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## **HYDRAULIC PRESS**

### **MODELS:**

**PRESSPRO 66**

**PRESSPRO 110**

**PRESSPRO 110W**

**PRESSPRO 176**

**VERSION 4 - DECEMBER 2021**

# INTRODUCTION

This manual helps you to install, operate and maintain your press. Always read this manual before you start working with the machine. If you have any questions, please contact Scotchman Ind. The manual gives safety instructions where necessary to assure a safe use of the machine. These safety instructions are clearly marked with the following symbol:



Always follow the instructions mentioned with this symbol to prevent damages to the machine or injury to the operator. In case of doubt, please contact Scotchman Ind.



**The supplier of the press can not be held responsible for any damages or injuries when the machine is modified by a third party or when maintenance is done by unqualified persons.**

If you need to contact Scotchman Ind. about your press, always mention its serial number on the machine label. This label is located on the upper right side leg of the press. The serial number is also stamped into the machine there. When you have questions about the hydraulic unit, there is another serial number for it. The label is located on the back of the hydraulic tank.

**PRESSPRO 66**



**PRESSPRO 110**



**PRESSPRO 176**



**PRESSPRO 110W**



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# 1 General information and specifications

This hydraulic workshop press is designed for:

- bending and straightening of beams, profiles, pivots, shafts etc.
- (dis)assembly of bearings, bushings or pivots
- stamping, punching, forming of a wide range of materials

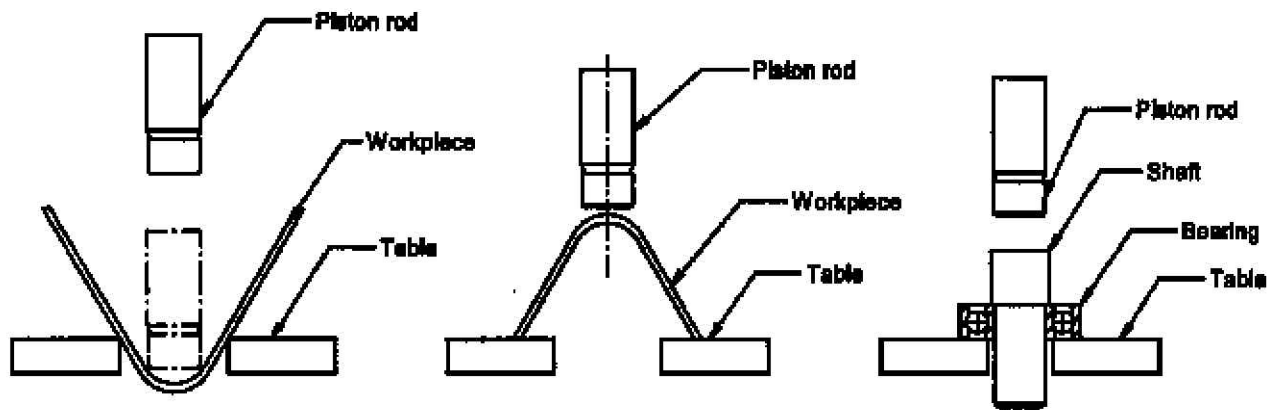


Fig. 1 Typical use of the press

This machine can be used in repair shops, work shops, etc. To enable more options, the machine can be equipped with special tools such as a V-block set or an inner table.



**WARNING:** proper use of the machine is necessary at all times in order to prevent damage to the machine and injury of the operator. Therefore operation of the press is only allowed by persons who have read, understood and follow this manual.

Scotchman  
Metal Fabricating Solutions



# TABLE OF CONTENTS

## Introduction

1. <u>General information and specifications</u> .....	2
1.1 Technical data .....	3
2. <u>Safety advice</u> .....	5
2.1 Users responsibility .....	5
2.2 Basic safety advice .....	5
2.3 Out of use .....	6
3. <u>Installation</u> .....	7
3.1 Deliver condition .....	7
3.2 Transport .....	7
3.2.1 Pallet jack .....	7
3.2.2 Forklift truck .....	8
3.3 Environmental conditions .....	8
3.4 Bolting the machine to the floor .....	8
3.5 Installation of the hydraulic unit .....	9
3.5.1 Connecting hydraulic hoses.....	9
3.6 Oil tank filling .....	10
3.7 Electrical connection .....	11
4. <u>Functions of the press</u> .....	12
4.1 Manual operated hydraulic unit .....	12
4.1.1 On / Off switch .....	12
4.1.2 Emergency button.....	12
4.1.3 Direction control valve .....	13
4.1.4 Pressure gauge .....	13
4.1.5 Pressure control valve .....	13
4.1.6 Speed setting valve .....	14
4.1.7 Hand pump .....	14

## 1.1 Technical data

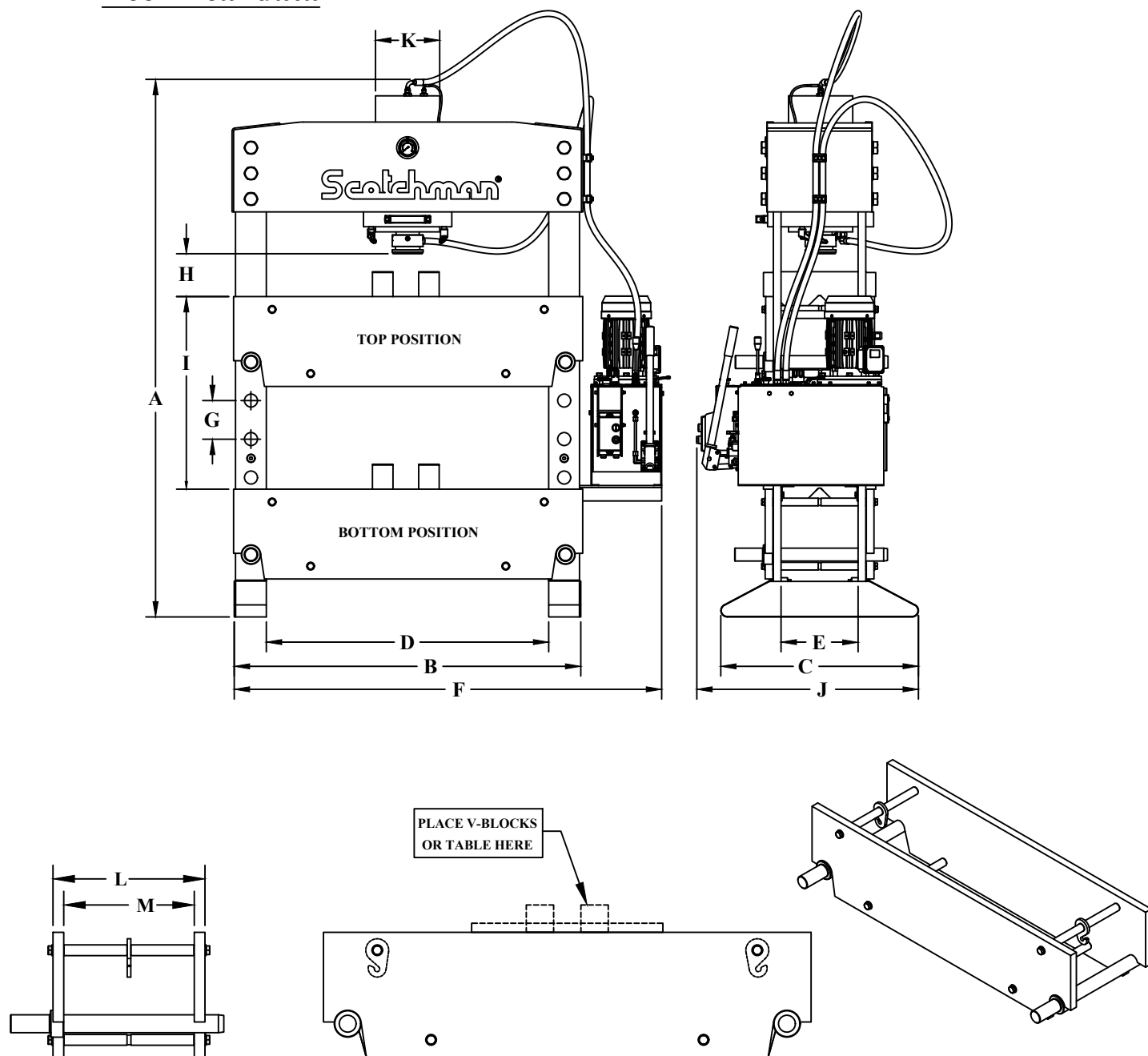


Fig. 2 Dimensions overview

Technical specifications and dimensions are shown on the next page.

The given parameters of the piston movements are maximum values and can be up to 25% lower.

Parameters are valid with minimum oil temperature of 86°F (30°C).

4.2 Electrical operated hydraulic unit.....	15
4.2.1 On / Off switch .....	15
4.2.2 Emergency stop.....	16
4.2.3 Pressure gauge .....	16
4.2.4 Pressure control valve .....	16
4.2.5 Speed setting valve .....	16
 5. <u>Getting started</u> .....	 17
5.1 De-aerating the press .....	17
5.2 De-aerating the hand pump .....	17
5.3 Positioning of cylinder .....	17
5.4 Positioning the table .....	18
5.5 Regular use .....	20
5.6 Working period.....	20
6. <u>Servicing and maintenance</u> .....	21
6.1 Oil tank draining .....	21
6.2 Contact your supplier .....	21
 Fig. 1 Typical use of the press .....	 2
Fig. 2 Dimensions overview.....	2
Fig. 3 Technical specifications PressPro 66 to PressPro 110.....	3
Fig. 4 Technical specifications PressPro 176.....	4
Fig. 5 Max. force with long stroke Fig. 6 Max. force with short stroke .....	5
Fig. 7 Pallet jack transport.....	7

USA STANDARD SPECS.	UNITS	66	110	110W	176
A	in.	83-1/2	84-1/4	81-7/8	86-5/8
B	in.	39-3/8	53-1/8	68-7/8	55-1/2
C	in.	27-3/8	29-3/4	29-3/4	32-1/2
D	in.	29-1/2	43-3/8	59	43-3/8
E	in.	10-1/4	11-3/4	11-3/4	15
F	in.	51-3/4	65-1/2	81-1/4	68
G	in.	5-29/32	5-29/32	5-29/32	5-29/32
H	in.	7-3/4	7	5-1/8	7
I	in.	29-1/2	29-1/2	29-1/2	29-1/2
J	in.	31-11/16	34	34	36-13/16
K	in.	7-7/8	9-7/8	9-7/8	12-13/16
L	in.	13-17/32	16-11/16	16-11/16	19-15/32
M	in.	11-31/32	14-11/32	14-11/32	17-3/32
Press Force	US tons	66	110	110	176
Maximum Pressure	psi	3750	3750	3750	3700
Cylinder Stroke	in.	14-31/32	14-31/32	14-31/32	15-3/4
Oil Flow (Press)	gal/min	3.1	1.5	1.5	1.88
Oil Flow (Approaching)	gal/min	.75	4.5	4.5	7.3
Total Oil Capacity (Tank and Cylinder Capacity)	gallons	10.8	12.2	12.2	15
Oil Type (See Pg. 13)		HL46	HL46	HL46	HL46
Press Speed	in/sec	.081	.097	.097	.094
Approach Speed	in/sec	.34	.30	.30	.29
Return Speed	in/sec	.42	.35	.35	.37
Motor	hp	2.4	3.5	3.5	4.8
Voltage	V	230 3ph or	460 3ph	For	All Models
Frequency	Hz	60	60	60	60
Revolutions Per Minute (60Hz)	rpm	1680	1680	1680	1700
Insulation Protection	IP	54	54	54	54
Insulation Classification	-	I	I	I	I
Weight	pounds	1190	2138	2524	2635
Diameter Cylinder	in.	6.7	8.66	8.66	11.02
Diameter Piston Rod	in.	2.95	3.54	3.54	4.92
Diameter Piston Head	in.	3.93	4.72	4.72	6.3

Fig. 3 USA Standard Technical Specifications PressPro 66 to PressPro 176

METRIC SPECS.	UNITS	66	110	110W	176
A	mm	2120	2140	2080	2200
B	mm	1000	1350	1750	1410
C	mm	695	755	755	825
D	mm	750	1100	1500	1100
E	mm	260	300	300	380
F	mm	1315	1665	2065	1725
G	mm	150	150	150	150
H	mm	197	180	130	180
I	mm	750	750	750	750
J	mm	805	865	865	935
K	mm	200	250	250	325
L	mm	344	424	428	494
M	mm	304	364	364	434
Press Force	kN	588	981	981	1570
Maximum Pressure	bar	259	258	258	255
Cylinder Stroke	mm	380	380	380	400
Oil Flow (Press)	ltr/min	2.82	5.64	5.64	7.1
Oil Flow (Approaching)	ltr/min	11.84	17.2	17.2	27.6
Total Oil Capacity (Tank and Cylinder Capacity)	liter	41	46	46	57
Oil Type	-	HL46	HL46	HL46	HL46
Press Speed	mm/sec	2.07	2.47	2.47	2.40
Approach Speed	mm/sec	8.69	7.54	7.54	7.48
Return Speed	mm/sec	10.79	9.06	9.06	9.35
Motor	kW	1.8	2.6	2.6	3.6
Voltage	V	230 3ph or	460 3ph	For	All Models
Frequency	Hz	60	60	60	60
Revolutions Per Minute (60Hz)	rpm	1680	1680	1680	1700
Insulation Protection	IP	54	54	54	54
Insulation Classification	-	I	I	I	I
Weight	kg	540	970	1145	1195
Diameter Cylinder	mm	170	220	220	280
Diameter Piston rod	mm	75	90	90	125
Diameter Piston head	mm	100	120	120	160

Fig. 3.1 Metric Technical Specifications

Fig. 8 Positioning forks of forklift truck .....	8
Fig. 9 Hole to fix the machine to the floor .....	9
Fig. 10 Installation hydraulic unit .....	9
Fig. 11 Fixing hose clamps .....	10
Fig. 12 Oil capacity per press type .....	11
Fig. 13 Electrical connection control tool - hydraulic unit .....	11
Fig. 14 On / Off switch .....	12
Fig. 15 Emergency switch .....	12
Fig. 16 Directional control valve .....	13
Fig. 17 Pressure regulator .....	14
Fig. 18 Speed setting valve .....	15
Fig. 19 Hand pump .....	15
Fig. 20 Functions of an electrical operated hydraulic unit .....	15
Fig. 21 Moving the cylinder.....	18
Fig. 22 Lifting chain bridge around piston head.....	19
Fig. 23 Lifting chain on table hook.....	19
Fig. 24 Blocking pins .....	19
Fig. 25 Type labels .....	21
 Appendix I Electrical schematic .....	 22
Appendix II Hydraulic schematic .....	23
Appendix III Spare parts .....	26

## 2 Safety advice



**Note:** the supplier of the press can not be held responsible for any damages or injuries when the machine is modified or when maintenance is done by unqualified personnel.

### 2.1 Users 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 good working condition.



**WARNING:** do not put your hands into the working area when the piston is moving. Hands or any other part of the body in this danger zone can get smashed by the piston. The danger zone is clearly marked on the left and right side with the following symbol:



**WARNING:** never turn off the machine when pressing force is being applied to the work piece. Unexpected force expansion when restarting, can damage the machine or injure the operator. Therefore always release the force from the object, move the piston upwards and then safely turn off the press.



**WARNING:** always wear safety shoes, safety glasses, ear protection and body fitting clothes to prevent injuries to any part of the body.





**Note: do not use the machine in the following conditions:**

- explosion hazard zones;
- outdoors;
- temperatures below 41F (+5C) or above 122F (+50C)



**Note: maximum pressing force can be exerted for a short time only. Do not use maximum force when the piston is extended further than 3/4 of its length. THIS CAN DAMAGE THE PISTON.**



Fig. 5 Max. force with long stroke

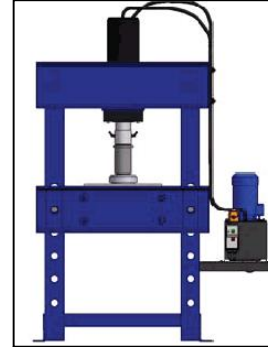


Fig. 6 Max. force with short stroke



**Note: the machine MUST be bolted to the floor - see Chapter 3 Installation. Never use a machine unless it's bolted to the floor. It can tip over if heavy parts are loaded on the table. This can cause severe injury or death!! Use the press in the vertical position ONLY.**



**Caution: any welding operations on the press table are prohibited. This can damage the machine!! The operator could be severely injured.**

## 2.3 Out of use

Do not use the machine when:

- The operator has not read or not understood the manual.
- Maintenance is not done by qualified personnel.
- The press is not complete or non-original spare parts have been used.
- Any worn parts are visible.
- The power supply does not match the specifications shown on the motor plate +/-10%.
- The power supply is not equipped with the proper circuit protection.
- Unprotected bystanders are present.

## 3 Installation



**Note: When press is delivered, check for freight damage before signing anything. If you later find anything damaged while unpacking or setting up the press STOP and contact Scotchman Ind.**

### 3.1 Deliver condition

The press is delivered in the following condition:

- Table in lowest position.
- Hydraulic unit on the inside of the frame.
- Hose clamps and fixings packed in a separate box or bag.
- Lifting chain packed in a separate box.
- Cylinder fixed in the middle of the press.
- Hydraulic unit without oil.

### 3.2 Transport

In all cases of transporting the press, take care of the following precautions:

- Place the table in its lowest position.
- Mount the hydraulic unit on the inside of the frame.
- Fix the cylinder in the middle of the press.

#### 3.2.1 Pallet jack

The press can be moved by using a pallet jack. Use a pallet jack with enough capacity to lift the weight of each press shown on the table below:

PressPro 66:	1190 lbs
PressPro 110:	2138 lbs
PressPro 110W:	2524 lbs
PressPro 176:	2635 lbs

### 3.2.2 Forklift truck

Place the pallet truck as shown below:



Fig. 7 Pallet truck transport

Make sure the pallet jack is always placed in the middle of the machine.  
Make sure the forks of the pallet jack carry both lifting strips.



**WARNING:** Use extreme caution when moving press as it is **TOP HEAVY**. When moving the press with a pallet jack have more than one person help you. Watch the press at all times. Go slowly with smooth movements. Unexpected movements can make the press tip over and possibly cause serious injury or death.



Fig. 8 Positioning Forks of Forklift Truck

The press can be transported by a forklift, but only if the forks of the forklift truck can be set to the maximum inside width of the press.



**CAUTION:** do not lift the press in any other position. The press is top heavy & can tip over and possibly cause serious injury or death.

### 3.3 Environmental conditions

The machine should be placed in:

- A clean- dry- and dust free room.
- A temperature between 41F to 122F (+5C to +50C)
- A maximum humidity of 90%, no condensation.
- An area with enough working light.
- An area where it can be bolted to a flat, hard, smooth floor.

### 3.4 Bolting the machine to the floor

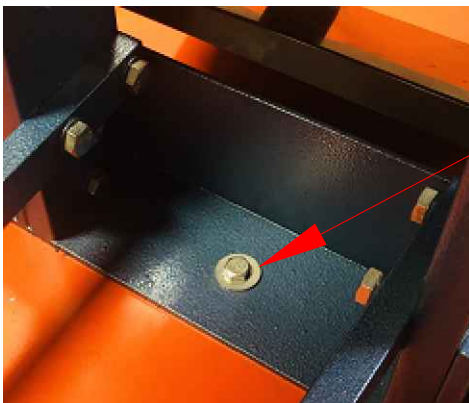


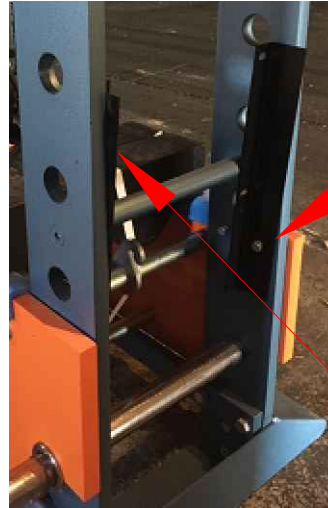
Fig. 9 Press is bolted securely to the floor.

**PRESS IS TOP HEAVY!!  
BOLT PRESS TO THE FLOOR!!**

When the machine is positioned in the desired location, it should be bolted to a concrete floor as shown with (2) 10 mm (3/8") screws and plugs (not included). The press is made with a hole in the center of each foot to do this.

### 3.5 Installation of the hydraulic unit

Hyd. Power Unit is shipped as shown. It must be bolted to the angle iron mounts & the hoses need to be connected to the press.



Remove the back bolt & loosen the bolt on the angle iron. Rotate the angle iron to horizontal and install the back bolt. Tighten both bolts. This must be done on both sides.

Fig. 10 Hydraulic Unit and mounting brackets as shipped from the factory

Hydraulic Unit is bolted to the brackets with (4) M10 bolts on the bottom. Also See Fig. 11 on the next page for overall view.



**Tip:** the hydraulic unit weighs about 77 to 110 lbs (depending on the type of press). When placing the unit in the correct position, make sure to use enough man or machine power to lift the unit.

Hyd. Unit in place



(4) M10 bolts secure Hyd. Unit

#### 3.5.1 Connecting hydraulic hoses

Once the hydraulic unit is mounted, the hoses must be attached. The caps in the hose and fitting are color coded. In the example shown below:

Yellow hose to Yellow fitting & Red hose to Red fitting

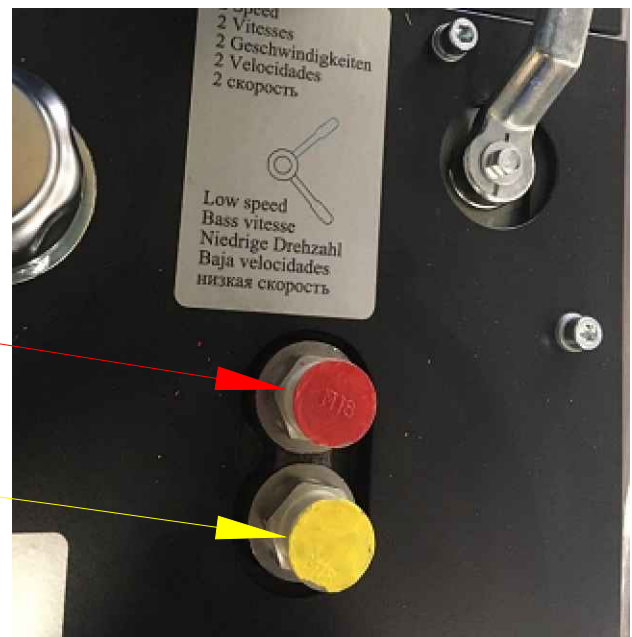
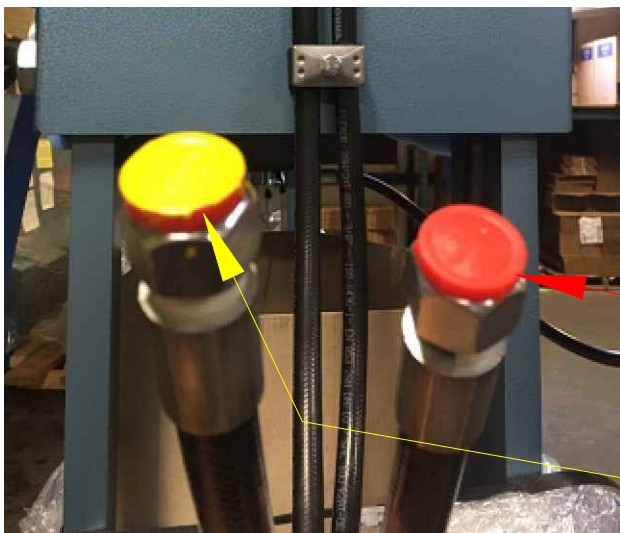


Fig. 10.1 Hydraulic hose and attachment location



On top of the cylinder there are (2) threaded holes. The centered hole is for the large diameter (18mm) hose from the reservoir. The other hole is for the small diameter (5mm) pressure gauge hose.

Top of cylinder



Fig. 11 Keep hoses straight - no sharp bends

- Make sure there are no sharp bends in the hoses between the clamps and connections to the hydraulic unit as shown above.

**MAKE SURE ALL HOSES ARE TIGHTENED SECURELY AND CONNECTED IN THE CORRECT LOCATION BEFORE FILLING RESERVOIR AND OPERATING THE PRESS**

### 3.6 Oil tank filling

The press is delivered without oil. Before starting up, the tank needs to be filled.

Mobile DTE 10 Excel 46 or Mobile DTE 25 or similar hydraulic oil is recommended.

To properly fill the oil tank:

- Bring the piston into its upper position.
- Remove the filler plug on top of the hydraulic unit.
- Fill the tank with a sufficient amount of oil. The minimum oil quantity per press type is mentioned in the table on the next page.
- Replace the filler plug.
- Start the hydraulic unit.
- De-aerate the press: Lower the piston (with the direction control valve / joystick) 4 in. and bring the piston back to its upper position. Then lower the piston 8 in. and bring it back to the upper position. Then lower the piston 12 in. and then back to the upper position. Then move the piston down again to 15 to 15-3/4 in. and bring it back up to the upper position.
- Turn off the hydraulic unit.
- Remove the filler plug again and check oil level.
- If needed, add more hydraulic oil to the tank.
- Replace the filler plug.

Press type	Oil tank capacity	Cylinder capacity	Total oil capacity
PressPro 66	8.5 gal.	2.3 gal.	10.8 gal.
PressPro 110	8.5 gal.	3.7 gal.	12.2 gal.
PressPro 110W	8.5 gal.	3.7 gal.	12.2 gal.
PressPro 176	8.5 gal.	6.5 gal.	15 gal.

Fig. 12 Oil capacity per press type



**Note: never run the press when its low on oil. This will damage the hydraulic unit and cause the press to malfunction.**

### 3.7 Electrical connection

- The machine must be connected to 220V 3ph or 440V 3ph power.
- The electric circuit must be protected by a fuse or circuit breaker with an adequate rating.
- The motor direction can be changed by swapping (2) of the incoming phases (SEE BELOW).



**NOTE: check if the turning direction of the motor is in the direction of the arrow, looking at the motor from above. THE WRONG DIRECTION CAN DAMAGE THE MACHINE IN A VERY SHORT TIME!!**





## 4 Functions of the press

The presses are equipped with a manually operated hydraulic unit.

This includes the direction control valve / joystick and hand pump.

### 4.1 Manual operated hydraulic unit

#### 4.1.1 On / Off switch

The on / off switch is situated at the front of the hydraulic tank.

- Pushing the green button will start the motor on the hydraulic unit. There will be no movement of any part after the motor starts running.
- Pushing the red button will stop the motor on the hydraulic unit immediately. All parts will stay in the position they are at that moment



Fig. 14 On / Off switch



**WARNING: NEVER turn off the machine when pressing force is being applied to the work piece. Unexpected force expansion when restarting, can damage the machine or injure the operator.**

#### 4.1.2 Emergency stop button

The emergency stop button is located on top of the on / off switch. Pushing the red emergency stop button in case of emergency will stop the electric motor on the hydraulic unit immediately. All other parts will stay in the same position they are at that moment.

To restart the hydraulic unit again:

- Make sure that the dangerous situation has been resolved.
- Reset the red emergency stop button by turning it counter clockwise, the button will pop-up again.
- Push the green button from the on / off switch again.



Fig. 15 Emergency stop button

### 4.1.3 Direction control valve

The direction control valve / joystick is located in the top cover of the hydraulic unit. The valve has 3 lever positions:

- Middle position: if the lever has not been operated, the valve will always return to this position. There is no movement of the press ram.
- Upper position: if the lever is positioned upwards, the press ram of the cylinder will move upwards. As long as the valve is operated, the press ram will move. When the lever is released, the press ram will stop and stay in this position.
- Lower position: if the lever is positioned downwards, the press ram of the cylinder will move downwards. As long as the valve is operated, the press ram will move. When the lever is released, the press ram will stop and stay in this position. If the press ram reaches its lowest position (end of the cylinder stroke) the pressure of the cylinder will automatically drop to almost zero, to prevent damages to the press ram head.



Fig. 16 Directional control valve

### 4.1.4 Pressure gauge

The pressure gauge is located in the head of the press. The gauge shows the pressure in psi & bars. For the different types of presses the maximum pressure is as follows:

PressPro 66:	3756psi (259 bar)
PressPro 110 & 110W:	3742psi (258 bar)
PressPro 176:	3698psi (255 bar)

If this maximum pressure is reached, the maximum capacity of the press is reached as well.

### 4.1.5 Pressure control valve

The pressure control valve is located in the top cover of the hydraulic unit. The amount of force can be raised or lowered with the pressure control valve. Turning the knob clockwise will raise the pressure and turning the knob counter clockwise will lower the pressure.



Fig. 17 Pressure regulator

Adjusting the pressure:

- Start the hydraulic unit.
- Raise the press ram so no force is applied.
- Turn the knob on the pressure control valve counter clockwise to lower the pressure.  
Do not remove the knob!!  
Note that it can be turned far enough to unscrew from the pressure control valve.
- Lower the press ram to the work piece and keep force applied with the joystick.
- Slowly turn the knob on the pressure control valve clockwise & carefully raise the pressure while watching the pressure gauge.

#### 4.1.6 Speed setting valve

The speed setting valve is located in the top cover of the hydraulic unit. Moving the lever forward will slow the press ram and moving it backward will speed up the press ram. When the press ram contacts the work piece it senses the pressure change and will automatically switch to low speed. This has no impact on the maximum capacity of the press.



Fig. 18 Speed setting valve

#### 4.1.7 Hand pump

The press is equipped with a hand pump, located on the front panel of the hydraulic unit. This pump can be used for manual pressing functions or when accurate force setting is necessary.

To use the hand pump:

- Turn off the hydraulic unit by pushing the red button of the on / off switch.
- Set the directional control valve (joystick) in the required position (up-or downwards).
- Start pumping the hand pump with its lever.



Fig. 19 Hand pump

## 4.2 Electrical operated hydraulic unit

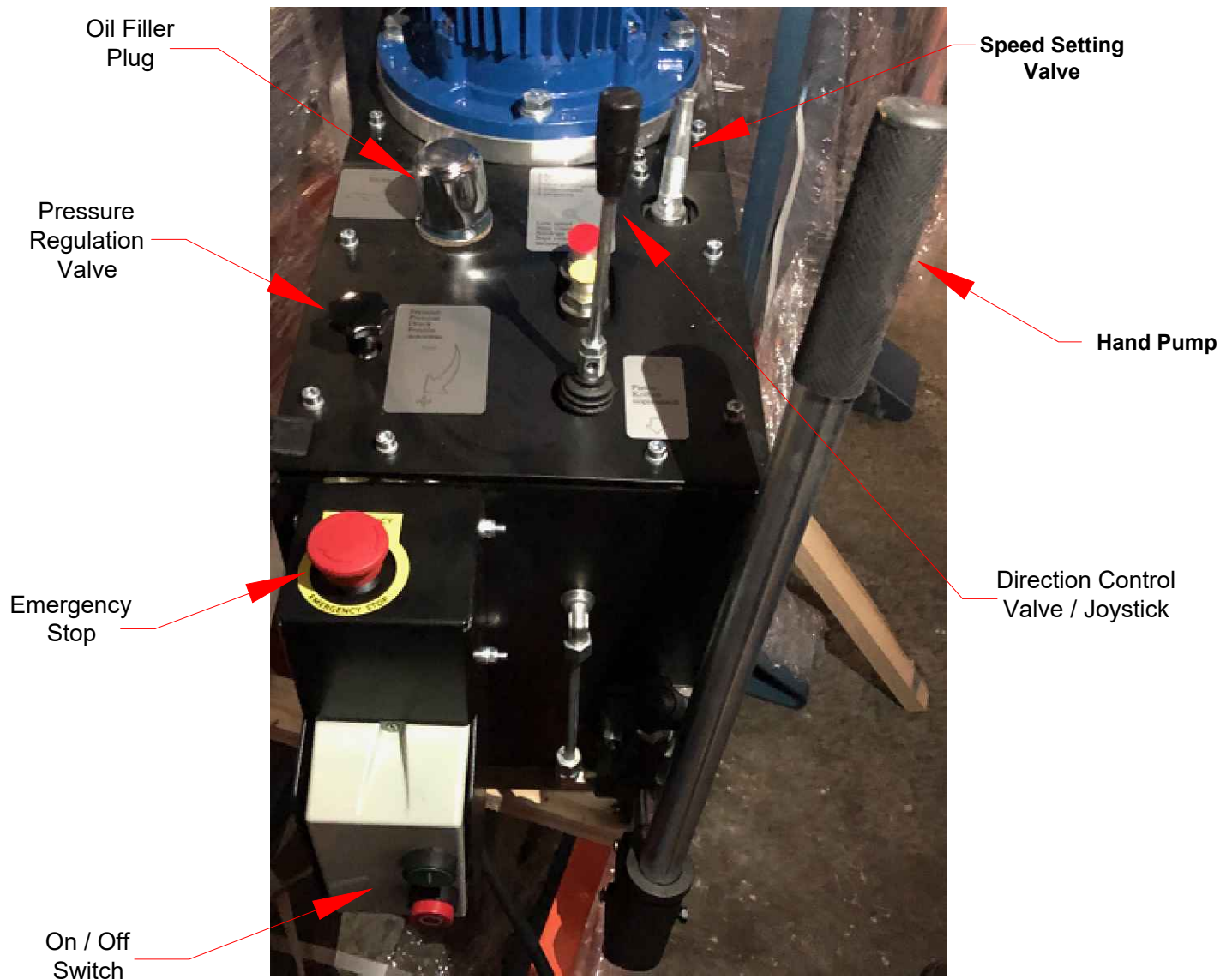


Fig. 20 Functions of an electrical operated hydraulic unit

### 4.2.1 On / Off switch

- Pushing the green button will start the motor of the hydraulic unit. There will be no movement of any part after the motor starts running.
- Pushing the red button will stop the motor of the hydraulic unit immediately. All parts will stay in the position they are at that moment.



**WARNING:** never turn off the machine when pressing force is being applied to the work piece. Unexpected force expansion when restarting, can damage the machine or injure the operator.

#### 4.2.2 Emergency stop

Pushing the red emergency stop button in case of emergency will stop the electric motor and the hydraulic unit immediately. All other parts will stay in the same position they are at that moment.

To restart the hydraulic unit again:

- Make sure that the dangerous situation has been resolved.
- Reset the red emergency stop button by turning it counter clockwise, the button will pop-up again.
- Push the green button located on the on / off switch again.

#### 4.2.3 Pressure gauge

The pressure gauge is located in the head of the press. The gauge shows the pressure in psi & bars. For the different types of presses the maximum pressure is as follows:

PressPro 66:	3756psi (259 bar)
PressPro 110 & 110W:	3742psi (258 bar)
PressPro 176:	3698psi (255 bar)

If this maximum pressure is reached, the maximum capacity of the press is reached as well.

#### 4.2.4 Pressure control valve

The amount of force can be raised or lowered with the pressure control valve. Turning the knob clockwise will raise the pressure and turning the knob counter clockwise will lower the pressure.

Note: Raise the press ram so no pressure is applied before lowering the pressure.

Adjusting the pressure:

- Start the hydraulic unit.
- Raise the press ram so no force is applied.
- Turn the knob on the pressure control valve counter clockwise to lower the pressure.  
Do not remove the knob!!  
Note that it can be turned far enough to unscrew from the pressure control valve.
- Lower the press ram to the work piece and keep force applied with the joystick.
- Slowly turn the knob on the pressure control valve clockwise & carefully raise the pressure while watching the pressure gauge.

#### 4.2.5 Speed setting valve

The speed setting valve is located in the top cover of the hydraulic unit. Moving the lever forward will slow the press ram and moving it backward will speed up the press ram. When the press ram contacts the work piece it senses the pressure change and will automatically switch to low speed. This has no impact on the maximum capacity of the press.

The speed can be changed at any time and will change as the lever is moved.

## 5 Getting started

To start the press for the first time, make sure:

- The press is installed correctly (see former paragraphs).
- The oil tank is filled with a sufficient amount of oil.
- The hydraulic hoses are tightened correctly to the cylinder and to the hydraulic unit.
- The machine is connected to the correct voltage & grounded per local code.

### 5.1 De-aerating the press

When starting up for the first time or when the hydraulic hoses have been disconnected from the hydraulic unit or cylinder, the system need to be de-aerated. To do this:

- Start with the piston in the upper position (as delivered condition).
- Make sure there is no work piece on the table.
- Start the hydraulic unit.
- Move the piston to the down position by activating the directional control valve.
- Move the piston back to the up position by activating the direction control valve.
- Repeat this complete cycle at least 6 times to ensure that all the air is out of the system.



**Note: incorrect de-aerating can cause unexpected movements of the piston and cause the press to malfunction.**

### 5.2 De-aerating the hand pump

When starting up for the first time or when maintenance of the hydraulic unit is performed, the hand pump needs to be de-aerated. To do this:

- Start with the piston in the upper position.
- Make sure there is no work piece on the table.
- Turn off the hydraulic unit by pushing the red button at the on / off switch.
- Set the directional control valve in the downwards position.
- Start pumping the hand pump with its lever until the piston reaches the lower position.
- Set the directional control valve in the upwards position.
- Start pumping the hand pump with its lever until the piston reaches the upper position.
- Repeat this complete cycle at least 3 times to be sure all air is out of the hand pump.



**Note: incorrect de-aerating can cause unexpected movements of the piston and cause the press to malfunction.**

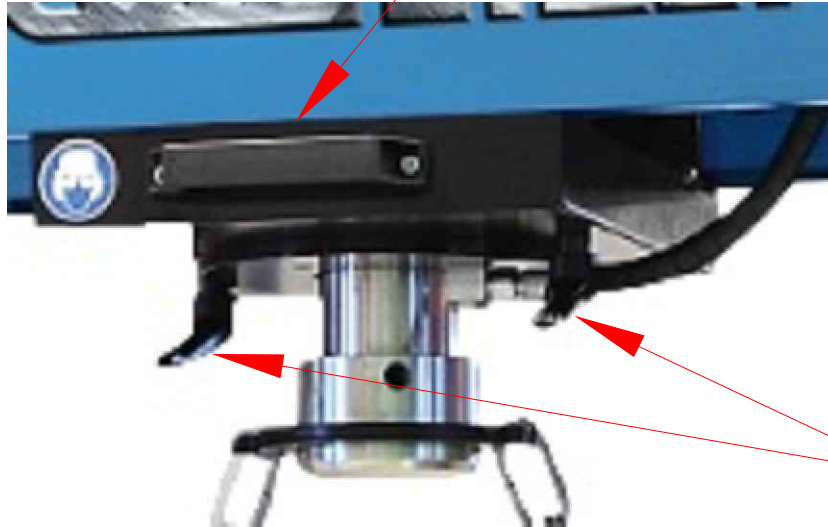
### 5.3 Positioning of cylinder

All presses are equipped with a movable cylinder which makes it possible to correctly aligned press ram with the work piece. To move the cylinder side to side:

- Turn both levers two turns counter clockwise to loosen. Do not completely remove the levers!!
- Move the complete cylinder to the left or right by means of the bow grip (handle).
- Tighten the levers again when the cylinder is in the right position. Manual tightening is enough. Do not use a wrench - Do not over-tighten the levers.
- When your work with the press is finished, move the cylinder back in its center position.



## Bow Grip (Handle)



**Levers**

Fig. 21 Moving the cylinder



**Tip:** working with the cylinder in the far left or far right position, will shorten the durability of the press. Working in the center of the press is preferable.

### 5.4 Positioning the table



**WARNING:** NEVER try to lift the table with a work piece laying on the table. The work piece can fall off the table and can damage the machine or seriously injure the operator.

**NOTE:** Keep cylinder/piston centered in the press when moving the table.

Lifting the table can be done by the hydraulic cylinder. There is a lifting chain provided with the press.

To move the table up or down:

- Place the lift chain bridge fully in the groove in the piston head, as shown in figure 22.
- Move the piston either up or down as needed in order to attach the lifting chains.
- There is a hook on the left and right side of the press. They are attached to the steel shafts used in the table as shown in figure 23. These shafts have a shallow groove machined in the center where the hooks are to be located when lifting the table.
- Make sure the lifting chain has an equal number of chain links on both sides.



Fig. 22 Lifting chain bridge around piston head



Fig. 23 Lifting chain on table hook

- Make sure the lifting hooks are positioned in the grooves in the middle of the shaft. They are easy to move by hand.
- Move the piston of the cylinder upwards in the "low speed" position of the speed setting valve. The table will be lifted up from the blocking pins.
- Take out both blocking pins and place them back in a lower or higher positioned hole, depending on where you want to place the table. The table always needs to be higher than the hole you want to place the blocking pin. It may be necessary to reach the desired table position with more than one step.
- When the ring on the blocking pin is up against the frame, it is placed correctly. Only then is it safe to lower the table on to the pins as shown in figure 24.
- Lower the table again until it rests on both the blocking pins and rings.
- Remove the lifting chain from the press.

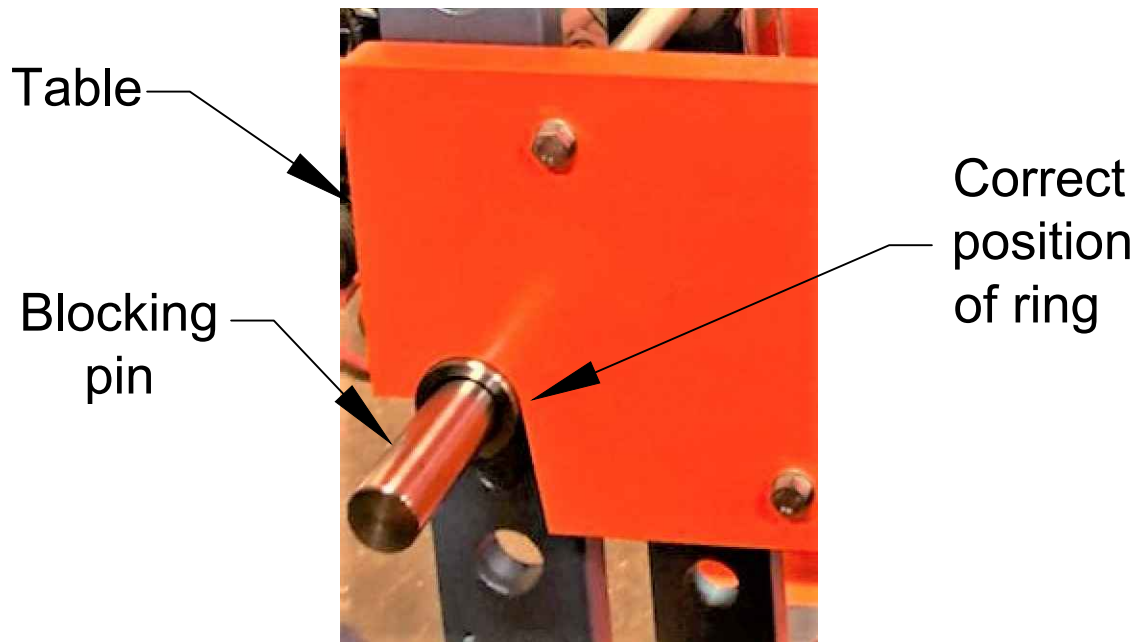


Fig. 24 Blocking pins



**Note: make sure the blocking pins are positioned correctly. The ring on the pin MUST be against frame before lowering table on to the pins. If not inserted fully it may result in an angular, forward movement of the table. The machine can be damaged or the operator can get injured.**

## 5.5 Regular use

Place the work piece on the table in alignment with the punch ram. If this is not possible, reposition the cylinder to achieve the best alignment.

Use extreme caution when performing a press operation on parts that can possibly fly off, break (especially cast parts and hardened parts) or bounce up as a result of the applied force. In this case, a proper guard must be installed around the work piece or the operator should stand at a safe distance. After correct placement of the work piece, pressing force can be applied as described in the previous chapters.



**WARNING:** always wear safety shoes, safety glasses, ear protection and avoid loose fitting clothing to prevent injuries.



**Note:** upward movement of the piston is only allowed for adjustment of the table, or returning the piston to its start position. Any other use of the return stroke (e.g. stretching) can result in broken parts and a malfunction of the press.

When pressing operations are finished:

- Return the piston back to its upper position.
- Position the cylinder back to the center of the machine.
- Turn off the hydraulic unit.
- Clean the machine and working area.

## 5.6 Working period

The machine is not designed for continuous operation.

- Press can be used at its maximum tonnage rating for a total of two (2) cycles per minute, for a maximum of 10 minutes - Then it should be allowed to cool down.



**WARNING:** when you do not take the maximum working period into account, it can result in overheating the hydraulic oil and overheating the hydraulic unit. The machine can be damaged and the operator may suffer burns.

## 6 Servicing and maintenance



**Note:** replacing parts, electrical, mechanical or hydraulic, must be done by qualified personnel. Scotchman Ind. can not be held responsible for damages or injuries as result of inappropriate servicing.

Daily	Weekly	Half-yearly	Yearly
Remove dust and dirt from the table and around the press.	Check oil level of the hydraulic unit.	Inspect all hydraulic fittings and hoses and tighten any loose connections.	Replace the hydraulic oil of the unit. See instruction below.
Check the press for visible damages.	Check electrical connections.	Inspect and tighten all loose fixing bolts.	
	Check lifting chains.		

- In case of any leaks, damaged parts or bare electric cables; STOP using the machine. Resume use of the machine only after it has been repaired.
- Always use original spare parts.



**Note:** when performing maintenance, always follow OSHA Lockout-Tagout Procedures. Make sure power is OFF and there is no hydraulic pressure in the system. Both can result in injuries to the maintenance operator.

### 6.1 Oil tank draining

Change the hydraulic oil at least once a year. The drain plug is located at the bottom of the oil tank. Check if the drained oil has a gray color or if there are metal particles visible in the oil. This can indicate worn out parts in the cylinder or the hydraulic unit. If the inside of the tank is not clean, remove the top cover from the tank and clean the inside of the tank. You must make sure no dirt or water gets inside the oil tank as the hydraulic system is sensitive to contamination and can be damaged. See 3.6 on page 13 for information on how to fill the system with oil.

### 6.2 Contact your supplier

If there are any questions, please contact SCOTCHMAN IND. Phone: 1-800-843-8844 . Always mention the serial number on the machine label. This label is located at the frame of the press (right side). When you have questions about the hydraulic unit, also mention its serial number. The label is located on the back of the hydraulic tank.



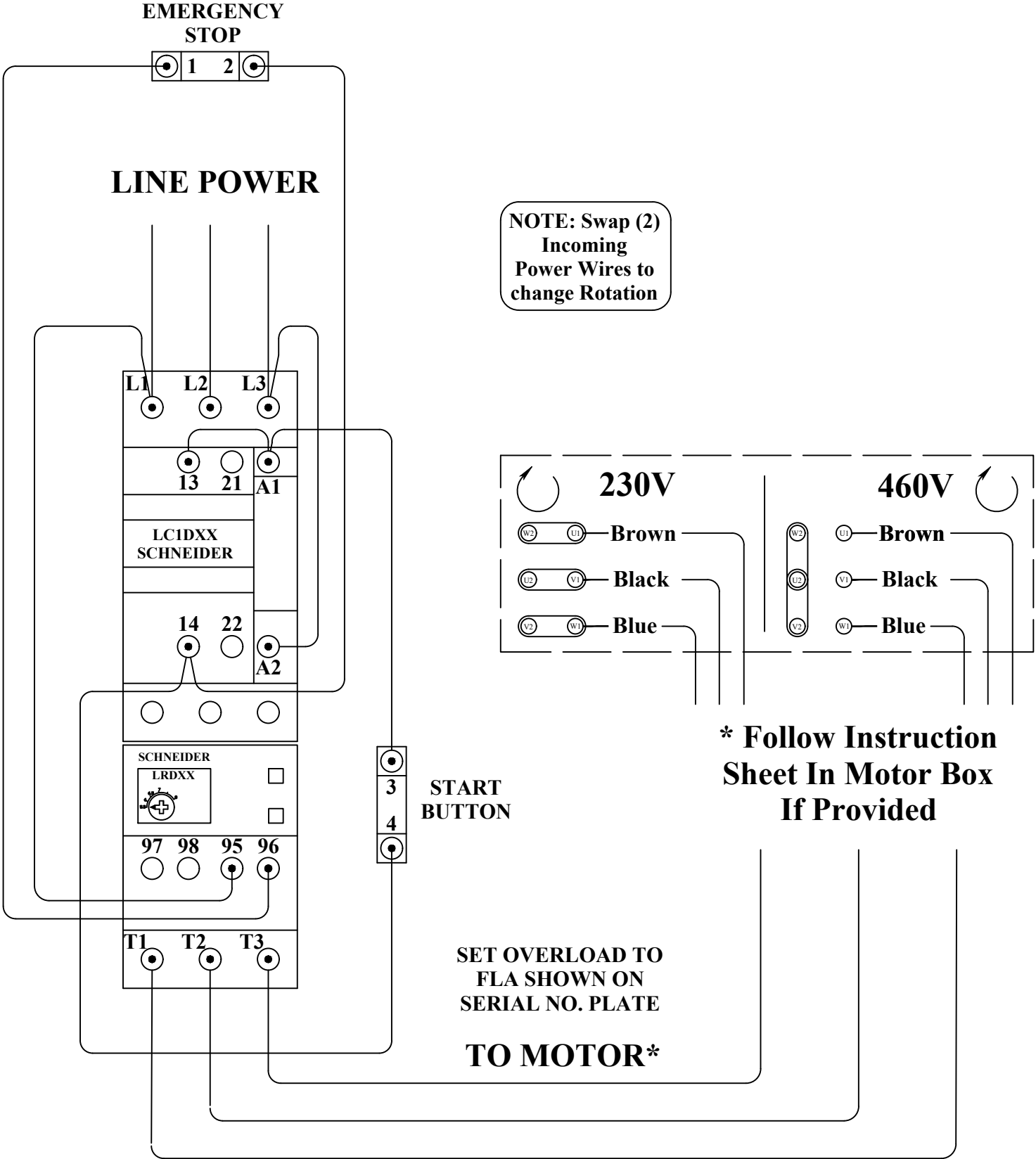
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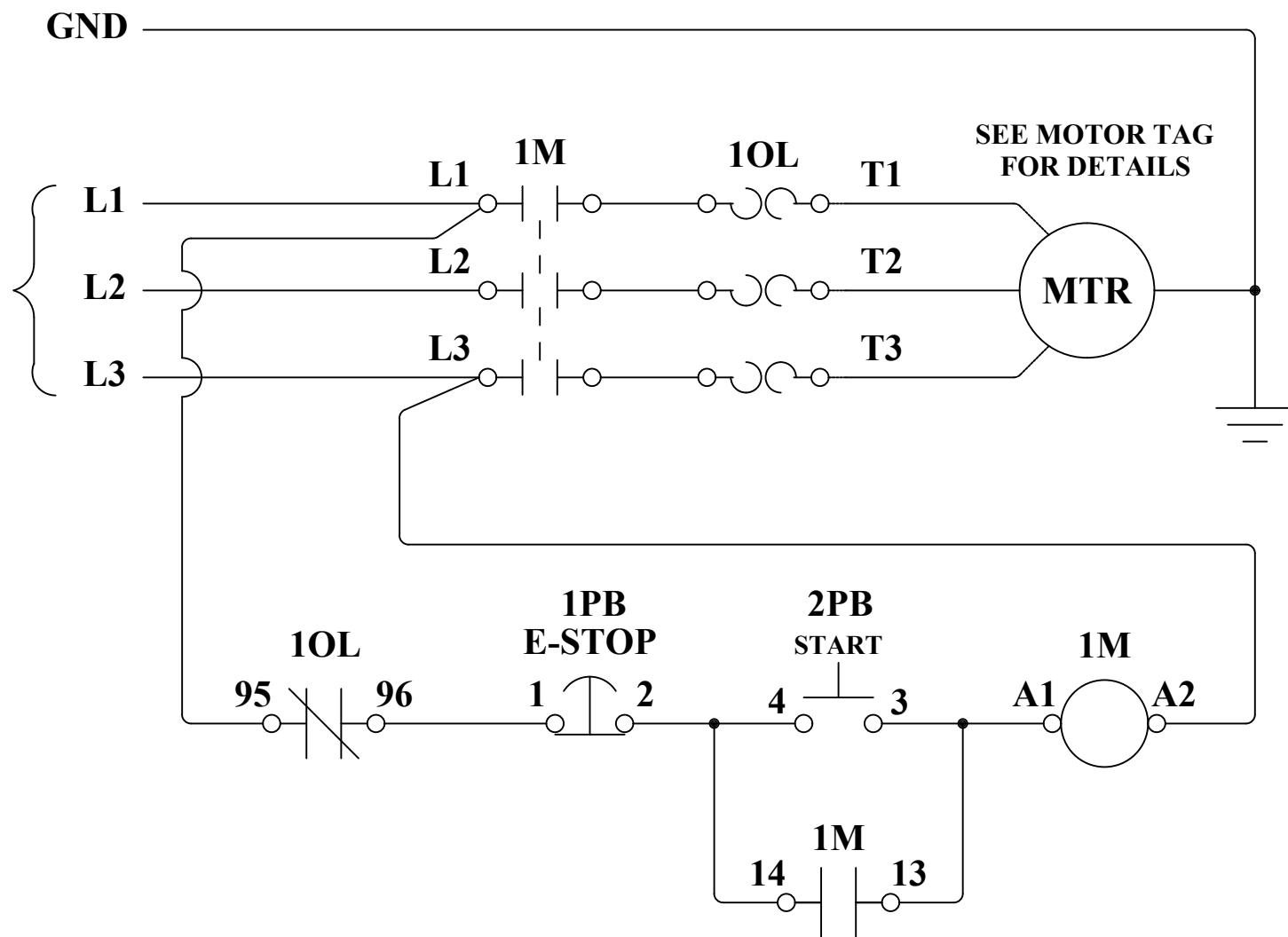
HYDRAULIC TANK

Fig. 25 Type labels

**Appendix I**  
**Electrical schematic (all presses)**

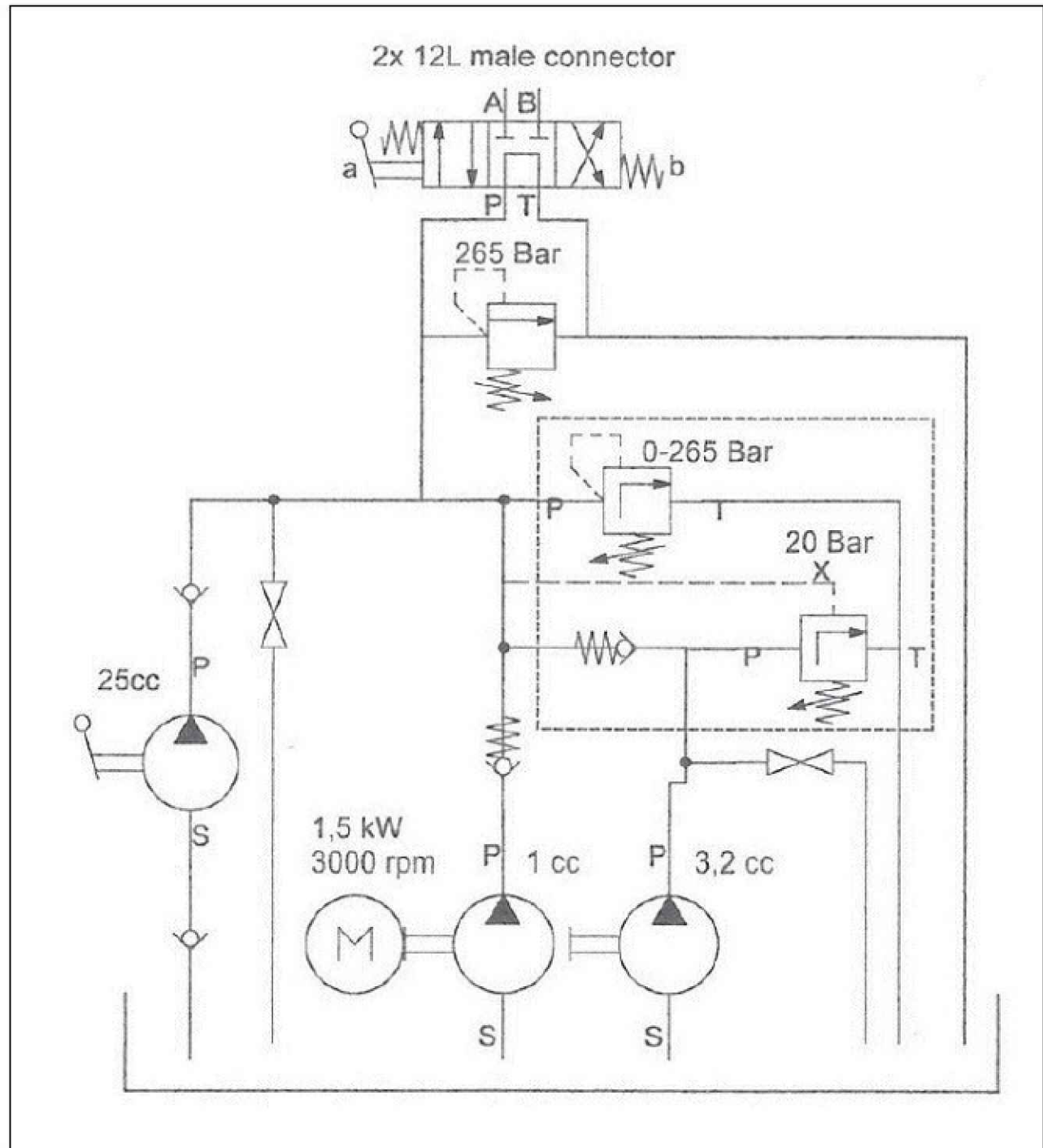


**INCOMING SUPPLY  
(BY CUSTOMER)  
PROVIDE MAXIMUM  
UPSTREAM  
PROTECTION PER N.E.C.  
CODE 430-52 AND TABLE  
430-152.**

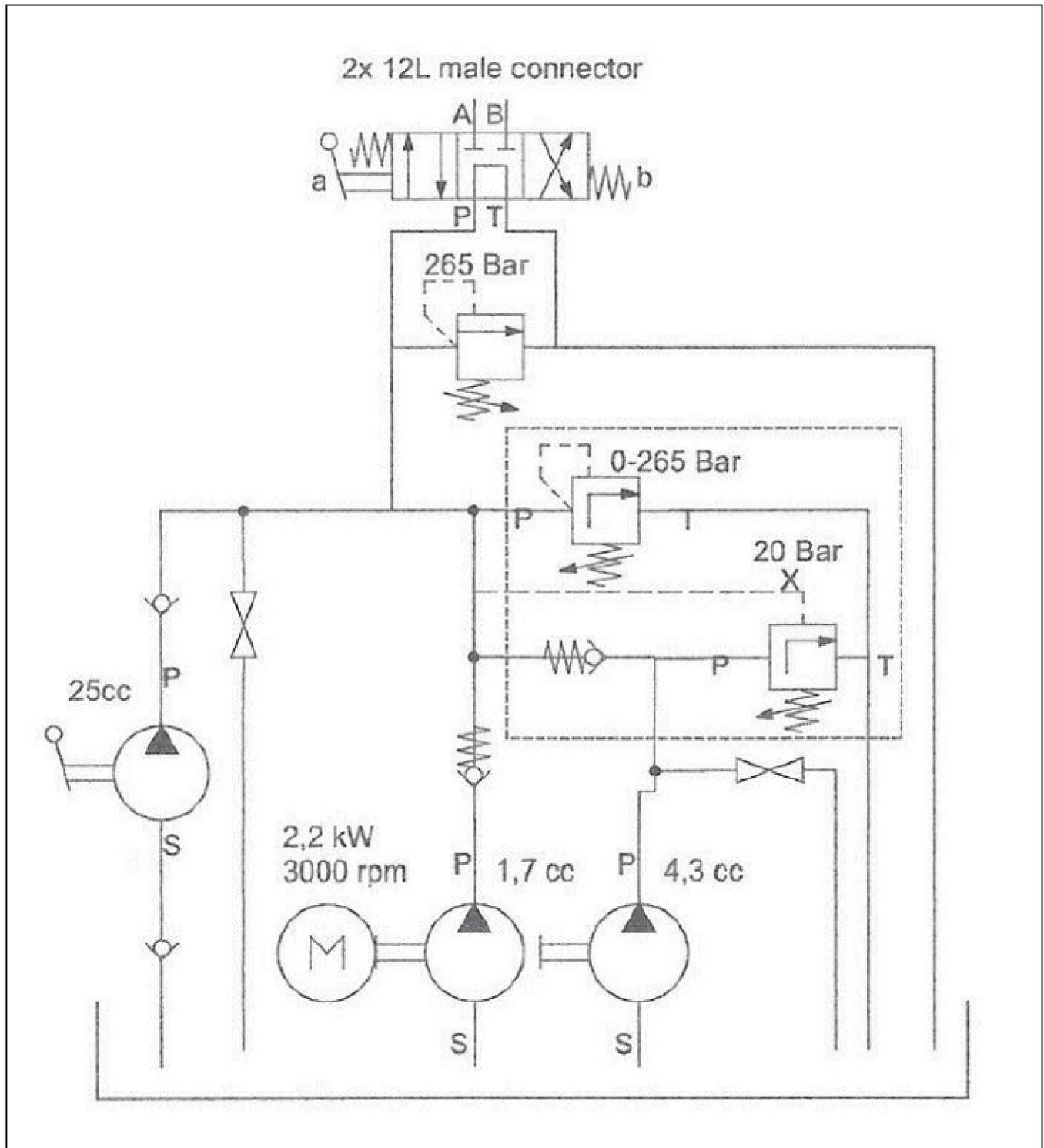




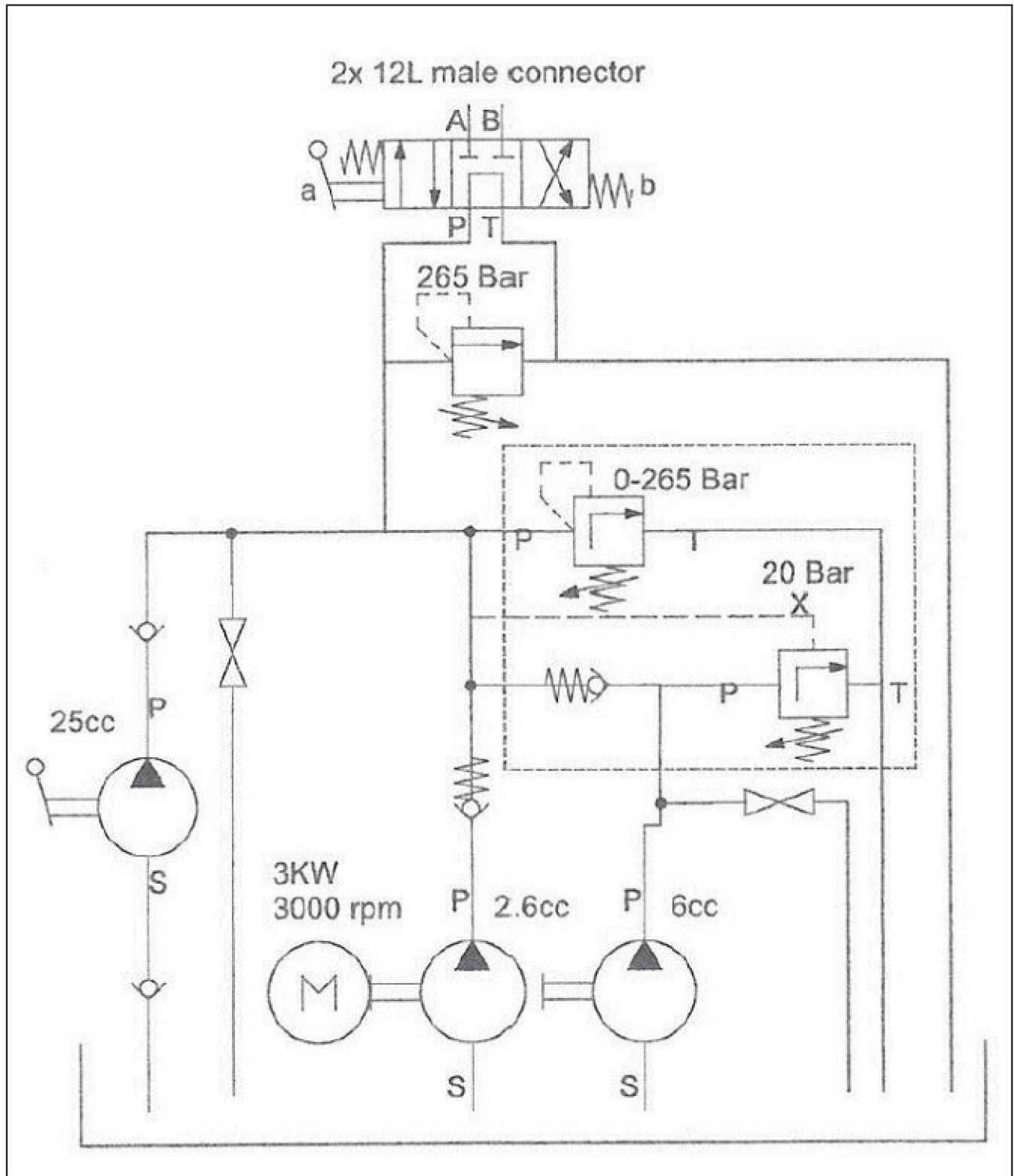
# PRESSPRO 66



# PRESSPRO 110 & 110W

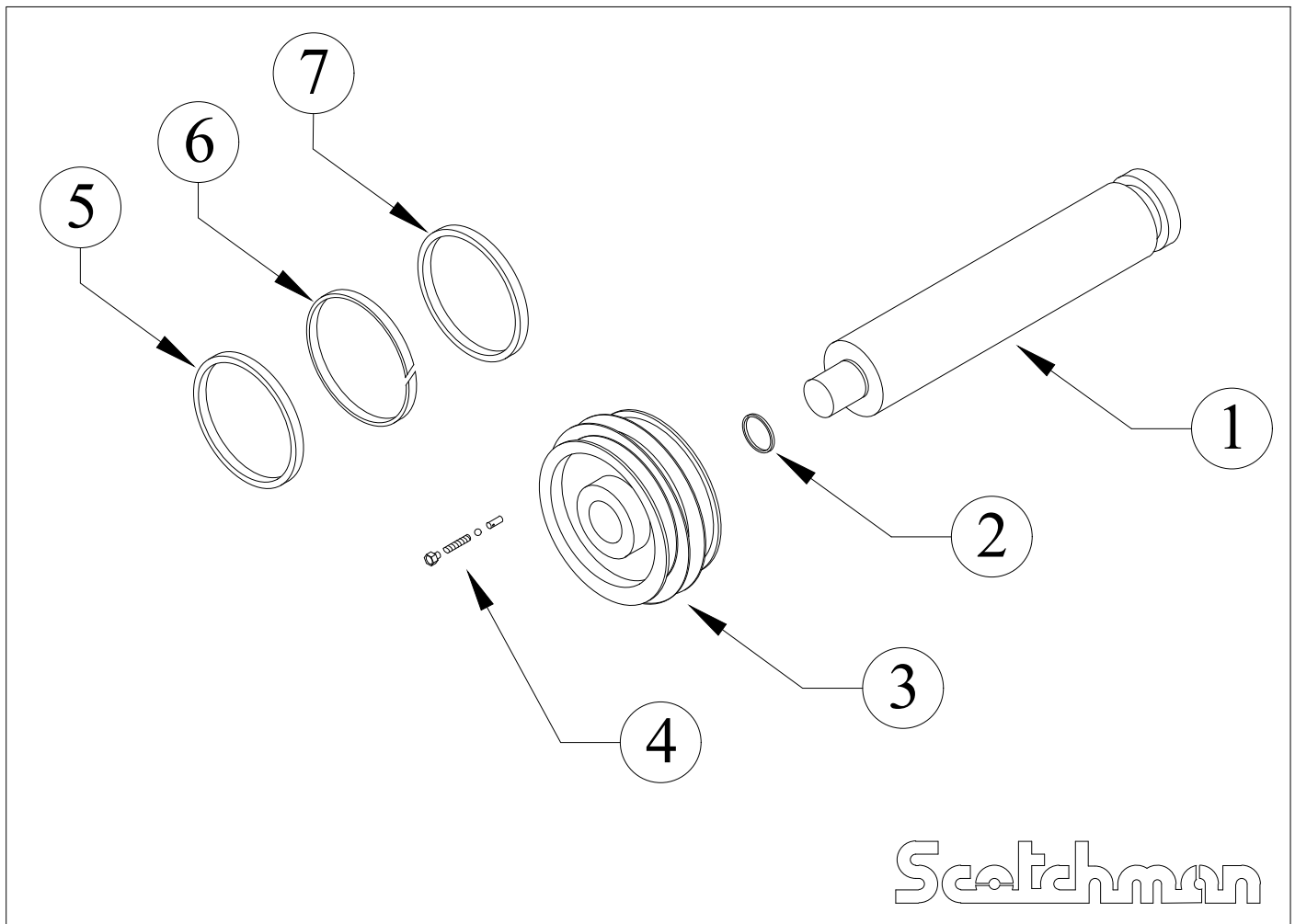


# PRESSPRO 176



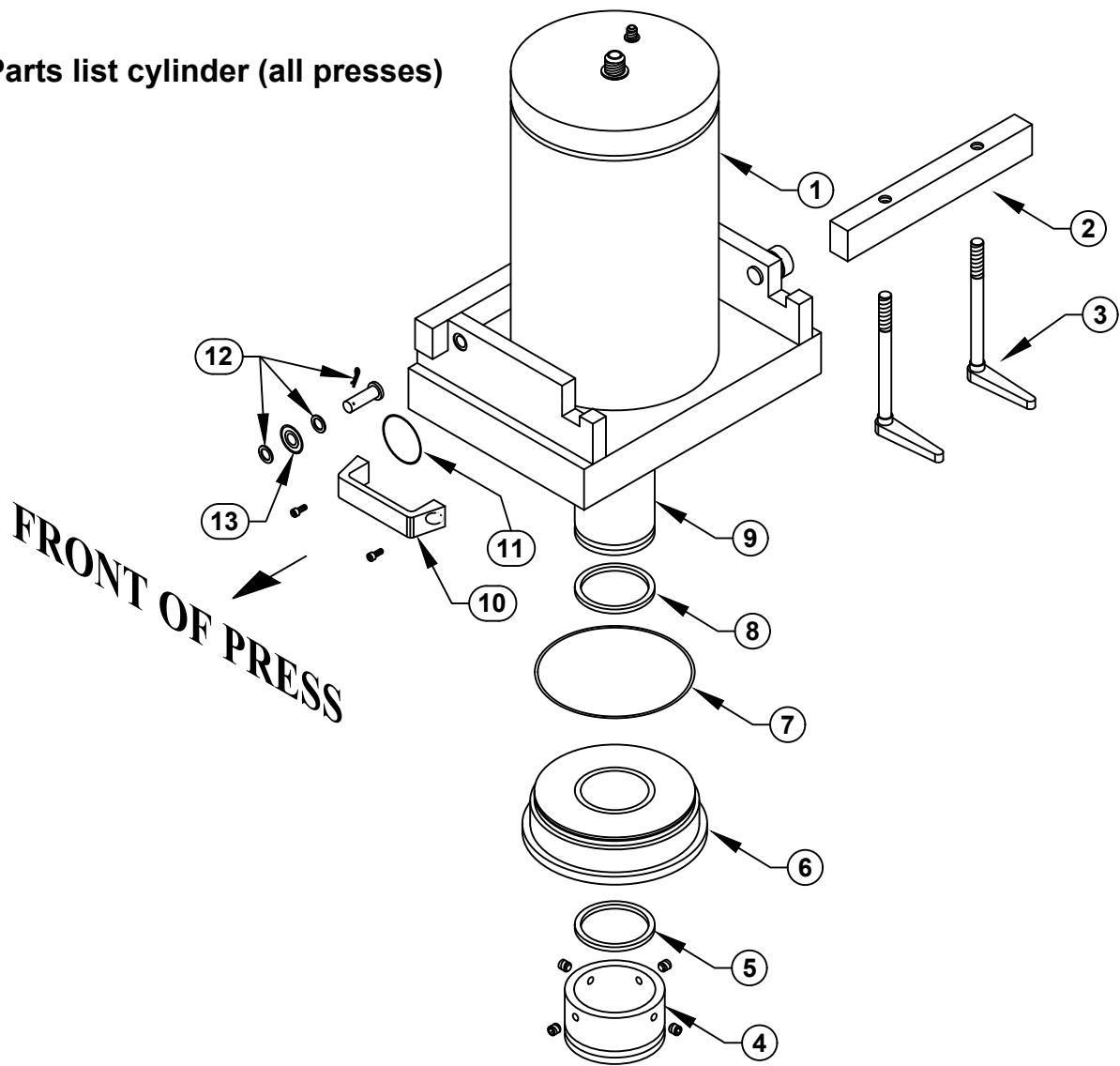
## Appendix III Spare parts

### Parts list piston (all presses)



Pos	Description	Qty	PressPro 66	Qty	PressPro 110 & 110W	Qty	PressPro 176
1	Piston shaft	1	060-506	1	100-506	1	160-506
2	O-ring	1	46.2x3 NBR 90	1	62.2x3 NBR 90	1	96x3 NBR 90
3	Piston	1	060-505	1	100-505	1	160-505
4	Valve set	1		1		1	
	valve tip	1	30-200-515	1	30-200-515	1	30-200-515
	valve housing	1	30-200-516	1	30-200-516	1	30-200-516
	spring	1	30-200-D1970	1	30-200-D1970	1	30-200-D1970
	bullet	1	30-200-Ø12	1	30-200-Ø12	1	30-200-Ø12
5	U-manchet	1	170-155-10	1	200-220-15	1	250-280-19
6	Ring	1	170-164-19.2	1	220-214-19.2	1	280-274-19.2
7	U-manchet	1	170-160-5	1	208-220-9	1	265-280-12

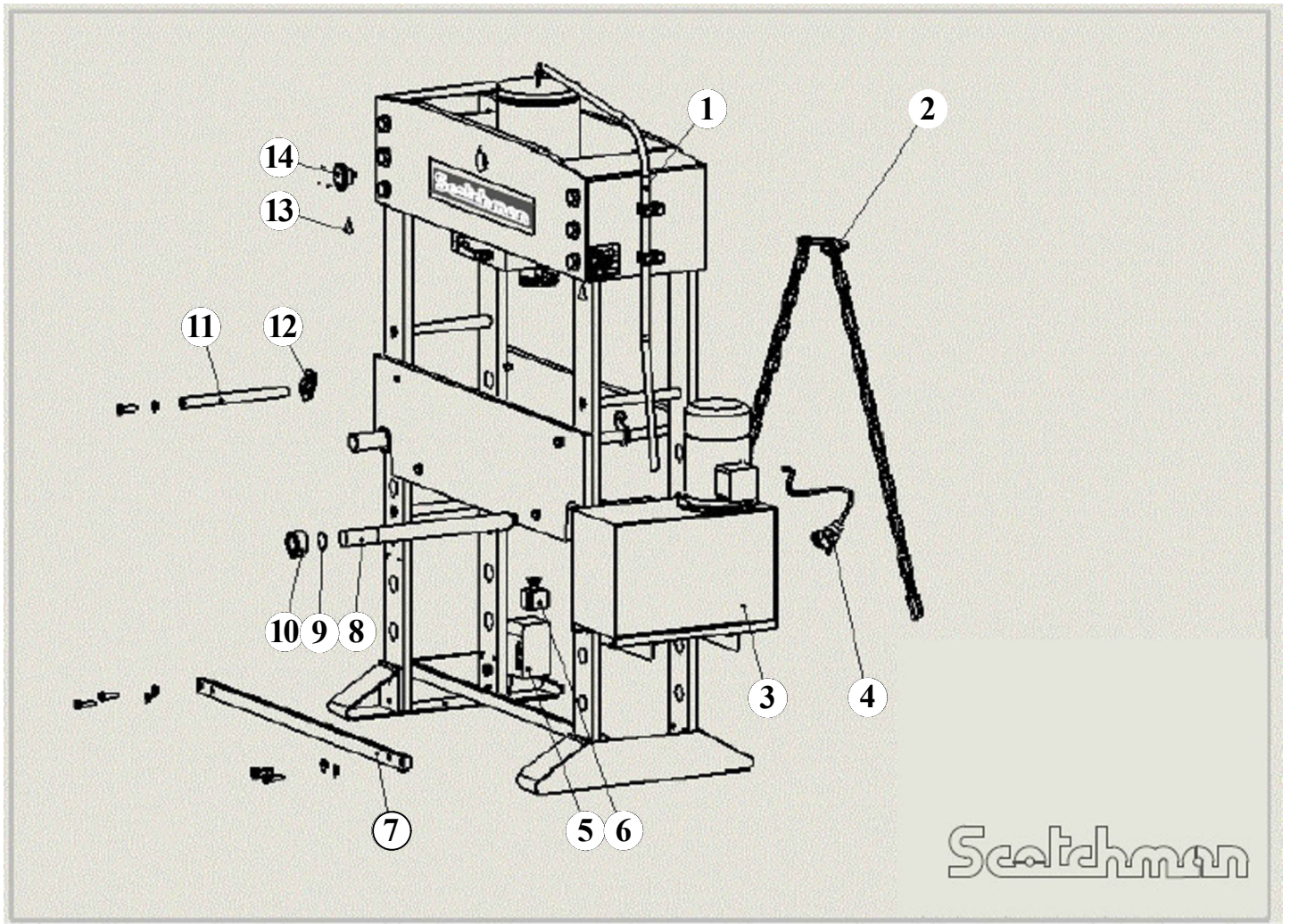
## Parts list cylinder (all presses)



Pos	Description	Qty	PressPro 66	Qty	PressPro 110 & 110W	Qty	PressPro 176
1	Complete cylinder assy	1	060-500	1	100-500	1	160-500
2	Cylinder mounting strip	2	060-601	2	100-601	2	160-601
3	Handle assy	2	60-100-520	2	60-100-520	2	160-200-520
4	Piston head assy	1		1		1	
	Piston head	1	060-507	1	100-507		160-507
	Screw	4	30-200-M16x20	4	30-200-M16x20		30-200-M16x20
5	Wiper	1	75-83.6-5.3		90-102.2-7.1		125-140.2-10.1
6	Cylinder head	1	060-504	1	100-504	1	160-504
7	O-ring	1	160x5 NBR 70	1	210x5 NBR 70	1	260x5 NBR 70
8	U-seal	1	75-85-7	1	90-105-9	1	125-140-12.5
9	Complete piston assy	1	060-508	1	100-508	1	160-508
10	Bow grip assy	1		1		1	
	Bow grip	1	60-200-06904- 1160081	1	60-200-06904- 1160081		60-200-06904- 1160081
	Screw	2	60-200-M8x22	2	60-200-M8x22		60-200-M8x22
11	Label eye protection	1	30-200-227535	1	30-200-227535	1	30-200-227535
12	Roller shaft assy	4		4		4	
	Shaft	1	60-200-514	1	60-200-514		60-200-514
	1/8 X 2 Hairpin Cotter Pin	1	123011	1	123011		123011
	Ring	2	30-200-A17	2	30-200-A17		30-200-A17
13	Roller	4	60-200-6303	4	60-200-6303	4	60-200-6303



## Parts list press (all presses)



Pos	Description	Qty	PressPro 66	Qty	PressPro 110 & 110W	Qty	PressPro 176
1	Hydraulic hose set	1	30-60-627	1	100-160-1500-627	1	100-160-627
2	Lifting chain assy	1	PLS004074	1	PLS004075 PLS004076	1	PLS004077
3	Complete hydraulic unit	1	30-6-1.5kW	1	100-2.2kW	1	160-200-3kW
4	Electric cable assy	1		1		1	
	Cable	1	30-200-5x1.5mm2 H07	1	30-200-5x1.5mm2 H07	1	30-200-5x1.5mm2 H07
	Plug	1	30-200-CEE 16A 5p	1	30-200-CEE 16A 5p	1	30-200-CEE 16A 5p
5	On-off switch	1	30-200-Elmark	1	30-200-Elmark	1	30-200-Elmark
6	Emergency switch	1	30-200-EL1-B174	1	30-200-EL1-B174	1	30-200-EL1-B174
7	Frame strip assy	2		2		2	
	Strip	1	30-60-201	1	100-1500-201	1	160-201
	Screw	2	30-60-M16x40	2	100-200-M16x50	2	100-200-M16x50
	Ring	2	30-200-A17	2	30-200-A17	2	30-200-A17
8	Shaft	2	30-60-304	2	100-304	2	160-304
9	Clip ring	2	30-60-Ø40x2.5	2	100-160-50x2.5	2	100-160-50x2.5
10	Ring	2	30-60-305	2	100-160-305	2	100-160-305
11	Table axle assy	4		4		4	
	Axle	1	30-60-303	1	100-303	1	160-303
	Screw	2	30-60-M16x30	2	100-200-M16x50	2	100-200-M16x50
		2	30-200-A17	2	30-200-A17	2	30-200-A17
12	Lifting hook	2	30-60-602	2	100-160-602	2	100-160-602
13	Warning label	2	30-200-227276	2	30-200-227276	2	30-200-227276
14	Pressure gauge assy	1		1		1	
	Gauge	1	30-200-213.53-63	1	30-200-213.53-63	1	30-200-213.53-63
	Screw	3	30-200-M3x8	3	30-200-M3x8	3	30-200-M3x8

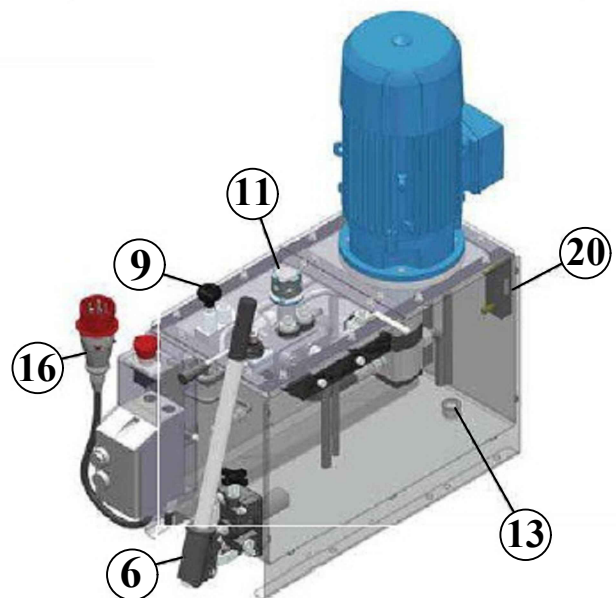
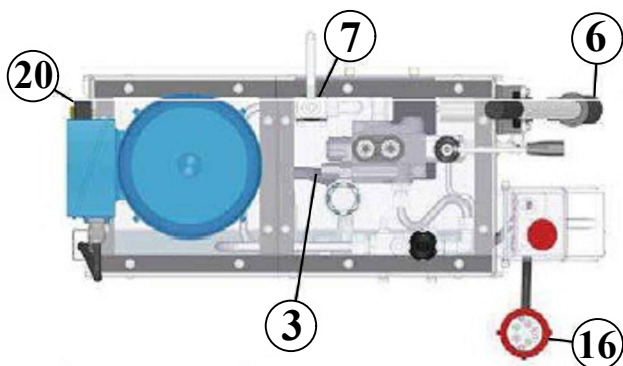
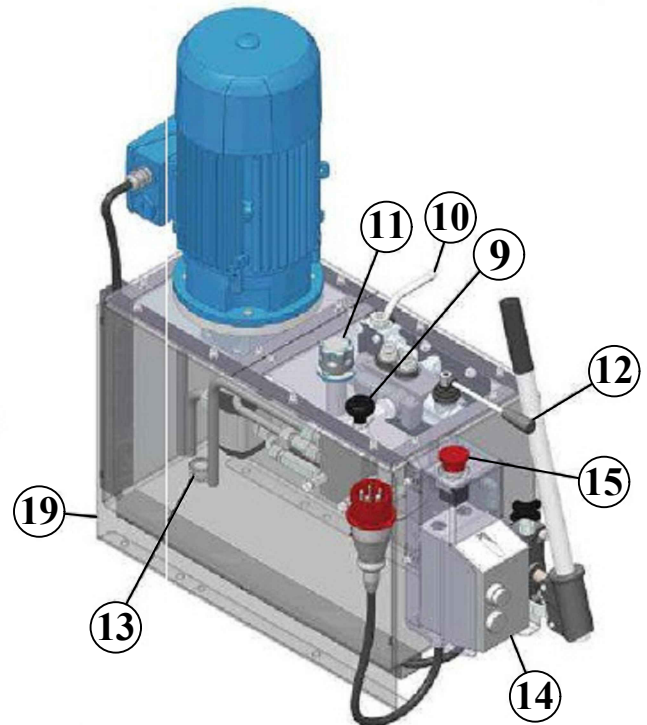
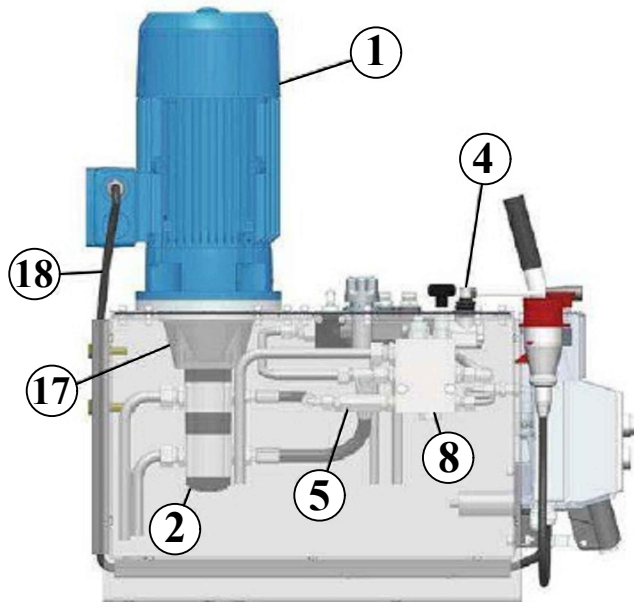
# Scotchman

Metal Fabricating Solutions

[www.scotchman.com](http://www.scotchman.com)



## Parts list hydraulic unit (all presses)





<b>Pos</b>	<b>Description</b>	<b>Qty</b>
1	Electric motor	1
2	Tandem pump	1
3	Pressure relief	1
4	Directional control valve	1
5	Check valve	1
6	Hand pump	1
7	Speed setting valve	1
8	Pressure regulator (VABP)	1
9	Knob pressure regulator	1
10	Handle speed setting valve	1
11	Filling plug	1
12	Handle control valve	1
13	Drain plug	1
14	On- / Off switch	1
15	Emergency button	1
16	Cable / Plug	1
17	Bell housing	1
18	Pipes + couplings package	1
19	Tank	1
20	Sight glass	1