

Original User Guide

Version: 03



HIT-TRAC 64E

08325_ HIT-TRAC 64E v=0.5-4.6m/min 7.5kW 100/30

08329_BA for HIT-TRAC 64E 7.5kW

Prüfzertifikat

Wir bestätigen, dass die genannte Maschine geprüft wurde und den Auftragsanforderungen, Spezifikationen, Zeichnungen sowie gültigen Normen und Vorschriften in jeder Hinsicht entspricht.

Motorseilzugmaschine *HIT-TRAC® 64* mit Elektromotor

Certificat d'inspection

Nous déclarons que le produit faisant l'objet du certificat a été contrôlé et est conforme aux exigences de la commande, aux spécifications, aux dessins ainsi qu'aux normes et prescriptions en vigueur à tout point de vue.

Machine motorisée de traction par câble *HIT-TRAC® 64* avec moteur électrique

Test certificate

We hereby confirm that the machine described below was tested and satisfies the requirements posed in the order, specifications, drawings as well as the relevant valid standards and regulations in all respects.

Motor-driven rope pulling machine *HIT-TRAC® 64* with electric motor

Geräte Nr. / N° de la machine / Machine no.: 133091 / HSS-ID-no. 124

Art. Nr. / N° art. / Art. no.: 08360

Motor-Nr. / N° du moteur / Motor no.: 7.5 kW

Steuerung-Nr / N° du contrôle / control no.: HI.64-128.075.G18V000

Datum/Date/Date: 22/02/2019

Unterschrift/Visa/Visa:



User Guide

TGT. 12.03.2019

Technical

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Warranty and Guarantee

Habegger will grant the user replacement as well as installation and removal of any parts which are rendered unusable due to material or manufacturing errors.

The warranty period (guarantee period) is 12 months.

Warranty and guarantee claims for personal injury or damage to property are not included if they can be traced back to one or more of the following causes:

- improper use of the rope pulling machine;
- improper operation and maintenance of the rope pulling machine;
- Failure to comply with the information provided in the user guide regarding operation and maintenance of the rope pulling machine;
- unauthorised structural changes to the rope pulling machine;
- inadequate monitoring of machine parts which are subject to wear and tear;
- improper repairs being carried out;
- Catastrophic events caused by external influences and force majeure;
- Utilisation of externally procured replacement parts if these have not been designed and constructed to be fit for purpose and to meet the required degree of safety.
- It is in your interests to only use replacement parts from HABEGGER.

Preface

You have made a wise decision in opting for the HABEGGER motor-driven rope pulling machine *HIT-TRAC 64*. Using this new type of rope pulling machine you can pull, hoist and lower loads. Servicing and maintenance are very simple and guarantee hassle-free and reliable operation when handled correctly.

You may already know how your newly purchased rope pulling machine works.

We at HABEGGER still recommend, however,

that you read the user guide carefully prior to starting up the machine for the first time! It contains all the essential information you require about motor-driven rope pulling machines.

Important information in the user guide will help you to:

- Avoid hazards
- Reduce repair costs and downtime, and
- to increase the reliability and lifespan of your rope pulling machine.

Always keep a copy of this user guide at the motor-driven rope pulling machine's location and ensure that it is read and implemented by every person who works with the machine. It should be available to every user in order to avoid handling errors.

Alongside the user guide and the mandatory regulations for accident prevention in the operator's country and country of operation, the recognised industry rules for safe and correct work must be observed.

We wish you every success and hope that you enjoy using your HABEGGER product.

EC declaration of conformity



We,

HABEGGER Maschinenfabrik AG Thun
Mittlere Strasse 66
CH-3600 Thun

hereby declare that the

HIT - TRAC 64E

conforms to the health and safety requirements of the EC Machinery Directives in its conception and design, as well as in the version placed on the market by us.

In the event of improper use, as well as modifications or changes which are unauthorised by us, this statement loses its validity.

This declaration of conformity also loses its validity if the relevant user guide and maintenance manual are not followed or are violated.

Applicable EC directives:

EC Machinery Directives 2006/42/EG

Applied harmonised standards:

DIN EN 14492-1: 2010-06
EN 60204-1: 2006
EN ISO 12100: 2011-01

Location:

Thun

Date:

12. March 2019

Technical manager

Thomas Gerber

CEO

Urs Schneider



1 General specifications

The motor-driven rope pulling machine HIT-TRAC 64 is designed for pulling, hoisting and lowering loads.

1.1 Drive mechanism

A special HABEGGER steel cable of desired length which is guided over the relevant guide elements by the driving wheel and then ejected in an unloaded state is used as the drive mechanism.

1.2 Housing cover

The removable cover on the driving wheel prevents the entry of foreign objects and protects against accidents resulting from improper access. There is also an anti-derailment device for the traction cable integrated into the housing cover.



- Close and secure the housing cover over the driving system before carrying out any work.

1.3 Cable

The machine is equipped for rope diameters of **20 mm** in the factory.
This cable is suitable for all hoisting, pulling and lowering work.



- Only suitable, original HABEGGER cables should be used.

1.4 Operation

The machine is powered using a 3-phase rotary current motor

1.5 Electrical control system

Speed control

The machine is fitted with a speed control.

The frequency converter and the control system are securely fixed inside the electrical box. The input comes from a plug for three-phase A.C. current along a 5m long supply cable. Also connected to the control box, via a 5 m long control cable, is a pendant station with the control buttons UP/DOWN, the emergency stop button and a potentiometer for speed control.

Customised models

For special purposes a control cable or a radio control can be attached. On these occasions even closer attention should be paid to the rope pulling machine during hoisting and lowering. The empty rope's free exit and entry must be guaranteed.

1.6 Limit switch

Cover monitoring

The closed position of the cover is monitored using a limit switch. As soon as the cover is opened, the motor stops. This means that the rope pulling machine can only be operated when the cover is closed.

Hook observation

The limit switch stops the hoisting movement when the hook is pulled against the housing or when the cable shaft is swivelled forwards (insert cable).



- The limit switch only responds when the motor is rotating in the correct direction (the rotary field of the power connection).

1.7 Lowering and breaking

Standard apparatus

You can place the load precisely in the desired position using the control buttons UP/DOWN.

Breaking during lowering takes place using the motor without an energetic recovery system in the mains. When stationary or powered off this takes place using the spring-loaded holding brake. As this energy is converted into heat, the output due to heat in the control box is limited during lowering.



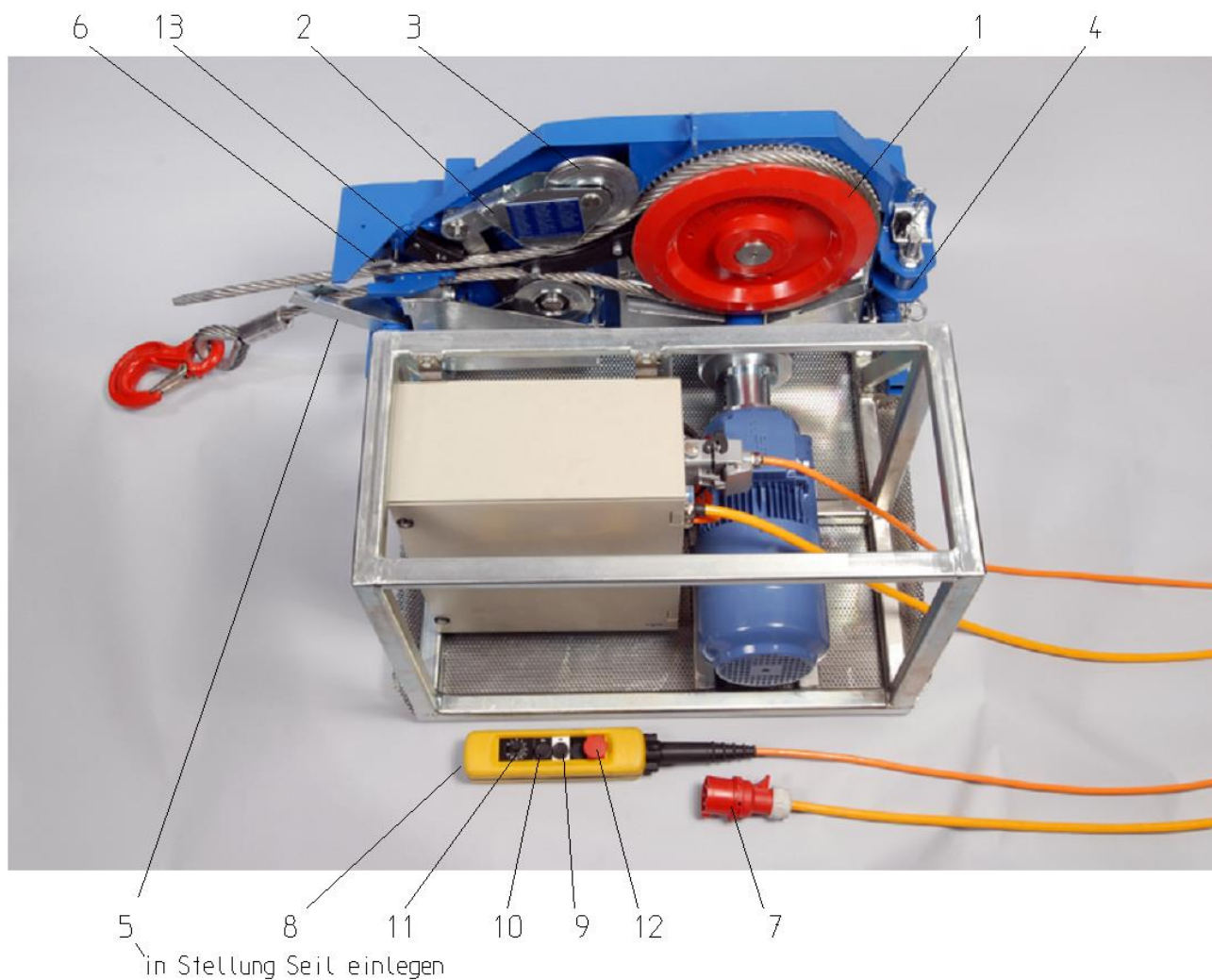
- Heavier loads may only be lowered over short distances.

Optional apparatus

The HIT-TRAC can be equipped with braking resistors. This increases the permitted lowering period.

2 Assembly and performance

HIT-TRAC 64 without cover and with rope



- | | | | |
|---|-----------------------------------|----|-------------------------------|
| 1 | Driving wheel | 8 | Pendant station |
| 2 | Rocker | 9 | "Raise" button |
| 3 | Thrust roller | 10 | "Lower" button |
| 4 | Anchor bolts | 11 | Rotating knob for cable speed |
| 5 | Rope shaft | 12 | Emergency stop button |
| 6 | Latch | 13 | Actuator pin |
| 7 | Plug for three-phase A.C. current | | |

3 Safety instructions



The HABEGGER motor-driven rope pulling machine HIT-TRAC 64 complies with current technical standards. To protect against accidents it is equipped with effective safety devices as required by the recognised safety standards, guidelines and laws.

But laws, regulations and safety devices do not provide any protection against carelessness and negligence!

Use the motor-driven rope pulling machine only when it is in perfect condition and when taking the user guide into consideration.

Before working with the motor-driven rope pulling machine you should carefully read and take note of the following safety instructions.

It is all about your safety!

3.1 Proper use

The motor-driven rope pulling machine HIT-TRAC 64 is designed for pulling, hoisting and lowering loads.

The maximum tensile force is: **64 kN (6400 kg)**



- The HIT-TRAC is not to be used to transport people under any circumstances.
- It is forbidden to carry people in a hanging HIT-TRAC structure.
- Please note the safety instructions on the machine and in this user guide in the interests of your health.

3.2 Safety instructions in this user guide

The following symbols and specifications are used for hazards, instructions and important information:



- Instructions are very important information which must be complied with in order to properly operate the specified technology.



- Caution! Information regarding the machine, machine parts and the environment.



- Danger! Information regarding danger to the health and life of the operator and other persons in the motor-driven rope pulling machine's operating area.

3.3 General safety instructions

Location

- Always ensure that the device is in a fixed and secure location during operation.
- Always stand outside the danger zone of the load to be moved and never within range of the exiting cable.
- Use a motorised winch for longer cables (longer than approx. 50m).
- You require enough space in which to move. You should therefore ensure that you have a large enough platform.
- Do not use a ladder as a platform.
- If you do not have a suitable platform, deploy pulleys and choose a better location.



- When setting up the machine please ensure that no external hazards can exert influence on the rope pulling machine, the traction rope, the load or the operating personnel during operation (e.g. falling objects, passing vehicles, overhead power lines, etc.).

Anchorage

The anchorage point must be able to withstand the expected tensile force (possibly test beforehand).

The best anchorage points are:	- fixed objects and structures - rings which have been cemented in place - Eyelets or poles
Natural anchorage points:	- strong/heavy boulders - Trees - other suitable objects
Technical anchorage points:	- Habegger field anchor with piles - Rock bolt, concrete anchor - Round timber anchor in the ground - These anchors are highly dependent on soil conditions.

Secure the machine to the anchoring bolts with sufficiently strong straps or loops.



- The machine must be able to freely position itself in the direction in which the cable is moving. Danger of housing breaking!

Do not use any damaged ropes or connecting loops.

Rope couplings and safety devices should not be able to detach themselves in the event of a rope being loose.



- If the machine is being used in one location for an extended period of time, check the anchors regularly!

Traction cable

The reliability of the driving system is dependent on the condition of the traction cable.

Cable construction and inherent stability (crush resistance, impact resistance) must be able to withstand the active loads.



- You should therefore only use cables provided or approved by HABEGGER.
- The traction cable should not be lubricated.

We will accept no responsibility for any damages and liabilities resulting from the use of cables which are unsuitable or have not been approved by us.

The cable diameter must be in accordance with the information on the identification plate.



- Danger of injury! Always close and secure the housing cover over the driving system using screws before operation.
- Wear gloves when handling wire cables.



- Secure freely suspended loads against twisting so that the cable will not twist.



- Damage to the rope: squashed, untwisted, non-circular ropes, bent rope or ropes with kinks or broken strands should not be used.
- Cables with protruding strands: remove protruding strands.
- Damage to either end of the cable: If possible, shorten cable.
- Replace the cable when more than 10% of the cable is worn out at its thinnest point.

Cable connections, sleeves, compression heads, short splices, etc. should not be fed through the driving system.

When diverting the cable over sharp edges, obstacles, etc., protect the cable using appropriate floor rollers or wooden or plastic supports.

The cable must be professionally laid, i.e. it must be from the winch so that there are no loops, kinks or twists.

The free end of the traction cable is coloured.



- Danger! Stop the machine as soon as the coloured end reaches the machine during lowering.



- Danger! To relieve the rocker, the unloaded end of the rope should not hang down more than **15 m**.

Load

The load is attached to the traction hook using the appropriate means of fastening. This prevents the load from slipping or tipping during operation.

Appropriate means of fastening are, e.g., eyelets, loops, straps, harnesses.

The load's inherent stability must be guaranteed in order to prevent any slipping or tipping during operation.

Be aware of obstacles which would cause the load to tip or jam.

Refrain from using unchecked loads (e.g. buckets, containers) during the operating stroke or in intermediate positions or monitor them with a load-weighing device.

Please take possible stress peaks (in static positions) from external influences into consideration during periods of resting during operation and anchoring work.

Excessive blows to and stresses on the rope pulling machine (e.g. anchoring to machines which have been moved, wind, etc.) should be prevented by use of a strain release wire.



- Danger! Do not store load, pulleys and cables in the danger zone!



- Secure freely suspended loads against twisting!

Pulling, hoisting and lowering

Check that you have the correct direction of rotation for hoisting and lowering before commencing operation. If the direction of rotation is incorrect, consult an electrician to check the direction of rotation of the phases and, if required, to correct them (check any extension cables which may be present). (See chapter 2).

The careful installation of the cable drive and the machine assembly is the best guarantee of smooth operation.

Place the cable on the rocker as shown on the information sheet (see chapter 5.2, observing the location of the cable with the load hook)

Check the length of cable and the machine's hoisting abilities by pulling!

Observe the movement of the load!

In the event of being pulled diagonally, the rope pulling machine can tip over. Place wood underneath or avoid diagonal pull using a pulley.

If anything is unclear, request supervision from an assistant, via radio communication if required.



- Close and secure the housing cover over the driving system using screws before operation. This way the cable is protected against derailment and no foreign objects can enter.

The free end of the cable must also be able to exit the rope pulling machine unhindered.



- Never allow the hook to touch the housing.

When lowering, ensure that the rope is long enough. Stop at least 2 m before the end of the cable and place the load underneath or rehang it.

3.4 Approved users

The motor-driven rope pulling machine may only be operated by specialists and authorised persons. As the operator of the motor-driven rope pulling machine, ensure that the user guide manual is made available to the user and ensure that they have read and understood this.

3.5 Warranty and Guarantee

Warranty and guarantee claims for personal injury or damage to property are not included if they can be traced back to non-compliance with the following user guide:

3.6 Actions in case of emergency

Check before starting operation if and where you can get mobile phone reception or where there is an available telephone. Check the availability of a first-aid kit.

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4 Technical specifications

Hoist/lower tensile force	64 kN
Rope speed	approx. 1 to 4.6 m/min
Duty cycle	hoisting lowering
	100% 100%
Rope path: hoisting/lowering	unlimited/unlimited
Width / length / height dimensions:	900 mm / 1035 mm / 746 mm
Effective driving wheel diameter	400 mm
Dead weight	rope pulling machine
	330 kg
Gear oil	4 and 0.2l / 80 W 90
Traction rope:	
Model	HABEGGER 6 x 26 WS + FC galvanised, compressed
Diameter	20 mm
Length	optional
Breaking load	304 kN
Driving motor:	Electric motor
Model / output	7WAGC 134M4 BR60 7.5 kW 1440 rpm
Voltage - nominal current	3 x 400 V – 15.1 A
Standard / protection class	VDE 530 / IP 44
Operating time during intermittent operation	Duty cycle = 100%
Mechanism group (DIN 15 020)	1 C _m DIN 15 020
Current supply, residual- current circuit breaker	RCCB Typ B
Plug	CEE 32 32A (3xL+N+PE)
Spring-loaded brake	
Nominal braking torque	60 Nm
Armature voltage	195 V
Control system version	HI.64-128.075.G18V000
Sound power level L _{WA}	max. 85 dB

5 Operation

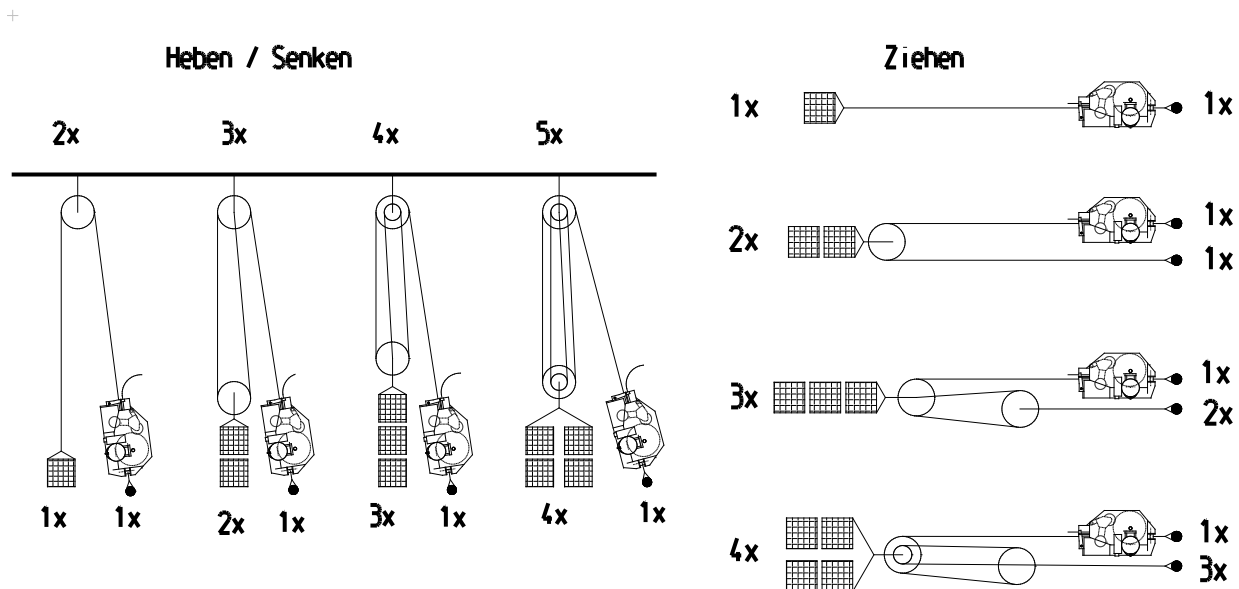
5.1 Preparation

Tensile force

- Estimate using the load to be moved or calculate using a load-weighing device.
- Small tensile forces will arise depending on whether the load is simply being pulled or whether it is being hoisted.
- The tensile force may not be larger than the rope pulling machine's nominal tensile force of 64 kN (employ rope tension meter).

For larger forces:

- Reduce the tensile force using pulley blocks. Use the correct anchors and means of fastening (straps) for the force.



Determine and prepare mounting options for the load

Identify a location where the machine can be anchored and attach the rope pulling machine in the pulling direction using the correct means of fastening.



- The rope pulling machine must be able to freely position itself in the direction in which the rope is moving. Danger of housing breaking!

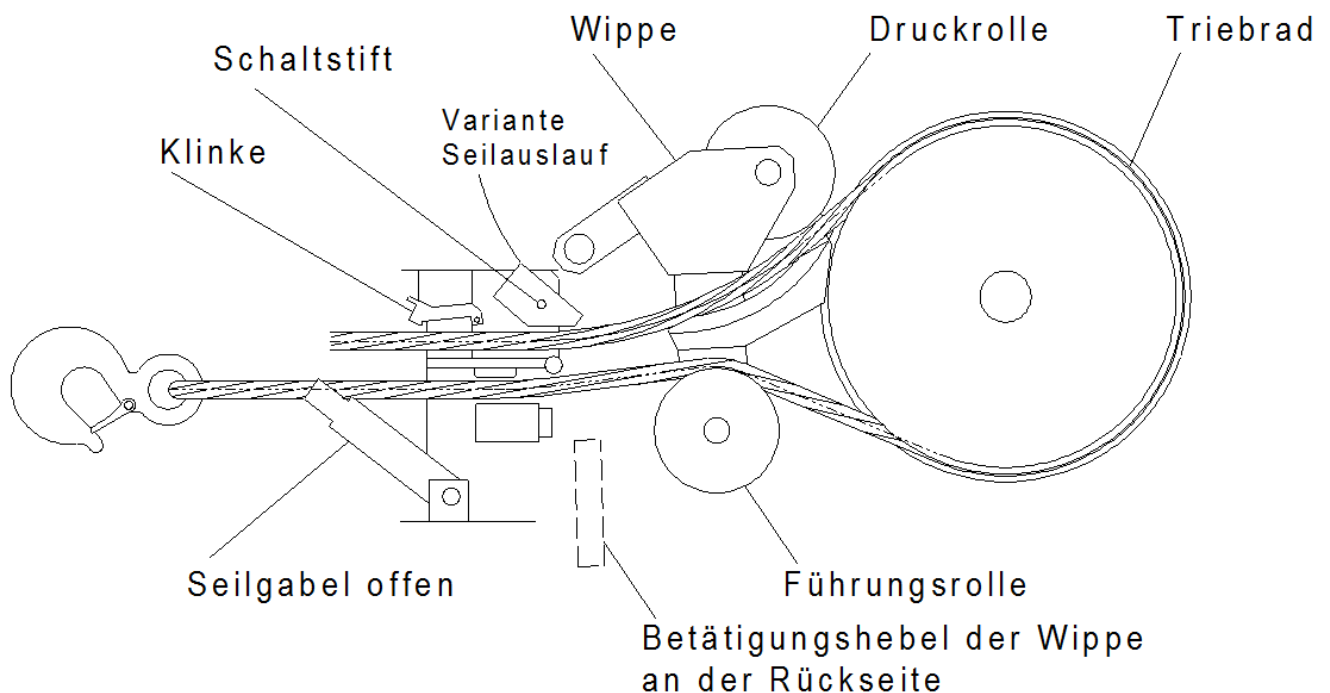
When pulling at right-angles through a wall or pulling vertically through the floor, the rope pulling machine can be supported against the wall or directly on the floor using the supporting frame. In this case, the unloaded rope should be led upwards through the upper rope guide.

Laying the rope.

5.2 Insert rope

Insert the cable only once you have carried out all the preparatory works, i.e. you have anchored the rope pulling machine and attached the load. This means that the cable can be pre-tensioned by hand and placed on the desired point on the driving wheel without a idle stroke. The cable is placed in the driving wheel as shown in the following diagram (also see chapter 2):

1. Remove fixing screws from cover and remove cover.
2. Lift rope shaft latch and pivot rope shaft forwards
3. Loop the rope with the load hook at the bottom.
4. Place load-bearing rope in guiding pulley.
5. Place loop in driving wheel keyways from bottom to top.
6. Pivot rocker upwards using rear operating lever. (until lever clicks into place)
7. Place empty rope underneath thrust roller.
8. Swivel rope shaft inwards until it clicks into place so that both ropes are being led through it or lead the unloaded rope upwards using the relevant guide
(Hoisting is only possible when the rope shaft is locked into the latch)
9. Push rocker downwards using rear operating lever until lever clicks into place
10. Keep actuator pin pressed in and gently tighten rope using motor.
11. Double check cable placement is correct.
12. Replace cover and secure with the fixing screws.



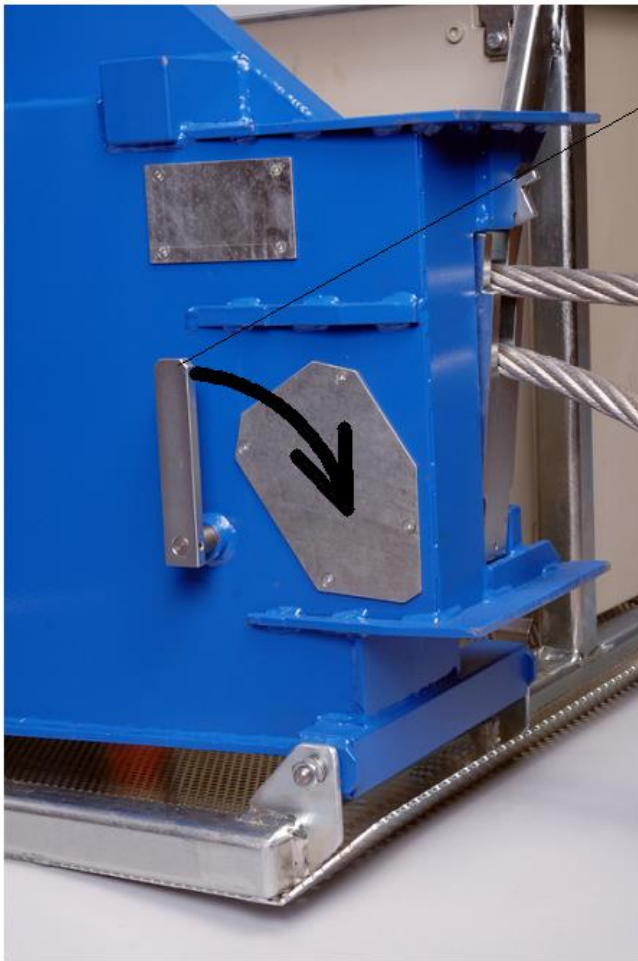
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Rear view



Hebel zu Wippe
in Betriebsstellung

Zum Seileinlegen
Hebel nach unten schwenken
bis er einrastet

5.3 Pulling and hoisting



- Check that you have the correct direction of rotation for hoisting and lowering before commencing operation.
- If the direction of rotation is incorrect, consult an electrician to check the direction of rotation of the phases and, if required, to correct them (check any extension cables which may be present).



- Any extension cables up to 30 m long must have a minimum cross section of 5x2.5 mm².
- For longer cables this must be at least 5x4 mm².

After inserting the cable, start the motor by pushing the button on the pendant station.

Press the “Raise” button. (see chapter 2)

When hoisting, ensure that neither the housing nor the cable are being diverted or tilted by objects or obstacles. The freely exiting cable may not be impeded.



- Keep an eye on the rope during movement.

Never allow the hook to touch the housing.

Stopping the driving wheel:

Release button

In emergencies, e.g. in the case of jams:

Press the “Emergency stop” button. (see chapter 2)

Spring-loaded brake

The spring-loaded brake is securely mounted on the motor’s free shaft end. It is protected against moisture and foreign objects by a protective cap with a rubber seal.

The braking torque of 60 Nm is set in the factory and should not be changed. In de-energised states, the brake is engaged using the built-in compression springs.

5.4 Lowering

Press the “Lower” button. (see chapter 2)



- Danger of falling! Pay attention to end of rope! The unloaded rope should slide into the machine freely and without kinks.
- Stop lowering at least 2 m before the end of the cable.

6 Faults

Faults	possible causes	Procedures
Motor will not start when button is pressed	Cover is missing or not screwed on Power cable not plugged in Extension cable not connected Rope shaft not swivelled in Extension cable broken Fuse in the supply has blown Emergency stop button on pendant station pressed Hook touching housing and Limit switch pressed other causes	Replace cover and screw on Insert plug Connect cable Swivel rope shaft inwards until latch clicks Replace cable Clarify cause, secure Replace Unscrew button Press the "Lower" key and the override button on the control box Call an electrician, diagram is in control cabinet
The motor is not moving despite making noise	Broken rectifier, holding brake will not release Pull on cable is greater than permitted tensile force	Replace rectifier Reduce load or employ pulley block pulling system
Cable is not moving despite driving wheel turning	Rocker not swivelled in Cable incorrectly inserted too small or too thin cable inserted Cable severely worn out Driving wheel or rope too heavily greased Groove in driving wheel heavily soiled no load on rope	Swivel rocker inwards Insert cable according to diagram Insert correct cable Insert new cable clean clean Load cable

6.1 Emergency lowering

Optional emergency operation controls

If the control system is equipped with emergency operation controls, the power unit's frequency converter can be bypassed. The load can be hoisted and lowered in this manner.

Switch on emergency operation

1. press EMERGENCY STOP button
2. switch on emergency operation
3. release EMERGENCY STOP button

Switch off emergency operation

1. press EMERGENCY STOP button
2. switch off emergency operation
3. release EMERGENCY STOP button

7 Maintenance

The following checks and maintenance work should be carried out:

Task	At the start of operation	As required	Comments
General visual checks: - driving system - housing - Anchor bolts, anchoring straps	X		
Screw check		X	after first use or Overhauls
Clean driving wheel		X	
Direction of rotation for electric motor	X	X	UP button = Rotation of driving wheel in anticlockwise direction
Sprocket re-lubrication		X	Gear grease
Rope: Visual checks - compression sleeve - eye hooks with fastenings	X		Checking for deformities, Damage, tears or broken wires
Rope: Cleaning		X	
Rope: Diameter check		X	for worn out ropes, when rope diameter < 19 mm, Change the cable!
Oil level in sight gauge		X	

The machine, the rope and the accessories must be checked at least **every 2 years** (see sticker on machine) by a qualified professional. In this way all parts will be checked for deformities, wear and tear, and cracks. The results of these checks should be entered into the test book. The checks should be arranged by the operator. Additionally, local regulations, as well as additional checks for severe operating conditions in short operating distances, must be implemented by a qualified professional.



8 Replacement parts

Replacement parts are provided on a separate list. This can be requested from HABEGGER.

9 Disposal

Please refer to country-specific regulations for disposal.

Empty the HIT-TRAC completely of oil.

Dispose of even the smallest quantity of oil professionally, i.e. take it to the relevant location.

When dismantling the machine, separate the different types of material as much as possible in order to facilitate recycling:

Store and recycle metals and plastics separately.

Consider the fact that protecting the environment and recycling materials helps us all.

10 Accessories

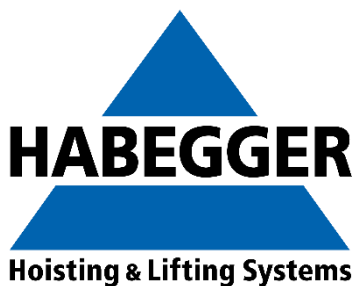
10.1 Wireless remote control

The rope pulling machine can be fitted with a wireless remote control.

10.1 Generators

To use the HIT-TRAC with a generator an electrical output of at least 2.5 to 3 times the motor power must be generated.

HABEGGER will gladly support you in evaluating the generator.



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