

## Hot-pressing device PF-61



The PF-61 is a hot pressing device for joining of Habasit power transmission belts made of thermoplastics up to a width of 60 mm / 2.25 in. and a thickness of 4.5 mm / 0.18 in. with the Flexproof method. With cooling tong CD-61 and an adjustable guide rail set you have a joining system that enables you to exchange a belt within minutes.

The wide press plate allows making 10/120 mm Flexproof finger joints for optimal strength also in situations where space is tight and visibility is poor.

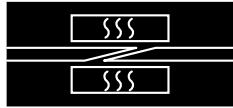


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## 1. General information

### 1.1 Application

The hot-pressing device PF-61 was specifically designed for rapid and safe hot-pressing of Habasit power transmission belts with the Flexproof system.

Belts can be up to 60 mm / 2.25 in. wide and 4.5 mm / 0.18 in. thick.

The PF-61 hot-pressing device was developed solely for the purposes described in the operating instructions. Improper use, or use for other reasons than those described in the instructions, is not permissible. Habasit accepts no liability for the consequences of improper application.

The hot-pressing device PF-61 is manufactured according to recognized engineering principles and state-of-the-art technology, and complies with applicable regulations.

These operating instructions imply that all assembly, maintenance, and repair work, as well as operation of the press, be carried out by skilled personnel or monitored by responsible specialists.

For reasons of scope, these instructions cannot cover all possible aspects of operation, maintenance, or repair. The indications given herein refer to the use of the machines according to their designated purpose by skilled personnel.

In case of doubt or if further detailed information is required, please consult the manufacturer (Chapter 1.4)

### 1.2 Important safety terms

In these operating instructions, you will find the terms WARNING, CAUTION, and INDICATION. They signal dangers or special information to be borne in mind.

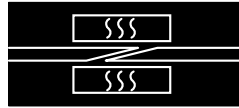
**WARNING** If disregarded, there is a danger of severe injury, and/or severe material damage.

**CAUTION** If disregarded, there is a danger of injury, and/or material damage may be caused.

**INDICATION** Technical information is emphasized if it is important and not readily apparent, even for skilled personnel.

Please observe all indications for assembling, operating, and maintaining the machines, as well as all technical data! This will prevent possible trouble and/or damage to people or materials.

**Skilled personnel** refer to persons authorized to perform the required work. These people have been sufficiently trained and introduced to their field of activity so that they are able to recognize and prevent dangers. They are aware of the pertinent provisions and safety regulations.



### 1.3 Scope of supply

Qty. Item

- |   |  |
|---|--|
| 1 | PF-61 hot-pressing device packed in a carton box, with |
| 1 | Pot magnet   |
| 1 | Operating instructions                                 |

#### 1.3.1 Available accessories

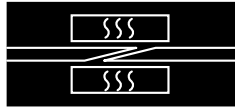
Also refer to chapter 9.

- Guide rail of adjustable width, from 25 to 60 mm, including 1 covering plate each for 25, 30, 35, 38, 40, 45, 50 and 60 mm belt width and 2 metal clamps (672210),  
or
- from 1" to 2 1/4", including 1 covering plate each for the belt width 1", 1 1/4", 1 3/8", 1 1/2", 1 5/8", 1 3/4", 2" and 2 1/4" belt width and 2 metal clamps (672211).

**WARNING**

Use only Habasit guide rails. Particularly the use of metallic guide rails is not admissible. It may destroy the hot-pressing device.

- Punching device for Flexproof fingers AF-100/US
- Cooling tong CD-61 (69 00 40)
- Temperature measuring device (N-28714 or N-28715) for checking the pressing temperature



## 1.4 Ordering of accessories/spare parts

Spare parts and accessories can be ordered directly from the manufacturer.

Address:

Habasit Italiana S.p.A.  
Via A. Meucci 8, Zona Industriale  
I-31029 Vittorio Veneto/TV  
Tel. ++39 438 91 13  
Fax ++39 438 91 2374

Exception: AF-100/US, this can be ordered from:

Habasit Belting, Inc.  
305 Satellite Boulevard  
USA – Suwanee, GA 30024  
Tel. ++001 678 288 36 00  
Fax ++001 678 288 36 51

Please accurately describe the parts required.

State the numbers according to Section 8.3, Drawings – Assembly of press and, if applicable, the required electric voltage for connection to the mains.

**WARNING**

The use of parts by other manufacturers not meeting Habasit specifications is not admissible.  
Habasit declines all responsibility for the consequences if non-Habasit parts are used.

## 1.5 Warranty

All tools undergo a strict final inspection. On the assumption of correct handling, they are warranted against material and manufacturing defects for 1 year.

## 1.6 Technical advice

Our specialists will be pleased to advise you. For technical questions concerning function and condition of the hot-pressing device, please contact the manufacturer (see Chapter 1.4 for the address).



## 2. Mode of operation

The hot-pressing device PF-61 functions according to the pressing-tongs principle: To open the heating plates pressed together by springs, apply substantial pressure to both handles.

Each pressing plate is heated. The lower plate comes also with a temperature sensor, the upper plate with a thermofuse. An electronic temperature control in the handle regulates the heating plate temperature to  $180\text{ °C} \pm 2\text{ °C}$  /  $356\text{ °F} \pm 4\text{ °F}$  (factory setting). The thermofuse protects the hot pressing device against overheating.

The function of the PF-61 hot-pressing device is indicated with a light indicator in the handle.

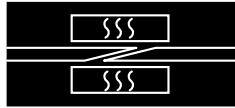
## 3. Initial start-up

- Check to make sure that the voltage indicated on the rating plate (5) conforms to the electrical connection voltage.
- Check to make sure that the metal heating plates (3) are clean.
- If required, screw pot magnet (4) into lower handle.
- Check temperature of the heating plate. The temperature is preset at the factory at  $180\text{ °C}$  /  $356\text{ °F}$ .

INDICATION	Safe operation is assured if the marked handle with the light indicator (9) is facing up (cable connection on the upper handle).
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- For stationary operation, place hot-pressing device PF-61 on a solid and heat-resistant support.

WARNING	Do not hang up hot-pressing device by the electrical connecting cable! During work breaks, while hot-pressing device is connected, put it on a flat surface with the marked side facing up.
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#### 4. Hot-pressing of the belt/tape

Procedure:

For power transmission belts → manual 3220 and individual product datasheets.

- Plug in electrical connecting cable and preheat hot-pressing device.
- Preheating will take approx. 10 minutes. The light indicator (8) will change from a continuous light during heating up to intermittent light as soon as the adjusted temperature is reached.

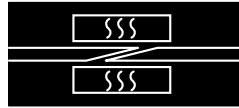
<b>WARNING</b>	Do not touch the hot-pressing zone (2). Keep device away from water and meltable substances.
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- Open hot-pressing device by squeezing the handles (6) and place guide rail with inserted, prepared belt ends into the hot-pressing device exactly centered, as described in the corresponding manual (also refer to chapter 9).

<b>WARNING</b>	Use only Habasit guide rails. Particularly the use of metallic guide rails is not admissible. It may destroy the hot-pressing device.
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- Close hot-pressing device.
- After the prescribed pressing time, remove guide rail and let it cool under pressure in a suitable device → chapter 9.

<b>WARNING</b>	After use, disconnect the hot-pressing device from the power supply and allow it to cool completely before storing it.
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## 5. Service

### 5.1 Maintenance

- Keep the hot-pressing device clean at all times. Clean the heating plates (3) regularly and remove all material residues.

<b>WARNING</b>	For cleaning with a cloth moistened with water or solvent, the press must be disconnected from the power supply. Do not reconnect to the power supply until the press is completely dry.
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- Periodically inspect the power supply cable and connector plug for defects (insulation damage, etc.) and rectify or replace with the correct type where necessary.

### 5.2 Measuring of the plate temperature

Check the operating temperature of the hot-pressing device once a month.

- Carry out this check in an interior room in a draft-free environment with an ambient temperature of between 18 °C / 64 °F and 25 °C / 77 °F
- Clamp sensor of temperature gauge between the heating plates (3). Both plates are thus measured jointly. → illustration (1)
- Heat up press for at least 10 minutes.
- The operating temperature has been reached when the electronic control switches the heating on and off in short intervals; the light indicator (9) will blink.
- The temperature gauge ought to indicate 180 °C ± 3 °C / 356 °F ± 5,4 °F → illustration (2)
- If this is not the case, the temperature regulator has to be adjusted. See 5.3, Adjusting of the thermostat.

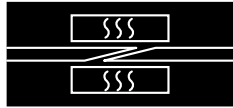


**Illustration 1**



**Illustration 2**





### 5.3 Adjusting of the thermostat

The maximum plate temperature of 180 °C / 356 °F, preset at the factory, must not be exceeded by more than  $\pm 3$  °C /  $\pm 5.4$  °F from 180 °C / 356 °F. It can therefore only be adjusted with a precision temperature measuring device (see 1.3.1, Available accessories).

<b>WARNING</b>	All work on the hot-pressing device involving electrical parts has to be carried out by the respective specialists only. Observe your local laws about required training of such personnel.
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If the measured temperature deviates above the maximum value of 183 °C / 361.4 °F or below 177 °C / 350.6 °F, the heating control is to be adjusted as follows:

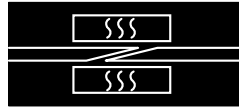
- Remove cover screw (8) over adjustment potentiometer (7)
- Move adjustment potentiometer (7) of the heating control, using an insulated screwdriver, turning it ever so slightly:
  - clockwise: temperature will rise,
  - counterclockwise: temperature will drop.
- After 5 minutes measure plate temperature to check as described above.
- Proceed carefully and adjust gradually. Observe temperature change.
- Re-cover adjustment potentiometer (7) with cover screw (8).

<b>CAUTION</b>	Make sure not to let the temperature rise above 195 °C / 383 °F during adjustment. Excessive temperatures may damage the hot-pressing device or blow the thermofuse.
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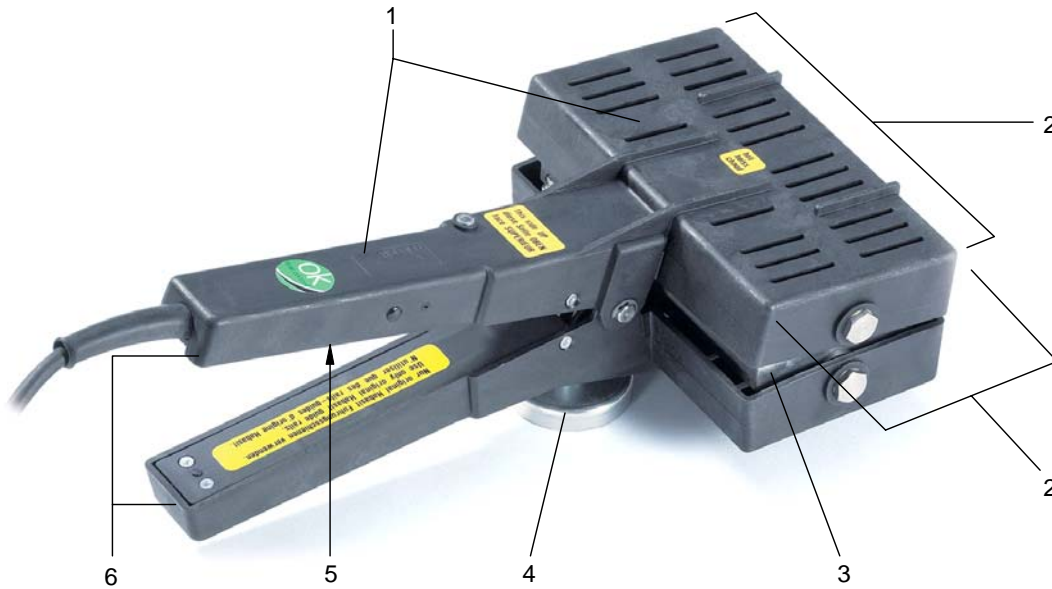
### 5.4 Replacement of the power cord

Check power cord periodically. In case of damage replace with the same type (H05-RNF). To make sure only skilled staff will do this repair, special tools are required for this operation.

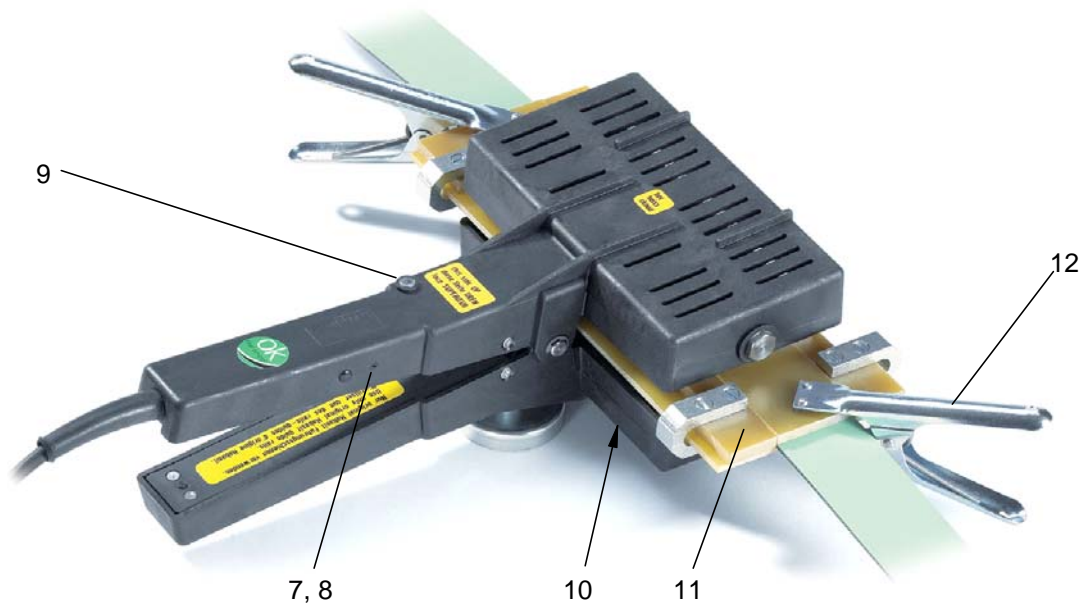
<b>WARNING</b>	All work on the hot-pressing device involving electrical parts has to be carried out by the respective specialists only. Observe your local laws about required training of such personnel.
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## 6. Illustrations



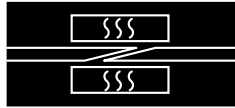
**Illustration 3**



**Illustration 4**

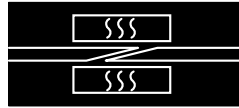
### Legend illustration 3 and 4

- |   |                                     |    |  |
|---|-------------------------------------|----|--|
| 1 | Top side of the hot-pressing device | 7  | Adjustment potentiometer               |
| 2 | Hot-pressing zone                   | 8  | Cover screw                            |
| 3 | Pivoting metal heating plates       | 9  | Light indicator                        |
| 4 | Screw-type pot magnet               | 10 | Bottom side of the hot-pressing device |
| 5 | Rating plate                        | 11 | Guide rail                             |
| 6 | Heat insulated handles              | 12 | Metal clamp                            |



## 7. Technical data

Belt / tape width max. [mm] [ <i>in</i> ]	60		2.4
Belt / tape thickness max. [mm] [ <i>in</i> ]	4.5		0.18
Finger length for Flexproof, max. [mm] [ <i>in</i> ]	120		2.8
Min. endless belt/tape length [mm] [ <i>in.</i> ]	800		31.5
Max. deviation of plate temperature [°C] [°F]	± 3		± 5.4
Heating up time to 180 °C / 356 °F [min.]	10		
Power consumption [W]	2 x 250		
Voltage [V~]	230 (PF-61/8)	or	120 (PF-61/6)
Dimensions (L x W x H) [mm] [ <i>in</i> ]	320 x 176x 116		12.6 x 6.9 x 4.6
Net weight [kg] [ <i>lbs</i> ]	1.8		4.0



## 8. Drawings

### 8.1 Wiring diagram PF-61/8 (230 V)

PF-61/8 230V: wiring diagram

RS = Upper heater

RI = Lower heater

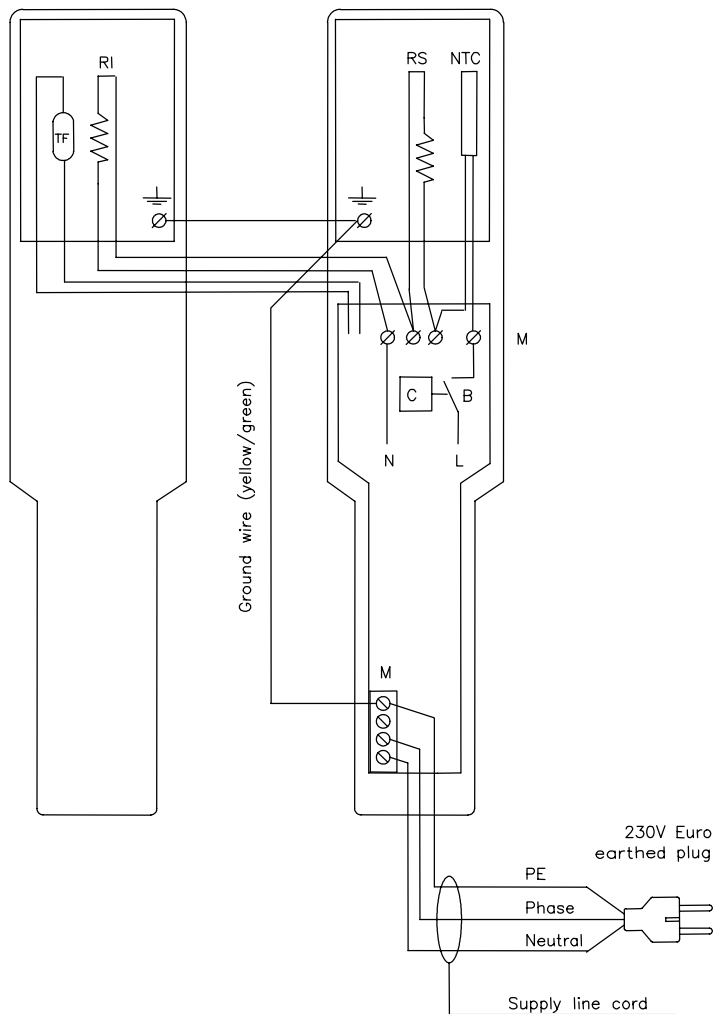
TF = Thermofuse

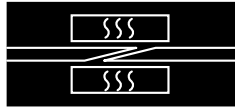
NTC = NTC temperature sensor

C = Electronic control

M = 4 poles clamp

B = Relay (NO contact)

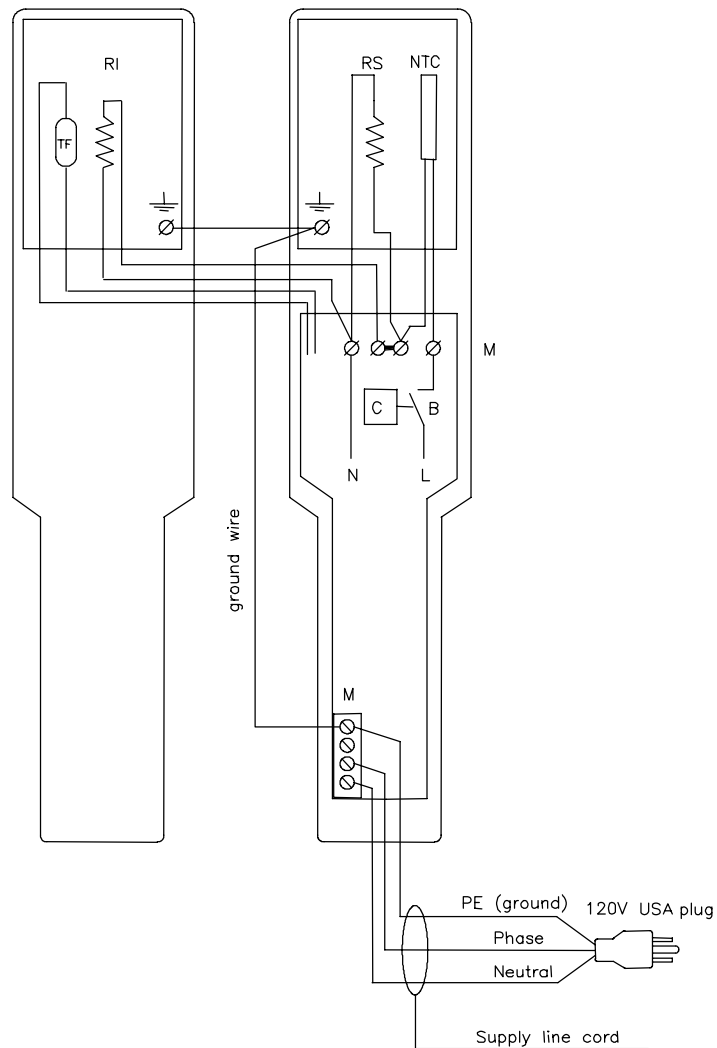


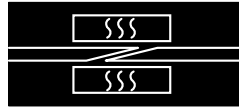


## 8.2 Wiring diagram PF-61/6 (120 V)

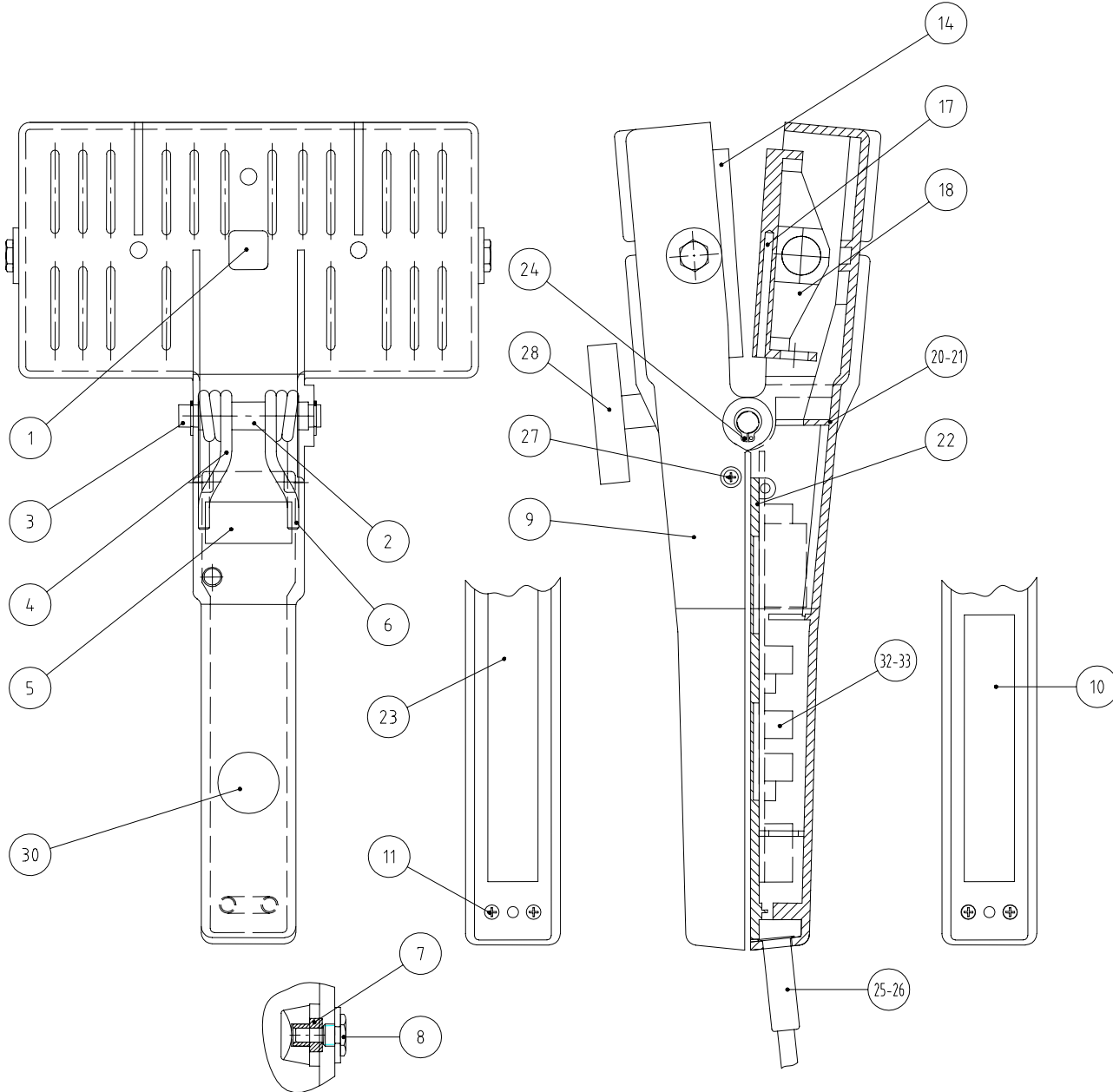
PF-61/6 120V: wiring diagram

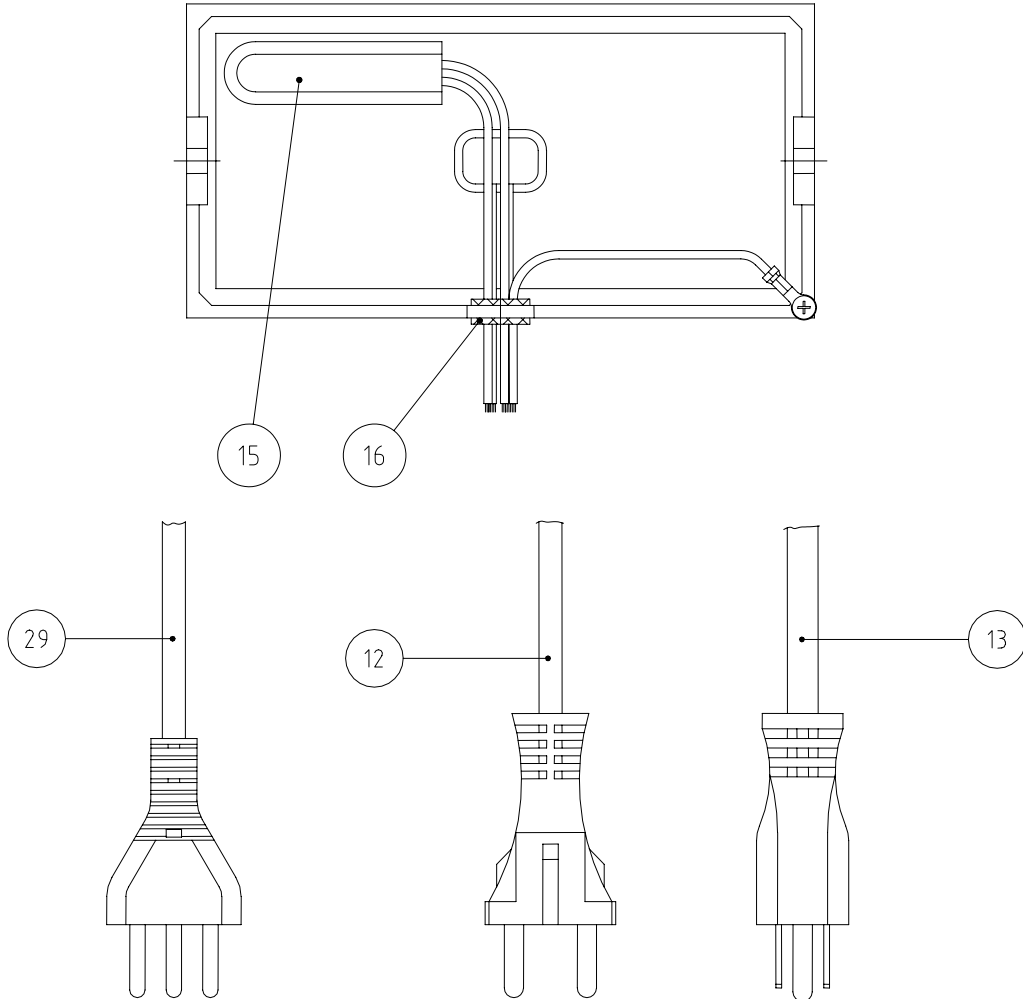
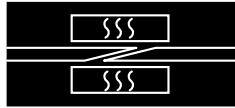
- RS = Upper heater
- RI = Lower heater
- TF = Thermofuse on upper plate
- NTC = NTC sensor on lower plate
- C = Electronic control
- M = 4 poles clamp
- B = Relay (NO contact)

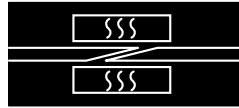




### 8.3 Assembly of press







## 9. Required accessories

### 9.1 Guide rails, clamps

- These accessories are necessary for producing perfect fusion joints.
- Once the tape ends have been inserted into the corresponding guide rail → ill. (5) and fixed in place with the covering plate, the two clamps are applied at an angle so as to prevent the tape from shifting during the hot-pressing process.
- Place the guide rail in the precise center of the open hot-pressing device and close → ill. (6). This assures uniform distribution of the heat to guide rail and joining area.

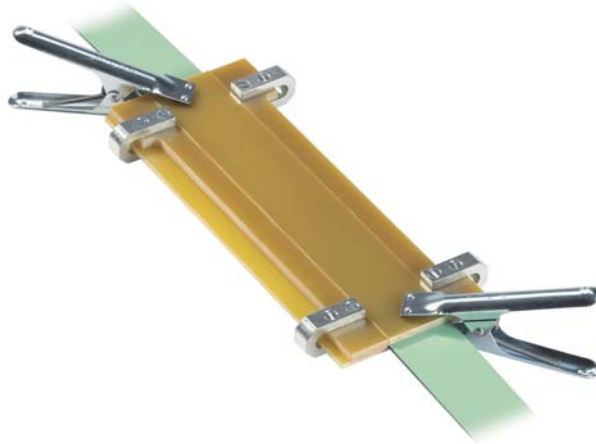
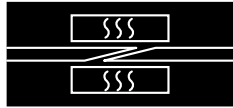


Illustration 5



Illustration 6





## 9.2 Cooling tong CD-61

- ❑ The cooling tong CD-60 is designed for the rapid cooling of the joint, still within the guide rail → ill. (7). After the specified pressing time has elapsed, the cooling tong must be clamped onto the guide rail as quickly as possible.
- ❑ If the cooling tong is used repeatedly at short intervals, they get warm. They may be cooled by dipping them in cold water.

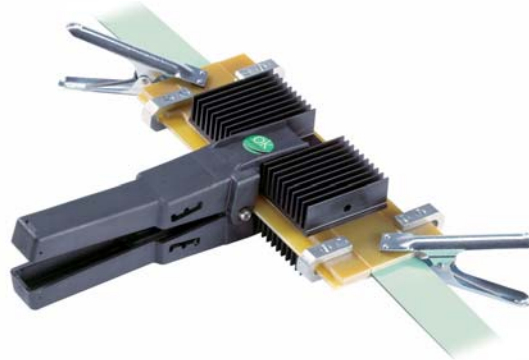


Illustration 7

## 9.3 Preparing device Flexproof cutter AF-100/US

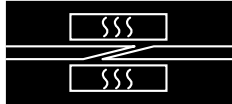
The AF-100/US is a device for preparing (die-cutting) Habasit belts and tapes up to a width of 100 mm and a thickness of 6 mm for Flexproof (finger) joints. It is available in several versions. Each version can be converted to the other with a conversion set.

- AF-100/US-35 for 10/35 finger geometry
- AF-100/US-80 for 10/80 finger geometry
- AF-100/US-120 for 10/120 finger geometry

The belt is securely clamped on a movable carriage. This carriage is positioned in steps of 10 mm (finger pitch) under a die-cutting head. The die-cutting head, with two knife blades, is then actuated with an eccentric lever, providing enough force to cut even the strongest Aramid fabrics with ease. The fingers are thus cut step by step, ensuring the most precise geometry of the cut and therefore the optimum tensile strength of the resulting joint. → ill. (8).



Illustration 8



## Checklist preventive maintenance Hot-pressing device PF-61



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Subject to alterations

**Responsible persons:**  
**A: Machine Operator**  
**B: Maintenance Technician**

Work to be carried out (see operating instructions No. 3614 for further information and reference numbers)	Daily	Performance periodically (monthly)		Remarks	Spares number Evaluation criterion
		1	6		
<b>1. Cleaning</b>					
1.1 Clean the press after use, remove residual deposits	A				
<b>2. Inspect the connector cable</b>					
2.1 Examine the cable and connector plug for defects		B			damaged insulation, defective couplings
<b>3. Measurement of the heater plate temperature</b>					
3.1 Proceed as detailed in operating instructions 3614, Section 5.2		B			

Remarks and notes:



**Report sheet preventative maintenance  
Hot-pressing device PF-61**



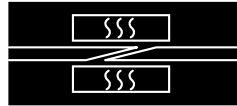
**Machine type:**

**Machine no.:**

**Date of first placing in operation:**

Actions to be performed – see checklist (daily work not recorded)	Next Check		Performed		Next Check		Performed		Next Check		Performed	
	Initials	Date	Initials	Date	Initials	Date	Initials	Date	Initials	Date	Initials	Date
2.1 Inspect the cable for damage												
3.1 Measure the heater plate temperature												

**Observations, repairs:**



### **Product liability, application considerations**

If the proper selection and application of Habasit products are not recommended by an authorized Habasit sales specialist, the selection and application of Habasit products, including the related area of product safety, are the responsibility of the customer.

All indications / information are recommendations and believed to be reliable, but no representations, guarantees, or warranties of any kind are made as to their accuracy or suitability for particular applications. The data provided herein are based on laboratory work with small-scale test equipment, running at standard conditions, and do not necessarily match product performance in industrial use. New knowledge and experiences can lead to modifications and changes within a short time without prior notice.

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