

# ***Operating manual***

## ***Spare parts list***

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***Stone cutoff saw***

***TME 650P***

*Index / Indice «001»*



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## **Preface to the operating manual**

This operating manual makes it easier to become familiar with the machine and to use it properly.

The operating manual contains important information on how to operate the machine safely, properly and efficiently. Following the operating manual helps avoid danger, avoid repair costs and downtime, and increase the machine's reliability and life.

The operating manual must be supplemented with instructions based on national regulations for accident prevention and environmental protection.

The operating manual must always be readily available at the location where the machine is used.

The operating manual must be read and used by any person assigned tasks with the machine, such as:

- operation, including set-up, repair of malfunctions during operation, disposal of production waste, maintenance, disposal of materials
- maintenance (service, inspection, or repair) and/or
- Transport

In addition to the operating manual and the regulations for accident prevention in force in the country and at the location where the machine is used, recognised technical rules for safe and correct operation must be followed.

## **Table of contents**

1. Basic safety instructions
2. Machine description
3. Assembly and initial preparation for operation
4. Transport
5. Operation
6. Disassembly
7. Maintenance
8. Malfunctions
9. Accessories
10. Warranty

# 1. Basic safety instructions

## 1.1 Warnings and symbols in this manual

- Danger! Points out that serious or even fatal injuries may result if not followed.
- Caution! Points out that injuries may result if not followed.
- Notice! Points out that damage to the machine or other equipment may result if not followed.

## 1.2 Principle of intended use

Danger! 1.2.1 The stone cutoff saw is designed exclusively for wet sawing of building blocks made of mineral materials. Sawing of wood or metal is prohibited!

The manufacturer/supplier is not liable for damages resulting from improper use.

Compliance with the operating manual and observation of inspection and service requirements are essential components of proper use.

1.2.2 Use the machine only in correct working order and for its intended purpose. The operator must follow the instructions in the operating manual and be fully aware of the safety requirements and hazards posed by the machine. In particular, any faults that may compromise safety must be repaired immediately.

## 1.3 Organisational measures

1.3.1 Always keep the operating manual readily available at the location where the machine is used!

Danger! 1.3.2 Instruct users to observe supplements to the operating manual as well as all generally applicable legal and other mandatory regulations on accident prevention and environmental protection!

Obligations of this nature may also relate to the use of dangerous substances, for example, or the wearing of personal protective equipment or to road traffic regulations.

Danger! 1.3.3 Personnel assigned to work with the machine must have read the operating instructions and, in particular, the chapter on safety before beginning work. Reading the manual for the first time when working on the machine is too late. This applies especially to persons who work on the machine only occasionally, such as those performing set-up and maintenance.

- 1.3.4 Check at least from time to time whether personnel are performing the work in compliance with the operating manual and paying attention to risks and safety factors!
- Caution! 1.3.5 Use personal protective equipment where necessary or if required by regulations.
- Danger! 1.3.6. Obey all safety and danger notices on the machine!
- Danger! 1.3.7 Ensure that all safety and danger notices on the machine remain clearly legible!
- Danger! 1.3.8 In the event of safety-relevant changes to the machine or its operating performance, stop the machine immediately and report the malfunction to the responsible authorities/ person!
- Danger! 1.3.9 Never make any modifications, additions or conversions which might affect safety without the supplier's approval!
- Danger! 1.3.10 Use only manufacturer's original parts!
- Danger! 1.3.11 Observe the stipulated periods or the periods given in the operating manual for inspections! The machine must be inspected annually by an expert.
- 1.3.12 The machine must be thoroughly cleaned before inspection.
- Danger! 1.3.13 The power cord must be unplugged before all inspection or repair work.

#### **1.4 Personnel selection and qualification; fundamental duties**

- Danger! 1.4.1 Only persons aged 18 years and over and who have been instructed on how to operate the machine may be entrusted with operating it independently.
- Danger! 1.4.2 People must not remain unnecessarily on the machine or in its area of movement!
- Danger! 1.4.3 During all machine movements, operating personnel must always ensure that they do not endanger themselves or others.
- Danger! 1.4.4 Work on electrical equipment on the machine may only be carried out by an electrician or by instructed persons under the guidance and supervision of an electrician in accordance with electrical regulations.
- Danger! 1.4.5 Personnel who are being trained, instructed or in training as part of a general education programme may only be permitted to work on the machine while under the constant supervision of an experienced person!

## 1.5 Safety instructions during specific operating phases

### 1.5.1 Normal operation

1.5.1.1 Avoid all actions and working methods which may compromise safety.

Danger! 1.5.1.2 Take steps to ensure that the machine is operated only in a safe and proper condition!

1.5.1.3 Check the machine for visible external damage and defects at least once per shift. Immediately report any changes (including in operational performance) to the appropriate office/individual! If necessary, stop the machine immediately and make it secure.

Danger! 1.5.1.4 In case of malfunction, stop the machine immediately and make it secure. Immediately repair any malfunctions!

Danger! 1.5.1.5 The stone cutoff saw is designed exclusively for wet sawing of building blocks. Sawing of wood or metal is prohibited!

Danger! 1.5.1.6 The machine must not be connected to a circuit without a ground-fault circuit interrupter (FI) in the electrical line or distribution box.

Danger! 1.5.1.7 Before beginning cutting operations each day, check the following:

- condition of the diamond saw blade (cracked saw blades must be replaced - when in doubt, by an expert)
- functional condition of the safety devices
- adequate cooling water supply - dry sawing is not permitted!

Danger! 1.5.1.8 Do not jam saw blade.

Danger! 1.5.1.9 The electrical plug must not be pulled when the machine is running.

Notice! 1.5.1.10 When there is danger of freezing, remove the water pump from the pan (do not switch on pumps that are already frozen - thaw them out slowly).

### 1.5.2 Special work in conjunction with use of the machine and maintenance and repairs during operation; disposal

Caution! 1.5.2.1 Observe all the setting, maintenance and inspection activities and timetables, including instructions for replacing parts/secondary devices, as described in the operating manual! Only technically qualified personnel should carry out these activities.

Caution! 1.5.2.2 Brief operating personnel before beginning special operations and maintenance work! Appoint supervisory personnel.

Danger! 1.5.2.3 If the machine is completely shut down during maintenance and repair work, it must be mechanically secured to prevent accidental activation.

Note 1.5.2.4 Before cleaning the machine with water or other cleaning agents, cover/seal all openings that, for reasons of safety and/or functioning, water/steam/cleaning agents must not be allowed to enter. Particularly endangered are electrical motors, switches and plug connections. Cleaning with a steam jet is not permitted.

Note 1.5.2.5 After cleaning, the covers and tapes must be removed completely!

Danger! 1.5.2.6 Always tighten loose screw connections during servicing and maintenance work!

Danger! 1.5.2.7 Any safety devices removed during set-up, maintenance or repair must be reinstalled and checked immediately upon completion of the maintenance and repair work!

1.5.2.8 Dispose of fuel and consumable materials and replacement parts in a safe and environmentally-friendly manner!

## **1.6 Notice on specific hazard types**

### **1.6.1 Electricity**

Danger! 1.6.1.1 Only use original fuses with the specified amperage! If the electrical power supply is interrupted, shut down the machine immediately!

Danger! 1.6.1.2 Perform maintenance or repair work only when the machine is separated from the electric circuit.

Danger! 1.6.1.4 The electrical equipment on the machine should be inspected/checked on a regular basis. Defects, such as loose connections or scorched cables, must be repaired immediately.

### **1.6.2 Dust**

1.6.2.1 Observe applicable national regulations when working in enclosed spaces!

## **1.7 Transport**

- Danger! 1.7.1 Use a four ring suspension gear of sufficient carrying force when dislocating the machine.
- Danger! 1.7.2 Determine an expert to give the appropriate handling instructions for the lifting procedure!
- Danger! 1.7.3 Lift machine according to the instructions as provided in the operation manual (stop points for load carrying devices etc.) by means of the lifting gear in a workmanlike manner!
- Danger! 1.7.4 Use only suitable transport vehicles with sufficient lifting capacities!
- Danger! 1.7.5 Secure the load reliably. Use suitable lifting points!
- Danger! 1.7.6 Disconnect all power sources before moving the machine, even for very short distances! Ensure that the machine is correctly reconnected to the power supply before restarting!
- Danger! 1.7.7 Restart the machine strictly in accordance with the operating manual!



## 2. Machine description

### 2.1 Overview of components

- Item 1 - Frame
- Item 2 – Water tub
- Item 3 - Saw table
- Item 4 – Switchbox
- Item 5 - Saw hood
- Item 6 - Motor
- Item 7 - Cutting height adjustment
- Item 8 - Saw blade
- Item 9 - Saw head
- Item 10 - Emergency switch
- Item 11 – Connector plug
- Item 12 – Switch
- Item 13 – Feed grip
- Item 14 – Jack ring

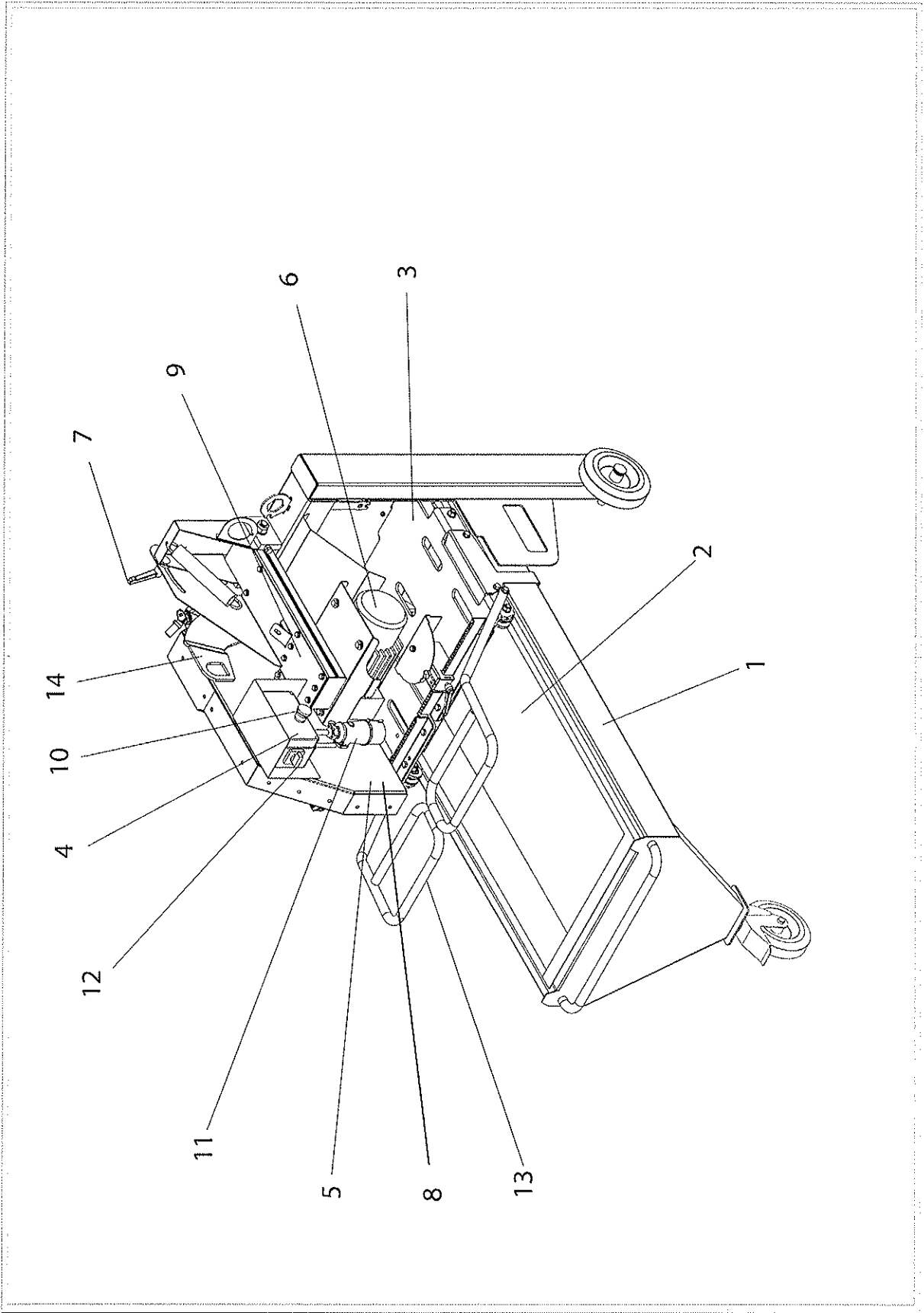
### 2.2 Protective equipment

- Item 5 - Saw hood
- Item 10 - Emergency switch

### 2.3 Technical data

	<b>TME 650P</b>
Motor power	5,5 kW
Operation voltage	400 V
Current consumption	11 A
Connected load	400 V / 32 A
Safety class	IP 55
Saw blade shaft r.p.m.	1400 r.p.m.
Saw blade diameter	650/700 mm
Saw blade arbor	60 mm
Cutting depth	245/270 mm
Cutting length.	600 mm
Table width	630 mm
Height	1350 mm
Width	910 mm
Length	1470 mm
Weight	215 kg

Subject to technical changes!



## **2.4 Noise emission values**

The measurements were made in accordance to the norms EN ISO 3744, EN ISO 11201 and EN 12418. Therefore it was used a standard saw blade Type W3 ø700 mm (not a silent blade).

Parameter	Value
continuous sound pressure level at work LpA	91 dB (A)
Sound power level LwA	92 dB (A)
Sound power level at the ear of user	106 dB (A)

## **2.5 Vibration at the grab handle**

When cutting the oscillation total value is under 2,5 m/s<sup>2</sup>.

# **3. Assembly and initial preparation for operation**

## **3.1 Assembly tools**

- Combination wrench size 13/46

## **3.2 Set up and assembly**

- Put the saw on a clean and capable of bearing ground
- Remove the packing

## **3.3 Installation of the saw blade (or checking the installation)**

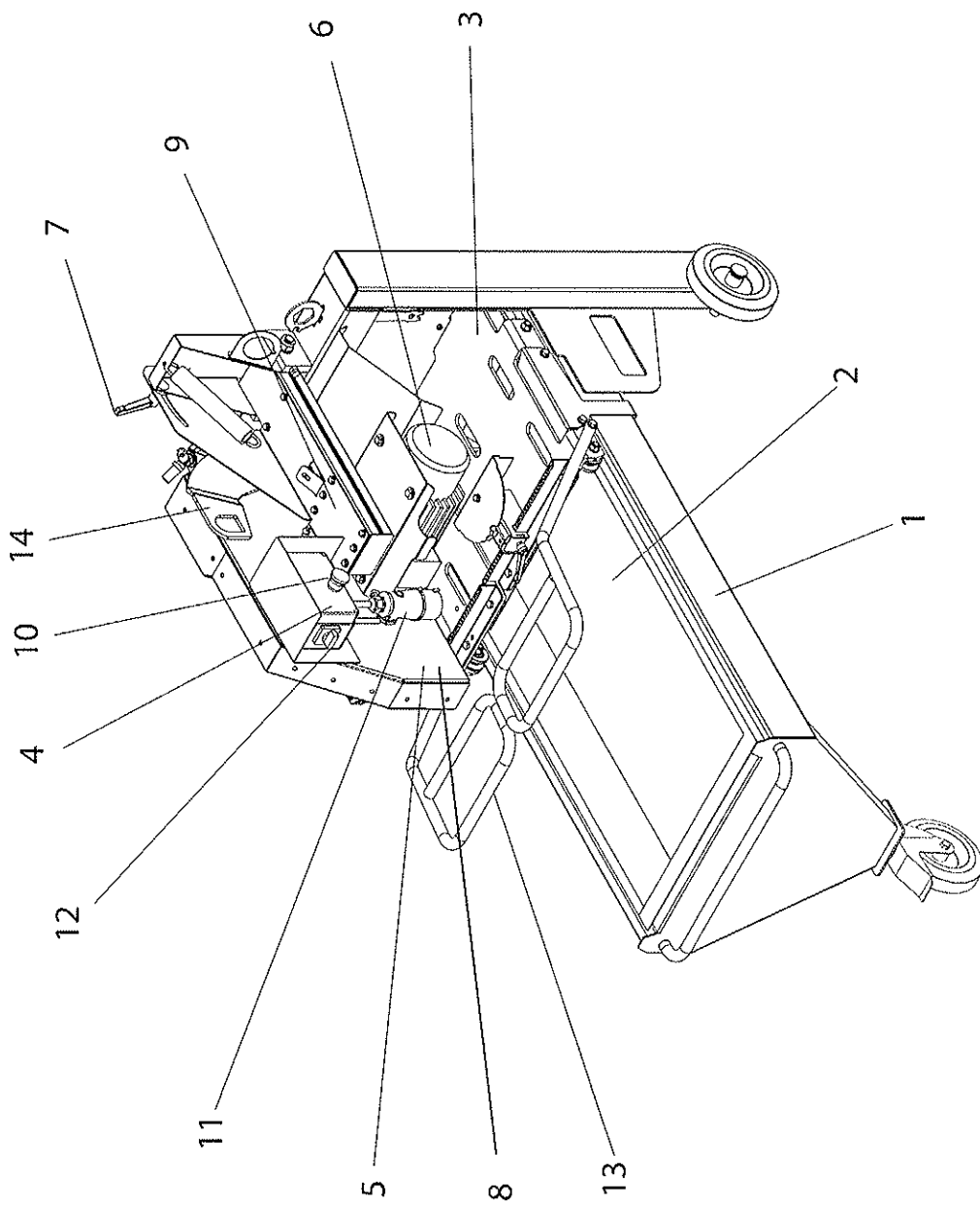
- Loose the clamp handle (item 7)
- Lift up the saw head and tighten the clamping lever (item 7).
- Remove the side protecting sheet metal
- Remove the flange nut (left-hand thread) and thrust washer.

### **ATTENTION! When installing the saw blade, observe the following:**

- All receptacle surfaces must be clean.
- Rotation direction arrow on the saw blade must match the one on the hood.
- Use only diamond saw blades provided by the manufacturer.
  
- Install thrust washer and flange nut. (Combination wrench size 13/46)
- Mount the side protecting sheet metal

## **3.4 Saw preparations**

- Fill the tub with water until the pump is submerged.
- Open the water valve.
- Plug the supply line cable (400 V, 32 A) into the connector plug (item 11).
  - Check protective equipment (see 2.2).



### **3.5 Test direction of rotation of the saw blade**

- Switch the Star-delta-switch (item 12) short to "Star"
- Check the direction of rotation of the saw blade.
  - \* The direction of rotation is clockwise, seen from the left (direction arrow on the saw hood).

### **3.6 Change direction of rotation**

- Turn off main switch (item 12).
- Remove power cord from the socket (item 11).
- Change phase of the power supply plug (item 11) with a screwdriver.
  - \* Press white disk inwards and turn it.

### **3.7 Test run**

- Place block on table.
- Push the block to the stop.
- Press the main switch (item 12) to "Star".
- Wait until the motor has a regular revolution (regular sound)
- Turn the switch (item 12) further to "triangle"

### **ATTENTION! Is the saw blade adequately supplied with cooling water?**

#### **Caution!**

- Dry cutting is not permitted.
- Inadequate cooling water results an early wear or malfunctioning of the saw blade.
- Start feed movement via handle (item 13) on the saw table.
  - \* First cut with low feed speed.
  - \* Adjust feed speed to the feed force.

## **4. Transport**

### **4.1 Preparation for transport**

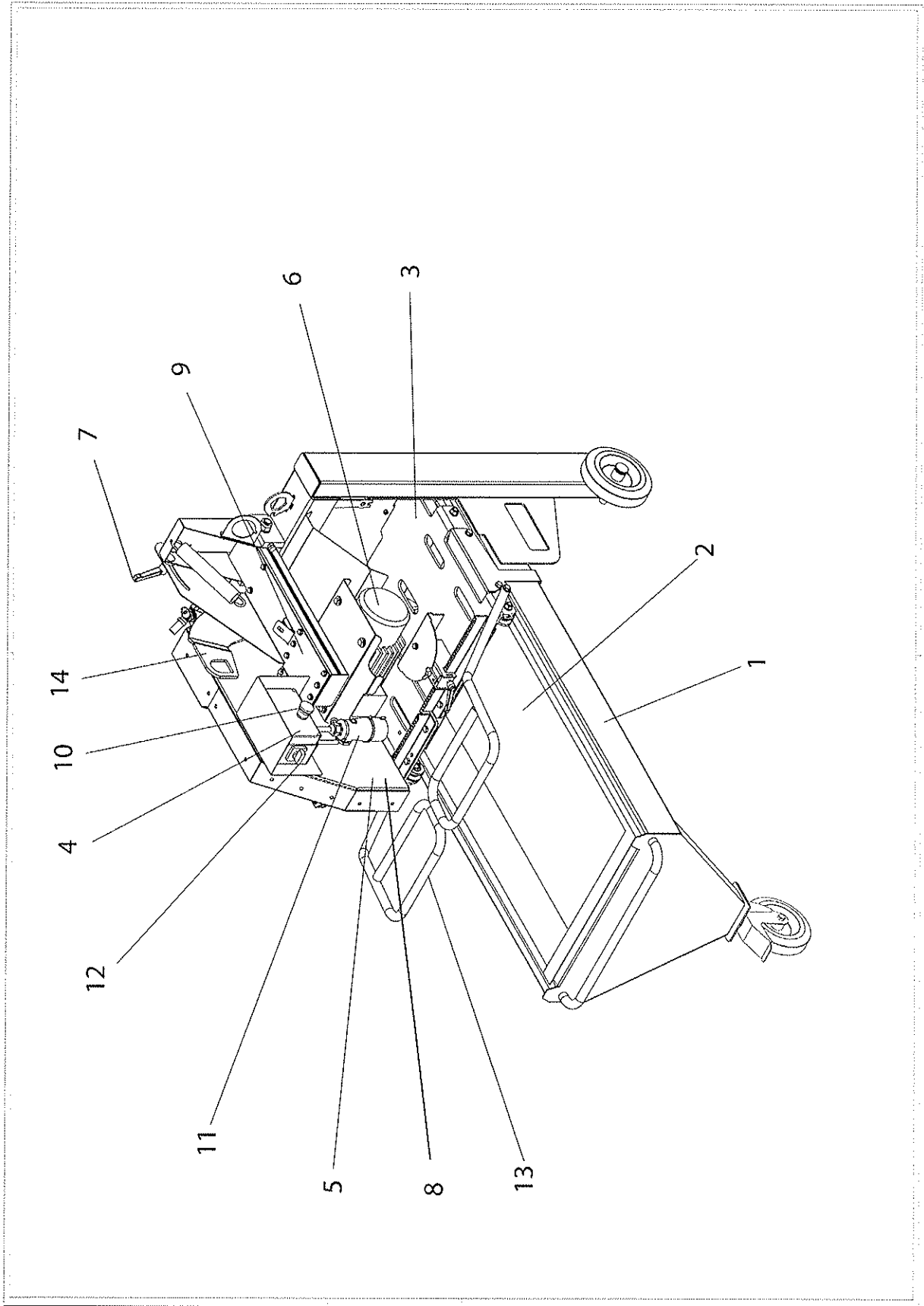
- Remove the power cord from the saw.
- Empty the water from the tub.
- Saw blade height adjustment (item 7) is tightened.
- Lock the device on the saw table

### **4.2 Displace with the crane**

- Hang up the suspension gear with sufficient carrying force into the eyelets provided for this purpose at the limit points (Pos. 14).
- By displacing – keep the saw in your eyes

### **4.3 Transport with the truck**

- fix the saw on the limit stops (item 14)



## 5. Operation

### 5.1 Setting up the saw

- Set up the saw on a clean and stable foundation.
- Test the saw's steadiness.

### 5.2 Saw preparations (see 3.4)

### 5.3 Test the direction of rotation of the saw blade (see 3.5)

### 5.4 Changing direction of rotation (see 3.6)

### 5.5 Sawing (see 3.7)

### 5.6 Cutting quality of the saw blade

If the saw blade loses its sharpness after longer use, you can "sharpen" it by making some cuts in sand-lime bricks or similar material.

### 5.7 Cooling water

Very dirty water reduces the life of the pump and saw blade.

- By frequent use replace the water daily and remove the saw sludge.
- Also clean the pump's suction strainer with each water change.

### 5.8 Height adjustment

The saw blade height adjustment is needed for:

- cutting through blocks with height over 270 mm in the reversing tool.

Performing the height adjustment.

- The motor is turned off.
- Loosen the clamping lever (item 7).
- Set the saw head to the desired height.
- Tighten the clamping lever (item 7).

### 5.9 Changing the saw blade (see 3.3)

## 6. Disassembly

- Turn back the star delta switch (item 12).
- Remove the connecting cable.
- If there is danger of freezing, take the water pump out of the water and let the water drain off.

**ATTENTION! Frozen pumps have to be thawed out before switching them on.**

- Transport (see 4)

## 7. Maintenance

- Thoroughly clean the saw once per week (in off circuit condition).

## 8. Malfunctions

Malfunction	Possible cause	Remedy
Motor does not run	<ul style="list-style-type: none"> <li>• Power cord is defective</li> <li>• Motor is defective</li> <li>• Switch is defective</li> </ul>	<ul style="list-style-type: none"> <li>• New power cord</li> <li>• May only be repaired by an electrician</li> </ul>
Incorrect saw blade rotation direction	<ul style="list-style-type: none"> <li>• Motor incorrectly polarised</li> </ul>	<ul style="list-style-type: none"> <li>• Reverse the phase inverter</li> </ul>
Motor shuts down during sawing, but can be restarted after a short break.	<ul style="list-style-type: none"> <li>• Feed too fast</li> <li>• Saw blade blunt</li> <li>• Saw blade worn (coating &gt; 2 mm)</li> </ul>	<ul style="list-style-type: none"> <li>• Cut with slower feed</li> <li>• Sharpen saw blade with 10-15 cuts in sand-lime bricks</li> <li>• Replace saw blade</li> </ul>
No water at saw blade	<ul style="list-style-type: none"> <li>• Pump is not running</li> <li>• Line system clogged</li> </ul>	<ul style="list-style-type: none"> <li>• Change the safety device in the switchbox. Only by an electrician expert.</li> <li>• Clean line system</li> </ul>



## **10. Warranty**

**The warranty period for this machine is 12 months. The following wearing parts are covered under warranty only if the wear is not caused by operation.**

Wearing parts are parts that are subjected to operating wear when the machine is used as intended. The wear time cannot be defined uniformly; it differs according to the intensity of use. Wearing parts must be serviced, adjusted, and, if necessary, replaced specifically by machine according to the manufacturer's operating manual.

Operation-related wear does not justify malfunction claims.

- Feed and drive elements such as racks, gears, pinions, spindles, spindle nuts, spindle bearings, ropes, chains, sprockets, belts
- Seals, cables, hoses, collars, plugs, couplings, and switches for pneumatic, hydraulic, water, electrical, and fuel systems
- Guide elements such as guide strips, guide bushes, guide bars, rollers, bearings, non-skid covers
- Clamping elements of quick-disconnect systems
- Flushing head seals
- Sliding and roller bearings not running in an oil bath
- Shaft seal rings and sealing elements
- Friction and overload couplings, brake gear
- Carbon brushes, collectors
- Easy-disconnect rings
- Control potentiometers and manual switching elements
- Fuses and lamps
- Fuel and consumables
- Fastening elements, such as plugs, anchors, and screws
- Bowden wires
- Lamellae
- Diaphragms
- Spark plugs, glow plugs
- Parts of the reversing starter, such as starting rope, catch, roller, spring
- Sealing brushes, sealing rubber, splash guard flaps
- Filters of all kinds
- Drive and deflection rollers and bands
- Rope lay protection elements
- Running and drive gears
- Water pumps
- Cutting material transport rollers
- Drilling, separating, and cutting tools
- Conveyor belt
- Rubber wipers
- Needle felt protection
- Energy storage

# CE Declaration of conformity

Description: **Masonry saw TME650P**  
with electric engine 5.5 kW/400V

Type: TME650P  
 Article number: 10987200  
 Serial number: 6500001 – 6500\_\_\_\_  
 Index: 001  
 Year of construction: 201\_



The TYROLIT Hydrostress AG certifies that the inspected above machine against the following guidelines and that we confirm compliance with these standards:

### Guidelines:

Machine Directive	2006/42/CE
2002/95/EC Restriction of the use of certain hazardous substances in electrical and electronic equipment	2002/95/CE
Electrical Directive	93/68 EWG
Electromagnetic compatibility	89/336/CEE
Waste electrical and electronic equipment	2002/96/CE
Vibration Directive	2002/44/CE
Noise Emission	2000/14/CE

### Standards:

EN 12418:2000	Masonry and stone-off machines for job site - Safety
EN ISO 14121	Safety of machinery: Principles of risk assessment
EN 61000-6-3	Electromagnetic compatibility

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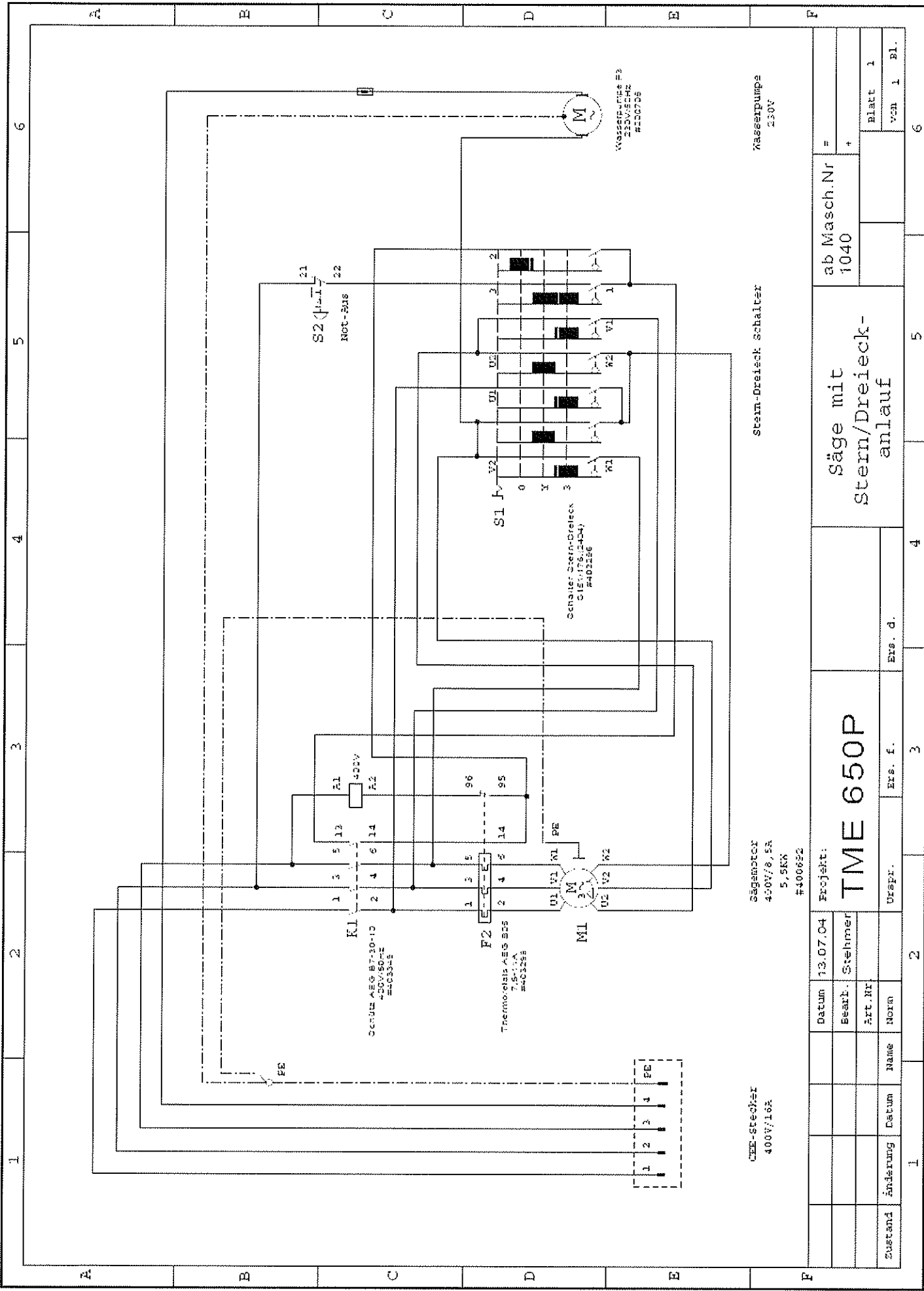
Pfäffikon, 02.03.2010



Mario Facchin  
 Head of Research and Development



EN ISO 9001 u. EN ISO 14001  
 Zertifikate Nr. 20 100 72002004 u. 20 104 7177  
 www.tuv.at



CEE-stecher  
400V/16A

Sägemotor  
400V/3,5A  
5,5kW  
#100622

Stern-Dreieck Schalter

Wasserpumpe  
230V/50Hz  
#200705

Zustand	Änderung	Name	Datum	Datum	13.07.04	Projekt:	TME 650P	ab Masch.Nr	1040	=	
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