HUCHEZ

Electric winch

Electric winches

PRIMO from 150 to 2000 kg

Instruction manual **UK**

CE

180-185.11/8

To ensure the constant improvement of its products, HUCHEZ reserves the right to change the equipment as described below and, in this case, to supply products which differ from the illustrations in this instruction manual.

Summary

1 - Conditions for use

All users must read the set-up instructions carefully before using the product for the first time. These instructions should enable the user to familiarise themselves with the winch and use it to its full capacity. The set-up instructions contain important information about how to use the winch safely and correctly. Compliance with these instructions helps to avoid danger, reduce repair costs, reduce stoppage time and improve the reliability and service life of the winch. The instruction manual must always be available in the place where the winch is being used. In addition to the set-up instructions and regulations concerning the prevention of accidents, the work safety and professional regulations in force in each country must also be respected.

This equipment is governed by European regulations and more specifically Directive 2006/42/EC on machinery, EMC Directive 2004/108/EC and LVD 2006/95/EC, as well as the EN 14492/1 standard.

These winches are designed to move loads using a suitable steel rope. They have been designed to perform lifting and pulling operations within the defined load capacity limit and with safety factor 5 (static against sudden failure).

- For use in lifting, the European regulation makes certain equipment obligatory, such as a limit switch system and, for loads of 1,000 kg or more, a load limiter.
- The operator must check the presence of this equipment (available as an option from the manufacturer) before using the product for lifting purposes.
- The capacity indicated on the winch corresponds to the maximum capacity of use (MCU); in no event should this capacity be exceeded.
- **THIS WINCH MUST NOT, UNDER ANY CIRCUMSTANCES, BE USED TO LIFT PEOPLE.**
- Do not begin moving the load until you have attached it correctly and checked that all personnel are outside the danger zone.
- Before use, the operator must always check that the machine, rope, hook, markings and moorings are in good working order.
- The operator must check that the load is attached in such a way that the winch, the rope and the load place neither the operator nor any other person in danger.
- The winches can be used at ambient temperatures ranging from -10°C to +50°C. Please consult the manufacturer in the event of extreme conditions of use.

Important: In the event of an ambient temperature below 0°C, the brake must be tested to ensure that there are no operating faults resulting from the freezing conditions.
Use of winches requires strict compliance with the accident prevention and safety measures in force in the country.

The data concerning the resistance of the steel rope and its fastenings to heat must be available on request from the manufacturer and must be respected.

- HUCHEZ cannot accept any liability for the consequences resulting from the use or installation of equipment not provided for in the present instructions or for the consequences of disassembly, modifications or replacement of original parts or components with parts or components from other sources without the written agreement of HUCHEZ.

YOU MUST ALSO RESPECT THE REGULATIONS APPLICABLE IN YOUR COUNTRY.

2 – Safety instructions

Before using the equipment, check that there are no causes of overloading such as: adhesion to the ground, suction, jamming, etc. of the load.

As the operator of the winch, you are responsible for your own safety and the safety of your colleagues in the work zone of the machine.

The operator must respect all the following safety information, without exception, concerning the handling and operation of the winch as well as the references to other sections of this instruction manual. Failure to comply with these instructions increases the level of risk.

- Only the people designated by the company are authorised to operate the winch
- Before using the winch for the first time, familiarise yourself with its conditions of use. To this end, read the present instruction manual carefully and in its entirety and perform all the operations described herein one after the other.
- Inform your departmental manager or the safety officer of any malfunction so that the fault can be repaired immediately.
- Respect the directives of the industrial accident prevention organisations such as, in France, the Caisse d'Assurance Retraite et de la Santé au Travail (C.A.R.S.A.T.) and the Health and Safety Committee (HSC) of your company, if one exists.

- You must scrupulously respect the information in the sections concerning the CONDITIONS OF USE (below) and the WORK ROPE (page 10)
- The operator(s) must have an unimpeded view of the load.
- Please ensure that the operator is qualified to operate the machine in the conditions provided for in this manual. This will ensure the safety of both people and the environment.
- Do not lift or transport loads when there are personnel inside the danger zone.
- Do not authorise the personnel to walk under a suspended load.
- Do not leave a load suspended or with the rope taut unsupervised.

In addition to the above instructions, we must warn you against all incorrect use or handling listed below. It is dangerous and prohibited to:

- unwind the drum completely (retain 2 to 3 residual windings).
- pull at an angle.
- swing the load.
- use ropes with a diameter and texture which do not correspond to the specifications in the present manual :
- FEM 1Cm – ISO M2 for the models 150 kg, 500 kg and 2000 kg
- FEM 1Bm – ISO M3 for the models 300 kg and 990 kg
- use damaged ropes or ropes with splices.
- grab or touch a moving rope or a rotating drum.
- use hooks without a latch, which do not correspond to the loads indicated on the winch or which are in poor condition.
- insert objects into moving parts.
- work on loaded winches or when the rope is taut
- use the winch rope as a towing chain.
- drum on the control box (overheating of the motor and electrical equipment).
- Place hands or clothes, etc. in contact with moving parts, in particular the areas where the rope is wound in/out.

3 - Warranty

Our electric winches are guaranteed for 2 years from the date of shipment (ex-works).
The seller undertakes to repair any operating fault resulting from a fault in the design, execution, components or materials themselves.

The warranty does not cover wear and tear or damage resulting from a lack of regular or periodic maintenance. It does not cover damage resulting from a lack of supervision, incorrect handling or an incorrect use of the machines, in particular overloading, pulling at an angle, under or overvoltage or incorrect connection.

The warranty does not apply to any disassembly, modification or replacement of mechanical or electrical parts undertaken without our agreement or by a non-approved operator. The warranty only applies to the manufacturer's original spare parts. During the warranty period, the seller must replace or repair any parts recognised as faulty after inspection by the qualified and approved department, all free of charge.

The warranty excludes all other services or compensation.

Repairs undertaken within the framework of the warranty are, in principle, performed in the seller's workshops or the workshop of a representative approved by the manufacturer. When work is carried out on the equipment outside of their workshops, the seller must cover the labour costs related to the disassembly or reassembly of these parts if these operations are performed exclusively by their personnel or a representative approved by the manufacturer. The parts replaced become the property of the seller and must be returned to them at their own expense.

In the case of components with a particular relative importance not manufactured by the seller themselves and which bear the brand of a specialist manufacturer, the warranty, which may vary according to the manufacturer, is the same as that agreed by this manufacturer.

4 – Acceptance of the equipment

Conduct a visual inspection of the packaging to ensure that it is in good condition.
In the event of an anomaly, issue the usual reserves.
Check that the winch corresponds to your order

5 –Obligatory regulatory checks by the user

This equipment has been designed to be tested:

- In a dynamic situation, with coefficient 1.1
- In a static situation, with coefficient 1.25

The users are required to comply with the standards in force in their country.

With regard to France:

Order of 1st March 2004 relating to the verification of lifting machines and accessories:

The modifications to the regulation relating to the use and verification of lifting machines and accessories, which came into effect on 1st April 2005, impose new obligations on all users:

- The suitability inspection that involves checking that the lifting machine is suitable for the work that the user intends to carry out, as well as for the risks to which workers are exposed, and that the intended operations are compatible with the conditions of use for the machine defined by the manufacturer.
- The assembly and installation inspection that involves ensuring that the lifting machine is assembled and installed in a safe way in accordance with the manufacturer's instruction manual,

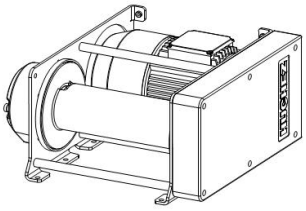
- The general periodic visits that involve an inspection of the state of preservation and the operating tests.
- The commissioning or recommissioning inspections in the event of a change in the place of use, the configuration or the conditions of use on the same site; following the disassembly and subsequent reassembly of the lifting machine; after any major replacement, repair or transformation concerning the essential components of the lifting machine; following any accident caused by the failure of an essential component of the lifting machine.
- The maintenance booklet (order of 2nd March 2004 applicable from 1st April 2005) which must be used to record the maintenance operations carried out in accordance with the recommendations of the manufacturer of the machine as well as any other inspection, maintenance operation, repair, replacement or modification carried out on the machine. For each operation, it is essential to record the date of the work, the names of the people and, where appropriate, the companies which carried out the work, the nature of the operation and, if it is a periodic operation, the frequency. If the operations involve the replacement of certain components of the machine, the references of these components are indicated. The English version of the maintenance booklet for our lifting winches can be downloaded from our website www.huchez.fr/ uk under the heading "After sales services". A copy is however proposed in the annexes of this manual.

The inspections must be carried out in accordance with a protocol and are intended to ensure preventive maintenance aimed at detecting any damage or defect liable to cause a hazard.

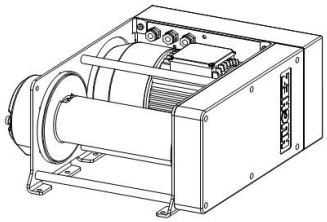
6 – Presentation of the machines

6.1 - General

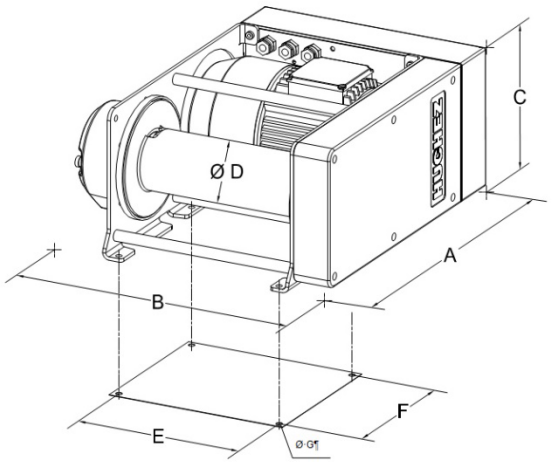
Version CD

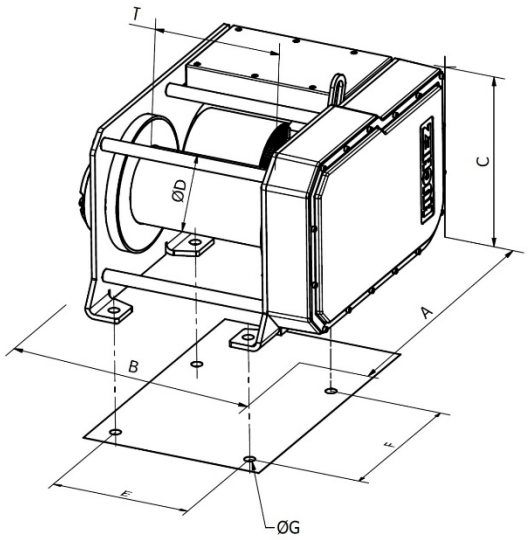


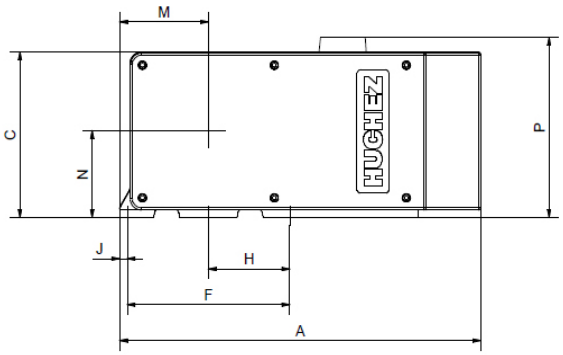
Version BT

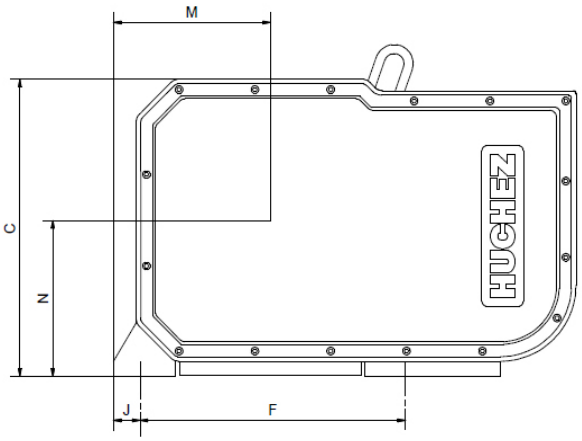


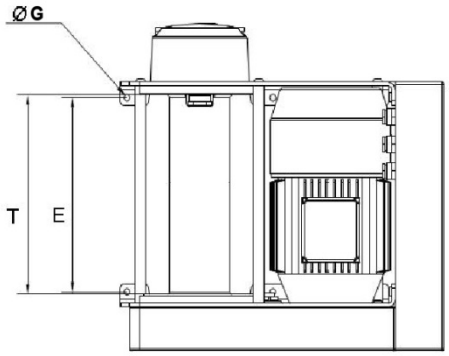
These winches are intended for pulling or lifting loads weighing a maximum of 150 to 2000 kg max :
. Rigid steel structure
. Mechanically welded steel drum with wide flanges for safe and sound fastening of the rope.
. 230 volt with permanent capacitor – 50 Hz single-phase lifting-type self-braking motor. P = 0.75 kW or 1,1 kW according to the models – Class F – IP 54.
. 230/400 volt, 50 Hz three-phase lifting-type self-braking motor. P = 0.75 kW, 1,1 kW or 2,2 kW according to the models – Class F – IP 54.
. Watertight reducer in oil bath with helical gears
. The FEM category is 1Cm (ISO: M2) or 1Bm (ISO : M3) according to the models.
. Electrical equipment under watertight cover (except on direct control models)
. Very low voltage, 24 V remote control
. 230 V single-phase or 230/400 V three-phase control box – IP 65 double insulation
. Emergency stop as standard
. The limit switch is standard (except on three-phase direct-control models).











	PRIMO 150 kg CD	PRIMO 150 kg BT	PRIMO 300 kg CD	PRIMO 300 kg BT	PRIMO 500 kg CD	PRIMO 500 kg BT	PRIMO 990 kg CD	PRIMO 990 kg BT	PRIMO 2000 kg BT
A	340	392	420	476	435	476	535	565	610
B	405 (1)	405	422 (2)	422	430 (2)	430	500	500	565
C	190	190	239	239	260	260	326	326	390
ØD	89	89	89	89	95	95	133	133	152.4
E	234	234	250	250	250	250	260	260	292
F	90	90	214 (5)	214 (5)	214 (5)	214 (5)	280	280	350
ØG	8.5	8.5	9	9	9	9	17	17	22
H			107	107	107	107			
J	60	60	10	10	10	10	30	30	35
M	85.5	85.5	117	117	117	117	170	170	207
N	102.5	102.5	113	113	113	113	171	171	204.5
P max*	222	190	231	216	241	216	326	326	390
T	243	243	257	257	257	257	280	280	314

Dimensions in mm

* The height can vary from one model to the next depending on the type of motor terminal board available; the indicated value is the maximum value.
(1) On the three-phase version (no limit switch), dimension B is 335 mm.
(2) On the three-phase version (no limit switch), dimension B is 352 mm.
(5) 2 fixation holes are available at half length, i.e. 107 mm.

6.3 – Models available

References	PRIMO 151		PRIMO 153		PRIMO 301		PRIMO 303		PRIMO 501	
	CD	BT	CD	BT	CD	BT	CD	BT	CD	BT
Capacity on the 1rst layer kg	175		175		360		360		630	
Capacity on the last layer (kg)	150		150		300		300		500	
Nb of layers	3		3		3		3		3	
Wire rope capacity at the 1rst layer m *	16		16		13		13		10	
Max. rope capacity (m)	55		55		48		48		38	
Rope diameter (mm)	4		4		5		5		7	
Speed on the 1rst layer m/min	16,9		16,9		7,5		7,5		8,6	
Speed on the last layer (m/min)	19,2		19,2		9,1		9,1		11	
FEM	1 Cm		1 Cm		1 Bm		1 Bm		1 Cm	
Motor (kW)	0,75		0,75		0,75		0,75		1,1	
Supply	1 Ph-230V		3 Ph-230/400V		1 Ph-230V		3 Ph-230/400V		1 Ph-230V	
Weight (winch without wire rope) kg	30		30		35		35		40	

References	PRIMO 503		PRIMO 991		PRIMO 993	PRIMO 2003
	CD	BT	CD	BT	BT	BT
Capacity on the 1rst layer kg	630		990	1300	1300	2500
Capacity on the last layer (kg)	500		990	990	990	2000
Nb of layers	3		2		4	3
Wire rope capacity at the 1rst layer m *	10		13		13	12
Max. rope capacity (m)	38		20		68	45
Rope diameter (mm)	7		8		8	11,5
Speed on the 1rst layer m/min	8,6		4		4	4
Speed on the last layer (m/min)	11		4,2		5,2	5,2
FEM	1 Cm		1 Bm		1 Bm	1 Cm
Motor (kW)	1,1		1,1		1,1	2,2
Supply	3 Ph-230/400V		1 Ph-230V		3 Ph-230/400V	3 Ph-230/400V
Weight (winch without wire rope) kg	40		88		90	160

Important: the diameter of the rope indicated above corresponds to the rope recommended in the FEM 1Cm / ISO M2 or FEM 1 Bm / ISO M3 according to the models classification. It also corresponds to the capacity on the last layer.

Important: it is obligatory to check that the rope resistance coefficient complies with the load lifted (FEM 1Cm / ISO M2 or FEM 1 Bm / ISO M3 according to the models)

6.4 - Options

These winches can be supplied, optionally, with :

- ❒ Rope press roller
- ❒ Grooved drum

6.5- FEM classification

There are eight groups of mechanisms:

FEM	1 Dm	1 Cm	1 Bm	1 Am	2m	3m	4m	5m
ISO	M 1	M 2	M 3	M 4	M 5	M 6	M 7	M 8

To determine the group for a lifting machine, winch or hoist, three essential parameters must be considered:

The maximum load to be lifted
Including the weight of the rope and any lifting accessories present (hook etc.), except if they have a total weight less than or equal to 5% of the load to be lifted.

The usage rate
Indicates the extent to which the lifting machine is used at maximum load or with a reduced load. There are four different usage rates:

Light	Lifting machines rarely subject to maximum load and regularly used for very light loads.	$k \leq 0,5$
Medium	Lifting machines quite often subject to maximum load and regularly used for light loads.	$0,5 < k \leq 0,63$
Heavy	Lifting machines often subject to maximum load and regularly used for medium loads.	$0,63 < k \leq 0,8$
Very heavy	Lifting machines regularly subject to loads close to the maximum load.	$0,8 < k \leq 1$

For an exact classification, it is preferable to calculate the average cubic value using the following formula:

$$k = \sqrt[3]{(\beta_1 + \gamma)^3 \cdot t_1 + (\beta_2 + \gamma)^3 \cdot t_2 + ... + \gamma^3 \cdot t_\Delta}$$

where:

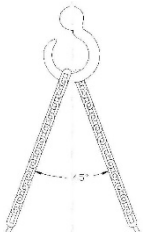
β = payload or partial load / rated capacity	t = operating time with payload or partial load + dead load / total operating time
γ = dead load / maximum capacity	t_Δ = operating time with dead load only / total operating time

FEM classification

Usage rate	PRIMO 150 / 500 / 2000				PRIMO 300 / 990			
	Average operating time per day in hours.				Average operating time per day in hours.			
	7'30	15'	30'	1 h	15'	30'	1 h	2 h
Light	1Dm	1Dm	1Dm	**1Cm**	1Dm	1Dm	1Cm	**1Bm**
Medium	1Dm	1Dm	**1Cm**	1Bm	1Dm	1Cm	**1Bm**	1Am
Heavy	1Dm	**1Cm**	1Bm	1Am	1Cm	**1Bm**	1Am	2m

Very heavy	**1Cm**	1Bm	1Am	2m	**1Bm**	1Am	2m	3m

7 – Handling - Storage



Important: the angle formed between the hook and the two sling points must not exceed 45°.
Lift and place the winch carefully without dropping it.

Do not forget that the centre of gravity of the winch is off-centre.

For more information concerning the weight of the winch, please consult the Technical specifications chapter.

When stored, these winches must be protected from bad weather in a clean and dry place at a temperature between -10°C and +50°C.

8 - Installation and set-up

8.1 Installation

The service life of a winch depends on its installation and set-up.
It is essential that you read this manual carefully before installing, using and servicing your machine.
Any use which contravenes our instructions may create a hazard. In this case, the manufacturer cannot accept any liability.

- Do not use this machine before having read and understood the instruction manual in its entirety
- Always keep the manual close to the machine, available to the operator and the maintenance officer
- Comply and ensure compliance with the safety rules

Connect to the power supply (see 8.3 Power supply)
Check the rope and hook
Ensure you are ready to press the emergency stop button at all times, with no load attached, then check that the movement of the hook corresponds to the direction of the arrows indicated on the control unit.

Check that the brake works: with a nominal load attached, lift the load and lower it again or, in the case of pulling, pull this load.
Check that the limit switch works.
The winch has been subjected to dynamic and static tests in the factory (cf. Test record).

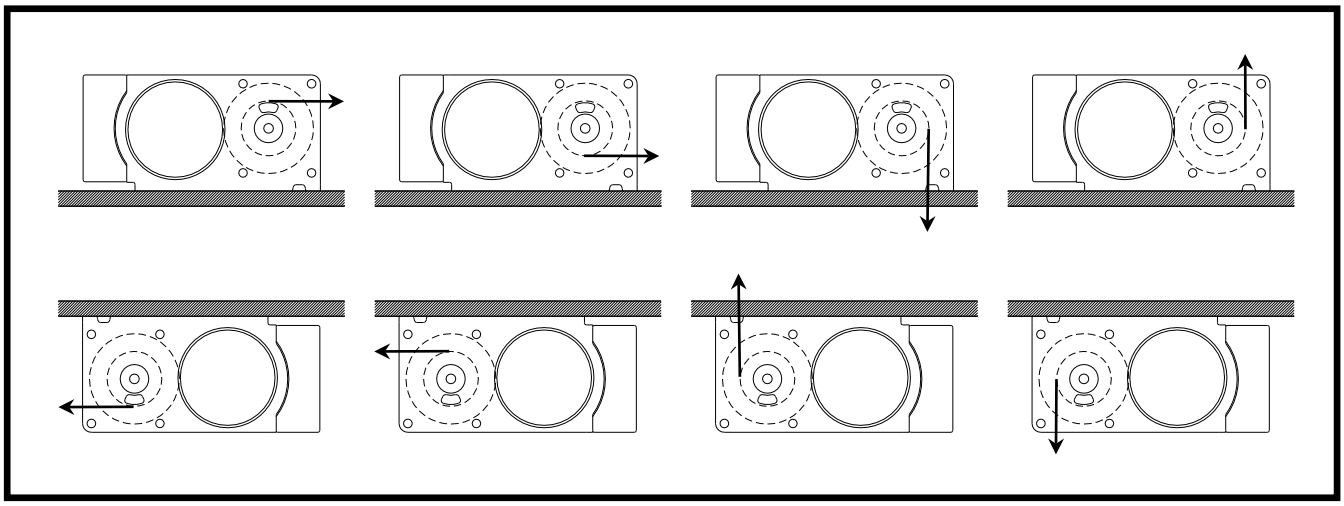
8.2 Place of installation

These winches must be installed and bolted to a flat, solid and secure surface capable of bearing the loads to which it will be subjected. An unsuitable installation site may lead to serious accidents.
To assess the suitability of the place of installation and its resistance to loads, you must take into account any possible overloading, the weight of the winch itself and the weight of the options and/or accessories fitted to it, including all dynamic forces. The winch user is responsible for determining the place of installation. If in doubt with regard to the suitability of a place of installation, contact a civil engineer or a statics specialist.

Tighten the clamping bolts correctly

Bolt / nut	Grade 8.8 bolt / nut tightening torque Nm
M8	24
M16	200
M20	400

8.3 – Rope outlets



8.4 – Power supply

Before undertaking any operation on the electrical unit, check that the power supply to the machine is off.
A disconnecting switch must be placed no more than 10 metres from the place of use.

Very important: the winch will only provide full power if the motor is supplied via a cable section which is perfectly suited to this use.
Provide protection for individuals in front of the electrical unit.

8.4.1 – Electrical connections

The power supply cable, the protective fuses and the main disconnecting switch (see wiring diagram supplied with the device) must be provided by the customer.
Check that the supply network complies with the machine.
Check the type of current; there must not be more than about 5% deviation from the rated voltage
Neutralise electrical sources
Check that the main power supply switch on the winch is in the off position.
Do not connect the power supply cable to the machine using connection terminals (split fittings etc.)
Do not use a cable with a smaller section to supply power to the machine. Power supply via a generator is possible:
- Minimum power of 3.75 kVA according to the models 150 and 300 kg.
- Minimum power of 5,5 kVA according to the models 500 and 990 kg.
- Minimum power of 11 kVA according to the models 2000 kg.

Never "shunt" the disconnecting switches, electrical switches, prevention or limitation equipment.
Never block, adjust or remove switches or end stops in order to go beyond the levels that they allow.
A disconnecting switch must be placed no more than 10 metres from the place of use. Recommended rope section:

VOLTAGE	TENSION	TYPE	Length of supply rope	
			10 m	30 m
230 V single phase	230 V mono	2 + T	2.5 mm²	4 mm²
230 V three phase	230 V tri	3 + T	4 mm²	4 mm²
400 V three phase	400 V tri	3 + T	2.5 mm²	2.5 mm²

8.4.2 – Connection

Connect the power supply using the single phase or three phase male connector supplied using about 0.5 m of power supply cable.
Check that the winch works (direction of rotation)

- Do not change the direction labels in the control unit or in the winch's internal wiring.

8.5 – Work rope

Important: the direction of rotation of the drum depends on the way in which the machine is connected (order of the three-phase current phases)
Reminder: check the maximum capacity of the winch

Very important:

The safety regulations require that 2 to 3 coils of rope always be left on the drum.

To comply with the legislation, the rope diameter must not exceed the recommended diameter.

If the rope and the hook used were not supplied with the machine by the manufacturer, check that they guarantee a level of safety corresponding to table § 6.5.

When the winch is supplied with the rope wound on, it has not been tautened during assembly.

The user must tauten the rope using a minimum force of 1% of the operating load of the winch.

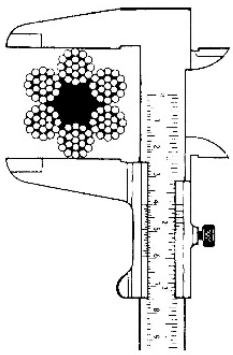
The service life of the steel ropes used on the winch depends on a number of factors, including the form of the work cycles (lifting height, lifting speed, number and type of deviations, etc.) and the operating mode (number of coil layers, distribution of the work cycles over the length of the steel rope, etc.). The service life of steel ropes is therefore subject to considerable variation depending on these factors.

Please remember that rope must be replaced with equipment which meets the same specifications as the original rope.

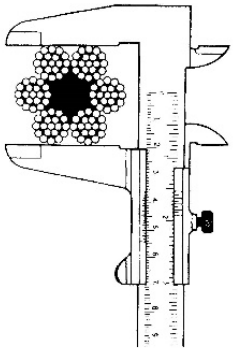
This replacement must be recorded in the maintenance booklet.

IMPORTANT: even if the rope was supplied with the winch, it was not tautened during assembly. The user must tauten it using a minimum force of 1% of its breaking load.

Measuring the rope diameter using sleeve callipers:



Correct measurement



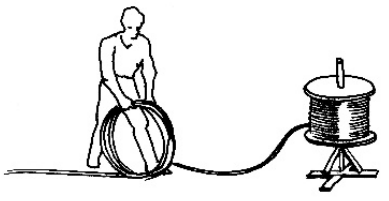
Incorrect measurement

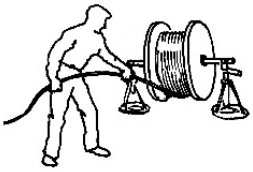
Handling steel ropes

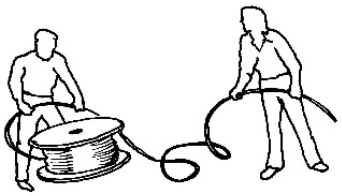
- Always use suitable protective gloves when handling steel ropes
- Never use a rope with faults such as:
  - ✓ An unacceptable number of broken strands
  - ✓ Basket distortions
  - ✓ Broken bird-caging
  - ✓ Flattening
  - ✓ Constrictions
  - ✓ Strand extrusions
  - ✓ Broken rope cores
  - ✓ Slack strands
  - ✓ Bends or loops
- Always check the level of wear of the rope before use
- Never use steel ropes as loops
- Never expose steel ropes to angular or sharp edges

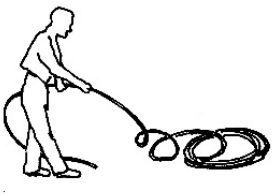
Unwinding the rope from its reel:

CORRECT :









INCORRECT

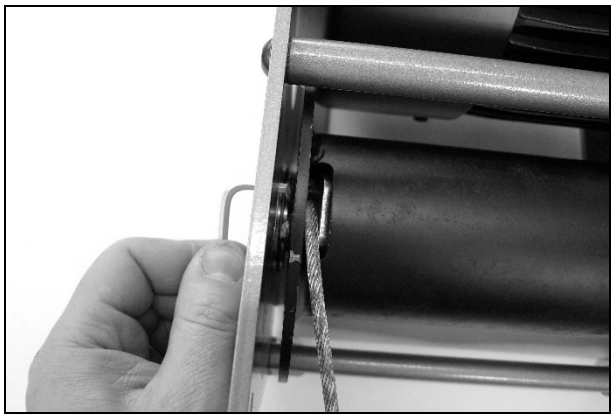
Fastening the rope

Models PRIMO 150/300/500/990

Refer to the photos below.

- If necessary, remove the limit switch
- Slacken the screws
- Insert the end of the rope between the drum flange and the cable clamp
- Tighten the screws
- Check that the rope is securely clamped
- Reassemble the limit switch

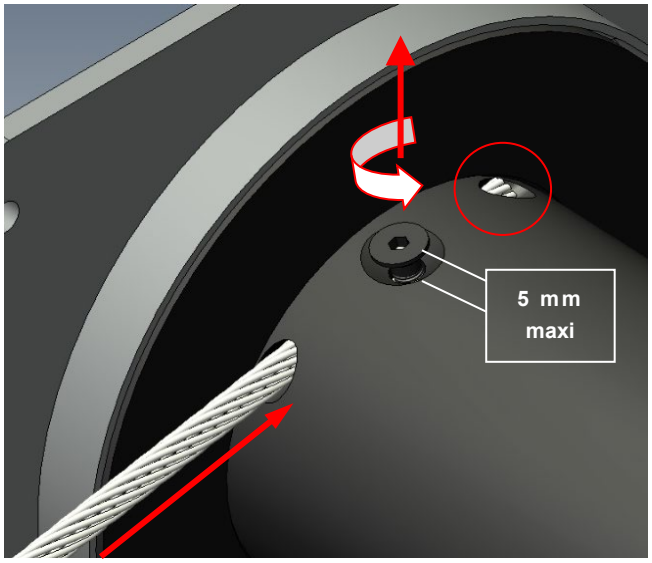
The rope should never form a loop.
Important: the direction of rotation of the drum depends on how the machine is connected.

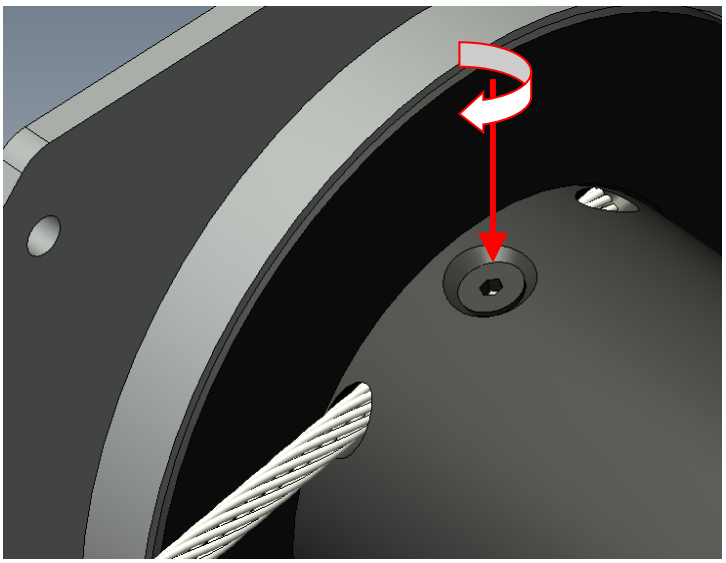


Models PRIMO 2000

Identify using the photos above.

- Loosen the screw until the head is slightly above its recess (IMPORTANT: not by more than 5 mm)
- Insert the rope by one side of the drum until its end can be seen from the other side of the drum.
- Tighten the screws.
- Check that the rope is securely clamped.





Winding the rope on the drum

To do this, tauten the rope and wind it with joined strands onto the drum.

Very important : The safety regulations require that 3 coils of rope always be left on the drum. If the rope and the hook used were not supplied with the machine by the manufacturer, check that they guarantee a level of safety corresponding to table § 5.

Start to wind the rope forming a spiral to the right. In order to facilitate this operation, some drums are provided with a heel attached to one of the flanges, which "fills" the space between the first turn and the flange.

The first layer must be wound in a compact manner and under tension. Take a mallet or a block of wood and knock the turns against one another; not too hard to prevent the strands from overlapping one another, but tightly enough to prevent the rope from moving on the drum. If the first layer is wound too loose, the next layer will form a space in the first layer that will result in an open area. If the first layer is too tight, the subsequent layers will not have enough space between turns.

In any case, the first layer and all the other layers must be wound onto the drum with enough pre-tension (5-10 % of the MWL of the rope). If the rope is wound without any tension, it will suffer from crushing and premature flattening caused by the loaded upper layers.

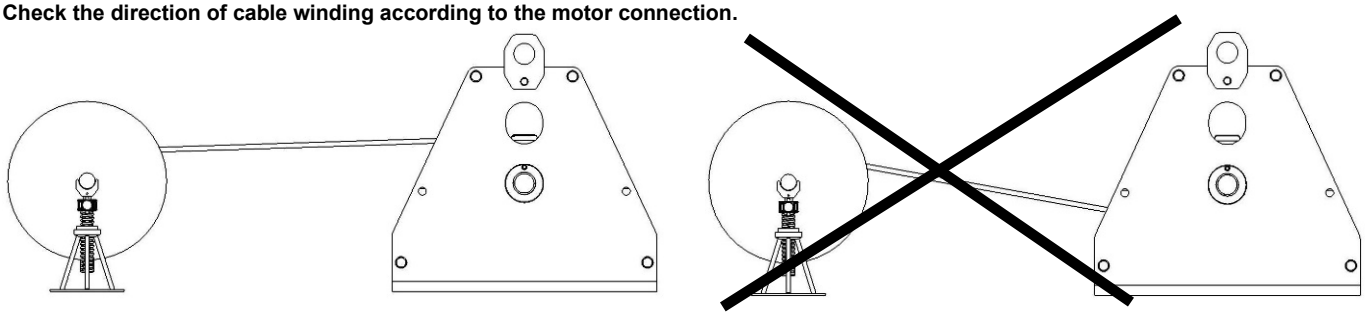
Even if the first layer is wound correctly during installation, it will expand a little while in service. When the first layer expands (loss of pre-tension) the initial procedure MUST be performed at regular intervals.

Otherwise, the "hard" turns will severely crush the base layers.

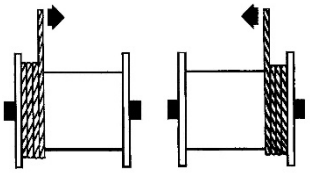
Whatever you do, DO NOT pass the rope through a clamping mechanism. For example, two blocks of wood screwed together. **THIS WILL CAUSE IRREPARABLE DAMAGE TO THE ROPE!**

It is important to respect the indication below; if the rope start on the winch is at the bottom, respect the same principle. Failure to respect this precaution will damage your rope irretrievably and it will become extremely dangerous.

Check the direction of cable winding according to the motor connection.

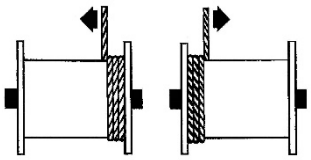


Right-hand rope
Wind from the left
towards the right



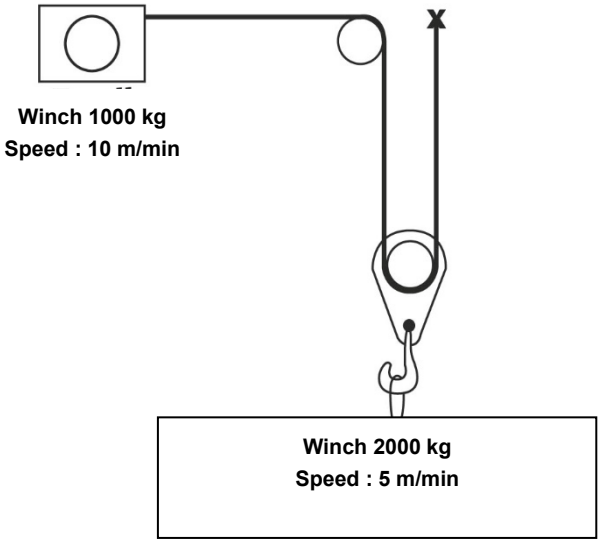
Left-hand rope
Wind from the right
towards the left

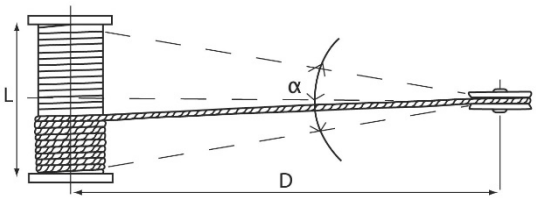
Right-hand rope
Wind from the right
towards the left



Left-hand rope
Wind from the left
towards the right

Reeving principle :





Smooth drum : ∝ = 1,5° max
Grooved drum : ∝ = 2° max
D = 20 x L

9 – Servicing and maintenance

Respect the following instructions, in particular if your winch is used in a large number of different locations or in a particularly dirty and damp environment:

- Remove the bulk of the dirt from the winch.
- Always store the winch in a dry, clean place.

9.1 Before starting up

Check:

- The electrical connections are in good working order.
- The rope is correctly fastened to the drum.
- The exterior appearance of the winch.

9.2 When using for the first time

At the start of the installation process, it is recommended that you respect a running-in period of thirty hours at ¾ of the load. The nominal capacity will be obtained after this running-in period.

9.3 Periodic servicing

See also chapter 5: Obligatory regulatory checks by the user

Every 50 hours, check the lubrication.
Every 100 hours, change the grease.

The reducer is lubricated using RENOLIT CXI 2 (manufacturer: FUCHS).

Very important:
In the event of a change in the type of grease, contact our after-sales service.

Winches
Remove the bulk of the dirt from the winch.
Always store the winch in a dry place

Ropes
The ropes must be cleaned and greased regularly using a special grease which penetrates to the rope core.

Only use appropriate and harmless cleaning products for all the components of the rope, including the core.
If lubrication is impossible for usage-related reasons, the service life of the rope will be reduced considerably and increased monitoring of the rope will therefore be necessary.
The ropes must be checked visually every day.

Servicing and maintenance operations on the winch and rope must be carried out without any load on the winch.

Hooks
Check the hook and its safety latch
If the rope and hook are not supplied by the manufacturer, check that the parts used guarantee a level of safety corresponding to table §4.4.
Check the fastening points of the reeving on a regular basis.

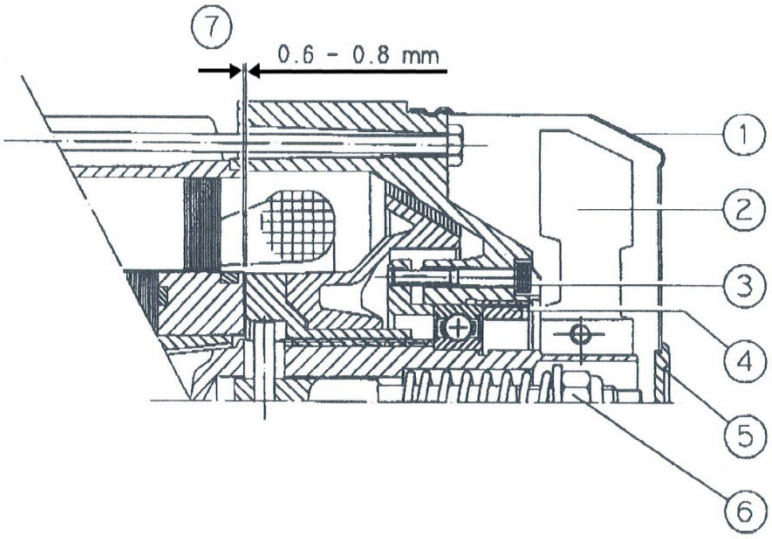
Brake

Models PRIMO 150/300/500/990
(the brake is located inside the motor)

. Operating principle:
On starting the motor, the internal magnetic field opens the brake by lifting the conical plate from the friction surface at the bottom of the motor.
On stopping the motor, the magnetic field disappears. The central spring closes the brake again by bringing the conical panel back into contact with the motor's rear flange.

. Adjusting the braking torque
Remove the cap ⑤ on the fan cover.
Gradually turn the self-locking nut⑥**:**
. clockwise to reduce the braking torque
. anti-clockwise to increase the torque

. Adjusting the air gap
The air gap ⑦ must be adjusted in the event of excessive wear of the friction lining (min. 0.6 mm/max. 0.8 mm).
Remove the cover ① and the fan ②**.**
Loosen the three screws by a few turns ③**.**
Turn the ring nut ④ anti-clockwise (30°≈ 0.12 mm) to reduce the air gap ⑦**.**
Tighten the three screws ③**.**
Reposition the fan and its cover.

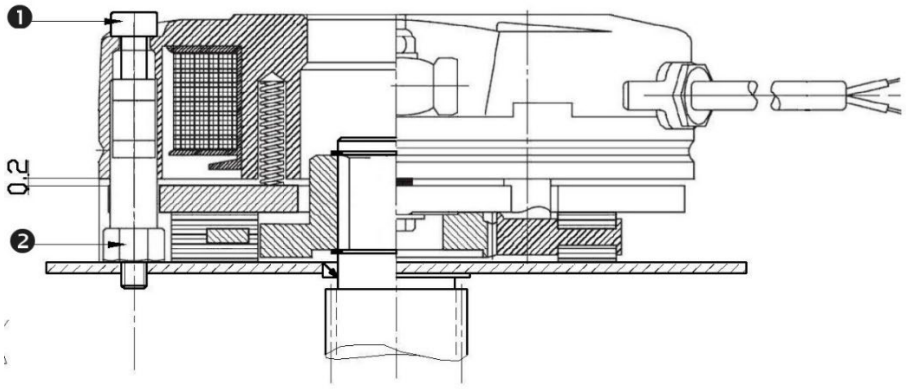


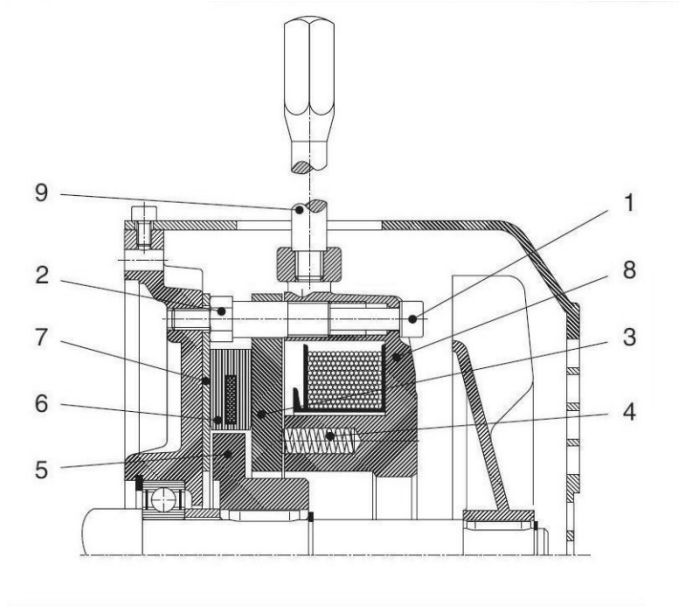
Key:

① Cover
② Fan
③ Screw
④ Ring nut
⑤ Cap
⑥ Self-locking nut
⑦ Air gap

Models PRIMO 2000

In the low voltage control and speed variator version: Regularly dust the brake and adjust the air gap if it exceeds 0.3 mm.
To do this, use a 0.2 mm thick shim and adjust screws and ❶ nuts ❷.





Key:

1 Cheese head screw

2 Adjusting nut

3 Frame

4 Pressure springs

5 Hub

6 Friction lining

7 Friction pad

8 Induction material

9 Manual release (optional)

10 – Taking out of use

If the equipment is in a state of disrepair likely to give rise to risks, the user is obliged to ensure that this equipment is eliminated, i.e.: prevented from operating and possibly disassembled.

11 – Spare parts

If during maintenance operations you notice that certain parts of your winch need to be replaced, use HUCHEZ original parts only.

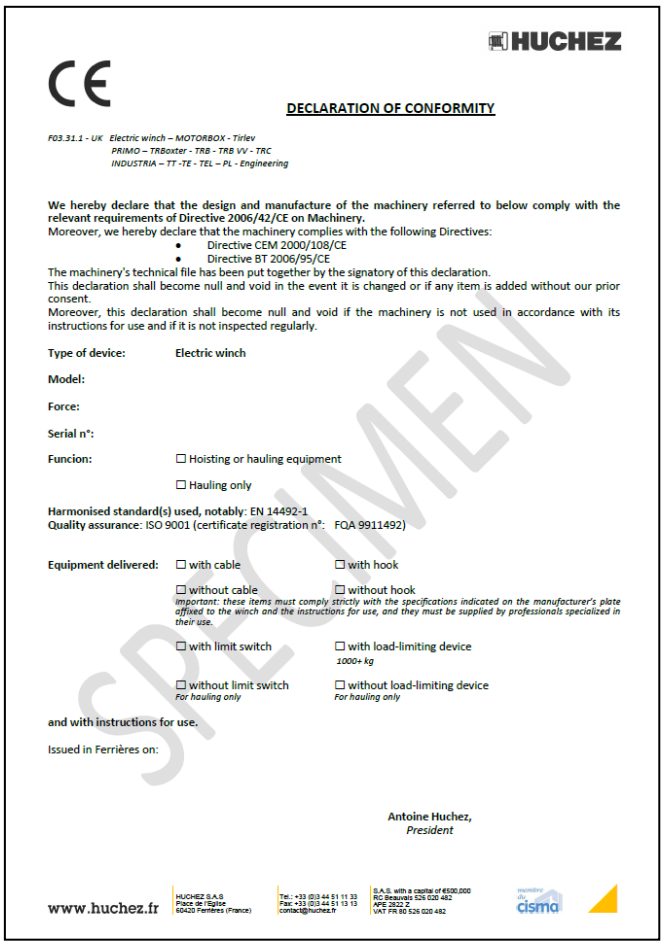
For all spare parts orders, please indicate the following specifications on your order

- The type and capacity of the winch (indicated on the nameplate).
- The serial number and year of manufacture (indicated on the nameplate).
- The number or designation of the desired parts (exploded view).

12 – Operating faults

Fault	Possible cause	Solution
Motor does not start.	Power supply cut.	Check and correct the problem Check the emergency stop.
	Brake not released	See "brake fault"
	The contactor does not respond, Control fault.	Check the contactor control and eliminate the fault.
	Limit switch engaged.	Check the limit switch.
Motor does not start or starts with difficulty.	The voltage or frequency varies considerably compared to the setting when starting.	Improve the mains conditions. Check the cable sections.
Motor revs and absorbs a lot of current.	Brake not released.	See "brake fault"
	Faulty winding.	Take the motor to an approved workshop for repair.
	One supply phase missing.	Check the power supply.
Circuit breaker activated instantly.	Short circuit in the power supply cables.	Eliminate the short circuit.
	Short circuit in the motor.	Have the fault corrected in an approved workshop.
	Power supply cables incorrectly connected.	Correct the connection.
	Motor earth fault.	Have the fault corrected in an approved workshop.
Speed greatly reduced when loaded.	Voltage drop.	Increase the power supply cable section.
Motor overheated (temperature measurement)	Insufficient ventilation.	Clear the ventilation lanes.
	Ambient temperature too high.	Respect the authorised temperature range.
	Bad contact in the power supply cable (operates temporarily on 2 phases)	Eliminate the bad contact.
	Circuit breaker activated.	Bad contact in the relays.
	Service factor exceeded (S1 to S10, DIN 57530), e.g. because start speed is too high.	Adapt the service factor to the prescribed conditions; if necessary, call a specialist to determine the type of motor.
Drive system too noisy	Rotating parts vibrate.	Check the balances, eliminate the cause of the vibrations.
	Foreign bodies in the ventilation lanes.	Clean the ventilation lanes.
Brake not released.	Max. air gap exceeded due to worn lagging.	Measure and if necessary adjust the air gap.
Motor does not brake.	Incorrect air gap.	Measure and if necessary adjust the air gap.
	Brake lagging totally worn.	Replace the entire lagging retainer.

13 – Declaration of EC conformity



HUCHEZ

CE

DECLARATION OF CONFORMITY

F03.31.1 - UK Electric winch – MOTORBOX - Tirlev
PRIMO – TRBoxter - TRB - TRB VV - TRC
INDUSTRIA – TT -TE - TEL – PL - Engineering

We hereby declare that the design and manufacture of the machinery referred to below comply with the relevant requirements of Directive 2006/42/CE on Machinery.
Moreover, we hereby declare that the machinery complies with the following Directives:

- Directive CEM 2000/108/CE
- Directive BT 2006/95/CE

The machinery's technical file has been put together by the signatory of this declaration.
This declaration shall become null and void in the event it is changed or if any item is added without our prior consent.
Moreover, this declaration shall become null and void if the machinery is not used in accordance with its instructions for use and if it is not inspected regularly.

Type of device: **Electric winch**

Model:

Force:

Serial n°:

Funcion: ☐ Hoisting or hauling equipment

☐ Hauling only

Harmonised standard(s) used, notably: EN 14492-1
Quality assurance: ISO 9001 (certificate registration n°: FQA 9911492)

Equipment delivered: ☐ with cable ☐ with hook

☐ without cable ☐ without hook
important: these items must comply strictly with the specifications indicated on the manufacturer's plate affixed to the winch and the instructions for use, and they must be supplied by professionals specialized in their use.

☐ with limit switch ☐ with load-limiting device
1000+ kg

☐ without limit switch ☐ without load-limiting device
For hauling only *For hauling only*

and with instructions for use.

Issued in Ferrières on:

Antoine Huchez,
President

www.huchez.fr HUCHEZ S.A.S Place de l'Eglise 60420 Ferrières (France) Tel.: +33 (0)3 44 51 11 33 Fax: +33 (0)3 44 51 13 13 contact@huchez.fr S.A.S. with a capital of 6500,000 RC Beauvais 526 020 482 APE 2822 Z VAT FR 80 526 020 482 membre du cisma

SPECIMEN

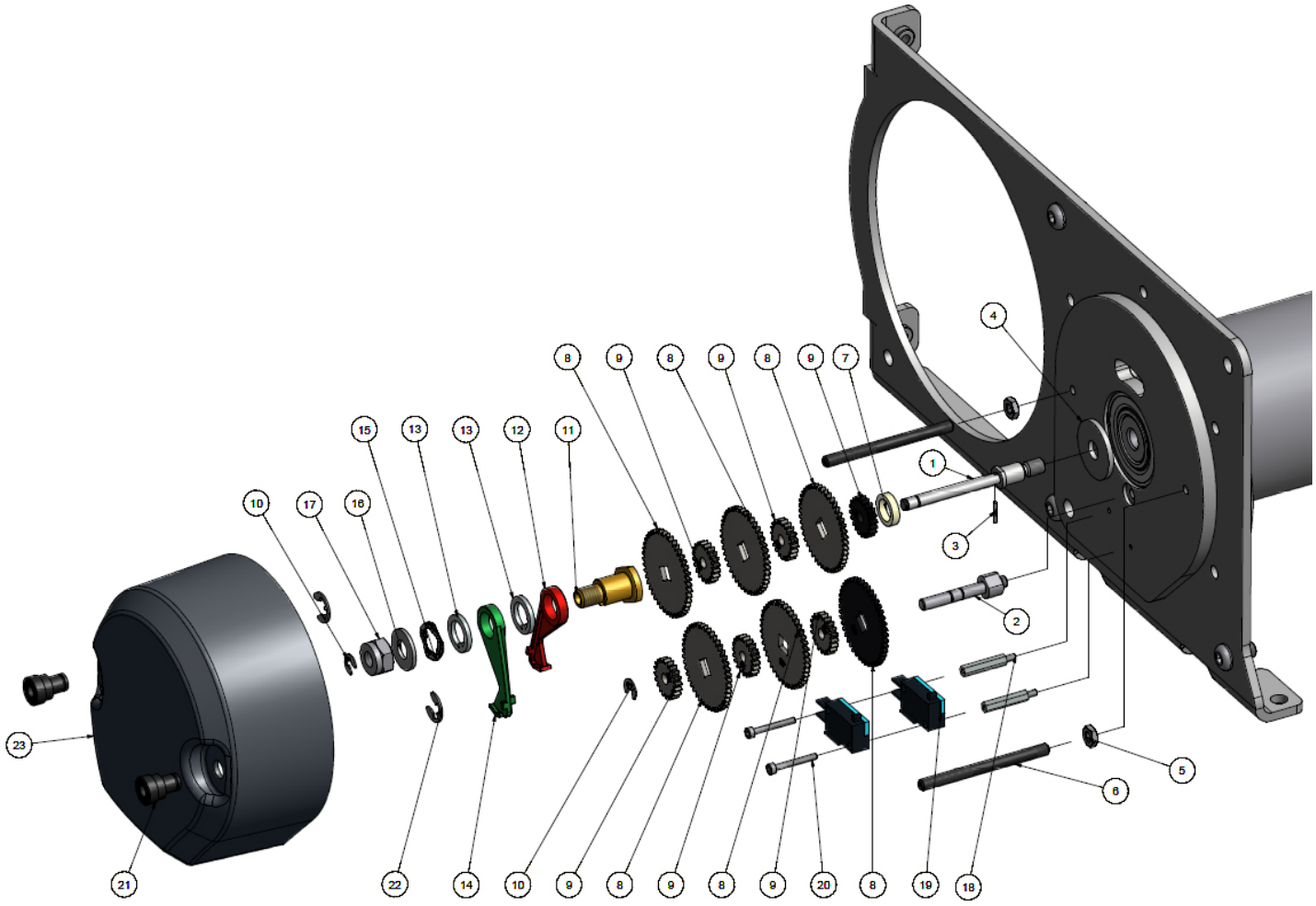
14 – Appendices

- A – Diagram of limit switch0
- B – Exploded views and spare parts lists
- C – Load limiter
- D – Limit switch
- E – Maintenance booklet

A– DIAGRAM OF LIMIT SWITCH

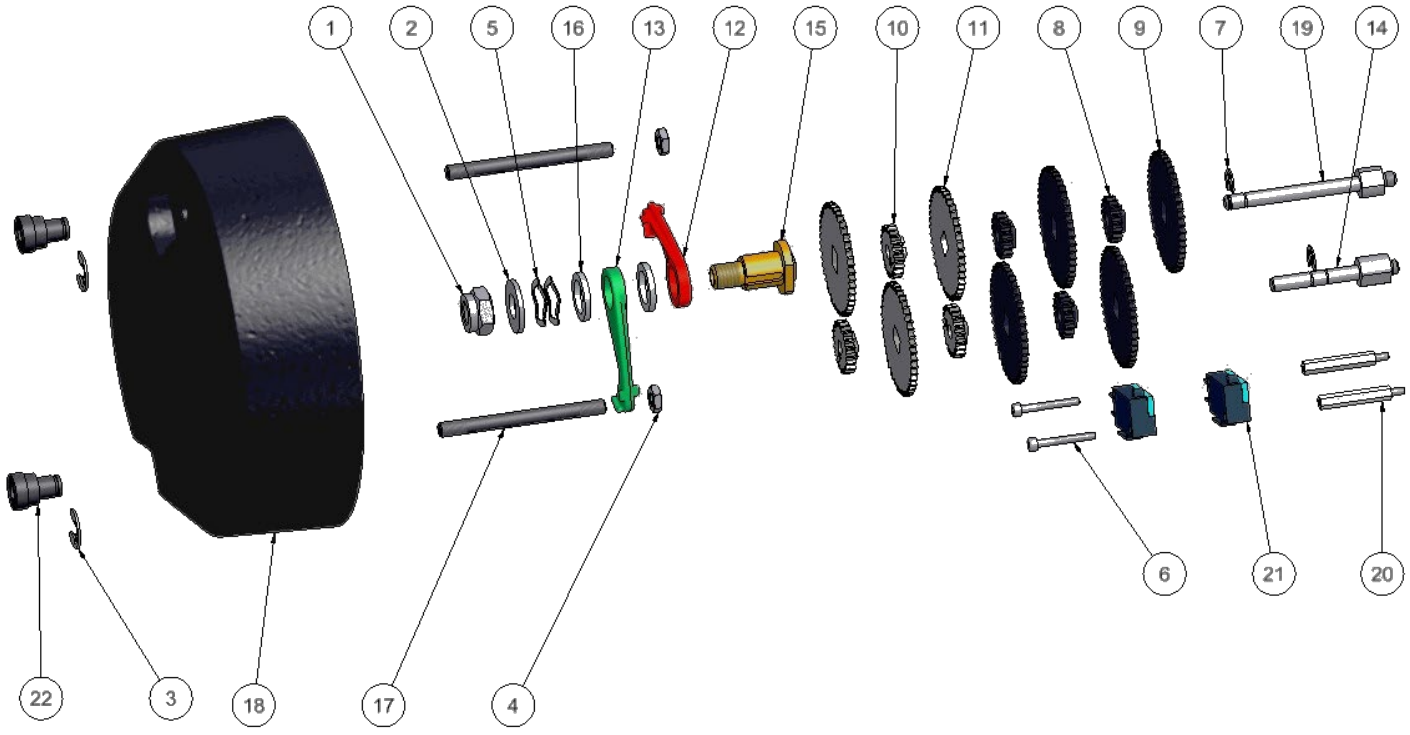
PRIMO 150, 300 and 500 kg

No	Qty	Description
1	1	Limit switch central shaft
2	1	Limit switch offset shaft
3	1	Grooved surface pin 2 x 12
4	1	Limit switch washer
5	2	Bottom M6 hexagonal nut
6	2	Tie
7	1	Pin stop bush ref. EM 32.180.17.4
8	6	45-tooth grey sprocket wheel
9	6	20-tooth grey sprocket wheel
10	2	TRUARC 5-6 ring
11	1	Limit switch finger support
12	1	Red limit switch finger
13	2	Stop washer
14	1	Green limit switch finger
15	2	Curved washer Ø15x20x2
16	1	Washer M Ø10
17	1	Locked bottom nut M10
18	2	M3 x 30 MF steel spacer stud
19	2	Contactor
20	2	M3x25 CHC screw
21	2	Captive nut
22	2	TRUARC 8-9 ring
23	1	TRB 150 limit switch cover



PRIMO 990 and 2000 kg

No.	Qty		Part no.	Description
	PRIMO 1T	PRIMO 2T		
1	1	1	13020	Locked nut M10
2	1	1	13306	Washer MU Ø10
3	2	2	13365	TRUARC 8-9 ring
4	2	2	13608	Bottom M6 nut
5	2	2	13693	Curved washer Ø15x20x2
6	2	2	13694	M3x25 CHC screw
7	2	2	13695	TRUARC 5-6 ring
8	2	0	23211	17-tooth sprocket wheel m1
9	3	1	23212	48-tooth sprocket wheel m1
10	4	6	23213	20-tooth sprocket wheel m1
11	4	6	23214	45-tooth sprocket wheel m1
12	1	1	23215R	Red limit switch finger
13	1	1	23215V	Green limit switch finger
14	1	1	23291	Limit switch offset shaft
15	1	1	23292	Limit switch finger support
16	2	2	23293	Stop washer
17	2	2	23435	Tie
18	1	1	23449	TRB 2 limit switch cover
19	1	1	24265	Limit switch Pin
20	2	2	2965	M3 x 30 MF spacer stud
21	2	2	3683	Contactor
22	2	2	4909	Captive nut



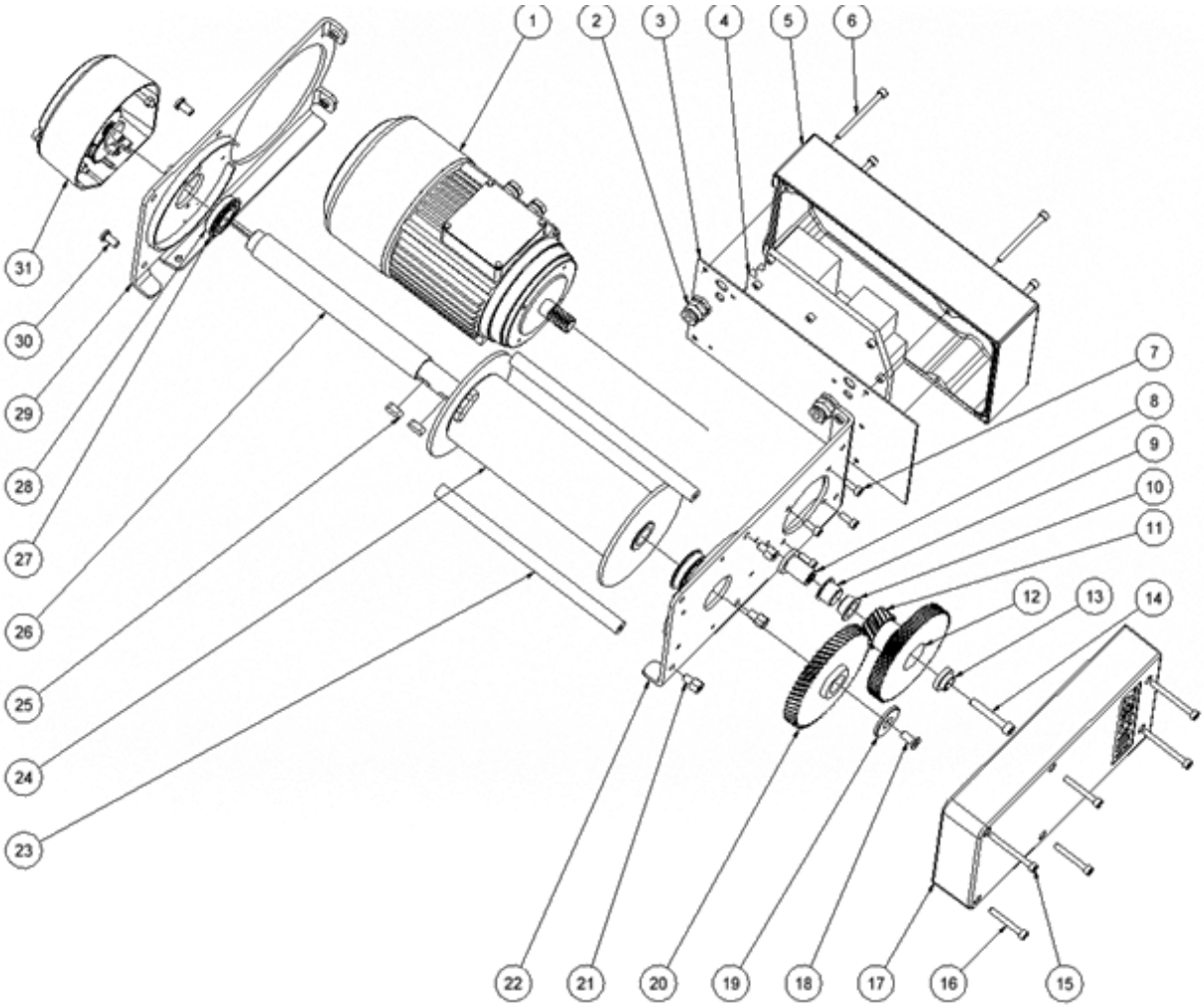
B – EXPLODED VIEWS

PRIMO 150 kg – Part references

THE SERIAL NUMBER MUST BE SPECIFIED FOR ALL SPARE PART ORDERS.

No.	Qty	Part no.	Description
1	1	23240	0.75kW motor
2	2	2841	M16 compression gland
3	1	22870	Housing bottom sheet
4	1	2001	Wiring board
5	1	22851	Electric housing
6	4	13139	M6x80 CHC screw
7	4	13131	M6x16 CHC screw
8	1	22861	Intermediate sprocket wheel shaft
9	1	3971	GFM-2023-16 bearing ring
10	1	3973	GFM-2023-11 bearing ring
11	1	23256	18-tooth sprocket wheel
12	1	22872	89-tooth wheel
13	1	22862	Locking ring
14	1	13147	M8 x 50 CHC screw
15	3	13137	M6 x 60 CHC screw
16	3	13634	M6 x 45 CHC screw

No.	Qty	Part no.	Description
17	1	22850	Reducer housing
18	1	13512	M8 x 20 countersunk head hex socket screws
19	1	23485	Washer
20	1	23257	58-tooth wheel
21	3	22875	Tapped head screw
22	1	22838	Reducing flange
23	3	22854	Tie
24	1	23480	SE drum
25	2	13228	8x7x20 FA key
26	1	23484	Drum shaft
27	2	3970-02	NR47 segment
28	2	3970	6005 2RS RN ball bearing
29	1	22839	Outer flange
30	3	13688	M8x16 hex socket button head screw
31	1		Limit switch

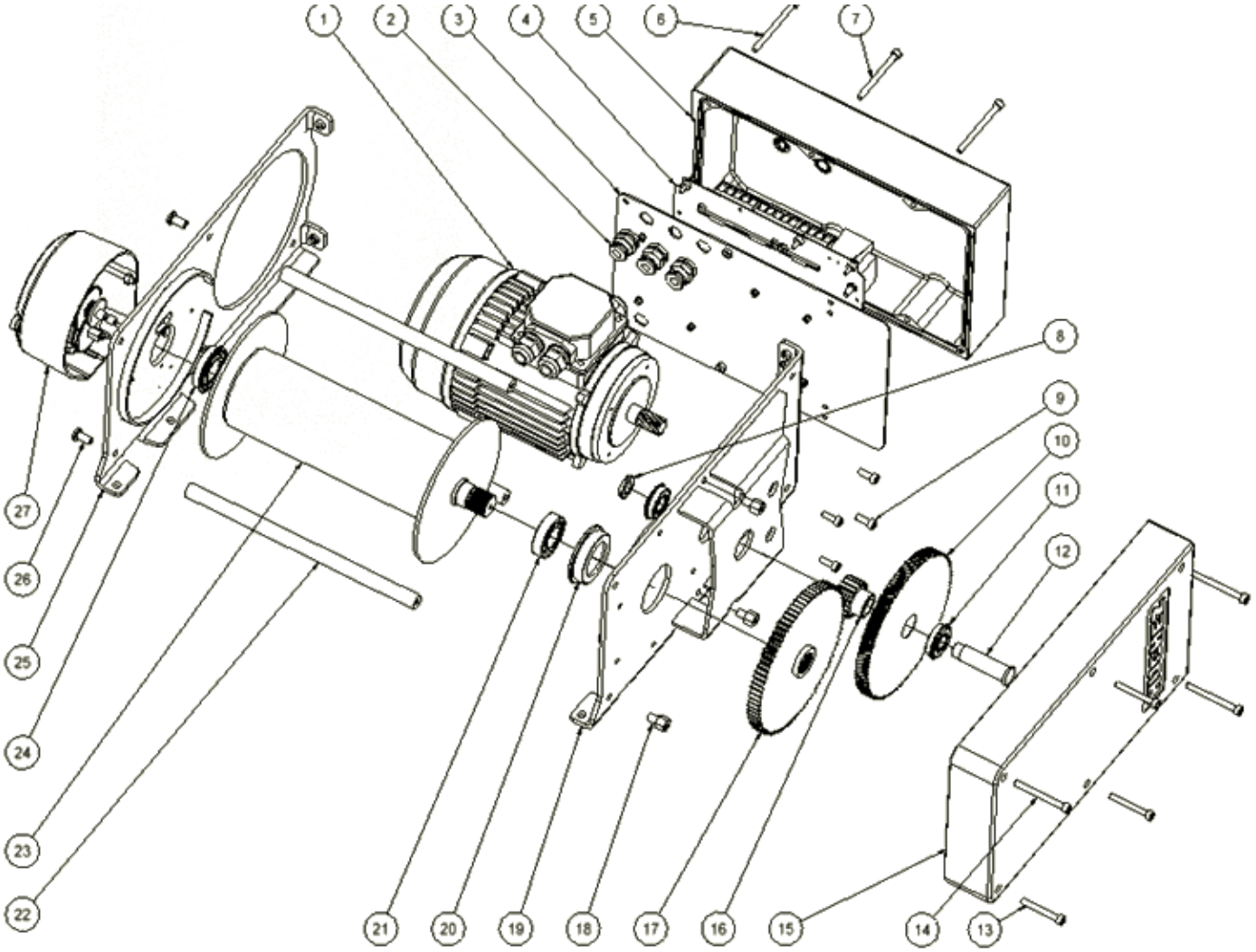


PRIMO 300 kg – Part references

THE SERIAL NUMBER MUST BE SPECIFIED FOR ALL SPARE PART ORDERS.

No.	Qty	Part no.	Description
1	1	23263	0.75kW motor
2	4	2841	M16 nylon compression gland
3	1	23277	Housing bottom sheet
4	1		Electrical equipment
5	1	23276	Electric housing
6	4	13617	M6x75 CHC screw
7	2	13138	M6x70 CHC screw
8	1	13689	M15x1 nylstop KM nut
9	4	13131	M6x16 CHC screw
10	1	23270	121-tooth wheel
11	2	2964	6003 2RS RN bearing
12	1	23274	Shouldered shaft
13	3	13687	M6x45 CHC screw
14	3	13137	M6x60 CHC screw

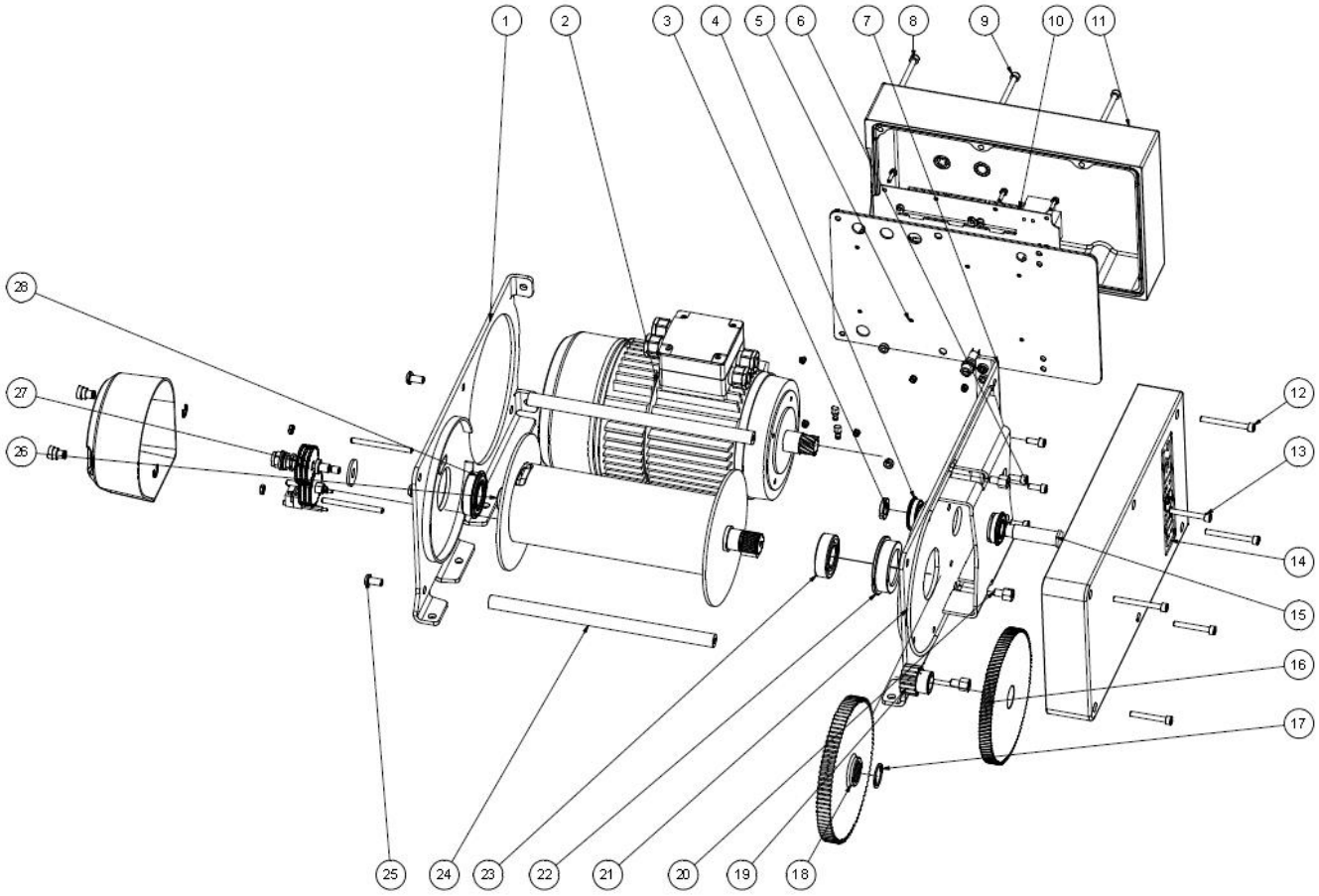
No.	Qty	Part no.	Description
15	1	23275	Transmission casing
16	1	23271	18-tooth sprocket wheel
17	1	23272	84-tooth wheel
18	3	22875	Tapped head screw
19	1	23260	Reducing flange
20	1	23269	Bearing housing
21	1	3352	6005 2RS bearing
22	3	23262	Ø16 tie
23	1	23268	SE drum
24	1	3970	6005 2RS RN bearing
25	1	23261	Outer flange
26	3	13688	M8x16 hex socket button head screw
27	1		Limit switch



PRIMO 500 kg – Part references

THE SERIAL NUMBER MUST BE SPECIFIED FOR ALL SPARE PART ORDERS.

No	Qty	Part no.	Description
1	1	55460	Outer flange welded
2	1	3665	1.1 kW Ha90 single-phase motor with conical brake
3	1	13689	Nylstop locknut M15x1-21
4	2	2964	Bearing 6003 2RS RN
5	1	23277	electric support panel & nuts
6	4	13131	Screw CHC NF E 25-125 M6x16
7	1	55457	Outer flange reduction gear panels
8	2	13138	Screw CHC NF E 25-125 M6x70
9	4	13617	Screw CHC NF E 25-125 M6x75
10	1		Electrical components
11	1	23276	electric cover
12	3	13137	Screw CHC NF E 25-125 M6x60
13	3	13687	Screw CHC NF E 25-125 M6x45
14	1	23275	Transmission casing
15	1	23274	Shouldered shaft
16	1	24052	99-tooth gear m1,5
17	1	13434	Ring 7103-28
18	1	55451	87-tooth gear m2 beta0
19	1	55450	15-tooth sprocket wheel m2 beta0
20	3	22875	Bolt / nut
21	1	23777	Neoprene trans joint
22	1	55448	Bearing housing
23	1	3642	Bearing 6205
24	3	23262	Tie rode Ø16
25	3	13688	Screw _TBHC ISO 7380 M8x16
26	1	55443	Sub-unit drum
27	1		Sub-unit limit switch
28	1	2880	Bearing 6205 2RS NR



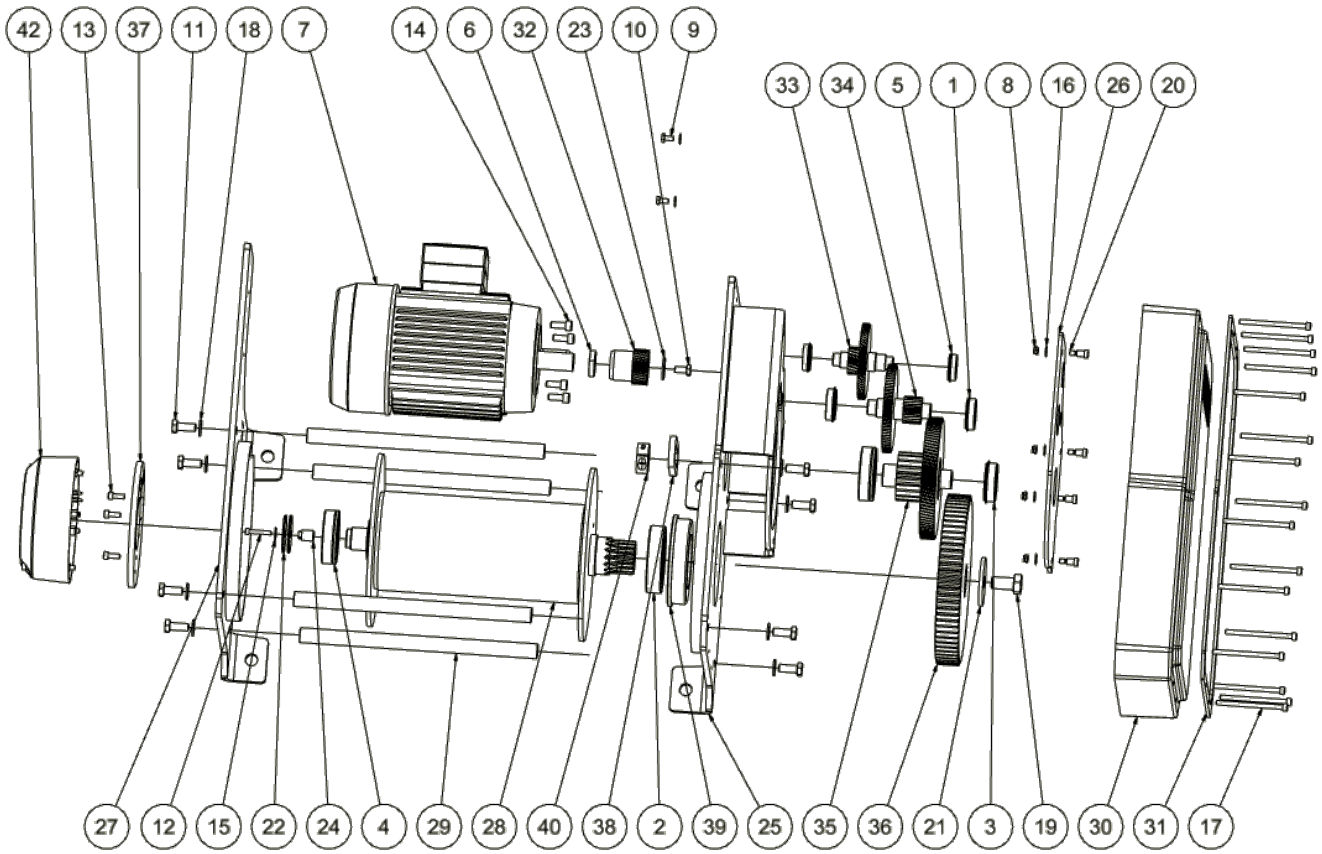
PRIMO 990 kg – Part references

THE SERIAL NUMBER MUST BE SPECIFIED FOR ALL SPARE PART ORDERS.

PRIMO 991 CD

No.	Qty	Part no.	Description
1	2	2510	Bearing 6004 2RS NR
2	1	2564	Bearing 6210 2RS
3	1	2880	Bearing 6205 2RS NR
4	2	2881	Bearing 6306 NR 2RS
5	2	2964	Bearing 6003 2RS NR
6	1	3068	Sealed bearing ring 25x35x7
7	1	3849	Single-phase 1.1 kW motor brake
8	4	13011	Nylon bearing ring nut DIN985 M6
9	2	13057	Screw_TH ISO 4017 M6-12
10	1	13064	Screw_TH ISO 4017 M8-16
11	8	13075	Screw_TH ISO 4017 M10-25
12	1	13126	Screw CHC NF E 25-125 M5x30
13	3	13131	Screw CHC NF E 25-125 M6x16
14	4	13142	Screw CHC NF E 25-125 M8x20
15	1	13207	Washer L Ø5
16	6	13209	Washer NF E 25-514 M Ø6
17	16	13255	Screw CHC M6x90
18	8	13306	Washer NF E 25-514 M Ø10
19	1	13625	Screw_TH ISO 4017 M16-30
20	4	13675	Slotted screw M6x10
21	1	22795	Washer 16x65x5

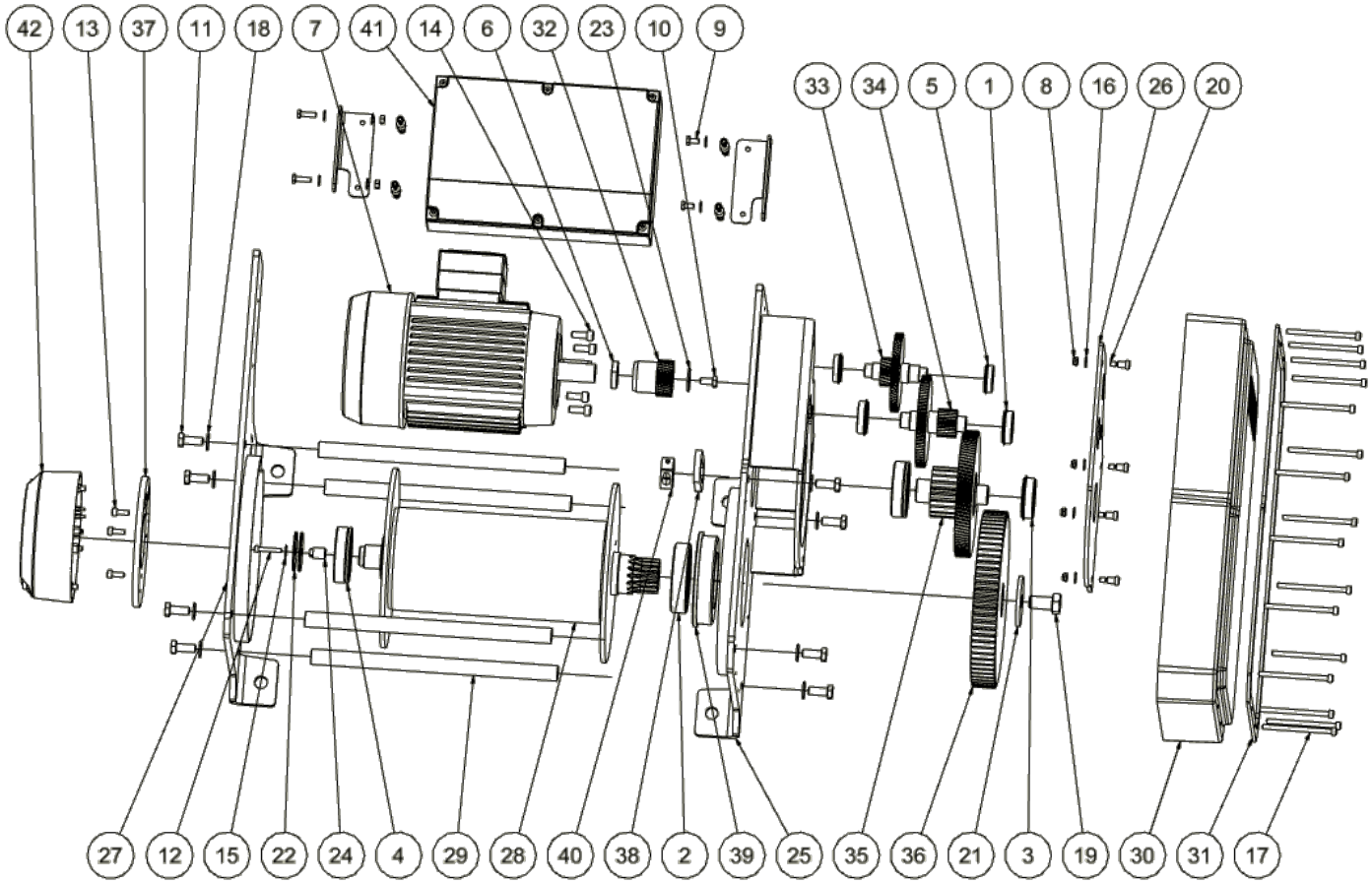
No.	Qty	Part no.	Description
22	2	23212	48-tooth sprocket wheel m1
23	1	24391	Motor sprocket wheel washer
24	1	24467	Drum shaft sprocket wheel
25	1	24720	Welded reduction gear flank
26	1	24721	Mounted bearing panel
27	1	24722	Welded limit switch flank
28	1	24723	Sub-unit drum
29	4	24724	Tie Rod
30	1	24725	Reduction gear case Primo 1T
31	1	24726	Case closing panel
32	1	24727	33-tooth sprocket wheel m1.25 Beta20G dp0.15
33	1	24728	Feed wheel 1
34	1	24731	Feed wheel 2
35	1	24734	Feed wheel 3
36	1	24737	75-tooth sprocket wheel m3 dp-0.36
37	1	24738	Limit switch support panel
38	1	24740	Hoisting ring
39	1	24741	Bearing housing
40	1	62356-01	Split bearing ring (2 parts) f2-32-20
42	1		Sub-unit limit switch Primo 1T



PRIMO 991 BT

No.	Qty	Part no.	Description
1	2	2510	Bearing 6004 2RS NR
2	1	2564	Bearing 6210 2RS
3	1	2880	Bearing 6205 2RS NR
4	2	2881	Bearing 6306 NR 2RS
5	2	2964	Bearing 6003 2RS NR
6	1	3068	Sealed bearing ring 25x35x7
7	1	3849	Single-phase 1.1 kW motor brake
8	4	13011	Nylon bearing ring nut DIN985 M6
9	2	13057	Screw_TH ISO 4017 M6-12
10	1	13064	Screw_TH ISO 4017 M8-16
11	8	13075	Screw_TH ISO 4017 M10-25
12	1	13126	Screw CHC NF E 25-125 M5x30
13	3	13131	Screw CHC NF E 25-125 M6x16
14	4	13142	Screw CHC NF E 25-125 M8x20
15	1	13207	Washer L Ø5
16	6	13209	Washer NF E 25-514 M Ø6
17	16	13255	Screw CHC M6x90
18	8	13306	Washer NF E 25-514 M Ø10
19	1	13625	Screw_TH ISO 4017 M16-30
20	4	13675	Slotted screw M6x10
21	1	22795	Washer 16x65x5

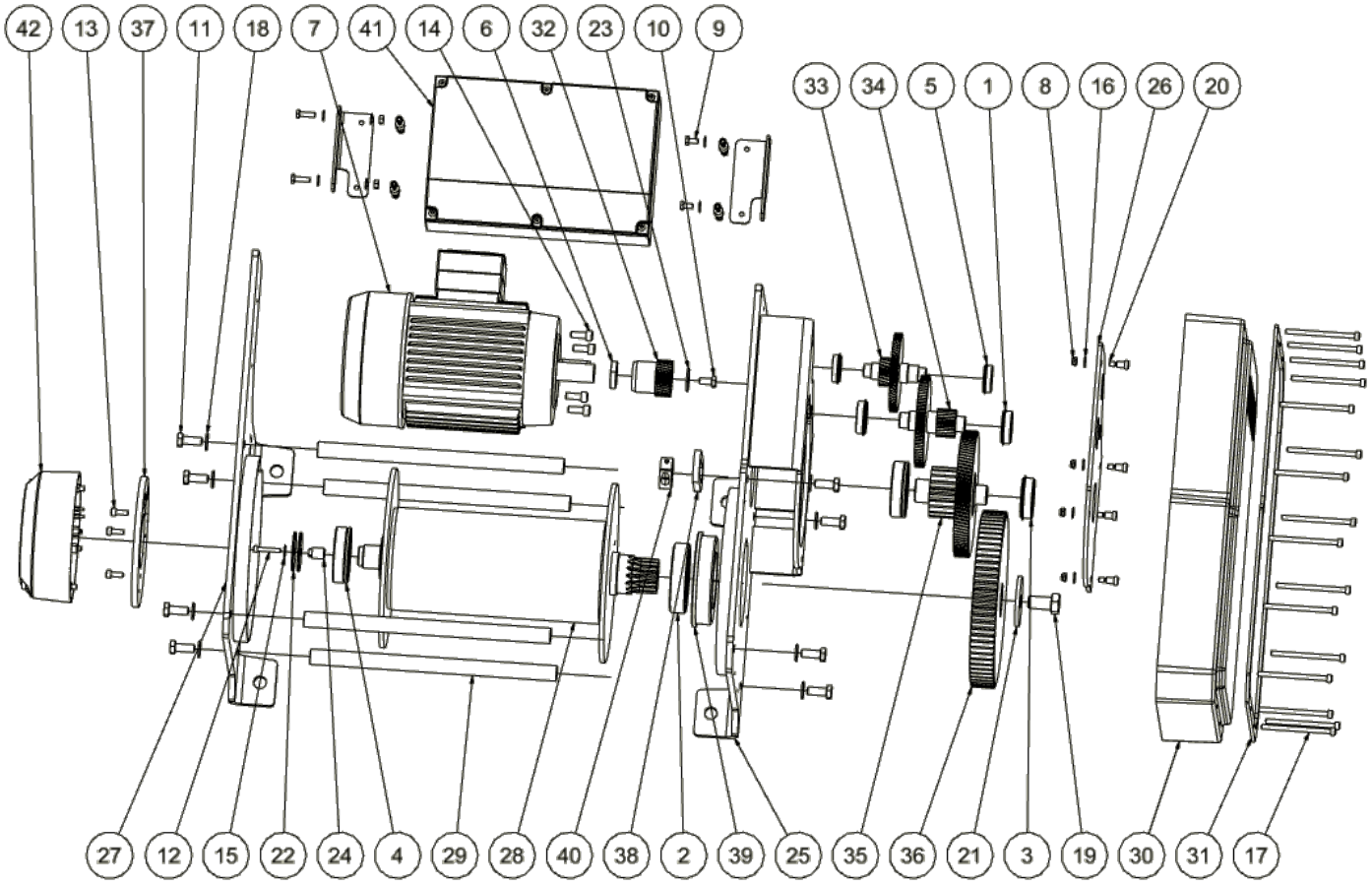
No.	Qty	Part no.	Description
22	2	23212	48-tooth sprocket wheel m1
23	1	24391	Motor sprocket wheel washer
24	1	24467	Drum shaft sprocket wheel
25	1	24720	Welded reduction gear flank
26	1	24721	Mounted bearing panel
27	1	24722	Welded limit switch flank
28	1	24723	Sub-unit drum
29	4	24724	Tie Rod
30	1	24725	Reduction gear case Primo 1T
31	1	24726	Case closing panel
32	1	24727	33-tooth sprocket wheel m1.25 Beta20G dp0.15
33	1	24728	Feed wheel 1
34	1	24731	Feed wheel 2
35	1	24734	Feed wheel 3
36	1	24737	75-tooth sprocket wheel m3 dp-0.36
37	1	24738	Limit switch support panel
38	1	24740	Hoisting ring
39	1	24741	Bearing housing
40	1	62356-01	Split bearing ring (2 parts) f2-32-20
41	1		Electronic equipment
42	1		Sub-unit limit switch Primo 1T



PRIMO 993 BT

No.	Qty	Part no.	Description
1	2	2510	Bearing 6004 2RS NR
2	1	2564	Bearing 6210 2RS
3	1	2880	Bearing 6205 2RS NR
4	2	2881	Bearing 6306 NR 2RS
5	2	2964	Bearing 6003 2RS NR
6	1	3068	Sealed bearing ring 25x35x7
7	1	3850	Three-phase 1.1 kW motor brake
8	4	13011	Nylon bearing ring nut DIN985 M6
9	2	13057	Screw_TH ISO 4017 M6-12
10	1	13064	Screw_TH ISO 4017 M8-16
11	8	13075	Screw_TH ISO 4017 M10-25
12	1	13126	Screw CHC NF E 25-125 M5x30
13	3	13131	Screw CHC NF E 25-125 M6x16
14	4	13142	Screw CHC NF E 25-125 M8x20
15	1	13207	Washer L Ø5
16	6	13209	Washer NF E 25-514 M Ø6
17	16	13255	Screw CHC M6x90
18	8	13306	Washer NF E 25-514 M Ø10
19	1	13625	Screw_TH ISO 4017 M16-30
20	4	13675	Slotted screw M6x10
21	1	22795	Washer 16x65x5

No.	Qty	Part no.	Description
22	2	23212	48-tooth sprocket wheel m1
23	1	24391	Motor sprocket wheel washer
24	1	24467	Drum shaft sprocket wheel
25	1	24720	Welded reduction gear flank
26	1	24721	Mounted bearing panel
27	1	24722	Welded limit switch flank
28	1	24723	Sub-unit drum
29	4	24724	Tie Rod
30	1	24725	Reduction gear case Primo 1T
31	1	24726	Case closing panel
32	1	24727	33-tooth sprocket wheel m1.25 Beta20G dp0.15
33	1	24728	Feed wheel 1
34	1	24731	Feed wheel 2
35	1	24734	Feed wheel 3
36	1	24737	75-tooth sprocket wheel m3 dp-0.36
37	1	24738	Limit switch support panel
38	1	24740	Hoisting ring
39	1	24741	Bearing housing
40	1	62356-01	Split bearing ring (2 parts) f2-32-20
41	1		Electronic equipment
42	1		Sub-unit limit switch Primo 1T



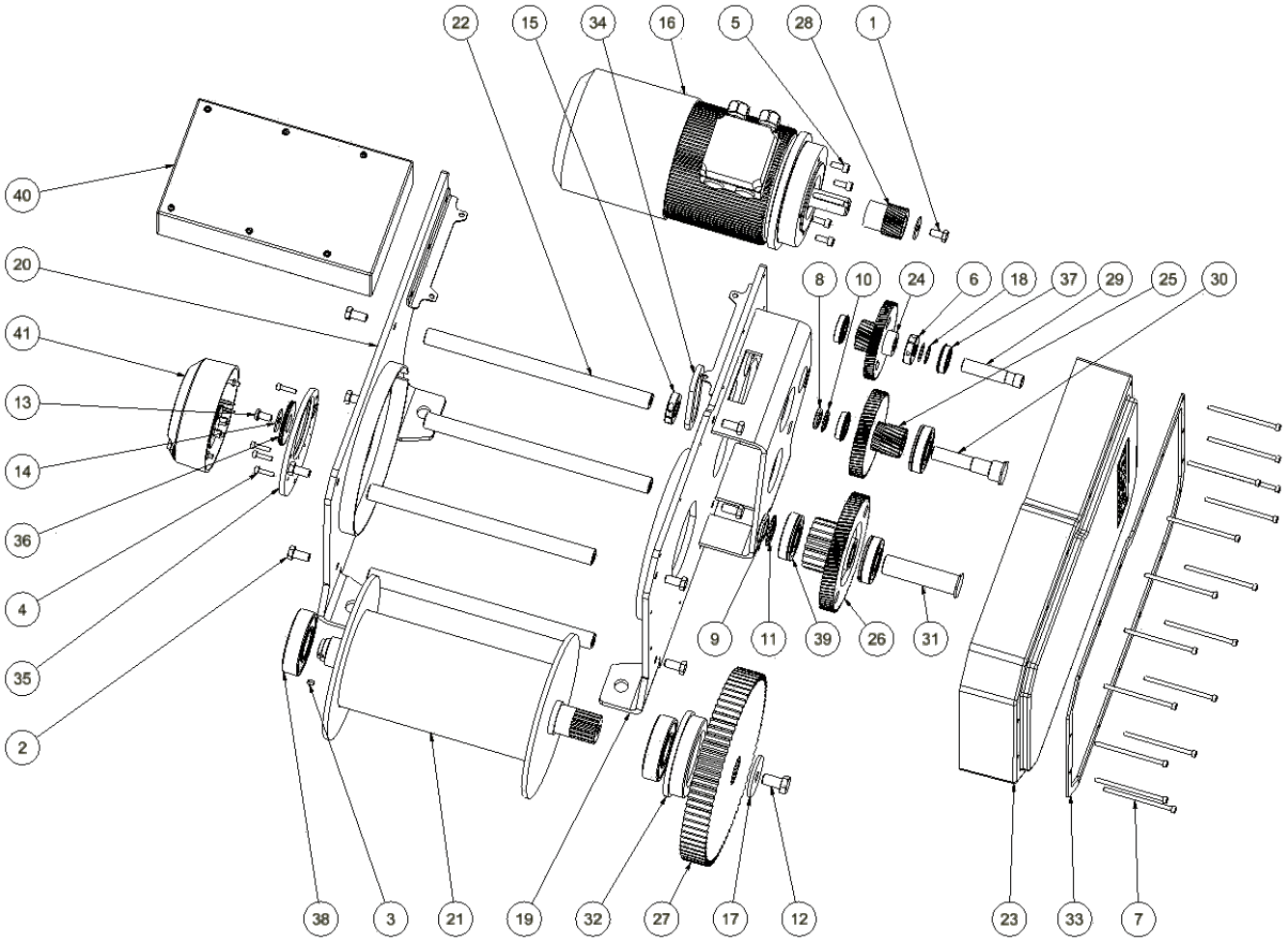
PRIMO 2000 kg – Part references

THE SERIAL NUMBER MUST BE SPECIFIED FOR ALL SPARE PART ORDERS.

PRIMO 2003 BT

No.	Qty	Part no.	Description
1	1	13074	Screw TH M10-20
2	8	13082	Screw TH M12x25
3	1	13119	Key FC 5x5x10
4	4	13133	Screw CHC M6x25
5	4	13142	Screw CHC M8x20
6	1	13376	Split stop ring 2-18
7	16	13601	Screw CHC M6x110
8	1	13613	Nut KM 4
9	1	13616	Nut KM 6
10	1	13619	Washer MB 4
11	1	13621	Washer MB 6
12	1	13625	Screw TH M16-30
13	1	13645	Screw TBHC M10x20 ZN
14	2	13658	Washer LL Ø10
15	1	13663	Split stop ring 2 25x50x12
16	1	21797	2.2 kW three-phase brake motor
17	1	22795	Washer 16x65x5
18	2	22987	Spacer 21x30x05
19	1	24350	Welded reduction gear flank
20	1	24355	Welded outer flank
21	1	24357	Sub-unit drum

No.	Qty	Part no.	Description
22	4	24363	Tie rode
23	1	24364	Reduction gear case
24	1	24365	Feed wheel 1
25	1	24368	Feed wheel 2
26	1	24371	Feed wheel 3
27	1	24374	75-tooth gear
28	1	24375	28-tooth sprocket wheel
29	1	24376	Intermediate shaft 1
30	1	24377	Intermediate shaft 2
31	1	24378	Intermediate shaft 3
32	1	24379	Bearing housing
33	1	24380	Case closing panel
34	1	24381	Hoisting ring
35	1	24384	End-of-travel plate
36	1	24385	67-tooth end-of-travel offset pinion
37	3	2510	Bearing 6004 2RS NR
38	2	2511	Bearing 6309 2RS
39	3	2881	Bearing 6306 NR 2RS
40	1		Sub-unit Electrical cabinet BT
41	1		Sub-unit limit switch



C – LOAD LIMITER

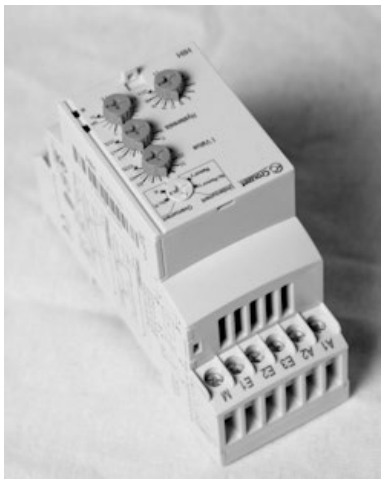
A. With CROUZET limiter

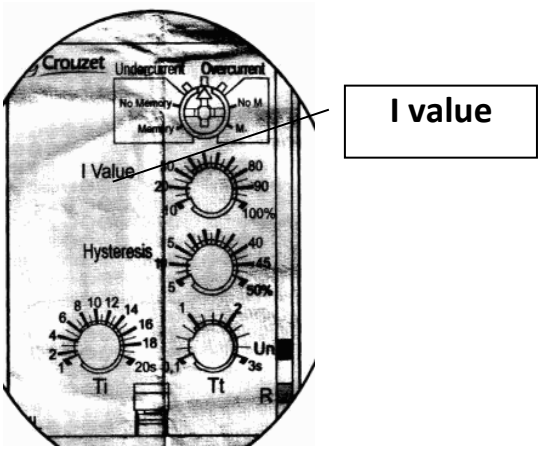
The winch is adjusted in the factory with the electrical voltage indicated on the test report enclosed with this instruction manual. If this voltage is different in the place of use, the setting must be readjusted.

In the event of overloading of the winch, a load limitation by motor current measurement cuts the lift control.
Once you have identified and eliminated the cause of the load limiter activation, use the key-activated turning button on the right of the unit to reset the load limiter and use the winch again.

Adjust the sensitivity of the load limiter by adjusting the "**I value**" on the limiter using a small flat screwdriver:

⇨ **the load limiter is adjusted in the factory to the value of about 110% of its MCU.**





IMPORTANT!
Setting the threshold too high may lead to major risks both for the equipment and the operators.

DANGER: RISK OF ELECTROCUTION, EXPLOSION OR ELECTRIC ARC.

Switch the power off before installing, wiring or performing a maintenance operation.
Check that the power supply voltage of the product, with its tolerances, is compatible with that of the network.

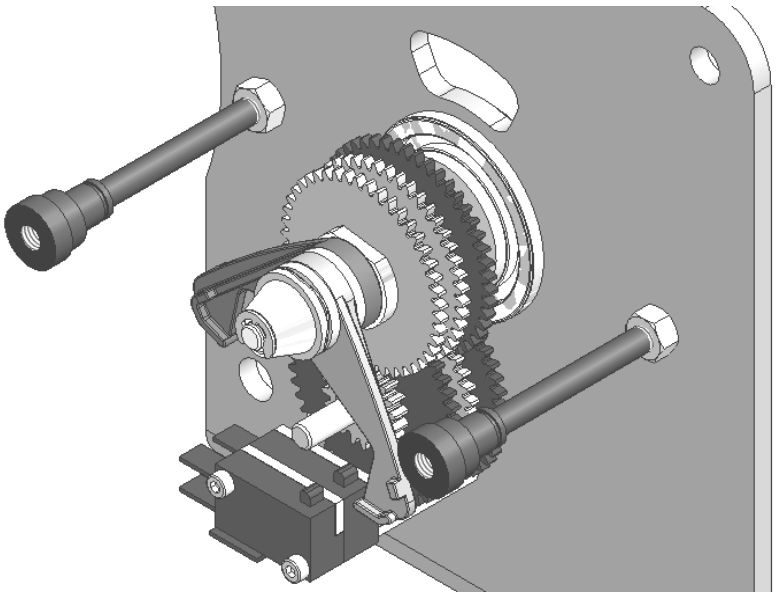
Non compliance with this instruction will cause death or serious injury.

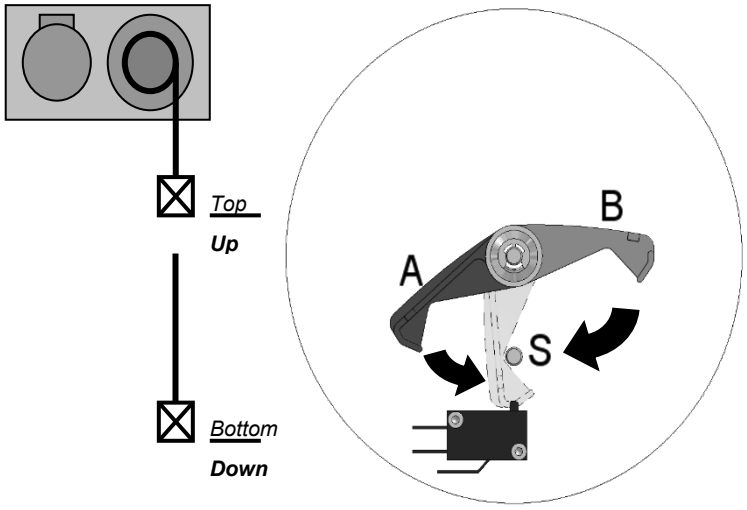
WARNING: UNEXPECTED OPERATION OF THE EQUIPMENT

Please do not disassemble, repair or modify the product.
Respect the installation and operating conditions of the product described in this document.

Non-compliance with this directive may cause death, serious bodily injury or material damage.

Electrical equipment must be installed, operated and serviced by qualified personnel.





1) Lift the load to the top point and identify the lever (A or B) that is nearest the stop (S).
2) Push this lever (A or B) onto the stop (S)
3) Lower the load to the bottom point.
4) Push the second lever onto the stop (S)

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1) Lift the load up to the highest required limit and find the lever moving towards the finger stop.
2) Place this lever (A or B) on the finger stop to fix the top limit switch.
3) Lower the load down to its lower level.
4) Place the second lever A or B on the finger stop to fix the bottom limit switch

The English version of the maintenance booklet for our lifting winches can be downloaded from our website www.huchez.fr/uk **under the heading "After sales services".**

Date	Person In charge Company	Person In charge Name	Nature of the operation	References of replaced parts	Frequency if appropriate	Signature

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