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# Electric combined heating plates assembly instruction



We would like to thank you for purchasing buses, electric heating plates and the trust you have placed in our products.

Busse Heizplattentechnik GmbH has been producing electric heating plates for all veneer press makes and models for more than 15 years. By the permanent quality controls which is certified in accordance with DIN EN 9001 we guarantee you a constant high quality standard.

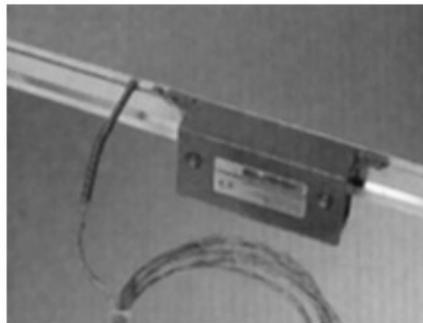
If you have any questions about our product range, please do not hesitate to contact us. You will find the address at the end of these assembly instructions.

We strive to make it as easy as possible for you to operate your hot plate press with electric hot plates. If you observe a few guidelines, you can expect trouble-free operation. The guidelines can be found in the appendix of the manual.



# Replacement of defective Electric combi-heating plates

1. Close the press. However, set both heating plates only to "contact pressure", i.e. minimum operating pressure up to max. approx. 10 bar.
2. Set the heating switch in the condition table of the press to "0", also set the main switch, if no main switch is installed in the control panel, please interrupt the supply to the press for a short time.
3. Pull out the temperature sensors of the two controllers from the heating plates. The sensors are located on the narrow side of the heating plates, next to the electrical connection box. Please note which sensor is responsible for which heating plate so that there is no confusion later.
4. Open the two small terminal boxes on the narrow side of the heating plate and disconnect the connecting cable from the terminal strip. If this happens, please pull the supply cable out of the terminal box.



5. So that the press can be operated hydraulically, please switch power on again.
6. Between the steel beams in the movable lower press table, as well as the upper part of the press, the electric combi-heating plates are fastened with Ha screws. Please loosen all screws and remove the centring screws of the insulating pressure plate.
7. Lower the press table and remove the defective heating plates.
8. If the heating plates are replaced because they have been squeezed due to incorrect operation, it is recommended to check the planed support of the pressing die and the upper part of the press with a straight line before installing the new heating plates to determine whether the incorrect operation has also caused slight squeezing of the press body. If this is the case, please compensate the crushing with aluminium foil or the like.
9. Insert the new heating plates delivered to you into the press. Remove any packaging straps. Align the heating plates with the press table or upper part of the press. The heating plate is installed in the opposite order as described in points 1.) to 6.)

For safety reasons, please ensure that the electrical circuit to the press is interrupted when connecting the electrical cable to the heating plates. When fixing the heating plates including the insulating and pressure plates by the hook screws, make

sure that the tension springs of the screws have a spring travel of approx. 3 mm, otherwise the heating plates will be damaged.

10. The electric combi-heating plates are fastened by several fastening points. First, screw the pendulum bolts with the emergency links on them into the steel winch on the underside of the all-aluminium heating plate. These serve for the later fastening of the heating plates to the press table.

- The studs are then screwed into the middle steel threads. Now place the insulating and pressure plate with the insulating layer on the heating plate. After the two plates are aligned, the sleeves are knocked over the stud bolts through the milled holes of the insulating pressure plate.
- The slot of the sleeves must point in the longitudinal direction of the plates so that the possibility of expansion of the aluminium heating plate is guaranteed.
- Now a spring is pushed over each stud bolt and tensioned with the guide nut and a washer. The guide nut must be screwed on with the full thread length so that it no longer protrudes over the insulating pressure plate, as this would destroy the heating plate during later installation.
- If a heating plate is replaced by an electrical short circuit within the heating plate, make sure that the complete current path of the heating plate from the terminal strip

to the control contactor etc. is checked. The short-circuit could possibly cause a control contactor to "stick" and cause your press to malfunction.

- If only the upper heating plate has to be replaced, it is advisable to place a cover on the functional lower heating plate when removing the defective heating plate as well as when installing the new heating plate in order not to damage it when replacing the upper heating plate.

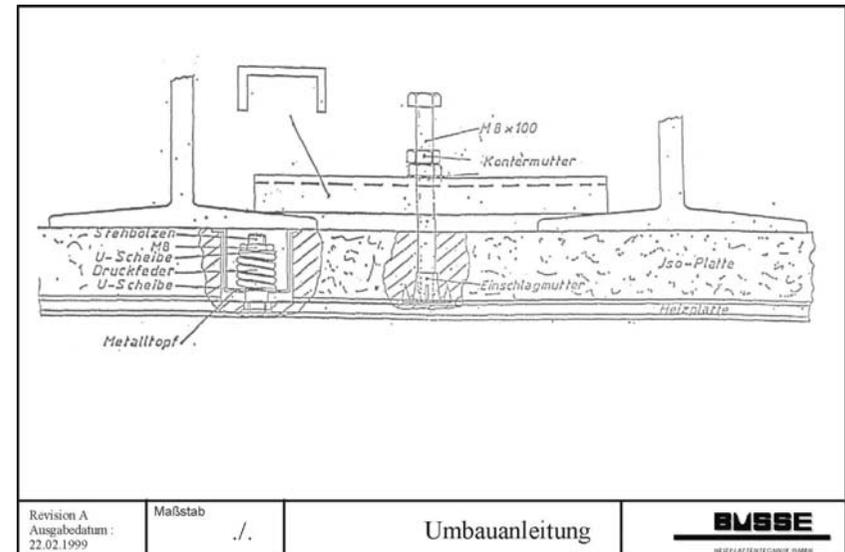


Fig.2.1 Cross-section through electric combi-heating plate

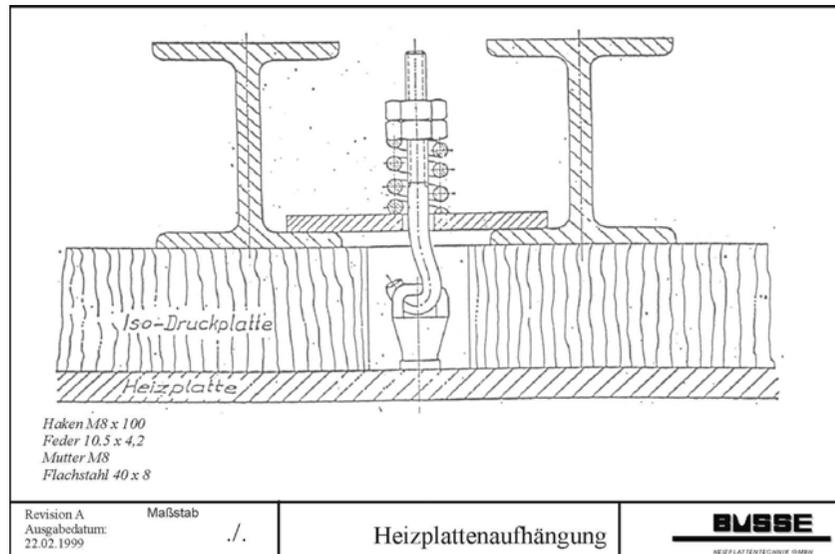


Fig.2.1 Cross-section through electric combi-heating plate

## Instructions for avoiding and rectifying faults on electric heating plates:

We strive to make it as easy as possible for you to operate your hot plate press with electric hot plates. If the following instructions are observed, you can expect trouble-free operation.

The electric heating plate must not be operated unattended. If the temperature control fails, uncontrolled temperatures can occur which can lead to fire under unfavourable circumstances.

The insulation plate supplied is selected according to the temperature requirements of the electric heating plate. If the insulation is provided by you, make sure that the insulation is suitable for the temperatures of the heating plates. If inferior insulation is selected, there is a risk of fire.

The maximum operating temperatures must be observed. For standard electric heating plates, the maximum working temperature is limited to 130° C. In the case of special designs which are suitable for higher temperatures due to their design, the individually specified maximum working temperature must not be exceeded.

When connecting the electric heating plate to the power supply, make sure that the plate is connected to the voltage which is stamped into the product. This information can be found in the edge of the heating plate, next to the electrical connection box, or on the temperature scale of the local controller.

## Press surfaces

The pressing surfaces of the glued heating plate are free of rivets and screws and can therefore be designed for individual pressing and pushing through work up to the edge. The edge strip of 4 - 5 cm should not be used for serial work. Self-supporting centre plates are glued with prestressed sheets, the support lugs at the four corners of the plate are additionally riveted; this area is not intended for pressing.

## Heating

Heating takes place with the press closed and pressureless. Once the working temperature has been reached, pressing can be carried out with maximum permissible pressure.

## Design

With electric heating plates, the heating power is evenly distributed over the entire surface, and therefore the same temperature is maintained everywhere, provided that the heat removal by the pressed material is also evenly distributed over the entire surface. If the surface of series presses cannot be designed to 70 - 80 % due to unfavourable dimensions, appropriate blind pieces must be included, which must also be replaced for cooling.

## Temperature measurements

The temperature is measured from the front of the panels by means of probes inserted 30 cm away. It is essential to ensure that the working area extends over the sensor, otherwise replaceable dummy pieces must be enclosed. The thermostat sensors must be screwed into the plates and must not be interchanged.

## Pressure

The maximum permissible specific pressure specified on the press must not be exceeded. For hollow bodies, e.g. doors, only the effective frame width may be used for pressure measurement.

Electric heating plates are sophisticated products, therefore very reliable and safe to operate. Should minor faults nevertheless occur, please observe the following instructions:

<b>Malfunction</b>	<b>Causes</b>
Plate overheats or does not warm	Thermostat or contactor is defective - Fuses have failed
Plate becomes uneven warm	Check the fuses, there is no Phase, or plate is uneven laid out
Plate tightens	High temperature differences - see point 2. check fastenings

## Accessories

We offer Mylar film to eliminate the need for release agents. This polyester film is glue-repellent and can be retrofitted to any heating plate.

Before installing the Mylar film, the surfaces of the heating plate must be cleaned of all glue residue - this is best done with warm water. It is to be paid attention that the pressing surfaces are absolutely clean, since glue remainders attack and destroy the Mylar foil.

The Mylar foils for the upper and lower plate are placed in the open press. The press is then retracted and the polyester film is attached using the aluminium edge profiles of the insulating printing plate.

When the heating plates are heated for the first time, the Mylar foil is stretched and fits absolutely flat against the heating plates - the press is ready for use again.

# GUARANTEE CARD

For your buses we take over quality brand product from the day of delivery, to be proven by invoice or delivery note of the supplier company.

## 6 MONTH WARRENTY

We will repair free of charge any damage to the device which we detect as a result of manufacturing faults.

In order for the repair to be carried out in accordance with the applicable regulations, the product must be returned to the factory carriage paid.

We do not assume any liability for damage caused by the following reasons: Unsuitable or improper use, modifications or repair work carried out without our prior consent, faulty assembly or commissioning by the customer or third parties, natural wear and tear and faulty or negligent handling - in particular excessive strain.

**BUSSE**

HEIZPLATTENTECHNIK GMBH



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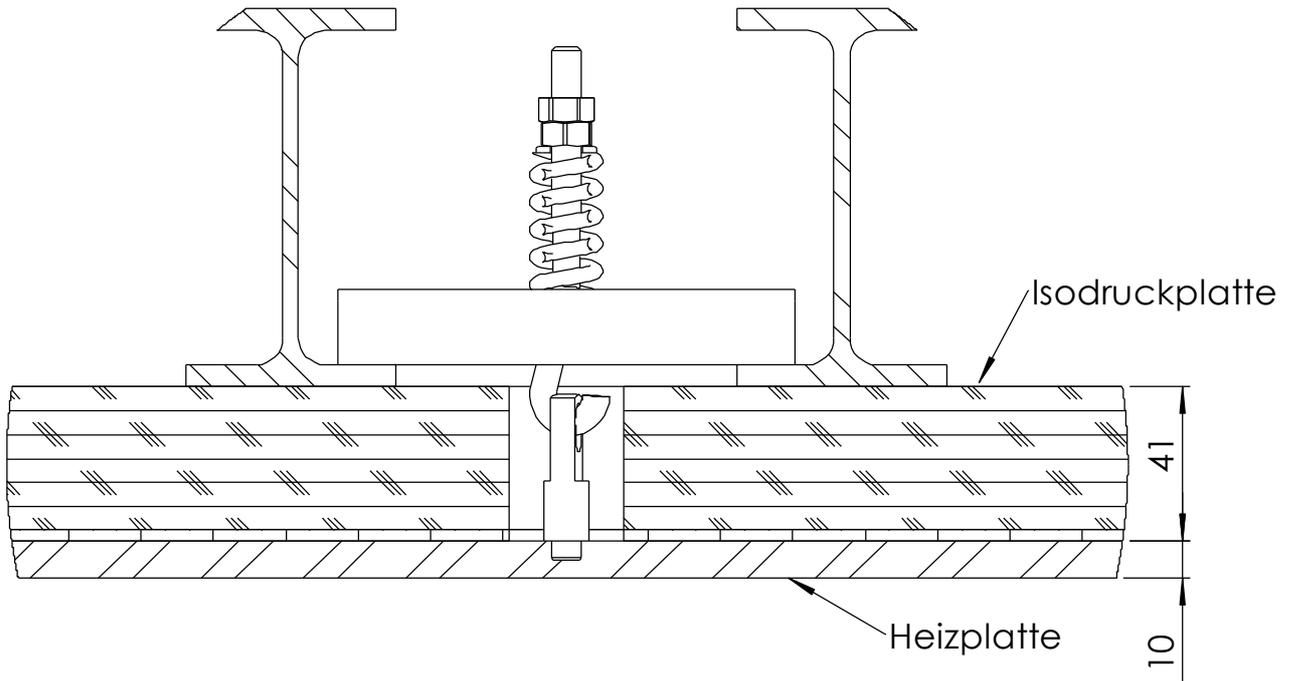
**Beim Befestigen der Heizplatten einschl. den Isolier- und Druckplatten durch die Hakenschrauben ist darauf zu achten, das die Spannfedern der Schrauben einen Federweg von ca. 3 mm haben, da sonst die Heizplatten beschädigt werden.**

**When attaching the heating plates, including the insulating plates and through the hook bolts, make sure the springs of the clamping screws a travel of on or about 3 mm, otherwise the heating plates may be damaged.**

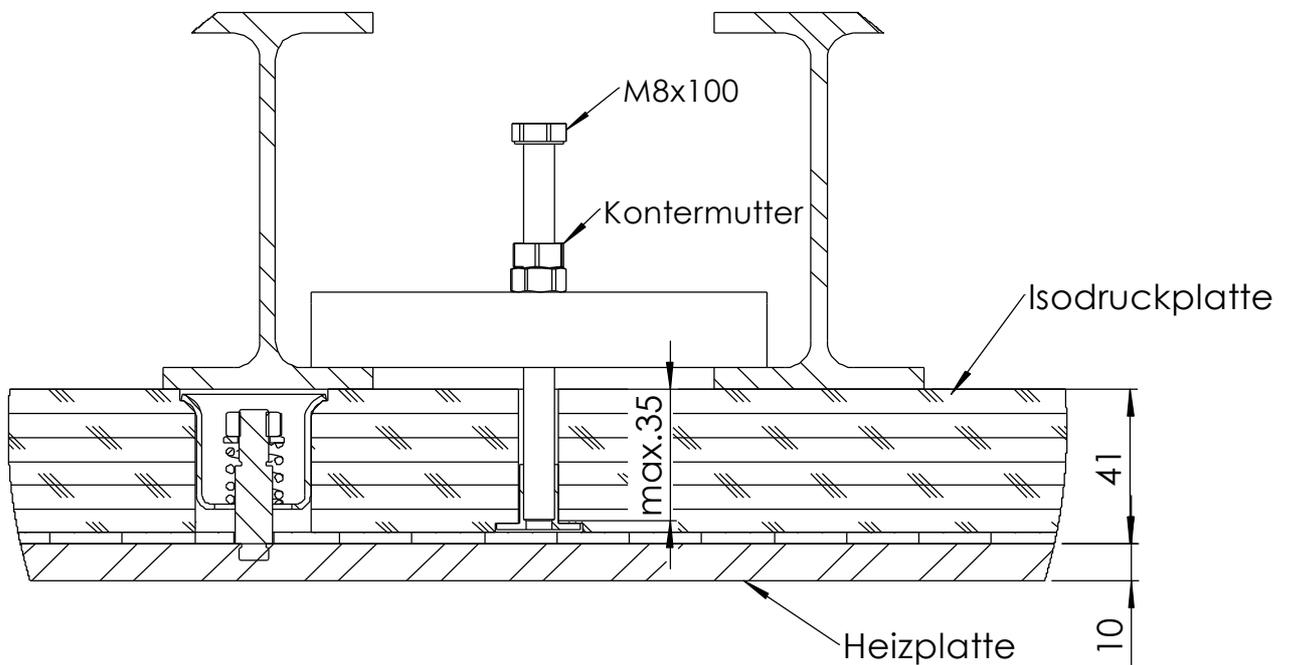
***Quando si fissano le piastre riscaldanti, comprese le piastre isolanti e le piastre di pressione, attraverso i bulloni del gancio, assicurarsi che le molle di tensione delle viti abbiano una corsa della molla di ca. 3 mm, altrimenti le piastre riscaldanti saranno danneggiate.***

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# Befestigungspunkt "C" Fixing point "C"



# Befestigungspunkt "D" Fixing Point "D"



 <b>HEIZPLATTENTECHNIK GMBH</b>	Allgemeintoleranzen		Oberfläche	Maßstab: 1:2	Serien Nr.:	
	DIN ISO 2768-m-K			Auftragsnummer		
<p>Diese Zeichnung ist unser Eigentum und darf ohne unsere Zustimmung weder vervielfältigt noch ausgeführt noch dritten Personen zur Einsicht gegeben werden. Widerhandlungen werden zivilrechtlich verfolgt.</p> <p>This Drawing is our property and may not be reproduced, put into execution or disclosed to a third party without our permission. Non compliance will lead to prosecution under civil and criminal law.</p>	Datum	Name	Bezeichnung			
	Bearb.	15.02.2021	U.Pantke	<h2>Befestigungspunkte "C" &amp; "D"</h2>		
	Gepr.					
	Norm			Kunde		
Material			Kunde		Bl. 1 von 1	
Gewicht: 15,63 in kg			Art.Nr.			