

Verricelli da Tonneggio

Warping Capstan

MANUALE DI INSTALLAZIONE E D'USO - INSTALLATION AND USER'S MANUAL
MANUEL D'INSTALLATION ED D'UTILISATION - MANUAL DE INSTALACIÓN Y USO
INSTALLATION UND BEDIENUNG

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CONSERVER CE MANUEL A BORDO
DIESES HANDBUCH AN BORD AUFBELAHREN
GUARDAR ESTE MANUAL A BORDO

**T500, T700, T1000, T1500, T1700, T2000, T2500, ST1000,
ST1500, ST1700, ST2000, ST2500, ST3000, ST4000**



UK

Lofrans!
WINDLASSES
THE ORIGINAL WINDLASS



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Dear Customer,

Thank you for choosing a Lofrans product. Lofrans is a leader company in the production and worldwide distribution of nautical systems manufactured according to the most modern technologies, in compliance with international regulation requirements and the most important certifying bodies. All our products are manufactured with excellent materials suited for operations in marine environments and are subject to continuous checks to improve the qualitative levels and make them without any manufacturing defects. Together with such requirements, Lofrans capstans and anchor windlasses are a synthesis of reliability and efficiency, by guaranteeing the maximum performances during each phase of mooring, even in the most difficult. With a Lofrans product, years of reliable operations are guaranteed.

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PRODUCT COMPLIANT WITH EC REGULATIONS

1 INTRODUCTION

1.1 Purpose of the manual

This manual will supply information on safety and correct use of the product. Follow these warnings carefully to avoid possible accidents or damages.

DANGER!

A warning such as this indicates the existence of a serious risk that has high probabilities to cause death or a serious accident if appropriate precautions are not taken.

ATTENTION!

A warning such as this indicates a reference to the application of safety practices, or draws the attention on unsafe behaviours that might cause personal injuries or damages to the boat.

1.2 Assistance

The Lofrans products are backed throughout the world by a network of authorised distributors and assistance. In case of need, please contact your local Lofrans distributor. Details on website www.lofrans.com.

1.3 Receipt and Storage

Upon receipt of the package, verify the integrity of packing. Should it be necessary to store the product for a prolonged period, keep it in a dry and protected place.



2 SAFETY INFORMATION

Safety standards and certifying bodies require peremptorily that, during the standing of the anchor, the load must be held by a chain stopper or a high resistance fixing point. The user is responsible for guaranteeing that during navigation the anchor is properly stowed and fixed. This precaution is more important when the navigation speed is higher and sea conditions are worse. Indeed, an anchor paid out by mistake during navigation can have very serious effects. Considering its position and not always frequent use, the anchor windlass is particularly exposed to oxidation and corrosion risk; therefore, it is necessary to arrange a constant inspection of its parts and a due maintenance. Make sure to have read and understood every part of this manual before proceeding with installation and use. Only persons who know how to operate should be authorised to use the anchor windlass or the capstan. Should there be doubts on its installation or use, refer always to a skilled consultant.

- Anchor windlasses or capstans used in an inappropriate way can cause damages to persons and/or things.
- Pay the utmost attention during the use of powerful equipment.
- Do not put your hands near the windlass or the capstan when there is power on the unit.
- Even the most careful use can be a source of damages, even serious.
- Lofrans products are supplied exclusively for recreational nautical use. Lofrans declines all responsibility for improper uses.
- Pay the utmost attention so that arms, legs, fingers, hair, and clothes do not get entangled in the chain or gipsy.
- Before operating the capstans, make sure that there are no persons in water in the vicinity.
- When the anchor windlass is not used, the anchor must always be fixed to a solid point in order to avoid damages.
- The anchor windlass must never be used as mooring point. The load must always be held by a specific leat or solid point.
- The capstan must not be used for anchoring operation but only for mooring.
- The chain must never be used on the warping drum.
- The system must always be protected by a suitable circuit breaker.
- Disconnect always the circuit through the circuit breaker when the anchor windlass or the capstan is not in use.
- The references above concerning the anchor or the anchor windlass do not concern the capstan

3 INSTALLATION

3.1 Contents of the package

In addition to the present manual, the package contains:

- ✓ Capstan complete with gearbox and motor
- ✓ Control box (for DC variants)
- ✓ Drilling template
- ✓ Fixing deck studs

3.2 Equipment necessary for installation

- ✓ Drill
- ✓ For dimensions consult the corresponding deck template

3.3 Recommended accessories

Use exclusively original Lofrans accessories and spare parts, designed and manufactured to ensure performances, duration and for keeping valid the warranty. For information on available spare parts, contact your local reseller or visit website www.lofrans.com

3.4 Prevention from electrolysis

For hulls that conduct electricity, it is essential that the capstan be insulated from the deck through a non-conductive gasket (not supplied). If the motor has 2 terminals then the installer must ground the capstan by connecting a bonding wire to the cathodic protection onboard, in order to protect the windlass from electrolysis.



Without these precautions, the electrolysis phenomenon will lead to a rapid corrosion of the anchor windlass or the capstan.

3.5 Deck thickness

The area of the deck where the capstan is mounted must be solid and resistant so to be able to support the stresses during the mooring operations.

The minimum thickness of the single rolling deck must be of at least:

T500: 18-30 mm

T700/T1000/ ST1000: 20-40 mm

ST1500/ST1700/T1500/T1700: 50-70 mm

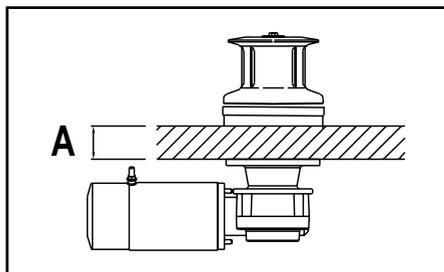
ST2000/T2000: 60-90 mm

ST2500/T2500: 90-130 mm

ST3000: 60-90 mm

ST4000: 150 mm

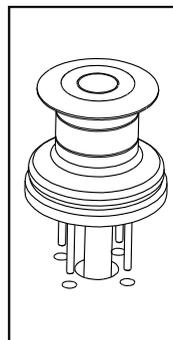
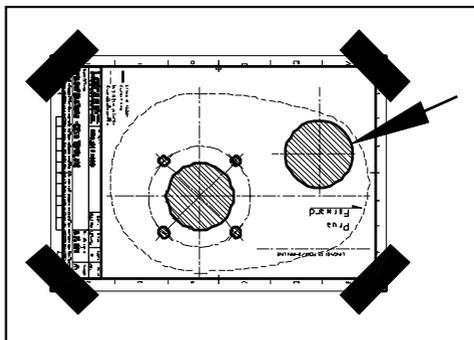
Upon request, different deck thicknesses may be provided.



3.6 Deck installation

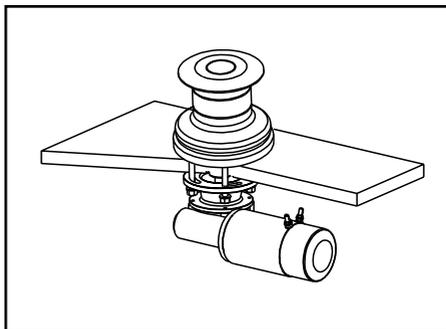
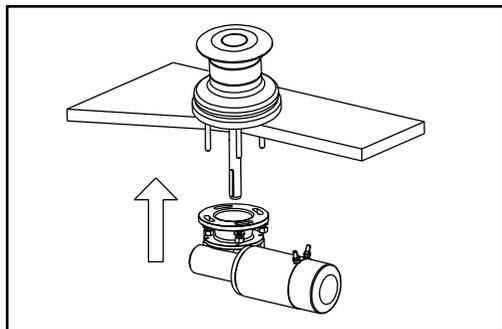
1. Place carefully the drilling template on the deck
2. Mark and drill as indicated in the figure.
3. Place carefully the upper part of the capstan on the deck.

Note: It is recommended to seal the base of the capstan to the deck by means of silicone glue. Do not use a permanent glue to fix the base of the capstan to the deck since this will make difficult the removal in case of maintenance or intervention.



3.7 Under deck installation

1. Grease the main shaft
2. Join the reducer to the upper part by
3. Screw washers and related nuts to the studs by fastening them appropriately.
4. Connect the cables coming from the battery to the electric motor by following the indications of the wiring diagram.
5. The installer is responsible to properly protect the motor and the electrical components (such as the control box) from direct water contact. Water damage to the electrical components due to water ingress will void the warranty.
6. For the ST4000 model the main shaft is integrated inside the gearbox, therefore the gearbox will need to be mounted first on the deck and after it is fixed and sealed the upper deck capstan can be installed. The standard deck thickness is 150mm. For different deck thickness please contact Lofrans'.


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4 ELECTRICAL SYSTEM

Motor Power (W)	Voltage (V)	Contactor (A)	Cable sizing according length of cable (positive + negative)	
			15-25 m	50-75 ft
500/700	12	70	25 mm ²	3 AWG
700	24	35	16 mm ²	4 AWG
1000	12	100	35 mm ²	2 AWG
1000	24	70	25 mm ²	3 AWG
1500	12	100	50 mm ²	2 AWG
1500	24	70	35 mm ²	3 AWG
1700	12	125	50 mm ²	2 AWG
1700	24	100	35 mm ²	3 AWG
2300	24	100	50 mm ²	2 AWG
2500	24	100	50 mm ²	2 AWG
3000	24	125	50 mm ²	2 AWG
3500	24	250	70 mm ²	2/0 AWG

4.1 Electrical cable section

In order to obtain the maximum performances from the capstan and safeguard the electrical system, it is essential that the capstan be wired with cables of sufficient section as suggested in the table.

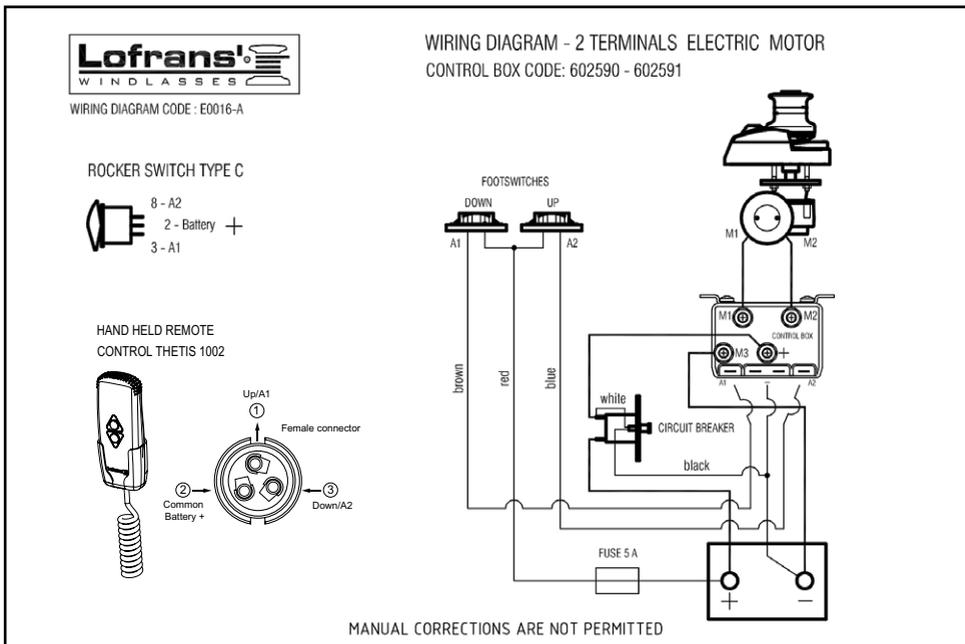
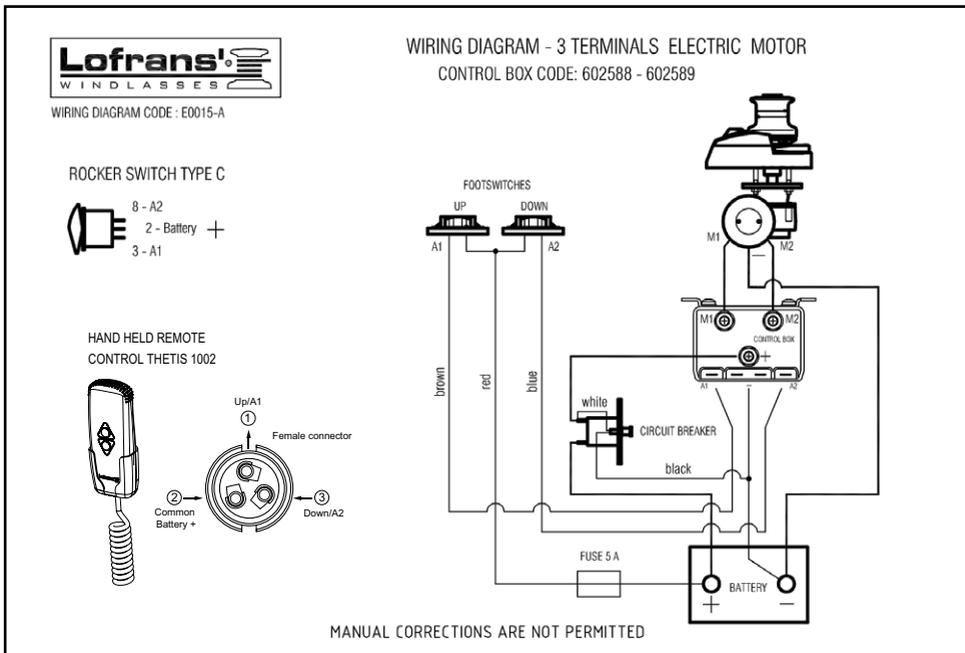
4.2 Solenoid valves (Control Box)

Place it in a dry place near the capstan. The control box or switchboard must be installed in a dry area in which it will not have direct water contact

4.3 Circuit breakers

The circuit breakers recommended by Lofrans have an intervention curve and not a simple plate value. The switches selected for each model guarantee the correct operation of the system.

4.4 Wiring Diagram

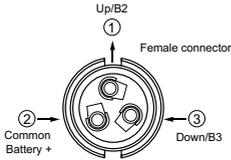




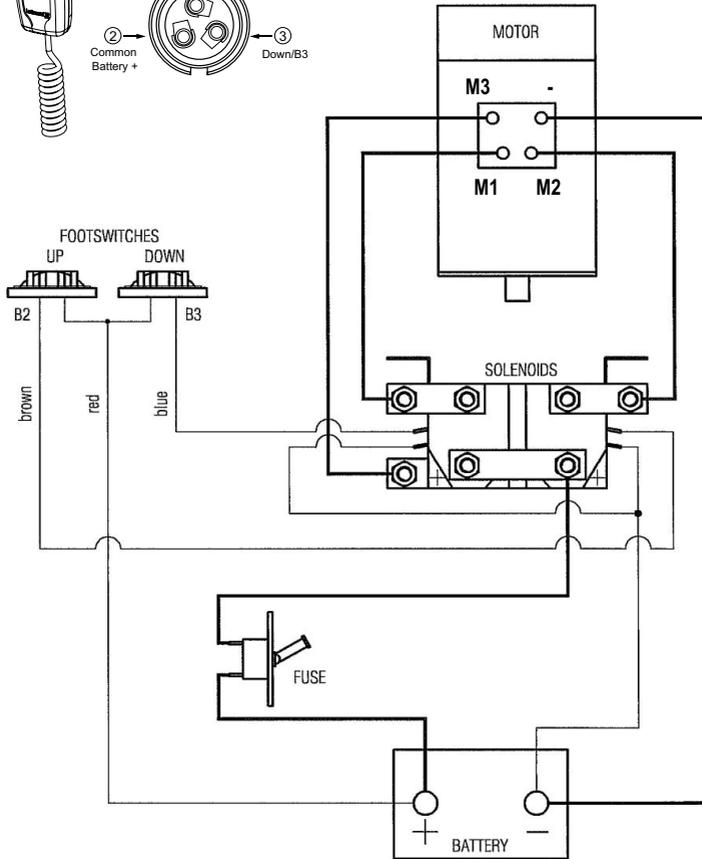
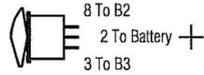
WIRING DIAGRAM CODE : E0008

WIRING DIAGRAM - 4 TERMINALS for 3000W and 3500W 24V ELECTRIC MOTOR

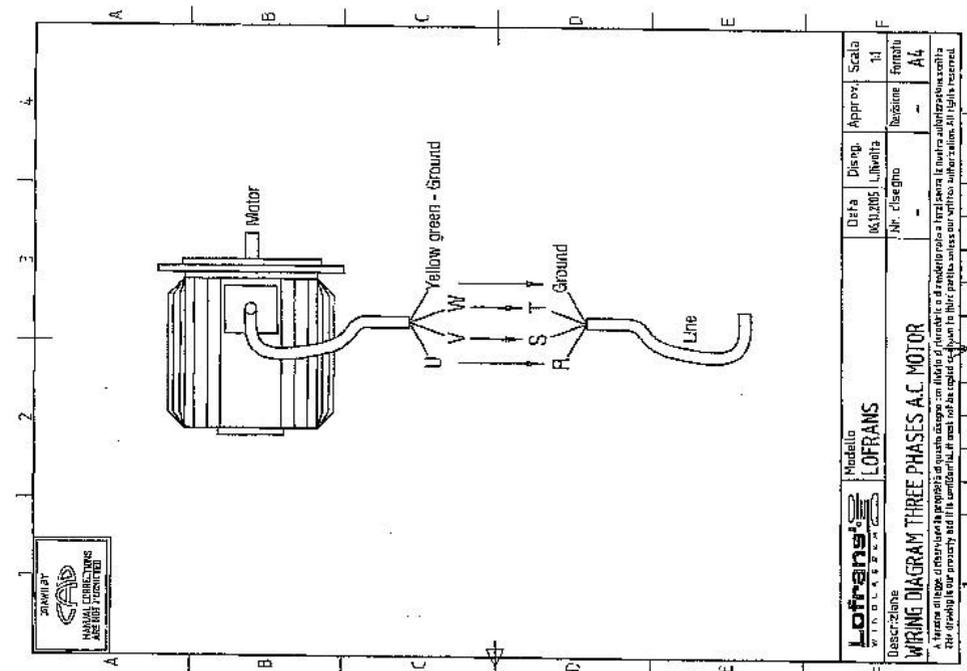
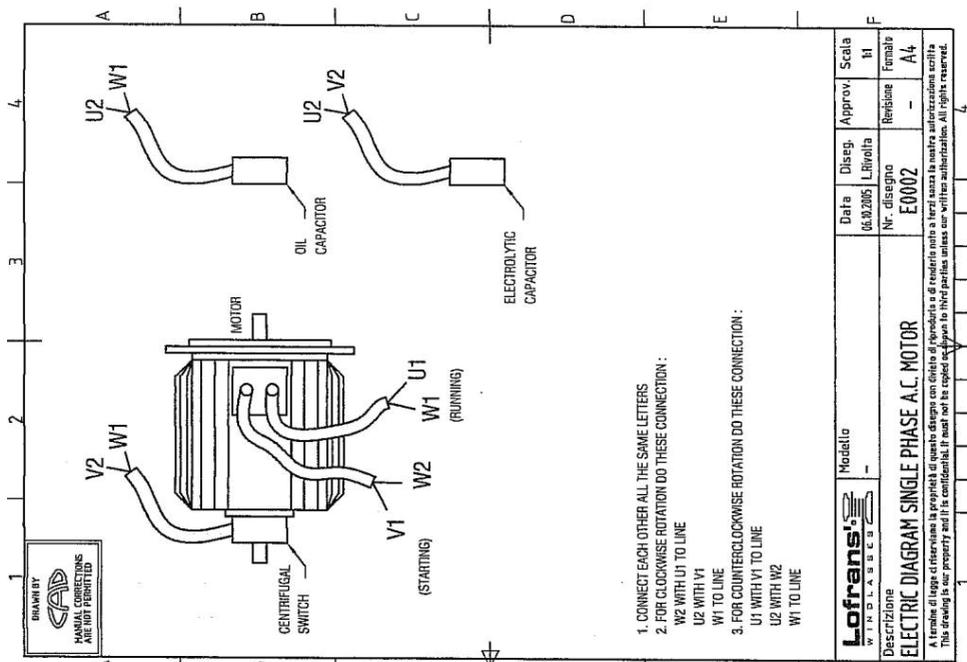
HAND HELD REMOTE
CONTROL THETIS 1002



ROCKER SWITCH TYPE C



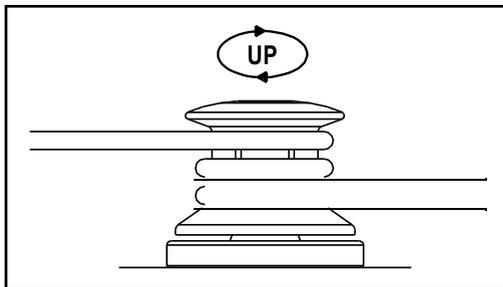
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5 USE OF THE CAPSTAN

5.1 Use of the warping drum

1. Turn **clockwise** around the drum with three laps of rope.
2. By keeping the end of the rope, press the UP button and carry out the mooring manoeuvre.
3. Once the manoeuvre is ended, remove the rope from the drum and fasten it to a bollard.
4. Deactivate the safety switch.



6 MAINTENANCE

	USE OF THE YACHT (MONTHS)			
	LESS THAN 2	FROM 2 UP TO 6	MORE THAN 6	CHARTER
EVERY 3 MONTHS	A - A		A - B	A - B
EVERY 6 MONTHS		A - B		
EVERY 12 MONTHS	A - B - C	C	C	C - D
EVERY 24 MONTHS		D	D	E
EVERY 36 MONTHS	D - E	E	E	

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Follow strictly the maintenance programme. Not meeting the maintenance programme will cause forfeiture of the warranty.



Disconnect power to the capstan before any maintenance.

6.1 Maintenance programme

For obtaining the best performances and the utmost efficiency of the capstan, it is necessary to follow strictly the maintenance programme indicated hereby.

- A.** Clean all external surfaces and hidden points with fresh water and soft cloth or non abrasive sponge to remove all salt layers. Do not use chlorine, bleach or acid solutions to clean the windlass as this will damage the INOX parts and the seals. Apply metal polish compound and coat all INOX parts to remove oxidation and renew the bright finish of the material.
- B.** Grease the rotating parts with yellow marine grease that is non conductive. Particularly, the main shaft threads and clutch cones. Check for evidences of corrosion and mechanical stresses. Apply anti seize grease to the thread of the #730 conic screw (M10x30).
- C.** Check the terminals of the electric motor. Test the voltage drop at the terminals.
- D.** Replace all gaskets.
- E.** Remove the anchor windlass from the deck to clean the salt under the base and seal again.

7 TROUBLESHOOTING

Problem	Possible causes	Solution
<p>1. The capstan does nor work when a control is operated.</p>	<p>1.1 Protection switch in OFF position 1.2 Lack of voltage in the system 1.3 Failure of the control box 1.4 Failure of the control 1.5 Failure of the electric motor</p>	<p>1.1 Check the protection switch and set it in the ON position 1.2 Check the charge status of the battery, check connections 1.3 Check and possibly replace the control box 1.4 Check and possibly replace the control 1.5 Measure the electric motor voltage; if it is OK, check the brushes and clean them. If it does not work, replace the electric motor</p>
<p>2. The capstan runs slowly and at times jumps the circuit breaker.</p>	<p>2.1 Section of cables not suitable. 2.2 Poor electrical connections. 2.3 Dirty brushes. 2.4 Water leaks in the electrical engine. 2.5 There is no parallelism between upper deck and below deck. 2.6 The gearbox has lost oil. 2.7 The engine strains in one or both directions. 2.8 The capstan works only in one direction.</p>	<p>2.1 Increase the cable section 2.2 Check out the connections 2.3 Clean the brushes 2.4 Replace the electrical engine 2.5 Work surfaces and/or add shims to restore parallelism. 2.6 (SERVICE) Uninstall the gearbox and check out its condition. Replace damaged parts after discovering the causes of the leak. Also, replace gaskets and screws. Check out also the engine condition, which may have been damaged during the malfunction. 2.7 (SERVICE) Check out appropriately all connections of the power cables. If they are alright, uninstall the engine (in some cases it is convenient to disassemble also the gearbox). Check out and possibly replace the brushes. 2.8 Check out on the control box that between B2-C and B3-C contacts there are 12/24V when the respective buttons are pressed. If this should happen and one of the relays does not work, replace the control box.</p>
<p>3. The electric engine runs but the shaft does not rotate either Up or Down</p>	<p>3.1 Heavy wear or breakage of teeth of the crown / worm screw. 3.2 Breakage of the engine spindle.</p>	<p>3.1 (SERVICE) Uninstall the capstan and replace the broken parts. Check out carefully that pieces or splinters of broken parts did not enter into the oil circuit and have ruined other mechanical parts. (*) 3.2 (SERVICE) Replacing of the engine. Care must be taken that the broken part did not remain in the hole of the worm screw. (*) (*) Take advantage of this opportunity to replace any other worn parts, especially gaskets, screws, tabs, seeger, and oil.</p>
<p>4. On installation, it is found that the shaft and the studs are short for a correct coupling</p>	<p>4.1 The request referred to the deck thickness was wrong.</p>	<p>4.1 If the key shaft works in the gearbox along all its length, the fixing studs can be adapted. Otherwise, a longer shaft must be requested.</p>

8 TECHNICAL DATA

Model	T500		T700		T1000 / ST1000		T1500 / ST1500		T1700 / ST1700	
Motor Power	500W		700W		1000W		1500W		1700W	
Vessel Length Heavy Duty (ft)	30-40		40-50		45-55		65-70		65-75	
Vessel Length Light Duty (ft)	40-45		50-55		55-60		50-55		75-80	
Power Supply	12V	12V	24V	12V	24V	12V	24V	12V	24V	24V
Maximum linear Load/Pull (Kg /lb)	670 / 1474	850 / 1870	850 / 1870	1000 / 2200	1000 / 2200	1200 / 2640	1200 / 2640	1600 / 3520	1600 / 3520	
Maximum lift Load/Pull (Kg /lb)	335 / 737	460 / 1012	460 / 1012	500 / 1100	500 / 1100	600 / 1320	600 / 1320	800 / 1760	800 / 1760	
Max Lift Working Load (Kg /lb)	85 / 187	115 / 253	115 / 253	150 / 330	150 / 330	165 / 363	165 / 363	200 / 440	200 / 440	
Amps Work Load (A)	60	110	55	117	59	130	65	135	135	
Max Line Speed (mt./min. / ft/min.)	25 / 75	30 / 90	30 / 90	35 / 105	35 / 105	35 / 105	35 / 105	32 / 96	32 / 96	
Line Speed (mt./min. / ft/min.)	20 / 60	25 / 75	25 / 75	25 / 75	25 / 75	20 / 60	20 / 60	16 / 48	16 / 48	
Net weight with Drum (Kg /lb)	11 / 25	15 / 33	15 / 33	21 / 47	21 / 47	27 / 60	27 / 60	30 / 66	30 / 66	



Model	T2000 / ST2000	T2500 / ST2500	T2000 / T2500 / ST2000 / ST2500		T2500 / ST2500		T2000 / T2500 / ST2000 / ST2500		T2500 / ST2500
Motor Power	2300W	2700W	2200W		3600W		3600W		9cc
Vessel Length Heavy Duty (ft)	75-85	85-100	100-110		85-100		85-100		85-100
Vessel Length Light Duty (ft)	85-100	100-105	110-120		100-105		100-105		100-105
Power Supply	24V	24V	230V	400V	230V	400V	230V	400V	N/A
Maximum linear Load/Pull (Kg /lb)	2000 / 4400	2400 / 5280	4400 / 1000	4400 / 1000	2500 / 5500	2500 / 5500	2500 / 5500	2500 / 5500	5500 / 1250
Maximum lift Load/Pull (Kg /lb)	1000 / 2200	1200 / 2640	2200 / 545	2200 / 545	1250 / 2750	1250 / 2750	1250 / 2750	1250 / 2750	2750 / 680
Max Lift Working Load (Kg /lb)	545 / 1199	650 / 1430	1199 / N/A	1199 / N/A	680 / 1496	680 / 1496	680 / 1496	680 / 1496	1496 / N/A
Amps Work Load (A)	70	75	16	16	N/A	N/A	N/A	N/A	16
Max Line Speed (mt./min. / ft/min.)	27 / 81	29 / 87	48 / 16	48 / 16	16 / 48	16 / 48	16 / 48	16 / 48	16 / 48
Line Speed (mt./min. / ft/min.)	12 / 36	12 / 36	48 / 55	48 / 55	16 / 48	16 / 48	16 / 48	16 / 48	48 / 35
Net weight with Drum (Kg /lb)	52 / 115	55 / 121	121 / 60	121 / 60	60 / 132	60 / 132	60 / 132	60 / 132	77 / 66

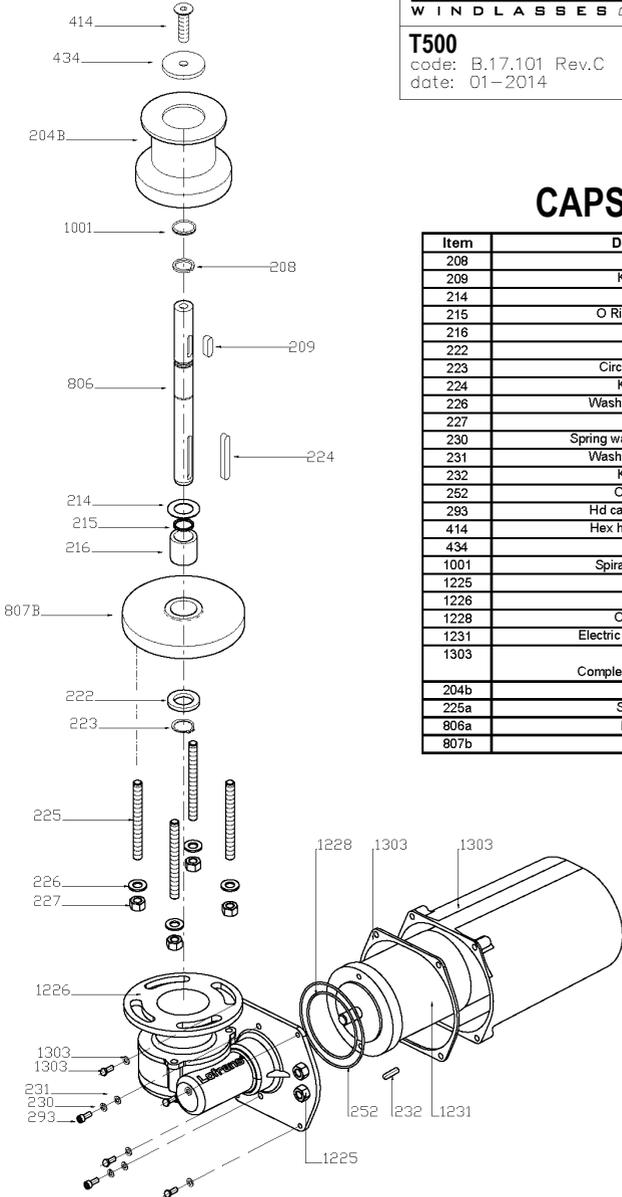
Model	ST3000		ST3000	ST3000		ST4000		ST4000		ST4000
Motor Power	2200W		3000W	3600W		4000W		5500W		11cc
Vessel Length Heavy Duty (ft)	100-110		100-110	100-110		100-120		100-120		100-120
Vessel Length Light Duty (ft)	110-120		110-120	110-120		120-140		120-140		120-140
Power Supply	230V	400V	24V	230V	400V	230V	400V	230V	400V	200 BAR 40 LPM
Maximum linear Load/Pull (Kg /lb)	3000 / 6600	3000 / 6600	5500 / 12100	3500 / 7700	3500 / 7700	5500 / 12100	5500 / 12100	6500 / 14300	6500 / 14300	5500 / 14300
Maximum lift Load/Pull (Kg /lb)	1500 / 3300	1500 / 3300	2750 / 6050	1750 / 3850	1750 / 3850	2750 / 6050	2750 / 6050	3250 / 7150	3250 / 7150	3250 / 7150
Max Lift Working Load (Kg /lb)	815 / 1793	815 / 1793	690 / 1518	950 / 2090	950 / 2090	1310 / 2882	1310 / 2882	1550 / 3410	1550 / 3410	1550 / 7150
Amps Work Load (A)	N/A	N/A	200	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Max Line Speed (mt./min. / ft/min.)	18 / 54	18 / 54	15 / 45	18 / 54	18 / 54	12 / 36	12 / 36	12 / 36	12 / 36	11 / 36
Line Speed (mt./min. / ft/min.)	18 / 54	18 / 54	8 / 24	18 / 54	18 / 54	12 / 36	12 / 36	12 / 36	12 / 36	11 / 36
Net weight with Drum (Kg /lb)	75 / 165	75 / 165	120 / 264	75 / 165	75 / 165	130 / 286	130 / 286	140 / 308	140 / 308	100 / 220

9 PART LIST

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T500
code: B.17.101 Rev.C
date: 01-2014

REV. 2017



CAPSTAN T500

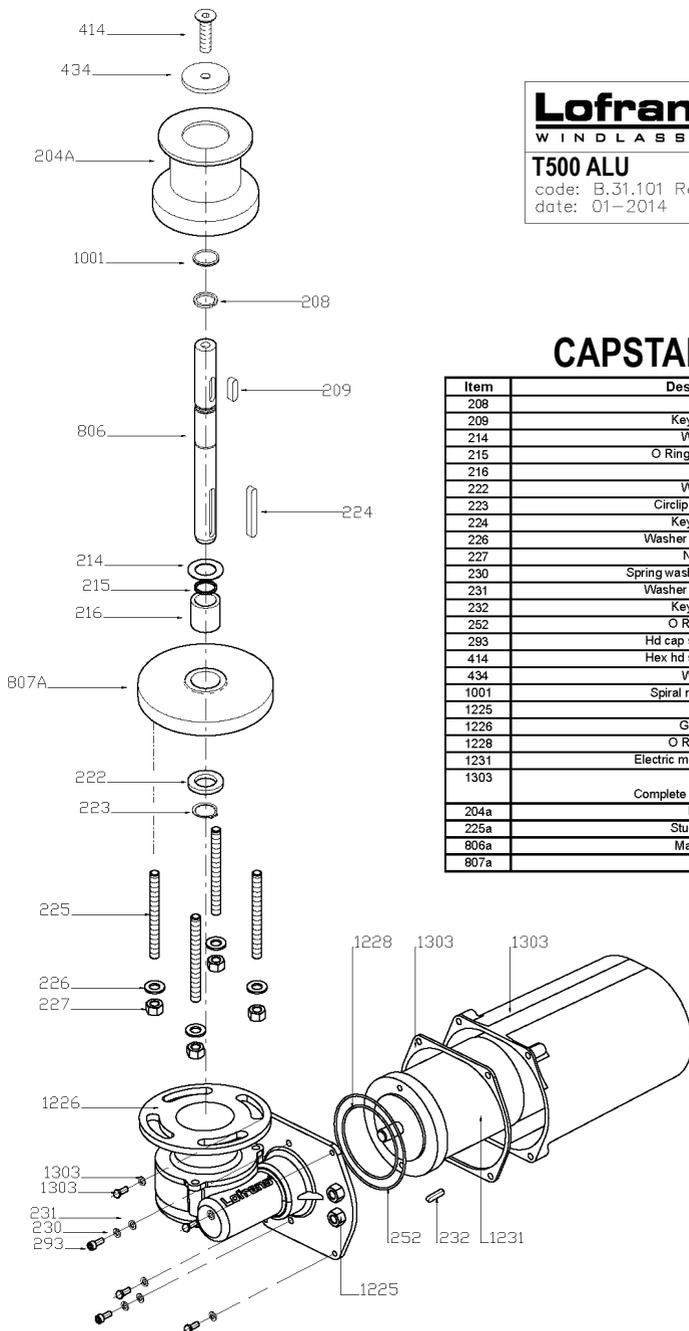
Item	Description	Kit	Q.ty
208	Ring		1
209	Key 6x6x30	Kit C	1
214	Washer		1
215	O Ring seal - 2068	Kit A	1
216	Bush		1
222	Washer		1
223	Circlip 18 Din 471	Kit D	1
224	Key 6x6x45	Kit C	1
226	Washer for M8 screw	Kit B	4
227	Nut M8	Kit B	4
230	Spring washer for M5 screw	Kit B	2
231	Washer for M5 screw	Kit B	2
232	Key 4x4x15	Kit C	1
252	O Ring 2325		1
293	Hd cap screw M5x12	Kit B	2
414	Hex hd screw M8x30	Kit B	1
434	Washer	Kit B	1
1001	Spiral retaining ring	Kit D	1
1225	PC9		2
1228	Gearbox		1
1228	O Ring 2250		1
1231	Electric motor 500W 12V		1
1303	Complete motor cover kit	Kit Cover	1
204b	Drum		1
225a	Stud M8x58		4
806a	Main shaft		1
807b	Base		1

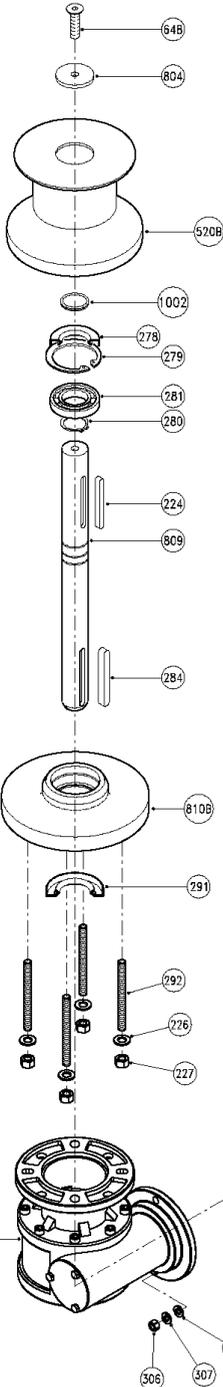
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CAPSTAN T500 ALU

Item	Description	Kit	Q.ty
208	Ring		1
209	Key 6x6x30	Kit C	1
214	Washer		1
215	O Ring seal - 2068	Kit A	1
216	Bush		1
222	Washer		1
223	Circlip 18 Din 471	Kit D	1
224	Key 6x6x45	Kit C	1
226	Washer for M8 screw	Kit B	4
227	Nut M8	Kit B	4
230	Spring washer for M5 screw	Kit B	2
231	Washer for M5 screw	Kit B	2
232	Key 4x4x15	Kit C	1
252	O Ring 2325		1
293	Hd cap screw M5x12	Kit B	2
414	Hex hd screw M8x30	Kit B	1
434	Washer	Kit B	1
1001	Spiral retaining ring	Kit D	1
1225	PG9		2
1226	Gearbox		1
1228	O Ring 2250		1
1231	Electric motor 500W 12V		1
1303	Complete motor cover kit	Kit Cover	1
204a	Drum		1
225a	Stud M8x58		4
806a	Main shaft		1
807a	Base		1





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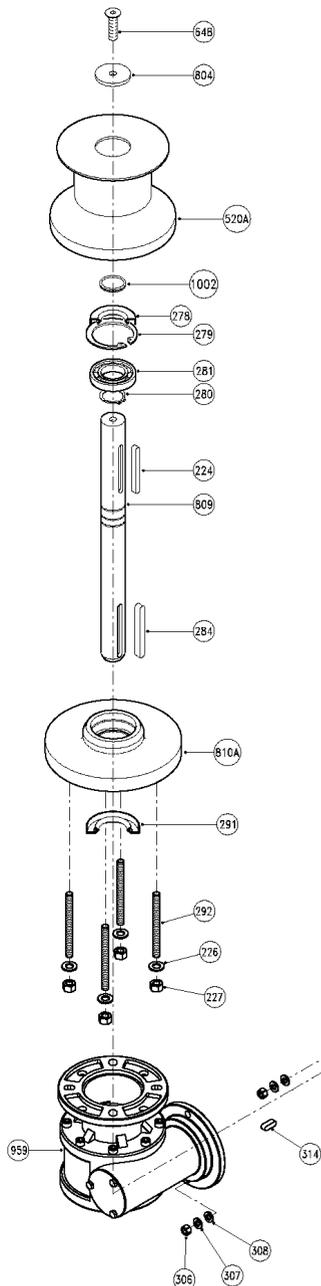
T700 CRO
code: B.28.102
date: 01-2014

REV. 2015

CAPSTAN T700 CRO

Item	Description	Kit	Q.ty
224	Key - 6x6x45	Kit C	1
226	Washer for M8 screw	Kit B	4
227	Nut - M8	Kit B	4
278	Seal - 25x47x7	Kit A	1
279	Circlip - 47 Din 472	Kit D	1
280	Circlip - 25 Din 471	Kit D	1
281	Bearing - 16005		1
284	Key - 8x7x60	Kit C	1
291	Seal - 25x35x7	Kit A	1
306	Nut - M6	Kit B	2
307	Spring washer for M6 screw	Kit B	2
308	Washer for M6 screw	Kit B	2
314	Key - 5x5x15	Kit C	1
648	Conic hd screw - M8x20	Kit B	1
804	Washer	Kit B	1
959	Gearbox		1
1002	Spiral retaining ring	Kit D	1
292a	Stud - M8x75		4
520b	Drum		1
809a	Main shaft		1
810b	Base		1
960a	Electric motor 700W 12V		1
960b	Electric motor 700W 24V		1

UK



Lofrans[®]
WINDLASSES

T700 ALU
code: B.28.101 Rev.A
date: 01-2014

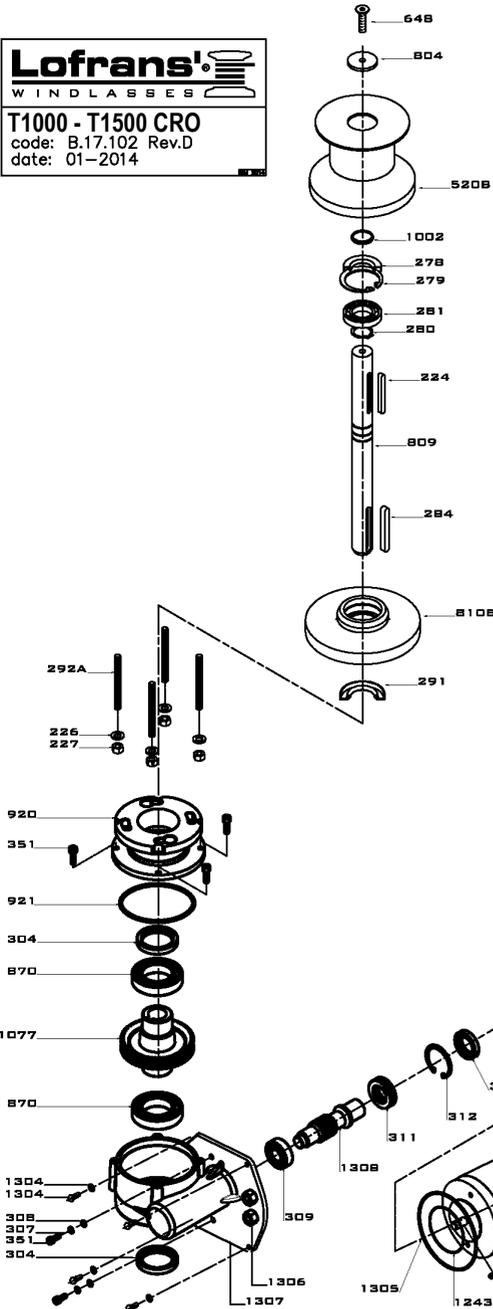
PM 2015

CAPSTAN T700 ALU

Item	Description	Kit	Q.ty
224	Key - 6x6x45	Kit C	1
226	Washer for M8 screw	Kit B	4
227	Nut - M8	Kit B	4
278	Seal - 25x47x7	Kit A	1
279	Circlip - 47 Din 472	Kit D	1
280	Circlip - 25 Din 471	Kit D	1
281	Bearing - 16005		1
284	Key - 8x7x60	Kit C	1
291	Seal - 25x35x7	Kit A	1
306	Nut - M6	Kit B	2
307	Spring washer for M6 screw	Kit B	2
308	Washer for M6 screw	Kit B	2
314	Key - 5x5x15	Kit C	1
648	Conic hd screw - M8x20	Kit B	1
804	Washer	Kit B	1
959	Gearbox		1
1002	Spiral retaining ring	Kit D	1
292a	Stud - M8x75		4
520a	Drum		1
809a	Main shaft		1
810a	Base		1
960a	Electric motor 700W 12V		1
960b	Electric motor 700W 24V		1

Lofrans!
WINDLASSES
T1000 - T1500 CRO
code: B.17.102 Rev.D
date: 01-2014

CAPSTAN T1000 - 1500 CRO



Item	Description	Kit	Q.ty
224	Key - 6x6x45	Kit C	1
226	Washer for M8 screw	Kit B	4
227	Nut - M8	Kit B	4
278	Seal - 25x47x7	Kit A	1
279	Circlip - 47 Dm 472	Kit D	1
280	Circlip - 25 Dm 471	Kit D	2
281	Bearing - 16005		1
284	Key - 8x7x60	Kit C	1
291	Seal - 25x35x7	Kit A	1
304	Seal - 40x55x7	Kit A	2
306	Nut - M6	Kit B	2
307	Spring washer for M6 screw	Kit B	2
308	Washer for M6 screw	Kit B	2
309	Bearing - 6203		1
311	Bearing - 51105		1
312	Circlip - 43 Dm 472	Kit D	1
313	Seal - 25x43x9	Kit A	1
314	Key - 5x5x15	Kit C	1
351	Hd cap screw M6X20	Kit B	6
648	Conic hd screw - M8x20	Kit B	1
804	Washer	Kit B	1
811	Spacer		1
870	Bearing - 6008		2
920	Gearcase - upper		1
921	O Ring seal - 4375	Kit A	1
1002	Spiral retaining ring	Kit D	1
1077	Wormwheel		1
1243	O Ring 2287	Kit A	1
1304	Complete motor cover kit	Kit Cover	1
1305	O Ring 2375	Kit A	1
1306	PG13		3
1307	Gearcase - lower		1
1308	Worm		1
1244a	Electric motor 1000W 12V		1
1244b	Electric motor 1000W 24V		1
1250a	Electric motor 1500W 12V		1
1250b	Electric motor 1500W 24V		1
282a	Stud - M8x75		4
310a	Worm		1
520b	Drum		1
809a	Main shaft		1
810b	Base		1

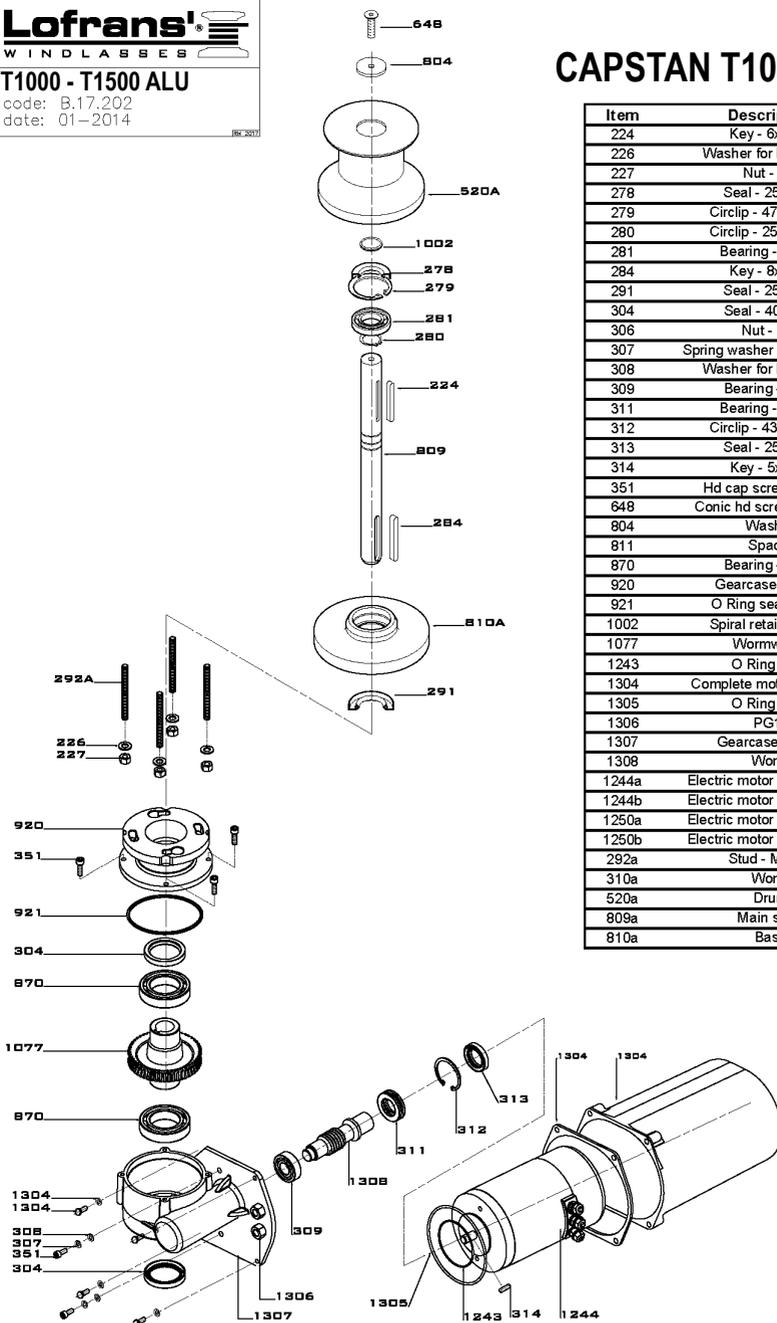
UK

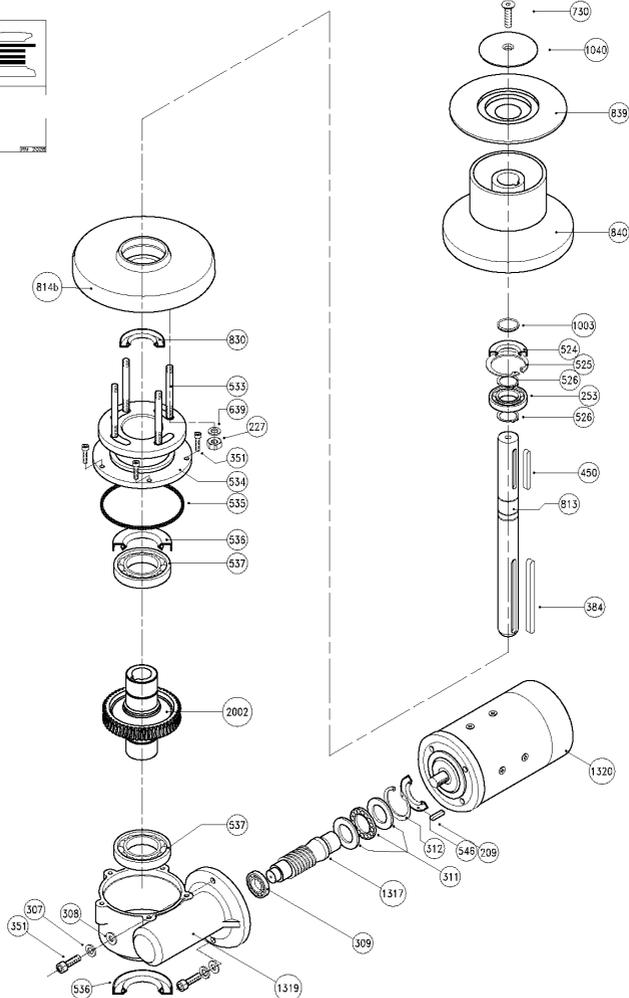
Lofrans!
WINDLASSES

T1000 - T1500 ALU
code: B.17.202
date: 01-2014

CAPSTAN T1000 - 1500 ALU

Item	Description	Kit	Q.ty
224	Key - 6x6x45	Kit C	1
226	Washer for M8 screw	Kit B	4
227	Nut - M8	Kit B	4
278	Seal - 25x47x7	Kit A	1
279	Circlip - 47 Din 472	Kit D	1
280	Circlip - 25 Din 471	Kit D	2
281	Bearing - 16005		1
284	Key - 8x7x60	Kit C	1
291	Seal - 25x35x7	Kit A	1
304	Seal - 40x55x7	Kit A	2
306	Nut - M6	Kit B	2
307	Spring washer for M6 screw	Kit B	2
308	Washer for M6 screw	Kit B	2
309	Bearing - 6203		1
311	Bearing - 51105		1
312	Circlip - 43 Din 472	Kit D	1
313	Seal - 25x43x9	Kit A	1
314	Key - 5x5x15	Kit C	1
351	Hd cap screw M6X20	Kit B	6
648	Conic hd screw - M8x20	Kit B	1
804	Washer	Kit B	1
811	Spacer		1
870	Bearing - 6008		2
920	Gearcase - upper		1
921	O Ring seal - 4375	Kit A	1
1002	Spiral retaining ring	Kit D	1
1077	Wormwheel		1
1243	O Ring 2287	Kit A	1
1304	Complete motor cover kit	Kit Cover	1
1305	O Ring 2375	Kit A	1
1306	PG13		3
1307	Gearcase - lower		1
1308	Worm		1
1244a	Electric motor 1000W 12V		1
1244b	Electric motor 1000W 24V		1
1250a	Electric motor 1500W 12V		1
1250b	Electric motor 1500W 24V		1
292a	Stud - M8x75		4
310a	Worm		1
520a	Drum		1
809a	Main shaft		1
810a	Base		1





UK

CAPSTAN T1700

Item	Description	Kit	Q.ty
209	Key 6x6x30	Kit C	1
227	Nut M8	Kit B	4
253	Bearing 6006		1
307	Spring washer for screw M6	Kit B	2
308	Washer for screw M6	Kit B	2
309	Bearing 6203		1
311	Bearing 51105		1
312	Circlip 43 Din 472	Kit D	1
351	Hd cap screw M6x20	Kit B	7
384	Key 8x7x140	Kit C	1
417	Hd cap screw M8x30	Kit B	3
450	Key 8x7x80	Kit C	1
524	Seal 30-55-10	Kit A	1
525	Circlip 55 Din 472	Kit D	1
526	Circlip 30 Din 471	Kit D	2
534	Gearcase - upper		1
535	O Ring seal - 4500	Kit A	1

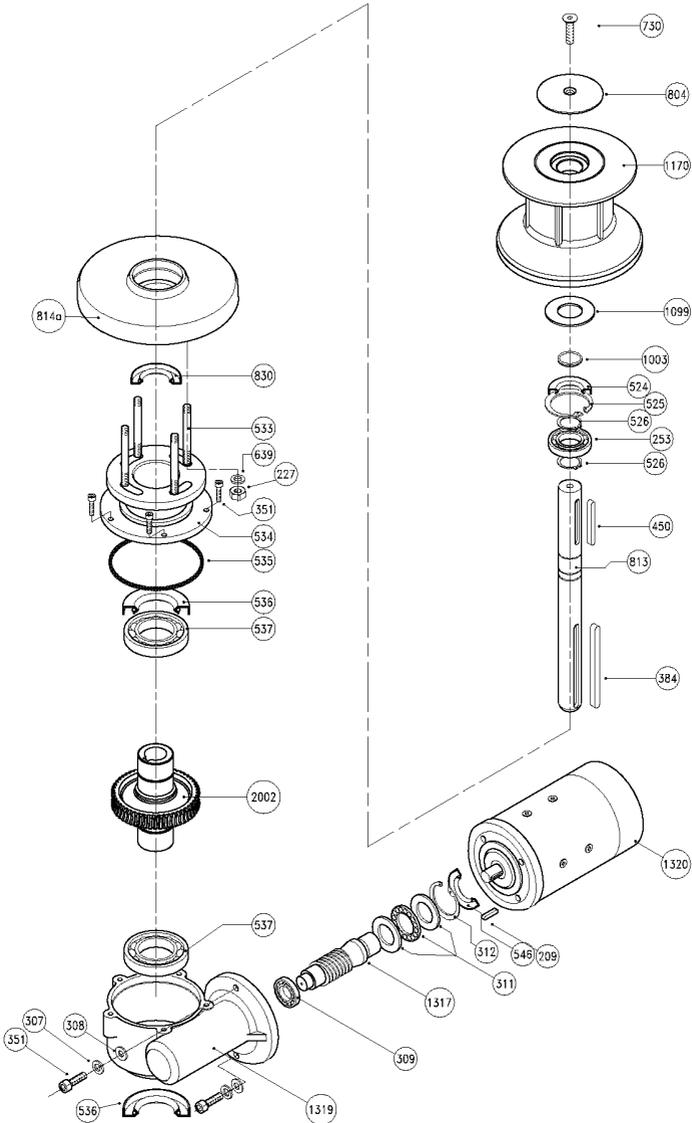
Item	Description	Kit	Q.ty
536	Seal 45-60-7	Kit A	2
537	Bearing 16009		2
546	Seal 25-45-10	Kit A	1
639	Washer	Kit B	4
730	Conic hd screw M10x30	Kit B	1
830	Seal 30-45-8	Kit A	1
840	Drum - lowerpart		1
1003	Spiral retaining ring	Kit D	1
1040	Washer		1
1317	Worm		1
1319	Gearcase - lower		1
2002	Wormwheel		1
1320a	Electric motor 1700W 12V B14		1
1320b	Electric motor 1700W 24V B14		1
533a	Stud M8x110	Kit A	4
813a	Main shaft		1
814b	Base		1
839a	Drum - upper part		1

CAPSTAN T1700 ALU

Item	Description	Kit	Q.ty
209	Key 6x6x30	Kit C	1
227	Nut M8	Kit B	4
253	Bearing 6006		1
307	Spring washer for screw M6	Kit B	2
308	Washer for screw M6	Kit B	2
309	Bearing 6203		1
311	Bearing 51105		1
312	Circlip 43 Din 472	Kit D	1
351	Hd cap screw M6x20	Kit B	7
384	Key 8x7x140	Kit C	1
417	Hd cap screw M8x30	Kit B	3
450	Key 8x7x80	Kit C	1
524	Seal 30-55-10	Kit A	1
525	Circlip 55 Din 472	Kit D	1
526	Circlip 30 Din 471	Kit D	2
534	Gearcase - upper		1
535	O Ring seal - 4500	Kit A	1
536	Seal 45-60-7	Kit A	2
537	Bearing 16009		2
546	Seal 25-45-10	Kit A	1
639	Washer	Kit B	4
730	Conic hd screw M10x30	Kit B	1
804	Washer		1
830	Seal 30-45-8	Kit A	1
1003	Spiral retaining ring	Kit D	1
1099	Washer		1
1170	Drum		1
1317	Worm		1
1319	Gearcase - lower		1
2002	Wormwheel		1
1320a	Electric motor 1700W/12V B14		1
1320b	Electric motor 1700W/24V B14		1
533a	Stud M8x110		4
813a	Main shaft		1
814a	Base		1

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WINDLASSES

T1700 ALU
code: B.17.203
date: 01-2014

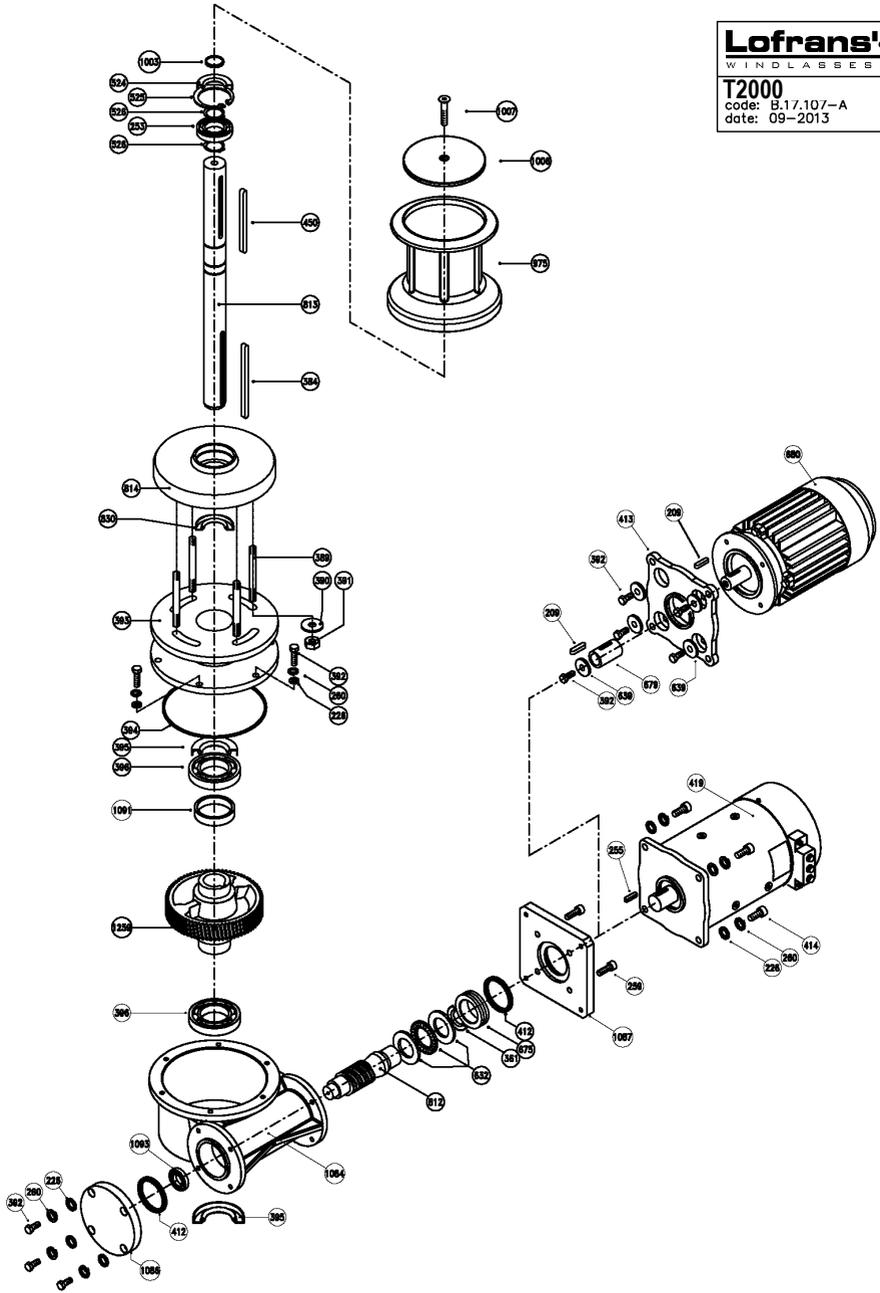


UK

CAPSTAN T2000

Item	Description	Kit	Q.ty
209	Key - 6x6x30	Kit C	2
226	Washer for M8 screw	Kit B	14
253	Bearing - 6006		1
255	Key - 6x6x25	Kit C	1
259	Hd cap screw - M8x16	Kit B	4
260	Spring washer for M8 screw	Kit B	14
361	Seal - 40x50x5	Kit A	1
384	Key - 8x7x140	Kit C	1
390	Washer	Kit B	4
391	Nut - M10	Kit B	4
392	Hex hd screw - M8x25	Kit B	15
393	Gearcase - upper		1
394	O Ring seal - 4625	Kit A	1
395	Seal - 50x70x10	Kit A	2
396	Bearing - 16010		2
412	O Ring seal - 153	Kit A	2
413	Motor flange		1
414	Hex hd screw - M8x30	Kit B	4
419	Electric motor 2300W 24V		1
450	Key - 8x7x80	Kit C	1
524	Seal - 30x55x10	Kit A	1
525	Circlip - 55 Din 472	Kit D	1
526	Circlip - 30 Din 471	Kit D	2
639	Washer	Kit B	5
675	Spacer		1
679	Coupling		1
812	Worm		1
830	Seal - 30x45x8	Kit A	1
975	Drum		1
1003	Spiral retaining ring	Kit D	1
1006	Washer		1
1007	Conic hd screw - M10x50	Kit B	1
1084	Gearcase		1
1086	Sightglass flange		1
1087	Motor flange 2000/2500 W		1
1091	Spacer		1
1093	Bearing - 6002		1
1259	Wormwheel		1
389a	Stud - M10x140		4
632b	Bearing - 51108		1
680a	A.C. Electric motor 3Ph 230/400V Kw2,2		1
813b	Main shaft		1
814b	Base		1

Lofrans!
WINDLASSES
T2000
code: B.17.107-A
date: 09-2013

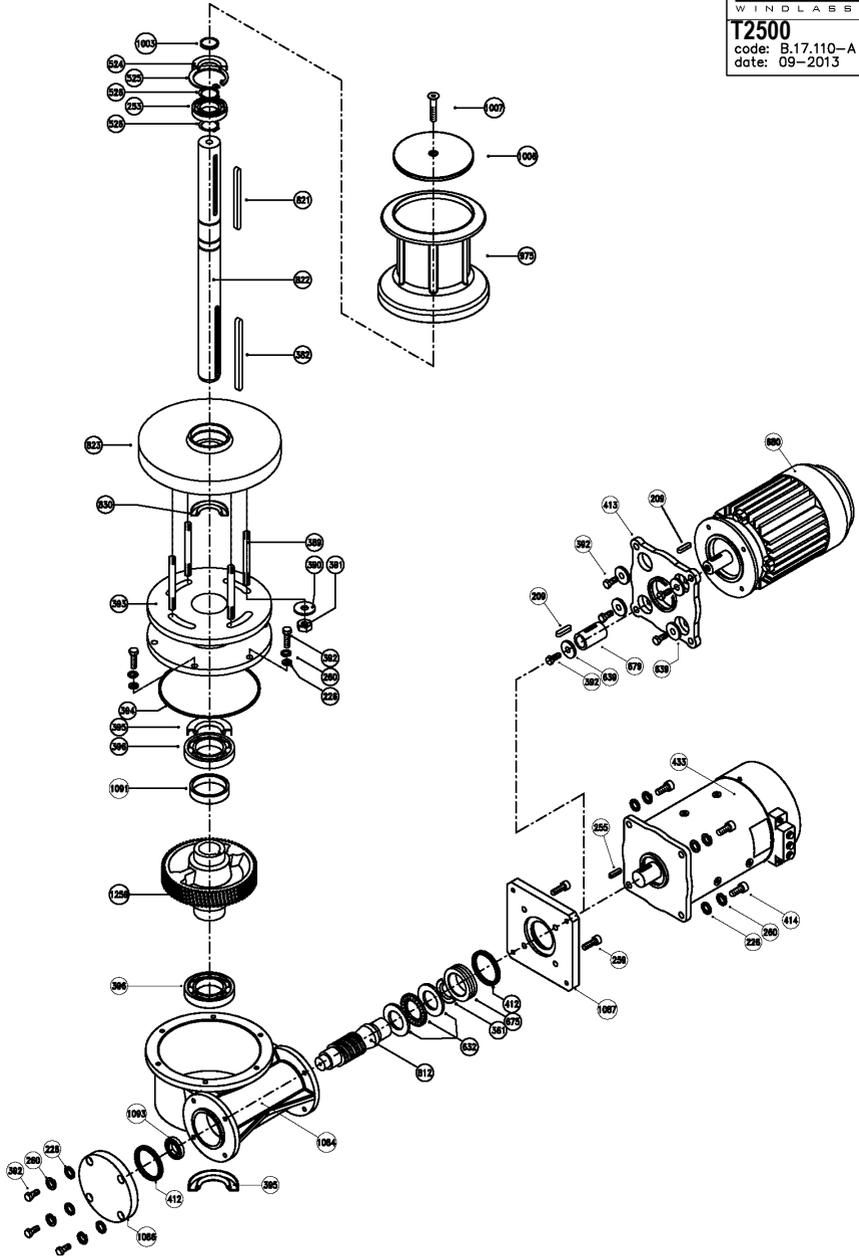


UK

CAPSTAN T2500

Item	Description	Kit	Q.ty
209	Key - 6x6x30	Kit C	2
226	Washer for M8 screw	Kit B	14
253	Bearing - 6006		1
255	Key - 6x6x25	Kit C	1
259	Hd cap screw - M8x16	Kit B	4
280	Spring washer for M8 screw	Kit B	14
381	Seal - 40x50x5	Kit A	1
382	Key - 8x7x160	Kit C	1
390	Washer	Kit B	4
391	Nut - M10	Kit B	4
392	Hex hd screw - M8x25	Kit B	15
393	Gearcase - upper		1
394	O Ring seal - 4625	Kit A	1
396	Seal - 50x70x10	Kit A	2
396	Bearing - 16010		2
412	O Ring seal - 153	Kit A	2
413	Motor flange		1
414	Hex hd screw - M8x30	Kit B	4
433	Electric motor 2700W 24V		1
524	Seal - 30x55x10	Kit A	1
525	Circlip - 55 Din 472	Kit D	1
526	Circlip - 30 Din 471	Kit D	2
639	Washer	Kit B	5
675	Spacer		1
679	Coupling		1
812	Worm		1
821	Key - 8x7x120	Kit C	1
822	Main shaft		1
823	Base		1
830	Seal - 30x45x8	Kit A	1
975	Drum		1
1003	Spiral retaining ring	Kit D	1
1006	Washer		1
1007	Conic hd screw - M10x50	Kit B	1
1084	Gearcase		1
1086	Sight/glass flange		1
1087	Motor flange 2000/2500 W		1
1091	Spacer		1
1093	Bearing - 6002		1
1259	Wormwheel		1
389c	Stud - M10x200		4
632b	Bearing - 51108		1
680a	A.C. Electric motor 3Ph 230/400V Kw2,2		1

Lofrans!
WINDLASSES
T2500
code: B.17.110-A
date: 09-2013



UK

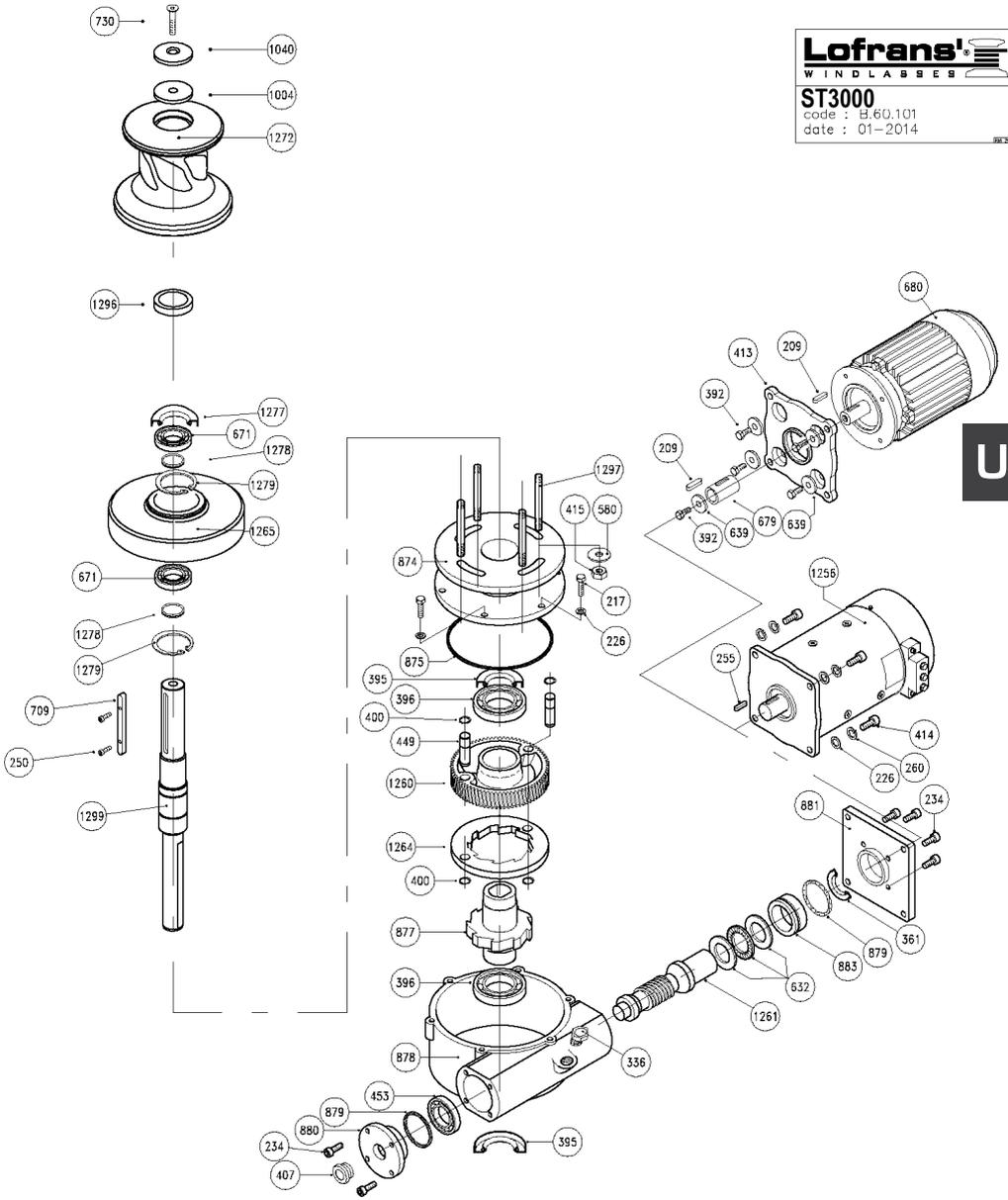
CAPSTAN ST3000

Item	Description	Kit	Qty
209	Key 6x6x30	Kit C	2
217	Hex hd screw M8x20	Kit B	8
226	Washer for screw M8	Kit B	10
234	Hd cap screw - M8x20	Kit B	8
250	Hd cap screw - M5x8	Kit B	2
255	Key 6x6x25	Kit C	1
260	Spring washer for screw M8	Kit B	4
336	Oil cap		1
361	Seal - 40x50x5	Kit A	1
392	Hex hd screw M8x20	Kit B	5
395	Seal - 50x70x10	Kit A	2
396	Bearing - 16010		2
400	Circlip - 15 Din 471	Kit D	4
407	Sightglass		1
413	Motor flange		1
414	Hex hd screw - M8x30	Kit B	4
415	Nut M12	Kit B	4
449	Pivot		2
453	Bearing - 6206		1
580	Washer for screw	Kit B	4
639	Washer	Kit B	5
671	Bearing 6011		2
679	Coupling		1
709	Key 12x8x80	Kit C	1
730	Conic screw M10x30	Kit B	1
874	Gearcase - upper		1
875	O Ring seal - 4800	Kit A	1
877	Ratchet		1
878	Gearcase - lower		1
879	O Ring seal - 159	Kit A	2
880	Oil level flange		1
881	Coupling flange		1
883	Spacer		1
1004	Washer		1
1040	Washer		1
1256	Electric motor 3000W 24V		1
1260	Wormwheel		1
1261	Worm		1
1264	Spacer		1
1265	Base		1
1272	Drum		1
1277	Seal - 55x90x10	Kit A	1
1278	Spiral reating ring 55mm	Kit D	2
1279	Circlip - 90 Din 472	Kit D	2
1296	Spacer		1
1297	Stud M12x160		8
1299	Main shaft		1
632b	Bearing - 51108		1
680a	A.C. Electric motor 2,2Kw		1

Lofrans!
WINDLASSES

ST3000
code : B.60.101
date : 01-2014

FIG. 2/28

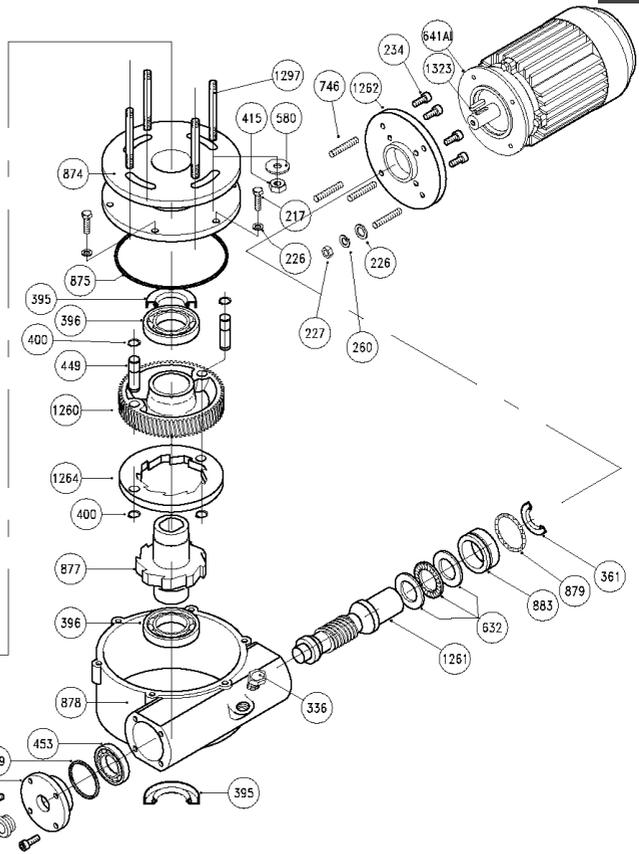
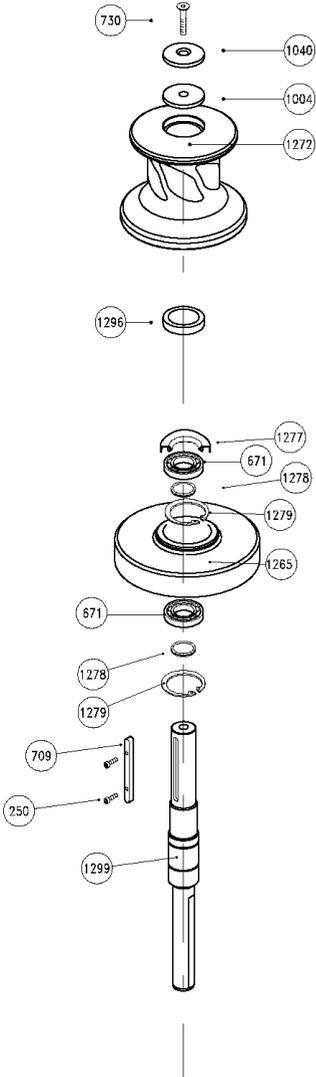


UK

CAPSTAN T3500

Item	Description	Kit	Q.ty
217	Hex hd screw M8x20	Kit B	6
226	Washer for screw M8	Kit B	10
227	Nut M8	Kit B	4
234	Hd cap screw - M8x20	Kit B	4
250	Hd cap screw - M5x8	Kit B	2
260	Spring washer for screw M8	Kit B	4
336	Oil cap		1
361	Seal - 40x50x5	Kit A	1
395	Seal - 50x70x10	Kit A	2
396	Bearing - 16010		2
400	Circlip - 15 Din 471	Kit D	4
407	Sightglass		1
415	Nut M12	Kit B	4
449	Pivot		2
453	Bearing - 6206		1
580	Washer for screw	Kit B	4
671	Bearing 6011		2
709	Key 12x8x80	Kit C	1
730	Conic screw M10x30	Kit B	1
746	Screw M8x40		4
874	Gearcase - upper		1
875	O Ring seal - 4800	Kit A	1
877	Ratchet		1
878	Gearcase - lower		1
879	O Ring seal - 159	Kit A	2
880	Oil level flange		1
883	Spacer		1
1004	Washer		1
1040	Washer		1
1260	Wormwheel		1
1261	Worm		1
1262	Flange B14		1
1264	Spacer		1
1265	Base		1
1272	Drum		1
1277	Seal - 55x90x10	Kit A	1
1278	Spiral reating ring 55mm	Kit D	2
1279	Circlip - 90 Din 472	Kit D	2
1296	Spacer		1
1297	Stud M12x160		8
1299	Main shaft		1
1323	Key 6x7x40	Kit C	1
632b	Bearing - 51108		1
641ai	A.C. Electric motor 4Kw B14		1

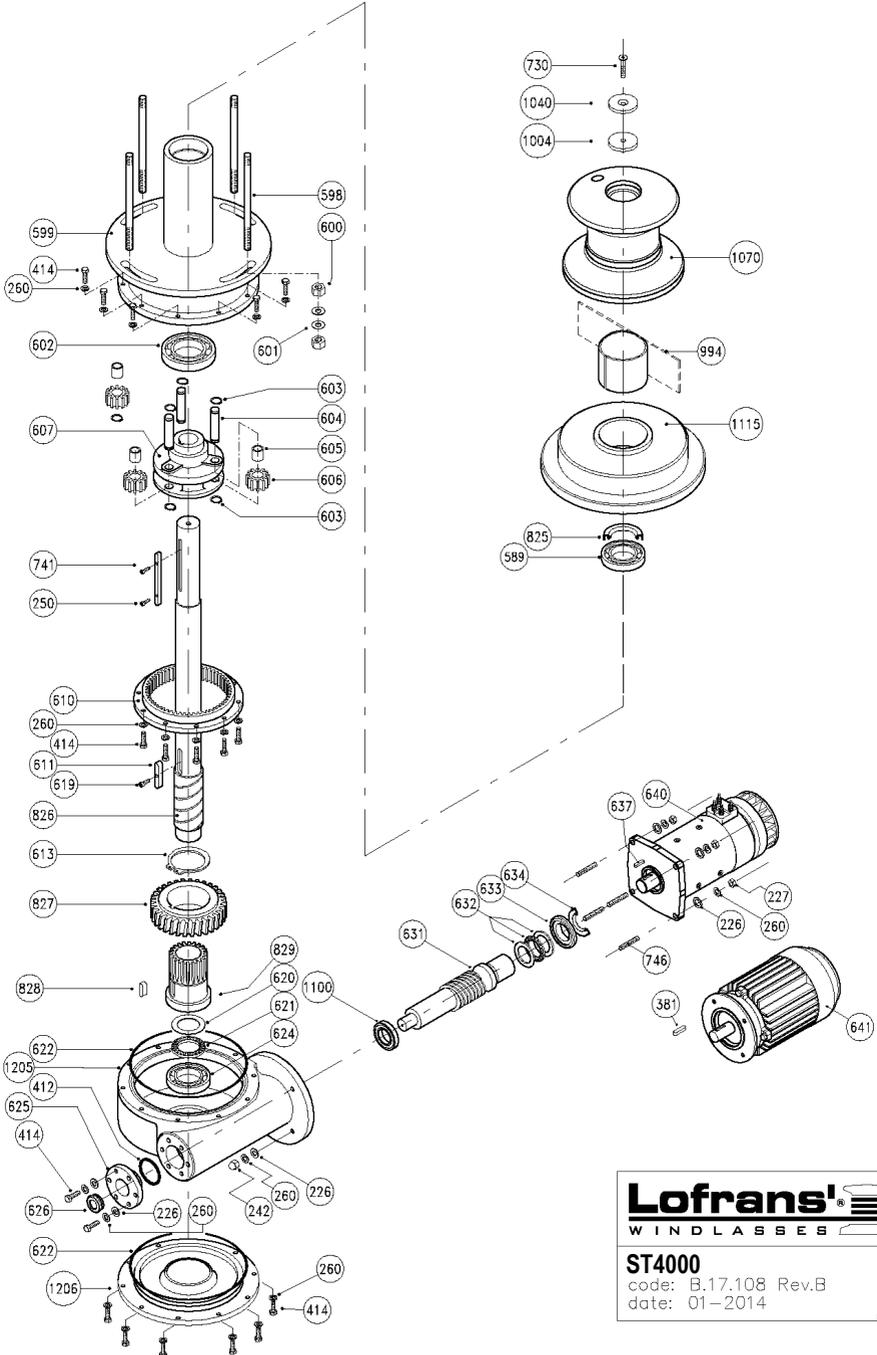
Lofrans!
WINDLASSES
T3500
code : B.61.1U1
date : 01-2014



UK

CAPSTAN ST4000

Item	Description	Kit	Q.ty
226	Washer for M8 screw	Kit B	14
227	Nut - M8	Kit B	4
242	Cap nut - M8	Kit B	4
250	Hd cap screw - M5x8	Kit B	2
260	Spring washer for M8 screw	Kit B	44
381	Key - 8x7x40	Kit C	1
412	O Ring seal - 153	Kit A	2
414	Hex hd screw - M8x30	Kit B	36
589	Bearing - 6010		1
599	Gearcase - upper		1
600	Nut - M14	Kit B	8
601	Washer	Kit B	8
602	Bearing - 6014		1
603	Circlip - 18 Din 471	Kit D	6
604	Pivot		3
605	Bush		3
606	Gear		3
607	Gear flange		1
610	Rack		1
611	Key - 16x10x60	Kit C	1
613	Circlip - 88 Din 471	Kit D	1
619	Hd cap screw - M6x10	Kit B	1
620	Thrust ring - CP5578		1
621	Thrust bearing - AX5578		1
624	Bearing - 6210		1
625	Sightglass flange		1
626	Sightglass		1
631	Worm		1
633	Spacer		1
634	Seal - 40x72x10	Kit A	1
637	Key - 8x7x30	Kit C	1
640	Electric motor 3500W 24V		1
730	Conic screw - M10x30	Kit B	1
741	Key - 12x8x150	Kit C	1
746	Stud - M8x55	Kit B	4
825	Seal - 50x80x10	Kit A	1
826	Main shaft		1
827	Wormwheel		1
828	Key - 12x7x40	Kit C	1
829	Sun gear		1
994	Nylon bush		1
1004	Washer		1
1040	Washer for M10 screw		1
1070	Stainless steel drum		1
1115	Stainless steel base		1
1205	Gearcase - lower		1
1206	Cover		1
598a	Stud - M14x210		4
622b	Gasket	Kit A	2
632a	Thrust bearing - 51108		1
641f	A.C. electric motor 3ph 400V Kw4		1
641g	A.C. electric motor 3ph 400V Kw5,5		1
1100	Bearing 30205A		1



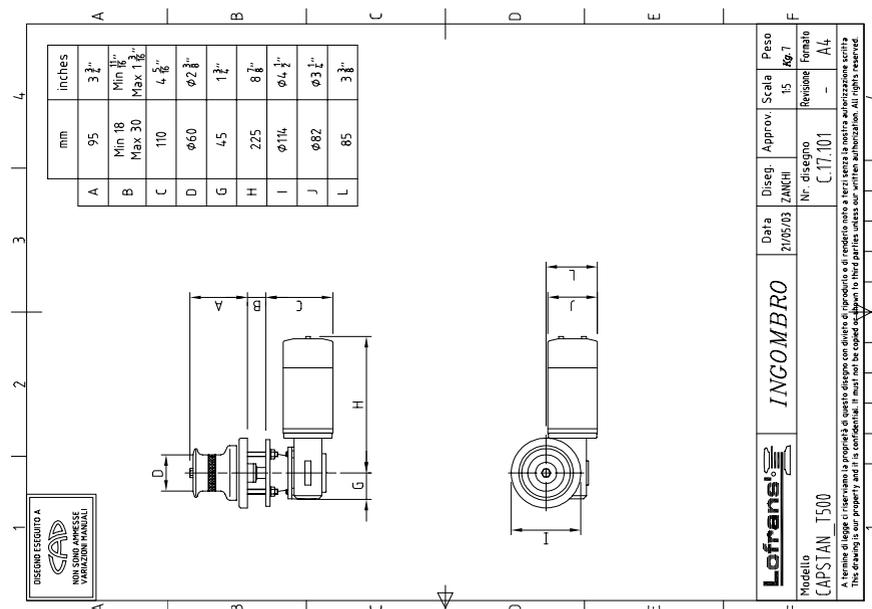
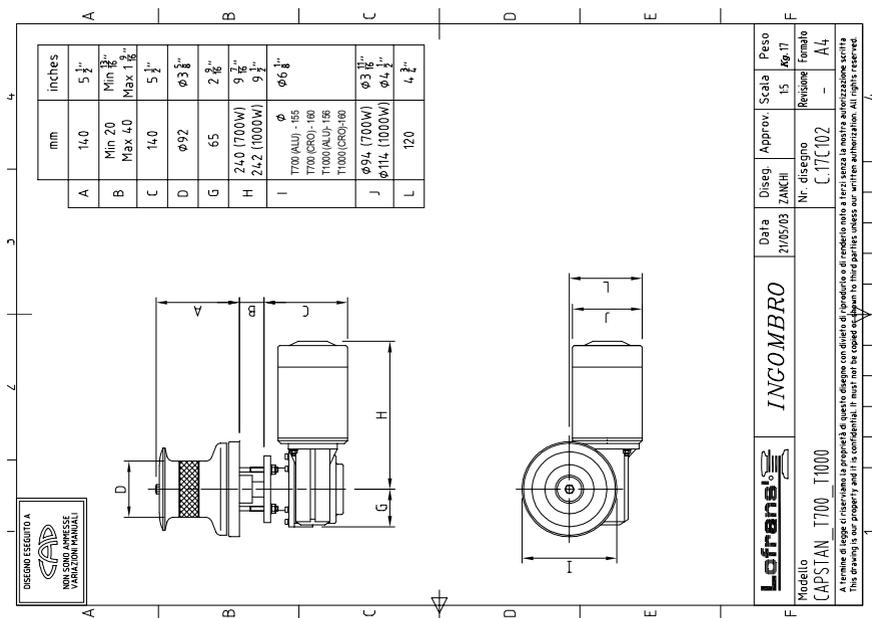
UK

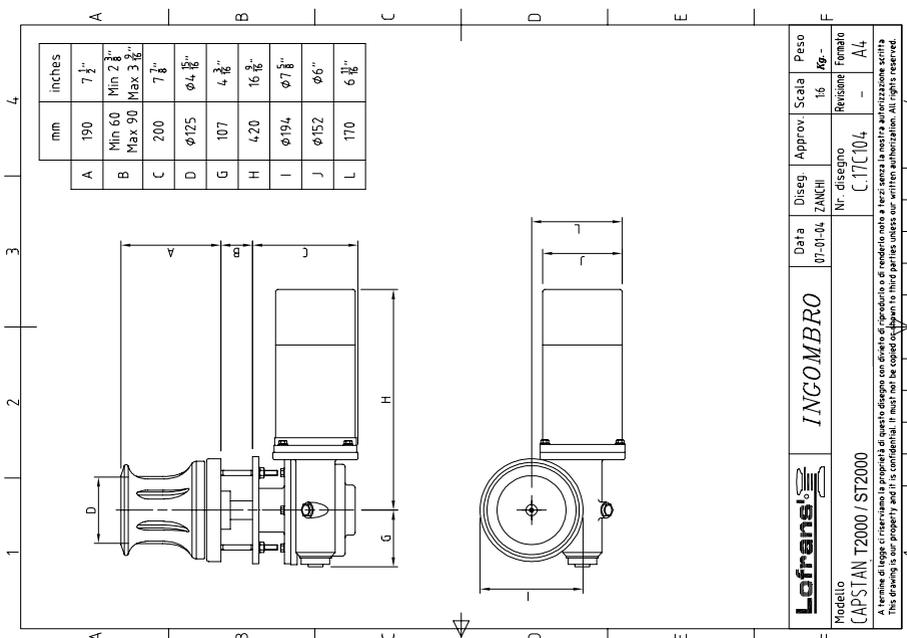
Lofrans!
WINDLASSES

ST4000
code: B.17.108 Rev.B
date: 01-2014

REV 2014

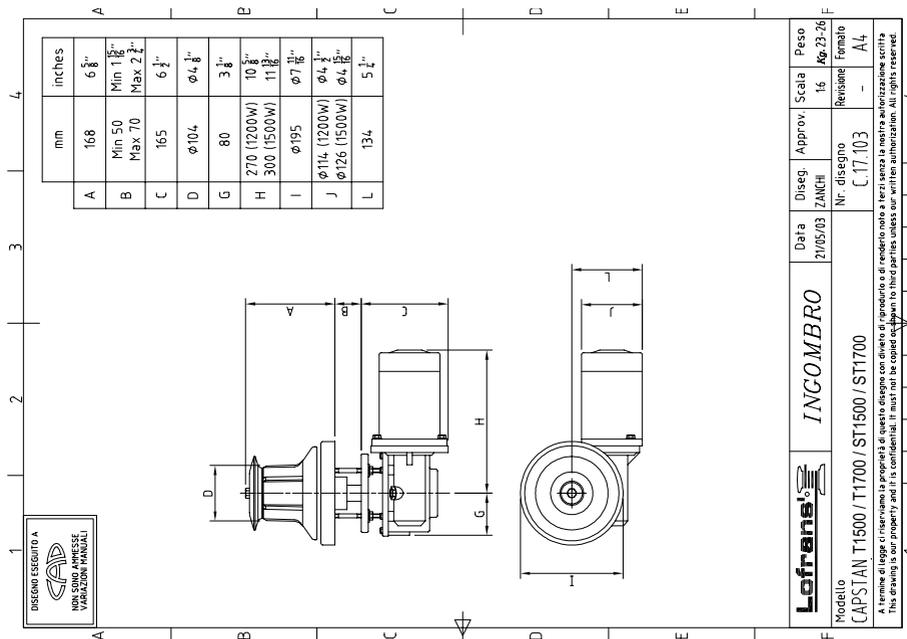
10 OVERALL DIMENSIONS





Lofrans	INCOMBRO	Disegn. Data	Approv. Scala	Peso
Modello	CAPSTAN T2000 / ST2000	07-01-04	16	Ag. -
Nr. disegno	C.17C104			
Revisione	-			
Formato	A4			

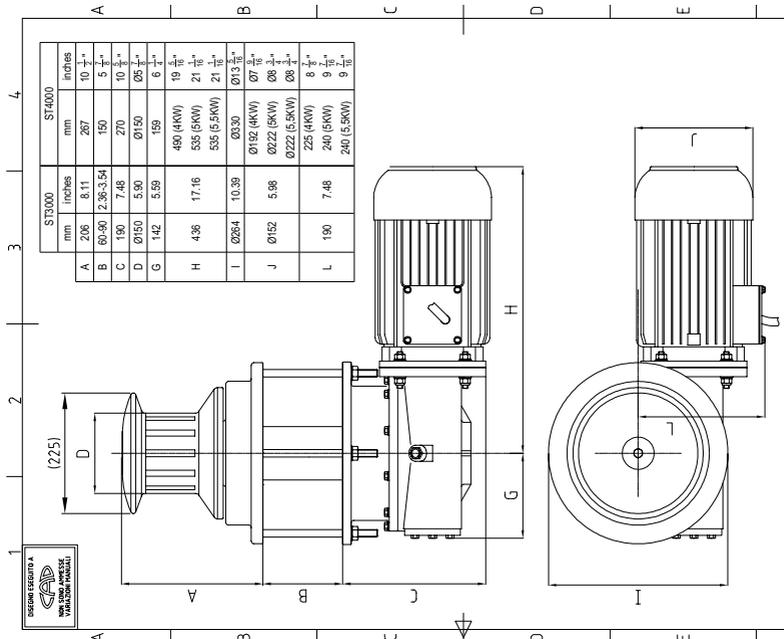
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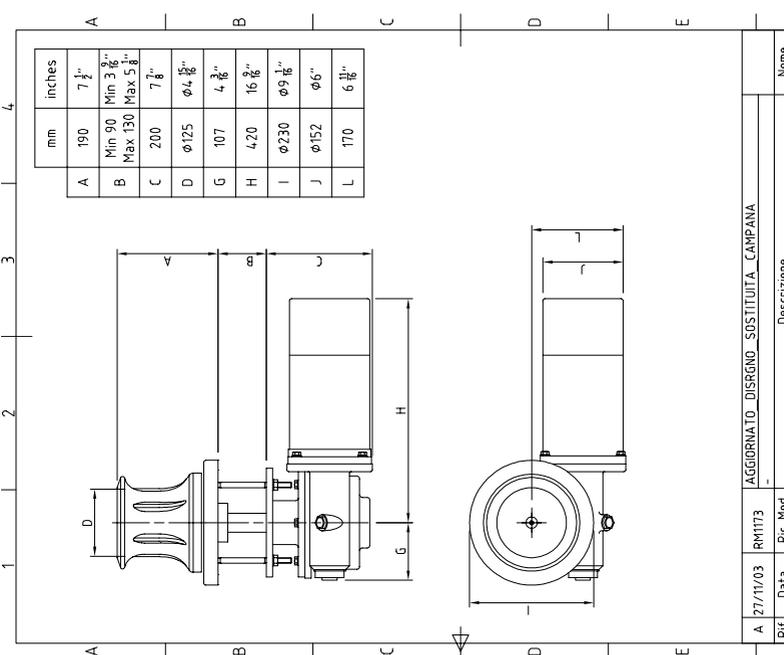
Lofrans	INCOMBRO	Disegn. Data	Approv. Scala	Peso
Modello	CAPSTAN T1500 / ST1700	12/05/03	16	Ag. 25-26
Nr. disegno	C.17.103			
Revisione	-			
Formato	A4			

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Lofrans		INGOMBRO		Approv.	Scala	Peso
Modello		CAPSTAN ST4000 / ST3000		Diseg.	Revisione	Formato
RIF. Data		20/06/03		Diseg.	16	A4
RIC. Mod.		-		Nr. disegno	C.17.106	
Descrizione		-		A termine di legge ci riserviamo la proprietà di questo disegno con divieto di ripubblicarlo o di renderlo noto a terzi senza la nostra autorizzazione scritta. This drawing is our property and it is confidential. It must not be copied or shown to third parties unless our written authorization. All rights reserved.		



Lofrans		INGOMBRO		Approv.	Scala	Peso
Modello		CAPSTAN T2500 / ST2500		Diseg.	Revisione	Formato
RIF. Data		20/06/03		Diseg.	16	A4
RIC. Mod.		-		Nr. disegno	C.17.105	
Descrizione		-		A termine di legge ci riserviamo la proprietà di questo disegno con divieto di ripubblicarlo o di renderlo noto a terzi senza la nostra autorizzazione scritta. This drawing is our property and it is confidential. It must not be copied or shown to third parties unless our written authorization. All rights reserved.		

11 WARRANTY CONDITIONS

Lofrans guarantees that in a normal use and by meeting the maintenance programmes, capstan is covered by a warranty for a period of 3 years from the date of purchase by the ultimate user, subject to the conditions, limitations and exceptions listed hereunder. Any product that proves to be defective in a normal use during this period will be repaired or replaced at the choice of Lofrans.

11.1 Conditions and limits

- Lofrans liability will be limited to the repair or replacement of all parts of the product that show material or processing defects.
- Lofrans is not liable for the wrong choice of the capstan by the purchaser.
- Lofrans will not be liable in any whatsoever manner for failures, or any consequent damage deriving from:
 - use of the capstan in an application for which it was not designed or envisaged;
 - water damage to the electrical components due to water ingress;
 - corrosion, degradation by UV rays and wear;
 - non-observance of the maintenance plan;
 - wrong or unsuitable installation of the product;
 - any modification or alteration of the product;
 - conditions of use beyond the specifications and the performances of the product.
- Except for different directives given directly by Lofrans, any product subject to a warranty request must be returned to Lofrans, which will analyse the problem.
- Cases of galvanic corrosion between the capstan and the hull or the installation voids the warranty.
- The warranty does not cover the accessory costs met for interventions, removal, transport, and installation of the product;
- Maintenance carried out by persons not authorised by Lofrans will invalidate this warranty;
- The Lofrans products are intended to be used only in a marine environment. Lofrans is not liable should these products be used differently.


 UK

11.2 Exceptions

The cover under warranty of the following components is limited to a period of one year from the date of purchase by the ultimate user:

- Electric motors and related electric equipment
- Electronic controls
- Hydraulic pumps, valves, and actuators
- Gaskets and seals
- Products used on charter boats.

11.3 Liability

The liability of Lofrans on this warranty is intended dependant on meeting the regulations and laws in force.

Lofrans is not liable for any other kind, such as:

- Any loss of turnover, advances, or direct or indirect profits, or any other financial loss;
- Damages, costs or expenses payable to third parties;
- Damages to yachts or equipment;
- Death or personal injuries (unless caused by negligence of Lofrans).

Certain States and Countries do not allow the exclusion or limitation of incidental or consequential damages, therefore the aforementioned limitations or exclusions might not be applicable.

11.4 Procedure

Every request for intervention under warranty will be made promptly and in writing by the ultimate user to the local Lofrans assistance centre.

11.5 Clause of termination

If any whatsoever clause of this warranty will be invalidated by a Judge or other competent authority, the validity of the remaining clauses of this warranty and the rest of the clause in question will not be affected.

11.6 Compliance

This warranty is governed by the laws and in compliance with the Italian Laws or the state or country in which the ultimate user is domiciled at the time of purchase of the product.



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