

Operating Instructions

PH Briquette Press



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Health and Safety

Safety at work

The person responsible for the machine must ensure that all applicable safety regulations are adhered to, in accordance with §4, 309/2006 Sb.

Qualified personnel for assembly, dis-assembly, starting, handling, cleaning and regular maintenance must be appointed by the responsible personnel in order to ensure safety of persons and property.

Precautionary measures must be carried out by the responsible personnel so no unauthorised person is able to operate the machine.

The responsible personnel must ensure safe operation of the machine and regular maintenance and cleaning.

The responsible personnel must carry out precautionary measures in order to prevent access to operation and maintenance area by unauthorised persons and children.

The machine must be used for its designated purpose only, in accordance with manufacturer's conditions. Its design, mechanism and technical condition conforms to safety regulations.

Only physically and mentally competent operators older than 18-years-old can handle the machine. They must be acquainted with its manual with a proof they've done so. The manual must be stored in a place accessible by the personnel.

Fire protection

Beware! Harmful emissions may develop during a fire due to burning plastic, rubber and oil and therefore general applicable fire protection regulations must be adhered to.

The machine is not equipped with fire extinguishers. Therefore the responsible personnel must secure the area where the machine is stored by appropriate and accredited fire protection means in sufficient number on visible places, protected against damage and misuse. They must be regularly checked and personnel must be familiarised with their handling.

Electrical appliances must not be extinguished by water! There must be a powder, foam or CO₂ fire extinguisher in the area and the personnel must be familiarised with their handling. If there is a water or foam extinguisher next to the appliance, it can only be used after the electricity is switched off.

It is essential to regularly clean the cover surface of the electrical device or surface of the devices that are expected to get warmer, (surfaces of electric motors), from dust and other impurities in order to prevent decreased cooling efficiency of the electric motors.

Electric appliances

Only ČÚBP and ČBÚ # 50/1978 Sb. qualified personnel knowing the device to an appropriate extent can operate the electrical appliance in accordance with ČSN EN 50110-1 ed.2.

Electrical system of the appliance is made according to the applicable regulation requirements and technical specifications, especially ČSN EN 60 204-1 ed. 2 and related regulations.

Electrical system of the appliance connects to the power supply 3/PE/A ~ 230/400 V, 50 Hz by flexible lead.

The flexible lead to the electrical appliance must not lie on the ground without any protection against mechanical damage!

If there is an additional protection in place with additional protective bonding in the area where the machine is installed, conductive dead parts of the machine must be connected to the protective system by a copper conductor 6 mm² in diameter, connecting to the outer protective machine clamp marked by symbol #16 shown in section 1.1.3 of this manual.

The responsible personnel is obliged to reinforce the realisation of regular revisions of the electrical appliance in set periods in accordance with §4, rule 309/2006 Sb. And ČSN 33 1500 clause 3.1 and 3.6.

Prohibited activities

IT IS FORBIDDEN:

Operating staff using the machine must use personal protective aids, i.e. respirator mask to protect respiratory tract.

Operating staff is responsible for checking the correct condition of the machine before it is operational, then in regular periods and after modifications of the machine.

Operating staff must ensure that nobody approaches the working machine. Staff must shut down the machine in case of any danger.

Operating staff must turn the machine off if he/she leaves it unattended for longer than 15 minutes!

Operating staff is obliged to carry out visual checks of the machine and its basic maintenance.

If the operating staff discovers a fault or a damage that could compromise operation safety and that cannot be undone by them, they must contact the responsible personnel immediately.

If the machine is not in use for whatever reason, its electrical systems must be disconnected from the power supply by disconnecting the flexible lead's plug from the mains and also at the machine's end. The flexible lead must be stored in a place secured against unauthorised usage.

It is essential to keep the safety markings, symbols and signs on the machine legible. The responsible personnel must restore their condition in case they are damaged or not legible anymore.

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To connect electrical system of the machine to the power supply if a protective part of the machine is dis-assembled or damaged (electrical system covers, covers on the potentially dangerous mechanical parts)!

To let flexible lead lying on the ground without an appropriate protection against mechanical damage.

To run the machine if there are people who may be exposed to a danger by being close to it.

To dismantle protective covers when the machine is in operation and to deactivate protective and safety devices!

To modify the construction of the machine.

To carry out maintenance, cleaning and repairs if there is a possibility of all electrical circuits not being switched off.

To let the machine run unattended for longer than 20 minutes.

To pull the plug of the flexible lead from the socket by pulling the cable!

To transfer the machine if it is connected to power supply by flexible lead!

To feed the hopper by materials conflicting with the recommendations described in this manual, materials with higher humidity than 15%, materials with larger cutting length than 10 mm in one direction and especially materials different to wood.

It is essential to bear in mind the possibility of the following risks that may arise when using the machine:

Mechanical risks:

Risk of an injury caused by a dropped dismantled parts of the machine during the maintenance and repairs or improper transfer.

Risk of an injury caused by moving parts of the machine during removal of its protective covers.

Risk of an injury caused by a dropped machine due to its inappropriate handling during transfer or in transit.

Additional risks occurring when the machine is in use are described in the following sections and are marked by a symbol at each point.

Electrical risks:

Risk of direct or indirect contact with parts used for live electric current if the electrical system cover is removed or if the isolated parts are damaged.

Risk of an injury by electric current touching inactive parts of the machine, due to the electrical system malfunction, due to the violation of the requirements described in points 4.3 and 5.4 of this manual.

Risk of an injury by electric current when touching damaged parts of the flexible lead, (isolation of conductors, electric socket covers).

Risk of an injury by electric current caused by damaged parts of the electric system (control devices, control circuit components).

Hygienic risks:

Risk of hearing apparatus injury by noise emissions above 85 dB (L_{Aeq}).

The time-averaged emission level of acoustic pressure was measured at A -L_{pAeq}, T = 94.4+4) dB during cutting by the machine at the work place.

Risk of blocked, possibly damaged respiratory tract during cutting dry wood, where the dust nuisance is incre

Health and Safety

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Technical and operating conditions of the PH series:

Briquetting material moisture limits: up to 15%
 Compacted briquette density: up to 1100 kg/m³
 Briquette length: 20-60 mm
 Max. operating pressure: 8 t
 Hydraulic system max. operating temperature: 60° C
 Operating environment: 5°-25° C
 Briquetting material: joiner's workshop waste, i.e. sawdust and shavings up to size of 10 mm with the specific weight ranging from 70-120 kg/m³ without any metallic and mechanical impurities with exception of wood.

Technical Parameters

Type: PH
 Power input: 3.42 kW
 Output: 4-12 kg/hour
 Weight: 160 kg
 Dimensions: 1.40 x 1.40 x 1.20 m
 Capacity of the hopper: 0.03 m³
 Supply voltage: 230 V
 Machine Category: Private & Professional

At the point of the machine operation, the equivalent of the acoustic pressure level A does not exceed 90 dB.
 The noise levels were tested in accordance with ČSN ISO 3746: 1996 and ČSN EN ISO 11202:1997 pursuant to NV 502/2000 Sb.

Introduction

The Operating Instructions apply to the hydraulic press system of the PH series . The Operating Instructions have been issued by the manufacturer and are consistent with the approved technical specifications which represent a binding document defining the requirements for briquette press manufacture. The briquetting material processed by the press comes out in a form of a cylindrical briquette, having the diameter of 50 mm and the length ranging from 20 - 60 mm. The briquette does not contain any binding agents and the compression is achieved solely by the pressure inside the cylindrical die, both through the resistance of the material itself and the increased temperature of the pressing unit.

For the safety reasons, the PH models may be operated by the following personnel only:

Installation staff: trained personnel of the Supplier
 Maintenance staff: trained personnel of the Customer with mechanical engineer qualifications
 Operators: trained personnel of the Customer

Machine signs

Pictogram #	Symbol	Description
1		BEWARE! There are areas of the electrical system underneath the covers marked with this pictogram. The electrical system must be turned off and secured before the covers can be taken off.
2		BEWARE! Areas where there are moving mechanical parts that may cause an injury are marked by this symbol.
4		Rotating direction of the electric motor

Pictogram	Symbol	Description
A	 text	Maintenance risk: Safety of people may be compromised if this requirement or advice is ignored.
B	 text	Maintenance risk: An incident or an injury may occur if this requirement or advice is ignored.
C	 text	Machine risk: Safety of the machine may be compromised if this requirement or advice is ignored.

Pictogram #	Symbol	Description
	Manufacturer's label	Label with basic technical parameters helping to identify and run the machine.
		Outer security clamp of the machine.
		The producer declares by this sign that the product conforms the requirements set forth in NV # 17/2003 Sb., NV # 616/2006 Sb., NV # 176/2008 Sb. and EU Directive associated with the product, i.e. 2006/95/EC, 2004/108/EC and 2006/42/EC.

Press machine installation

The briquette press is delivered fully assembled on a pallet. Its individual units are assembled and connected by the manufacturer to form a functioning system. All hydraulic and electrical parts are earthed, connected to the control panel and ready for use. The installation of the press requires the machine to be placed horizontally.

Key Components

A hopper, electric motor with a pump, hydraulic allocator, electric gearbox for feeding the hopper, die clamp, press unit, control panel, electric switchboard.

Control Panel



The heating control panel is located on the machine cover and it is set at the final temperature of 120°C by default. It is operated by on / off switch located below the display. The controls of the display must not be used for changing the temperature setting. The actual temperature is shown in the upper part of the display, the pre-set temperature is displayed in its lower part. As soon as the machine is switched on by the main switch (See below), the operator has to wait until the chamber is completely heated up (it may take a few minutes).



The main switch is located on the motor. Once the cover is open, the machine can be switched on by pressing the green button and switched off either by pressing the red button or by shutting the cover.

Starting the machine

The machine is activated by pressing the main switch and the heating unit switch. Once the pre-set temperature is reached, the briquetting operation can be started manually by the hydraulic control lever. Automatic version of the machine operates by itself after the main switch start-up. Hydro-system then adjusts the pressure at each end and thus the movement of the cylinder is changed out of the die or other way into the pressure chamber.

Manual version only:

Hydraulic cylinder returns if the lever is in the up position. The cylinder will move forward once the hydraulic control lever is pushed down. The hydraulic system is a two-speed system. The lower end position is used for final, maximum-pressure briquette compacting, the interposition facilitates faster movement of the cylinder forward.



The sequence of the briquetting operation should be the following:

press the lever to the first interposition so the cylinder moves forward fast. As soon as the cylinder stops, press the lever down to the end position and hold it there for a while so that a briquette comes out at the end of the die. Release the lever so it returns back to the upper position and the cylinder returns. As soon as the cylinder stops in the rear position, another briquette can be compacted. The lever is equipped with a stopping mechanism bringing the lever into the neutral position in order to avoid hydraulic system overload during a pause in operation. The lever must always be locked in this position when you do not briquette continuously, otherwise the hydraulic system may be damaged.



To produce a quality briquette, the press die clamp has to be adjusted, See the Figure. The clamp must be either tightened or released according to the current briquette quality and the briquetting material.

The clamp requires tightening if a briquette comes out of the die when the hydraulic cylinder control lever is pressed down into the fast movement position. When the lever is pressed down into its end position and the briquette does not come out of the die, the die clamp needs to be released. Be incremental adjusting of the clamp, high-quality briquettes can be obtained in a few cycles. A change in briquetting material will require the clamp to be released and the adjustment process repeated.

The correct position of the die clamp is 10-20 mm from the edge of the heating protective cover.

The machine features a feeder which is installed inside the hopper. The feeder is activated by the main switch and works independently, so only replenishment of material is needed. The briquetting operation itself is carried out by an operator in accordance with the instructions mentioned here-above.

Stopping the press machine

manual - by turning the main switch off and disconnecting the power supply.

It is forbidden to:

- put hands into the machine or otherwise prevent the individual components of the machine from operating, the source material replenishing process must be carried out with maximum care and appropriate measures must be taken to prevent clothing or body parts from being caught by the feeder.
- put large objects into the hopper
- access the electric switchboard if the machine is connected to the power supply
- operate the machine in case of an apparent defect
- overfill the hopper or forcefully insert the material into the hopper
- operate the machine at temperatures below 5°C
- interfere with the machine design and modify it.

All modifications must be approved by the Manufacturer.

Recommended temperatures for the following materials:

Material	Recommended temperature in °C	
	From	to
Mixture of pitch pine	0	140
Softwood	140	160
Hardwood	190	230
Sawdust	200	210
Melamine powder	210	220
Blocked die temperature	250	270

Temperature is set using the control panel. The 'SET' button must be pressed in order to get to the temperature settings. The temperature shown on the top row of the display can be changed by 'UP' and 'DOWN' buttons as needed. It is necessary to press the 'SET' button several times to get the default screen on the control panel – the temperature is then confirmed and the heating should reach the desired level.



Maintenance

Maintenance must be carried out regularly. Evident defects require the briquetting press to be shut down and the operation must be stopped until the failure is eliminated.

Mechanical components

The proper function of the machine requires an adequate distance to be maintained between the die clamp and the press machine body. The correct position is 55 mm from the end of the pressing chamber to the edge of the die clamp. The slide of the feeder wheel shaft must be lubricated regularly by the grease nipples.



/The grease nipples are protected by red plastic dust caps./



In order to avoid loose screws, all of them must be re-tightened regularly. If the main press roller scrapes against the press chamber, 6 nuts at the rear side of the machine must be used for its alignment.



Hydraulic component

Hydraulic hoses joints must be checked daily. The oil level must be checked regularly, at least once a month. The oil must be changed at least once a year. The machine uses hydraulic oil RENOLIN WG46.

Electrical component

The electric switchboard must be kept clear of dust particles. All the maintenance and servicing is carried out while the machine is switched off (with no electric current supply to the machine). A visual check of the wire insulation is necessary as well. A general inspection of the machine in accordance with ČSN EN 60204-1 Section 20 must be carried out at three-year interval. Any repairs or interventions in machine wiring may be performed only by a competent person in accordance with relevant regulations. Any electric switchboard related work requires its disconnection from the power supply (the electric switchboard is under electrical current).

Final Provisions

The manufacturer reserves the right to alter the specification of the components used due to potential changes of their suppliers. The general inspections of the electrical components must be carried out by a competent person in accordance with applicable legal regulations. The manufacturer's service centre must be notified of any defect which prevents smooth operation of the machine:

via exclusive importer and distributor MAE Development & Smart Trade

IMPORTANT NOTICE:

Press chamber blockage: In case there is a blockage in the press chamber, the following should be applied:

- the left over material needs to be removed from the hopper,
- the temperature should be increased to the appropriate level (see the temperature table),
- the normal briquetting flow should be attempted after approx. 10 minutes,
- if the first attempt is not successful, another one should be carried out several minutes later and repeated until the briquette comes out,
- if the press chamber is blocked, the die clamp should be fully released,
- the usual temperature should be set after the briquette causing the blockage is pressed out and normal flow of briquetting should continue.

Buttons can be used on the automatic switchboard version (one at the top, one at the bottom of the switchboard) to control the switchboard manually and thus speed up the release process.

To avoid possible damage of the machine, it must not be left unattended longer than 15 minutes.

The machine is designed to process wooden wastage only, other materials may cause irreversible damage of the press machine.

Declaration of CE Conformity



Product: **Briquetting press PH15 7090950/2012**

The Manufacturer declares that the product, used as instructed, is safe and all measures have been taken to ensure the conformity of the products placed on the market with their technical documentation, fundamental requirements set forth in 98/37 EC Directive issued by the European Parliament and Councils and with technical requirements of standards associated with the product.

Warranty – Terms and Conditions

The Supplier warrants functionality of the machine being the subject of delivery and provides all individuals with a 24-month-warranty period and all legal entities and individuals doing business in accordance with their Trading Licence or other licence with a 12-month-warranty period.

The warranty covers all defects and failures of the material.

Performance guarantee is subject to following the operating instructions and regular maintenance with no interference in the machine design. The Customer doesn't eliminate product defects which may occur within the warranty period. The Supplier is to be notified of the defects and they will be eliminated by the Supplier within the agreed period.

The warranty doesn't cover natural wear and tear of the components or mechanical damage, inexpert installation or operation, presence of foreign bodies and natural disasters.

The Supplier shall not be liable for damage and defects resulting from repairs and replacements of the machine parts that were not carried out in accordance with instructions specified in Operating Instructions, on Warning plates and in applicable safety regulations. Supplier's qualified personnel will repair the machine free of charge within the warranty period in response to the Customer's telephone call or written request.

The Supplier warrants proper function of the machine delivered should the following conditions be met:

The warranty period commences on the date of the machine receipt in accordance with the date of purchase.

Warranty repair services do not include repairs and replacements that result from:

- incorrect installation,
- ignoring the operating conditions and operating environment, improper usage, negligence and intentional damage to the machine,
- modifications or connections other than set forth in the Operating Instructions which have not been carried out and/or approved by the Manufacturer,
- usage of such equipment or accessories which the Manufacturer does not consider compatible with the machine,
- interference, modifications and dismantling the machine
- interference in the machine wiring which causes its malfunction or damage
- ignoring appropriate care of the machine in accordance with its Operating Instructions or Manufacturer's guidelines.

The replacement parts will be provided on an exchange basis and will either be new, equivalent to new or re-conditioned.

All replaced spare parts and components shall become the property of the Manufacturer unless otherwise agreed.

The Manufacturer will be entitled to bill the Customer and the Customer is obliged to pay all costs that incur to the Manufacturer due to an unjustified claim.

List of repairs

Date	Work description	Technician

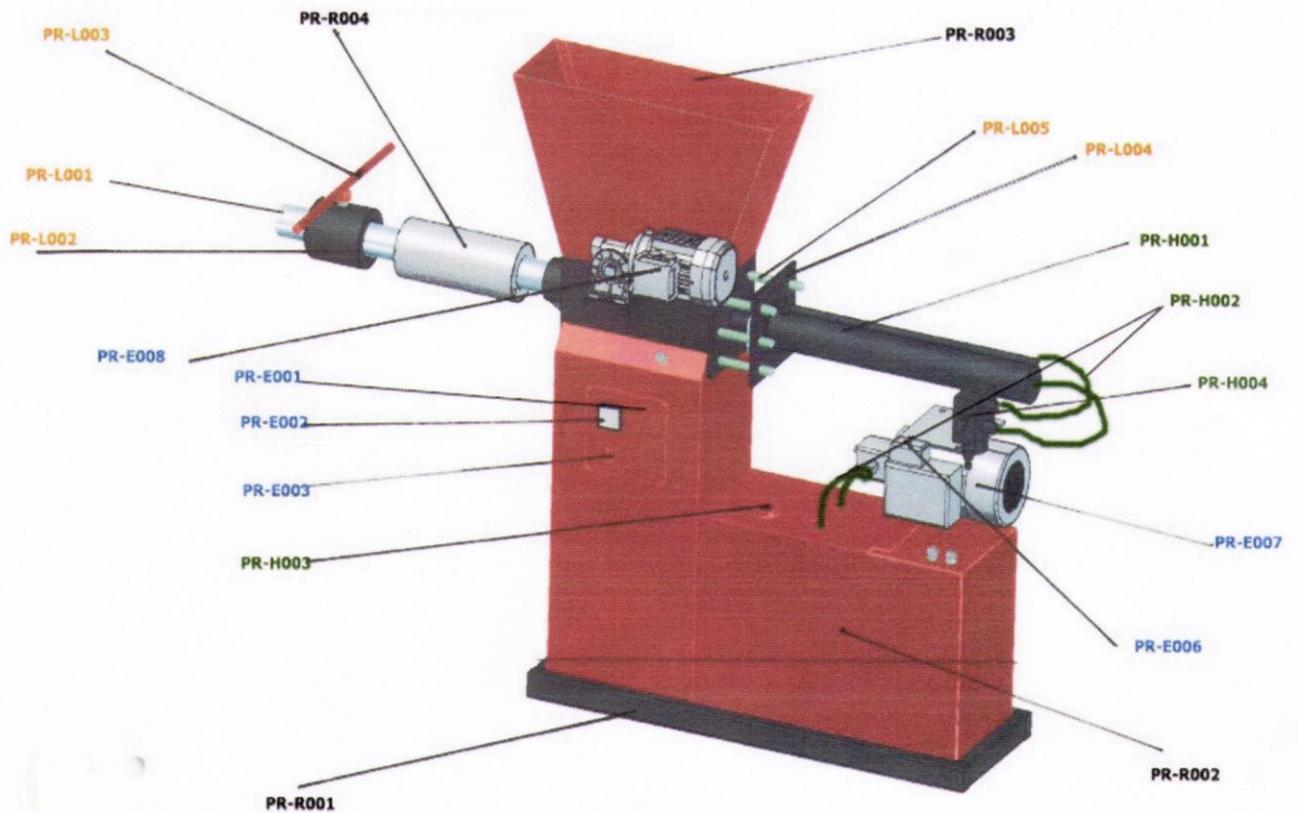
Supplier

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.....
date & signature

Note:



Ref.	Description	Ref.	Description
PR-R001	Main machine frame	PR-L001	Press chamber / die
PR-R002	Set of protective covers	PR-L002	Die clamp
PR-R003	Hopper	PR-L003	Clamp bolt
PR-R004	Heating protective cover	PR-L004	Hydraulic cylinder mount
PR-E001	Electric switchboard frame	PR-L005	Alignment nuts mount
PR-E002	Thermoregulator	PR-L006	Hydraulic cylinder flange
PR-E003	Heating switch	PR-L007	Piston
PR-E004	Temperature sensor	PR-L008	Feeding wheel set
PR-E005	Temperature mount	PR-L009	Feeder shaft
PR-E006	Main switch	PR-L010	Feeder greasing
PR-E007	Main engine	PR-L011	Face of the press unit
PR-E008	Feeder engine		
PR-H001	Hydraulic cylinder		
PR-H002	Hydraulic hoses		

- PR-H003 Hydraulic tank
- PR-H004 Hydroallocator
- PR-H0041 * automatic
- PR-H0042 * manual

