



**Operating Instructions for
Hydraulic Power Unit
H10024M10
8-40100001.00044**

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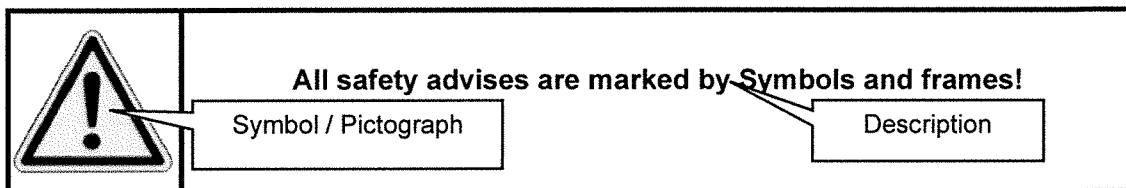
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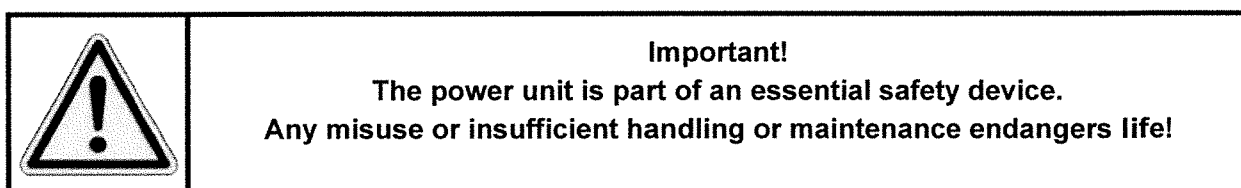
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1 Safety regulations

Note: warnings and other security rules are presented like this throughout the manual:



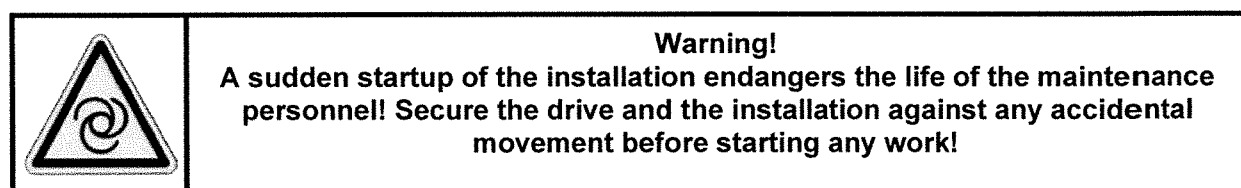
The power unit may only be used in the way described in chapter 2.3 "Description and designated use". The safety of your power unit / brake-system depends on proper and regular inspection and maintenance. Study the manual before starting the installation. If in doubt, please don't hesitate to contact our service-department or your local retailer. info@pintschbubenz.de



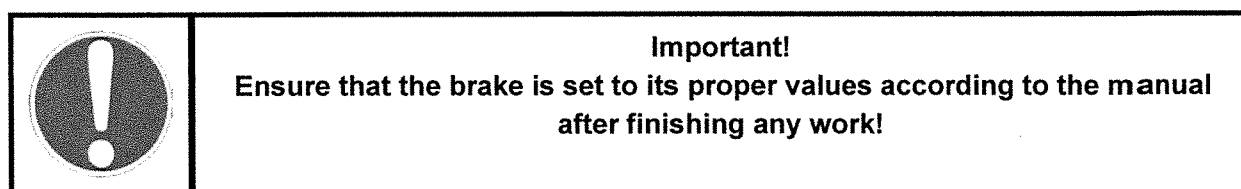
Also study the following manuals and Regulations:

- Operating manual of the installation
- Safety precautions of the installation
- Valid Safety regulations

Before starting any work with the power unit:



- Don't use any mechanical devices to block the power unit.
- Ensure, that the drive is disconnected from the electrical power supply.
- Ensure, that the power unit isn't pressurized.
- Any electrical or hydraulic work is only to be done by a trained electrician.
- Use only genuine PINTSCH BUBENZER spare-parts.
- The power unit must never be disassembled further than described in the manual.



2 Power unit

2.1 Introduction

This manual has been written to the best of our knowledge. It is intended to familiarize the operation and maintenance personnel with the function, the handling, the maintenance and the safety regulations of the power unit. Furthermore these instructions should make sure that **trained and qualified personnel** are able to handle the power unit according to its designated use. However the manual can't cover all the possible circumstances at the place of operation. If you have any questions concerning the power unit or this manual, please contact PINTSCH BUBENZER quoting the type and serial number of the power unit as given on the typeplate.

2.2 Warranty

The warranty and its duration depend on the contract. For details on the supplier's warranty please refer to the terms of the contract. Any warranty- or liability-claims are excluded in case they occur because of one or more of the following conditions:

- Non-designated use of the power unit.
- Improper handling, setup, operation and maintenance of the power unit by the operating company.
- Neglect of the regulations and notes in this manual concerning transport, setting up, operation and maintenance of the power unit.
- Improper maintenance and repairs of the power unit.
- Improper monitoring of components, which are prone to wear.
- Catastrophes, external objects and forces and force majeure.
- Changes at the power unit without approval of PINTSCH BUBENZER.

The information in this manual has been checked thoroughly. Nevertheless we can't accept liability for errors.

2.3 Power Unit

The hydraulic power unit H10024M10 is designed and set to supply disc brakes type PINTSCH BUBENZER SF according to the conditions described in your order. Please also refer to the designated use of the brake. The brake is released (opened) by the hydraulic power unit and set by spring force. In emergency situations the brake can be released by a hand pump lever. This power unit is not suited for the use in areas with explosion hazards and is not certified acc. to Atex!

- The function is described in section 4

Any other use or any further change of the power unit is strictly forbidden! Ignoring the regulations for the designated use and /or the instructions for setup and maintenance endangers life and leads to the loss of any warranty by the manufacturer!

2.4 Technical Data

- Refer to circuit diagram H10024M10
- Compare technical data with type plate of the unit.

Brakes to supply	1 x SF 10	/	1 x SF 24
Oil tank volume:	30 l		
Hydraulic Oil:	ISO VG 46		
Power	3 kW at 50 Hz		
	3.45 kW at 60 Hz		
Volume flow Q :	7.9 l/min at 50 Hz		
	9.4 l/min at 60 Hz		
Min. Operating pressure:	170 bar		
Max. Operating pressure:	210 bar		
Valve voltage :	98... 130 V AC		
Motor voltage :	230/400 V, 50 Hz		
	460 V, 60 Hz		
Direwction of Pump	Left (looking on shaft)		
Duty cycle of motor	ED 100%		

2.5 State of shipment



Important!
The hydraulic power unit must always be moved with proper lifting devices!
Danger of injury!

- The unit is shipped ready for use, without oil filling.
- The power unit needs to be installed as described in chapter 3 (see below).
- The Operating pressure is preset by PINTSCH BUBENZER.

These settings must not be altered!

- Keep brakes and power units dustproof and waterproof together with drying material during the storage and/or transportation period.
- Protect the brakes against external damage for the complete storage-/transport period.
- To avoid condensation inside the units, piping etc. the hydraulic power units must not be stored outdoors.
- Pipe connections and connections on manifolds should be provided with threaded plugs.
- Carry out commissioning of a long-term stored hydraulic power unit by specialists.
- Store hydraulic power units completely dustproof if they are not directly used after manufacturing.
- Fill up the tank with hydraulic fluid if the power units are not directly used after manufacturing.

In case of additional painting, do NOT contaminate:

- Pistons and seals.
- Electrical components.
- Signs or plates

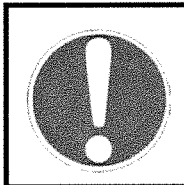
3 Setup



Danger!

A sudden startup of the installation endangers the life of the maintenance personnel! Secure the drive and the installation against any accidental movement before starting any work!

3.1 Preliminary Work

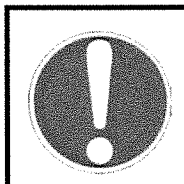


Important!

Contamination of the hydraulic oil may endanger the brake function! The brake, the power unit and all tubing and hoses have to be cleaned / flushed inside and bled **BEFORE** the brake is connected!

- Place the hydraulic unit on a flat place and as close as possible near the brakes.
- If the hydraulic unit feeds several brakes, observe that the distance between the unit and the callipers are symmetrically in length.
- In case any tubing is higher than the brake(s) and the power unit, install an additional bleeder valve (not included in the scope of supply) at the highest point of the tubing.

3.2 Hydraulic connection



Attention:

The hydraulic tasks may only be executed by person trained in this field!

- Connect hydraulic power unit and brakes according to diagram H10024S10.
- The brake cylinders are to be connected symmetrically (tubing of equal length).
- The connections between hydraulic power unit and brakes have to be executed in a way that metal chippings and dirt cannot get into the tubing.
- Arrange all parts so the brake can still be properly reached.
- In case any tubing are higher than the brake(s) and the power unit, install an additional bleeder valve (not included in the scope of supply) at the highest point of the tubing
- Fill in approximately 30 Litres of absolutely clean (min. 10 micron) hydraulic oil of the correct viscosity grade ISO VG 10...68. Refer to section 2.4
- In case the temperature class changes make sure to fill in the correct oil (refer to appendix).
- Ensure that the necessary operating-pressure is available and isn't exceeded. The maximum operating pressure is contained in the operating manual of the brake.

3.3 Bleed installation



Important!

Air bulbs inside the hydraulic system endanger the correct function of the brake. The brake, the hydraulic power unit and the tubing has to be bled before the start up.

- The brakes and the complete tubing have to be bled!
- The bleeding of the brake is explained in the manual of the brake.

3.4 Electrical connection



Danger!

**The applied electrical voltages are dangerous to life!
The electrical connection and all other electrical tasks must only be done by a trained electrician!**

- Connect hydraulic power system according to customers wiring diagram.
- Check sense of rotation (corresponds to arrow direction at cooling fan).



Caution!

Running the motor with the wrong sense of rotation damages the power unit! Switch off E-Motor immediately when motor is running with wrong sense of rotation!

- Start up E-Motor shortly.
- Check Manometer.
- No pressure must be indicated.

4 Operation of the hydraulic power system

4.1 Release (open) the brake hydraulically

- Insure that shutoff valve (23) is open (refer to drawing)!
- Energize pump motor and the directional seat valve (13) simultaneously.
- The hydraulic fluid picked up by the pump goes directly into the cylinder and releases the brake.
- When the operating pressure has been reached, pressure switch (25) switches off pump motor.

4.2 Set the brake

- Switch-off the control voltage of the directional seat valve (13) to reach the idle position.
- The brake sets by spring force, the hydraulic fluid is led back to the tank
- The setting time has to be adjusted on the throttle valve at the cylinder

4.3 Manual release



Danger!

When using the manual release no other safety device is active!
When the brake is released to quick, the load accelerates uncontrolled!
Release brake slowly and watch the load!

- Close shutoff valve (23).
- Attach extension lever (18) to hand pump lever (17).
- Operate hand pump (17) until the brake is released.
- Check at pressure gauge (15).
- Store lever (18) safely in its place.
- **After finishing the manual release, insure that the shutoff valve (23) is opened again!**

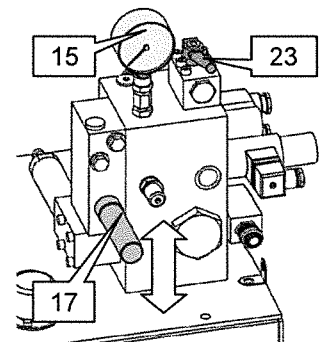


Fig. 1:

4.4 Actuate magnetic valve manually

- In case the magnetic valve (13) is jammed it may be opened manually
- Press actuating pin (arrow) gently with blunt tool (e.g. punch or 4 mm Allen key).
- The pin is self-resetting.

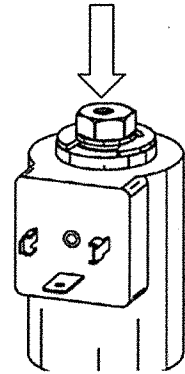


Fig. 2:

5 Maintenance

	Danger! A sudden startup of the installation endangers the life of the maintenance personnel! Secure the drive and the installation against any accidental movement before starting any work!
	Warning: The power unit may be pressurized. Make sure the Installation is not pressurized! Check at the manometer!

5.1 Regular maintenance tasks

Check every 450 operating hours or monthly (Brakes not used for dynamic braking):

- Oil level
- Leakages at tubing and hoses
- Leakages at connections
- Operating pressure of the hydraulic power unit
- Function of the power unit/brake system.

Check the hydraulic power unit outside the regular inspection intervals if:

- Prolonged braking times or -distances appear.
- Extreme operating conditions appear:
 - ⇒ overspeed of the brake disc.
 - ⇒ and/or excessive braking times.
- After a longer period of brake-standstill or drive standstill.
- Any leaks appear.
- An Emergency stop occurred.

5.2 Oil change

- First change 3 months after initial operation
- After that once a year or after 2.000 operating hours
- To drain the hydraulic unit, remove the oil-drain plug at the power unit.
- Drain the complete system.
- If part of the tubing is lower than the hydraulic power unit, this area also has to be drained.
- Remount the tubing.
- Refill oil according to chapter 3.2
- Bleed the system according to chapter 3.3

5.3 Exchange solenoid valve

Exchange plug (13.1):

- Unscrew mounting screw
- Pull out plug (13.1).
- Unscrew electric connection.
- Carefully leverage baseplate out of plug.
- Connect new plug electrically.
 - Heed correct control voltage.
- Pull out malfunctioning plug (13.1).
- Remount new plug.
- Check function.

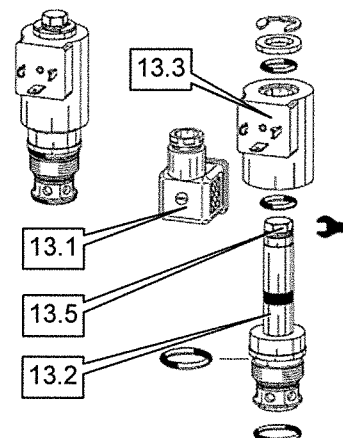


Fig. 3:

In case the Valve does still not work properly although the plug has been exchanged:

Exchange magnetic coil (13.3).

- Dismount plug (13.1).
- The hexagon screw (13.5) must not be loosened.
- Loosen snap ring.
- Pull off coil body with seals and washers.
- Check seals for damages.
- Check all parts for cleanliness.
- Mount new coil with seals and washers
- Remount snap ring.
- Turn coil body slightly. It must be able to turn freely.
- Check function.

Exchange cartridge (13.2):

- Dismount coil (13.3).
- Screw out cartridge (13.2) at hexagon (13.5).
 - Carefully – do not jam!
- Clean thread.
- Screw in new cartridge.
 - Tighten cartridge with torque wrench to a nominal torque of 60 Nm (13.5).
 - Carefully – do not jam!
- Remount valve unit completely.
- Check function.

5.4 Exchange pressure switch

- Loosen screw (25.3) at plug (25.1).
- Pull off plug (25.1).
- In case the plug has to be exchanged, follow the instructions given in section 5.3.
- Do not adjust the setting screw inside the cylinder (25.2).
- Loosen four screws (25.4).
- Exchange pressure switch (25.2).
- Please note: A little oil may flow out.
- Tighten all four screws (25.4).
- Remount plug (25.1) with screw (25.3).
- Check function.

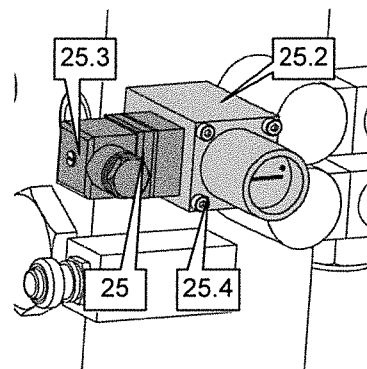


Fig. 4:

6 Putting out of service and disposal

When the power unit is put out of service, the following instructions have to be heeded, to help avoiding dangers to life, material and environment:

The power unit must only be put out of service and disposed by trained and qualified personnel.

Always heed the applying laws and regulations!



Important!
Because of the weight of the power unit always use proper lifting devices
and transport the brake using the lifting ore!
Danger of injury!



Warning!
A sudden startup of the installation endangers the life of the working
personnel! Secure the drive and the installation against any accidental
movement before starting any work!



Danger!
The applied electrical voltages are dangerous to life!
The electrical connection and all other electrical tasks must only be done
by a trained electrician!



Caution!
Make sure the system is not pressurized!
Danger of injury!



Take care that the hydraulic fluids, lubricants and other used substances
as well as oil-soiled parts are disposed environmental friendly and in
compliance with the corresponding laws and regulations!
Electronic scrap has to be disposed separately.

7 Spare parts

	Notice! The use of spare parts, not meant for this brake, can lead to a malfunction of the brake or damage the brake! Only use original PINTSCH BUBENZER spare parts!!
	Important! In case of ordering, please indicate the type and the serial no. of the brake / power unit which is located on the type plate of the power unit!

Nr. Pos.	Anzahl Nr.	Type	Daten Data
1	1	Ölbehälter NG 30 Oil tank volume 30 litres	
2	1	Behälterdeckel Oil tank cover	SD 30 50 141 H00
3	1	Pumpenträger Pump porter	RV 250/116/446
4	1	Kupplung Coupling	A24/32.28-15-N 4
5	1	Dichtung Seal	D250 / P
6	1	Belüftungsfiter Air breather and filter cap assembly	SES 5-S
7	1	Niveauanzeige Oil sight glass	SNA 2 B / T / 0 / 10
8	1	Zahnradpumpe Gear type pump	Z 9
9	1	Saugteil Suction strainer	G ½ 6020 500 A
10	1	HD-Schlauch High pressure hose	2 SN DN 10 x 410 / DKO 12L / DKO 12L
11	1	E-Motor P: 3 kW n: 1450 U/min P=3.45 kW n=1750 U/min Bauform / Construction form: V1 Baugröße / construction size: 100 L	Motorspannung / operation voltage: 230/400V, 50Hz - 460V, 60Hz
12	1	Steuerblock Special valve	20 303 H00
13	2	2/2 Wegesitzventil 2/2-Directional seated valve	SK 7903 BU 31 S-X 98
14	2	Gerätesteckdose Connector plug	MSD 4-P 63 115V DC
15	1	Glyz. Manometer	NG 63/400/R ¼ radial 6195 6014 - 00

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		Pressure Gauge	
16	1	Minimeßverschraubung Measuring screwing	SMK 20-G ¼ PC
17	1	Handpumpe Handpump	H16 n.Sk 7959
18	1	Handpumpenbetätigung Hand lever	HPHV 700 mm
19	1	Druckbegrenzungsventil Pressure limiting valve	CMV 1 CX-230
20	1	Bypassventil By-pass valve	SK 7141-6
21	1	Abschaltventil Switch-off valve	LV 25 PD 210 ✓
22	1	Filterelement Filter element 10 µm	40600 8330 0122-00
23	1	Absperrventil Shutoff valve	NG 06 410 255 ✓
24	1	Differenzdruckanzeige optisch Optical indicator	DG 042-02
25	1	Druckschalter Pressure switch	DS-507/F/SS-240