



MANUAL

PM30V2(757161603)

PM60V1(757161605), **PM60B1**(757161606), **PM60B2**(757161608), **PM60BD2**(757161609)

PM100V1(757161611), **PM100B1**(757161612), **PM100B2**(757161614),
PM100B2D(757161615), **PM100B2XL**(757161616), **PM100B2XLD**(757161617)

PM160V1(757161618), **PM160B1**(757161619), **PM160B2**(757161621),
PM160B2D(757161622), **PM160B2XL**(757161623), **PM160B2XLD**(757161624)

PM200B2(757161625)

Motorized presses

Please read and keep for future reference

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1 Description

1.1 General information

The Hydraulic Workshop Press is designed for:

- Beams, profiles, pivots, shaft bending and straightening,
- Bearings, bushings, the assembly and disassembly of pivots,
- Stamping, punching, forming.

This machine can be used in car repair shops, workshops etc. and is also suitable for home use. To enable more options, the machine can be fitted with special equipment, like "V blocks" and an inner table. Proper use of the machine is strongly recommended at all times to reduce the risk of damage.

1.2 Technical data

1.2.1 Single speed press

General specification		60 T	100 T	160 T
Pressing force	[kN]	588	981	1570
Pressure max.	[bar]	235	266	283
Stroke	[mm]	400	400	400
Weight	[kg]	685	955	1575
Electric motor		60 T	100 T	160 T
Power	[kW]	3	4	6
Voltage	[V]	400 / 3~	400 / 3~	400 / 3~
Frequency	[Hz]	50 / 60	50 / 60	50 / 60
Rated speed	[RPM]	3000	3000	3000
Insulation Protection	[IP]	54	55	55
Insulation Class		I	I	I
Oil type		HL 46	HL 46	HL 46
Hydraulic system		60 T	100 T	160 T
Delivery flow	[Lt/min]	9,6	11,4	17,7
Oil tank capacity	[dm ³]	20	20	20
System capacity	[dm ³]	8	12	17
Operating conditions		60 T	100 T	160 T
Pressing speed	[mm/s]	6	4,8	5,1
Return speed	[mm/s]	8,25	6,4	6,95

1.2.2 Double speed press

General specification		30 T	60 T	80 T	100 T	100 T-1200	100 T-1500	160 T	200 T
Pressing force	[kN]	294	588	785	981	981	981	1570	1960
Pressure max.	[bar]	166	235	250	266	266	266	283	277,5
Stroke	[mm]	400	400	400	400	400	400	400	400
Weight	[kg]	395	685	720	955	1100	1330	1575	2150

Electric motor		30 T	60 T	80 T	100 T	100 T	100 T W	160 T	200 T
Power	[kW]	1,5	1,5	2,2	2,2	2,2	2,2	3	3
Voltage	[V]	400 / 3~	400 / 3~	400 / 3~	400 / 3~	400 / 3~	400 / 3~	400 / 3~	400 / 3~
Voltage	[V]	230 / 3~	230 / 3~	230 / 3~	230 / 3~	230 / 3~	230 / 3~	230 / 3~	230 / 3~
Frequency	[Hz]	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60
Rated speed	[RPM]	3000	3000	3000	3000	3000	3000	3000	3000
Insulation Protection	[IP]	54	54	54	54	54	54	54	54
Insulation Class		I	I	I	I	I	I	I	I

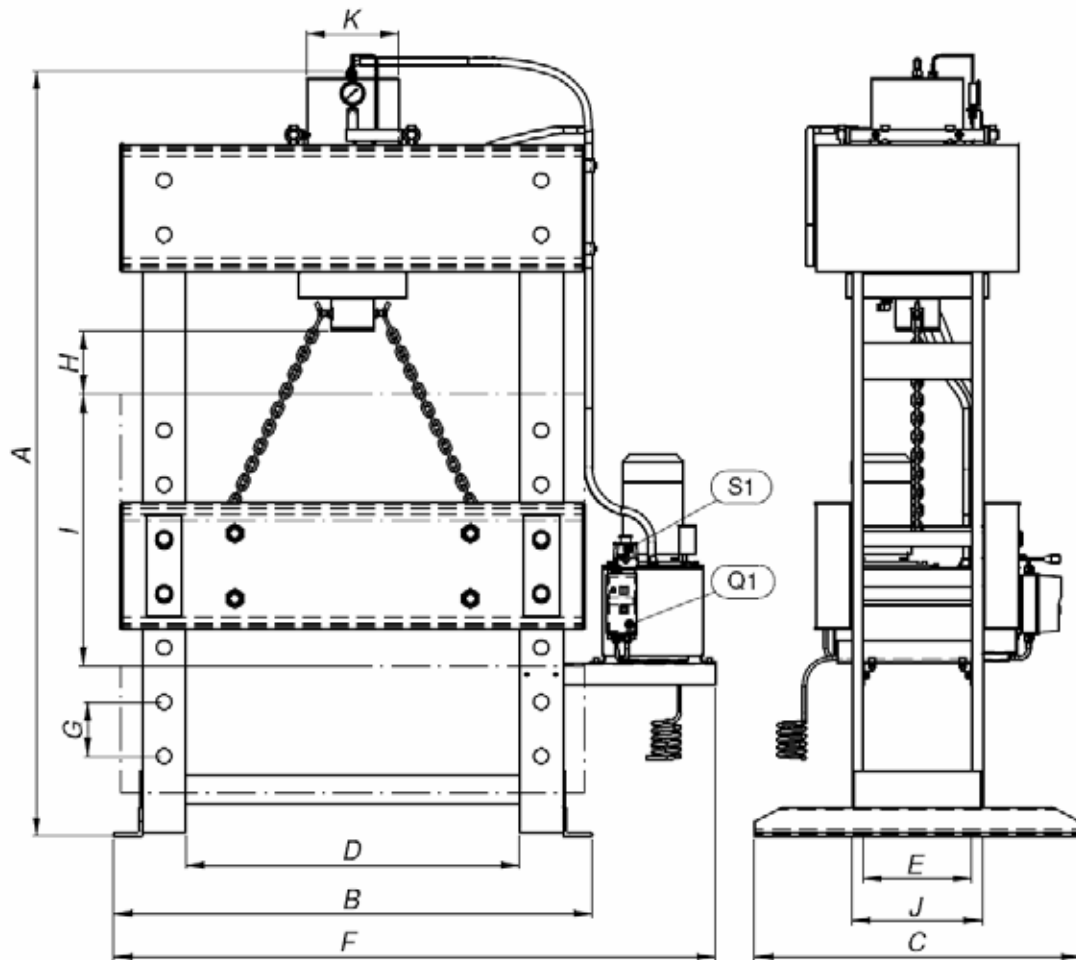
Hydraulic system		30 T	60 T	80 T	100 T	100 T	100 T W	160 T	200 T
Delivery flow (working / approaching)	[Lt / min]	3,3 / 13,5	3,3 / 13,5	6,1 / 18,4	5,8 / 19,6	5,8 / 19,6	5,8 / 19,6	7,3 / 28,4	7,3 / 28,4
Oil tank capacity	[dm ³]	30	30	30	30	30	30	30	30
System capacity	[dm ³]	6,5	8	10	12	12	12	17	23
Oil type		HL 46	HL 46	HL 46	HL 46	HL 46	HL 46	HL 46	HL 46

Operating conditions		30 T	60 T	80 T	100 T	100 T	100 T W	160 T	200 T
Working speed	[mm/s]	2,6	2,2	3,2	2,7	2,7	2,7	2,3	1,8
Approaching speed	[mm/s]	9,9	9,2	9,7	9,2	9,2	9,2	8,9	7,2
Return speed	[mm/s]	12,1	12,7	13	12,3	12,3	12,3	12	9,2

The given parameters of stamp travel speed are maximum values and can be 25% lower.

The given parameters of stamp travel speed regard the press operation at oil temperature above 30°C.

1.3 Dimensions



Dimensions	30 T	60 T	80 T	100 T	100 T - 1200	100 T - 1500	160 T	200 T
A [mm]	2050	2040	2080	2110	2110	2110	2212	2500
B [mm]	1030	1150	1150	1320	1600	1900	1600	1800
C [mm]	750	900	900	900	900	900	1100	1300
D [mm]	700	750	750	920	1200	1500	1100	1200
E [mm]	250	250	250	300	300	300	350	400
F [mm]	1385	1490	1490	1660	1935	2240	1905	2100
G [mm]	150	150	150	150	150	150	150	150
H [mm]	185	191	275	174	174	174	203	194
I [mm]	900	750	600	750	750	750	750	944
J [mm]	280	300	300	360	360	360	410	460
K [mm]	175	210	230	254	254	254	324	356

2 General safety advice

2.1 User's responsibility

Safe use of the hydraulic press can be achieved in daily work when all the necessary precautions are taken. It is the responsibility of the user to ensure that:

- The machine is used as directed;
- The machine is used in perfect working condition and the safety installations are checked regularly;
- None of the safety and warning instructions are removed from the machine and these remain legible;
- All regular maintenance operations are conducted as prescribed;
- Only original spare parts are used;
- The direction valve seal is not removed.

2.2 Basic safety advice

Before starting work, inspect the machine carefully. Replace all worn or defective parts immediately. Keep all parts in good condition and secured in place. Tighten nuts, bolts and screws to keep the equipment in safe working condition.



When the machine is in operation, do not put your hands into the working area while the piston rod is moving downwards or upwards. If an operator accidentally puts his hand or any other part of the body into this danger zone, it could get smashed by the piston rod.



The operator and third parties should ensure that they never reach into dangerous parts of the machine with their hands (or any other part of the body).

Never turn off the machine when pressing force is being applied to the workpiece; always release the force from the object, move the piston, and then safely turn off the machine.

Do not use the machine in explosion hazard zones.

The machine cannot be used outdoors during any type of precipitation.

The operator should be equipped with personal safety gear such as: Safety goggles, body-fitting clothing.

Disconnect the machine from the power supply when not in use, before servicing and changing the oil.



Maximum pressing force can be exerted for a short time only. We recommend that you avoid using maximum force when the piston is extended further than $\frac{3}{4}$ of its length.

Remember that the manometer is filled with glycerine and the correct force level reading takes a few seconds. The machine cannot be used in horizontal position.

2.3 Special risks

Before starting the machine, the following checks must be performed:

- Check the machine for visible damage. Defects need to be repaired immediately. The machine may be operated only when everything is in good working order.
- Check electrical connections regularly.
- Secure any loose connectors. Damaged electrical cables must be replaced immediately by an electrician.
- Never clean electrical equipment with water or similar liquid.
- Bare electrical cables must not be used.
- Remember: children like to imitate their parents. Do not allow children to operate the machine.
- Modifications to the machine: For safety reasons, users are not allowed to modify the machine.
- The screen does not protect the operator against impact of the worked element in the case of its cracking or sliding out from under the piston, however it provides protection from accidental access of the operator or unauthorized.



Never perform welding operations on the press table.

2.4 The press must not be used when :

1. The operator has not read the Operator's Manual.
2. The work to be done is not in agreement with the recommendations in this
3. Manual.
4. The press is not complete or has been repaired with non-original parts.
5. 4. The specifications of the power supply do not conform to those stated on the motor plate.
6. The operator did not check press state, especially the state of hydraulic conduits, the supply cord, the control panel and the emergency stop switch.
7. The direction valve seal has been removed or is damaged.
8. The power supply socket is not equipped with a protection circuit.
9. Bystanders are present in the immediate vicinity of the machine.

3 Installation

3.1 Transporting the press

This machine can be transported using a pallet truck. The use of a forklift truck is also permitted for transport, as long as special care is taken. During transport, the working table must be placed in its lowest position, with the oil tank mounted on the inside of the machine frame on the supporting brackets.

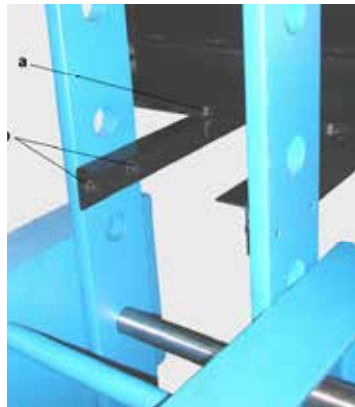
3.2 Environmental conditions for the installation

- Use the press only in clean, dry and dust-free rooms.
- Surrounding temperature: +5 to +50 °C.
- Humidity: max. 90%: not condensing.
- The press should be fixed to the floor with bolts.
- Ensure that the machine is placed safely.
- Ensure that electrical cables and hydraulic hoses are kept away from the working area.

4 Before first use

4.1 Mounting the oil tank

After placing the press in a suitable position, unscrew M10 bolts (a) and dismount the oil tank. Next, unscrew the M10 bolts (b) from the two supporting brackets and move these brackets from the inner side to the outer side of the machine frame. Refit the bolts and tighten them. Remove rubber stopper (60 T and 30 T only). Remember to locate the brackets parallel to each other and perpendicular to the machine frame. Finally, mount the oil tank on the brackets and tighten the four bolts (a).



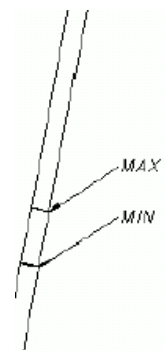
1. Power unit in working position

Secure hydraulic hoses using two hose clamps on the upper lateral frame side.

4.2 Filling the oil tank

Remove the filler plug on the hydraulic tank cover. Pour in an appropriate volume of HL 46 or similar hydraulic oil that is unused and clean. It is important that the oil level reading lies between the MIN and MAX marks. The filling operation must be performed when the piston is in raised position. This corresponds to a proper position of the suction hose when the piston is in its lowest position. Once the tank has been filled, replace the filler plug. A drain plug is located at the bottom of the oil tank.

Take care to prevent dirt and water getting inside the oil tank.



4.3 Electrical connection

The machine must be connected to an earthed socket!

Electrical connections may be performed only by an electrician. The turning direction of the electric motor is clockwise (looking from above). A different direction will damage the machine in a short time. The turning direction can be set from the control panel or on the electric motor. The cable from the panel is connected to the 400/3~ supply via a plug and socket.



The electric circuit must be protected by a fuse not greater than 16 A!
The electric connection socket must be equipped with a safety contact.

4.4 Direction valve control

When the lever is in the middle position, the hydraulic oil passes directly through the splitter and the piston stands still. When the lever is pushed down, the piston moves downwards; pulling the lever up moves the piston upwards (see label).

4.5 Checks before first installation

- Check electrical components for damage.
- Inspect all fixed parts.
- Check the tightness of the hydraulic fittings.



Warning! Tightening and any other maintenance can be performed only when there is no pressure in the hydraulic circuit.

- Inspect all hydraulic connections.
- Test that the press is standing firmly.
- Test that the motor turns clockwise.
- Check the oil level.

5 Using the press

5.1 First use

Before using the press for the first time, the piston needs to be moved up and down a few times. From the mid position, push the piston down and back up, then move it up to the maximum stroke position and back down (avoid hitting the piston against the pilot sleeve or head cover). Repeat these movements a few times, which will remove air from the cylinder and enable effective lubrication.

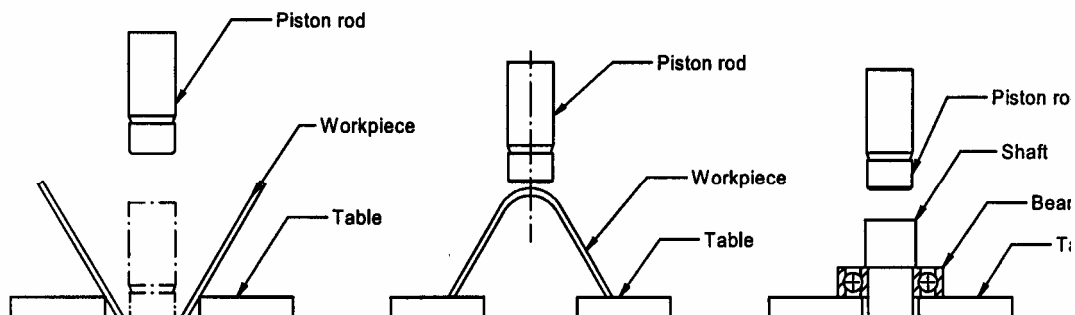
In presses equipped with a hydraulic actuator with an internal safety valve, after reaching the lower extreme stamp position – the pressure in the hydraulic system and force on the stamp drops to a value close to zero.

5.2 Regular use

Place the workpiece on the working table so that it is directly under the piston rod. The centre of the piston must be in alignment with the application axis. Take care when performing operations on elements that are likely to fly off, break (especially casting elements and hardened elements) or bounce up as a result of the applied load. In this event, a cover must be installed around the workpiece, or the operator should stand at a safe distance.

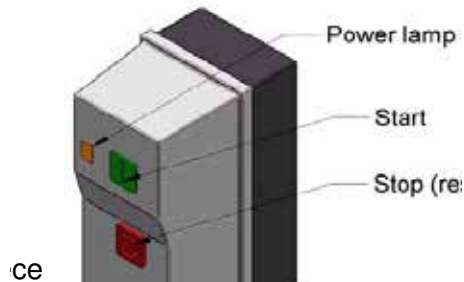
It is not permitted to use the return stroke of the piston for performing operations on a workpiece (e.g. stretching).

Upward movement of the piston rod can be used only for adjustment of the working table or returning the piston rod to its start position



After correct placement of the workpiece on the working table, press the start button on the control panel and push down the direction valve lever (see label next to the lever). If the application point does not lie on the cylinder's axis or the contact area is not right, move the piston upwards and adjust the location of the workpiece.

This is important because an eccentric application point may cause damage to the piston rod and the fixing bolts (especially when working with long strokes). When pressing is finished, pull the control lever back up, as indicated by the arrows on the label. When the piston rod has returned to a suitable position, remove the workpiece from the working table and turn off the machine.



5.3 Adjustment of the working table

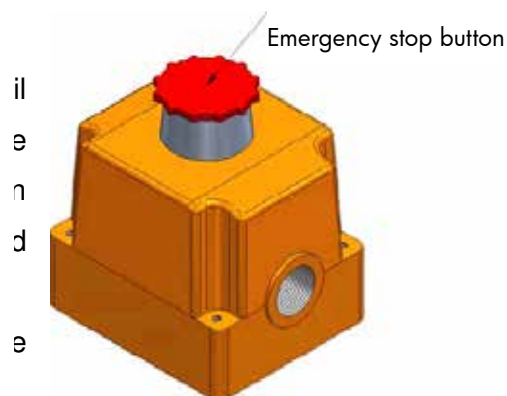
This machine has pin holes on its frame for proper positioning of the working table. This enables the operator to place a wide range of workpieces on the working table. The table is connected to the frame by blocking pins.

When you need to change its position, first pass the chain through the connecting tubes and attach it to the piston's hooks. Then slowly move the piston rod upwards until a small gap appears between the blocking pin and working table pin holes (at both sides of the pin). Remove the safety pins. You can then easily pull out the blocking pins and by moving the piston rod downwards or upwards, lower or raise the working table to the required position. After that, replace the blocking pins and safety pins, lower the table until the chain is loose and remove it from the hooks.

5.4 Emergency stop button

The emergency stop button is located on top of the oil tank. In the event of any danger to the operator or the machine, the user (or any other person) can shut down the power quickly and easily by pressing this red button.

The emergency stop button is reset by turning it the direction indicated by the arrows marked on it.



5.5 Hand pump*

The machine can be purchased with a hand pump.

This device can be used for the manual application of force.

It is also very useful when a precision distance setting or force value is needed. If you want to operate the machine using the hand pump, you must first set the direction lever in the up or down position and then start pumping (remember to not turn off hand pump valve).

Turn off the motor while operating the hand pump.

In mechanical presses equipped with a hand pump, after filling with oil, carry out about 15 full work cycles using the hand pump lever.

This action is carried out in order to deaerate the hand pump.

Failure to conduct deaeration of the pump can result in uncontrolled (unsafe) motions of the hand pump lever during the operation of the hydraulic press!!



with oil, carry out about

controlled (unsafe) motions of

5.6 Moving cylinder*

This machine is equipped with a moving cylinder that enables the pressing point to be adjusted left – right, without moving the workpiece. To move this cylinder, first unscrew the four M12 fixing bolts (using hexagonal socket wrench 10) and move it directly above the pressing point, then retighten the bolts. We recommend that you secure the cylinder after it has been moved, using four bolts of the type mentioned, to increase the machine's lifespan.

5.7 Pressure regulation valve*

Some machines are purchased with additional pressure regulation valve. Using it operator can manually adjust pressing force applied on workpiece. While turning knob right (clockwise) the pressure will be increased. To set a proper value of pressing force, first turn off regulation valve till it loose (do not remove knob). Then apply force on workpiece and increase pressure watching manometer reading. To reduce pressing force operator has to move up piston from workpiece, loose the valve and start regulation from the beginning. It is important to adjust pressing force only when speed change lever is in working (low only) position.

(* Depending on version)

5.8 Two speed pump*

Two speed presses are equipped with automatic working speed changing circuit.

Approaching and return piston rod speed is twice higher as in single speed press, but when piston rod contact to workpiece (or any obstacle) it's speed is automatically reduced to » 2 mm/s. At the top of oil tank cover it is located a lever and operator can manually set working speed (low speed only).

5.9 Protective screen controlled by a limit switch*

The machine can be equipped with a screen protecting against accidental access of the operator or unauthorized personnel. Starting the press is possible after closing the screen. Every time the screen is opened, it causes cut-off of supply to the electric engine of the hydraulic supply.

5.10 Working time

A standard machine is not designed for constant work, that is, it can work at an intensity of no more than 2 work cycles per minute, and no longer than 10 min of constant work when the speed change lever is in the "WORKING MOTION" position. If this limit is not observed, it can lead to overheating of the hydraulic oil and the operator may suffer burns.

6 Maintenance

6.1 Daily maintenance

- Remove all dust and debris from the press that could disturb its operation.
- When press operations are over, remove any dust or debris found on the working table.
- At the end of operations, the press and working table should be cleaned appropriately.
- Check the oil level and temperature.
- Check winch line is in perfect condition, is not twisted and in a right place.

6.2 Six monthly maintenance

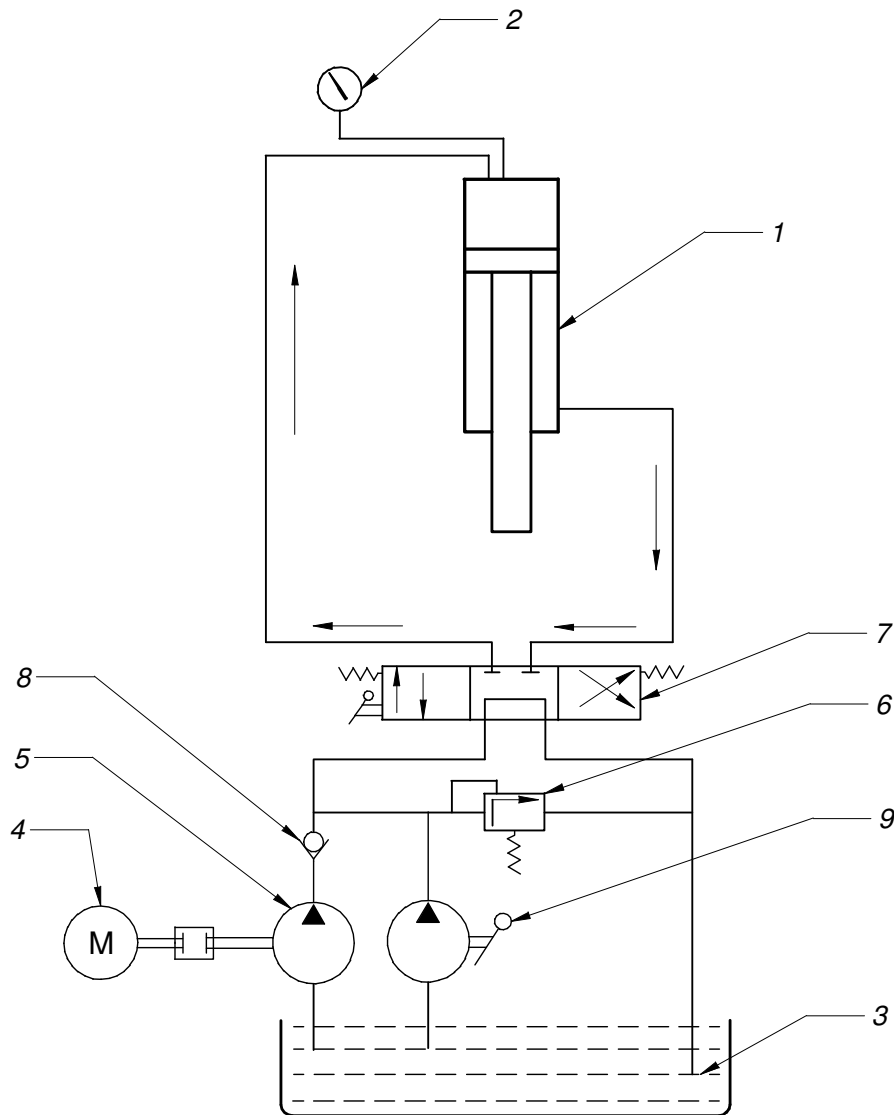
- Inspect all hydraulic fittings and tighten any loose connections.
- Every 12 months or 1000 working hours, change the hydraulic oil (used oil should be warm when it is drained).
- Check the screws connecting the cylinder assembly to the machine frame and tighten them, if necessary.
- In the event of oil leakage in the fittings, detach the fitting and replace the seal. If this does not solve the problem, replace the whole fitting.
- Check the motor fixing bolts and tighten, if necessary.

(* Dependign on version)

7 Circuit diagrams

7.1 Hydraulic diagram

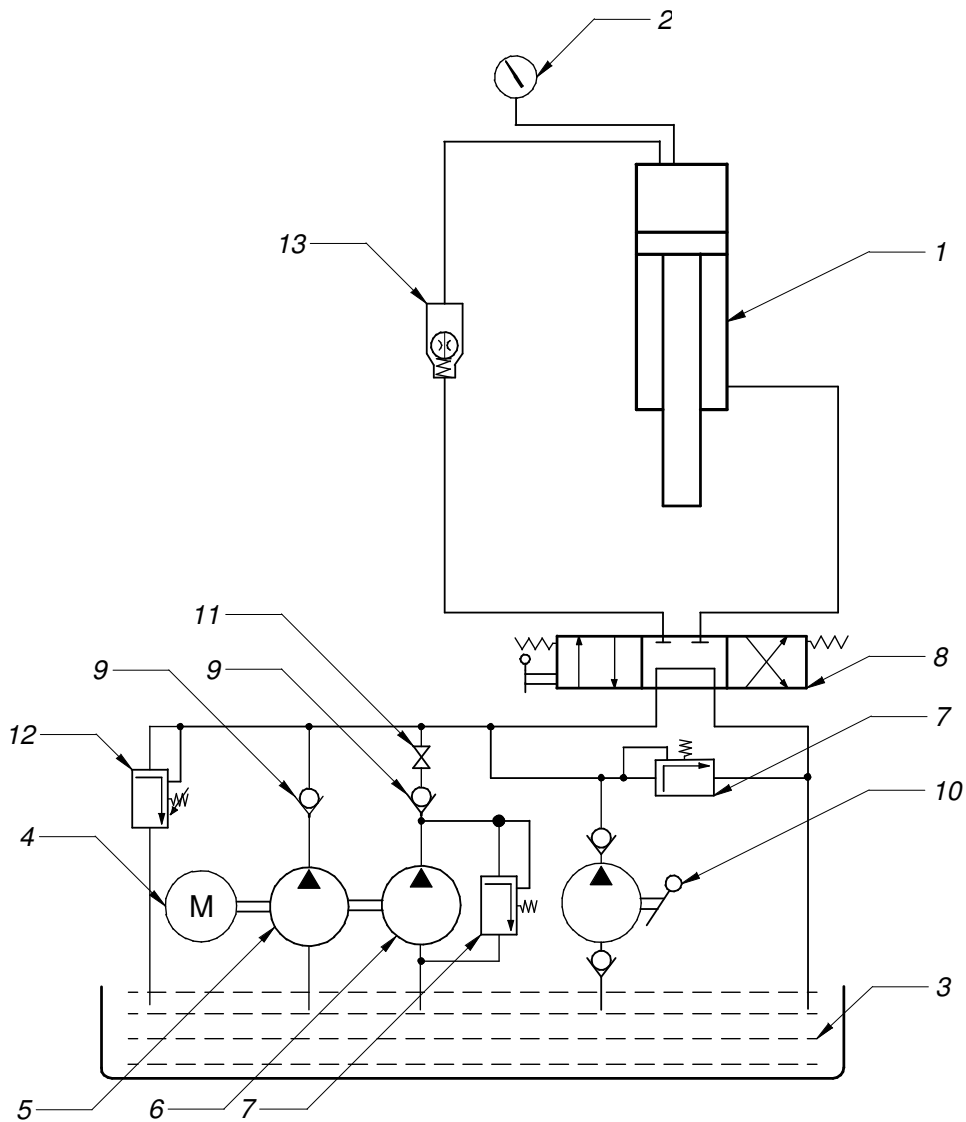
7.1.1 Single speed press



No.	Description	QTY
1	Hydraulic cylinder	1
2	Manometer	1
3	Oil tank	1
4	Motor	1
5	Oil pump	1
6	Pressure regulator	1
7	Direction valve	1
8	Non-return valve*	1
9	Hand pump*	1

(* Not present in motor-only version)

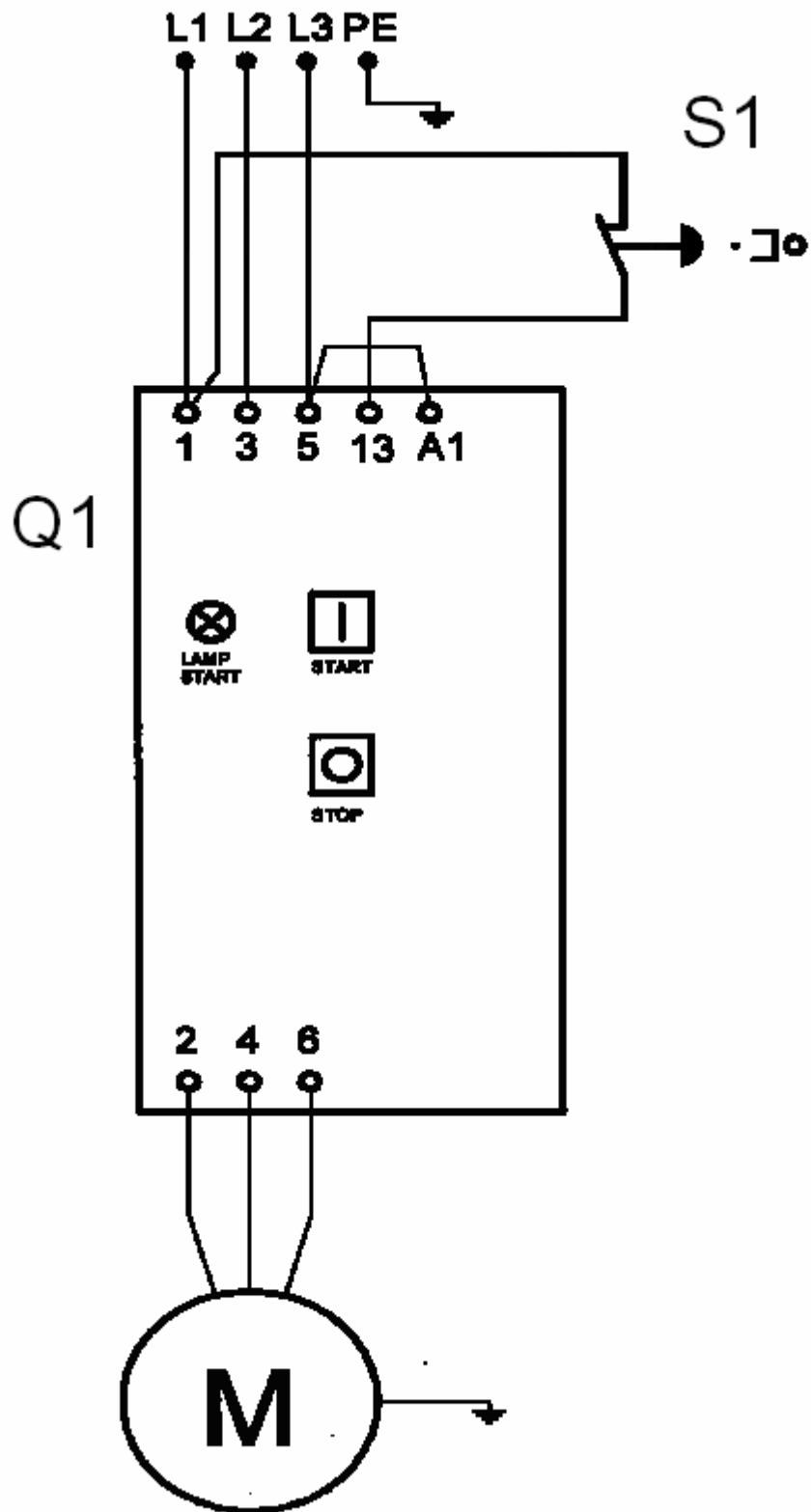
7.1.2 Double speed press



No.	Description	QTY
1	Hydraulic cylinder	1
2	Manometer	1
3	Oil tank	1
4	Motor	1
5	Oil pump 1	1
6	Oil pump 2	1
7	Pressure regulator	1
8	Direction valve	1
9	Non-return valve	1
10	Hand pump	1
11	Cut-off valve	1
12	Overflow valve	1
13	Throttle valve (custom) *	1

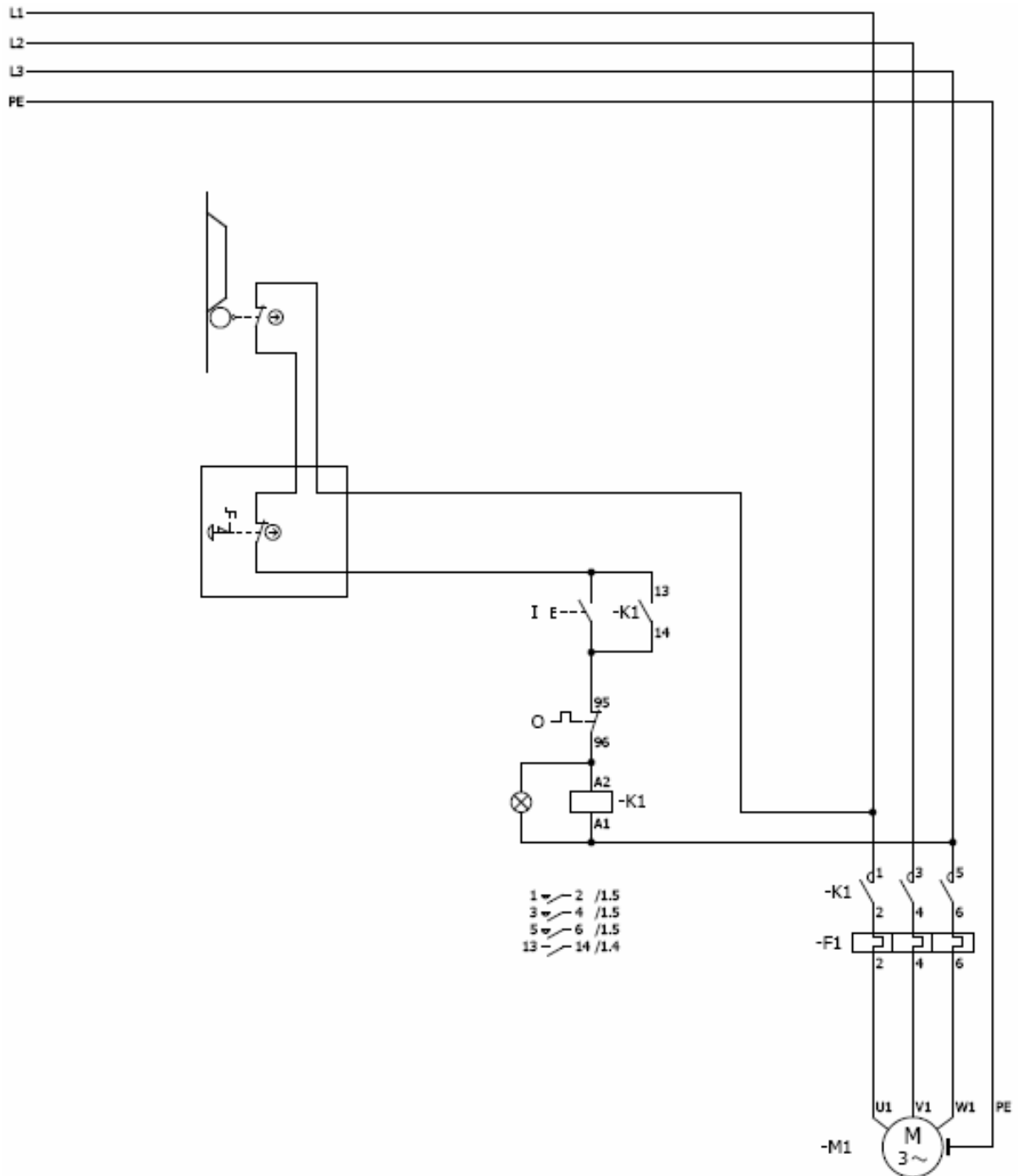
(* Not present in motor-only version)

7.2 Electrical circuit



Legend:
Q1 – Starter
S1 – Emergency stop button

Electric circuit with safety screen controlled by a limit switch*.



(*Depending on version)

8 EC Declaration of conformity

The Manufacturer/Retailer

Vynckier Tools nv/sa
Avenue Patrick Wagnonlaan, 7
ZAEM de Haureu
B-7700 Mouscron - Moeskroen

Hereby declares that the following products:

Products:

Motorized presses

Order nr:

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PM160B2D(757161622)
PM160B2XL(757161623)
PM160B2XLD(757161624)
PM200B2(757161625)

Relevant EU directives:

2006/42/EG (Machine directive)
2006/95/EG (Low voltage directive)

Meet the provisions of the aforementioned directives, including, any amendments valid at the time of this statement.

B. VYNCKIER
VYNCKIER TOOLS SA

22-05-2012

