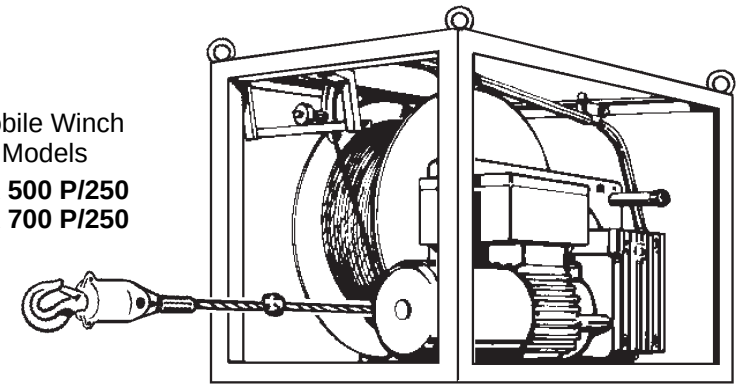
The Mobile Winch with TIRAK®

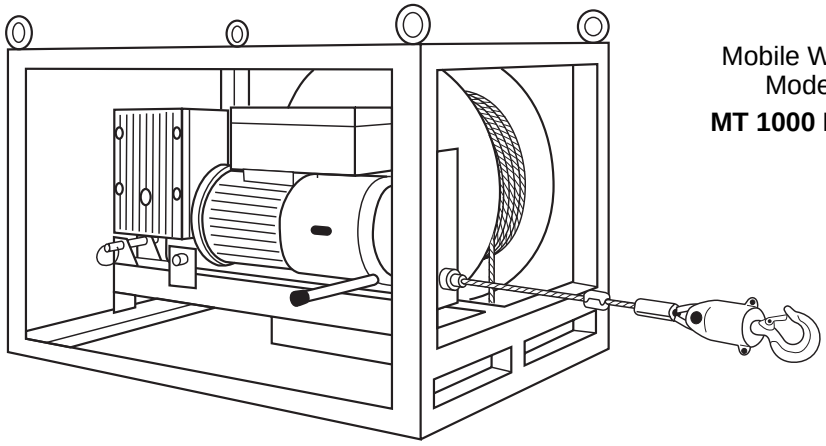
for Material Transport
with wire rope winder for 250 m of wire rope

Operating and Maintenance Manual

This manual must be available for the user at all times.
Additional copies can be obtained on request.

Mobile Winch
Models
MX 500 P/250
MX 700 P/250





Mobile Winch
Model
MT 1000 P/250

CE

Specification:

Model: | | | | | | Serial N°: | | | | | Delivery Date: | | | | | |

Greifzug GmbH

A TRACTEL Group Company

Contents

1. Warning Advice

Failure to follow all instructions contained in this manual **and all Safety regulations may result in injury.**

Anchoring, maintenance, and/or operation of “Mobile Winches with TIRAK®” must only be carried out by persons, who are fully trained and authorised to anchor, maintain, and/or operate the winch by their employer.

The operator should know and follow the employers safety rules and worksite regulations as well as the manufacturers instructions and safety rules in this manual.

All “Mobile Winches with TIRAK®”, wire ropes, anchoring points and other anchoring devices such as slings, pulleys etc. should be inspected prior to use and in good condition.

It is stressed that the TIRAK® wire rope is not a standard production rope, and the manufacturer (or Group company) declines all responsibility and/or warranty claims if rope other than the prescribed TIRAK® wire rope is used in the equipment.

“Mobile Winches with TIRAK®” must not be overloaded.

The manufacturer (or Group company) declines all liability for damages caused by either modifications or alterations of the winch, other than those carried out by the manufacturer, or the use of non-original spare parts.

2. Machine Description

2.1 Purpose

The “Mobile Winch with TIRAK®” is a portable, electrically driven hoist for lifting, lowering, and pulling of loads by means of a TIRAK® wire rope recommended by the manufacturer. This wire rope is mandatory for the safe and troublefree working with the “Mobile Winch with TIRAK®”.

2.2 Working principle

Provided that the “Mobile Winch with TIRAK®” is aligned in direction of pull, it will work in any position and in any direction.

For either lifting or lowering there is one corresponding push button. The wire rope is driven through the hoist with constantly even safety and is stored in the rope reeler. The reeler is automatically driven by the in-running resp. out-running wire rope.

The “Mobile Winch with TIRAK®” of **MT 1000** series with a capacity of 1000 kgs is complete with a pulling force limiting device.

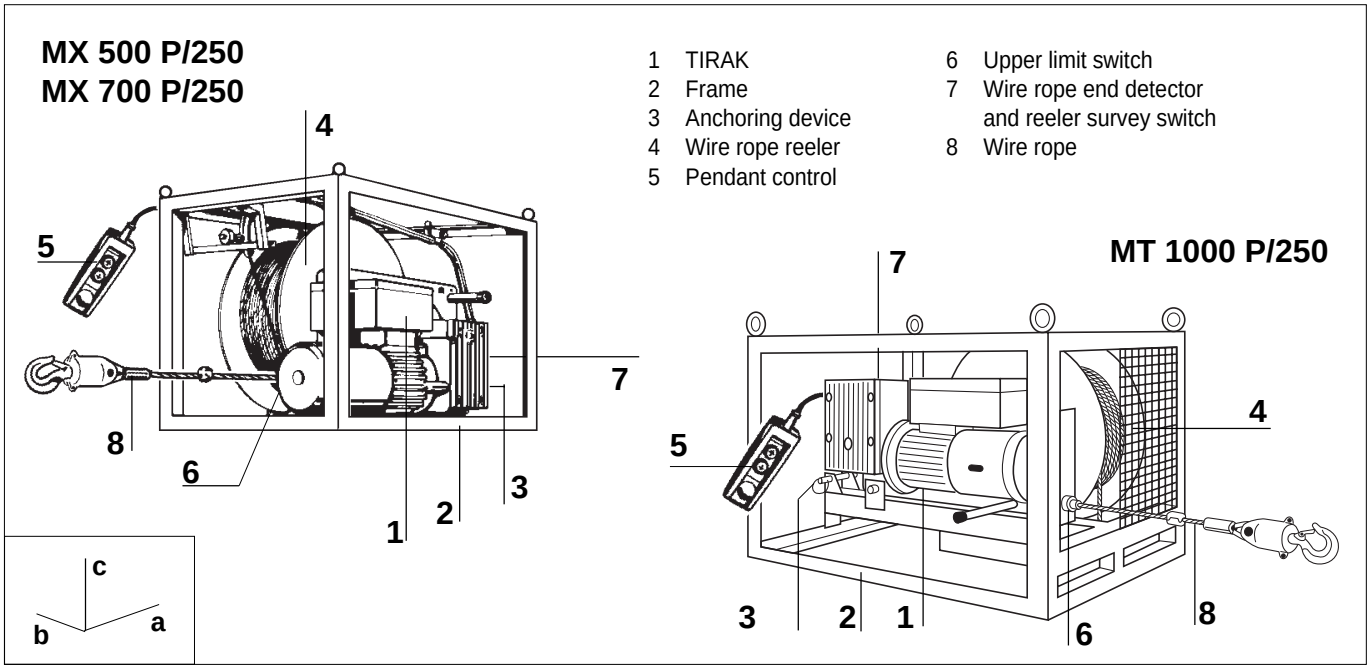
MAN-RIDING is **not allowed**,
unless the following conditions are met:

- The “**Mobile Winch with TIRAK®**” winch must be **suitable for man-riding**, **and**
- A **secondary fall arrest device**, operating **on a separate safety wire rope must be provided**;the **Primary and Safety rope** must **not be attached to the same anchor point**, **and**
- the **Man-riding installation** and suspension system **must comply with all relevant Safety Regulations in force for such installations**.

Where a TIRAK® machine is used as part of a suspended access system the manufacturer of the system is responsible for the design and construction of the system. The user is responsible for the safe use of the equipment having read and understood the instruction manual(s) supplied by the manufacturer.

2.3 Main components and operating controls

Fig. 1



2.4 Technical Data

Design according to DIN 15 020, transmission group 1 B_m.

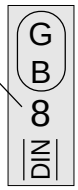
Technical modifications reserved.

Mobile winch with TIRAK®	Capacity	Wire rope speed	Type of drive	Output	Rated current	TIRAK rope Ø	Dead weight approx.	Dimensions		
								a	b	c
Typ	kg[1]	m/min	–[2]	kW	A	mm	kg[3]	mm	mm	mm
MX 500 P/250	**500**	4,5	D	0,5	2,0	8	82	800	630	653
		9	D	0,9	2,8		(145)			
		4,5/9	D	0,5/0,9	2,9/3,0					
		4,5/18	D	0,5/1,8	2,0/5,0					
		9/18	D	0,9/1,8	3,6/5,8					
		9	W	0,85	6,5					
MX 700 P/250	**700**	4,5	D	0,75	3,2	8	87	800	630	653
		9	D	1,5	3,9		(150)			
		4,5/9	D	0,75/1,5	3,0/3,9					
		4,5/18	D	0,75/3,0	3,6/8,2					
		9/18	D	1,5/3,0	4/8					
		9	W	1,5	9,5					
MT 1000 P/250	**980**	4,5	D	0,9	3,7	8	145	800	630	653
	(1000[4])	9	D	1,9	4,6		(210)			
		4,5/9	D	0,9/1,9	3,6/4,6					
		4,5/18	D	0,9/3,6	4,0/9,7					
		9/18	D	1,9/3,6	5,5/9,5					

1) If the capacity is not sufficient in direct pull, multiply it by reeving the rope according to the block and tackle principle. Details on page 4.
2) D = 400 V three phase; W = 230 V single phase.
3) without wire rope
4) with Lifting force limiter

2.5 Wire Ropes

Diameter: 8 mm (see ferrule)
Construction: **non rotating**
Equipment: **Swivelling hook**
Marking: One core red colored
Weight: 0.25 kg/m



2.6 Noise emission (at 1m distance)

"Mobile Winch with TIRAK®"
Type
MX 300 P/80: ..... max. 72 dB(A)
MX 500 P/80,
MX 700 P/80 und
MT 1000 P/80: ..... max. 70 dB(A)

3. Setting up

3.1 Required equipment

a) "Mobile Winch with TIRAK®" of correct capacity.
b) TIRAK® wire rope with correct diameter and of sufficient length.
c) Electric supply cable of correct type and required length, with sufficient leads cross sectional area.
d) Anchoring devices for fixing both the hoist and the load (i.e. slings, belts or similar) of sufficient strength.
e) Pulleys (if required) for diverting or reeving the wire rope of sufficient strength and diameter.
f) Oil to lubricate the wire rope.

Thoroughly inspect all equipment to ensure there are no faults!

3.2 Transport

The "Mobile Winch with TIRAK®" can be carried by its frame. For the transport by crane fasten slings or similar carrying devices to the eye bolts of the frame.

3.3 Mounting

3.3.1 Choice of the anchor point

a) The anchor point (Fig. 2 and 4) resp. the wall/ceiling (Fig. 3/3a) must be checked by a **competent person** to ensure it is **of sufficient strength** to take the load and any shock load imposed.

b) If you want to lift/pull through an opening in the wall or ceiling **capable of taking the load**, simply site the "Mobile Winch with TIRAK®" by or above the hole (Fig. 3).

If the hole is not big enough for the rope hook to pass through, position the "Mobile Winch with TIRAK®" and pass the wire rope through the hole and then into the hoist (Fig. 3a).

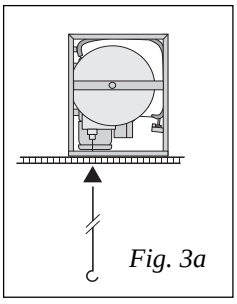


Fig. 3a

Details for wire rope installation see chapter 7, on pages 8/9.

3.3.2 Increasing the capacity by reeving the wire rope

If the capacity of the "Mobile Winch with TIRAK®" is not sufficient in direct pull, it can be multiplied by reeving the wire rope according to the block and tackle principle (Fig. 5).

But double capacity means **half speed.**

ATTENTION! A competent person must check –

a) that the pulleys and the anchoring devices as well as all anchor points are of sufficient strength, and
b) that the pulleys are of the correct diameter.

Important for **horizontal pull**:
Do not confuse the **dead weight** of the load with the **effort required** to pull it: the TIRAK® has only to overcome the friction coefficient.

Anchoring examples:

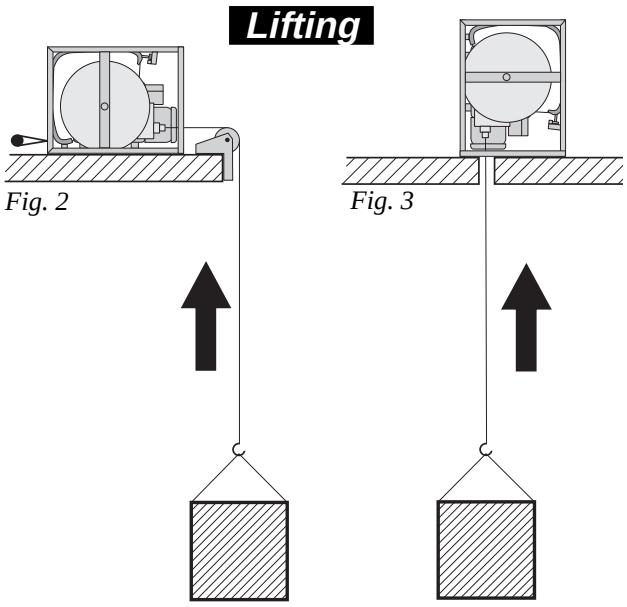


Fig. 2
Fig. 3

Fig. 4

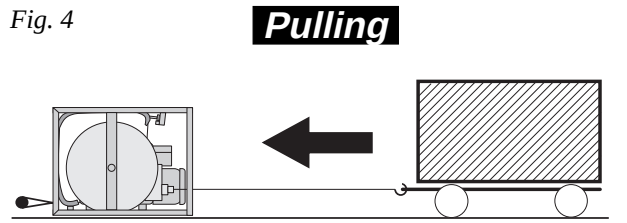
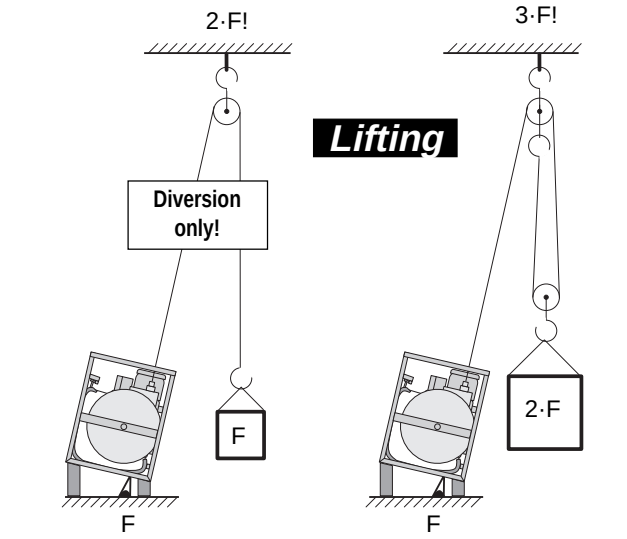
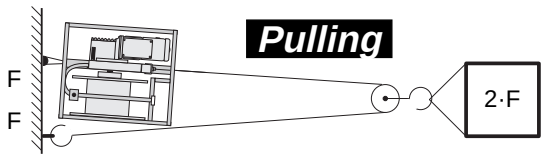


Fig. 5



Explanation: **F** means the TIRAK® **capacity** – e. g. **F** = 500 kgs.

The drawings show the required strength of the anchor points, anchoring devices, and pulleys – e. g. **2·F** = 1000 kgs.



3.3.2 Increasing the capacity …
(continued)

Attention!

With the wire rope reeved the **upper limit switch** cannot be activated by the fist grip clip, which is mounted on the rope near the rope hook.

The operator has to **watch the load very carefully** or have it watched by a second person.

The rope hook must not reach the diverter pulley!

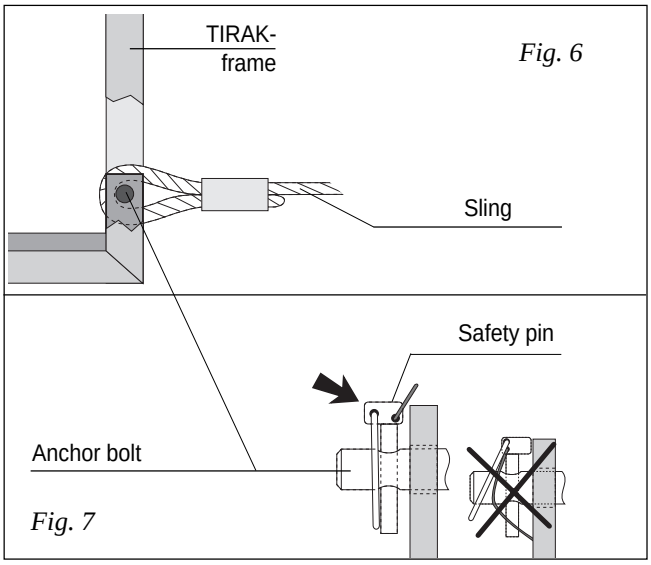


Fig. 6

Fig. 7

3.3.3 Anchoring the hoist

(A) Anchoring with a **sling, belt or similar**

Opposite to the wire rope entry the TIRAK frame contains an anchor bolt (Fig. 6). Use it for anchoring the "Mobile Winch with TIRAK®" to an appropriate anchor point.

Attention!

- Check the **correct position of the safety pin** according to Fig. 7!
- The "Mobile Winch with TIRAK®" must be able to **align itself in pulling direction** (Fig. 8).
- **Maximum allowable deviation from squareness is 5°** (Fig. 9). If necessary use diverter pulleys (Fig. 2).

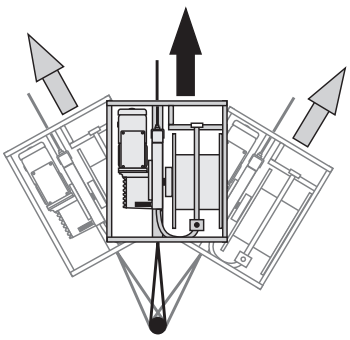
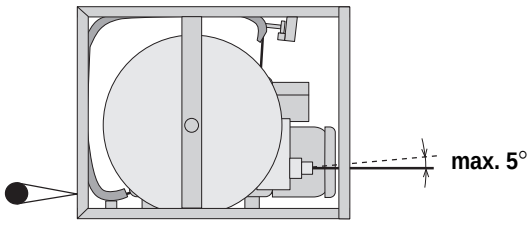


Fig. 8

Fig. 9



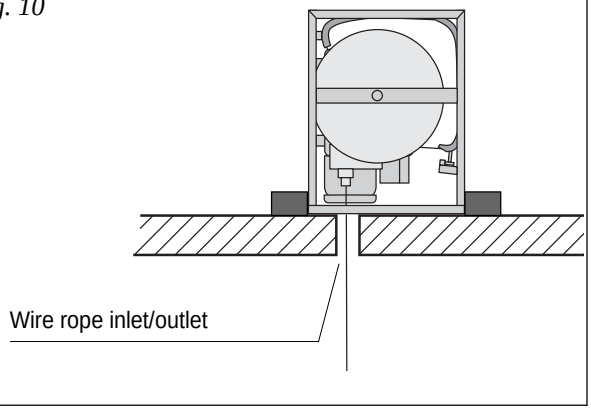
Attention!

When using diverter pulleys the **upper limit switch** cannot be activated by the rope clamp, which is mounted on the rope near the rope hook.

The operator has to **watch the load very carefully** or have it watched by a second person.

The rope hook must not reach the diverter pulley!

Fig. 10



(B) Positioning by/above an opening in the wall or ceiling **capable of taking the load**

Attention!

- The wire rope must be able to **freely run in and out**!
- **Secure t**he "Mobile Winch with TIRAK®" **against becoming displaced**!

3.4 Electrical Connections

a) Ensure correct mains voltage supply:
   – **Three phase**:
     400 V (3P + E + 0), 50 Hz, 16 A CE-plugr
   – **Single phase**:
     230 V (2P + E), 50 Hz, 16 A Schuko-plug

   If in doubt: ask the supplier.

b) To avoid power loss between power source and the TIRAK® always use power cables with **adequate cross sectional area.** See Tables 1a and 1b.

   Table 1a indicates the reference letter of the TIRAK® model and the mains supply voltage. **Maximum speed** must be used for TIRAK® with two speeds.

   Table 1b gives the **minimum cable cross section** based on the reference letter.

c) Use only **heavy duty cables with incorporated strain relief**.

d) **Hanging cables** longer than 30 m should be fixed by means of a cable sleeve or cable clamp.

e) When using a **generator** its output must be at least **2.5 times greater** than the **TIRAK® power consumption**.

Mobile Winde Typ	Max. speed m/min.	1 TIRAK			2 TIRAK		
		3 phases		S. ph.	3 phases		S. ph.
		400V	230V	230V~	400V	230V	230V~
MX 500 P/250	9	A	C	E	B	F	G
	18	B	E	-	D	G	-
MX 700 P/250	9	A	-	G	B	-	-
	18	B	-	-	D	-	-
MT 1000 P/250	9	B	E	-	D	G	-
	18	C	G	-	F	H	-

Table **1a**

Reference letter of table 1a	For cable lengths up to ... 20 m	50 m	100 m	200 m
A	1,5	1,5	1,5	1,5
B	1,5	1,5	1,5	2,5
C	1,5	1,5	1,5	4
D	1,5	1,5	2,5	4
E	1,5	1,5	2,5	6
F	1,5	1,5	4	6
G	1,5	2,5	6	10
H	2,5	6	10	20
	Cross section (mm^2)			

Table **1b**

Fig. 11

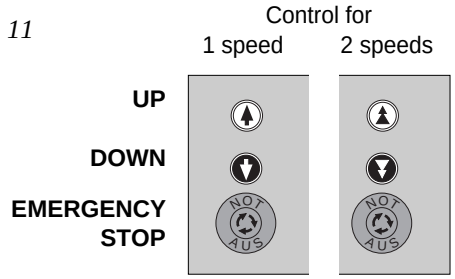
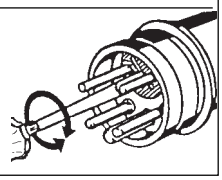


Fig. 12



4. Operation

4.1 Electrical Controls

Push button control for **UP** and **DOWN** (Fig. 11).

On machines with **two speed motor**:

half depressed	=	low speed
fully depressed	=	high speed.

Red EMERGENCY-STOP button:

Button depressed	=	mains supply interrupted.

To START, turn red EMERGENCY-STOP button **clockwise**, until it releases.

Important: The built-in phase control relay prevents the motor from turning in the wrong direction. If the hoist does not run, turn the **phase inverter** of the plug for 180° (Fig. 12).

4.2 Checks before starting

a) Check that the **UP**/**DOWN** push buttons and **EMERGENCY-STOP** button are working correctly.

b) Check correct anchoring of "Mobile Winch with TIRAK®" and load.

c) Make sure that no person is immediately below the suspended load.

4.3 Normal Operation

a) **To lift/pull**: depress the **UP** button.
   To lower: depress the **DOWN** button.

b) **TO STOP movement of the load:**

   A) release push button;
   if the load does not stop:
   B) press EMERGENCY-STOP;
   if that does not function:
   C) pull out the plug!

   In cases **B)** and **C)**: **STOP working.** The "Mobile Winch with TIRAK®" must be **checked/repaired by the manufacturer** or a **repairshop agreed by him**.

c) **Attention** must be paid to the load **during all movements – if necessary by a second person**.

d) Keep wire rope lightly lubricated.

e) When lifting/lowering **prevent the load from rotating** (Fig. 12).

f) When stopping the hoist the load is securely held at any position by the primary brake.

4.4 Security of suspended loads

Cordon off the danger zone below any suspended load.

4.5 Emergency Descent

In case of power failure you can **manually open the brake on hoists which are equipped for this purpose**:

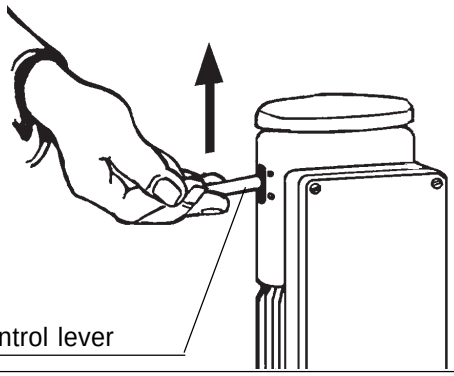
– Take the control lever from the TIRAK® carrying handle, insert it through the motor cover into the brake release point and push it in arrow direction (Fig. 13).

– With the brake released the load is lowered, and the **centrifugal brake** limits the speed of descent.

To STOP: release the control lever.

After use: Restore brake release lever into its rest.

Fig. 13



4.6 Troubleshooting

WARNING!
AVOID INJURIES:

1. Checks an repairs of the electrical equipment must only be carried out by **qualified electricians! Wiring diagrams** are shown in the control box of the motor.
2. Any other repairs should only be carried out by the manufacture or by a repair shop agreed by him. And only original spare parts shall be used.

4.6.1 Wire Rope Drive Mechanism Troubles

Problem	Cause	Remedy
The hoist operates, but the **wire rope does not move through**, i.e. **no UP or DOWN travel**.	**WARNING! STOP OPERATIONS IMMEDIATELY! Continued operation the "Mobile Winch with TIRAK®" might cause breakage of wire rope! CONTACT YOUR SUPPLIER**	
	Damaged wire rope, wrong wire rope, or obstructed wire rope exit.	You may continue your job proceeding as follows: – If available, install an auxiliary hoist, and take over the load with that hoist. – Disconnect the load from the slack wire rope of the failed hoist. – Continue the work with the newly installed hoist.

4.6.2 Troubles with Motor, Control or Brake

Problem	Cause	Remedy
1. Motor does not run at all. 2. Excessive motor noise 3. Overheating 4. Abnormal noises	Upper limit switch has cut off **lifting/pulling**.	No problem – lowering/releasing the load is possible.
	Wire rope end detector has cut off **lowering/releasing**. Reeler survey switch has cut off **lowering/releasing**: – Slack wire rope between drum and TIRAK	Torque of drum sliding clutch is too low. Check/adjust according to para 8.1.2 on page 11.
	Phase inversion	Turn phase inverter of plug for 180°.
	Current failure	Check fuses, power cords, connections.
	Overheating	Let the motor cool down. Trace the reason for overheating:
	– Insufficient cooling	– Clean air inlet at the motor cover, and ensure a good ventilation of the motor.
	– Overload	– Check the load. If necessary reduce the load or use multiple sheave blocks (see chapter 3.3.2 on page 4).
	Lifting force limiter on model MT 1000 P/250 has stooped lifting/Pulling because of overload.	

DANGER!
Disconnect any power supply before opening a control box or a pendant control!

If the above checks and actions do not overcome the problem:
CONTACT GREIFZUG GmbH or a repair shop agreed by him.

5. Replacing the wire rope

5.1 Preparation

CAUTION!

Use gloves, when handling wire ropes.

a) **Use only specified wire ropes** (see chapter 2.5, page 3).

b) Check **correct diameter** and **sufficient length** of the wire rope.

c) Always **unreel** the wire rope **in a straight line** (Fig. 14), to prevent it from becoming unusable because of loops.

d) Check the **condition of the wire rope** for damage:
   - swivelling hook is not bent; safety catch is in place on the hook; proper connection between the wire rope and the hook (rope eye, ferrule) (Fig. 15);
   - the wire rope has no visible damage along its total length; the fused and tapered end is according to Fig. 16.

e) Check the wire rope equipment (Fig. 17):
   - **Fist grip clip** for upper limit switch activation,
   - **Limit switch activating spring**.

Fig. 14

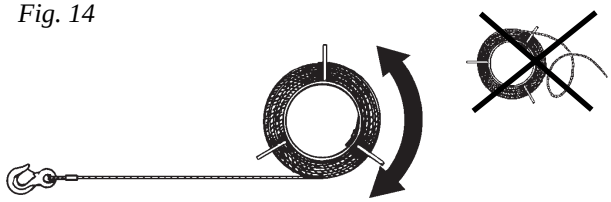


Fig. 15

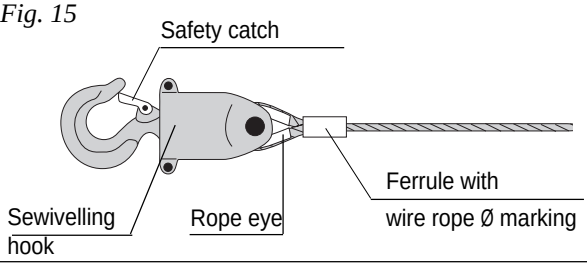
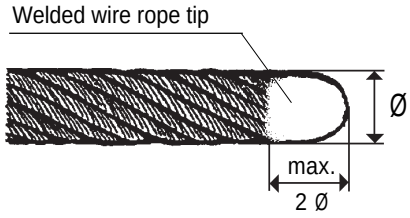


Fig. 16



5.2 Running out the wire rope

When unreeling the the wire rope (i. e. going DOWN) the TIRAK® pulls the wire rope off the reeler against the braking force of the incorporated friction coupling.

We recommend to take off the fist grip clip near the rope hook, to slide the limit switch activating spring over the out-coming wire rope and to strore the wire rope on a drum hasp.

a) Press **DOWN**-button to let the wire rope run out and **STOP**, before the **last loop of wire rope is torn off the drum** (Fig. 18).

c) Loosen fixing bow.

Important:
The wire ropeguiding tube is pushed away from the drum by means of the spring and stops DOWNWARDS travel by means of the limit switch (Fig. 19 a), which controls proper wire rope storage (stopping at slack wire rope) and prevents the wire rope from being inadvertantly run out causing a load to fall down.

To completely run out the wire rope:

d) Push wire rope guiding tube towards the drum (Fig. 20) and press **DOWN** button, until the wire rope has come out.

e) Take off limit switch activating spring from the wire rope.

Important: Keep fist grip clip and limit switch spring at hand – You need them when installing the new wire rope!

Fig. 17

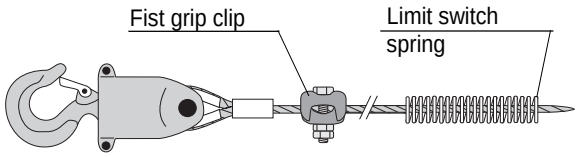
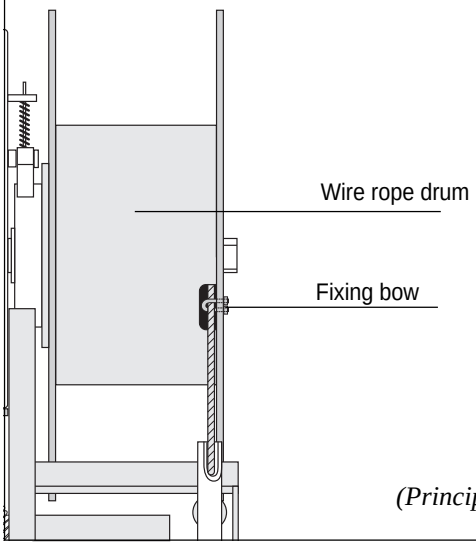


Fig. 18



(Principle sketch)

Fig. 19

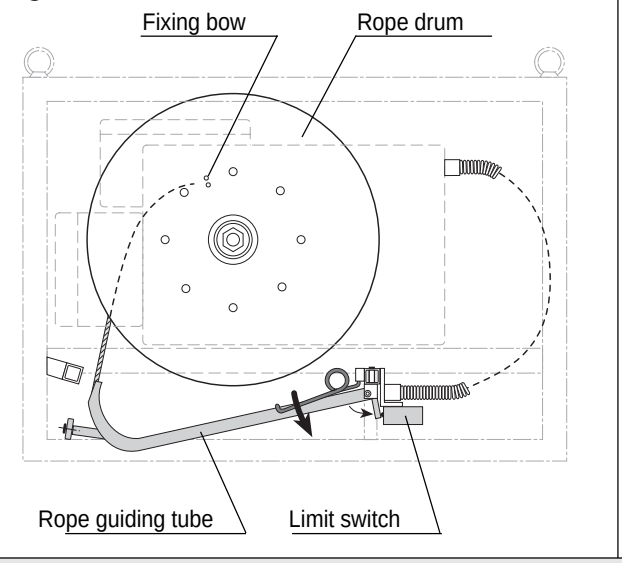
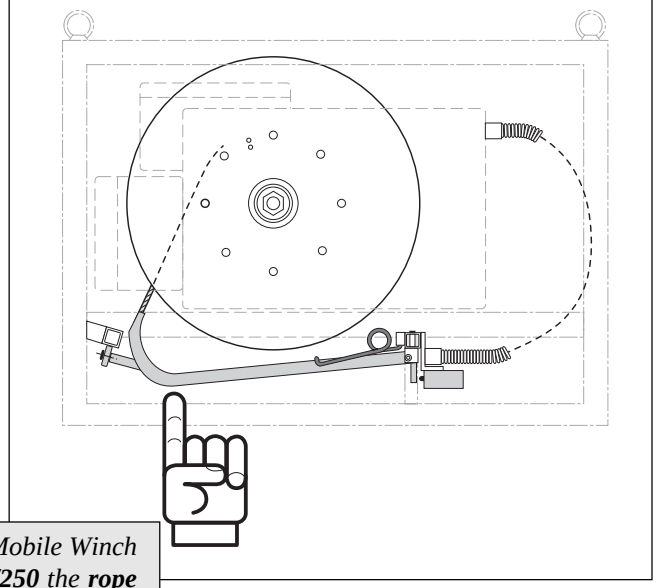


Fig. 20



*Both principle sketches show the pieces at the positions on the "Mobile Winch with TIRAK® " type **MT 1000 M/250**. On types **MX 500/700 M/250** the **rope guiding tube is above the drum** – the function principle is the same.*

5.3 Wire Rope Installation

a) Slide the **limit switch spring** onto the wire rope tip (Fig. 17).

b) Feed the wire rope as far as possible into the wire rope entry guide of the upper limit switch.

c) Press **UP**-button, and push the wire rope, until it starts to reeve itself automatically.

d) **If it will not reeve, check:**
   - **Wire rope tip** in correct shape?
   - Did you press **UP-button**?
   - On three phase motor: Let a qualified electrician exchange the leads **of two phases** inside the hoist plug.

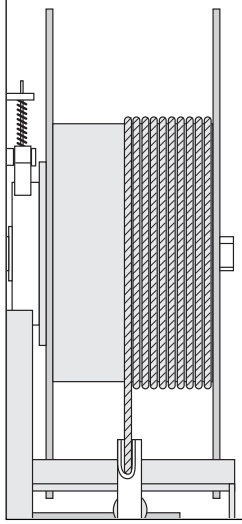
e) Let the wire rope run through until its end reaches the rope reeler.

f) Fix the wire rope's end to the reeler with the fixing bow (Fig. 18).

g) Press **UP**-button to reel the wire rope.

Important:
Check that the first layer of wire rope is properly coiled – i. e. no gaps between the rope loops (Fig. 21)!

Fig. 21



(Principle sketch)

h) Fix fist grip clip for **upper limit switch activation** to the wire rope between the ferrule and the limit switch spring (Fig. 17).

6. Out of Operation

6.1 Temporary Stoppage

- **Disconnect power supply**, to prevent any unauthorized operation:
  - Disconnect power cord at the hoist pigtail as well as the the main outlet
    and, if available,
  - turn and lock the main switch to „0".
- **Cordon off the danger zone** below any suspended load.

6.2 End of Operation

- Let the wire rope completely run in.
- Disconnect power cord at the hoist pigtail as well as the main outlet; check for any damage and reel the cable.
- Disconnect the "Mobile GRIPWINCH®" from its anchor point.
- Clean the exterior and store it in a clean and dry place.

7. Safety advice

a) **DO NOT** overload the “Mobile Winch with TIRAK®”.

b) **DO NOT** stand below a suspended load.

c) The “Mobile Winch with TIRAK®” must only be used for lifting, pulling, and lowering of loads. Use for other purposes is not allowed.

e) Anchoring, maintenance, and/or the operation of the “Mobile Winch with TIRAK®” must only be done by persons, who are familiar with it. They must have obtained the order to anchor, maintain, and/or operate the hoist by the employer.

f) The operator has to know and to follow all relevant local safety regulations, and maintenance recommendations, as well as this operating instruction, and the operator has to have been instructed.

g) The operator must not start any movement of the load until he has checked that the hoist and the load are properly anchored, and that no person is stood in the danger zone below any suspended load, or until he has got a starting signal from the slinger.

h) The operator must watch the load during all movement operations of the hoist.
If the operator is unable to watch the complete working area, the danger zone must be cordoned off, or a second person must be positioned to enable the complete working area to be watched and have adequate means of communication with the hoist operator during the whole operation.

1) The “Mobile Winch with TIRAK®” has to be either anchored at the anchor bolt or located behind/above a solid structure, capable of taking the load, with its frame at the wire rope entry side.

k) The “Mobile Winch with TIRAK®” has to be anchored in such way, that the deviation from squareness of the wire rope under load does not exceed 5°.

m) Do not use the wire rope to fix the load, and do not pull it over sharp edges.

l) The wire rope reeler must always be able to free-running.

m) Do not use the winch, if wire rope end is not fixed to the drum.

n) Near the ferrule of the hook there must be fixed a fist grip clip for upper limit switch activation. Never let the fist grip clip be pulled towards the ferrule.

o) Install limit switch spring between fist grip clip and rope inlet.

p) In case of wire rope reeving the upper limit switch cannot be activated by the fist grip clip.
The operator has to **watch the load very carefully** or have it watched by a second person.
The rope hook must not reach the diverter pulley!

q) **DO NOT** use the “Mobile Winch with TIRAK®” with standard electric equipment[2)] in a potentially explosive atmosphere – around distilleries, refineries, chemical plants, ship or silo interiors. Always obtain official approval before commencing operations at these or similar locations.

1) For man-riding applications follow the advices under para. 2.1 „Purpose”.
2) Use „Mobile Winches with TIRAK®” with **air motor** or with **Explosion-proof** electric equipment.

8. Maintenance/Checks/Repair

8.1 Maintenance

8.1.1 Wire rope conveying mechanism

The mechanism does not require any special maintenance.

Lubrication: Keep the wire rope lightly lubricated. This will not affect the gripping power but will prolong the life of wire rope to a maximum.

8.1.2 Wire rope drum and Guiding

a) Keep rope reeler clean and take care that it is **always free-running**.

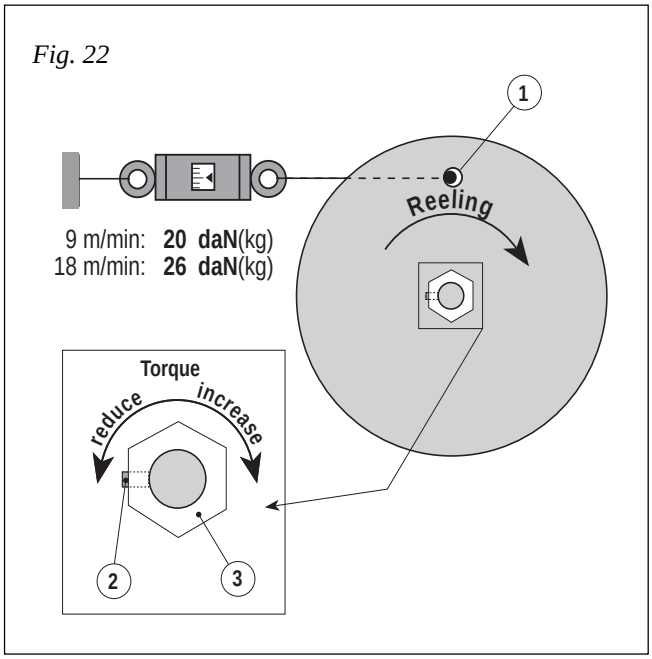
b) Keep rope guide spring clean.

c) Look to it that the wire rope guiding tube is **always able to free-moving**.

d) Correct wire rope winding requires a defined torque of the sliding clutch, which is incorporated to the reeler drum. The required torque at the radius defined by the adjustment hole (1) is:

9 m/min wire rope speed approx. **20 daN**(kg);
18 m/min wire rope speed approx. **26 daN**(kg).

Fig. 22



To check the torque proceed as follows:

1) Fix a dynamometer to a rod slid into adjustment hole (1) (Fig. 24).
2) Push **and hold UP**-button, and control torque at the dynamometer.
   If torque is not coorect**:**
3) Loosen stud screw (2) and turn **adjustment nut** (3)
   – **clockwise** in order to **tighten**,
   – **counter-clockwise** in order to **loosen** sliding clutch torque.
4) When the correct torque is set, retighten stud screw (2).

8.1.3 Wire ropes

a) Always unreel and reel the wire rope.

b) Do not use the wire rope for fixing the load, and do not pull it over sharp edges.

c) Keep the wire rope always **clean** and **lightly lubricated**.

8.1.4 Motor, Brake, and Gear Box

a) The **motor** does not require any special maintenance. If it is **very dirty**, it should be cleaned to ensure an effective air flow.

b) The **Brake** does not require any special maintenance. If it is **very dirty**, it should be cleaned.
Keep it free of oil or grease!

c) The **gear box** is maintenance-free.
The oil should be changed when carrying out a safety inspection according to section 8.2.2.

Reparaturen und **Überprüfungen** nur durch die
GREIFZUG Hebezeugbau GmbH
oder eine Hebezeugwerkstatt.

8.2 Checks

8.2.1 Essential checks

a) General

Prior to every operation

and

during operation make sure, that the "Mobile Winch with TIRAK®" and all other used equipment (anchoring devices, pulleys etc.)

– **are properly installed**
– and **without visible damage**.

Attention!

If **during operation** damage appear:

– **STOP operating**,
– if necessary: **cordon off the danger zone** , and
– let the **damage be removed**!

b) Wire Ropes

Attention!

Wire ropes should be **checked** along their entire length **before every operation and replaced** if any one of the following defects is noticed:

– **10 or more broken wires** along any length of 30 times the diameter of the wire rope.
– Excessive external or internal **corrosion** .
– **Heat damage**, externally recognised by discoloration.
– **Reduction of the wire rope diameter** by 5 % or more compared to the nominal diameter.
– **Exterior deformations***) of the wire rope like birdcaging, kink or loop formation.

*) These are **only examples** of the most common wire rope damage. Maintenance and safety checks of the wire rope must be done according the safety regulations in force.

8.2.2 Safety Inspection

Control by a competent person:

1. The "Mobile Winch with TIRAK®" should be thoroughly examined at least **every twelve months** or more regularly (see 2 below) depending on the working practice and current safety regulations in force.
2. The "Mobile Winch with TIRAK®" should be thoroughly examined at the latest **after 500 running hours** (for winches with 18 m/min. speed **after 250 running hours**).

It is the responsibility of the employer that a written register is kept showing the dates and period of use and inspection record.

8.3 Repair

Repair of "Mobile Winches with TIRAK®" must only be carried out **by the manufacturer**, or by a **qualified person**, and **only original spare parts** shall be used.

9. Spare parts

9.1 Wire rope drive mechanism

As well as **spare part number** and **description** please always quote

- **TIRAK® type**
- **wire rope diameter,** and
- **Serial Nº!**

9.2 Motor and Brake

As well as **spare part number** and **description** please always quote

- **Motor type**
  respectively
- **Type and supply voltage of the brake!**

9.3 Electrical Controls

In case of enquiries or spare parts order please always quote the

Wiring Diagram Nº!

The Wiring diagram is situated in the control box of the motor.

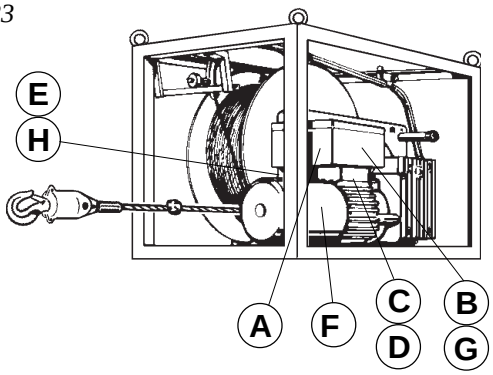
9.4 Nameplates and Labels

Make sure that all nameplates and labels are in place and not obscured (s. Fig. 23).

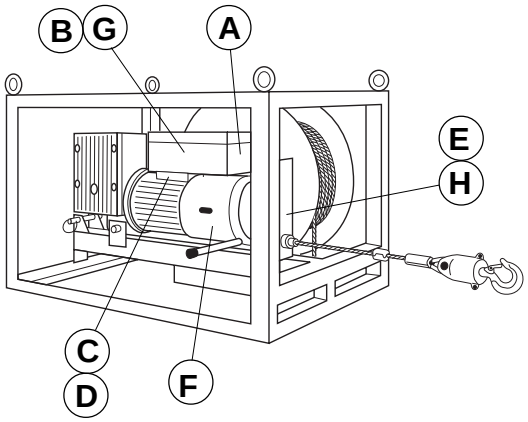
Replace missing labels and those which are not legible!

Spare parts lists are available
from your supplier
or from TIRFOR Ltd..

Fig. 23



A) Label „Capacity”
B) TIRAK® Nameplate with serial Nº
C) Motor Nameplate
D) Brake Nameplate
E) Label „Wire rope Ø”
F) Label „Emergency descent”
G) Label „Phase control relay”
H) Label „Limit switch spring”



CE DECLARATION OF CONFORMITY

Greifzug Hebezeugbau GmbH

D-51434 Bergisch Gladbach, Postfach 20 04 40, represented by Mr. Clemens Vedova, MBA Insead, General Marketing Manager, declares that:

The equipment described below conforms to the technical safety rules, which are applicable for the supply to the European Union market.

Signature
C. Vedova

APPLICABLE REGLEMENTATIONS:

EU-DIRECTIVES: N° 89/392 – 91/368 – 93/44
N° 93/68 – 89/336 – 92/31 – 93/68

EU-STANDARDS: N° EN 292 – EN 418
EN 60204-1 – EN 50081-1 – PREN 50082-1

GERMAN STANDARD:
UVV „Winden, Hub- und Zuggeräte (VBG 8)”

DESCRIPTION: Electric driven endless winch

APPLICATION: Lifting, lowering and pulling of loads

MAKE: **Mobile Winch with TIRAK®**

MODEL: MX 500 P/250, MX 700 P/250, MT 1000 P/250