

GB

HSM



OPERATING MANUAL

VERTICAL BALING PRESS
HSM 75 VL



Keep this instruction for future use!

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		HSM-Pressen GmbH+CoKG Postfach 1163 D-88678 Salem West Germany	
MODELL			
MASCH.-NR.:	<input type="text"/>		
PRESSKRAFT:	kN		
SPANNUNG:	V	Hz	LEISTUNG: kW
BAUJAHR:			NENNSTROM: A

The machine number is specified on the nameplate of the baling press, shown above. Guarantee claims and inquiries cannot be processed if you do not quote the machine number.

Please therefore enter this number into the grey field of the nameplate immediately after receipt of the baling press.

Foreword

This Operating Manual informs you in detail about the start-up and maintenance of your new baling press. It also contains notes on safety which must be observed.

To a great extent, the performance of your baling press depends on its proper application and thorough maintenance. You should carefully read this Operating Manual and the notes on safety and always keep them safe at hand. You can thus prevent accidents, maintain your guarantee claims against the manufacturer and always have an operative baling press.

HSM Pressen GmbH & Co. KG permanently aspire to improve their products. They reserve the right to perform any changes and modifications which are deemed necessary. However, this does not imply the obligation for a subsequent modification of already delivered machines.

Technical modifications as compared to the representations and statements in this Operating Manual which become necessary to improve the baling press are reserved.

This Operating Manual is intended for staff installing, operating and servicing the baling press. It includes technical specifications and drawings which must not be copied, distributed or used for competitive purposes or given to third parties completely or in part.

Please contact your local dealer if you still have questions after having read this Operating Manual.

1 Safety

1.1 Notes on safety

1.1.1 "Work safety" symbol



*This symbol marks all work safety notes in this Operating Manual which **endanger the health or life of people**. Please pay attention to this symbol and exercise particular care in such cases. Please also forward all work safety notes to other users.*

Apart from the instructions in this manual, you must also follow generally applicable safety and accident prevention regulations.

1.1.2 "Notice" symbol



This symbol marks information in this manual which requires particular attention so that guidelines, regulations, instructions and correct working procedures are followed and damage to or ruin of the machine and/or other equipment prevented.

1.2 Classification of hazards

1.2.1 Danger



*identifies an immediate danger. If not avoided, it **will** result in death or severe injuries (crippling).*

1.2.2 Warning



*identifies a possibly dangerous situation. If not avoided, it **could** result in death or severe injuries.*


1.2.3 Caution



*identifies a possibly dangerous situation. If not avoided, it **could** result in light or minor injuries. Is also used for warnings concerning damage to material.*

1.3 Notes on work safety

Please pay particular attention to the following notes on work safety:

- The baler HSM 75 VL has been inspected for safety by the "Fachausschuß Druck- und Papierverarbeitung" (technical committee on printing and paper processing). However, improper operation and misuse endanger
 - the health or life of the operator
 - the machine and other valuable equipment
 - the efficient operation of the shredder.
- The baler HSM 75 VL employs state-of-the-art technology and is safe in operation. However, this machine can become hazardous if used incorrectly by the instructed staff or for purposes other than those for which it was designed.
- The baler may not be operated by persons under 16 years of age.
- Each person given duties of assembling, dismantling and reassembling and maintenance (inspection, servicing, repair) of the baler must have read and fully understood the entire Operating Manual, in particular the "Safety" section.
- The baler may only be operated, serviced and repaired by authorized, trained and instructed personnel. Such personnel must have received special instructions about potential dangers.
- Responsibilities for assembly, dismantling and reassembling, start-up, operation and maintenance must be clearly delegated and observed so that for the sake of safety no confusion as to competence can arise.
- The shut-down procedures specified in the Operating Manual must be followed during all assembly, dismantling and re-assembling, start-up, conversion, adaption and maintenance work. This type of work must be performed only when the machine is idle.
-  – The drive and additional devices must be secured against unintentional switching-on before performing work on the baler. Set the main switch to "0" and secure it. Pull out mains plug.
- Check whether all protective devices have been re-installed before putting the machine into operating again after repairs.
- Do not perform any work which may impair your safety while operating the machine.
- Immediately report any changes which impair your safety to the person responsible. Shut the machine down until such damage has been resolved.
- Before putting the machine into operation, ensure that it is in perfect working condition.

- Ensure that the workplace on the baler is always clean and safe.
- The user must not make any conversions or changes on his own initiative which impair the safety of the baler. Protective devices must not be removed or rendered inoperative.
- All work which is not directly connected to the normal operation of the machine must always be performed when the machine is idle.
- Doors and flaps must not be opened until the machine is idle. Observe sign!
- Test the protective devices after installing or repairing electrical components.
- Always follow local safety and accident prevention regulations when operating the baler.
- No pedestals or other raised surfaces may be placed in the vicinity of the machine if they alter the safety clearances.
- All connecting cables must be laid in such a way that they cannot be tripped over.
- Mechanical wearing parts must be inspected for correct function every six months.
- All functional elements and electrical components must be inspected by a qualified electrician every six months.
- Only persons with specialist knowledge and experience with hydraulics may work on the hydraulic equipment.
- All lines, hoses and screw joints must be regularly inspected for tightness and visual evidence of damage! Any damage must be eliminated without delay. Spurting oil can cause injuries and fires!
- Any system sections and pressurized lines (hydraulics) which can be opened must be rendered pressureless in accordance with the component descriptions before repair work begins.

1.4 Use according to instructions

The baler **HSM 75 VL** is intended **only** for compacting empty cartons, paper (dry, solvent-free) and single-layer plastic foils as well as any other materials agreed upon in the contract.

Highly expanding materials, such as air-filled foil or foamed material may only be compressed after consulting HSM!

Any other use beyond the scope described here is regarded as **not being in accordance with the instructions**. The manufacturer will not be made liable for damage resulting from incorrect use; the user alone is responsible.

Use according to instructions also includes observing the assembly, dismantling, re-assembly, start-up, operation and maintenance work specified by the manufacturer. The operation, maintenance and repair of the machine must be performed only by instructed persons who are aware of the potential dangers.

The relevant accident prevention regulations as well as the other generally recognised rules concerning safety engineering and occupational medicine must be observed.

The customer service of HSM must be consulted before the baler is used outside its contractually agreed and intended scope of application otherwise the manufacturer's warranty will become void.

1.5 Checking the safety devices

Check the safety devices:

- at the start of every work shift (when operation was interrupted)
- at least once a week when the operation is interrupted
- after each maintenance or repair

Check the safety devices for:

- specified condition
- specified position
- safe attachment
- specified function

Perform a check using the following checklist. Eliminate the faults before putting the machine into operation!

If faults occur during operation the machine must be stopped immediately and the faults eliminated.

Do not change or remove protective devices. Do not hinder protective devices by modifications of the machine.

The machine must not be modified, for safety reasons!


1.5.1 Checklist for checking the safety devices

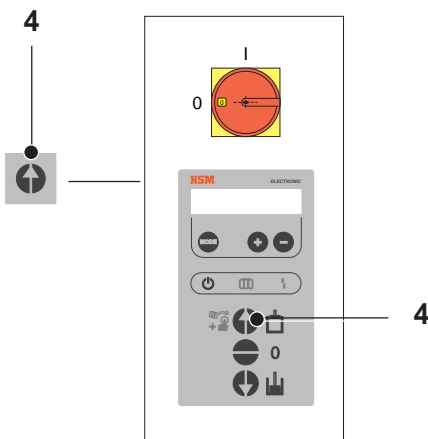
Copy this list for your regular checks.

Check off the individual points when they are in order.

Operate the baler only when all points have been check and are in order.



- The **warning sign**  must be attached at the control cabinet.
- Check the **safety switch on the loading flap** (1). When you open the loading flap while the baler is in operation, the baler must immediately switch off. It must be impossible to switch the baler on while the loading flap is open.
- The lever for opening and closing the loading flap is protected against unintentional opening by a **safety lock** (2). The safety lock must lock in via spring force.
- The lever for opening and closing the bale ejection door is protected against unintentional opening by a **safety lock** (3). The safety lock must lock in via spring force.
- Two-hand operation of the press ram** for "Bale ejection", that means that the bale ejection door is open. The press ram may only move upwards, when when both soft-keys (4) "Raise press ram" are pressed within 0.6 seconds.
- The **protective cover** on the rear side (5) must be installed and screwed tight.



checked	
Date	
Signature	

2 Technical data

2.1 Machine characteristics

Machine designation	:	vertical baling press
Machine type	:	HSM 75 VL
Total machine weight	:	approx. 670 kg
Strapping	:	3-fold, tape
Tape dimensions	:	WG 30 -> Cardboard / WG 40 -> Plastics

2.2 Press data

Pressing power	:	90 kN
Compression time with return stroke	:	21 sec
Bale size (WxDxH)	:	900 mm x 600 mm x 550 mm

2.3 Motor data

Rated power P_n	:	2.2 kW
Operating voltage U	:	400 V
Frequency f	:	50 Hz
Rated current I_n	:	5.0 A with U = 400 V

2.4 Hydraulic system

2.4.1 Pump

Discharge Q with 3000 min ⁻¹	:	12,4 l/min
Operating pressure p_{max}	:	210 bar

2.4.2 Press cylinder

Dimensions	:	ø 70/50 x 820 stroke (ø 70/50 x 1040 full stroke)
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2.4.3 Oil tank

Oil volume	:	11 l
Oil type	:	multigrade oil to DIN 51524-T3 ISO viscosity grade HVLP 22

2.5 Dimensions

2.5.1 Machine dimensions

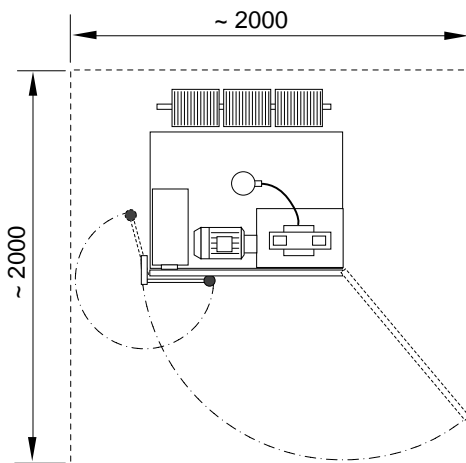
Width	:	1100 mm
Depth	:	820 mm
Height	:	2230 mm (2450 mm at full stroke)

2.5.2 Filling opening

Width x depth	:	600 mm x 900 mm
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2.5.3 Press chamber size

Width	:	900 mm
Depth	:	600 mm
Height	:	1050 mm



Height ~ 2230 mm
(Height ~ 2450 mm at full stroke)

2.7 Power requirements and fuse protection (3 x 400 V / 50 Hz)

Total rated power P_n	:	2.2 kW
Total rated current I_n	:	5.0 A
Total fuse protection	:	16 A (slow)
Mains plug	:	depending on country

2.8 Noise emission values

The baling press has the following values for the sound pressure level according to DIN 45635 Part 27:

Idle 1 m / 7 m *)	:	68 / 64 dB (A)
Full load 1 m / 7 m *)	:	76 / 72 dB (A)

*) Distance measured between measuring instrument and machine surface at the hopper.

3 Installation

3.1 General information

We urgently recommend to have the installation work on the baling press performed by trained HSM staff.

We assume no responsibility for damage arising from incorrect installation work.

Do not start the installation work before having fully read and understood the Operating Manual.

3.2 Installation conditions

When planning the installation site (i. e. planning performed by the customer) it must be ensured that there is enough room around the baling press. This makes the installation and repair work easier.

The load on the foundation at the operating site must be sufficient.

Please ensure also that the baling press is operated only in dry and clean operating conditions.

The installation must be such that the baling press stands evenly. Level off the floor as necessary.

3.3 Supply connections

The baling press is supplied ready for connection with a suitable cable and plug. A suitable socket must be present at the installation site.

3.4 Adjustments

Generally, all modules are pre-assembled and the electrical and hydraulical connections are present.

The electrical and hydraulical adjustment of the various components is performed by HSM.



Caution!

Unauthorized modifications of the set values are not allowed and can result in severe damage to the machine.

3.5 Transporting and setting up the baler

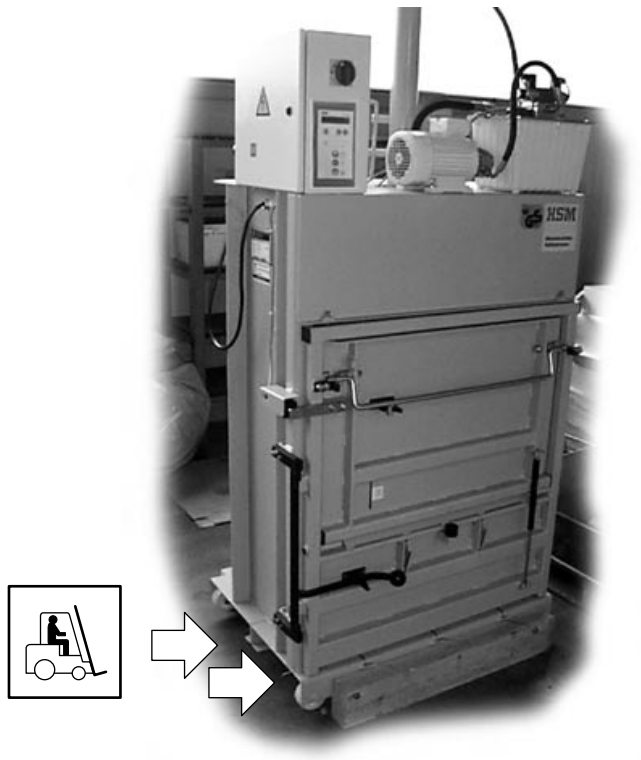
The baler must be transported in vertical position.



Danger!

*The baler may be transported only with the press ram lowered.
The bale ejection door may only be opened, when the baler is standing on the floor. Otherwise the baler can tip over.*

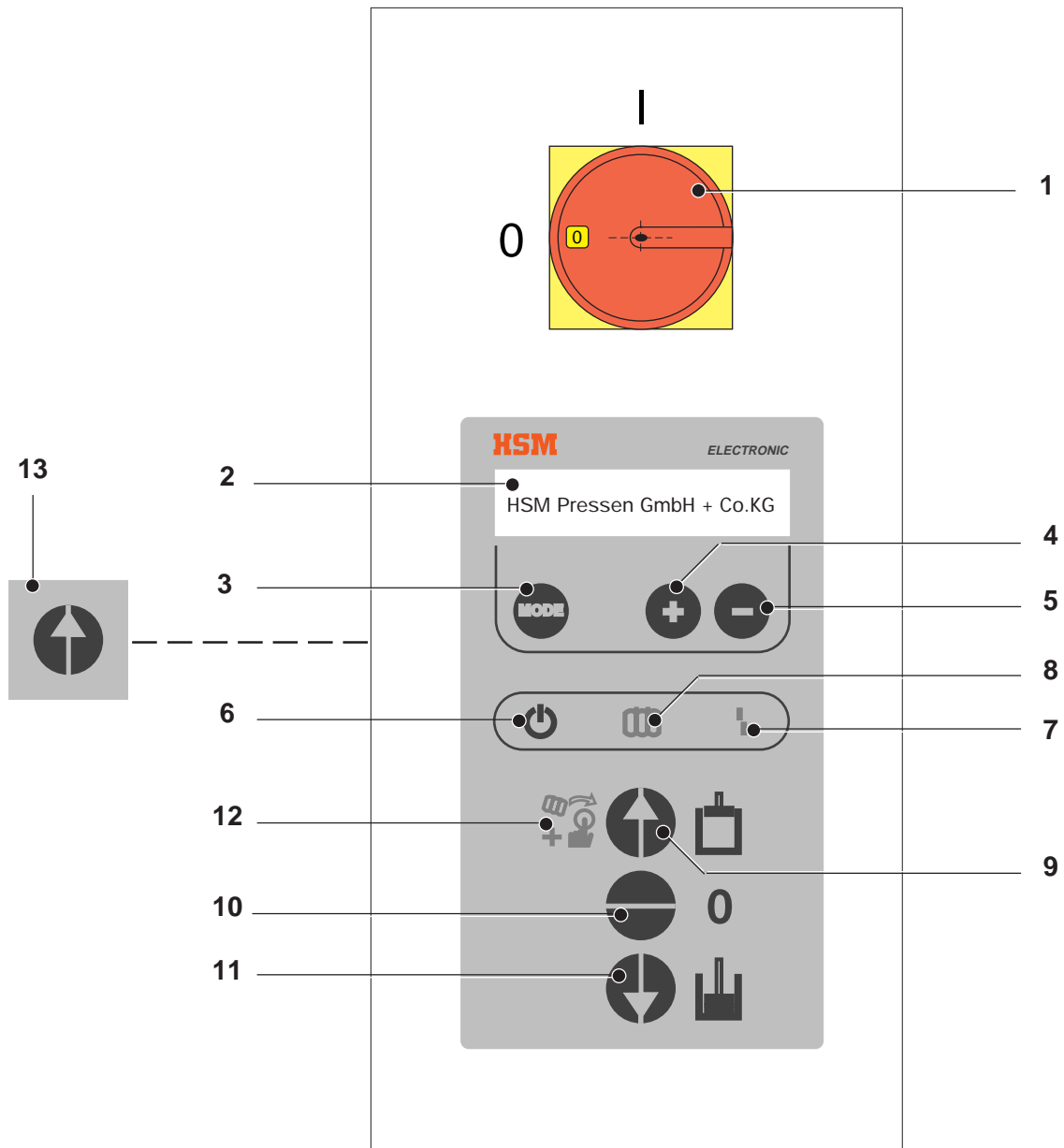
The press is fastened on squared timbers. The pick-up points for unloading from a lorry by means of a fork-lift must be observed. A fork-lift truck can also be used for transport to the installation site.



- Remove the packaging foil and dispose it in an environmentally friendly manner
- Lift the baling press by 10 cm and unscrew the squared timbers
- Put the baling press on a flat and smooth floor
- Now you can roll the baling press to the installation site
- Insert the plug in the on-site socket.

4 Start-up

4.1 Operating elements / Indicating elements



- | | |
|---------------------------------|---|
| 1 Main switch | 8 Bale finished (Option) |
| 2 Display (Option) | 9 Raise press ram |
| 3 Mode selection (Option) | 10 Pressplatte stop |
| 4 Scrolling + = up (Option) | 11 Lower press ram |
| 5 Scrolling - = down (Option) | 12 Eject the bale (two-handed operation) |
| 6 Standby (Ready for operation) | 13 Raise press ram (two-handed operation) |
| 7 Malfunction | |



Main switch (1)

When turned 90° clockwise, the main switch is on.

The main switch can be locked in the "Off" position with a padlock.

Text display (2) -> if existing

On the display are shown the running states and the error messages.

(-> see section "Malfunctions")



MODE key (3) -> if existing

Pressing the MODE-key for approx. 2 seconds you come to the menu points

Set-up - Service - End

and from there to the under menu points

User language-Pressure setting-Operating modes-End-etc.

Returning to the main menu:

Scroll to END with the +/- key and acknowledge with the MODE key.



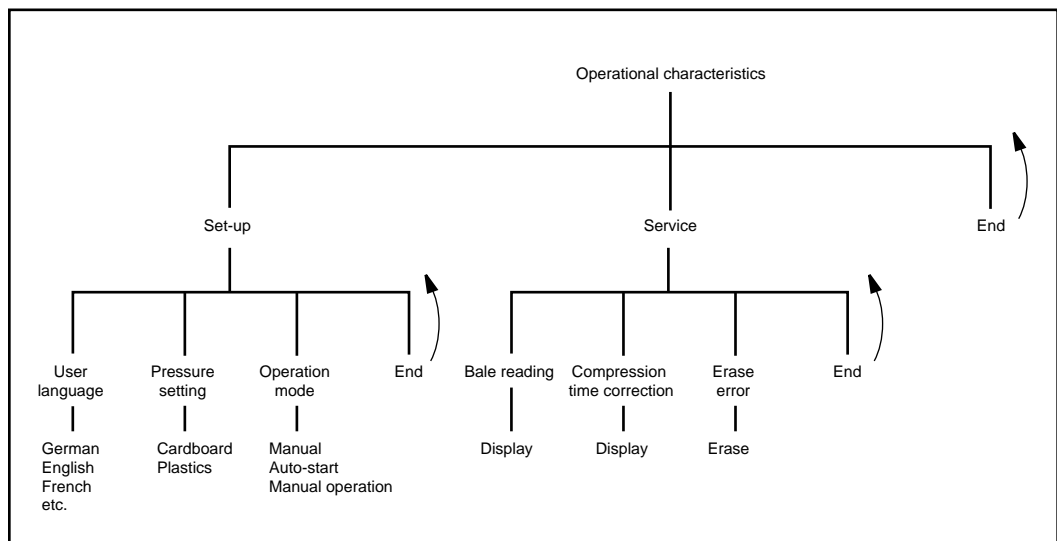
+ / - keys (4, 5) -> if existing

Pressing the +/- keys you can scroll in the menu.



Note

*The MODE key should only be used by instructed personnel.
Modifications of set values are only allowed after contacting HSM.*



**Light symbol "Standby" (6)**

This message is displayed when the main switch is switched on and under power.

Text display: Ready

This message is flashing if the bale ejection door or the loading flap is open.

Text display: Door/loading flap open

**Light symbol "Malfunction" (7)**

This message is displayed when there is any malfunction on the baler. The symbol flashes at the malfunctions "Wrong direction of rotation" and "Phase is missing".

The baler cannot be started as long as this message is displayed!

(-> see section "**Malfunctions**")

**Light symbol "Bale finished" (8) -> if existing**

This message is displayed when a bale has reached a certain size. The press ram stops automatically in extended position on the pressed material.

The "Bale finished" message is displayed until the press ram is moved into the upper end position with the door open.

**"Raise press ram" key (9)**

When this soft-key is pressed, the press ram returns into its upper end position with the door closed.

Text display: Raise press ram

**"Press ram stop" key (10)**

With this soft-key the press ram can be stopped in any position.

Text display: Press ram not in starting position

The movement can be continued by pressing the "Raise/lower press ram" soft-key.

**"Lower press ram" key (11)**

Pressing this soft-key while the door is closed starts the compression. The press ram moves down and compresses the material. The press ram automatically returns into its upper end position after expiry of the pressing time.

Text display: Lower press ram

**Two-handed operation: Raise press ram (9 + 13)**

The second "Raise press ram" soft-key for two-handed operation for bale ejection is in the door of the control cabinet.



By simultaneous pressing of both "Raise press ram" soft-keys (*within 0,6 seconds*) the press ram can be moved into the upper end position while the bale ejection door resp. the loading flap is open. If one of the both soft-keys is released the press ram stops.

**Bale ejection (9 + 13)**

This message is displayed as soon as the "Bale finished" symbol lights up and the bale ejection door is opened.

The angle on top of the press ram must be swung to the rear for 90° to activate the bale ejection device.

By simultaneous pressing of both "Raise press ram" soft-keys (*within 0,6 seconds*) the press ram resp. the bale ejector can be moved upwards while the bale ejection door is open.

If one of the both soft-keys is released the press ram stops.

**Note**

The press ram moves upwards and activates the bale ejection device. The bale is lifted on the rear side and tilt forwards out of the baler. After bale ejection the bale ejection device falls back into its initial position.

4.1.1 Move cylinder into position

If the cylinder is retracted for transport it must be moved into operating position and connected with dowels and screws before the first compression.



Note

It is recommended to extend the cylinder in several steps and to visually inspect the position of the cylinder connecting flange (11) by opening the loading flap between steps.



Warning!

*Squeezing and shearing points.
Do not reach into the unprotected parts of the baler.*

– Close the loading flap and the bale ejection door

– Press the **"Lower press ram"** key 

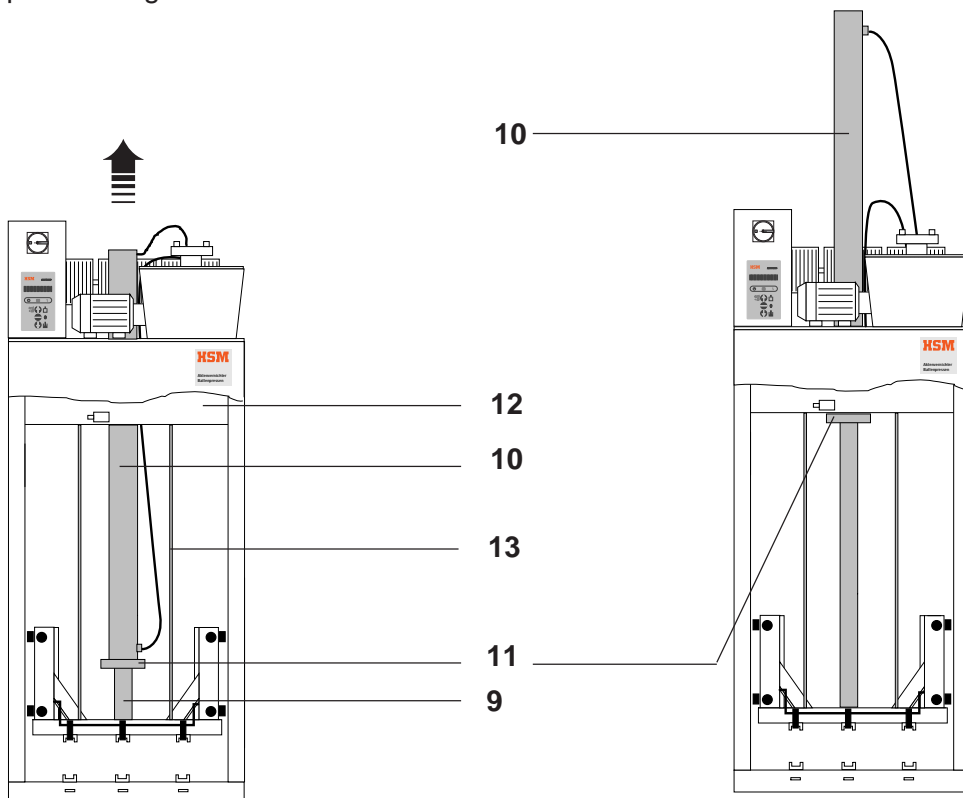
- the piston rod (9) moves out and the cylinder (10) moves upwards



Caution!

Only move the cylinder flange (11) as long as it touches the upper housing frame (12) . Otherwise the threads of the lowering rods (13) will be torn off and the press cylinder with the press ram will fall down.

– Immediately press the **"Stop"** key  when the cylinder flange touches the upper housing frame.



- Open the bale ejection door
- Adjust the flange with the bore holes in upper framework
- Tap the dowel pins (14) into the bore holes on the framework flange (12).

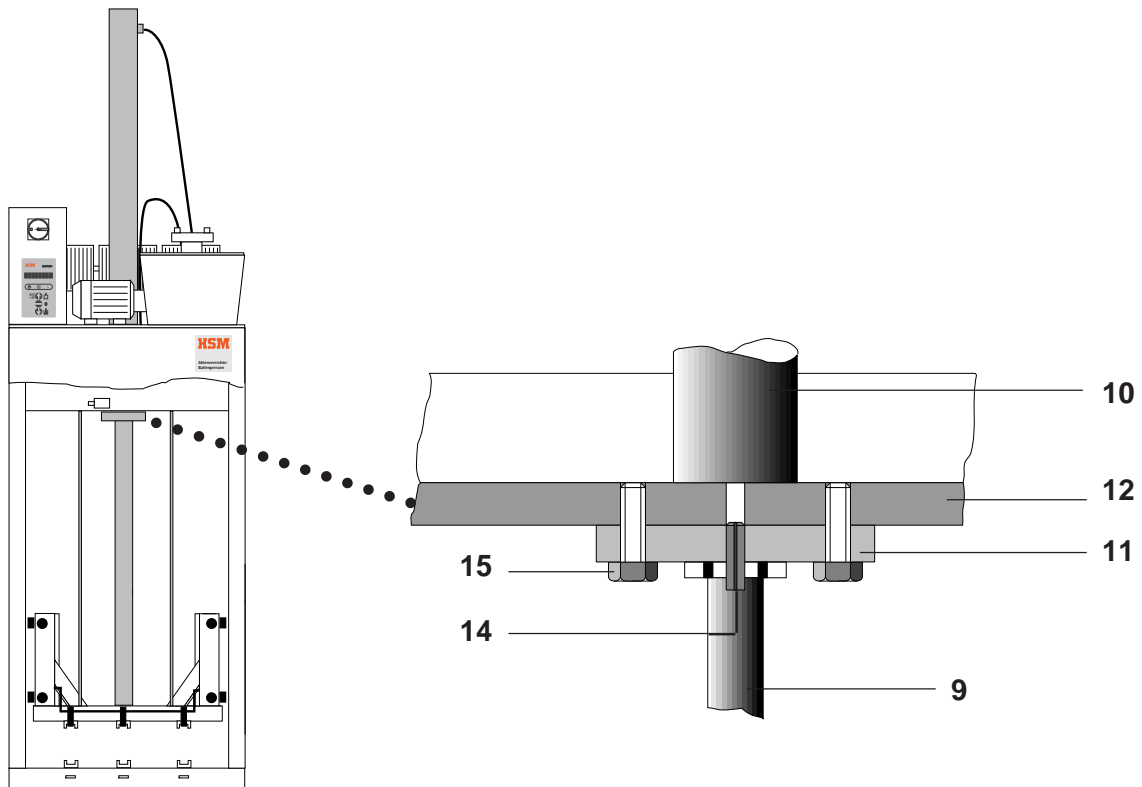


Note

The adjusting plates which are glued to the cylinder flange must not be removed!

- Screw in and tighten the 4 supplied screws M 10 x 35 (15). -> Use a torque wrench!


- **Tightening torque: 60 Nm**



Caution!

Do not give pressure onto the cylinder as long as the cylinder flange is screwed tight and the lowering rods are removed!

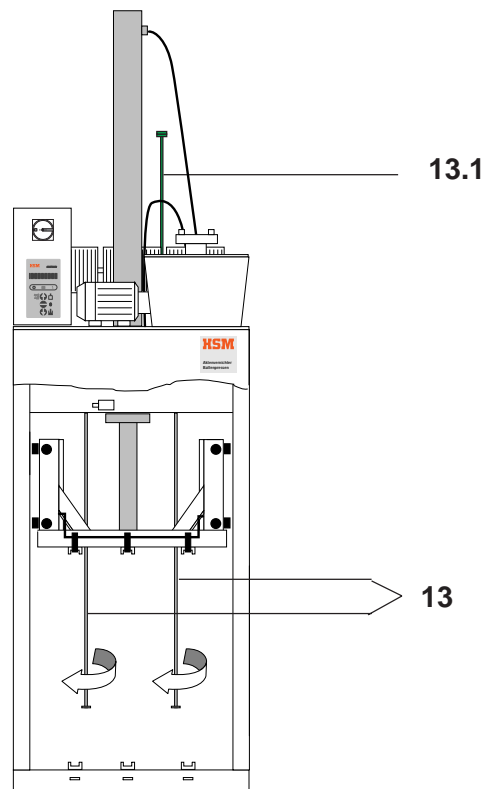
Otherwise there is a risk that the threads of the lowering rods (13) are torn off and the press cylinder with the press ram falls down.

- Now press both "Raise press ram" keys  for approx. 1 to 2 seconds
- Unscrew the lowering rods (13) by help of a universal pliers and pull them out downwards



Note

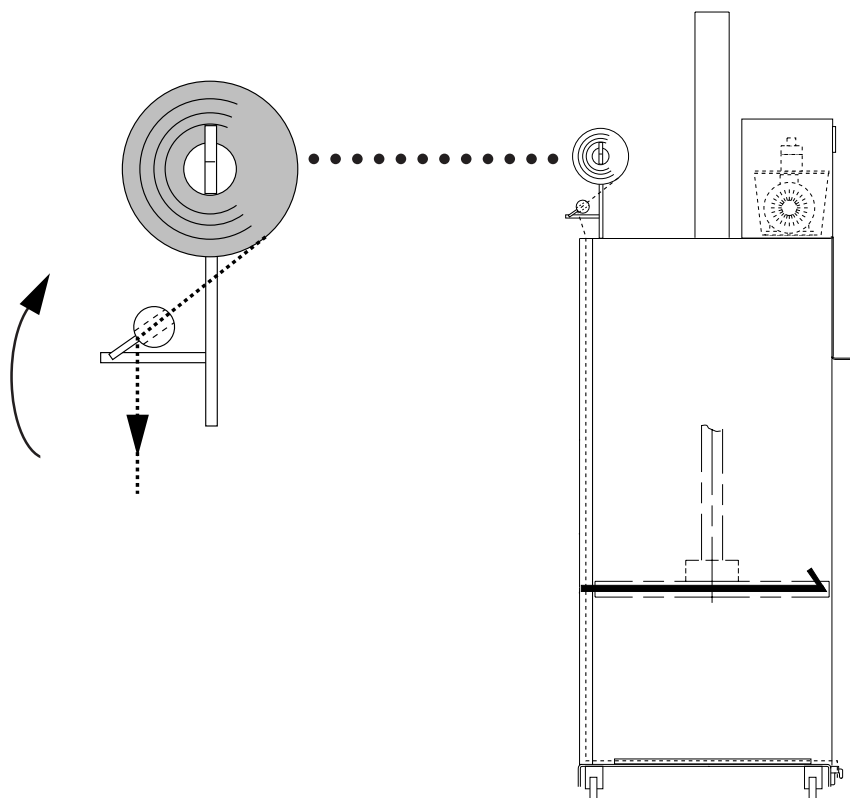
*Carefully store the lowering rods for a possible future transport.
The antirotation rod (13.1) in the cylinder flange must not be removed.*



- Close the bale ejection door and the loading flap and move the press ram into its upper initial position.

4.2 Drawing in the strapping tapes

- Place the two rolls of strapping tape into the tape holder
- Switch the main switch to "Off" and open the bale ejection door
- Open the tape brake by swivelling it up



- Now push the start of the strapping tape from the top through the bore holes of the brake shaft

**Note**

The brake shaft must be in upright position (open) when the strapping tape is drawn in.

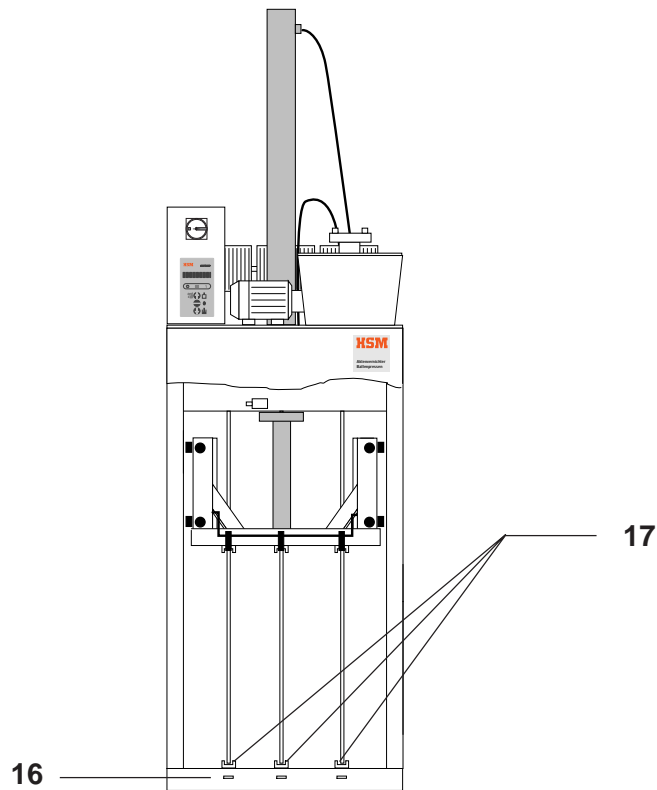
- Push the strapping tape through the vertical slot on the press frame and then pull it through the eyelet of the tape insertion device

- Pull the strapping tape approx. 0,5 m towards the fixing hook (16) and wind it around the fixing hook several times
- Position the strapping tape into the guide profile (17) in the floor
- Close the bale ejection door

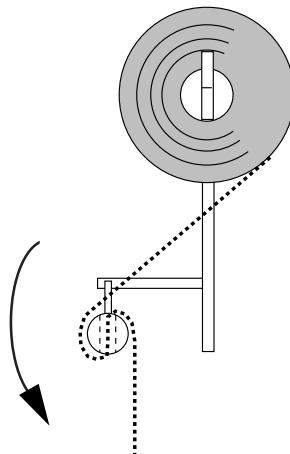


Note

The strapping tape must lie **above** the bolt for the bale ejection mechanism. Do not pull the tape between bolt and U-profile.



- Lock the tape brake by swivelling it down.





- The baler is now ready for operation.

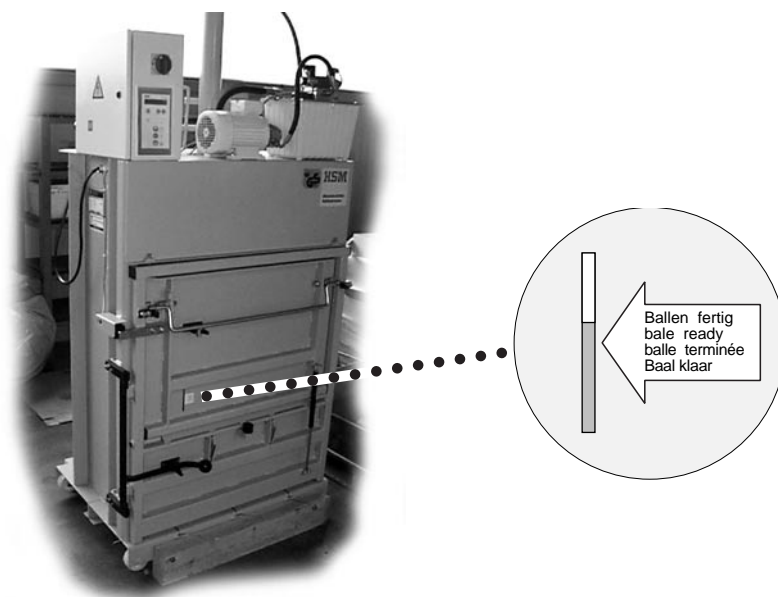
4.3 Loading the baler

The baler is ready for operation after the bale ejection door has been closed and the loading flap opened.

We recommend to feed large pieces of cardboard for the first and last compression. This prevents small pieces of material from separating from the top and bottom of the bale and you will obtain a better bale.

Proceed as follows:

- Fill the press chamber **evenly** with pressing material until it is completely full and close the loading flap
- Start the press ram by briefly pressing the "Lower press ram"  key
 - The press ram moves downwards, automatically switches over and moves back into initial position
- Repeat this loading and compression procedure several times until you can read off at the arrow marking of the inspection slot whether the bale is finished.
- Move press ram down onto the bale and press the "Stop" key 
 - the press ram stops in lower position and you can start strapping.



Option: Baler with "Bale finished" indicator light



– Repeat this loading and compression process until the "Bale finished" indicator light lights.

- The baler will simultaneously switch off in the lower position.



Note

When the "Bale finished" symbol appears, it is possible to move the press ram upwards **once more** to proceed a further compression cycle. (e.g. to put a cardboard as a cover on the top of the bale).

- you can start strapping the bale



Note


Pressing plastics: If the loading of the baler becomes difficult by the expanding material it is better to strap the bale before the indicator light "Bale finished" lights.

– Move the press ram downwards

– Press the "Stop" key 

- the press ram stops in lower position und you can start strapping.

4.4 Strapping

When the baler is loaded (Arrow marking of the inspection slot / "Bale finished" symbol ) you can start strapping:

- Loosen the tape brake by swivelling it upwards




Warning!

Pressure is applied to the bale ejection door and its locking lever by the compressed material. While the door is opened, the locking lever could push against the legs.


Keep out of the swivel range of the locking lever!

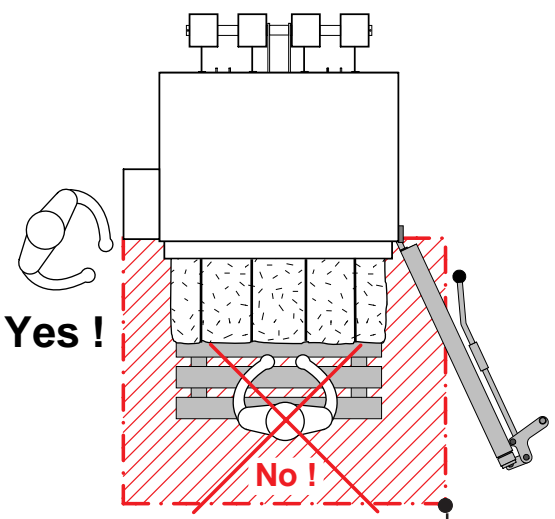
- Open the bale ejection door



Achtung ! Einmannbedienung
Caution ! One-man operation
Attention ! Commande à un seul opérateur
Atención ! Manejo unipersonal
Attentie ! Eenman-bediening

Gefahr ! • Danger !
Danger ! • ; Peligro !
Gevaar !





Sicherheitsbereich einhalten !

Observe safety area !

Respecter la zone de sécurité

¡ Observar el área de seguridad !

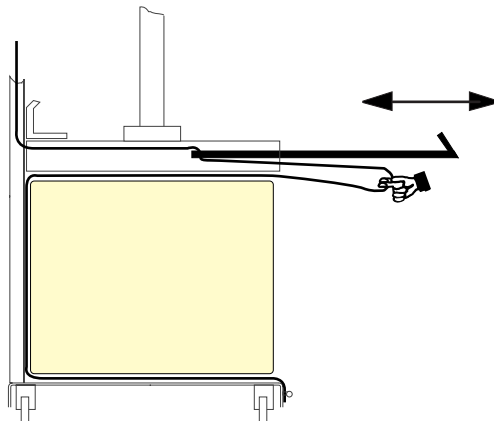
Veiligheidsafstand bewaren!

6.116.999.090 - 07/96

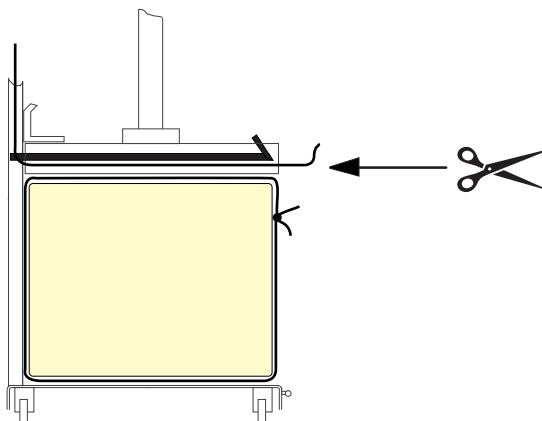
- Lift the locking bracket (18) of the integrated tape insertion device (19)



- Use the tape insertion devices to pull the strapping tapes successively from the rear of the baler to the front
- Hold the tape loop with one hand and push the tape insertion device back into its initial position



- Secure the tape insertion device by swivelling the locking bracket down
- Cut off the tape loops
- Loosen the strapping tape from the fixing hook and knot it to the respective end of the cut tape loop

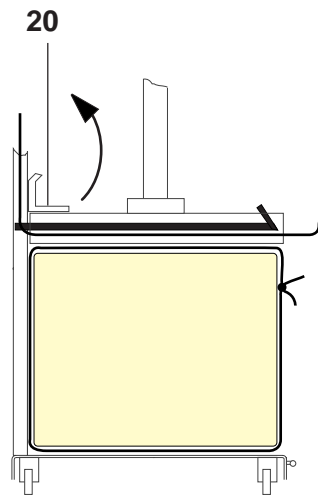


- Swing the angle (20) for activation of the bale ejection device 90° to the rear

**Caution!**

The ejection lever may be swung to the rear only when the bale ejection door is open!

If this is not observed, the bale ejection device will be damaged.



- Place a sufficiently large pallet in front of the baler to facilitate transport


**Warning!**

Squeezing and shearing points.

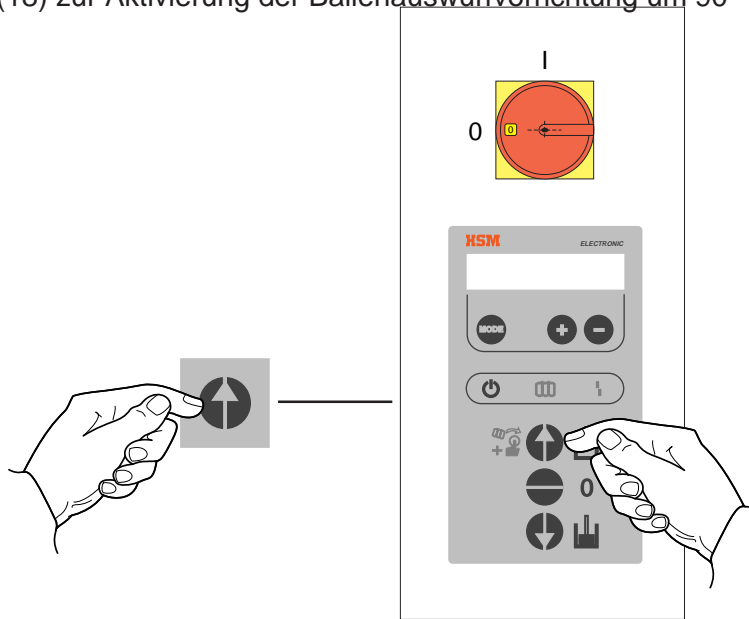
Only press the two keys "Raise press ram"  when

- there are no persons in front of the baler and
- the bale ejection door is completely open.

Make sure that no-one stands in front of the baler or bends into the baler.

- Press both "Raise press ram"  keys at the same time and move press ram into its upper end position
- The press ram moves upwards and activates the bale ejection mechanism
- The bale ejection device tilts the bale forwards out of the press and then automatically returns to its initial position

- schwenken Sie den Winkel (18) zur Aktivierung der Ballenauswurfvorrichtung um 90° nach hinten





- Take away the ejected bale
- Re-insert the strapping tapes
- Swing down the tape brake
- Close the bale ejection door
- The baler is ready for operation again.

4.5 Shutting down the baler

The baler can be put out of operation for longer interruptions of work, end of work or for maintenance and installation work and can be secured against unauthorized use.

- Move the press ram into the upper end position.
- Close loading flap and bale ejection door
- Switch off the main switch.
- Secure the main switch against unauthorized switching on.

4.6 Malfunctions

As soon as there is any malfunction on the baler, the read light symbol  is displayed. The baler cannot be started as long as the red light symbol  is displayed!

<i>Possible cause</i>	<i>What to do</i>
Phase is missing	Electrician! Check onsite fuses.
Incorrect connection of phases / Wrong direction of rotation	Electrician! Check rotatory field
Oiltemperature too high	Let oil cool down
Sensing device for oiltemperature defective	Electrician! Change sensing device
Motor protective switch has swapped	Motor too hot! Let motor cool down
Door switch defective	Switch / Switching mechanism -> Contact service of HSM
Limit switch "Door 90° open" defective	Switch / Switching mechanism -> Contact service of HSM
Limit switch for "Press ram on top" defective	Switch / Switching mechanism -> Contact service of HSM

If there exists a control with display:

The baler switches off and a corresponding malfunction number is shown on the display.

<i>Code</i>	<i>Description</i>	<i>Elimination</i>
0100	Phase is missing	Electrician! Check onsite fuses.
0101	Incorrect connection of phases / Wrong direct. of rotation	Electrician! Check rotatory field
0110	Oil temperature too high	Let oil cool down
0111	Sensing device for oiltemperature defective	Electrician! Change sensing device
0120	Motor protective switch has swapped. Motor too hot.	Let motor cool down.
0121	Emergency-off is actuated	Pull out emergency-off pushbutton
0122	Malfunction safety cycle (open / line break)	Close inspection door/-flap / Check switch cable
0123	Switch for door/loading flap defective	Switch / Switching mechanism -> Contact HSM
0124	Limit switch "Door 90° open" defective	Switch / Switching mechanism -> Contact HSM
0125	Limit switch "Starting position bale ejector" defective	Switch / Switching mechanism -> Contact HSM
0126	Limit switch for "Bale ejector on top" defective	Switch / Switching mechanism -> Contact HSM
0127	Limit switch for "Press ram on top" defective	Switch / Switching mechanism -> Contact HSM
0130	Hardware defective	Electrician! Contact service of HSM
0131	Short circuit output Master	Electrician! Contact service of HSM
0132	Short circuit output Slave	Electrician! Contact service of HSM

4.7 Operation outdoors



Warning!

Put into operation only under supervision.

The operator must ensure that unauthorized persons do not have access to the baler.

When the baler is not operated it must be shut down and secured against unauthorized use.

- The baler must not be directly exposed to rain.
- The maintenance intervals must be reduced.
- If the temperature drops below 0°C, use hydraulic oil with a suitable viscosity, if required.

5 Maintenance

5.1 General information

All inspection and maintenance tasks refer to single-shift operation. In multi-shift operation, these tasks must be performed with proportionate frequency.



Warning!

During cleaning and maintenance on the baler

- *set main switch to "Off" and secure it against unauthorized switching on*
- *pull out mains plug*

- Clean the baler if soiled.
- Before every workday, check all lines, hoses and connections for leakage and visual evidence of damage.



Warning!

Repair any damage without delay!

Spurting oil can cause injuries and fires!

Maintenance and repair work on the electrical installation or the control cabinet may only be carried out by a qualified electrician or by the HSM customer service!

5.2 Oil level / venting lid

Check the hydraulic oil level at least once every three months. The aggregates can be severely damaged if the oil level is too low.

Check the oil level:

- Move the press ram into its upper end position.
- Switch the main switch off.
- Screw off the venting filter lid.
 - Check the oil level on the oil dipstick of the venting filter lid.
 - The oil level must be between the two notches on the oil dipstick.
 - If the oil level is below the bottom notch, replenish oil via the opening for the venting filter lid.
 - To increase the service life of all hydraulic components, replace the oil *every year*
- Check the venting filter lid once a week for contamination and permeability
- Screw the venting filter lid back on again

5.3 Changing the hydraulic oil

Change the hydraulic oil **once a year**:

- Move the press ram into its lower end position
- Press the "Stop" key and set the main switch to "Off"
- Position a suitable container to collect the oil below the oil drainage screw or use an oil suction aggregate
 - The tank contents of the hydraulic oil tank is ~11 l
- Screw off the oil drainage screw on the side of the oil tank with an Allen wrench and collect the oil with the container
- Clean the hydraulic oil tank if it is severely soiled
- Screw the oil drainage screw back on again (Renew copper ring seal!)
- Fill the tank with sufficient oil

Oil type: Multigrade oil DIN 51524-T3 / ISO viscosity grade HVLP 22

	ISO-Viskositäts-klasse	DEA	ESSO	SHELL	ARAL	BP	MOBIL
Mineralöle Mineral oils	ISO VG 22 HLP	Astron HLP 22	NUTO H 22	Tellus Öl 22	Aral Vitam GF 22	Energol HLP 22	Mobil DTE 22

- Switch on main switch
- Move the press ram up and down several times and check the oil level again (as described above) with the press ram in the upper position
- Top up oil as necessary
- Screw the venting filter lid back on



Note

When using detergents and solvents, observe applicable accident prevention regulations of the vocational cooperative society!

Observe environmental legislation when disposing of used oil!

Never mix mixtures of hydraulic oil and detergents with used oil. Always collect these substances in separate containers and dispose of them correctly!

5.4 Cleaning the hydraulic oil tank

- Drain oil via the oil drainage screw
- Screw off the hexagon screws on the tank cover using open-end spanner and remove the seal
- Clean the inside of the hydraulic oil tank and remove any oil sludge
- Re-install the oil drainage screw, replace the tank cover seal and the tank cover

5.5 Greasing

- Set the main switch to "Off"
- Lubricate all moving parts and hinges, in particular the door hinges as well as the bearings of the door lock with multi-purpose grease.

5.6 Control the screw connections

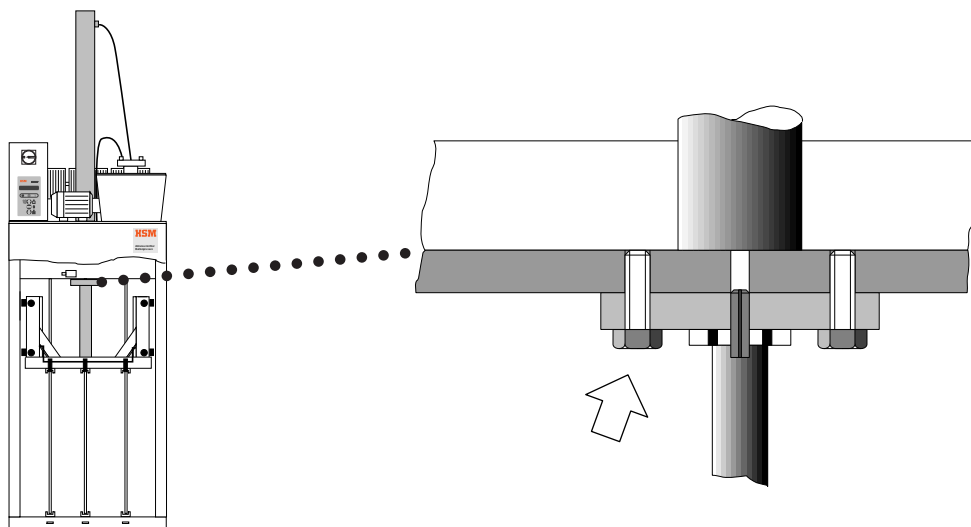
The 4 screw connections at the press cylinder must be checked **every three months**.

Screw size: M 10 x 35

Screw type: 8.8

Tightening torque: 60 Nm

-> Use a torque wrench!





6 Replacing components



Danger!

Repair baler only when the main switch is switched off. Malfunctions of the electrical system or the feed cables may only be repaired by qualified electricians or the HSM customer service.



Warning!

the valid accident prevention regulations VBG 4, 5 and 15 as well as DIN VDE 0105 Part 1 must be complied with when performing repairs. Install all protective devices and check their effectiveness before putting the baler into operation.



Caution!

Unauthorized modifications of components or changes of the set electrical and hydraulic values are not allowed and can cause severe damage to the baler.



Notice

We recommend to have repairs of the baler made by trained HSM personnel. We assume no liability for damage caused by incorrect repair.

6.1 Consumable materials

- | | | |
|----------------------------------|----------|---------------|
| - Strapping tape WG 30 (b=10 mm) | Part-No. | 6.205.993.000 |
| - Strapping tape WG 40 (b=13 mm) | Part-No. | 6.212.993.000 |

6.2 Service address

Please send your order for consumable materials and spare parts to:

HSM - Pressen GmbH + Co. KG

Bahnhofstraße 115

D-88682 Salem

Tel: ++49 (0)7553 / 822 - 0

Fax: ++49 (0)7553 / 822 - 160

e-mail: support@hsm-online.de

7 Waste disposal information

HSM baleres have a high life expectancy. However, the time when a revision or repair is no longer economical comes for every machine. Then the operator must ask how he can properly dispose of the baler?

The following regulations and laws must be observed at the present time:

- Hazardous waste act
- Waste disposal proof regulation
- Water act
- Waste act

We would be pleased to inform you in due course about the legal stipulations with regards to disposal when the problem arises.

Please fill in the "Proof of disposal" on the following page and send it to our company.

7.1 Proof of disposal

HSM - Pressen GmbH + Co. KG

Postfach 1163

D-88678 Salem

The machine specified below

Designation: Baler

Model: _____

Machine number: _____

Year of construction: _____

was disposed of in compliance with the applicable regulations.

Address of last
operating company

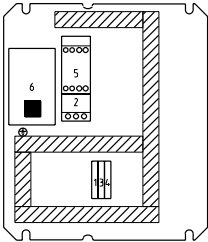
Address of waste
disposal company

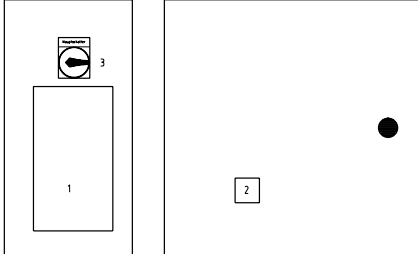
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Date and signature
of last operator

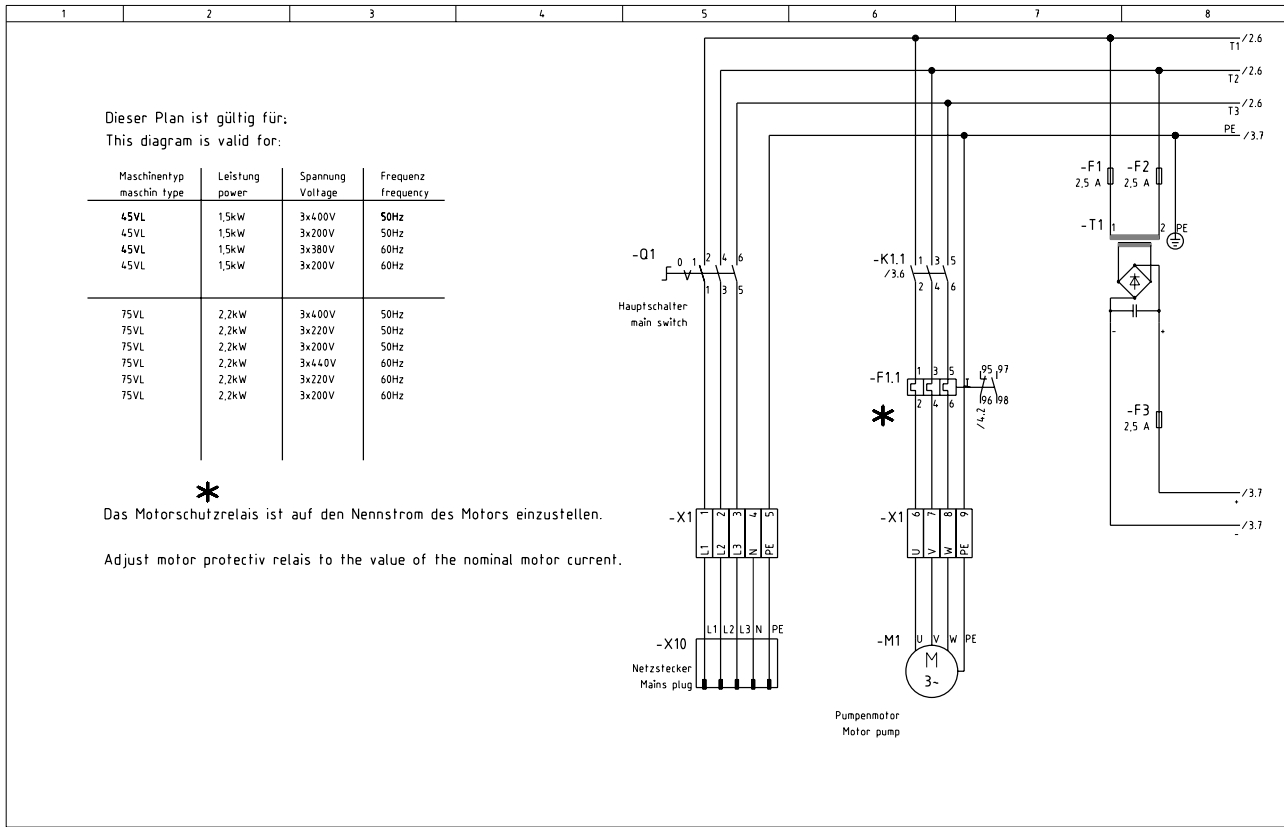
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8 Wiring diagrams

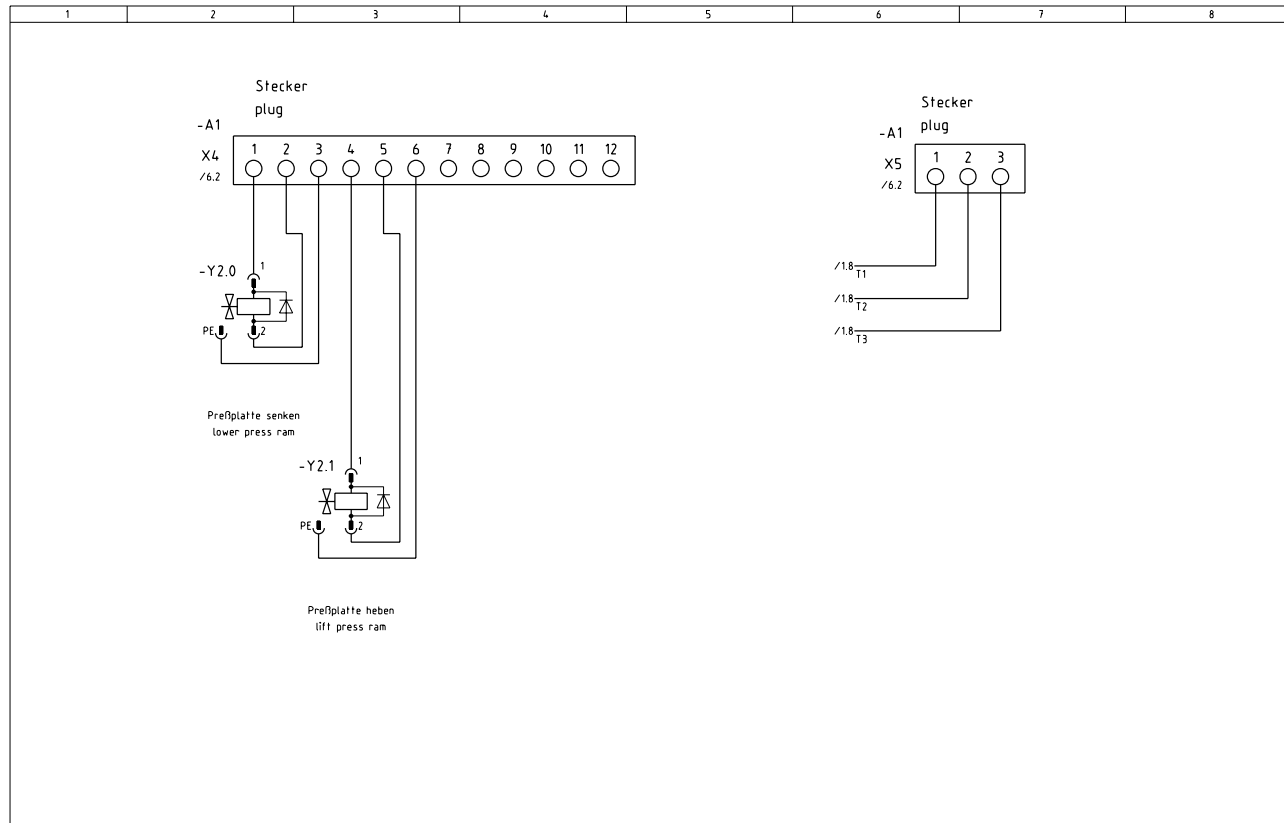
8.1 Wiring diagrams HSM 75 VL (3 x 400 V)

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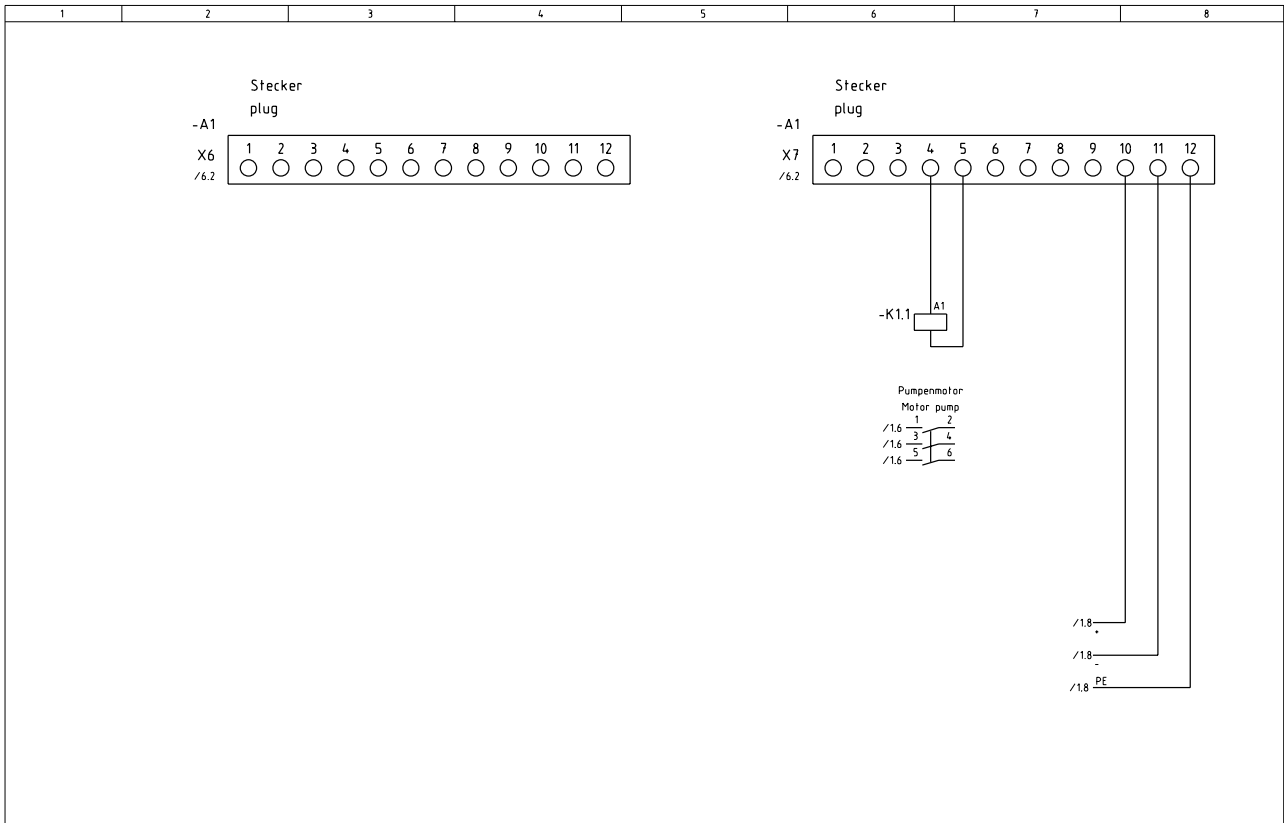
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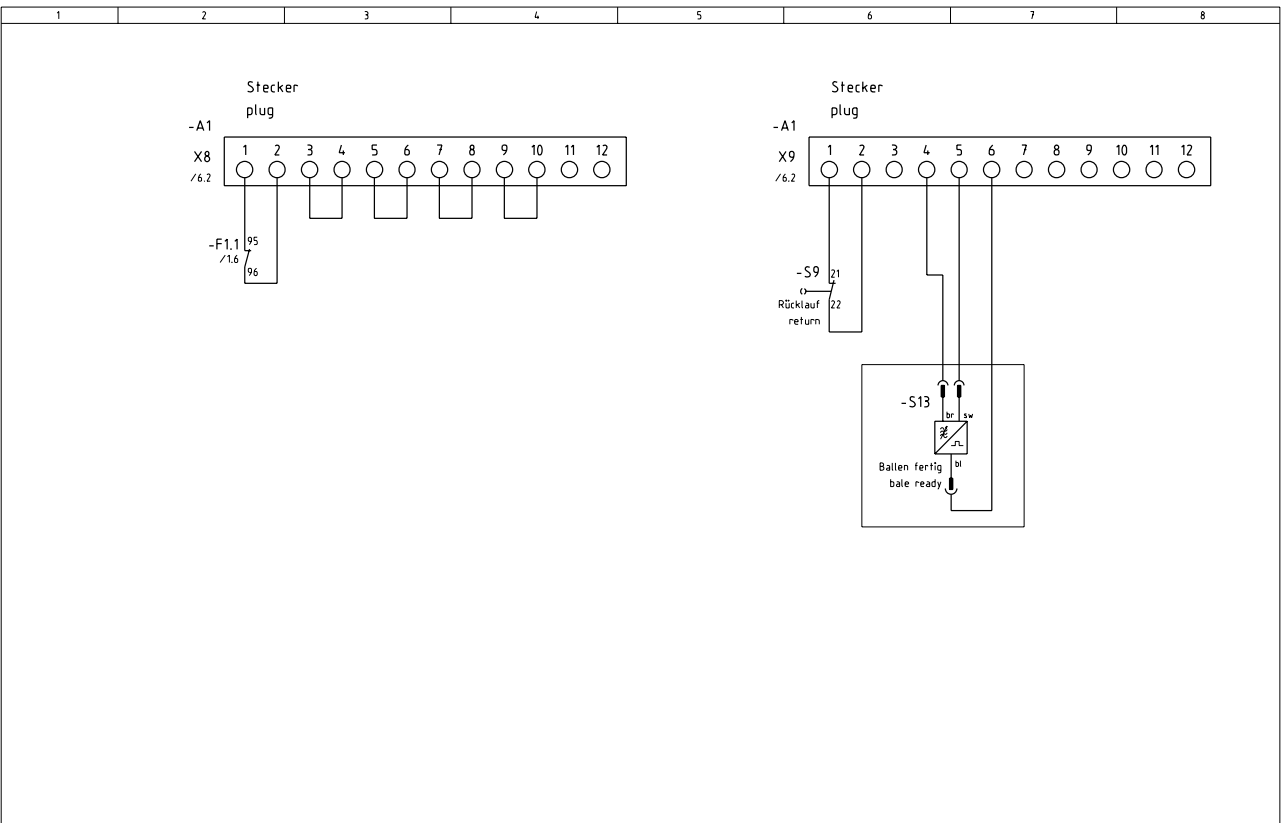
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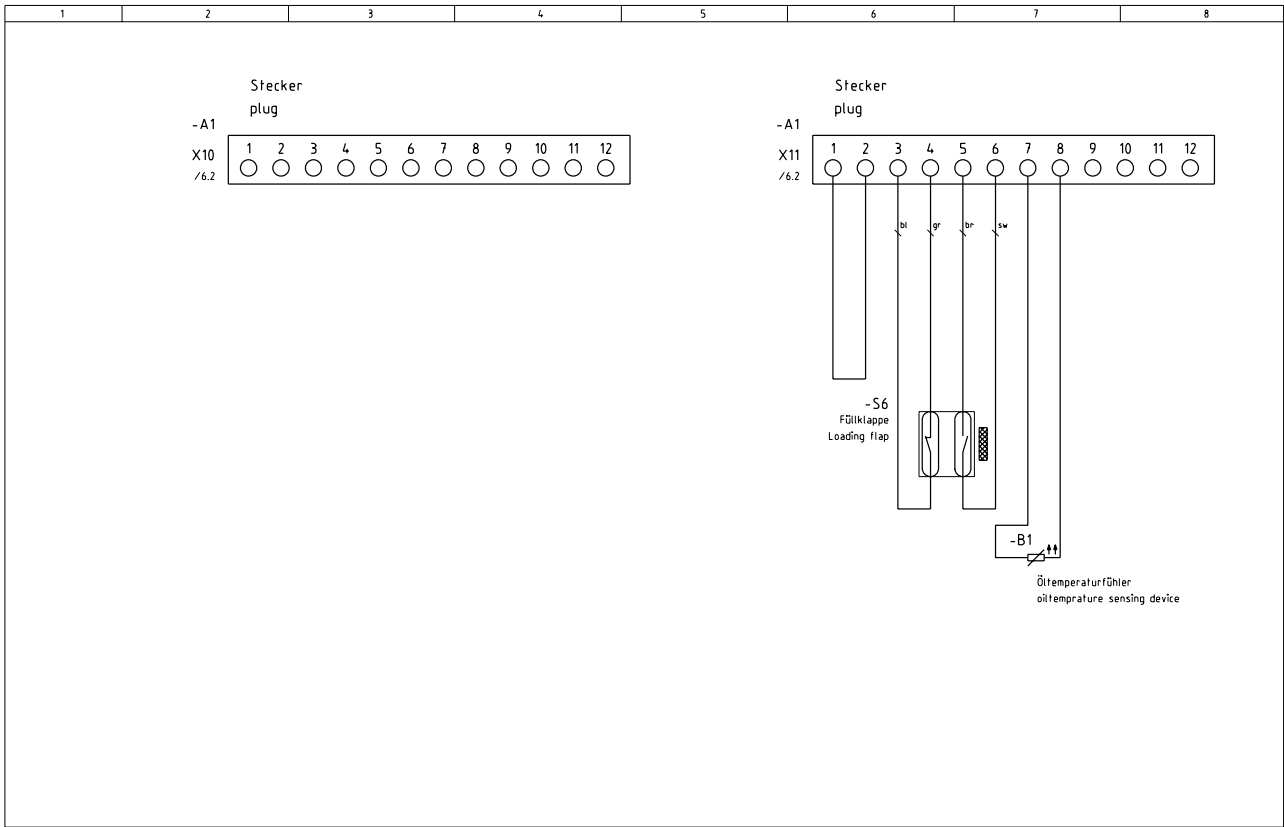
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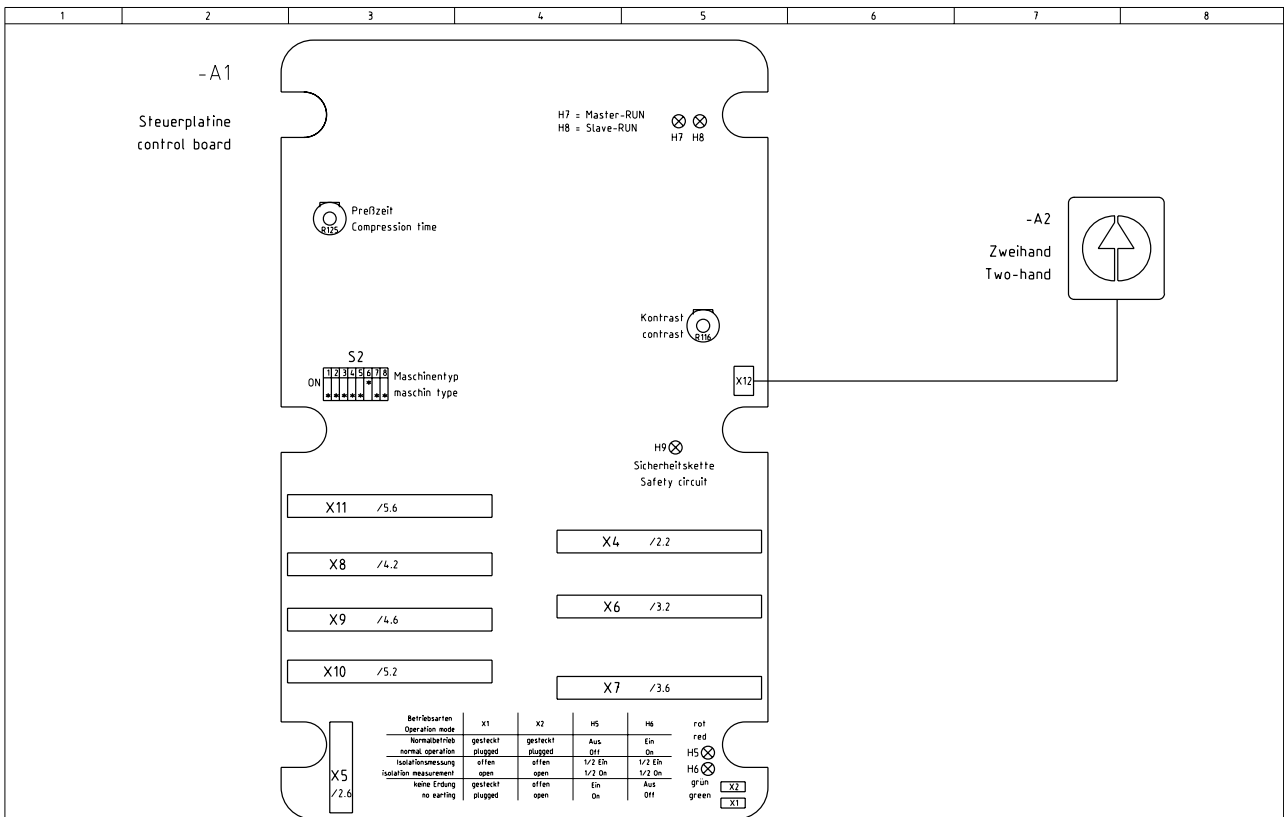
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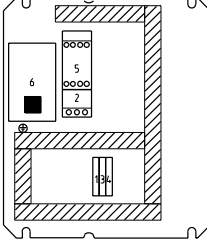


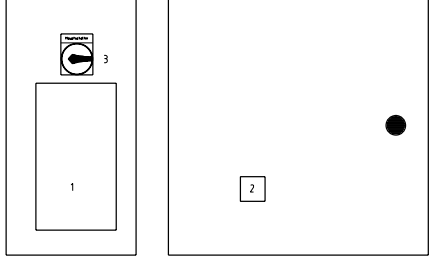
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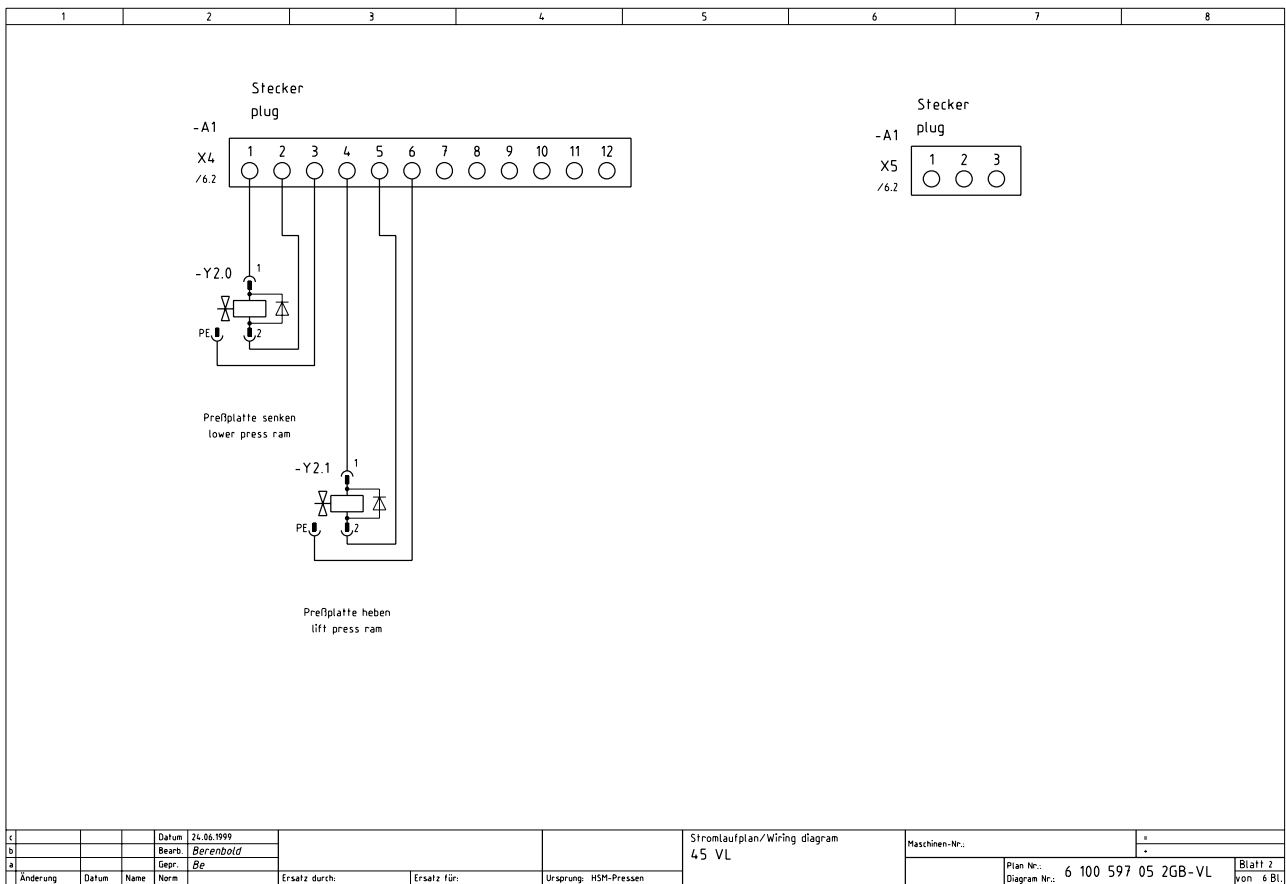
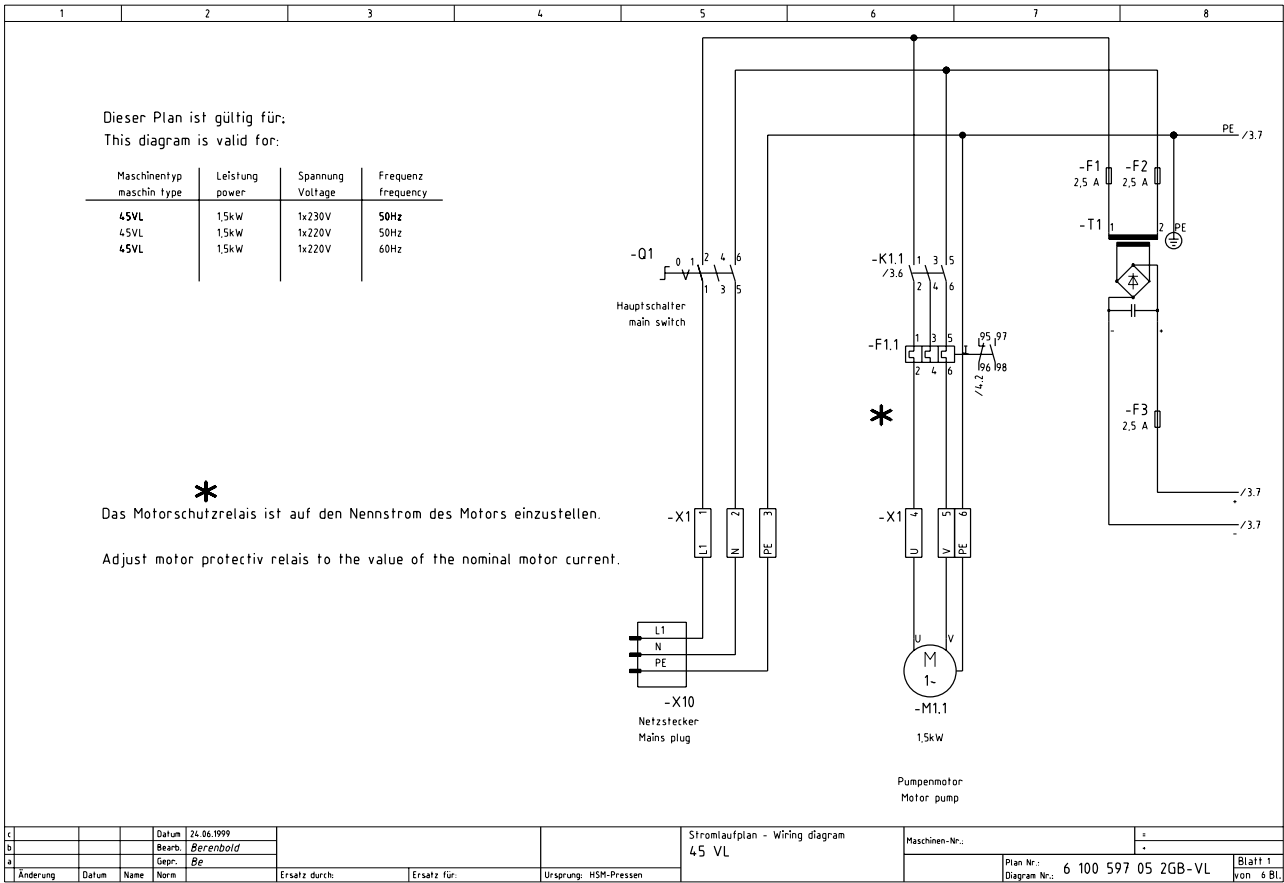


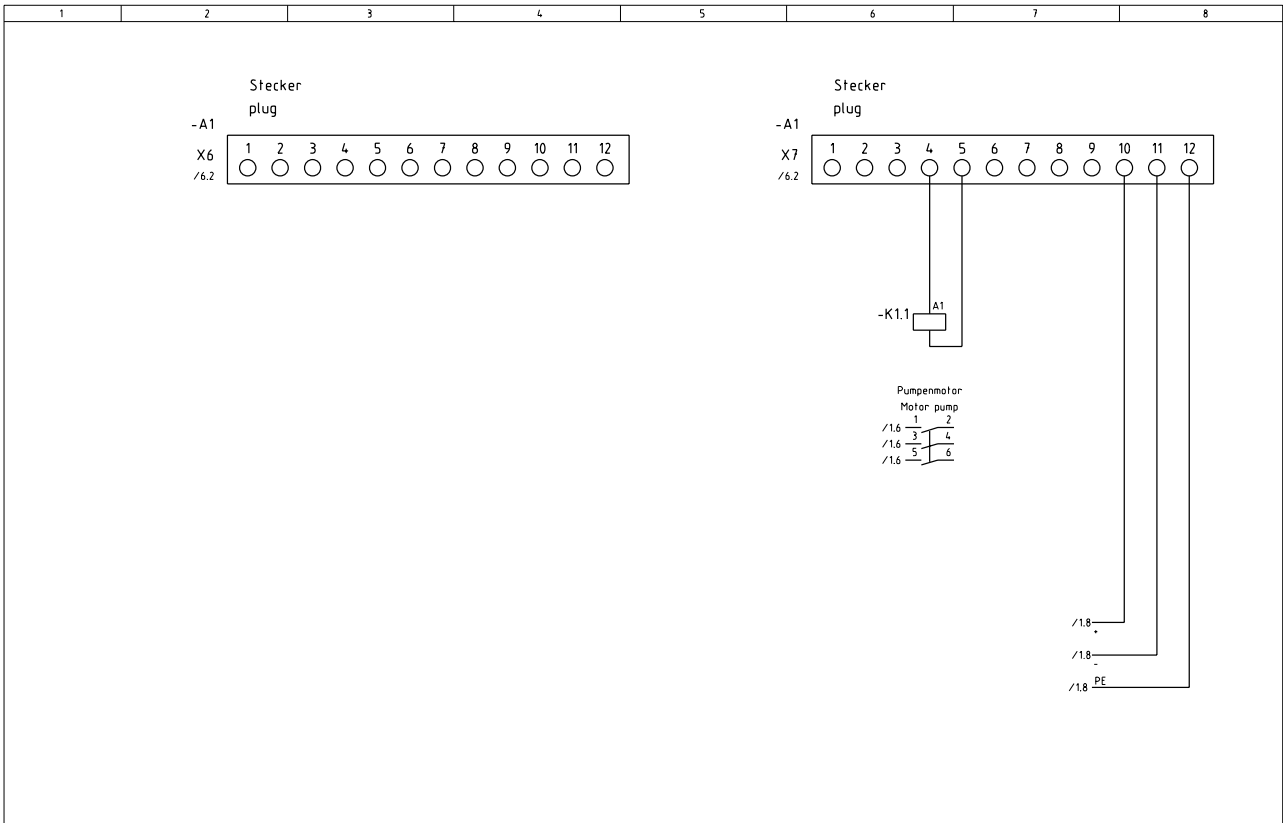
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8.2 Wiring diagrams HSM 75 VL (230 V)

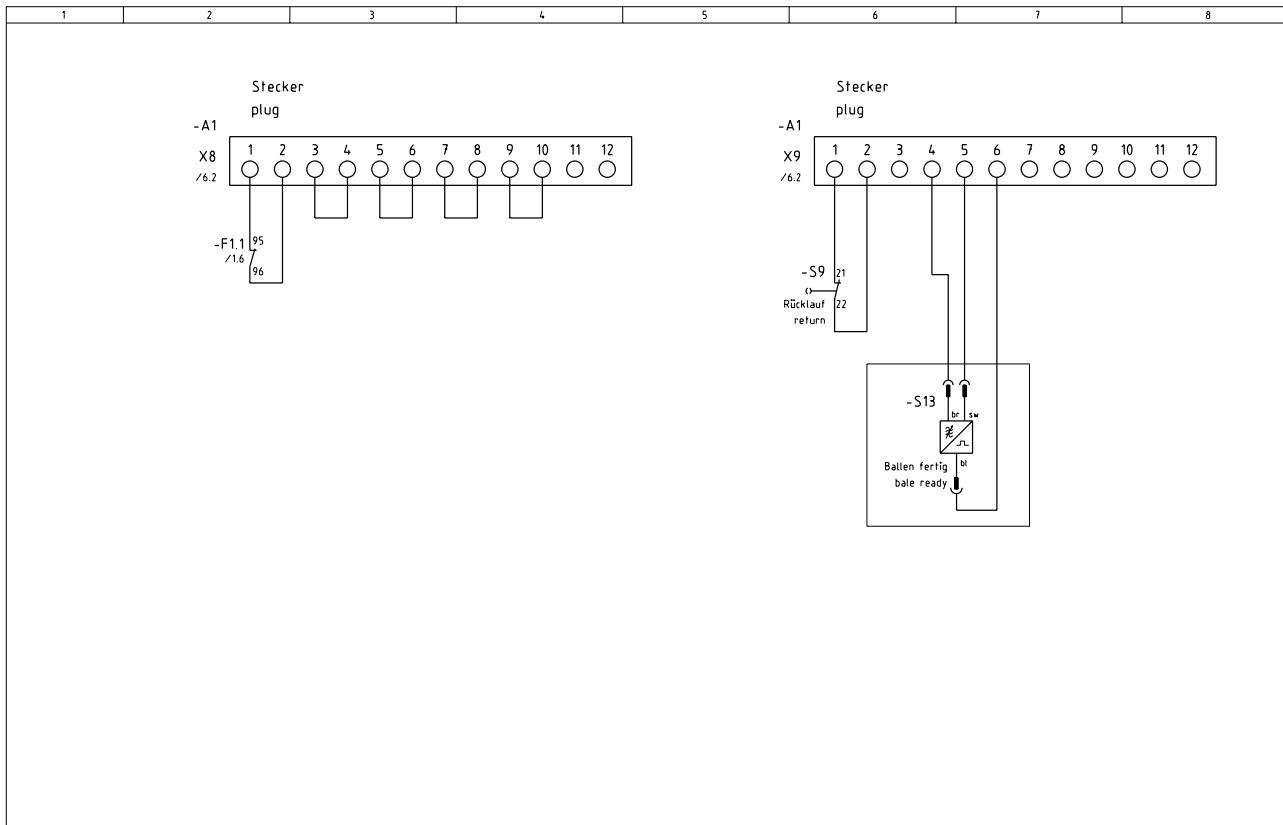
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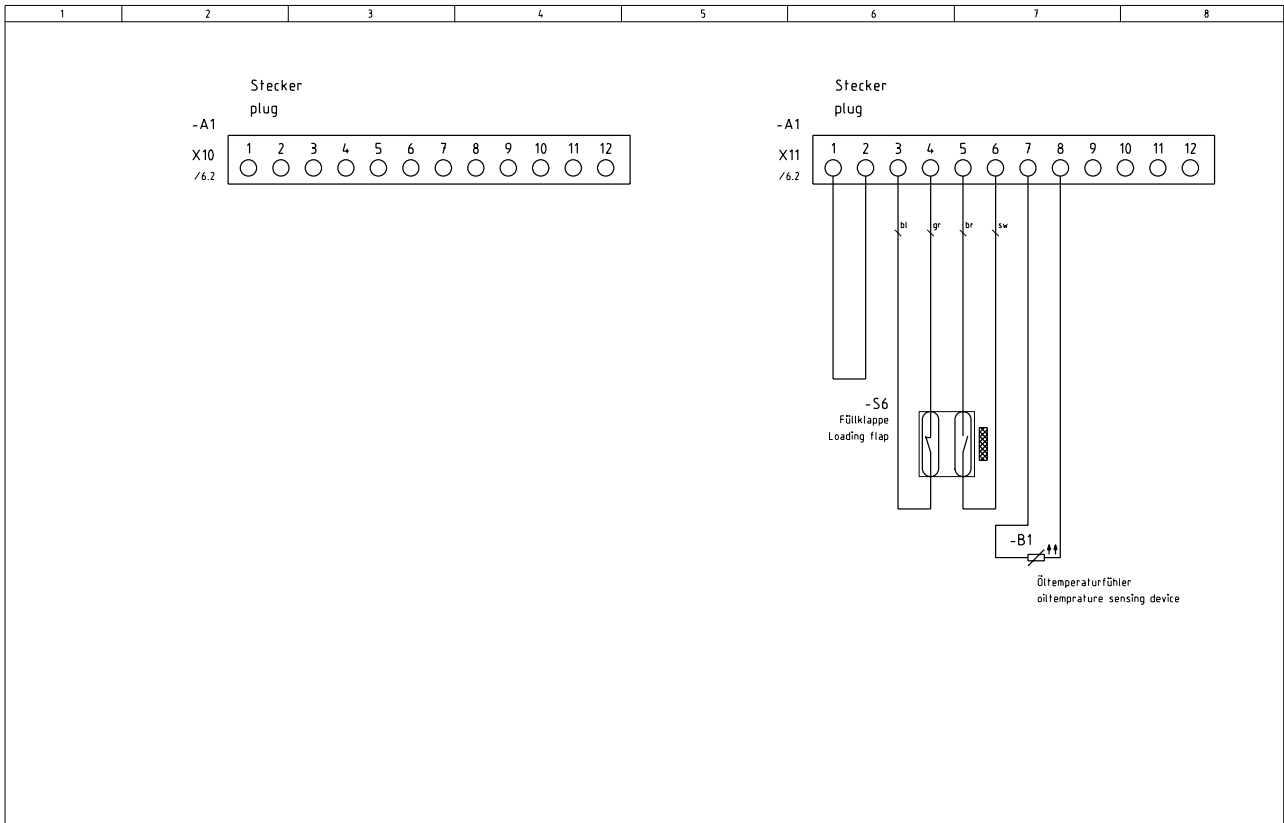




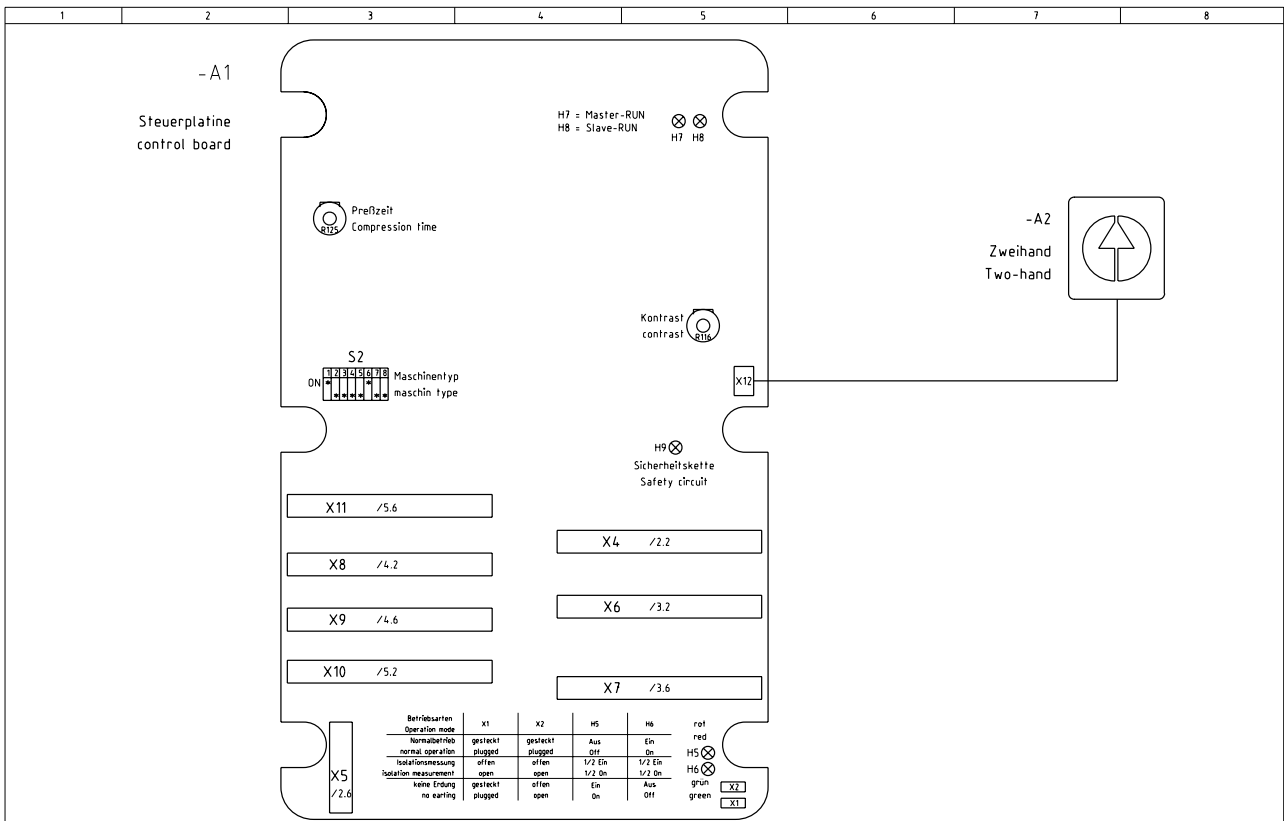
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a			Gepr.	Be					Plan Nr.: 6 100 597 05 2GB-VL	Blatt 3 von 6 Bl.
Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung: HSM-Pressen		Diagram Nr.:	



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9 Hydraulic diagram

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