

Tirfor® / Greifzug™

Installation, operating and maintenance manual	English Original manual	EN
Manuel d'installation d'emploi et d'entretien	Français Traduction de la notice originale	FR
Installations-, Gebrauchs- und Wartungsanleitung	Deutsch Übersetzung der Originalanleitung	DE
Handleiding voor installatie, gebruik en onderhoud	Nederlands Vertaling van de oorspronkelijke handleiding	NL
Manual de instalación, de utilización y de mantenimiento	Español Traducción del manual original	ES
Manuale d'installazione, d'impiego e di manutenzione	Italiano Traduzione del manuale originale	IT
Manual de instalação, de uso e de manutenção	Português Tradução do manual original	PT
Stallasjons-, bruks- og vedlikeholdshåndbok	Norsk Oversettelse av originalanvisning	NO
Installations-, bruks- och underhållsanvisning	Svenska Översättning av originalbruksanvisningen	SE
Aсенус-, käyttö- ja huoltokäsikirja	Suomi Alkuperäisen ohjeen käännös	FI
Manual for installation, brug og vedligeholdelse	Dansk Oversættelse af den originale manual	DA
Instrukcja instalacji, użytkowania i konserwacji	Polski Tłumaczenie oryginalnej instrukcji obsługi	PL
Руководство по установке, использованию и техническому обслуживанию	Русский Перевод инструкции изготовителя	RU

EN Lifting and pulling machines

FR Treuils à mâchoires

DE Handbetriebene Mehrzweck-Seilzüge

NL Hijs-en trekapparaat

ES Aparatos de elevación y tracción

IT Argani manuali

PT Guincho de maxilas

NO Wiretaller til løft og træk

SE Wiretaller for løft og trekk

FI Lyft- och dragmaskiner

DA Nosto- ja vetolaitteet

PL Wciągarka ze szczękami

RU Монтажно-тяговые механизмы



T508™D

T516™D

T532™D



TU™08

TU™16

TU™32



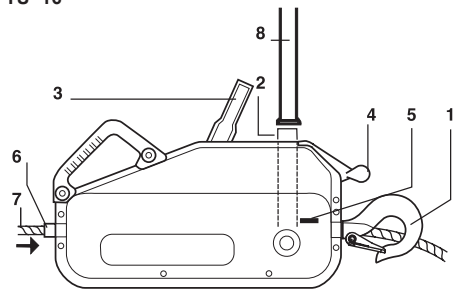
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Always working to improve the quality of its products, the TRACTEL® Group reserves the right to modify the specifications of the equipment described in this manual.

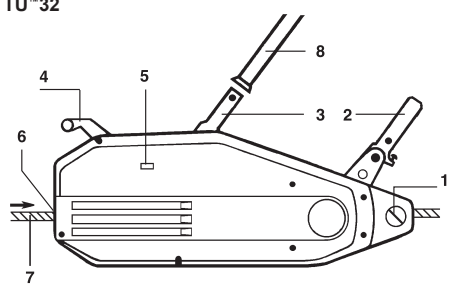
The companies of the TRACTEL® Group and their agents or distributors will supply on request documentation on the full range of TRACTEL® products: lifting and handling, permanent and temporary access solutions, height safety devices, electronic load indicators and accessories such as pulley blocks, hooks, slings, ground anchors, etc.

The TRACTEL® network is able to supply an after-sales and regular maintenance service. Should you have any queries or require technical assistance, please do not hesitate to contact your TRACTEL® dealer.

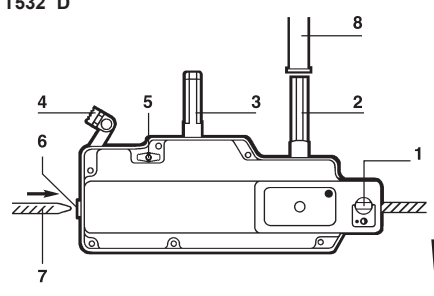
TU™8
TU™16



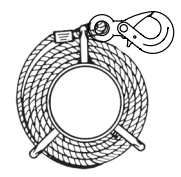
TU™32



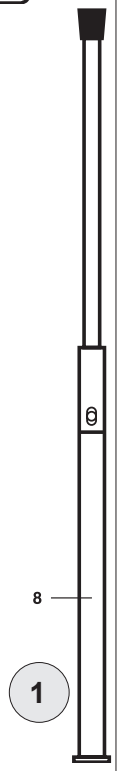
T508™ D
T516™ D
T532™ D



1. Hook / anchor pin
2. Forward operating lever
3. Reverse operating lever
4. Rope release lever
5. Rope release safety catch
6. Rope guide
7. Wire rope
8. Telescopic operating handle



Wire rope on reeler



GENERAL WARNING

1. Before installing and using this unit, to ensure safe and efficient use, it is essential that you have read and fully understood the information and instructions given in this manual. A copy of this manual should be made available to every operator. Extra copies of this manual will be supplied on request.
2. Do not use the unit if any of the information plates mounted on the unit are missing or if any of the information on the plates, as indicated at the end of the manual, is no longer legible. Identical plates will be supplied on request; these must be secured on the unit before it can be used again.
3. Make sure that all persons operating this unit are fully aware of how to use it in a safe way, in accordance of all safety at work regulations. This manual must be made available to all users.
4. This unit must only be used in compliance with all applicable safety regulations and standards concerning installation, use, maintenance and inspection of lifting equipment.
5. For all professional applications, the unit must be placed under the responsibility of a person who is entirely familiar with the applicable regulations and who has the authority to ensure the applicable regulations are applied if this person is not the operator.
6. Any person using the unit for the first time must verify that they have fully understood all the safe and correct operation requirements involved in use of the unit. The first-time operator must check, under risk-free conditions, before applying the load and over a limited lifting height, that they have fully understood how to safely and efficiently operate the unit.
7. The unit must only be installed and put into service under conditions which ensure the safety of the operator and in compliance with all applicable regulations and requirements.
8. Each time before using the unit make a visual inspection for any damage. In addition, make a visual inspection of any accessories used with the unit.
9. TRACTEL® declines any responsibility for use of this unit in a configuration not described in this manual.
10. The unit must be attached to an anchor point and a structure which has sufficient strength to withstand the maximum Working Load Limit of the unit as indicated in this manual. If several units are used, the strength of the structure must be compatible with the total number of units used and with the maximum Working Load Limit of the units.
11. TRACTEL® declines any responsibility for the consequences of any unauthorised changes made to the unit or removal of parts forming part of the unit.
12. TRACTEL® will only guarantee operation of the unit provided it is equipped with an original TRACTEL® wire rope in accordance with the specifications indicated in this manual.
13. TRACTEL® declines any responsibility for the consequences resulting from disassembly of the unit in any way not described in this manual or repairs performed without TRACTEL® authorization, especially concerning replacement of original parts by parts of another manufacturer.
14. TRACTEL® declines any responsibility for the consequences resulting from any unauthorized changes or repairs to the wire rope.
15. The unit must never be used for any operations other than those described in this manual. The unit must never be used to handle any loads exceeding the maximum Working Load Limit indicated on the unit. It must never be used in explosive atmospheres.
16. The unit must never be used for lifting people.
17. The unit is designed for manual operation and must never be motorized.
18. When a load is to be lifted by several units, a technical study must first be carried out by a qualified technician before installation of the units. The installation must then be carried out in compliance with the study, in particular to ensure an even distribution of the load under appropriate conditions. TRACTEL® declines any responsibility for the consequences resulting from use of a TRACTEL® device in combination with other lifting devices of another manufacturer.
19. Never stand, park or circulate under a load. Access to the area under the load should be indicated by signs and prohibited.
20. To ensure safe use of the unit, it should be visually inspected and serviced regularly. The unit must be periodically inspected by a TRACTEL®-approved repair agent as indicated in this manual.
21. The wire rope must be in good condition to ensure safe, correct operation of the unit. Discard any wire rope which shows any signs of excess wear or damage. The condition of the wire rope should be checked each time before using the unit as detailed in the "wire rope" section.
22. When the unit is not being used, it should be stored in a location inaccessible to persons not authorized to use the unit.
23. The operator must ensure that the wire rope remains under a constant tension by the load. In particular if the load is temporarily snagged by an obstruction then the sudden release of the load from the obstruction could result in the rupture of the wire rope.
24. If the unit is to be definitively removed from use, make sure the unit is discarded in a way which will prevent any possible future use. All environment protection regulations must be observed.

IMPORTANT: For professional applications, in particular if the unit is to be operated by an employee, make sure that you are in compliance with all safety at work regulations governing installation, maintenance and use of the equipment, and more specifically as concerns the required inspections: verification on commissioning by user, periodic inspections, and inspections subsequent to disassembly or repair operations.

TECHNICAL DATA

MODEL	TU™8	T508™D	TU™16	T516™D	TU™32	T532™D
Working load limit (t)	0.8		1.6		3.2	
Weight:						
• Machine (kg)	8.4	6.6	18	13.5	27	24
• Telescopic operating handle (kg)	1	1	2.4	2.3	2.4	2.3
• Standard 20 m of wire rope with fittings (kg)	6.1	6.1	13.1	13.1	26.6	26.6
Total weight of standard equipment (kg)	15.5	13.7	33.5	28.9	56	52.9
Dimensions:						
• Length (mm)	527	420	660	523	676	620
• Length with optional hook (mm)	-	550	-	650	860	840
• Height (mm)	265	250	330	315	330	355
• Width (mm)	108	99	140	127	156	130
• Telescopic handle: retracted/extended (mm)	395/620	400/690	680/1190	650/1150	680/1190	650/1150
Original Tirfor® wire rope						
• Diameter (mm)	8.3		11.5		16.3	
• Guaranteed tensile strength* (daN)	4000		8000		16000	
• Weight per metre (kg)	0.25		0.5		1	
Wire rope travel (forward /reverse)** (mm)	70/76	46/63	56/70	42/57	30/48	18/36
Recommended Tractel® pulley model	E460H		E470H		E480H	

* Including wire rope end fittings.

** Travel of the wire rope resulting from one complete cycle of operation of the operating handle at the working load limit.

1. INTRODUCTION AND DESCRIPTION OF EQUIPMENT

The Tirfor® machine is a hand-operated lifting and pulling machine. It is versatile, portable and multi-purpose, not only for pulling and lifting but also for lowering, tensioning and guying.

The originality of the Tirfor® machine is the principle of operation directly on the wire rope which passes through the mechanism rather than being reeled onto a drum of a hoist or conventional winch. The pull is applied by means of two pairs of self-actuating jaws which exert a grip on the wire rope in proportion to the load being lifted or pulled. A telescopic operating lever fitted to either the forward or the reverse lever transmits the effort to the jaw mechanism to give forward or reverse movement of the wire rope.

The machine is fitted with a hook or anchor pin, depending on the model, so that it can be secured quickly to any suitable anchor point.

Tirfor® machines, intended for lifting and pulling materials, are available in two ranges each with three models of different capacities:

- T500D range for light duty applications (with safety release catch).
- TU range for heavy duty applications (with safety release catch).

All the Tirfor® machines in the TU™ and T500D ranges comply with the Machinery Directive 2006/42/EC and meet the essential requirements of standard EN 13157. The TU™ range complies in full with the requirements

of standard EN 13157. The Tirfor® machine in the TU™ and T500D ranges comply with the UK's Machinery Supply (Safety) Regulations 2008 (SI 2008/1597). Under normal conditions of use, the machine may be used at any ambient temperature from -10°C to +50°C. In exceptional circumstances, this machine may be used at ambient temperatures of between -20°C and +70°C.

Each machine is supplied with a telescopic operating handle, and usually with a 20 m standard length of special Tirfor® wire rope fitted with a safety hook and wound onto a metal reeler. Longer or shorter lengths of wire rope are available on request.

This manual together with a guarantee card are supplied with each machine, as well as the CE and UKCA declaration of conformity.



IMPORTANT: Tirfor® wire rope has been specially designed to meet the particular requirements of the Tirfor® machine.

The manufacturer does not guarantee the safe operation of machines used with wire rope other than Tirfor® wire rope.

2. ASSEMBLY DRAWINGS

Various ways of rigging are shown in Figs. 2.1, 2.2, 2.3 and 2.4. Figs. 4 and 5 show specific arrangements (one forbidden and the other recommended).

The machine may be anchored to a fixed point with the wire rope travelling towards the machine (Figs. 2.1, 2.2,

2.3), or travel along the wire rope, with the load, the wire rope itself anchored to a fixed point (Fig. 2.4).

In example 2.2, the maximum working load limit of the pulley and the anchor point should be equal to or greater than twice the load.

N.B. Whatever the rigging arrangement, and if the machine is anchored directly to a fixed point, ensure that there are no obstructions around the machine which could prevent the wire rope, the machine and anchor point from operating in a straight line. It is therefore recommended to use a sling of an appropriate capacity between the anchor point and the machine (Fig. 3).



WARNING: Any rigging arrangement which requires the calculation of the forces applied should be checked by a competent engineer, with special attention to the appropriate strength of fixed point used.

For work such as guiding the trunk in tree felling, the operator should ensure that he is outside the danger area by passing the wire rope around one or more diverter pulleys.

The capacity of the machine may be increased considerably for the same effort by the operator by using multiple sheave blocks (see the examples set out in Figs. 6.1 and 6.2).

The increase in the capacity shown is reduced depending on the efficiency of the pulleys.

It is essential that the sheaves and diverter pulleys used with the machine comply with the essential requirements of standard EN 13157. The TRACTEL® pulleys specified in the paragraph "TECHNICAL DATA" comply with the essential requirements of standard EN 13157. For special sheaving arrangements, it is imperative that these sheaves comply with the essential requirements of standard EN 13157.

For any rigging arrangement other than those described in this manual, please consult TRACTEL®, or a competent specialist engineer before operating the machine.

3. INSTALLATING THE WIRE ROPE

N.B. When handling the wire rope it is recommended to protect your hands by using work gloves.

1. Uncoil the wire rope in a straight line to prevent loops or kinks.
2. Release the internal mechanism (see section 4: "Releasing and engaging the jaws").
3. Insert the wire rope through the rope guide at the end opposite to the anchor point (hook or anchor pin).
4. Push the wire rope through the machine, and if necessary, helping it by operating the forward operating lever.

5. When the wire rope appears through the anchor point, pull the slack wire rope through the machine, to the point required.
6. Engage the jaws by operating the rope release mechanism (see section 4: "Releasing and engaging the jaws").
7. Anchor the Tirfor® machine or the wire rope to the appropriate fixed point (see section 5: "Anchoring") taking care to ensure that the anchor point (hook or pin, depending on the model) is correctly fixed.
8. Extend the telescopic operating handle until the spring locks into position. If necessary twist the two sections of the handle, one inside other, to align the spring (Fig. 1).
9. Place the telescopic operating handle on the chosen operating lever (forward or reverse) and twist the handle to ensure that it is locked in position (about a half turn).

Following these operations, the unit is ready to use, provided that the load is properly anchored to the unit or wire rope (see Sections 5: "Anchoring" and 2: "Assembly drawings").

If the wire rope is to be anchored to a high anchor point, the wire rope should be anchored before fitting the wire rope in the machine.

4. RELEASING AND ENGAGING THE JAWS

Each machine is fitted with a rope release lever (Fig. 1 p. 2) for releasing the jaw mechanism, this must only be operated when the machine is not under load.

There are two positions for the rope release lever (see Figs. 7, 8 and 9): released or engaged.

N.B. When not in operation, it is recommended that the rope release lever should be in the engaged position. The rope release lever must therefore be released before attempting to feed in the wire rope.

4.1. TU™8 and TU™16 (Fig. 7)

Releasing:

1. Completely press the rope release safety catch (5) and lift the rope release lever (4).
2. Release the safety catch and continue to lift the rope release lever until it locks into position. The internal mechanism is in the released position.

Engaging:

1. Lift the rope release lever slightly.
2. Press and maintain pressure on the rope release safety catch, allowing the release lever to slowly travel back to its original position. Release the safety catch. The spring mechanism locks the release lever in position.

4.2. TU™32 (Fig. 8)

Place the anchor point against a support.

Releasing:

1. Completely press rope release safety catch (5) and push the rope release lever (4) towards the anchor point.
2. Release the safety catch and continue to push the rope release lever until it locks into position. The internal mechanism is in the released position.

Engaging:

1. Push the rope release lever towards the anchor point.
2. Press and maintain pressure on the rope release safety catch, allowing the release lever to slowly travel back to its original position. Release the safety catch. The spring mechanism locks the release lever in position.

4.3. T500D range (Fig. 9)

Place the anchor point against a support.

Releasing:

Turn the rope release safety catch (5) and push the rope release lever (4) towards the anchor pin until it locks into position when raised slightly at its limit. Release the safety catch.

Engaging:

1. Turn the rope release safety catch
2. Press the rope release lever vertically downwards, allowing the lever to travel back to its original position under the effects of its spring. Release the safety catch.

5.  ANCHORING

Failure to anchor the Tirfor® machine correctly runs the risk of a serious accident. The user must always ensure before operation that the anchor point(s) for the machine and wire-rope are of sufficient strength to hold the load.

It is recommended that Tirfor® machines should be anchored to a fixed point or to the load using an appropriate capacity sling. **It is forbidden to use the machine's wire rope as a sling** by passing it around the load and hooking it back onto itself (Fig. 10.1: incorrect anchoring arrangement; Fig. 10.2: correct anchoring arrangement).


The anchoring arrangement of models TU™8 and TU™16 is a hook fitted with a safety catch (Figs. 11 and 12). In all cases when anchoring the machine the safety catch of the anchor hook should be correctly closed, in its position at the tip of the hook (Fig. 12). This advice for the machine anchor hook also applies to the hook fitted to the wire rope.

Tirfor® machines TU™32 and T500D are anchored by means of a removable anchor pin, fitted across the two ends of the side cases (Figs. 13 and 14) and locked in position by a spring clip (Figs. 15 and 16).

Optional hooks are available to fit the anchor point of models T500D and TU™32.

To anchor using the anchor pin, follow the procedure below:

1. Open the spring clip of the anchor pin.
2. Remove the spring clip from the anchor pin.
3. Slide the anchor pin out of the side cases (Fig. 14).
4. Fit the anchoring arrangement, such as a sling, between the side cases.
5. Refit the anchor pin through the side cases and anchoring arrangement, such as the eyes of a sling.
6. Refit the spring clip to the anchor pin.
7. Close the spring clip, ensuring that it fits correctly over the end of the anchor pin and cannot fall out.

 WARNING: It is essential for the safe operation of the machine to ensure that, before loading the machine, the anchor points, hooks or pins, are correctly secured, (with the safety catch correctly located on the hook - Fig. 12).

6. OPERATION

Tirfor® machines are very easy to use. Place the telescopic operating handle on either the forward or reverse operating lever, lock it into position by twisting, and move the operating handle to-and-fro. The operating arc is variable for ease of operation.

When operation stops, both jaws automatically grip the wire rope and hold the load which is spread equally between the jaws.

The to-and-fro operation of the forward or reverse lever gives continuous movement of the load.

7. DECOMMISSIONING AND STORAGE

It is essential to take the load off the machine before attempting to release the jaws. To do this, operate the reverse operating lever until there is no tension in the wire rope.

Remove the telescopic operating handle and return it to the closed position.

Release the jaw mechanism and follow the instructions for installing the wire rope in the reverse order. Re-engage the jaws of the machine before putting it into storage.

Store the machine and wire rope in a dry place, away from the effects of the weather. The wire rope should be completely removed from the machine and rewound onto its reeler.

Before reeling the wire rope, it is recommended to inspect it, clean it with a brush and then grease it (see section 10: "Wire rope").

8. SAFETY DEVICES

8.1. Overload limiting safety devices

All Tirfor® machines incorporate a shear pin system. In case of overload, one or more pins (depending on the model), fitted to the forward operating lever, shear and prevent further forward or lifting operations. Reverse operation is still possible to enable the load to be lowered or the wire rope to be slackened.

8.2. Rope release safety device

Models TU™ and T500D are fitted with a “two-handed” rope release system which requires deliberate operation by the user to release the machine. See section 4: “Releasing and engaging the jaws”.

9. REPLACEMENT OF SHEAR PINS

Figures 17, 18, 19 and 20 show the position of the shear pins for the various models. Spare shear pins are in the operating levers for models TU™8 and TU™16, and in the rope release lever for the other models (first remove the plastic cap).

Remove the sheared pins with a suitable punch. For models TU™8 and TU™16, remove the forward operating handle stub by using an extractor.

Clean the recesses which house the pins. For models TU™ and TU™16, refit the forward operating handle stub on the crank, lining up the grooves in the crank with those in the operating handle (Figs 17 and 18).

For models T500D and TU™32, align the holes of the upper and lower sections of the forward operating lever. Position the spare shear pin(s) and drive it/them in with a hammer.



WARNING: It is forbidden to replace sheared pins by anything other than genuine Tirfor® shear pins of the same model.

Before putting the machine back into operation, ensure that the cause of the overload is removed. If necessary, use multiple sheave blocks (Fig. 6). Remember to re-order sheared pins and put them back in the correct place.

10. WIRE ROPE

To guarantee the safe operation of Tirfor® machines, it is essential to use them exclusively with Tirfor® wire rope which has been specially designed to meet the requirements of the Tirfor® machine. Tirfor® wire ropes have a red strand which is visible on new rope.

One end of the wire rope has an end fitting, such as a safety hook, fitted to a thimble fixed by a metal ferrule (Fig. 21). The other end of the wire rope is fused and tapered (Fig. 22).

A wire rope in good condition is a guarantee of safety, to the same extent as a machine in good

condition. It is necessary to continuously monitor the state of the wire rope, to clean and oil it with a rag soaked with motor oil or grease.

Grease or oil containing graphite additives or molybdenum disulphide must not be used.

Visual examination of the wire rope

The wire rope should be examined daily to detect any signs of wear (damage or broken wires: see examples in Fig. 23).

In case of any apparent wear, have the wire rope checked by a competent person. Any wire rope with a reduction from the nominal diameter by more than 10% should be replaced (see Fig. 24 for the correct method of measuring the diameter of a wire rope).



IMPORTANT: It is recommended, specially for lifting applications, to ensure that the length of wire rope is greater than actually required. Allow an extra meter approximately.

When lifting or lowering loads over long lengths of wire rope, steps should be taken to stop the load from rotating to prevent the wire rope from unlaying.

Never allow a tensioned wire rope to rub over sharp edges. The wire rope must only be used with pulleys of an appropriate diameter.

Never expose the wire rope to temperatures beyond 100°C. Never use wire rope that has been subject to damage such as fire, corrosive chemicals or atmosphere, or exposed to electric current.

Storage: see section 7: “Decommissioning and storage”.

11. MAINTENANCE INSTRUCTIONS

The machine should be inspected, cleaned and lubricated at regular intervals, at least annually, by an approved TRACTEL® repairer.

Never use grease or oil containing graphite additives or molybdenum disulphide.

To clean the machine, soak in a bath of approved cleaning fluid but not acetone or derivatives or ethylene trichloride or derivatives. Then shake the machine vigorously to loosen foreign matter and turn it upside down to allow the dirt to come out through the openings for the operating levers. Allow the mechanism to drain and become dry.

After this treatment, **ensure that the machine is well lubricated** by applying a quantity of oil (type SAE 90-120) onto the internal mechanism through the openings for the operating levers, and for the models TU™8 and TU™16, through the special lubrication holes. To carry out this procedure, it is best for the jaw mechanism to be in the released position.

Alternatively operate the forward and reverse operating levers to allow the lubricant to penetrate all parts of the mechanism.

N.B. Excess lubrication cannot cause the machine or wire rope to slip.

Any machine where the side cases show signs of dents or damage, or of which the hook is damaged (models TU™8 and TU™16), should be returned to an approved repairer of TRACTEL®'s network.

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12. WARNINGS AGAINST HAZARDOUS OPERATIONS

The operation of Tirfor® machines, in accordance with the instructions of this manual, is a guarantee of safety. Nevertheless, it is useful to draw the attention of users to the following warnings.

- Tirfor® machines as described in this manual must not be used for lifting people.
- Never attempt to motorise the models of Tirfor® machines described in this manual.
- Tirfor® machines must not be used beyond their maximum working load.
- Tirfor® machines must not be used for applications other than those for which they are intended.
- Never attempt to operate the rope release mechanism whilst the machine is under load.
- Never obstruct the operating levers or the rope release lever.
- Never operate the forward and reverse operating levers at the same time.
- Never use a handle, other than the telescopic operating handle supplied, to operate the Tirfor® machine.
- It is forbidden to replace sheared pins by anything other than genuine Tirfor® shear pins of the same model.
- Never anchor the machine other than by its appropriate anchor point.
- Never obstruct the machine, which could prevent the machine, the wire rope and the anchor points from operating in a straight line.
- Never use the Tirfor® wire rope as a sling.
- Never apply a load to the loose wire rope exiting from the anchor point of the Tirfor® machine.
- Never subject the controls to sharp knocks.
- Never attempt to reverse the rope completely through the machine whilst under load.
- Do not operate the Tirfor® machine when the rope ferrule gets to within 10 cm of the machine. Otherwise the ferrule is likely to foul the casing and push the rope guide inside the machine.
- Do not use this machine if the temperature is less than -20°C or greater than +70°C
- Do not use this machine with a diverter pulley or a sheave which does not meet the essential requirements of standard EN 13157

13. TROUBLESHOOTING

1) The forward operating lever moves freely and does not operate the mechanism: the machine has been overloaded and the shear pins have sheared. They should be replaced as indicated in section 9: "Replacement of shear pins".

2) Pumping:

A lack of lubrication in a Tirfor® machine sometimes brings about a condition known as "pumping" which is not at all dangerous, but which is inconvenient. This situation occurs when the jaw which is gripping the rope becomes locked onto it preventing the other jaw from taking over the load. As the operating lever is moved in one direction the machine travels a few centimeters, but when the operating lever travels in the other direction the machine moves back the same distance in sympathy with the jaw which is locked onto the rope. The Tirfor® machine should be thoroughly lubricated and it will recommence working normally.

3) Jerkiness:

This is also a symptom of lack of lubrication. The Tirfor® machine should be thoroughly lubricated.

4) Blockage:

If the wire rope becomes blocked in the machine, generally because a damaged section of wire rope is stuck within the jaws, it is imperative to stop operating the machine. The load should be taken by another machine on a separate wire rope, or by another means, whilst ensuring that all safety precautions are taken. When the blocked machine is no longer under load, the damaged rope may be released and removed. Should this not be possible, return the machine and wire rope to the manufacturer or an approved repairer.

14. HEALTH AND SAFETY AT WORK

All lifting equipment must be supplied, operated, maintained and tested according to the provisions of the relevant health and safety at work regulations.

It is also the responsibility of every company to ensure that their employees have been fully and properly trained in the safe operation of their equipment

These devices must undergo an initial check before commissioning and periodical checks thereafter.

Ensure that the labels are in place.

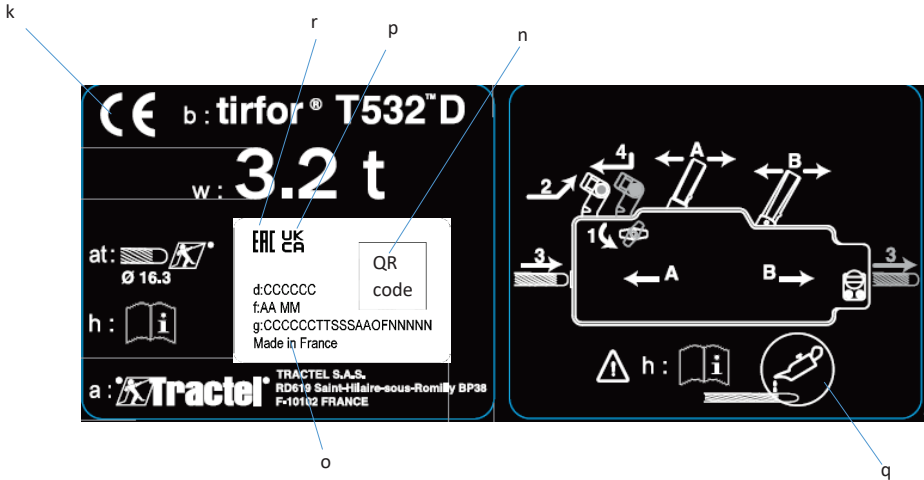
Replacement labels can be supplied on request.

15. DEVICE MARKINGS AND INFORMATION PLATES

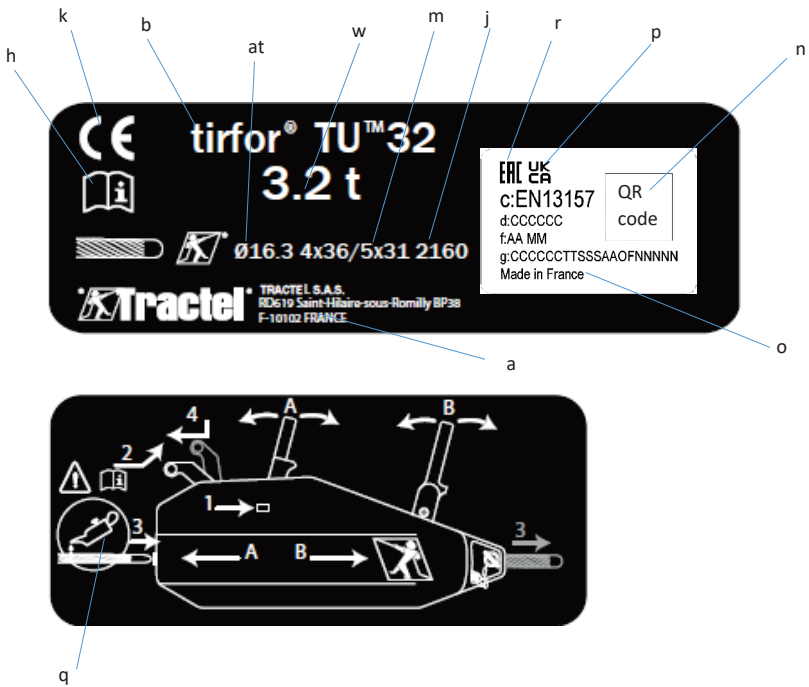
15.1. Labelling and marking

Labels are affixed to each machine in the T500D and TU™ ranges.

T500D machines



TU™ machines



Marking

- a: Name and address of manufacturer
- b: Type of machine
- c: Machine conforms to EN13157
- d: Reference of the technical equipment
- f: AA= last 2 digits of the year of manufacture, MM= month of manufacture
- g: Serial number of the device
- h: Refer to the operating and maintenance instructions
- j: 2160: wire rope class in MPa
- k: CE marking
- m: 4x36/5x31: Rope composition, i.e. 4 strands of 36 wires or 5 strands of 31 wires
- n: Bar code in two dimensions
- o: Manufactured in France
- p: UKCA marking
- q: Lubricate or grease the wire rope thoroughly
- r: EAC marking
- w: Working load limit in tons
- at: Wire rope diameter

The numbers 1 to 4 in the diagram indicate the order in which the operations are performed to feed the Tirfor® wire rope into the machine. The letters A and B in the diagram indicate which lever should be actuated to obtain the indicated direction of travel of the Tirfor® wire cable.

Each T500D machine is identified by its serial No., using the format YY MF NNN stamped on the body of the machine where:

- YY: the last two digits of the year of manufacture
- MF: the No. of the manufacturing file
- NNN: the No. of the machine in the manufacturing file

Each TU™ machine is identified by its serial No. of the type CCCCCTTSSSYMFNNNNN engraved on the machine's rear operating lever.

15.2. Label mentioning prohibitions to be located under the load, using the device to lift people and obligation to read the instruction manual and maintenance manual



