

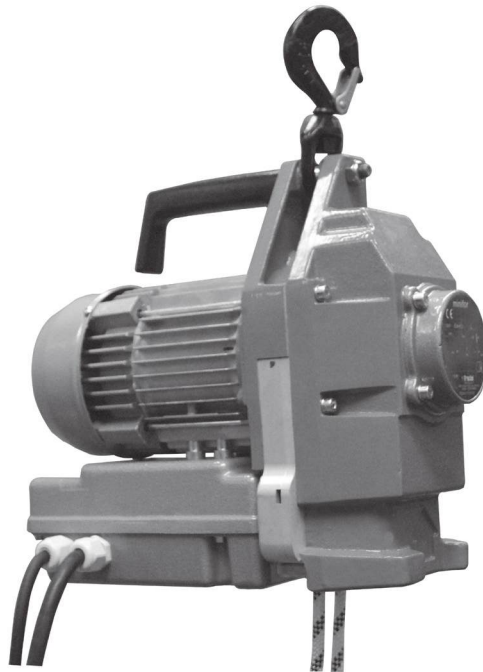
Minifor[™] TR125 SY

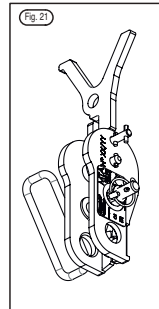
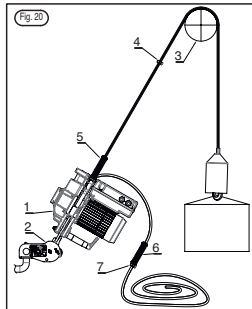
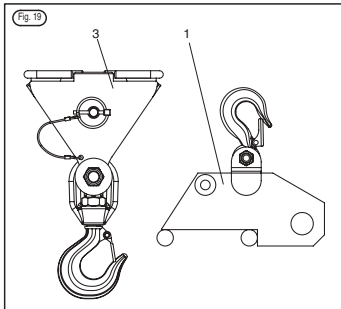
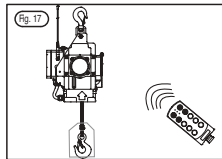
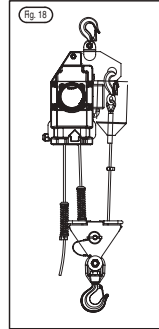
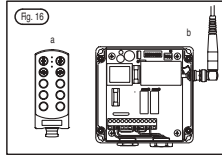
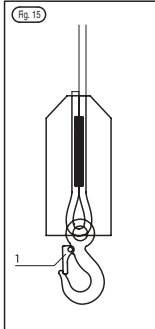
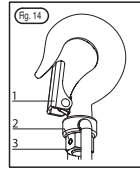
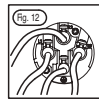
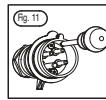
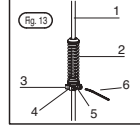
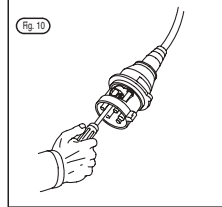
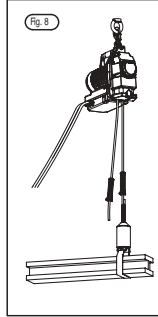
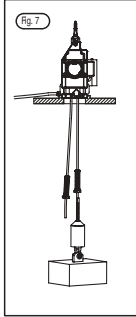
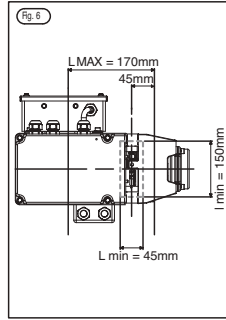
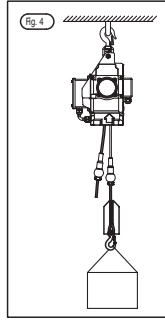
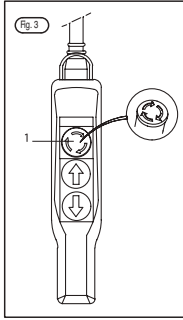
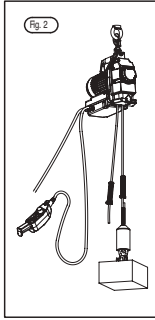
Installation, operating and maintenance manual

English Original manual

EN

EN Electric hoist with Minifor[™] synthetic rope – unlimited lift height





A




GENERAL WARNING



1. Before installing and using this unit, to ensure safe, efficient use of the unit, be sure 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 plates mounted on the unit is missing or if any of the information on the plates, as indicated at the end of the manual, is no longer legible. For markings on the serial plate, identical plates can be supplied on request. These must be secured before you continue to use the hoist.
3. Make sure that all persons operating this unit know perfectly how to use it in a safe way, in observance 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 equipment lifting devices.
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 first verify that he has fully understood all the safety 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 he has fully understood how to safely and efficiently use the unit.
7. The unit must only be installed and set into service under conditions ensuring the installer' safety in compliance with the regulations applicable to its category.
8. Each time, before using the unit, inspect the unit for any visible damage, as well as the accessories used with the unit.
9. Before connecting the hoist to a power source, check that the power source complies with the characteristics of the hoist and that it is secure in compliance with applicable regulations.
10. Tractel® declines any responsibility for use of this unit in a setup configuration not described in this manual.
11. Tractel® declines any responsibility for the consequences of any changes made to the unit or removal of parts forming part of the unit.
12. Tractel® will only guarantee operation of the hoist provided it is equipped with a Minifor™ synthetic rope as specified in this manual.
13. If any assembly or disassembly of the hoist not described in this manual, or any repair performed without Tractel® approval and supervision, will release Tractel® of its responsibility, especially concerning the replacement of genuine parts by parts of a different manufacturer.
14. Any intervention on the Minifor™ synthetic wire rope for the purpose of modifying or repairing the synthetic rope without Tractel® approval and supervision will automatically release Tractel® of any subsequent liability to this intervention.
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 utilization load indicated on the unit. It must never be used in explosive atmospheres.
16. The unit must never be used for lifting people.
17. 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.
18. During the up-down lifting operations, the user must always keep the load in view.
19. The unit must be anchored to a fixed point and to a sufficiently strong structure, keeping in mind the applicable safety coefficient, to support the working load limit indicated in this manual. If several units are used, the strength of the structure and the rigging point must be consistent with the number of hoists used with respect to their Working load limit.
20. This hoist is designed to perform vertical lifting operations only, for the purpose of lifting equipment and materials. Use of the unit for any other purpose, in particular pulling operations or slanted lifting operations, is strictly prohibited.
21. To ensure safe use of the unit, it should be visually inspected and serviced regularly. Regularly check

for signs of corrosion depending on the environment in which the hoist is used.

22. Keeping the Minifor™ synthetic rope in good condition is essential to safe use of the hoist. The condition of the rope should be checked each time the hoist is used as indicated in the "rope" section. Any Minifor™ synthetic rope showing signs of damage must be immediately and definitively discarded.
23. Never park or circulate under a load. Access to the area under the load should be indicated by signs and prohibited.
24. When the unit is not being used, it should be stored in a location inaccessible to persons not authorized to use the unit.
25. When using the hoist, make sure that the Minifor™ synthetic wire rope is constantly tensioned by the load. Pay special attention to make sure that there are no temporary snags by an obstacle when lowering as this could result in rupture of the synthetic rope when the load is released from its obstacle.
26. Have your hoist periodically checked by an approved Tractel® dealer as indicated in this manual.
27. If the unit is to be definitively removed from use, make sure the unit is discarded in a way which will prevent any possible use of the unit. 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.

1. DEFINITIONS AND PICTOGRAMS

The following terms are used in the manual:

"Operator": Person or department in charge of:


1. Assembly of the elements of the product received,
2. Installation, so that the product is ready for use,
3. Utilization of the product for the purpose for which it is intended,
4. Disassembly,
5. Dismantling,
6. Transport for storage and shelving.


"Technician": Qualified, skilled person familiar with the hoist, in charge of the maintenance operations described in this manual.


"After-sales service": Company or department **authorized** by a company of the Tractel® group to perform after-sales service or repairs on the product.

Contact Tractel®.

"Hoist": Minifor™ TR125 SY electric hoist with accessories.

 **DANGER:** For information given to prevent personnel injury, serious or light, or death.

 **IMPORTANT:** For information given to prevent a failure or damage to the product, equipment or environment, but not directly representing a hazard to the life or health of personnel in the vicinity.

 **NOTE:** For information concerning precautions to be taken to ensure safe, efficient, comfortable and damage-free use and maintenance of the equipment.

2. PRESENTATION

2.1. Theory of operation

The Minifor™ TR125 SY is a portable electric hoist for lifting applications, implementing a feed-through Minifor™ synthetic rope operating through a self-gripping system giving potentially unlimited height of lift with the Minifor™ synthetic rope.

The synthetic rope drive system used with the Minifor™ hoist is formed by a special drive pulley, two guide rollers and two grabs.

The grabs lock the Minifor™ synthetic rope in the drive pulley whatever the load. In addition to the effect of the grabs, the locking action on the Minifor™ hoist synthetic rope in the drive pulley is proportional to the load.

This technical design ensures a high level of safety provided the instructions given in this manual in section 5, "Anchoring and rigging arrangements" are carefully followed.

The Minifor™ TR125 SY hoist must only be used with the Minifor™ synthetic rope of the required diameter (see specifications) to ensure complete safety and correct operation.

Tractel® declines any responsibility for any consequences arising from use of the hoist with a synthetic rope other than the Minifor™ synthetic rope.

Each Minifor™ TR125 SY hoist is dynamically tested before dispatch to 110% of the working load limit.

2.2. Composition of a standard delivery and possible options

2.2.1. The standard delivery of a Minifor™ TR125 SY comprises:

1. The hoist, equipped with a carrying handle, a safety hook with latch, an electric power cable with male/female connector and a control cable with button-type control pendant.
2. A plastic bag, containing:
 - A low limit stop,
 - An Allen wrench No. 5 to secure the limit stop on the Minifor™ synthetic rope.
3. Un sachet plastique contenant:
 - This manual,
 - The CE and UKCA declaration of conformity.

2.2.2. The standard delivery of a Minifor™ synthetic rope comprises:

A Minifor™ synthetic rope with length defined on order, equipped at one end with a safety hook, a hook protection device and a high limit stop; on the other end, the synthetic rope is equipped with an insertion fitting. The Minifor™ synthetic rope is supplied on a reel.

2.2.3. Possible options:

- button-type control pendant;
- plug-in radio remote control (see § 10);
- rope hook:
 - self-locking, eye-type,
 - self-locking, swivel type;
- MPM: rigging kit (see section 11);
- MTA: device for securing the Minifor™ onto the ball hitch of a vehicle (see section 12).

2.3. Applicable regulations and standards

The Minifor™ TR125 SY hoist complies with the European Directive 2006/42/EC and the UK Machinery Supply (Safety) Regulations 2008 (SI 2008/1597).


2.4. Description

Figure 2 on page A shows a standard Minifor™ TR125 SY in the most currently used working position, ready to operate, suspended to a ring. The standard hoist is supplied with an electrical control cable with button-type control pendant (fig. 2, page A) and an electric power cable. On request, the unit can be supplied with different control and power supply cable lengths. Each unit carries a serial number on the front panel of the casing. The complete number (including letter) must be given whenever requesting spare parts or repairs.

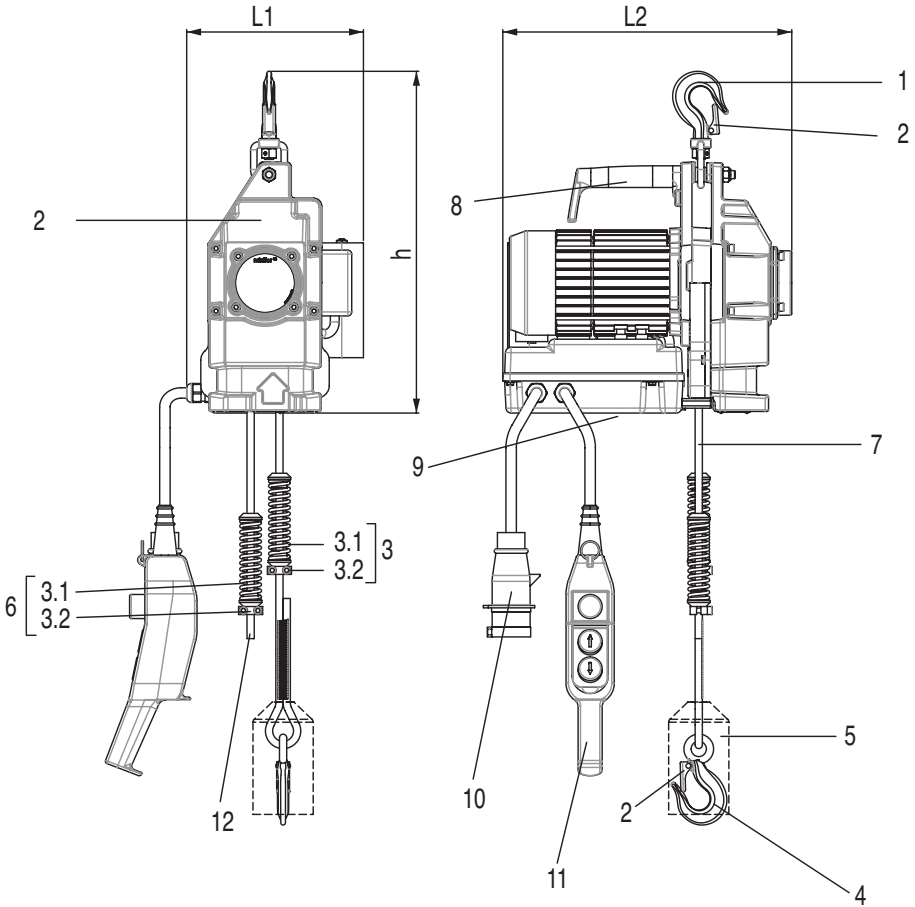
Regularly check that all the labels are in place and can be easily read.

The length of the Minifor™ rope is marked on a label placed on the stitching of the hook fastening loop (see § 16.3).

All the Minifor™ TR125 SY hoists are supplied with a 3-control button-type control pendant (fig. 3, page A): "Up", "Down" and "Emergency stop".

 **NOTE:** the "Up" and "Down" directions are represented on the corresponding control button by an arrow pointing in the direction of the controlled movement, with the unit held in its pendant position (see fig. 3, page A).

3. SPECIFICATIONS



- 1: Latch-type suspension hook
- 2: Safety latch
- 3: Adjustable high limit stop
 - 3.1: Limit stop
 - 3.2: Clamping device
- 4: Latch-type lifting hook
- 5: Hook protection

- 6: Adjustable low limit stop
- 7: Minifor™ synthetic rope
- 8: Handle
- 9: Base
- 10: Electric power connector
- 11: Control pendant
- 12: Insertion fitting

3.1. Minifor™ TR125 SY hoist

Model		115 V	230 V	230 V	400 V
Dimensions (L1 × W2 × H)	mm	220 × 356 × 427	209 × 356 × 427	209 × 375 × 427	209 × 356 × 427
Maximum load for standard use/rigged	kg	125/250	125/250	125/250	125/250
Standard lifting speed/rigged	m/min	15/7.5	15/7.5	30/15	30/15
Type of motor		1~	1~	1~	3~
Power	kW	0.37	0.37	0.75	0.75
Frequency	Hz	50/60	50	50	50
Power supply voltage and current at full load		115 V 9 A	230 V 3.9 A	230 V 6.2 A	400 V 2.25 A
Protection degree of electric motor		IP55	IP55	IP55	IP55
Protection degree of power connector		IP44	IP44	IP44	IP44
Protection degree of control pendant		IP65	IP65	IP65	IP65
Insulation category of control pendant		2	2	2	2
Length of electric power cable	m	1.5	1.5	1.5	1.5
Length of control pendant cable	m	2.5	2.5	2.5	2.5
Poles		4	4	2	2
Duty cycle	%	20 %	30 %	30 %	100 %
Control voltage		115 V	230 V	230 V	48 V
Weight (without cable)	kg	21	20	20	20
A-weighted equivalent continuous sound pressure level*, LAeq (in dBA) at 1 m from hoist	dBA	82	74	77	82
Guaranteed sound pressure level* LwA (in dBA)	dBA	94	86	89	94
Weight of rigging kit	kg	+5	+5	+5	+5

*: measurement performed at WLL (Working Load Limit).

3.2. Minifor™ synthetic rope

Nominal diameter, with no load, of Minifor™ synthetic rope	9.4 mm
Material	Polyester
Weight of cable per meter	63 g/m
Tensile strength of cable	6 kN
Minimum length	20 m
Maximum length	200 m

3.3. Electrical diagrams


See Appendices B

4. REPLACEMENT ACCESSORIES

The following parts and accessories can be procured:

1. High and low and limit stop (inter-changeable).
2. Minifor™ synthetic rope equipped with eye-hook and protection at one end and insertion fitting at the other end.
3. Power supply connector.


5. ANCHORING AND RIGGING THE HOIST

 **NOTE:** visually inspect the condition of the Minifor™ TR125 SY hoist and its synthetic rope before you proceed to install the hoist.


If the hoist is to be installed in a location which is dangerous for the operator, all the necessary safety precautions called for by the applicable work regulations must be taken to eliminate any risk when performing this operation. It may be preferable, in this case, to install the Minifor™ synthetic rope in the hoist before you proceed to anchor it (see § 5.3).

The hoist can be used suspended or seated on its base (item 9, fig. 1, page 6).

5.1. Anchoring the hoist in a suspended position (see fig. 4, page A)

 **DANGER:** Check that the fixed anchoring point is sufficiently strong for the force to be applied.

This is the simplest, most frequently used anchoring configuration. The hoist must only be anchored by its suspension hook (except § 5.2 below) and never by its handle (item 8, fig. 1, page 6).

 **DANGER:** Never anchor the synthetic rope hook to a fixed point to have the hoist work by moving along its rope (fig. 4, page A, mandatory installation).


The hoist hook (item 1, fig. 1, page 6) must be engaged in the anchoring point so that the anchoring point device fully carries the hook. The safety latch on the hook should close completely against the hook nose. If any interference is observed in the swivel joint of the hoist hook with the anchoring device, you must use a sling of appropriate capacity between the anchoring device and the hoist hook.

The load must be suspended freely.


5.2. Anchoring the hoist seated on its base (see fig. 7, page A)

This type of installation requires special precautions:

1. The bearing surface on which the hoist is seated must be flat, horizontal, stable, non-deformable and sufficiently strong with respect to the Working Load Limit of the Minifor™.
2. The support surface must have an opening for the two strands of the minifor synthetic rope; the configuration and dimensions are given in fig. 6, page A showing the seating surface of the hoist and its positioning with respect to the opening on the support.
3. The hoist must be positioned so that the Minifor™ synthetic rope under load does not rub against the sides of the opening and the end limit stops on the synthetic rope are able to come into contact with the limit stop levers on the hoist.
4. The hoist must be wedged so that it does not move in any way on its support surface.
5. The load must be freely suspended.

 **IMPORTANT:** with this installation configuration, never lift a load without first placing it directly under the hoist.

5.3. Rigging the load:

 **IMPORTANT:** Be sure there are no obstacles against which the load or synthetic rope may rub laterally or against which the load may stag.

The load must mandatorily be secured by the hook on the synthetic rope (item 4, fig. 1, page 6) and never by the hook on the hoist.

The load must be rigged using a sling of appropriate capacity, dimension and type for the object to be handled. It is prohibited to use the Minifor™ synthetic rope as a sling by running it around the object with hook fastened to the synthetic rope as a loop (fig. 8, page A correct slinging).

5.4. Rigging

All the above recommendations are particularly applicable when rigging. In this case, special attention must be paid to tensioning (see Chapter 11).

5.5. Device for securing onto a vehicle ball hitch (MTA)

All the above recommendations are particularly applicable when fixing Minifor™ onto a vehicle ball hitch using the MTA. In this case, special attention must be paid to tensioning (see Chapter 12).

6. SETTING UP

6.1. Preliminary checks

1. Load or force, less than or equal to working load limit of hoist.
2. Strength of fixed point or bearing surface sufficient to safely apply a force equal to the working load limit.
3. Correct rigging.
4. Minifor™ synthetic rope in good condition.
5. Length of Minifor™ synthetic rope is sufficient for load hoisting distance. Add an additional length of at least 1.5 m for passage through the hoist and a sufficient length of apparent slack rope.
6. Length of electric control cable sufficient to connect with hoist at operator position defined for safe working conditions.

6.2. Electrical recommendations


1. Before using the hoist with a new connection, refer to the nameplate on the motor. Check the characteristics of the power supply, **single phase or three-phase**, voltage, available amperage. Check that the current supplied is compatible with the characteristics on the motor nameplate. The available current must be equal or greater than the current indicated on the nameplate.
2. If an extension is used, choose an extension having the following characteristics:
 - single phase 230 V: 3 wires (1 phase, 1 neutral, 1 ground) with section 2.5 mm².
 - three-phase 400 V: 4 wires (3 phases, 1 ground) with section of 2.5 mm². These characteristics are valid for up to 50 m of electrical cable. For greater lengths, contact your Tractel® dealer.
3. The electrical extension connection must be reinforced by an accessory ("sock") to withstand the weight of the extension at the connector.
4. If the connector supplied with the electrical power supply cable is to be changed, this intervention must only be performed by a qualified technician. Any intervention on the control box cable must also only be performed by a qualified technician. No intervention should be performed on the electrical unit of the hoist (except for changing a fuse), by anyone other than a Tractel®-approved repair agent.
5. Make sure that the installation on the worksite or building on which the Minifor™ TR125 SY is connected is equipped with the regulatory electrical safety devices (local and national regulations) such as, among others, a differential circuit-breaker and a ground connection, protecting the operator, the


Minifor™ TR125 SY and its equipment.

6. If the Minifor™ TR125 SY is supplied from an electric power generator, check that it provides (at minimum) the required startup voltage and power (6 kVA).
7. The Minifor™ TR125 SY three-phase hoists are equipped with a phase direction detector inhibiting operation if the phases are inverted. If the motor does not operate, proceed as instructed below (procedure to be carried out by a qualified electrician):
 - a) 400 V version:
 - disconnect the electric power connector (item 10, fig. 1, page 6),
 - using a screwdriver, turn the notch in the male connector by 180° to reestablish the correct phase order (fig. 10, page A).

6.3. Installing the Minifor™ synthetic rope in the hoist and adjusting the end limit stops.

1. Connect the electric power connector to a power outlet.
2. Fully insert the insertion fitting by hand in the hoist through the opening provided for this purpose where marked by an arrow on the casing.

 **DANGER:** Make sure the hand holding the Minifor™ synthetic rope is placed at least 15 cm from the insertion opening.

 **IMPORTANT:** never insert the synthetic rope in the other opening which is exclusively intended for the rope exit.

Never secure a load on a slack section of Minifor™ synthetic rope.

3. Press the "Up" button on the control pendant while pushing the synthetic rope so that it engages on the pulley located inside the hoist.
4. Once the Minifor™ synthetic rope is driven by the drive system, **release it**.
5. When the synthetic rope comes out of the hoist, continue the movement to obtain a length of rope of around 1 meter coming out of the hoist.
6. On the free end of the Minifor™ synthetic rope (item 1, fig. 13, page A), slip on the low limit stop (item 2) then the clamping device (items 3–4–5) and tighten the two screws (item 5) using an Allen wrench (item 6). **There should be one meter of synthetic rope between the limit stop and the end of the Minifor™ synthetic rope.**
7. Check that the limit stop does not slide on the synthetic rope (fig. 13, page A).



NOTE: If you wish to further limit the travel distance of the load downward, run the synthetic rope to the desired length before you secure the limit stop.

On the other end, secure the upper limit stop clamping device in accordance with the height at which you want to limit the travel of the load upward. Secure and check by applying the same procedure performed for the low limit stop.

Check that the hoist limit levers operate correctly, as well as the other safety devices as described in section 9.



DANGER: It is an absolute safety requirement to ensure that there is a limit stop at around one meter ahead of the free end of the synthetic rope and another limit stop on the hook side of the synthetic rope, both securely and appropriately fastened.

6.4. Check with load

With the load fastened, lift it slightly and check that the “Up” and “Down” controls operate correctly; also check operation of the “Emergency stop” control.

Once you have ensured that these functions operate correctly, you can proceed with the maneuvers.

If the unit does not operate correctly, return it to a Tractel®-approved repair agent (Also see section 6.2).

7. OPERATING THE HOIST

The hoist is operated by pressing on either the “Up” or “Down” button on the control box (fig. 3, page A). The control box must always be held in the vertical position, hanging on its control cable. Never turn over the control box (control cable entry downward) as this can result in control mistakes.

When the “Up” or “Down” button is released, the movement stops



IMPORTANT: For lifting operations at great heights using a single phase Minifor™ TR125 SY hoist, the unit should be stopped for around 15 minutes after 15 minutes of operation for the 230 V versions and after 10 minutes of operation for the 115 V versions.



DANGER: The temperature of the hoist casing, when the unit is operating, can reach 80°C. Beware that any contact with the hoist casing can result in severe burns.

The red emergency stop button is used to immediately stop movement in the event of a malfunction of the “Up” or “Down” button (item 1, fig. 3, page A). (see § 9: Safety devices).

The following precautions must be taken when performing up or down movements:

- the load should not swing or turn,
- keep all possible obstacles at a distance from the synthetic rope and from the load,
- check that the loose strand is free along its entire length,
- do not allow the loaded strand to become loose if the load is not stable on a sufficiently strong support,
- do not apply short successive actions on the pushbuttons,
- make sure that the load to be moved is not attached or blocked by anything external to the lifting device.



DANGER: It is essential to keep the slack away from the loaded rope and the two loaded ropes in the rigged assembly, so that the slack does not tangle with the other ropes. For the same reasons, the loose rope strand must be kept away from any obstacle which could catch it and you should be careful to prevent the loose strand from becoming tangled in itself; this could result in preventing the low limit stop attached to the loose strand from reaching the stopping mechanisms (limit stop levers) on the unit. Blockage of the loose strand when moving up (load moving down) can result in rupture of the synthetic rope and falling of the load.

A deformation of the Minifor™ synthetic rope can also result in jamming of the hoist. Whatever the cause of a jam, be sure to immediately stop the maneuver.

The limit stops are not control components but safety components. These should never be used intentionally in this respect and only serve as stopping mechanisms in the event of unintentional overshoot of the planned travel distance.

Never remain stationed or work under a load. Mark out the working area using barriers to prevent anyone from passing under the load.

Never use the hoist to lift or carry persons.

8. SHUTDOWN – STORAGE

Never disconnect the synthetic rope hook from the load until the load is bearing and stable on a fixed support of sufficient strength.

The hoist can remain in position provided it is properly sheltered from weather and located in a dry location. Disconnect the unit electrically when not in use.

Make sure the hoist cannot be used by unauthorized persons.

For storage, the unit can be stored in its case. The Minifor™ synthetic rope should be removed from the unit and reeled. The Minifor™ synthetic rope must be stored in a cool, dry location, free of any mechanical stresses such as crushing, pressure or traction.



IMPORTANT: If the hoist is seated on its base when the synthetic rope is engaged in the unit, this will result in bending the synthetic rope resulting in possible damage. Before use, visually inspect the synthetic rope to make sure that the sheath of the synthetic rope is not cut or polluted with small stones or other debris. If the synthetic rope is damaged, replace it with a new Minifor™ synthetic rope and immediately eliminate the old synthetic rope in observance of all applicable environment regulations.

9. SAFETY DEVICES

The hoist is provided with the following safety devices:

- A no-current brake motor,
- Motor equipped with a thermal probe which blocks the motor in the event of overheating,
- Emergency stop control on control box – Red button (see item 1, fig. 3, page A),
- Mechanical interlock, prohibiting simultaneous action of Up and Down controls,
- High and low limit stop levers on hoist which work with the limit stops on the Minifor™ synthetic rope,
- Safety latches (item 1, fig. 14 And fig. 15, Page a),
- Electrical protection of hoist (see § 3.1),
- Control protection fuse, in electrical unit.

The emergency stop function is ensured by pressing the red button (item 1, fig. 3, page A). To restart the unit after an emergency stop, the emergency stop button must be unlocked by turning it in the direction of the arrows marked on the button, after having ensured that all the emergency conditions have been eliminated.

10. MINIFOR™ HOIST WITH RADIO REMOTE CONTROL

Certain Minifor™ models can be supplied optionally equipped with a remote control system comprising a portable control transmitter (Fig. 16.a) and a receiver on the unit (Fig. 16.b). The transmitter operates on a battery and a charger is supplied. This system will allow you to conduct lifting and lowering operations, and stopping of the hoist without the need for a control cable. It operates by transmitting a coded RF signal.

The code of each hoist can be changed by the user; this is primarily useful when several remote-controlled units are operated on the same site.

The transmitter and receiver keys must be configured to the same code. Refer to the radio remote control manufacturer's documents supplied with the unit.

We strongly recommend that the load always be in sight when operating the Minifor™ hoist with a radio remote control. If this is not possible, appropriate measures must be taken to eliminate any possible risks.

N.B.: The transmitter unit must be handled and stored with care to avoid any damage due to impacts.

NOTE: Failure to change the coding can result in nearly identical movements by all the radio controlled devices within range at the worksite when you control an action on your transmitter.

NOTE: The radio range when the transmitter is facing the front of the receiver is max. 500 m in open field.

Caution! This range can however differ in other situations due, in particular to:

- The presence of obstacles.
- The existence of electromagnetic interference.
- Certain atmospheric conditions.

In the event of trouble using the system or for special applications, contact the Tractel® network.

NOTE: When operating the hoist, you must keep in mind that there is a slight system reaction time. **Operating several hoists from the same transmitter will therefore not allow thorough and accurate synchronisation of the hoist.**

This remote control system is approved in France by the telecommunications regulation body (ART) with no obligation for an individual license. No changes should be made to this remote control system.

Use of the Minifor™ hoist with radio remote control outside France is subject to verification of compatibility of the system with the local regulations governing the use of radio equipment.

Radio remote-controlled Minifor™ hoists do not come with control pendants connected by a control cable (Optional, on request).

11. MINIFOR™ RIGGED

11.1. Description

The minifor MPM™ rigging kit can be mounted on the Minifor™ TR125SY model.

This arrangement doubles the capacity (WLL) of the unit. However, the speed is halved.

The Minifor™ should not be rigged other than using the Minifor™ MPM rigging kit. No additional system should be added.

The rigging kit for Minifor™ includes (Fig. 19):


- An attachment of the suspension cable (item 1);
- A rigging pulley with latch hook as standard (item 3) (or self-locking hook as option);
- An assembly manual code 234015.

This kit should only be used for rigging a Minifor™.

11.2. Assembly

Users should note that when rigging, the necessary rope length is at least twice the lift height plus 2 m with a meter of obvious slack.

The end-of-run sliding stop on the rigging pulley is designed to replace the top end-of-run that comes with the rope. However, if you want to limit the upward run, you can add a clamp collar on the rope, placed between the pulley and the upper end-of-run stop.

 **IMPORTANT:** When rigging, double the maximum load in use to be considered for safety calculation.

NOTE: Take care to mount the rigging pulley so that the sliding end-of-run is located on the rope between the pulley and the rope entry of the unit. See rigging kit manual. Figure 18 shows the configuration of the rigged Minifor™.

NOTE: Given the risk of tangling the strands of the lifting rope, we recommended that the Minifor™ should only be used for direct vertical lifting (Fig. 4) when rigged.

11.3. Manoeuvre

When operating with the rigging system, the operator will ensure specifically that the load is cannot spin, to prevent tangling of the three strands of the rope (two loaded strands + slack). Immediately stop the movement of the load if the slack tangles with the other strands and untangle it before resuming movement. For further details on the use of the rigged Minifor™ rigging kit.

12. MINIFOR™ SECURED ONTO A VEHICLE BALL HITCH USING THE MTA (FIG. 20)

12.1. Description

The MTA kit secures the Minifor™ TR125SY onto a vehicle's ball hitch. This arrangement avoids installing a high winch. The MTA is provided with a device for angular adjustment of Minifor™ according to the height position of the return pulley and of the vehicle position.

The MTA kit includes (Fig. 21):

- An MTA device,
- An assembly manual code 144555

This kit should only be used with the Minifor™ TR125SY.

12.2. Assembly


 **IMPORTANT:** Observe the assembly instructions mentioned in the assembly manual code 144555.

Figure 20 shows the configuration of the rigged Minifor™ (item 1) used with the MTA (item 2):


Item 3: return pulley (not supplied with the MTA kit),

Item 4: clamp for activating the upper end-of-run switch when it comes to a stop with the upper limit end-of-run stop Item 5,

Item 5: upper end-of-run stop of the device,

Item 6: lower end-of-travel stop,

Item 7: clamp enabling activation of the lower end-of-travel stop.


 **IMPORTANT:** the length of the hoisting rope is determined by the height of lifting of the load and the distance between the return pulley and the parking position of the vehicle.

12.3. Manoeuvre

The operation is identical to that used in the Minifor™ used vertically.

NOTE: avoid tangling the slack strand on the ground while the load is rising. During the opposite movement, it may form a knot causing blocking of the apparatus.

If this happens, stop movement immediately.

 **IMPORTANT:** Before each use, the vehicle must be completely immobilised.


13. MINIFOR™ SYNTHETIC ROPE

At one of its ends, the synthetic rope comprises of:

- A hook with safety latch mounted on a stitched and sheathed rope loop,
- A sliding protective sleeve (see item 5, fig. 1, page 6). When there is no load on the system, the sleeve covers the hook to prevent damage from the environment which may be caused by possible impacts due to a back and forth movement of the hook. To fasten a load, the sleeve must be pushed upward to uncover the hook and allow fastening of the load.


The other end is specially prepared for insertion in the unit.


To ensure safe use of the Minifor™ TR125 SY hoists, they must only be used with the Minifor™ synthetic rope specially designed for these units, having a diameter of 9.4 mm.

 **DANGER:** Use of a Minifor™ synthetic rope showing any damage or which is not suited to the hoist represents a major accident and failure hazard. The rope must be checked regularly to ensure that it is in good operating condition, and should be immediately eliminated should any signs of damage be observed on the outer layer (sheath) making the core visible, or following contact with chemical substances such as acids, alkalines or phenols.

The reeled Minifor™ synthetic rope must be stored in a dry location.

Contact of the synthetic rope with products such as oil or grease will have no impact on the synthetic rope as long as these products do not contain chemical substances as indicated in the DANGER section above.

 **NOTE:** The service life of the synthetic rope is limited to 400 up/down cycles. Beyond this limit, the Minifor™ synthetic rope must be eliminated and replaced by a new Minifor™ synthetic rope.

 **IMPORTANT:** The Minifor™ synthetic rope is made of synthetic fiber. For this reason, any contact with a flame will result in destruction of the rope. The utilization temperature range of the Minifor™ synthetic rope when dry is -10°C / +50°C.

14. SERVICING

Servicing the unit consists in regularly checking that it is in good condition, in cleaning it and having it periodically inspected (at least once a year) by a Tractel®-approved repair agent.

The inspection and maintenance sheet is located at the end of this manual.

Make sure that:


- the suspension hook attaching nut (item 3, fig. 14, page A) is properly tightened and that the nut locking pin (item 2, fig. 14, page A) is in place,
- the handle mounting locknut is properly tightened.

Change if necessary.

Any visible damage to the hoist or its equipment, particularly its hooks and electrical conductors, should be repaired before the system is used again.

Any visible damage or any contact with chemical substances (see § 10 Danger) of the synthetic rope requires that the rope be eliminated and replaced by a new Minifor™ synthetic rope.

The synthetic rope can be cleaned locally if necessary. It should be washed using warm water (if necessary, with a neutral soap). Rinse thoroughly. Drying should take place at ambient temperature, and never near a source of direct heat.

 **NOTE:** The hoist should only be opened by an approved Tractel® repair agent, except to replace the fuse in the electrical unit.

The hoist must always be shut down before it is opened.

15. INCORRECT, PROHIBITED USE OF HOIST

To ensure safe use of your Minifor™ TR125 SY hoist, you must strictly comply with the instructions given in this manual. You should also be careful never to perform any of the following incorrect operations:

Never:

- Use the equipment described in this manual to lift or carry persons.
- Use the hoist if it has not been inspected over the past year.
- Suspend the hoist to a structure not having sufficient strength.
- Raise or lower a load without having a complete view of the entire path.
- Use the hoist for any operation other than those for which it is intended, or follow any other assembly diagrams other than those described in this manual.

- Use the hoist with loads exceeding its working load limit.
- Anchor the hoist by its carrying handle.
- Use the hoist without first making sure that the high and low limit stops are in place.
- Attempt to lift loads which are fixed or blocked.
- Apply lateral traction on the load.
- Connect the hoist to a connector without first making sure of the power outlet's compatibility with the hoist and for presence of the regulatory electrical safety devices on the power outlet circuits.
- Pull a load along the ground.
- Apply a load or force, particularly a traction, on the slack section of the synthetic rope.
- Use the hoist seated on its base without correctly wedging it to a sufficiently strong host structure.
- Allow the load to swing under the hoist.
- Take position or move around under the load.
- Place your hand or any other part of your body near the synthetic rope passage or drive mechanism openings.
- Block the hoist in a fixed position or prevent it from self-aligning with the load.
- Use the hoist without first having checked correct operation of all its safety equipment.
- Use the hoist for any application other than vertical lifting of material loads.
- Use the Minifor™ synthetic rope as a slinging device.
- Use any other synthetic rope other than the Minifor™ synthetic rope.
- Allow a tensioned synthetic rope or a load to rub against or snag on an obstacle.
- Expose the Minifor™ synthetic rope to chemical substances containing acids.
- Use the hoist with a damaged Minifor™ synthetic rope.
- Touch the cooling fins while the motor is turning.
- Use the hoist in an explosive environment (hoist not compliant with ATEX directive).
- Use the hoist or its synthetic rope when the temperature is less than -10°C or greater than +50°C.
- Use the hoist when the wind speed is greater than 50 km/h.
- Press the control buttons haphazardly repeatedly, or too quickly.
- Maneuver the hoist by its electric power cable.
- Perform any modification not described in this manual
- Use a high-pressure cleaner or chemical products (acids, chlorinated products) to clean the hoist.
- To secure the Minifor™ to the hitch of the vehicle by any other means than the MTA device.
- To move the vehicle with the Minifor™ in use.
- To use the MPM with the end-of-travel stop misplaced.

16. MALFUNCTIONS

Malfunctions	Possible causes	Corrective actions
<p>1 – Minifor™ synthetic rope blocks or jams.</p>	<ul style="list-style-type: none"> – deterioration of synthetic rope inside the hoist. 	<ul style="list-style-type: none"> – immediately stop the maneuver. – take the load using another means providing the same regulatory safety guaranties and clear the hoist once the load has been removed. Try to remove the synthetic rope from the hoist. If this is not possible, return the hoist and its Minifor™ synthetic rope to a Tractel® approved repair agent. – if an anomaly is observed on the synthetic rope, eliminate the synthetic rope.
	<ul style="list-style-type: none"> – the slack strand has caught up around another strand or an obstacle. 	<ul style="list-style-type: none"> – be sure to clear the slack section of rope and check the synthetic rope before resuming the movement.
	<ul style="list-style-type: none"> – load has caught up on something while rising. 	<ul style="list-style-type: none"> – unhook the load and check the synthetic rope before resuming the movement.
<p>2 – No motor rotation.</p>	<ul style="list-style-type: none"> – emergency stop has been triggered. 	<ul style="list-style-type: none"> – release the emergency stop button (rotation).
	<ul style="list-style-type: none"> – end of run lever in the appliance has triggered. 	<ul style="list-style-type: none"> – if the stop has been caused by the action of the end of run stop on the lever, turn it backwards.
	<ul style="list-style-type: none"> – fuse has blown. 	<ul style="list-style-type: none"> – change the fuse (control protection 2A fuse). This should be performed by a technician.
	<ul style="list-style-type: none"> – power down, defective plug or connector. 	<ul style="list-style-type: none"> – have repair performed by a technician.
	<ul style="list-style-type: none"> – defective contacts or control box. 	<ul style="list-style-type: none"> – return the hoist to a Tractel® approved repair agent.
	<ul style="list-style-type: none"> – motor is too hot (intensive use, insufficient ventilation, high ambient temperature) and thermal probe has triggered. 	<ul style="list-style-type: none"> – allow to cool.
<p>3 – Motor rotation in one direction only.</p>	<ul style="list-style-type: none"> – limit stop lever damaged or blocked. 	<ul style="list-style-type: none"> – return the hoist to a Tractel® approved repair agent.
	<ul style="list-style-type: none"> – contactor or control pendant faulty. – coil of contactor burnt out. 	

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Malfunctions	Possible causes	Corrective actions
4 – Feeble motor rotation with "groaning".	<ul style="list-style-type: none"> – defective power supply. – major drop in voltage. – electromagnetic brake jammed shut. – insufficient torque on startup (motor coil winding cutout). – reduction gear or brake faulty. 	<ul style="list-style-type: none"> – check the power supply voltage. – return the equipment to a Tractel® approved repair service if the power supply voltage or surges are not the cause.
	– overload.	– reduce the load.
5 – Minifor™ synthetic rope cannot be inserted.	<ul style="list-style-type: none"> – insertion fitting damaged. – internal guide parts damaged. 	<ul style="list-style-type: none"> – return Minifor™ synthetic rope to a Tractel® approved repair agent. – return the hoist to a Tractel® approved repair agent.
6 – Minifor™ synthetic rope slides or slips during up movement.	<ul style="list-style-type: none"> – Minifor™ synthetic rope damaged. – excessive wear on drive system. 	<ul style="list-style-type: none"> – eliminate it and replace it by a new Minifor™ synthetic rope. – return the hoist to a Tractel® approved repair agent.
7 – Down movement of load is no longer braked: synthetic rope slides even though motor is stopped.	<ul style="list-style-type: none"> – brake maladjusted. – worn brake shoes. – brake shoes tainted by oil or grease. 	<ul style="list-style-type: none"> – return the hoist to a Tractel® approved repair agent.
8 – The motor cuts out during a manoeuvre.	– after intense usage the motor is too hot and the heat probe triggers.	– wait for cooling.

17. REGULATORY INSPECTIONS

In France, lifting equipment is subject to an initial inspection before commissioning, and periodic inspections (law dated March 01, 2004) during the service life of the equipment.

The regulatory inspections must be consistent with the regulations of the country in which the hoist is used

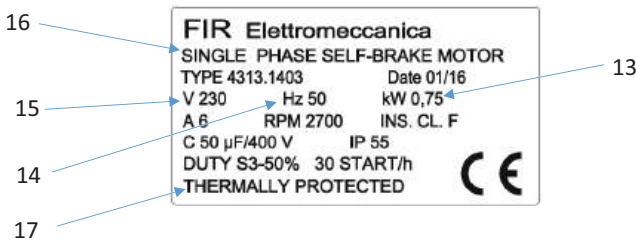
18. MARKINGS AND PLATES ON HOISTS

18.1. Markings and nameplate on Minifor™ TR125 SY hoist



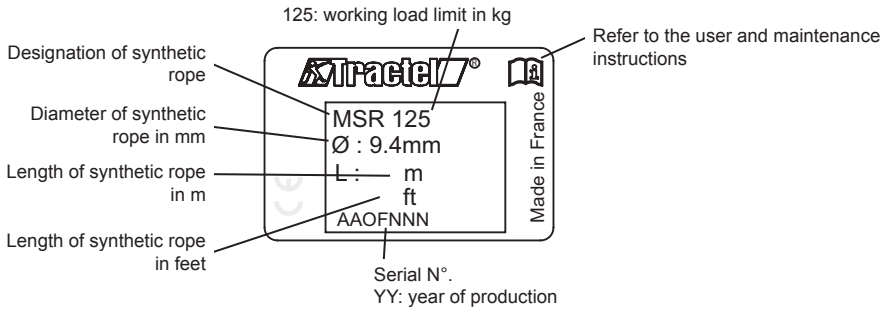
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|--|--|
| 1: Minimum breaking load of the synthetic rope | 6: Serial number |
| 2: Certification markings: CE, EAC, UKCA | 7: Refer to the operating and maintenance instructions |
| 3: Manufacturer's name and address | 8: Diameter of the synthetic rope |
| 4: Made in France | 9: Guaranteed acoustic power |
| 5: Year of manufacture XX/YY
XX : last 2 digits of the year of manufacture
YY : month of manufacture | 10: Working load limit |
| | 11: Type of device |
| | 12: Lifting and lowering speed |

18.2. Markings and nameplate on motor of Minifor™ TR125 SY hoist



- | |
|------------------------------|
| 13: Motor power |
| 14: Motor supply frequency |
| 15: Motor supply voltage |
| 16: Number of phases |
| 17: Motor thermal protection |

18.3. Markings on Minifor™ synthetic rope



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