Joos Quality-Press

Machine No.: 2066780
Year of construction: 2021

Hydraulic

Total pressing power	kN	200
4 cylinder piston diameter	mm	65
Cylinder stroke	mm	400
Operating pressure hydraulic max.	bar	150
Specific pressure with full load	daN/cm²	2,0
Hydraulic oil viscosity according to ISO VG		46
Tank capacity	l	36

Electrical data

Connected load		see electric data sheet
Temperature control type		R 3.1

Dimensions

Pressing surface	mm	1000 x 1000
Total length approx.	mm	1830
Total width approx.	mm	1618
Total height approx.	mm	2157
Opening pressing area	mm	400

Weight

Total weight approx.	kg	5000

Others

Noise level during operation	dB(A)	88 +4
Noise level at the working place during operation	dB(A)	70 +4

(Measuring conditions in accordance with DIN EN 23746 / DIN EN 31202 with CEN TC 142 and ISO DIN 7960 A: 1-4. Point of measuring 0.5 m in front of the operation side 1.5 m height ; cycle opening - closing)

Joos Quality-Press

Machine No.: 2066780
Year of construction: 2021

Hydraulic

Total pressing power	kN	200
4 cylinder piston diameter	inch	2,56
Cylinder stroke	inch	15,7
Operating pressure hydraulic max.	bar	150
Specific pressure with full load	daN/cm² (kg)	2,0
Hydraulic oil viscosity according to ISO VG		46
Tank capacity	l	36

Electrical data

Connected load	see electric data sheet
Temperature control type	R 3.1

Dimensions

Pressing surface	inch	98 x 51
Total length approx.	inch	72
Total width approx.	inch	63,7
Total height approx.	inch	84,9
Opening pressing area	inch	15,7

Weight

Total weight approx.	kg	5000

Others

Noise level during operation	dB(A)	88 +4
Noise level at the working place during operation	dB(A)	70 +4

(Measuring conditions in accordance with DIN EN 23746 / DIN EN 31202 with CEN TC 142 and ISO DIN 7960 A: 1-4. Point of measuring 0.5 m in front of the operation side 1.5 m height ; cycle opening - closing)

PRESSEN + TECHNOLOGIE

GOTTFRIED JOOS MASCHINENFABRIK

EG-Declaration of Conformity

as defined by the EG-Machine Directive 2006/42/EG, appendix II A

Original

Manufacturer	Gottfried Joos GmbH & Co. KG D-72285 Pfalzgrafenweiler, Lange Strasse 41
Authorized representative	Reinhard Schatz D-72285 Pfalzgrafenweiler, Lange Strasse 41
Type	HP-S 20
Machine No.	2066780

The machine is developed, designed and manufactured in accordance with following EC-directives, national and international standards and specifications:

CE-Machine Directive	**2006/42/EG**
EMC-Directive	**2014/30/EU**

Applicable harmonized standards:

EN ISO 12100-1 und -2	**Technical basic principles and specifications**
EN ISO 13857	**Safety distances**
EN 349	**Minimum distances**
EN 60204-1	**Electrical equipment of the machines**

The complete list of the applicable standards and technical specifications is given in the internal machine documents.

30.09.2021 .....

(manager)

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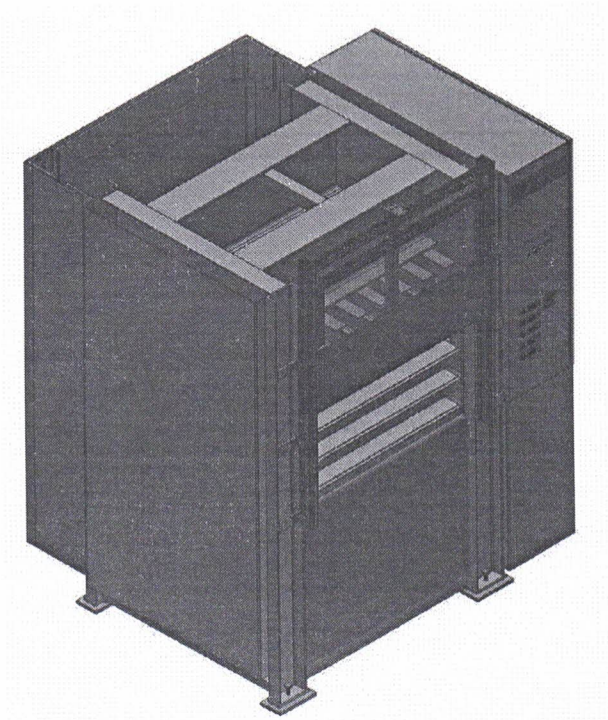
Kommanditgesellschaft, Sitz Pfalzgrafenweiler, Registergericht: Stuttgart HRA 430405
Persönlich haftende Gesellschafterin Gottfried Joos GmbH, Sitz Pfalzgrafenweiler, Registergericht: Stuttgart HRB 430279
Geschäftsführer: Gottfried Joos, Reinhard Schatz

Operating Instructions

Joos - Quality - Press

HP-S 20



Electric Heating

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Little rules

- Observe the safety regulations in the operating instructions
- Heating up has to be effected only when the press is closed
- Never close the press without a layer between the heating platens
- Cover the pressing surface evenly and with material of the same thickness
- Surface above the pistons has to be covered
- Adjust the pressure to the surface of the work pieces that have to be pressed
- Avoid soiling by correct application of glue
- After finishing work the press has to be opened entirely

Introduction to Operating Instructions

The Operating Instructions are designed to make it easy to come to know the machine and its intended application.

The Operating Instructions contain important advice of how to operate the machine safely, appropriately and economically. Paying attention to these instructions helps to avoid dangers, repair costs and reduces idle periods. It also increases the reliability and durability of the machine.

The Operating Manual must be amended in accordance with existing national regulations for accident prevention and for the protection of the environment.

The Operating Manual must be available at all times in the vicinity of the machine.

The Operating Manual must be read and adhered to by all persons who are instructed to carry out work on the machine, such as:

- **Operating**, including installation, repair of fault in the work process, removal of production debris, care, removal of work process related materials and auxiliary materials,
- **Maintaining** such as maintenance, inspection, repair and/or
- **Transport**

Apart from the Operating Instructions and the safety regulations which are valid where the machine is kept, attention must also be paid to the official technical regulations for safe and appropriate handling of the work process.

Contents

1 Safety

1.1 Notes on Safety

The Joos-Quality-Press was designed and constructed on the basis of a danger analysis and careful selection of prescribed standards and further technical specifications. It incorporates the latest technology and guarantees the highest degree of safety.
However, such a high degree of safety can only be achieved if all intended safety measures are observed. The user of the machine is obliged to make a safety plan and to check that it is adhered to.

1.1.1 General Notes

- All safety and danger labels on the machine must be observed.
- The safety and danger labels on the machine must all be in place and kept in legible condition.
- Danger-OFF-switches and safety pull cords must be checked regularly and kept in perfect functional order.
- Routine tests / inspections must be carried out at the prescribed intervals.
- Cleaning and repair are not part of the operating process and are the responsibility of the user.
- Alterations, extensions or reconstruction of the machine which could interfere with its safety must not be carried out without the permission of the manufacturer.
- Should the machine behave in an unusual way without obvious cause and not in accordance with the operating instructions, the machine must be stopped immediately and the fault must be reported to the appropriate office.

The local regulations for safety and accident prevention apply in each instance.

1.1.2 Staff Qualifications

- Work with and / or on the machine can only be carried out by specifically trained, reliable and authorised staff.
- The operator must be familiar with the contents of the operating manual, in particular with the chapter on safety.
- Staff to be trained in any way should only work with or on the machine under constant supervision by an experienced person.
- The range of responsibilities for transport, installation, construction, fitting, care, maintenance and service must be clearly mapped out and adhered to.

1.1.3 Other Dangers

The press has been built to the latest technology standards and valid safety regulations. However, other risks such as dangers from bruising or burns from the heating platens must be pointed out. Using the press can still endanger the body and life of the user or of third persons and damage can be caused to the machine and to other items.

1.1.4 Service

Repairs or interference with the pressurized system is only permitted in consultation with qualified and trained staff that is familiar with maintenance and service instructions for this task. The safety regulations must be strictly observed.

Safety is only guaranteed when original spare parts from Joos or spare parts released by Joos are used. If other spare parts are used, Joos will no longer be liable from that moment onward!

1.2 Safety Devices

The machine has safety devices in accordance with valid regulations which guarantee the safe operating of the machine.
The function of the safety devices is extensively described in Section 2.8.

1.3 Intended Use

The machine is designed for a special purpose. If it is not used as intended, the manufacturer will not be liable for resulting damages; liability will then lie with the user. Adherence to the regulations issued by the manufacturer in respect of installation, demounting, commissioning, operating and servicing are part of the conditions for intended use.
No work should be carried out which impairs the safety of the machine or of the operating personnel.

1.3.1 Purpose

The purpose of the machine is to glue one or both sides of flat surfaces involving temperature and pressure, mainly in the process of veneering and laminating boards.
The machine performs such work processes safely.
All other uses do not comply with the regulations.

1.3.2 Materials

Level boards of the same thickness, for example

- wood chip board
- hard board
- ply-wood
- solid wood
- MDF-boards

Surface materials, for example

- veneers
- foil sheets

1.3.3 Operating

When operating the machine the safety instructions must be adhered to.
The machine can be loaded and unloaded from all accessible sides. Sufficient free space must be allowed when the machine is set up. The machine may only be operated by one authorised person who has received safety instructions. The servicing side of the machine is the side on which the service elements have been arranged.

1.3.4 Misuse

The manufacturer is not liable in cases of misuse of the following nature:

- Any usage of the machine other than mentioned above
- Non-adherence to safety instructions
- If faults which can impair safety have not been removed before use of the machine
- Any interference with parts of the machine which contribute to active and passive safety
- Extensions and alteration of the machine without permission
- If the machine is not kept in technically perfect condition and is not operated with awareness of safety and dangers and with the observation of all instructions in the manual.

2 Machine Specification

2.1 Specification

Application

The hydraulic press is used to cover flat boards of even thickness with surface material under pressure and raised temperature (see intended use).

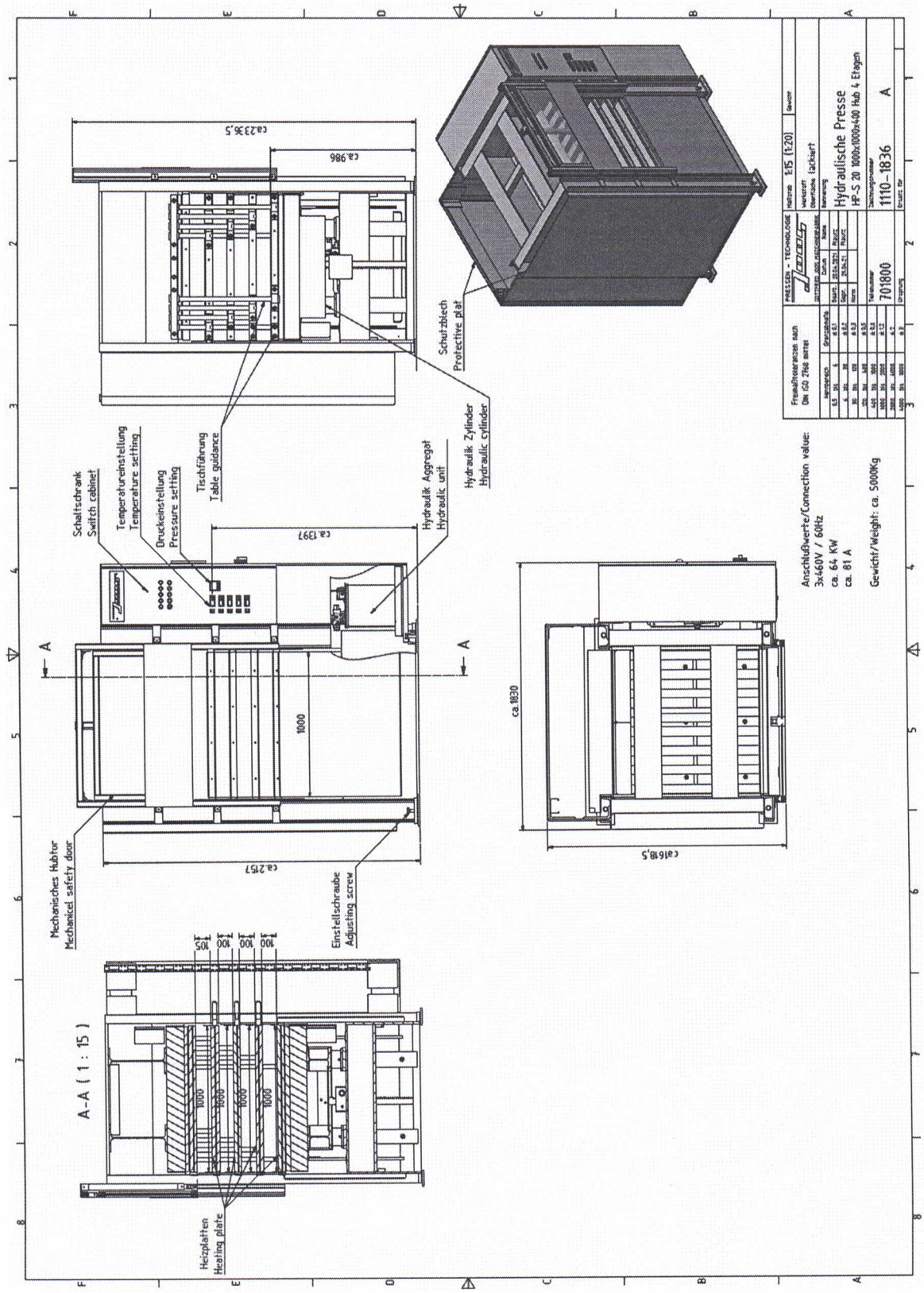
Function

The work piece must be prepared outside the press and then inserted between the two heating platens.
The upper heating platen is firmly fixed within the press frame. The lower heating platen is placed on the press cylinders. The closure movement of the press is from the bottom upwards. Once the upper heating platen is in contact with the work piece, the pressure is built up and kept steady.
The temperature of the pressing platens is measured by means of temperature gauges. The opening of the press is achieved through a pressure sensor or a time switch element (optional).

Construction

The press frame is firmly joined and consists of four elements. The solid steel profiles are connected through a solid welding joint. The base for cylinders and heating platens, etc. has been cut and surface-cleaned and is free from distortion.

2.2 Labelling of structural components



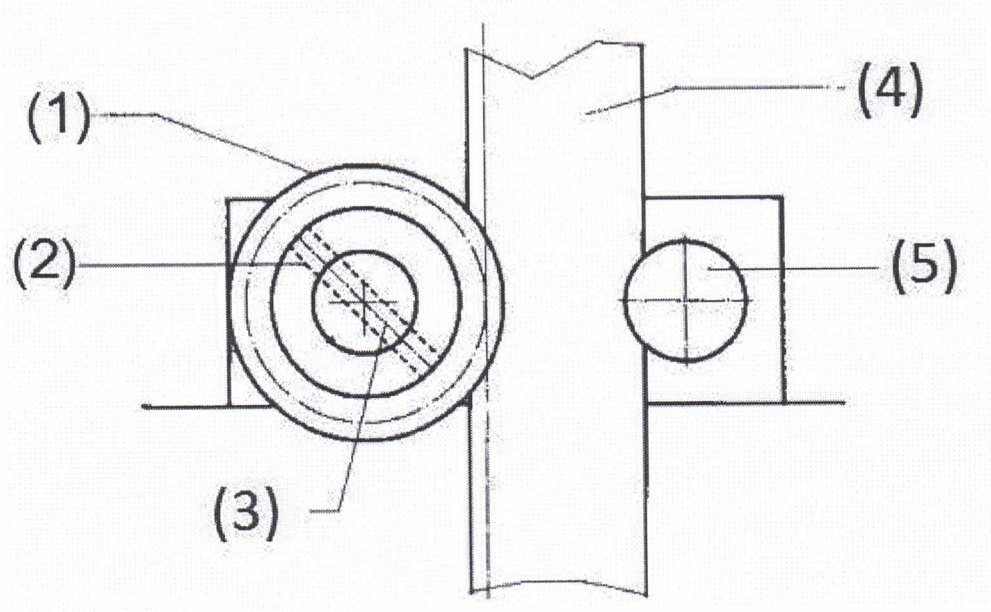
2.3 Table Guidance

The pressing table is guided in four columns diagonally positioned to the machine stand. Guidance is achieved by means of two guidance plates which are attached to the table by tongue and groove method. The guidance plates are made out of a high quality material with excellent sliding properties.
Screwed to the four columns are four guidance strips, made from cold-drawn bright steel. These are fitted into the grooves of the guidance plate.

2.4 Rack-and-pinion Guidance System

Rack-and-pinion guidance ensures an even movement of the press table. It consists of two toothed racks which are screwed on under the table. The toothed racks are guided along the press base by means of eccentric pins. The toothed racks engage in two pinions which are connected by a shaft. The toothed racks are bolted to the connecting shaft by means of taper bushes.

Adjustment of the eccentric pin:
The eccentric pin is to be tightened with a calliper face spanner and a forked open jaw wrench. It is important that there is no clearance between the eccentric pin and the gear rack. Also no pressure should put onto the tooth gear. The gear rack as well as the eccentric pin has to be greased.



(1) Pinion
(2) Taper bush
(3) Connecting shaft
(4) Toothed rack
(5) Eccentric pin

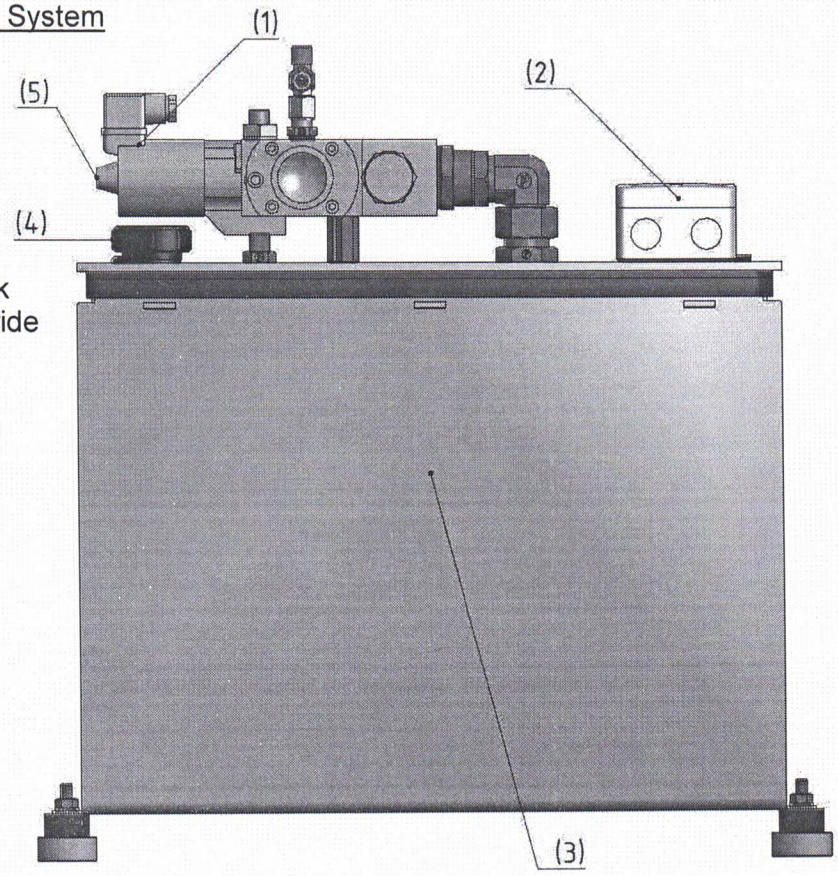
2.5 Hydraulic System

The hydraulic aggregate with installed submersed pump and mounted-on hydraulic valve is positioned in the lower area and is thus protected. The filler and the dip stick for the hydraulic oil are positioned on the top of the aggregate. The hydraulic aggregate and the press cylinders are linked with a precision steel pipe and a cutting-ring screw connection. An electronic pressure control is installed at the top part in the switch cabinet. Here the hydraulic operating pressure must be set in bar. The required value can be obtained from the pressure chart.

After activating the button "Close Press" the pump starts and the pistons push the pressing table upward. If the pressure drops after a longer press time, the pump is re-activated automatically and builds up the set pressure (the take-over pressure must be exceeded by a minimum of 30 bar / 435 psi).

Construction of the Hydraulic System

(1) hydraulic valve
(2) electrical connections
(3) motor-pump unit
(4) filling hole with oil dipstick
(5) emergency manual override



Level-hydraulic oil
Maximum level when the press is open (pressing table in lowest position) = 30 mm / 1,1 inch below the tank lid's lower edge.

Manual Emergency Operation
If the press cannot be opened, for example during an electricity cut, the tappet on the valve magnet can be pressed with a pencil, screw driver or something similar, bearing in mind the safety regulations. Doing this, the pressing table can be lowered into its lowest position.

2.6 Cylinders

The Joos cylinders are single-acting and are used for a hydraulic operating pressure of 400 bar / 5800 psi maximum. The cylinders are fixed to the cylinder base by means of spring claws.
The cylinder tube consists of a seamless destilled tube which a cylinder head and cylinder base are welded on. The inside of the tube has been suitably prepared for the insertion of the seal and the guide belts.

2.7 Electrical System

The switch cabinet is completely wired and positioned at the top part of the press. The main switch is situated in the switch cabinet. The door to the switch cabinet can only be opened when the main switch is set to "0".

The temperature controls, heat switches and other controls and operation elements are arranged on the front of switch cabinet.

The buttons for opening and closing of the press as well as the button "Control ON" are positioned in the switch cabinet.

2.8 Heating

Attention! Danger of burns!
Do not touch heating plates without appropriate protective gloves or protective clothing!

The electric heating platens are manufactured in sandwich construction in two layers. The base metal sheet is prepared with grooves for the insertion of the heat conductors. The heat conductors are insulated from the base sheet through glass fibre wrapping and additional protective Teflon foil.
The aluminium cover sheet (pressing sheet) is placed on the base metal sheet and glued to it.
In situations of higher requirements due to raised temperature or through mechanical application (e.g. daylight platen) the individual platen layers are secured mechanically with rivets or screws.

The heating platen is thermally insulated from the press base stand.

The heat output is evenly distributed over the entire surface. This ensures that the same temperature is maintained overall as long as the heat reduction through the pressing material also takes place evenly over the entire surface.
This means that incorrect covering of the platens between the individual layers of the sandwich can lead to different thermal tensions. In extreme cases these tensions can lead to the loosening of the adhesion, for example of glue tracks.

Temperature control

Depending on requirements, different temperature controls are available:

Temperature control

Two electronic temperature control and safety thermostat as well as one ON-OFF are installed switch per heating plate.
The required temperature is set by the electronic temperature control (see 3.3).
The safety thermostat is designed for the protection of the heating plate from overheating. When the safety thermostat is activated, a lamp lights up showing “overheating” and the entire heating is switched off. Once the temperature has been lowered, the heating switches on again.

The probe for temperature control and safety thermostat are positioned on the backside of the heating platen.
The safety temperature probe has a depth of approx. 30 cm / 11,8 inch.

Attention:
It is essential that the area above the probes is also insulated. If required, add extra pieces of insulation material.
The dummy material has to be of the same temperature as the material that has to be pressed. If necessary, the dummy material has to be exchanged.

2.9 Safety and Control System

2.9.1 Emergency stop button

The “emergency stop” button is located at the front of the switch Cabinet. If the emergency stop is pressed, the press stops in its current position.
The control is switched off and the control lamp "failure emergency stop" is on.
In order to continue working the emergency stop button has to be unlocked by pulling and the button "reset error" has to be pressed.
When the indicator "ready for operation" is on, the press is ready for operation.

2.9.2 Protective cover

The interventions of the back and left side of the press are covered by a permanently attached protective plates. On the right side of the cabinet and the trim for the hydraulic unit are mounted so that an intervention is not possible.

2.9.3 Mechanical safety door

The control side is protected by a pneumatically driveb safety door. The safety door will not open until after completion of the pressing process.

2.9.4 Mounting fixtures

Before maintenance work can be done underneath the press table, this must be secured in the top position. For this purpose, the table must be supported on at leat four sides (for example wood, stehl).

Protective casing

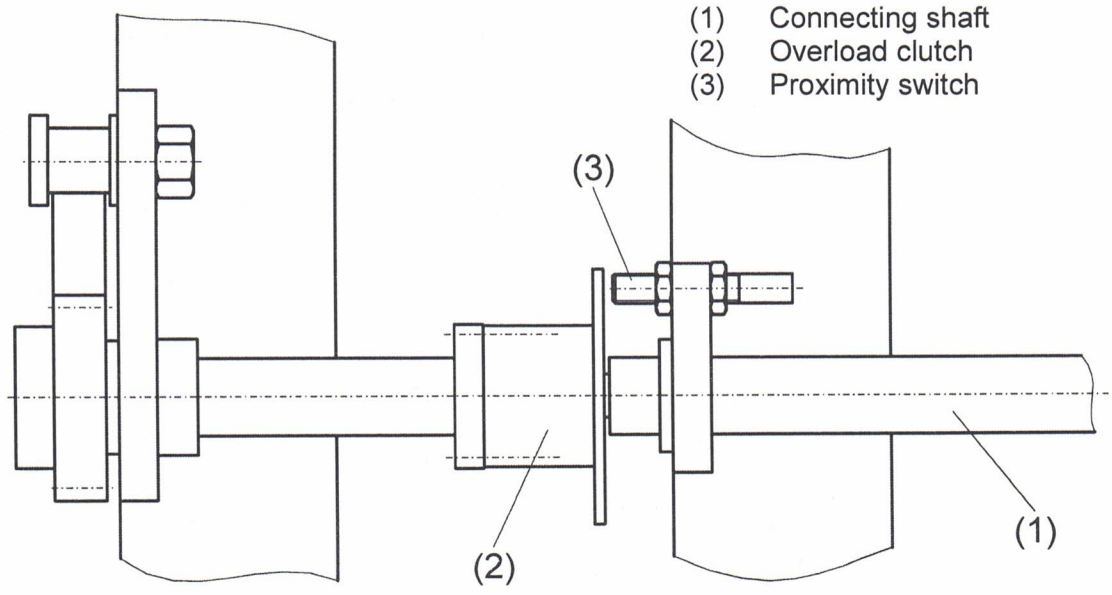
The notches on the pinions of the rack-and-pinion guide shaft are covered by protective casing.

2.10 ABS Safety System (optional)

The ABS Safety System helps to avoid a situation where wrongly inserted or forgotten parts squash the heating plates and/or deform the press table when it is pushed into its contracted form.

In the ABS Safety System the connecting shaft of the toothed rack parallel guide is separated and linked via an overload clutch. The clutch connects the two shaft ends firmly until it reaches the limiting torque moment which is set through the initial tension of a spring package.
When the torque moment is exceeded the pre-sprung clutch part is pressed out of its original position and moves in axial direction by approx. 1.2 mm / 0,05 inch. This loosening process is picked up by an inductive proximity switch which stops the hydraulic drive with the result that the press is open again. During this opening process, or when the torque moment is not reached, the clutch reverts to its original position.

Attention: The overload clutch is only activated when the spread over the cylinder rows is uneven. Overloading is thus avoided to a large extent.



New adjustment of A.B.S. System
When delivery the machine, the A.B.S. system is set so that is will be released as soon as the pressing table is incline by 4,5 mm.
This setting has to be checked regularly and adjusted if necessary.

Procedure:

1) Insert material of approx. 4,5 mm thickness and a size of DIN A4 or bigger (no metal! Use MDF, paper or something similar).
2) Set the closing pressure of the press to 30 bar
3) Close the press
4) The A.B.S. system should be released and the press be opened automatically.

5) If not open the press manually.
6) Reduce the distance of the proximity switch (3) to the disc by approx. 05 mm.
7) Repeat steps 3) to 6) until the A.B.S system triggers.

In Case the A.B.S system is set too sensitive increase the distance between the proximity switch (3) and the disc.

2.11 Cylinder can be switched off (optional)

By switching off of cylinders (only possible with presses that have more than four cylinders) you have the possibility to cover only part of the pressing surface without inserting dummy material onto the empty space. The surface above the remaining pressurized cylinders has to be covered.
The function can be selected by means of a switch on the operation panel at the switch cabinet. Each mode is displayed by means of a red indication light.