI 5931
18	2	M 06404 03	Key 8x7x32
19	1	S713870003	Chain
20	1	S713840080	Thrust bearing
21	1	S713860052	Cover
22	1	S713890002	Pinion Z22 DIN_08B_1_8187_1
23	1	S713880002	Gear Z33 DIN_08B_1_8187_1
24	4	M6037302	Self tapping dome head screw M3,5x16
25	1	S477440063	Sticker for gearbox
26	1	S725620052	Flange
27	1	G60871000Y	Hydraulic motor 8CC Ø16 PL3/8
28	3	M0600903	Screw M6x20 UNI5931
29	1	S720800004	Shaft
30	1	M0647306	Key 5x5x20

17. Exploded view - CLR Mooring Winch 1200



18. Parts Lists - CLR Mooring Winch 1200

Aluminum version

POS.	QTY.	Code	Description
1	1	S708440052	Base
2	1	A97084300	Hub Assembly
			Hub
	10	M6071294	Bushing Ø40xØ44x40
	1	M0673394	Bushing 0810-09
	1	S713810081	Bushing Ø8xØ32x10
3	1	S708410052	Ring gear Z=60
4	1	A74158900	Roller bearing Ø148x160x30
5	17	M0606803	Screw M6x14 UNI 5931
6	1	S708380053	Cover
7	1	S7138300B6	O-RING OR 4500 126,59X3,53 RED
8	1	M6071197	Lip seal Ø140xØ170x8
9	1	S708360053	Flange
10	2	S708420080	Washer Ø172xØ148,5x5
11	8	M0624203	Screw M6x30
12	4	S708330003	Threaded bar M8x90
13	4	S708320003	Washer Ø8,5xØ40x4
14	4	M0602903	NUT M8 - UNI 5588 - A4
15	1	A97083500	Screw assembly
			Screw Tr 16x8 LH
			Plain washer DIN 440V 9xØ28x3 square hole
			BENZING D6 -UNI7434-DIN6799 A4
16	1	M6075903	Straight pin ISO 8735B Ø8x50
17	1	M0643402	Set screw M5x10 UNI 5927
18	1	A77083400	Clutch assembly
			Nut Tr 16x8 LH
			Flange
			Bushing Ø22,5/35,5xØ37,5x6/2
			Washer 25,5x35x1
			Washer 25x35x1
			Wave spring
19	3	S312810002	Screw stud M6x26
20	3	M 06213 03	Washer Ø6
21	3	M0620803	Nut M6 UNI5588
22	5	A77084000	Bar Assembly
			Bar Ø40
			Set screw M8x20 UNI 5923
			Spacer 6x8x5,5

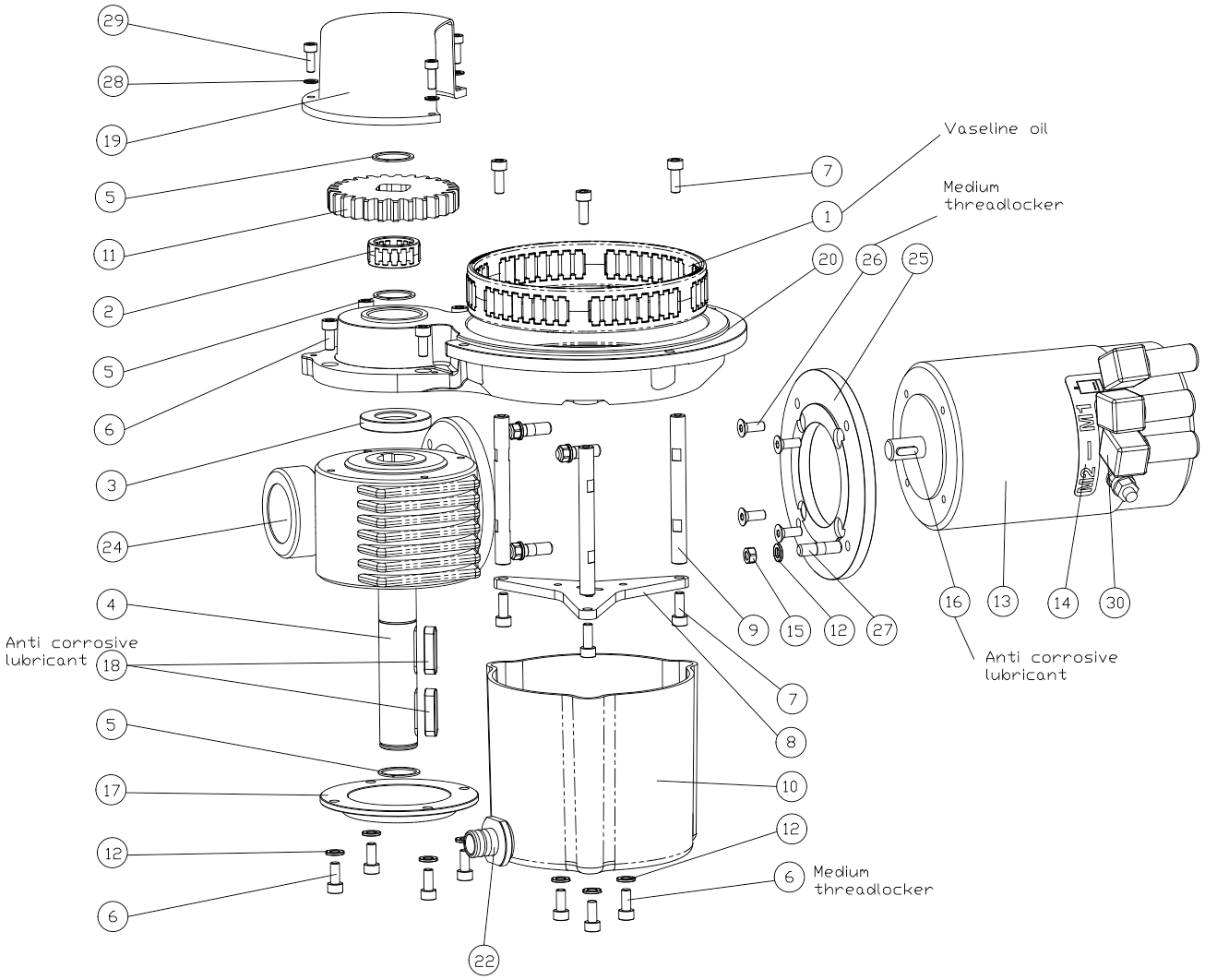
Chrome version

POS.	QTY.	Code	Description
1	1	S708440052	Base
2	1	A97084300	Hub Assembly
			Hub
	10	M6071294	Bushing Ø40xØ44x40
	1	M0673394	Bushing 0810-09
	1	S713810081	Bushing Ø8xØ32x10
3	1	S708410052	Ring gear Z=60
4	1	A74158900	Roller bearing Ø148x160x30
5	17	M0606803	Screw M6x14 UNI 5931
6	1	S708380043	Cover
7	1	S7138300B6	O-RING OR 4500 126,59X3,53 RED
8	1	M6071197	Lip seal Ø140xØ170x8
9	1	S708360043	Flange
10	2	S708420080	Washer Ø172xØ148,5x5
11	8	M0624203	Screw M6x30
12	4	S708330003	Threaded bar M8x90
13	4	S708320003	Washer Ø8.5xØ40x4
14	4	M0602903	NUT M8 - UNI 5588 - A4
15	1	A97083500	Screw assembly
			Screw Tr 16x8 LH
			Plain washer DIN 440V 9xØ28x3 square hole
			BENZING D6 -UNI7434-DIN6799 A4
16	1	M6075903	Straight pin ISO 8735B Ø8x50
17	1	M0643402	Set screw M5x10 UNI 5927
18	1	A77083400	Clutch assembly
			Nut Tr 16x8 LH
			Flange
			Bushing Ø22,5/35,5xØ37,5x6/2
			Washer 25,5x35x1
			Washer 25x35x1
			Wave spring
19	3	S312810002	Screw stud M6x26
20	3	M 06213 03	Washer Ø6
21	3	M0620803	Nut M6 UNI5588
22	5	A77084000	Bar Assembly
			Bar Ø40
			Set screw M8x20 UNI 5923
			Spacer 6x8x5,5

Top Custom version

POS.	QTY.	Code	Description
1	1	S708440052	Base
2	1	A97084300	Hub Assembly
			Hub
	10	M6071294	Bushing Ø40xØ44x40
	1	M0673394	Bushing 0810-09
	1	S713810081	Bushing Ø8xØ32x10
3	1	S708410052	Ring gear Z=60
4	1	A74158900	Roller bearing Ø148x160x30
5	17	M0606803	Screw M6x14 UNI 5931
6	1	S712720003	Cover
7	1	S7138300B6	O-RING OR 4500 126,59X3,53 RED
8	1	M6071197	Lip seal Ø140xØ170x8
9	1	S712710003	Flange
10	2	S708420080	Washer Ø172xØ148,5x5
11	8	M0624203	Screw M6x30
12	4	S708330003	Threaded bar M8x90
13	4	S708320003	Washer Ø8.5xØ40x4
14	4	M0602903	NUT M8 - UNI 5588 - A4
15	1	A97083500	Screw assembly
			Screw Tr 16x8 LH
			Plain washer DIN 440V 9xØ28x3 square hole
			BENZING D6 -UNI7434-DIN6799 A4
16	1	M6075903	Straight pin ISO 8735B Ø8x50
17	1	M0643402	Set screw M5x10 UNI 5927
18	1	A77083400	Clutch assembly
			Nut Tr 16x8 LH
			Flange
			Bushing Ø22,5/35,5xØ37,5x6/2
			Washer 25,5x35x1
			Washer 25x35x1
			Wave spring
19	3	S312810002	Screw stud M6x26
20	3	M 06213 03	Washer Ø6
21	3	M0620803	Nut M6 UNI5588
22	5	A77084000	Bar Assembly
			Bar Ø40
			Set screw M8x20 UNI 5923
			Spacer 6x8x5,5

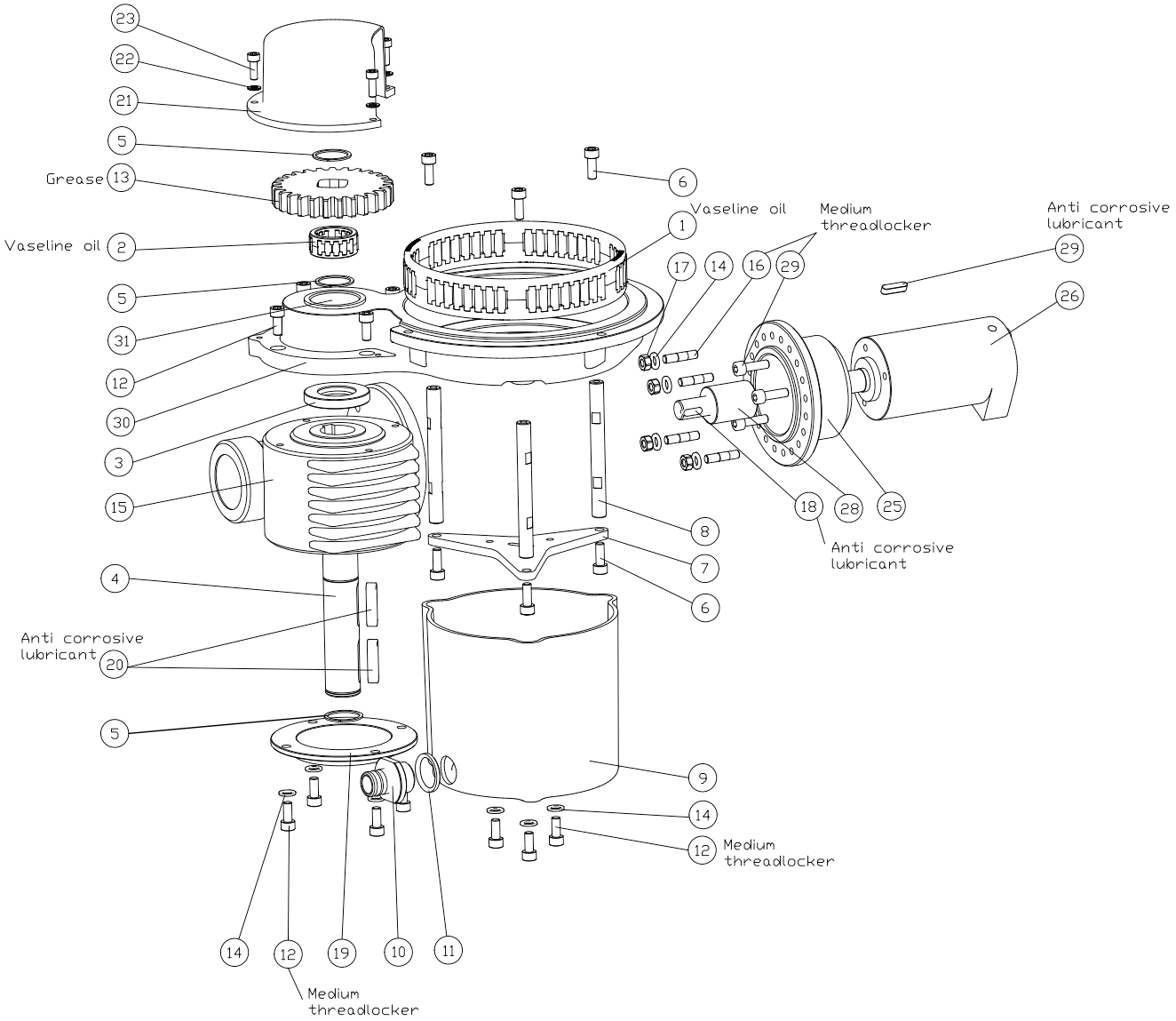
19. Electric motor - CLR Mooring Winch 1200



Pos.	Q.ty	Code	Description
1	1	A74158900	Roller bearing Ø148x160x30
2	1	A74506900	Bearing 25x35x15
3	1	M0620697	Seal 25x47x7
4	1	S708290004	Shaft
5	3	M0630401	Elastic retaining ring shaft 25x1,07
6	11	M0606803	Screw M6x14 UNI 5931
7	6	S415360003	Screw M6x16 precote coating
8	1	S708280002	Plate
9	3	S708270002	Rod Ø10 L=100
10	1	S708250063	Cover
11	1	S708260004	Gear Z=27
12	11	M0621303	Washer Ø6
13	1	G060107012E	Motor 12V 1.5kW
	1	G060106024E	Motor 24V 2kW
	1	G60339000E	Motor 48V 2kW
14	1	S480730063	Sticker motor
15	4	M0620803	Nut M6 UNI5588

Pos.	Q.ty	Code	Description
16	1	M 60142 06	Key DIN 6885 5x5x15
17	1	S690200080	Flange
18	2	M0640403	Key 8x7x32
19	1	S712660063	Gear cover
20	1	S708300053	Gearbox support
21	1	S402010004	Bushing 39x32x22
22	1	S310810080	Drain plug winch 1120
23	1	M0648897	OR 4081
24	1	A77137600	Black painted gear box 1/45
25	1	S717830052	Adaptation flange PAM90 B14 PAM71 B14
26	4	M 06666 03	Screw M6x16 UNI 5933
27	4	S005390002	Stud screw M8x30
28	3	M0621103	Washer Ø5
29	3	M0638803	Screw M5x14 UNI 5931
30	3	M6079597	Pipe
31	1	S477440063	Sticker for gearbox

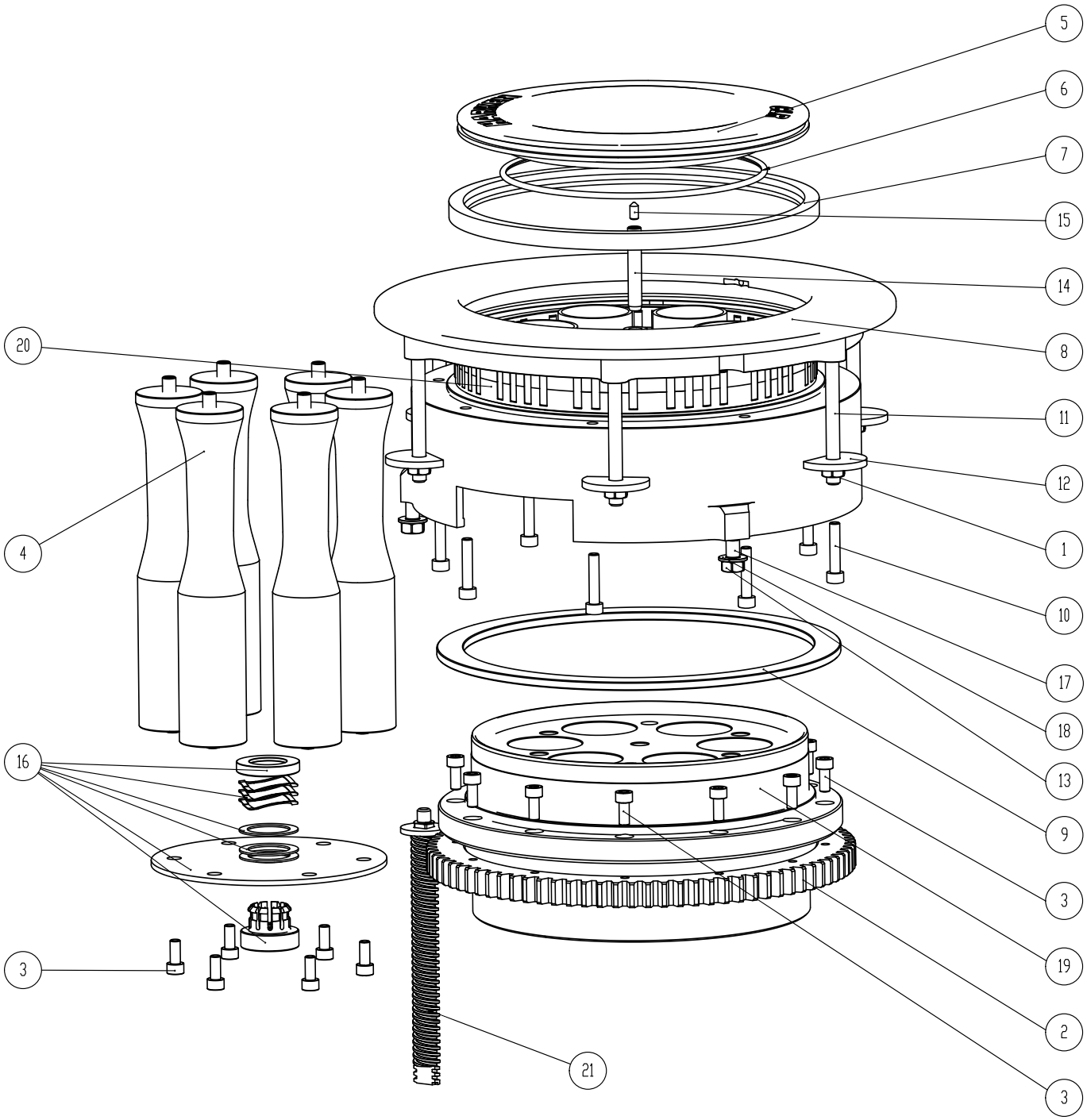
20. Hydraulic motor - CLR Mooring Winch 1200



Pos.	Q.ty	Code	Description
1	1	A74158900	Roller bearing Ø148x160x30
2	1	A74506900	Bearing 25x35x15
3	1	M0620697	Seal 25x47x7
4	1	S708290004	Shaft
5	3	M0630401	Elastic retaining ring shaft Ø25x1,07
6	6	S415360003	Screw M6x16 precote coating
7	1	S708280002	Plate
8	3	S708270002	Rod Ø10 L=100
9	1	S708250063	Cover
10	1	S310810080	Drain plug winch 1120
11	1	M0648897	OR 4081
12	11	M0606803	Screw M6x14 UNI 5931
13	1	S708260004	Gear Z=27
14	11	M0621303	Washer Ø6
15	1	A76087200	Black painted gear box 1/36
16	4	S312810002	Screw stud M6x26

Pos.	Q.ty	Code	Description
17	4	M0620803	Nut M6 UNI5588
18	1	M6014206	Key DIN 6885 5x5x15
19	1	S690200080	Flangia
20	2	M0640403	Key 8x7x32
21	1	S712660063	Gear cover
22	3	M0621103	Washer Ø5
23	3	M0638803	Screw M5x14 UNI 5931
24	1	S477440063	Sticker for gearbox
25	1	S725620052	Flange
26	1	G60871000Y	Hydraulic motor 8CC Ø16 PL3/8
27	3	M0600903	Screw M6x20 UNI5931
28	1	S720800004	Shaft
29	1	M0647306	Key 5x5x20
30	1	S708300053	Gearbox support
31	1	S402010004	Bushing 39x32x22

21. Exploded view - CLR Mooring Winch 2500



22. Parts Lists - CLR Mooring Winch 2500

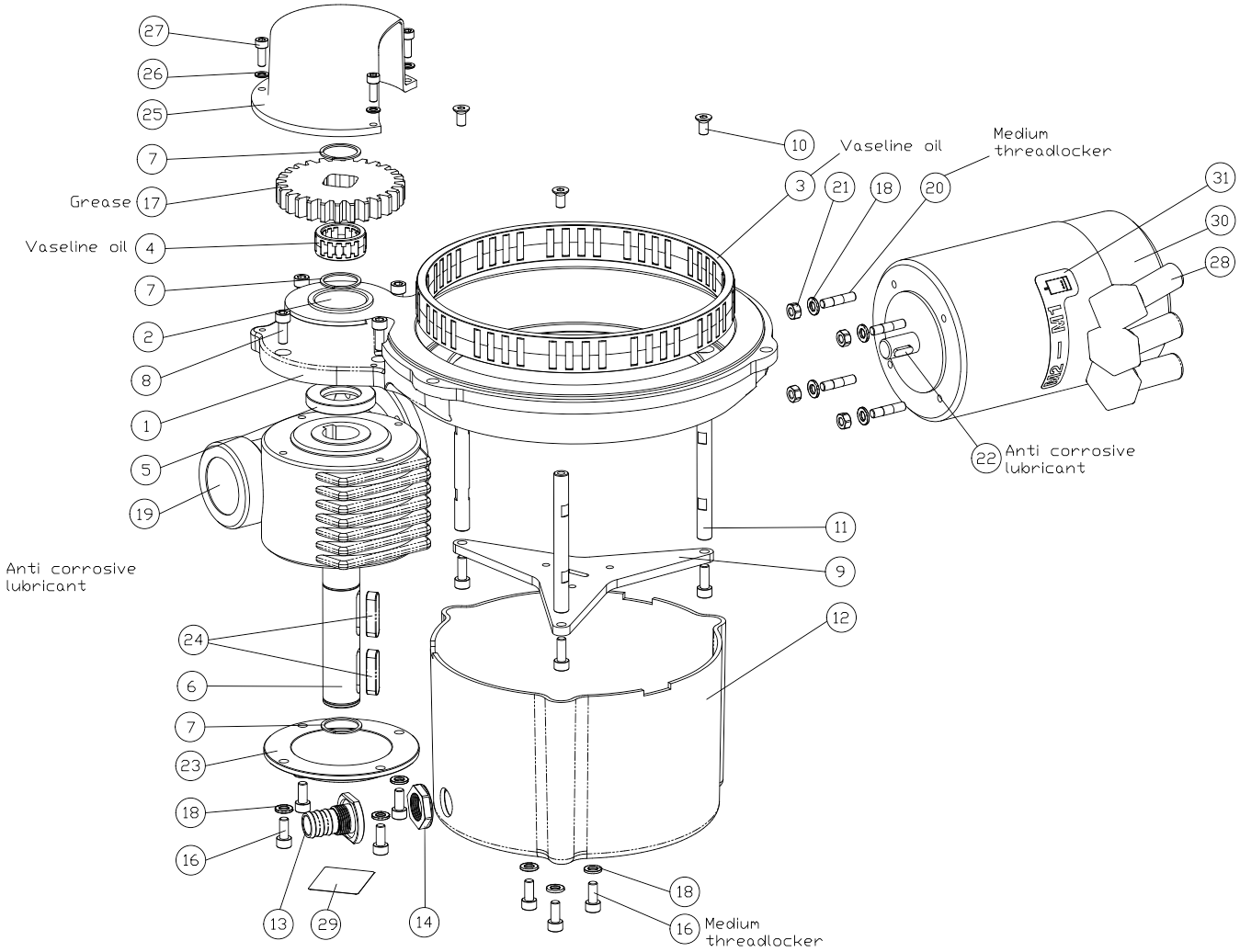
Aluminum version

POS.	QTY.	Code	Description
1	1	S720590052	Base
2	1	S720610004	Ring gear Z=83
3	18	M0606803	Screw M6x14 UNI 5931
4	6	A77084000	Bar Assembly
			Bar Ø40
			Set screw M8x20 UNI 5923
			Spacer 6x8x5,5
5	1	S720620052	Cover A
6	1	S7206900B6	O-RING OR4600 151.99X3,53 RED
7	1	M6081597	Lip seal Ø200xØ220x10
8	1	S720630052	Flange A
9	2	S720540080	Washer Ø208xØ240x5
10	8	M0624203	Screw M6x30
11	6	S708330003	Threaded bar M8x90
12	6	S708320003	Washer Ø8.5xØ40x4
13	9	M0602903	Nut M8 - UNI 5588 - A4
14	1	M6075903	Straight pin ISO 8735B Ø8x50
15	1	M0643402	Set screw M5x10 UNI 5927
16	1	A77206400	Clutch assembly
			Nut Tr 16x8 LH
			Flange
			Bushing Ø22.5/35.5xØ37.5x6/2
			Washer 25,5x35x1
			Washer 25x35x1
			Wave spring
17	3	S356030003	Screw stud M8X28
18	3	M648703	Washer D.8 ISO 7089
19	1	A97206000	Hub assembly
			Hub
			Bushing Ø40xØ44x40
			Bushing IGUS XFM-0810-09
			Bushing Ø8/Ø32x10
20	1	A74028500	Roller bearing 200,5x215,5x25,4
21	1	A97206600	Screw assembly
			Screw Tr 16x8 LH
			Plain washer DIN 440V 9xØ28x3 square hole
			Benzing D6 -UNI7434-DIN6799 A4

Stainless Steel version

POS.	QTY.	Code	Description
1	1	S720590052	Base
2	1	S720610004	Ring gear Z=83
3	18	M0606803	Screw M6x14 UNI 5931
4	6	A77084000	Bar Assembly
			Bar Ø40
			Set screw M8x20 UNI 5923
			Spacer 6x8x5,5
5	1	S720620003	Cover SS
6	1	S7206900B6	O-RING OR4600 151.99X3,53 RED
7	1	M6081597	Lip seal Ø200xØ220x10
8	1	S720630003	Flange SS
9	2	S720540080	Washer Ø208xØ240x5
10	8	M0624203	Screw M6x30
11	6	S708330003	Threaded bar M8x90
12	6	S708320003	Washer Ø8.5xØ40x4
13	9	M0602903	Nut M8 - UNI 5588 - A4
14	1	M6075903	Straight pin ISO 8735B Ø8x50
15	1	M0643402	Set screw M5x10 UNI 5927
16	1	A77206400	Clutch assembly
			Nut Tr 16x8 LH
			Flange
			Bushing Ø22.5/35.5xØ37.5x6/2
			Washer 25,5x35x1
			Washer 25x35x1
			Wave spring
17	3	S356030003	Screw stud M8X28
18	3	M648703	Washer D.8 ISO 7089
19	1	A97206000	Hub assembly
			Hub
			Bushing Ø40xØ44x40
			Bushing IGUS XFM-0810-09
			Bushing Ø8/Ø32x10
20	1	A74028500	Roller bearing 200,5x215,5x25,4
21	1	A97206600	Screw assembly
			Screw Tr 16x8 LH
			Plain washer DIN 440V 9xØ28x3 square hole
			Benzing D6 -UNI7434-DIN6799 A4

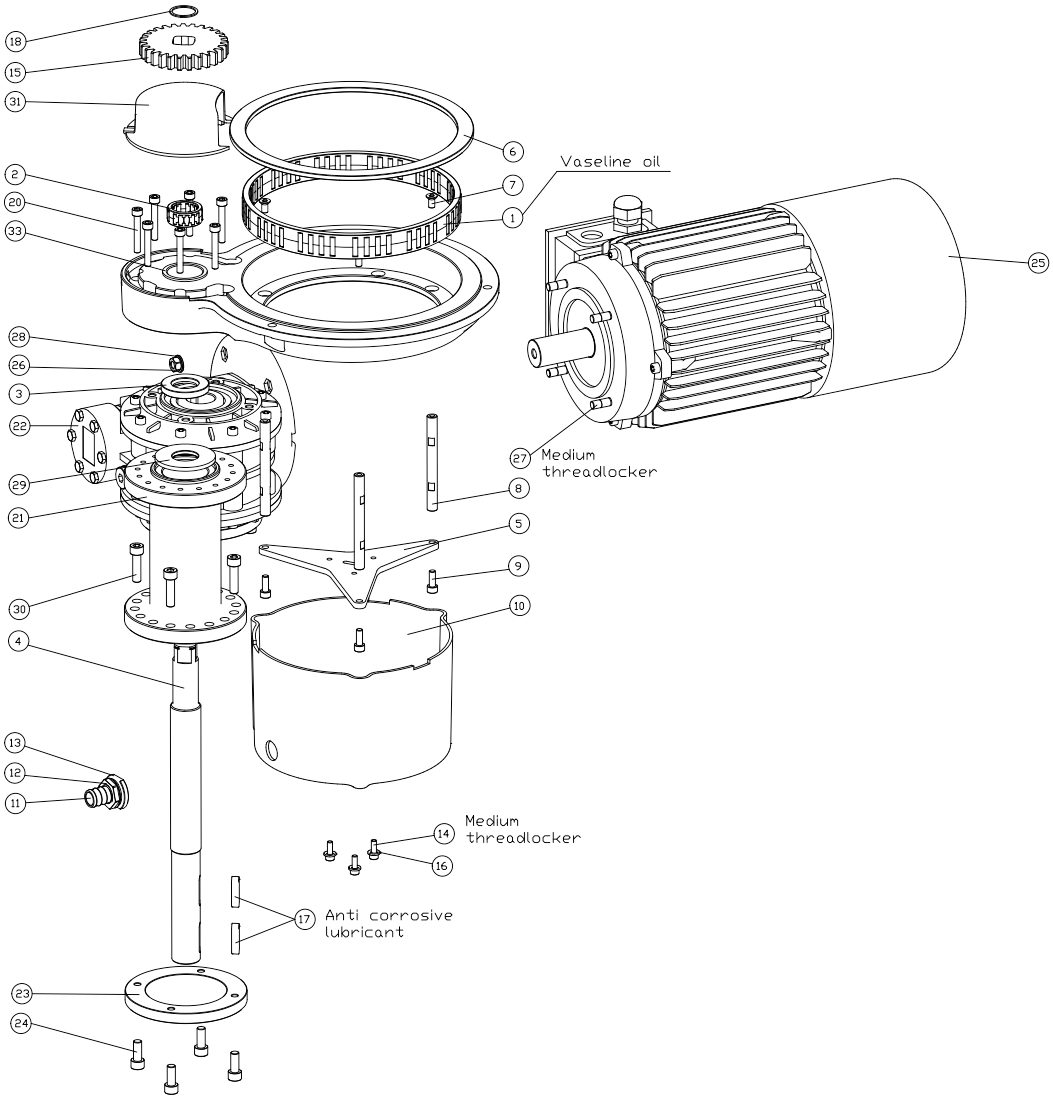
23. 24V/48V electric motor - CLR Mooring Winch 2500



Pos.	Q.ty	Code	Description
1	1	S720520052	Gearbox support
2	1	S402010004	Bushing 39x32x22
3	1	A74028500	Roller bearing 200,5x215,5x25,4
4	1	A74506900	Bearing 25x35x15
5	1	M0620697	Seal 25x47x7
6	1	S708290004	Shaft
7	3	M0630401	Elastic retaining ring shaft Ø25x1,07
8	7	S415360003	Screw M6x16 precote coating
9	1	S720530002	Plate
10	3	M0604003	Screw M6x12 UNI5933 A4
11	3	S708270002	Rod Ø10 L=100
12	1	S720550063	Cover
13	1	S738060080	Drain plug
14	1	M6100994	Flanged hexagon nut M20x1,5
15	1	M0648897	OR 4081
16	7	M0606803	Screw M6x14 UNI 5931

Pos.	Q.ty	Code	Description
17	1	S708260004	Gear Z=27
18	11	M0621303	Washer Ø6
19	1	A77137600	Black painted gear box 1/45
20	4	S312810002	Screw stud M6x26
21	4	M0620803	Nut M6 UNI5588
22	1	M6014206	Key DIN 6885 5x5x15
23	1	S690200080	Flange
24	2	M0640403	Key 8x7x32
25	1	S712660063	Gear cover
26	3	M0621103	Washer Ø5
27	3	M0638803	Screw M5x14 UNI 5931
28	3	M6079597	Pipe
29	1	S477440063	Sticker for gearbox
30	1	G060106024E	Motor 24V 2kW
		G60339000E	Motor 48V 2kW
31	1	S480730063	Sticker motor

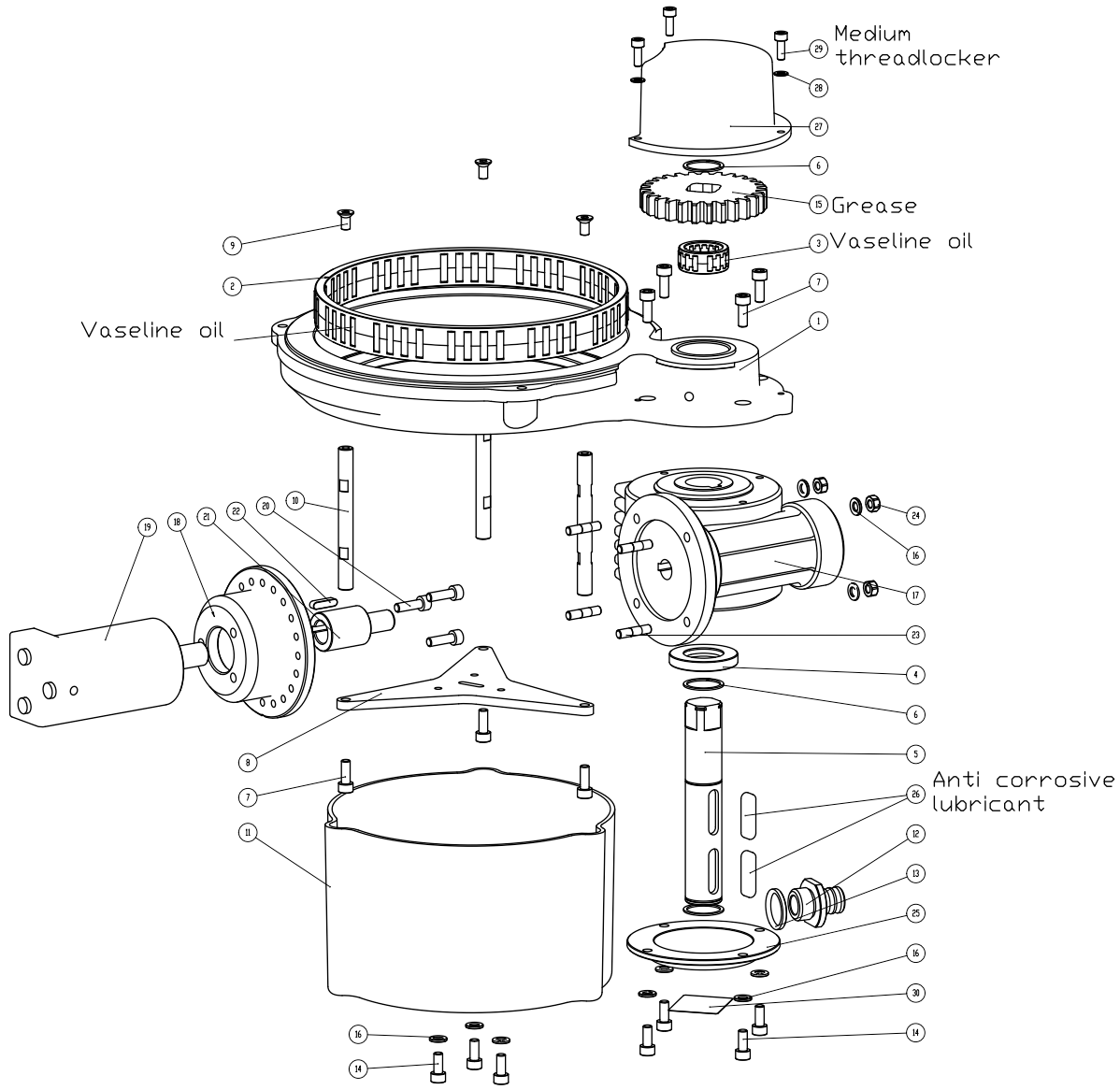
24. 400V electric motor - CLR Mooring Winch 2500



Pos.	Q.ty	Code	Description
1	1	A74028500	Roller bearing 200,5x215,5x25,4
2	1	A74506900	Bearing 25x35x15
3	1	M0620697	Seal 25x47x7
4	1	S723090004	Shaft
5	1	S720530002	Plate
6	1	S720540080	Washer Ø208xØ240x5
7	3	M0604003	Screw M6x12 UNI5933 A4
8	3	S708270002	Rod Ø10 L=100
9	3	S415360003	Screw M6x16 precote coating
10	1	S720550063	Cover
11	1	S738060080	Drain plug
12	1	M6100994	Flanged hexagon nut M20x1,5
13	1	M0648897	OR 4081
14	4	M0638803	Screw M5x14 UNI 5931
15	1	S708260004	Gear Z=27
16	3	M0621303	Washer Ø6
17	2	M0640403	Key 8x7x32

Pos.	Q.ty	Code	Description
18	1	M0630401	Elastic retaining ring shaft Ø25x1,07
19	1	M0621103	Washer Ø5
20	7	M0624303	Screw M6x40 UNI 5931
21	1	S723100052	Flange
22	1	G608320000	Reduction gear worm screw 1:15
23	1	S731240080	Flange
24	4	M0643203	Screw M8x20 UNI5931
25	1	G60830000E	Electric motor AC D28 400V B14 FA
26	4	M0602903	NUT M8 - UNI 5588 - A4
27	4	S356030003	Screw stud M8X28
28	4	M648703	Washer D.8 ISO 7089
29	1	S463790081	Washer 26x59,5x4
30	4	M0624503	Screw M8x30 UNI5931
31	1	S722170063	Gear cover
32	1	S722160052	Gearbox support
33	1	S402010004	Bushing 39x32x22

25. Hydraulic motor - CLR Mooring Winch 2500



Pos.	Q.ty	Code	Description
1	1	A77205200	Assy gearbox support
2	1	A74028500	Roller bearing 200,5x215,5x25,4
3	1	A74506900	Bearing 25x35x15
4	1	M0620697	Seal Ø25xØ47x7
5	1	S708290004	Shaft
6	3	M0630401	Elastic retaining ring shaft Ø25x1,07
7	7	S 41536 00 03	Screw M6x16 UNI EN ISO 5931:2003 precote coating
8	1	S720530002	Plate
9	3	M0604003	Screw M6x12 UNI5933 A4
10	3	S708270002	Rod Ø10 L=100
11	1	S720550063	Cover
12	1	S310810080	Drain plug winch 1120
13	1	M 06488 97	OR 4081
14	7	M0606803	Screw M6x14 UNI 5931
15	1	S708260004	Gear Z=27

Pos.	Q.ty	Code	Description
16	11	M0621303	Washer Ø6
17	1	A77137600	Black painted gear box 1/45
18	1	S725620052	Flange
19	1	G60871000Y	Hydraulic motor 8CC Ø16 PL3/8 F3VM6
20	3	M0600903	Screw M6x20 UNI5931
21	1	S720800004	Shaft
22	1	M0647306	Key 5x5x20
23	4	S312810002	Screw stud M6x26
24	4	M0620803	Nut M6 UNI5588
25	1	S690200080	Flangia
26	2	M 06404 03	Key 8x7x32
27	1	S712660063	Gear cover
28	3	M 06211 03	Washer Ø5
29	3	M 06388 03	Screw M5x14 UNI 5931
30	1	S477440063	Sticker for gearbox

26. Contact us

Manufacturer

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