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PM-09/160W Series

Heat press with water cooling

Use and maintenance manual

CONTENTS

0 Introduction

This manual contains instructions on how to handle, install, use and maintain the Heat press series

PM-09/160W

Available spare parts are also indicated.

Habisit thanks you for purchasing the PM-09/160W series press.
If you handle your PM-09/160W series press with care, it will guarantee joint reliability and quality for many years to come.
PM-09/160A identifies the range of heat presses with water cooling to join thermoplastic conveyor belts (see list of models in the Fig. 1)


Observing the instructions in this manual lets you work during: handling, installation, use and maintenance phases in safe conditions while guaranteeing good machine working order and economies of scale. HABASIT Italiana S.p.A. is not liable for damages due to negligence or failure to observe these instructions.

1 Machine identification data

Machine	Heat press
Series	PM-09/160W
Serial number	See plate on press body
Year of construction	See plate on press body

1.1 PM-09/160W series press designation system

PM-09/160W series presses can be ordered in various combination according to required use.
To correctly order, refer to the following designation table:

Press kit designation

	Code explanation / choices
product group	P: pressing device (hot pressing devices)
operation	M: multi-system (Flexproof + Themofix)
interruption	
max effective belt width / 10 [mm]	45: 450 mm 100: 1.000 mm
model/series	4: series 04 6: series 06 9: series 09
interruption	
plate width [mm]	100 160
press type	W: water cooled A: air cooled F: fast heat (air cooled)
interruption	
kit version	M: mobile kit R: reduced S: stationary kit W: workshop kit B: press body only
interruption	
control unit type	C: compact control unit PMR-07 A: automated control unit PMR-06 X: none
cooling unit type	C: PMC-07 (suitable with PMR-07 only) A: PMC-06 (suitable with PMR-06 only) P: water pump + tank
accessories	S: workshop support L: light tower M: minicompressor X: none
interruption	
power supply	4: 3x230V 5: 3x400V 6: 1x120V 8: 1x230V 458: 1x230V or 3x230V or 3x400V depending upon the control unit

P M – 100 9 / 160 W – M – C P M / 4

Figure 1 –PM-09/160W series press designation table

2 General safety and accident prevention regulations

PAY THE UTMOST ATTENTION TO THE HAZARD SIGNALS INCLUDED IN THIS MANUAL.

THERE ARE 3 LEVELS OF HAZARD SIGNALS:

HAZARD!
This symbol warns that, if the described operations are not correctly performed, the operator is subject to risks that could cause damages or injury with even serious health consequences.

WARNING
This symbol warns that, if the described operations are not correctly performed, the operator is subject to potential, albeit limited risks.

CAUTION!
This symbol warns that, if the described operations are not correctly performed, may cause machine damages.

Before using the machine, carefully read the instructions in this manual.

2.1 Signal plates

The following plates are found on the machine with the following meanings:

2.2 Information plates

- Carefully read the instructions in this manual before operating

2.3 Prohibition, mandatory, hazard plates

- Prohibition

	
Do not remove safety devices	Do not work on moving parts

- Personal safety devices mandatory

				
Gloves	Shoes	Mask	Overalls	Goggles

- Hazard

		
Do not work on live parts	Hand crushing hazard	Burn hazard

3 Conditions of use

3.1 Machine use – intended use

The PM-09/160W heat press has been specifically developed for hot joining of Habasit drive and conveyor parts using the Flexproof process.
It was exclusively designed for the applications described hereto. Other or unsuitable applications are prohibited. Habasit shall not be liable for unintended application consequences. The PM-09/160W was professionally manufactured in accordance with EC safety instructions. All assembly, maintenance and repair work, as well as the operation of the equipment, is expected to be carried out be qualified personnel or staff under the supervision of responsible specialists and experts.
For space reasons, these instructions for use cannot cover all possible operating, maintenance and repair aspects. The indications provided concern normal machine use by qualified personnel. In the event of doubt or in need of further information, always contact the manufacturer.

3.2 Machine use – improper use

Improper yet reasonably foreseeable use includes: processing materials other than those foreseen by Habasit, processing belts and/or straps with unforeseen sections, use of non-original accessories, replacement of components or parts other than those specified.

WARNING

The **PM-09/160W** heat press series was designed, dimensioned and constructed for the sole previously described use. Any other use is not compliant and does not correspond to that indicated in this manual; it may damage the machine thus invalidating the technical conditions for which the machine was designed and constructed, potentially modifying production and safety features.
The manufacture is not liable for damages to people and/or property due to unforeseen use.

3.3 Press operating principle

Heating plates are each heated by two ultra-flat electrical resistances. A temperature sensor is installed on each plate (thermocouple type J made of Fe-CuNi), that measure the current plate temperature transmitting it to the PMR regulator.
A special wire with a built in compensation line for precise reading transmission is used between the heat press and the regulator.
The rubber pad pressure system evenly distributes pressure along the entire press length.
Effective pressure applied on the product (with heating plates fully occupied) may be 10% lower than set pneumatic pressure.
Drinking water may be used for the press cooling cycle (for fixed operations, we recommend water softeners). Detailed consulting can be provided upon request.

3.4 References and Regulations

3.4.1 Applied EU Directives

- EU Directive 2006/42/EC known as the “Machines directive”.
- EU Directive 2006/95/EC known as “Low tension directive”.
- EU Directive 2004/108/EC for the convergence of Member State laws on electromagnetic compatibility.
- This machine has been constructed in a country that is part of the European Community and therefore meets the safety requirements of EU directive 2006/42/EC.

This conformity is certified and the machine bears the CE mark of compliance.

- EU Directives concerning Workman’s safety
- EU Directive N° 89/391 concerning the improvement of the safety and health of workers during work, in addition to the following particular directives EU N° 89/654 and N° 89/655.
- EU Directives 92/58/CEE concerning safety signs in the workplace.
- EU Directives concerning personal protection
- EU Directives 93/68/CEE, 93/95/CEE e 96/58/CEE concerning the use of personal protection devices.
- EU Directives concerning environmental protection
- EU Directive 91/56/CEE on the disposal of waste.
- EU Directive 91/689/CEE and 94/62/CEE on the disposal of toxic and harmful waste.

3.5 Warranty

WARNING

The **PM-09/160W** series heat press is guaranteed against factory defect for a period of 12 months from the date of purchase.
The warranty is null and void in the event of non compliant use or use other than that foreseen or illustrated in this manual.
POOR USE, NEGLIGENCE, POWER SUPPLY AT DIFFERENT VOLTAGES OR ATTEMPTS TO REPAIR OR ALTER PARTS BY UNAUTHORISED PERSONNEL NULL AND VOID THE WARRANTY.

4 Safety information

4.1 Personnel training

The operator must have a basic education level and have previously worked on machine tools, better if similar to this one, to run this machine.
Habasit Italiana can provide operator training at its facilities.

ATTENTION!
The machine operator must be a worker with proven ability.
The factory owner and/or manager must provide the operator with all the information and assistance necessary to protect his physical health.
The operator must be provided with a copy of this manual and the user must verify that the operator has read it and understands how to safely run the machine.

4.2 Safety sticker positions on the machine

WARNING
Appropriate safety stickers have been affixed to the machine. Each operator must view them and know the meanings of the symbols (see also paragraph “Signal plates”).

WARNING
SIGNAL STICKERS MUST NOT BE REMOVED, TAMPERED WITH OR DESTROYED. THE SYSTEM OWNER MUST REPLACE THEM IN THE EVENT THEY ARE DAMAGED OR ILLEGIBLE.

5 Residual risks

Despite the attentive design and measures adopted in construction, this machine has the following residual risks.

5.1 Electrical risk

The press contains electrical resistances. It is equipped with an electrical PMR regulator unit, PMC pneumatic/hydraulic control unit (in the fixed version), an MC-04 mini-compressor and a cooling pump (in the mobile version).
During assembly, use and maintenance, these devices may present electrocution hazards in the event of electrical part insulation or wiring faults.

HAZARD!
Electrical connections must be performed by specialised personnel.

5.2 Mechanical risk

Operator collision risks during machine transport, installation, maintenance and dismantling due to handled volumes.

HAZARD!
Be careful during transport, installation, maintenance and dismantling and use foreseen Personal Safety Devices (helmet, gloves, shoes).

5.3 Crushing risk

During press installation, use, maintenance and dismantling, there is the risk of operator hand crushing between the upper and lower part of the press or foot crushing due to the press falling.

HAZARD!
Be careful during installation, use, maintenance and dismantling and use foreseen Personal Safety Devices (gloves, shoes).

WARNING!
Install a lifting system with suitably protected and dimensioned metallic cords for the upper part of the press if it weighs over 25 kg.
Periodically check metallic lifting cord status and replace if necessary.

5.4 Burn risk

During use, press surfaces in contact with the belt-pack and some external surfaces are hot and can burn the operator running the machine.
This hazard may also occur during maintenance.

HAZARD!
Be careful during installation, use and maintenance and use foreseen Personal Safety Devices (gloves, shoes).

5.5 High pressure mechanical risk in the pad

The pneumatic press pad may explode during press use and maintenance due to air over pressure.

HAZARD!
Equip the press with a precision regulated compressed air pressure regulator.
Periodically check for good pressure regulator operations.

6 General press description

6.1 PM-09/160W series press overall view

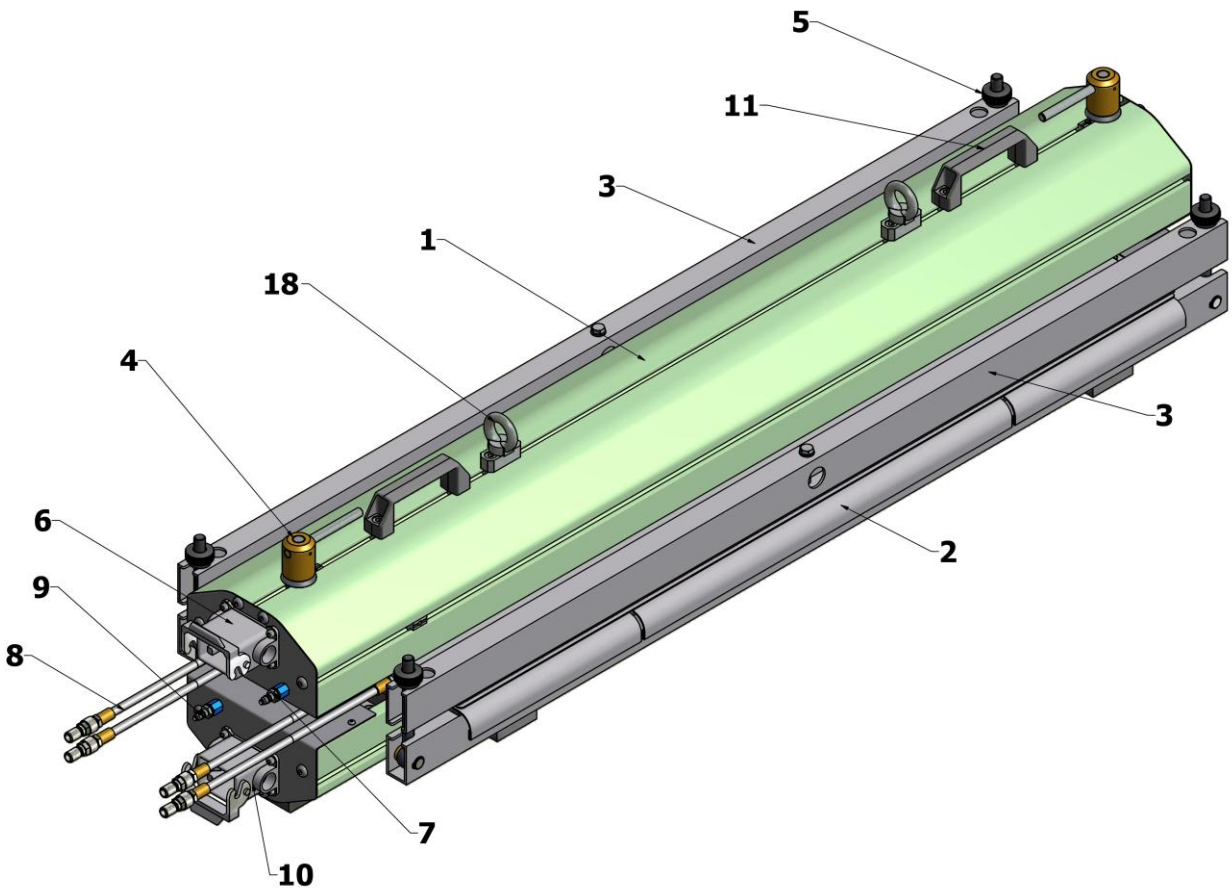

Figure 2 –PM-09/160W series press overall view

Position	Description
1	Upper press beam
2	Sheet metal equalizer surface
3	Belt locking bar
4	Press lock screws
5	Belt locking bar tightening knob
6	Upper sealing plate electrical connector
7	Upper beam pad inflation compressed air quick coupling
8	Quick coupling connection tubes for sealing plate cooling circuit
9	Lower beam pad inflation compressed air quick coupling
10	Lower sealing plate electrical connector
11	Transport handles
18	Lifting rings

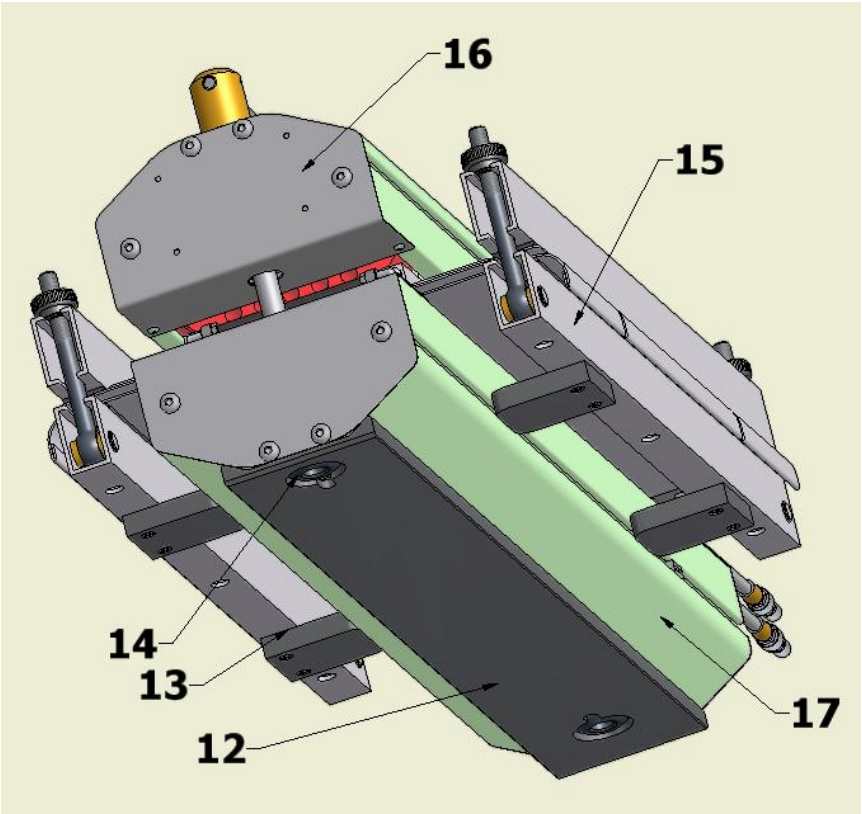

Figure 3 –PM-09/160W series press overall view

Position	Description
12	Support and sliding surface
13	Equalizer blade unit centring shim block
14	Lower bushing
15	Lower belt locking bar
16	Upper head with press serial plate housing
17	Lower press beam

6.2 Conveyor belt hot joint operating kit configuration

In order to operate, the PM-09/160W press series requires a series of accessories that are grouped in a work kit.
The press cannot work alone without these accessories.

Habasit Italiana SpA only guarantees correct press operations when equipped with original and recommended accessories. A list of available work kits is found in the following paragraph.

6.3 Material that must be included in the work kit

6.3.1 Fixed version press material

- n° 1 PM-09/160W heat press with user manual
- n° 1 PMR regulator with automatic process management functions
- n° 1 PMC control unit for automatic cooling
- n° 2 PMR regulation unit/press electrical connection wires
- N. 4 ¼" cooling water quick couplings
- N. 1 ¼" compressed air quick coupling
- n° 1 20 m (cooling) water flexible hose
- n° 1 compressed air flexible hose, D = 6/12 mm, 5 m
- N. 12 hose clamp brackets
- N. 4 hose- end fittings 12x1/4"
- N. 3 compressed air hose collars
- N. 1 hose- end fitting 6x1/4"
- N. 4 ¼" copper washers
- N. 1 sheet metal work surface unit that also operates as a temperature equalizer, with a pair of locking rods to secure material (belt or chain) in position during the welding preparation phase.
- N. 2 sheets that operate as heat and pressure equalizers, in thin and wide versions for press belts

6.3.2 Mobile version press material

- n° 1 PM-09/160W heat press with user manual
- n° 2 adjustment equipment/press connection wires
- N. 1 sheet metal work surface unit that also operates as a temperature equalizer, with a pair of locking rods to secure material (belt or chain) in position during the welding preparation phase.
- N. 2 sheets that operate as heat and pressure equalizers, in thin and wide versions for press belts
- N.1 adjustment unit that automatically controls the welding process
- M. 1 mobile cooling unit
- n° 1 portable compressor

7 PM-09/160W Press range

7.1 PM-09/160W series press range models

PMR-09/160W identifies the range of presses with air cooling listed in table of paragraph “Table technical specifications PM-09/160W presses range”.

The table is periodically updated in the event new models are introduced. For more information on available models, please contact your dealer of Habasit Italiana S.p.A. Customer Care.

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Habasit Italiana Customer Care will also provide you with all the information on available work kits.

7.2 Technical specifications shared by all PM-09/160W presses

Characteristics	UM	Value
▪ **PNEUMATIC**		
Fluid characteristics	-	Filtered, non-lubricated air
Maximum working pressure	bar [psi]	*3 ±0.2 [43,51 ±2.9]*
Min. supply diameter	"	*Rapid connector of ¼*
▪ **WATER CHARACTERISTICS**		
Fluid characteristics	-	*Demineralised water*
Capacity	M^3/h [ft^3/h]	*5 [176,57]*
Supply temperature	°C [°F]	*10÷35 [50÷95]*
Min. supply diameter	"	*Rapid connector of ¼*
▪ **PRODUCTION**		
Max. working temperature	°C [°F]	*199 [390]*
Temperature interval	°C [°F]	*+2 -4 [+3.6 -7.2]*
Maximum temperature deviation from nominal value	°C [°F]	*±3 [±3.6]*
Mean heating time at 180°C [356°F]	min	*15 (with 230 V)* *20 (with 400 V)*
Cooling time from 180°C [356°F] to 60°C [140°F] (with room temperature water)	min	*2*
Admitted room temperature	°C [°F]	*15÷38 [59÷100.4]*
Admitted level of relative humidity	%	*45÷70*
▪ **NOISE**		
- Leq (at 1 m) - empty	dB(A)	*< 70*

7.3 Table technical specifications PM-09/160W presses range

Press model	PM-309/160W	PM-459/160W	PM-609/160W	PM-809/160W	PM-1009/160W
Electrical heater technical specifications					
Total power	4 x 280 W = 1120 W	4 x 400 W = 1600 W	4 x 520 W = 2080 W	4 x 720 W = 2880 W	4 x 840 W = 3360 W
Single platen power	2 x 280W = 560 W	2 x 400W = 800 W	2 x 520 W = 1040 W	2 x 720 W = 1440 W	2 x 840 W = 1680 W
Supply voltage	230 V ~	230 V ~	230 V ~	230 V ~	230 V ~
Frequency	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz
Dimensional and functional characteristics					
Dimensions, including handles (L x W x H)	675x400x300 mm 26.5 x 15.7 x 11.8 inches	770x400x300 mm 30.3 x 15.7 x 11.8 inches	925x380x300 mm 36.4 x 15 x 11.8 inches	1120x380x300 mm 44.1 x 15 x 11.8 inches	1350x380x300 mm 53.2 x 15 x 11.8 inches
Total Weight	31 kg / 68 lbs.	41 kg / 90.2 lbs.	46 kg / 101.2 lbs.	55 kg / 121 lbs.	69 kg / 152.12 lbs.
Upper part weight	13 kg / 28.6 lbs.	14kg / 30.8 lbs.	18 kg / 39.6 lbs.	21 kg / 46.2 lbs.	23 kg / 50.6 lbs.
Lower part weight	12 kg / 26.4 lbs.	13.5 kg / 29.7 lbs.	17 kg / 37.4 lbs.	20 kg / 44 lbs.	22 kg / 48.4 lbs.
Steel stabilizer weight	6 kg / 13.2 lbs.	7.5 kg / 16.5 lbs.	11 kg / 24.2 lbs.	14 kg / 30.8 lbs.	14 kg / 30.8 lbs.
Technical specifications					
Max length of belt/tape	300 mm / 17.7 inches	450 mm / 17.7 inches	600 mm / 23.62 inches	800 mm / 31.49 inches	1000 mm / 39.37 inches
Max width of belt/tape	10 mm / 0.4 inches	10 mm / 0.4 inches	10 mm / 0.4 inches	10 mm / 0.4 inches	10 mm / 0.4 inches
Minimum length of belt/tape	940 mm / 37 inches	940 mm / 37 inches	940 mm / 37 inches	940 mm / 37 inches	940 mm / 37 inches
Heating plate width	160 mm / 6.3 inches	160 mm / 6.3 inches	160 mm / 6.3 inches	160 mm / 6.3 inches	160 mm / 6.3 inches

Press model	PM-1209/160W	PM-1609/160W	PM-2009/160W		
Electrical heater technical specifications					
Total power	4 x 1040 W = 4160 W	4 x 1300 W = 5200 W	4 x 1600 W = 6400 W		
Single platen power	2 x 1040 W = 2080 W	2 x 1300 W = 2600 W	2 x 1600 W = 3200 W		
Supply voltage	230 V ~	230 V ~	230 V ~		
Frequency	50-60 Hz	50-60 Hz	50-60 Hz		
Dimensional and functional characteristics					
Dimensions, including handles (L x W x H)	1630x400x380 mm 64.2 x 15.7 x 11.8 inches	1920x380x400 mm 75.6 x 14.9 x 15.7 inches	2320x380x400 mm 91.3 x 14.9 x 15.7 inches		
Total Weight	92 kg / 202.4 lbs.	150.5 kg / 331.8 lbs	174 kg / 383.6 lbs		
Upper part weight	29 kg / 63.8 lbs.	60.5 kg / 133.4 lbs	71 kg / 156.5 lbs		
Lower part weight	35 kg / 77 lbs.	58.5 kg / 128.9 lbs	71.5 kg / 157.6 lbs		
Steel stabilizer weight	16 kg / 35.2 lbs.	31.5 kg / 69.4 lbs	31.5 kg / 69.4 lbs		
Technical specifications					
Max length of belt/tape	1200 mm / 47.2 inches	1600 mm / 63 inches	2000 mm / 78.7 inches		
Max width of belt/tape	10 mm / 0.4 inches	10 mm / 0.4 inches	10 mm / 0.4 inches		
Minimum length of belt/tape	940 mm / 37 inches	940 mm / 37 inches	940 mm / 37 inches		
Heating plate width	160 mm / 6.3 inches	160 mm / 6.3 inches	160 mm / 6.3 inches		

7.4 Optional press accessories

The PM-09/160W press must be connected to a few accessories to be used. In fact, the press cannot operate autonomously but requires connection to a control unit and some auxiliary devices.

7.4.1 The PMR

The PMR regulator power the press and guarantee automatic welding cycle operations. All connections necessary for PM-09/160W series press operations are found on the back of the unit. For further details, see the relevant chapter.

Control power voltage sets press power voltage. The PM-09/160W series press is able to operate at different voltages, 1x230V, 3x230V and 3x400V according to the PMR regulator used.

	**PMR-07/4 3x230V – art No. H080691070** **PMR-07/5 3x400V – art No. H080691071** **PMR-07/6 1x120V – art No. H080691072** **PMR-07/8 1x230V – art No. H080691073**
PMR-07	

The work kit includes the use of the PMR-07 regulator but model PMR-06 can also be used.

	**PMR-06/8 1x230V – art No. H080691023** **PMR-06/4 3x230V – art No. H080691020** **PMR-06/5 3x400V – art No. H080691021**
PMR-06	

7.4.2 PMC control unit

The PMC-06 or PMC-07 controls the press cooling cycle via the interface with the PMR unit. It is also equipped with a precision pressure regulator that guarantees correct press pressure pad inflation.

	
PMC-06	PMC-07

7.4.3 Equipment for use with PM-09/160W press series

	MC-04/6 1x120V – art. No. H080691018 MC-04/8 1x230V – art. No. H080691017
MINI-COMPRESSOR	

	PM-04/6 1x120V – art. No. H080691015 PM-04/8 1x230V – art. No. H080691016
MOBILE COOLING UNIT	

8 Handling

This chapter includes specific instructions for machine handling.

8.1 Packaging and transport

The machine is supplied assembled and packaged in a wooden crate.
The various internal parts are protected by plastic sheets.

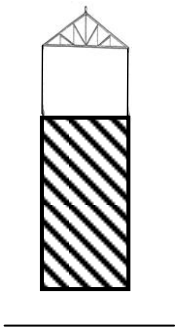
8.2 Handling, lifting points

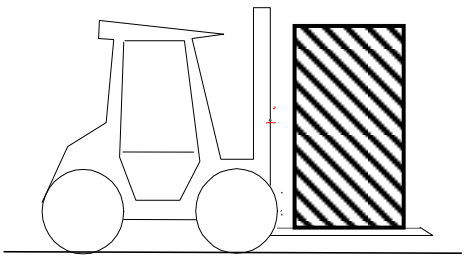
Two lifting rings lock are included to lift the press (Fig. 2 detail 18). Before handling the press, close the press and evenly tighten the locking screws on both ends (figure 2, detail 4), and make sure the lifting rings are tightly secured.

Admitted lifting and handling means include fork lifts, bridge cranes and cranes with certified capacity over machine weight.

ATTENTION!
Never use lifting points other than the two handles (Fig. 2, detail 11) or two lifting rings lock (Fig. 2 detail 18) to lift the press.

HAZARD!
Unloading and subsequent positioning must be performed with means with suitable capacity, ensuring that any lifting cords or ropes are in good conditions and with suitable capacity and after making sure no one is found on the transit route.





During work wear a HELMET, SHOES and GLOVES

9 Commissioning

9.1 Press receipt

ATTENTION!

The movement of the packaging and press should be carried out by authorized operators.
Suitable equipment must be used to move the machinery, with adequate strength to deal with the weight and bulk of the press.
When unpacking, check that no small parts remain in the case, and carefully check the general conditions.
In transit, or on being moved, the press must be disconnected from any control or regulating units.
Two lifting rings lock are included to lift the press (see figure 2 detail 18 Before lifting, evenly close and tighten the fastening pins on both ends of the press and make sure lifting rings are tightly secured. Never use lifting points other than the supplied two lifting rings specifically designed to lift the press. Closing screws must be correctly closed.

Packing materials (wood, nails, plastic, barrier bags, etc.) can be sources of danger and should be placed in specific collection points, especially if polluted or non-biodegradable.

The user must observe the waste disposal legislation in the country of installation or use when disposing of the packaging.

ATTENTION!

ALL HANDLING OPERATIONS OF THE PRESS MUST BE PERFORMED SLOWLY WITHOUT ANY SUDDEN MOVEMENTS, TO AVOID DAMAGING PERSONS AND THINGS.

Be careful during machine handling and dismantling. Avoid situations that could cause the handled machine to swing. Make sure any cords or chains used for lifting are not tangled and properly hooked to the handled load.

	During work wear a HELMET, SHOES and GLOVES

9.2 Transport damages

IMPORTANT!
REPORT ANY DAMAGE NOTED ON THE MACHINE AT DELIVERY TO THE CARRIER AND PRESS SUPPLIER.

Habasit presses are shipped in packaging able to resist normal stress caused by transport. Upon receipt, the equipment must be inspected to check for damages that may have occurred during transport due to incorrect handling.
In the event of damages, the carrier that delivered the equipment and the Habasit dealer must be immediately informed.
Photographic damage documentation is always best.

9.3 Installation

9.3.1 Preliminary check

Visually check the press and supplied equipment to ensure there are no signs of damages or breaks that may have occurred during transport.

9.3.2 Positioning

HAZARD!
This operation requires the involvement of a QUALIFIED TECHNICIAN able to carry out and check correct positioning and installation in observance of current safety regulations:
Make sure there is sufficient operational space for working on the press
Position the press so that it is stable
Check visually to make sure that no rags, work tools, etc remain on the machine.

10 Service connections

In order to operate, the machine requires the following connections:

CONNECTION TYPE
Electrical
Pneumatic
Hydraulic

10.1.1 Pneumatic and water supply connections and connection to the control unit

10.1.1.1 Fixed use

- Ensure that the whole system is not supplied by electrical, air and water sources.
- Make sure that upstream systems meet equipment specifications.
- Connect the hoses from the PMC-06 / PMC-07 control unit to the hoses (figure 2, detail 8) using the quick couplings.
- Make sure there are no leaks in the water connections and that any liquid leaks cannot come into contact with electrical parts.
- Connect the drain hoses to the remaining two free hoses (Figure 2, detail 8).
- Make sure the drain hoses are free to drain cooling water.
- Connect necessary air between the PMC unit and the press (figure 2, detail 7 and 9).
- Connect the wires between the PMR regulator and the press and make sure they correspond to the assigned upper and lower plates (figure 2, detail 6 and 10).

10.1.2 Mobile use

- Ensure that the whole system is not supplied by electrical, air and water sources
- Make sure that upstream systems meet equipment specifications
- Connect the hoses from the mobile control unit to the press hoses (figure 2, detail 8) using the quick couplings.
- Make sure there are no leaks in the water connections and that any liquid leaks cannot come into contact with electrical parts
- Connect the drain hoses to the remaining two free hoses (Figure 2, detail 8).
- Make sure the drain hoses are free to drain cooling water.
- Connect the wires between the PMR regulator and the press and make sure they correspond to the assigned upper and lower plates (figure 2, detail 6 and 10)

Running the system in its mobile operation requires the use of suitable instruments (such as a portable compressor for the air supply and a water tank with immersion pump or available running water).

- Make pneumatic connections between the press and compressor (figure 2, detail 6 and 10)
- Make sure there are no leaks in the water connections and that any liquid leaks cannot come into contact with electrical parts

10.2 Electrical connections

ATTENTION!
Make sure the PMR-06 / PMR-07 regulator is correctly connected to the correct mains voltage. Make sure control-press connection wires are correctly connected and correspond to the assigned upper (figure 2, detail 6) and lower (figure 2, detail 10) plates.

For regulation equipment connections, consult the PMR-06 or PMR-07 regulator instruction manual.
Electrical power parts (water and pneumatic logic) is managed by the PMR-06 or PMR-07 regulator.

- Connect the press's connectors to the PMR-06 / PMR-07 regulator.
- If present carry out the necessary connections between the PMR-06 / PMR-07 regulator and the control PMC-06 / PMC-07
- Connect the PMR-06 / PMR-07 regulator to the electrical mains.

ATTENTION!
PMR-06 and PMR-07 regulator must be correctly connected to the mains according to the enclosed wiring diagram.
Correct mains voltage is indicated on the identification plate.
In the event use with other voltages are required, contact the manufacturer.
Selected press connection wires section must meet local regulations.

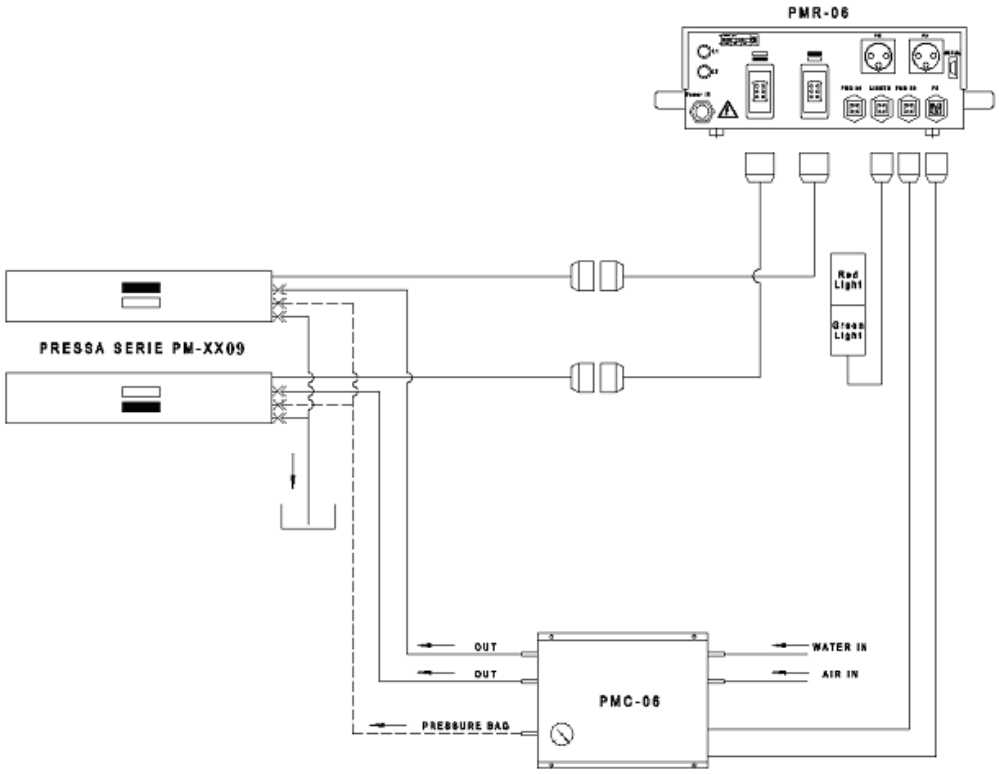


Fig. 4 – Fixed operation use examples with PMR-06 and PMC-06

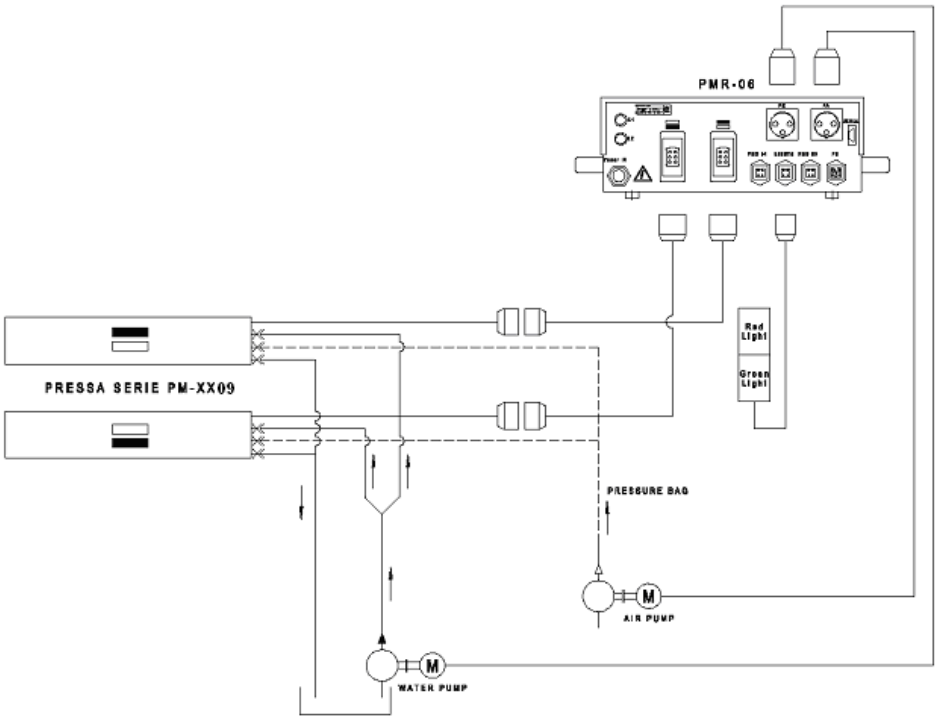


Fig. 5 – Example of mobile use with PMR-06, cooling kit and mini compressor.

10.3 Start up

Start up is an extremely important phase in the press working life. It includes a series of preliminary and first start-up phase operations.

HAZARD!

QUALIFIED PERSONNEL WHO THOROUGHLY UNDERSTAND MACHINE OPERATIONS, WHO HAVE READ THIS DOCUMENT AND THUS PERFECTLY UNDERSTAND MACHINE USE AND THE SERIES OF OPERATIONS TO BE PERFORMED TO SAFELY COMMISSION THE MACHINE MUST COMMISSION THE MACHINE.

HABASIT ITALIANA S.p.A. IS NOT LIABLE FOR FAILURE TO OBSERVE THE SAFETY AND ACCIDENT PREVENTION REGULATIONS DESCRIBED IN THE VARIOUS CHAPTERS IN THIS MANUAL.

HABASIT ITALIANA S.p.A. IS NOT LIABLE FOR DAMAGES DUE TO IMPROPER MACHINE USE FOLLOWING MACHINE MODIFICATIONS NOT AUTHORISED IN WRITING BY THE MANUFACTURER.

HAZARD!

The machine power cord features and layout must meet safety regulations. In any case, it should not obstruct free man and vehicle transit around the machine.

CAUTION

Before starting the machine, have qualified personnel run some trial work cycles in safety conditions.

11 Use

11.1 General notes

Heating plates are each heated by two ultra-flat electrical resistances. A temperature sensor is installed on each plate (thermocouple type J made of Fe-CuNi), that measure the current plate temperature transmitting it to the PMR regulator.
A special wire with a built in compensation line for precise reading transmission is used between the heat press and the regulator.
The rubber pad pressure system evenly distributes pressure along the entire press length.
Effective pressure applied on the product (with heating plates fully occupied) may be 10% lower than set pneumatic pressure.
Drinking water may be used for the press cooling cycle (for fixed operations, we recommend water softeners). Detailed consulting can be provided upon request.

CAUTION
Press use includes handling heavy pieces.
Prevent press parts from falling. When opening the press, do not let the closing screws fall (figure 2 detail 4).

11.2 Transport

Two lifting rings lock are included to lift the press (Fig. 2 detail 11). Before handling the press, close the press and evenly tighten the locking screws on both ends (figure 2, detail 4).

ATTENTION
Never use lifting points other than the two lifting rings lock to lift the press (figure 2, detail 18).

11.3 Operation Handling

To make transportation of the press easier it can be dismantled as indicated:

- If connected, disconnect the various electrical, water and air connections in order

- Disassemble the upper part of the press (figure 2, detail 1) to facilitate the transport of the two upper and lower parts.
- Use suitable handling and transport equipment capable of dealing with the object's weight, while taking care during the transportation itself.
- Position the lower part of the press according to the belt joint to be completed; prepare the belt ends and couple them as described in paragraph "Heat pressing".
- Reassemble the press with the upper beam and make sure the parts are correctly positioned.
- Reconnect the power while taking when handling electrical power sources.

The press can also be moved as a single unit, in which case the following must be carried out:

- If connected, disconnect the various electrical and air connections in order
- Use transportation equipment of the correct capacity for the weight of the object to be moved
- Verify that the press and all its mechanical parts have not been damaged in transit and that all are working correctly
- Reconnect the power while taking when handling electrical power sources.

ATTENTION!
It is assumed that the various operations are performed by expert personnel, suitably trained.

ATTENTION!
ALL HANDLING OPERATIONS OF THE PRESS MUST BE PERFORMED SLOWLY WITHOUT ANY SUDDEN MOVEMENTS, TO AVOID DAMAGING PERSONS AND THINGS.

12 Work cycle

12.1 Heating

For rapid heating without energy wastage, heat the Heat press with it always closed.
For correct use, see the selected PMR regulator instruction manual.

12.2 Pressurizing the press

The compressed air inlet is located at the top of the press beams (figure 2, details 7 and 9). Compressed air is supplied by a portable compressor or by the permanent compressed air mains through a precision pressure regulator or, if installed, by the PMC-06 / PMC-07 control unit.
For correct use, see the selected PMC control unit instruction manual.

ATTENTION
Never pressurize the presser pad if the press is not correctly closed.
Do not exceed maximum admitted 2.5 bar pressure.
The flexible tube that connects compressed air to the press is equipped with safety valves calibrated to 3 bar.

12.3 Heat pressing

12.3.1 Fixed operations

a. Loosen the two closure knobs (figure 2 detail 5), remove them from their housing and lift the upper part of the press.

b. Position the belt as instructed on the plate surface (figure 2, detail 2) that equalizes temperature and secure it so that it is flat, without excessively tightening the closure knobs (figure 2, detail 5) on the two bar pressers (figure 2, detail 3), so that the belt can be slightly moved.


Figure 6


Figure 7

c. Precisely couple the ends of the belt, pushing one end against the other.

d. Tighten the closure knobs (figure 2, detail 5) on the locking bars.

e. Position the silicon coated and/or other coated paper, embossing pad and anything else required by product welding instructions.

Figure 8

Figure 9

f. Position the upper plate to cover the entire package. This evens out temperature on the upper part of the press.

g. Position the upper part of the press (figure 2 detail 2) making sure not to move the upper plate, belt package and accessories.

h. Insert the two fastening pins (figure 2, detail 4) and evenly tighten at the two ends of the press.

i. Bring the pressure pad to the required pressure: See the PMR unit and PMC unit instruction manuals.

j. Loosen the presser bar locking knobs (figure 2, detail 5) and avoid marking the product surface.

k. See the PMR-06 / PMR-07 instruction manual for the following operations:

l. Upper and lower press temperature selections as indicated in the belt coupling sheet.

m. Set welding time.

n. Turn on the control unit.

o. Start the automatic heating, welding and cooling cycles.

For mass production, let the press cool to at least 60° C. This saves energy and time for the next cycle.

CAUTION
Press parts may be hot. Do not touch surfaces without gloves on.

12.3.2 Mobile operations

There are only a few differences between mobile and fixed operations. Follow the procedure describe for fixed operations until point (h) and then perform the following operations:

a. Bring the pressure pad to the required pressure using the supplied portable mini-compressor.
b. Connect the mobile cooling hoses to the press quick couplings (Figure 2, detail 8)
c. See the PMR instruction manual for the following operations:
d. Upper and lower press temperature selections as indicated in the belt coupling sheet.
e. Set welding time.
f. Turn on the control unit.
g. Start the automatic heating, welding and cooling cycles.

CAUTION
Press parts may be hot. Do not touch surfaces without gloves on.

CAUTION
180° C steam reaches about 10 bar pressure (1 MPa or 10 KG/cm2).

h. After welding, the cooling water circulation pump will automatically start.
i. Once the stop cooling temperature is reached, detach the portable compressor hose from the coupling (figure 2, details 7 and 9) to drain the pressure chamber.
j. Open the press and carefully remove the belt. Let the belt cool at room temperature.
k. Drain remaining water from the press cooling circuit with a jet of compressed air.

CAUTION
For mobile operations, make sure water is fully drained from the press after the cooling cycle.

CAUTION
If the press cooling circuit is not drained with a jet of compressed air, residual water may jeopardize the next welding cycle.

13 Press cleaning

13.1 Preliminary operations: cutting off energy supplies

HAZARD!

Before starting any work on the machine make sure machine power is cut off. This not only concerns main circuits but also keep in mind auxiliary and supplementary circuits.

The above safety measures must be observed until all maintenance, regulation, registration and cleaning work, etc., is completed.

13.2 Cleaning instructions

To keep the machine in good working order, periodically clean it by removing work residue that can accumulate on the work surface with a vacuum.
Use non corrosive detergents to clean metallic surfaces.

CAUTION!
Personnel assigned to this work must use suitable Personal Safety Devices: gloves and mask.

14 Maintenance

14.1 Routine maintenance

In addition to prolonging machine working life, routine maintenance provides higher safety conditions.

ATTENTION!
PERSONAL SAFETY DEVICES (DPI)
Before starting regulation, maintenance and repair operations, the operator must make sure that all residual electrical and pneumatic energy is dissipated and must have and use the Personal Safety Devices foreseen by safety regulations such as: overalls, gloves, goggles, protective shoes, mask.

HAZARD!
All regulation, maintenance and repair operations can only be performed if the press is put out of services, cut off from energy supplies and in the machine stopped position.

Operation	Frequency	Personnel	Procedure
Cleaning	Daily	Operator	Clean the press after use removing production residue.
Check water connections	Monthly	Maintenance worker	Check water seals. Any leaks are marked by calcium deposits.
Check compressed air connections	Monthly	Maintenance worker	Check for leaks.
Check press electrical wires	Monthly	Maintenance worker	Check for wire and connector defects.
Check heating plates temperature	Monthly	Maintenance worker	Procedure described in paragraph “Measurement of heating plates temperature”.

14.2 Measurement of heating plates temperature

Once a month, measure heating plate temperatures as follows:

a. Place heat resistant silicon foam rubber on the lower heating plate

b. Close the press as usual

c. Pressurize the pressure chamber with max. 1 bar (0.1 MPa or 1 Kg/cm^2).

d. Turn on the PMR regulator and set nominal value to 180° for both plates. See the PMR unit instruction manual

e. After heating for 40 minutes, depressurize and open the press, slightly lifting the upper heating plate.

f. Insert a precision thermometer sensor between the silicon foam rubber and the upper heating plate, in the centre of the heating plate

g. Close the press without apply pressure (with body weight only). Wait three minutes and read the temperature on the precision thermometer.

h. Repeat the same process for the lower heating place (inserting the sensor under the silicon foam rubber, at the centre of the heating plate).

The temperature read must be 180° C +/- 2° C (thermometer precision max. +/- 1°C included)

15 Troubleshooting

ATTENTION!
Maintenance and/or repairs on freely accessible electrical parts must be performed by skilled specialized personnel

15.1 Troubleshooting

Malfunction	**Possible fault**
The temperature of a heating plate indicated on the PMR regulator display differs more than 2°C from the set nominal value.	PMR regulator fault Thermocouple wire fault Heating element fault
Troubleshooting	
Invert the connection wires between the PMR regulator and the press. If the display indicates a contradicting value for the same plate, the PMR unit is at fault. If the display indicates a faulty value on the other heating plate, a resistance or thermocouple wire is at fault.	
Solution	
For faults of this or other types, inform the manufacturer. Defective heating plates and PMR regulators can be repaired or replaced by the manufacturer. In the event of control/regulation PMR faults, always check automatic switches following the procedure indicated in the PMR unit manual. NOTE: In any case take a temperature reading of the heating plate if there is a discrepancy (see paragraph “Measurement of heating plates temperature”).	

15.2 Extraordinary maintenance

The correct use and observance of the maintenance instructions in this manual provide prolonged machine use in safety conditions.

However, if worn (such as pads, seals, etc.) or damaged parts require replacement, the user must request HABASIT Italiana S.p.A. technical service applying to:

Habasit Italiana S.p.A.
Via del Lavoro, 50.
31016 CORDIGNANO (TV) - ITALY
Phone: +39 0438 9113
Fax: + 39 0438 912374
E-mail : info@habasit.it
Internet : www.habasit.com

16 Hazardous substance disposal

Produced scraps must be disposed according to current law.
Collect any oil leaks using inert absorbents (saw dust, etc.) and dispose according to current environmental regulations.

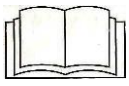
17 System dismantling and scrapping

The press must be uninstalled by HABASIT Assistance Service technicians or authorized HABASIT technicians with experience in:

- Machine assembly/disassembly
- Assembly/disassembly of the electrical, pneumatic and hydraulic plant, consulting the corresponding diagrams.

Generally the press is only decommissioned and dismantled when replaced.
This operation may be performed by specialised companies or the owner; in any case, current regulations must be observed.
If demolished by the user's personnel, the various parts must be separated by type and specialised (and authorised) companies employed for the disposal of the various products.
We would like to remind you that the most important materials used in machine construction are:

- Steel
- Aluminium
- Electrical wires
- Plastic materials
- Rubber

	Habasit Italiana Spa has adopted suitable measures to reduce the disposal of RAEE generated by the use of AEE incorporated in its machines in order to reduce RAEE as mixed solid waste to a minimum, to ensure the correct processing and high level of RAEE separate waste collection. Habasit collects the RAEE generated by its production, maintenance and customer service activities as per Directive 2012/19/EU article 13. In order to reduce the presence of hazardous substances when recycling new AEE, Habasit requests suppliers comply with Directive 2012/19/EU and accompany AEE with an explicit declaration of conformity to Directive 2002/95/EC (RoHS).

	This machine was designed and constructed with recyclable materials and components. If demolished by the customer's staff, the various components must be separated by type. RAEE must be collected separately (art. 3-h) and discarded according to art. 6 in directive 2012/19/EU.

ATTENTION!

Before carrying out any kind of work on the machine it is essential to ensure that the plant (electrical, pneumatic and water) is disconnected from energy supplies, that the pneumatic and water plant is properly depressurized and that there is no remaining potential energy in the moving parts.

ATTENTION!

Follow the following disconnection procedure:
- Disconnect the electrical circuit
- Carry out mechanical disassembly.

If the press is stored for a certain period of time, prepare it as indicated in the following section. If it must be immediately move, refer to the specific section.

17.1 Storage conditions

Min/Max ambient temperature for storage	Between +5°C and +40°C
Relative humidity	Between 50% and 70%

If the press, its accessories and spares have to remain in storage for a prolonged period, they must be protected from dust and damp. We recommend the following:

- Clean the machine in general
- Apply PROTECTIVE SILICONE OIL to UN-painted or UN-treated parts.
- Cover the machine with a sheet to protect it from dust.
- Before being oiled or greased for good preservation, some parts can, if necessary, be cleaned with a specific, rust proofing detergent.

CAUTION!

Please remember that polluting the environment with oil, grease and other products used on the machine is strictly prohibited.

If not immediately demolished when dismantled, store the machine and its parts in an area protected against the elements to avoid lubricants from being washed away.

Be careful during machine handling and dismantling. Avoid situations that could cause the handled machine to swing. Make sure any cords or chains used for lifting are not tangled and properly hooked to the handled load.

	During work wear a HELMET, SHOES and GLOVES

18 Customer service

For any further clarifications, contact Habasit Italiana S.p.A. customer service at the following address:

Habasit Italiana S.p.A.
Via del Lavoro, 50.
31016 CORDIGNANO (TV) ITALY
Phone: +39 0438 9113
Fax: + 39 0438 912374
E-mail : info@habasit.it
Internet : www.habasit.com

Product liability, application considerations

The proper selection and application of Habasit products, including the related area of product safety, is 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 is 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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This use and maintenance manual and its attachments are translated from original language (Italian).