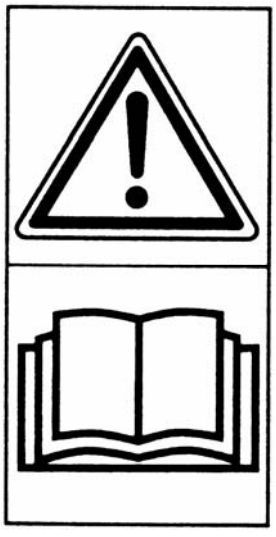
OMCN S.p.A.

ENGLISH

RAPID MOTOR
HYDRAULIC PRESSES

CE

Item 154/MR
Item 156/MR
Item P30/MR
Item 161/R
Item 162/R
Item 163/R
Item 164/R



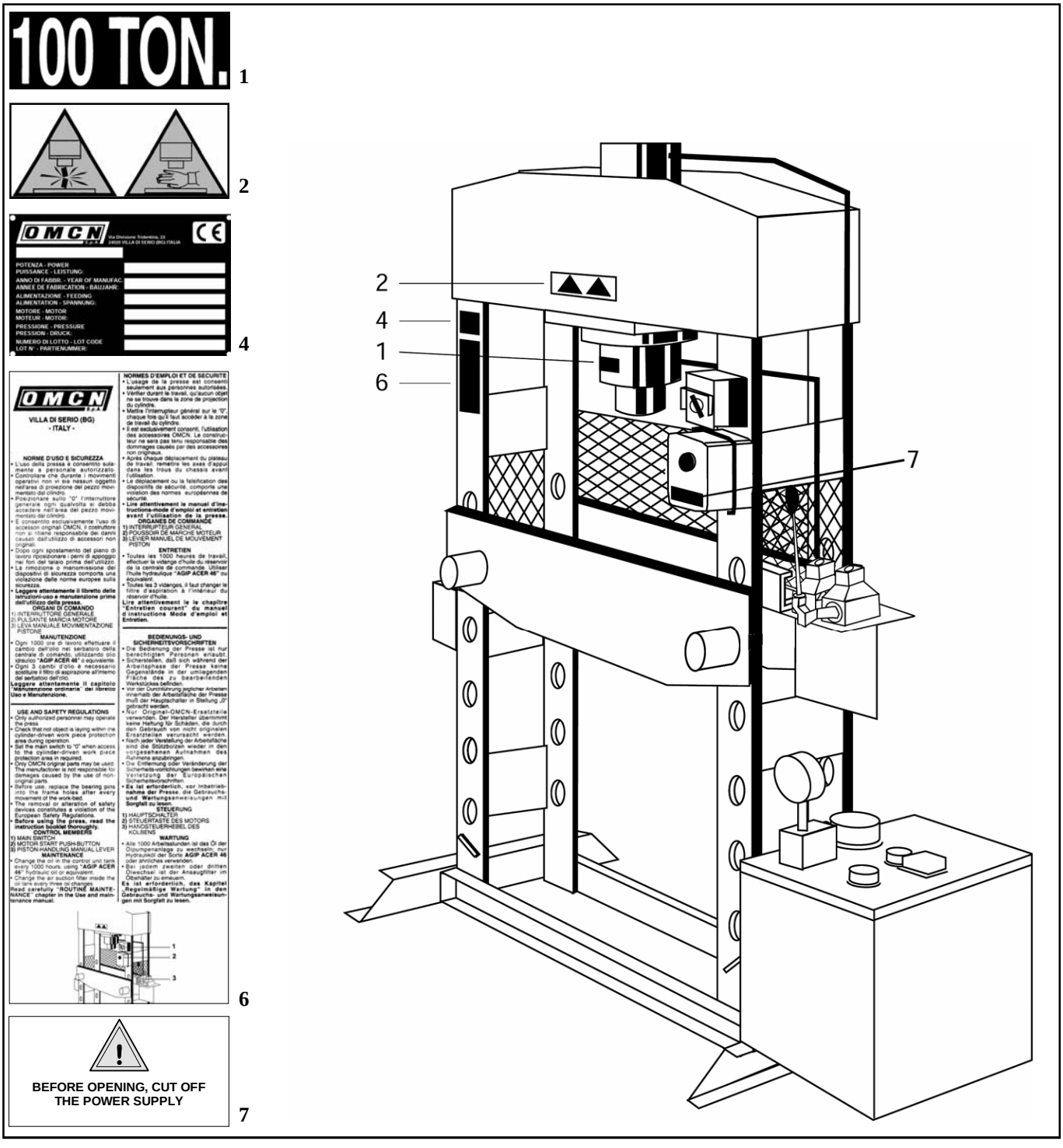
INSTRUCTIONS FOR USE,
MAINTENANCE AND SPARE PARTS

Before use, place the adhesive labels enclosed with this handbook on the press, as shown in the diagram below.

WARNING

FAILURE IN PLACING THE LABELS WILL LEAD TO THE EXPIRATION OF THE GUARANTEE CONDITIONS AND RELIEVES THE MANUFACTURER OF ANY RESPONSIBILITY FOR DAMAGE RESULTING FROM USE OF THE PRESS.

N.B.: If one or more machine labels are damaged, lost or illegible, ask for a replacement by mentioning the relative position number.
Place the new label in the point shown in the figure below.



Pay attention to the following **hazard** signals when reading the manual:

DANGER

WARNING

CAUTION

This signal indicates the presence of more or less **hazardous** conditions or situations.
The **HAZARD** signals are divided into three levels.

DANGER

Non respect of this signal causes serious risks for health: death, permanent damages at middle and long term.

WARNING

Non respect of this signal causes serious risks for health: death, permanent damages at middle and long term.

CAUTION

Lack of compliance with this signal can cause personal injuries or damage to the machine.

TERMINOLOGY AND DEFINITIONS (Annex I, directive 98/37/CE)

- **"Operator":** the person (s) responsible for installing, starting up, adjusting, servicing, cleaning, repairing and transporting the machine.
- **"Person at risk":** anyone found entirely or partly in a hazardous area.
- **"Area at risk or hazardous":** any area inside and/or near the machine where the presence of a person at risk endangers his/her safety and health.
- **"Specialized technician":** person assigned by the manufacturer to carry out special maintenance operations requiring training and specific skills in mechanics, electrical engineering, electronics, oil hydraulics and pneumatics.
- The specialized technician is acquainted with all the possible hazards on the machine and the necessary procedures in order to avoid injury to himself or others during these maintenance operations.
- **"User":** anyone who purchases or uses the machine (e.g. for renting, leasing or under loan) in accordance with the manufacturer's instructions.

User manual

TABLE OF CONTENTS:

1.0 INTRODUCTION

This handbook contains all the necessary information for safely using, cleaning, lubricating and servicing oil hydraulic presses for maintenance, manufactured by OMCN S.p.A., via Divisione Tridentina, 23 24020 Villa di Serio (Bergamo) ITALY

Carefully read the warnings and instructions found in this handbook as they provide important information on **SAFE USE and MAINTENANCE**.

This manual is an integral part of the product, so keep it in a safe place for the entire product life.
If this handbook is lost or damaged, ask for another copy from:

OMCN S.p.A., via Divisione Tridentina, 23 24020 Villa di Serio (Bergamo) Italy

WARNING

OMCN S.p.A. CANNOT BE HELD LIABLE FOR ANY DIRECT OR INDIRECT DAMAGE OR INJURY TO PERSONS, ANIMALS OR THINGS CAUSED BY THE FAILURE TO OBSERVE THE INSTRUCTIONS CONTAINED IN THIS HANDBOOK.

2.0 SPECIFIC USE

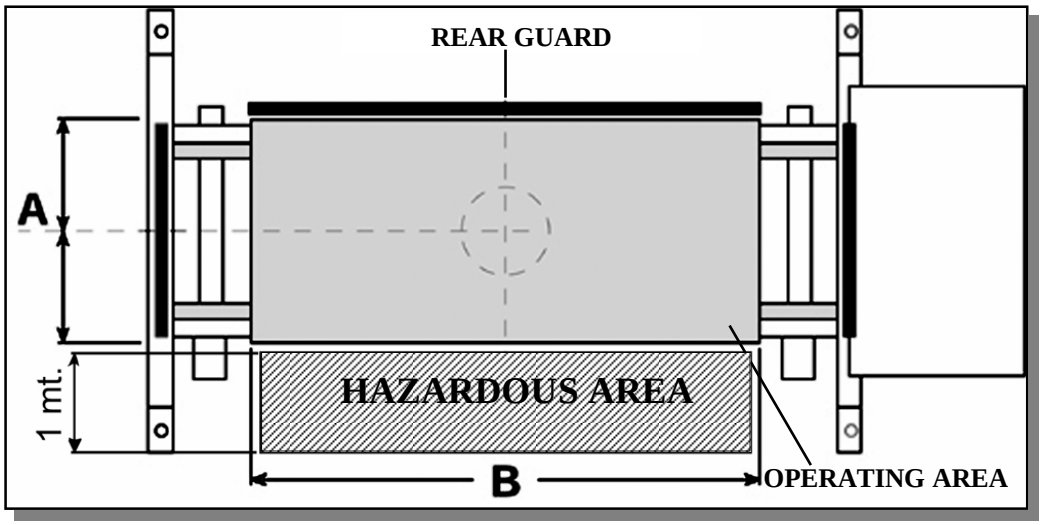
The press is designed to be used exclusively for maintenance and can therefore be used for servicing and/or making adjustments.
The press is not designed to carry out cyclic processing or quantity production and therefore should not be used for bending, drawing or cold forging metals.

WARNING

Uses not explicitly indicated in this handbook are considered improper and therefore strictly forbidden.
The manufacturer cannot be held liable for direct or indirect damage or injury to persons, animals or things caused by correct or incorrect use of the press.

2.1 Detail of workpiece Maximum sizes

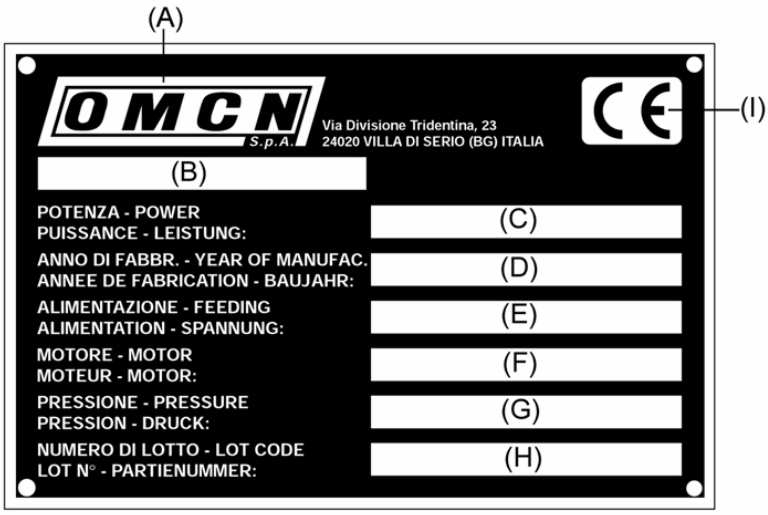
The maximum sizes of the workpiece are given in the detailed annex (FIG. 1).
The depth of the workpiece is calculated as twice the distance between the centre of the cylinder and rear guard of the press (measurement A FIG. 1); the width is the maximum size allowed by the light between the load-bearing members of the structure (measurement B FIG. 1).



DANGER

Avoid heavy strains when loading and unloading the workpieces manually.
Any heavy parts (weighing more than 25 KG) must be handled using the appropriate equipment (such as hoisting devices, freight elevators or cranes).
Only one operator may carry out work on the press.

2.2 MACHINE IDENTIFICATION



Every press has a name plate (POS. 4 Figure PAGE 2) showing the following information:

A) General data, manufacturer's complete address.
B) Model.
C) Power (thrust force in TONNES).
D) Year of manufacture.
E) Power supply in Volts.
F) Motor capacity in Kw.
G) Operating pressure in bars.
H) Manufacturing lot number.
I) CE mark.

2.3 CE CERTIFICATION

The press has been designed and built according to the provisions in directive 98/37/CE (machinery directive).
Before putting the machine on the market, the manufacturer has compiled the technical file in annex V, ascertaining the machine's compliance with the fundamental safety and health precautions contained in annex I of directive 98/37/CE.
To ensure that the machine conforms with the fundamental safety precautions, the manufacturer has referred to and observed the following regulations:

REGULATION	YEAR	TITLE
EN 292-1	1992	**MACHINERY SAFETY:** Fundamental concepts, general design principles - Terminology, basic methods
EN 292-2	1992	**MACHINERY SAFETY:** Fundamental concepts, general design principals – Specifications and technical principles
EN 294	1992	**MACHINERY SAFETY:** Safe distances preventing access of upper limbs to hazardous areas
EN 349	1993	**MACHINERY SAFETY:** Minimum distances preventing crushing of body parts.
EN 414	1993	**MACHINERY SAFETY:** Design standards and presentation of safety regulations
EN 954-1	1996	**MACHINERY SAFETY:** Category of control systems regarding safety; Part 1: General design principles
EN 982	1996	**MACHINERY SAFETY:** Safety precautions for fluidic systems and components – Oil hydraulics
EN 1050	1997	**MACHINERY SAFETY:** Risk evaluation principles
EN 60204-1	1997	**MACHINERY SAFETY:** Electrical equipment of the machinery; Part 1: general rules
EN 60947-5-1	1991	**MACHINERY SAFETY:** Low voltage electromechanical control circuit switching
EN ISO 3746	1995	**ACOUSTICS:** Sound level measurement of noise sources by sound pressure – Survey method using an enveloping measurement surface over a reflecting plane.
EN 50081-2	1993	**ELECTROMAGNETIC COMPATIBILITY:** General emission regulation; - Part 2: Industrial environment
EN 50082-2	1995	**ELECTROMAGNETIC COMPATIBILITY:** General immunity regulation – Part 2: Industrial environment
EN 10025	1995	Hot rolled products of not alloyed steels for structural uses supply conditions.

The manufacturer has fulfilled the prescriptions of the above-mentioned provisions and has put the machine on the EU market along with:

- User handbook
- CE mark
- CE compliance statement

The manufacturer also has to check the compliance of the machine's electrical equipment with the requirements of the following European directives:

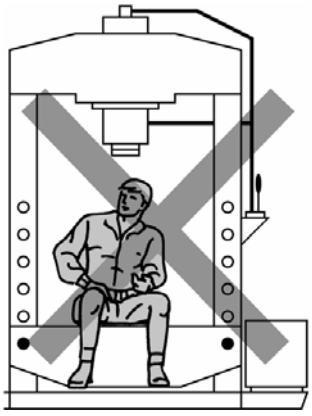
- 72/23/CEE (Low voltage).
- 89/336/CEE (electromagnetic compatibility)

3.0 GENERAL SAFETY REGULATIONS

DANGER

STRICTLY OBSERVE THE GENERAL SAFETY AND ACCIDENT-PREVENTION REGULATIONS LISTED BELOW:

FIG. 1A



- **The machine may only be used** by responsible staff in good health who have been specially trained to use the press and are acquainted with all the risks.
- **The machine may only be used** by operators who have completely read, understood and taken in all the information given in this handbook.
- **It is compulsory** to check that there are no persons at risk near the hazardous areas before starting the machine.
- **It is forbidden to remove the guards or tamper with any of the safety devices fitted on the machine.**
- **It is compulsory** to check that the installed safety devices are in perfect working order before operating the press: **it is forbidden** to operate the machine if it is faulty.
- **It is compulsory** to fit the supporting pins of the work table before operating the press.
- **It is compulsory** to check that there are no hazardous conditions for persons at risk during operation. If there are, stop any operations underway immediately and keep people away.
- **It is compulsory** to check during the piston movements that there are no objects in area where the piece moved by the cylinder is projected.
- **It is compulsory** to switch off the machine by means of the special switch whenever you need to gain access to the hazardous area.
- **Do not leave** the machine without turning off the tension acting on the proper switch.
- When you have finished working with the press, **it is compulsory to stop** the control unit by operating the special switch to cut off the power supply.
- **It is forbidden to climb or get onto the press (FIG. 1A).**
- **It is forbidden** to stand near the press bed while the machine is running.
- Should you notice any unusual sounds or operating faults, **It is compulsory** to interrupt all operations immediately and find the cause of these irregularities. If in doubt, avoid improper operations and contact the manufacturer's technical service (OMCN).
- Any tempering or modification of the machine cause automatically the loss of the guarantee and relieves the manufacturer from all and any responsibilities for direct or indirect damages caused by these tampering.
- **It is compulsory** to make sure that the environment where the press is installed is well-ventilated and well-illuminated. The floor on which the machine is to be installed must be solid, flat and perfectly level.
- During loading, unloading and installation **it is compulsory** to use lifting and handling equipment with adequate capacity for the weight of the press (See FIG. 3 – TECHNICAL CHARACTERISTICS), using lifting devices and accessories (nylon belts, etc.) that are suitable and in perfect condition for the purpose.
- We suggest during the maintenance operation to use only original spare parts OMCN. The manufacturer declines any responsibilities for damages caused by the use of non original parts.
  The use of non original spare parts involves the automatic loss of guarantee.
- It is compulsory place the press far from heat sources or from devices whom can emit electromagnetic radiations which could cause the bad operation of the devices which are on the electric board.

3.1 Safety devices

The press is fitted with following safety devices:

- Rear guard preventing access to persons at risks.
- This guard marks off the actual operating area of the press.
- Dual controls: in order to activate the cylinder movements, you need to press the on push-button and simultaneously pull the distributor lever within max. 0.5 sec.
- The control system of the press is bimanual with simultaneously activated dual control; movement stops immediately when only one of the controls is released.
- Max. pressure valve protecting the pump: this valve limits the operating pressure to the amount fixed by the manufacturer.
- Low voltage auxiliary circuit controls.
- Protection device against overcurrents operated by miniature circuit breaker.

3.2 Clothing

To operate the press in safe conditions, wear appropriate clothing for the machine and working environment:

- Do not wear long or flapping clothes, ties, scarves or similar garments that could get caught up in the moving parts of the machine.
- Keep long hair out of the way and sleeve ends tight; avoid wearing watches, rings, necklaces or other objects that can injure the wearer.
- Use suitable gloves and protective footwear. If the working environment has a noise level of at least 85 dB (A), wear ear muffs or other hearing protection devices.

In every case, refer to the safety precautions regarding working environments of the country where the machine is operated.

4.0 TRANSPORT

The machine is supplied already packed in bubble wrap which protects it effectively during transport and handling.

The packaged machine must be transported as follows:

- Always protect the press and electric control unit (1 FIG. 2) against atmospheric agents by covering them with nylon or similar material.
- Check that the corners on the ends are protected with appropriate materials (bubble wrap/cardboard).
- Do not use wire rope for lifting purposes.
- During lifting, sling the press with belts at least 100 cm long with a maximum capacity of over 1500 kg.
- Check that the bed is fastened securely without play between the bed and structure. Any play could be hazardous.

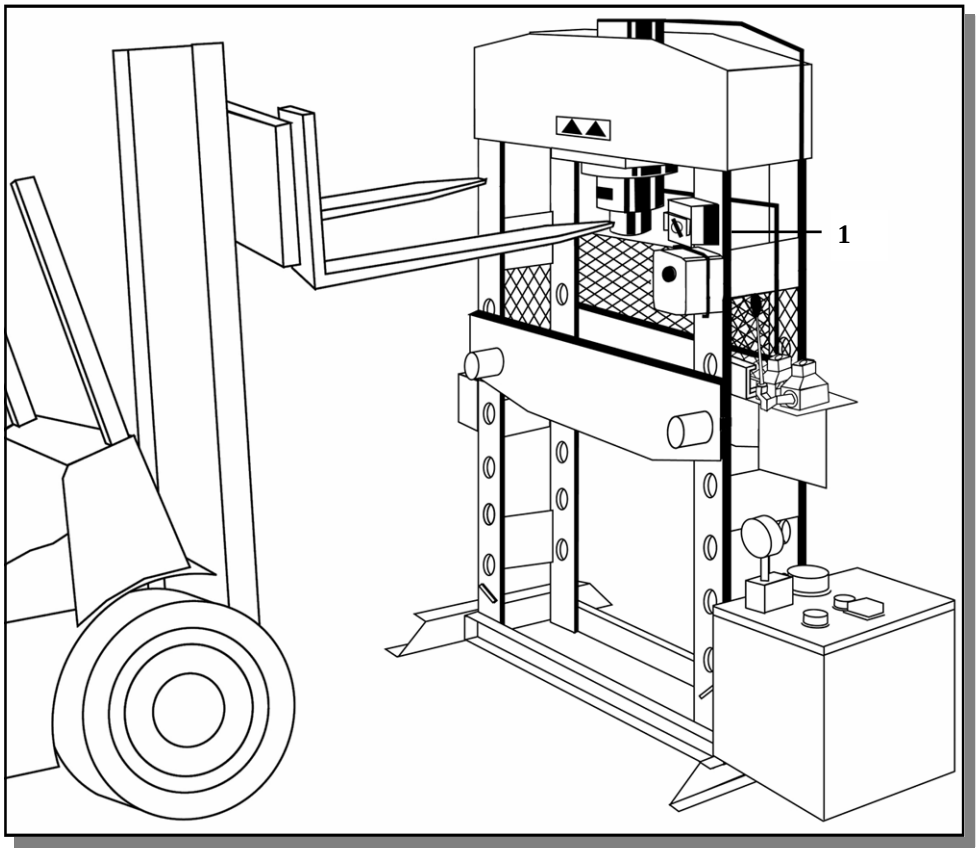
DANGER

USE FORK-LIFT TRUCKS TO MOVE THE MACHINE, GRIPPING AND LIFTING IT AS SHOWN IN FIG. 2.

CAUTION

FIX THE PRESS SECURELY FOR TRANSPORT IN ORDER TO PREVENT IT FROM SHIFTING ON THE LOADING PLATFORM OF THE VEHICLE OR TRANSPORT EQUIPMENT.

FIG. 2



Item	Weight of package
Item 154/MR	194 Kg.
Item 156/MR	208 Kg.
Item P30/MR	338 Kg.
Item 161/R	480 Kg.
Item 162/R	520 Kg.
Item 163/R	760 Kg.
Item 164/R	980 Kg.

5.0 UNPACKING

- After unpacking, check that the machine and control equipment are perfectly intact and have not been damaged during transport. Notify the manufacturer of any missing parts within 8 days of delivery.
  If in doubt, do not use the machine and contact the manufacturer.
- The packing elements are potential sources of hazards and must be kept out of reach of children. Dispose of them in special waste collection areas.
- The unconnected parts (distributor lever, bed winch crank) must be present. Each of them are fixed with clamps to one of the cylinder pipes and the winch crank arm.
- For presses Art. 154/MR and 156/MR, which are without a winch for moving the bed, check that only the distributor control lever is present.
- The press is supplied with the tank already containing the necessary operating oil.

6.0 MAIN TECHNICAL FEATURES

- Operation with double oil hydraulic pump. This device allows high approaching speed and low speed during operation.
  The two speeds are automatically exchanged by means of a special precalibrated valve.
- The control lever must be pulled a certain amount for activation. Pull the lever as far as it will go to move the cylinder correctly.
- There is a mechanical stop at the end of the cylinder movement.
- During cylinder return, you can use a working force of approx. 30% of the rating.
- There are two max. pressure valves: one on the pump for protection, and the other on the distributor for checking the control circuit.

6.1 SOUND LEVEL

The machine has been subjected to noise level tests in a qualified laboratory.
The tests were carried out with the machine load less and equipped with its standard components, according to the procedures in regulation EN 3746: 1996.
The tests gave the following results:

- Average acoustic radiation pressure level assessed: LpAm = 70.6 dB (A).
- Acoustic radiation pressure level in workstation LpAm = 75.8 dB (A).
- Acoustic power level LwA = 88.1 dB (A).

7.0 INSTALLATION AREA

The machine needs to be installed in a working area as indicated in the table (FIG. 3). The press must be positioned on a horizontal surface that is preferably

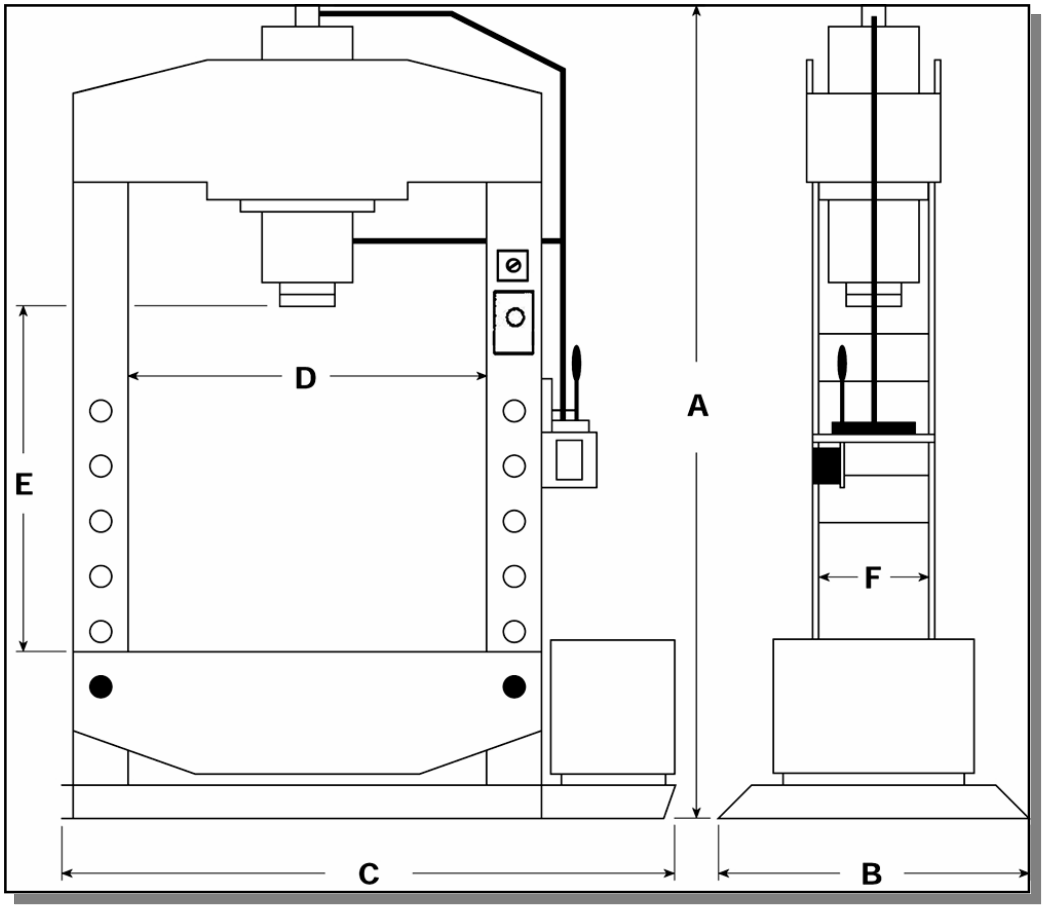
WARNING

From the control point, the operator should be able to see all the equipment and surrounding area, to prevent any unauthorized persons or objects from causing hazards.

cemented or tiled. Avoid weak or unsteady surfaces. Any raised floors over empty spaces must have a resistance of 35 N/mm^2 equivalent to a class of 35 RcK.

The depth of the concrete layer must ensure a tight hold of the anchors and have a sound consistency for at least 200 mm.

FIG. 3

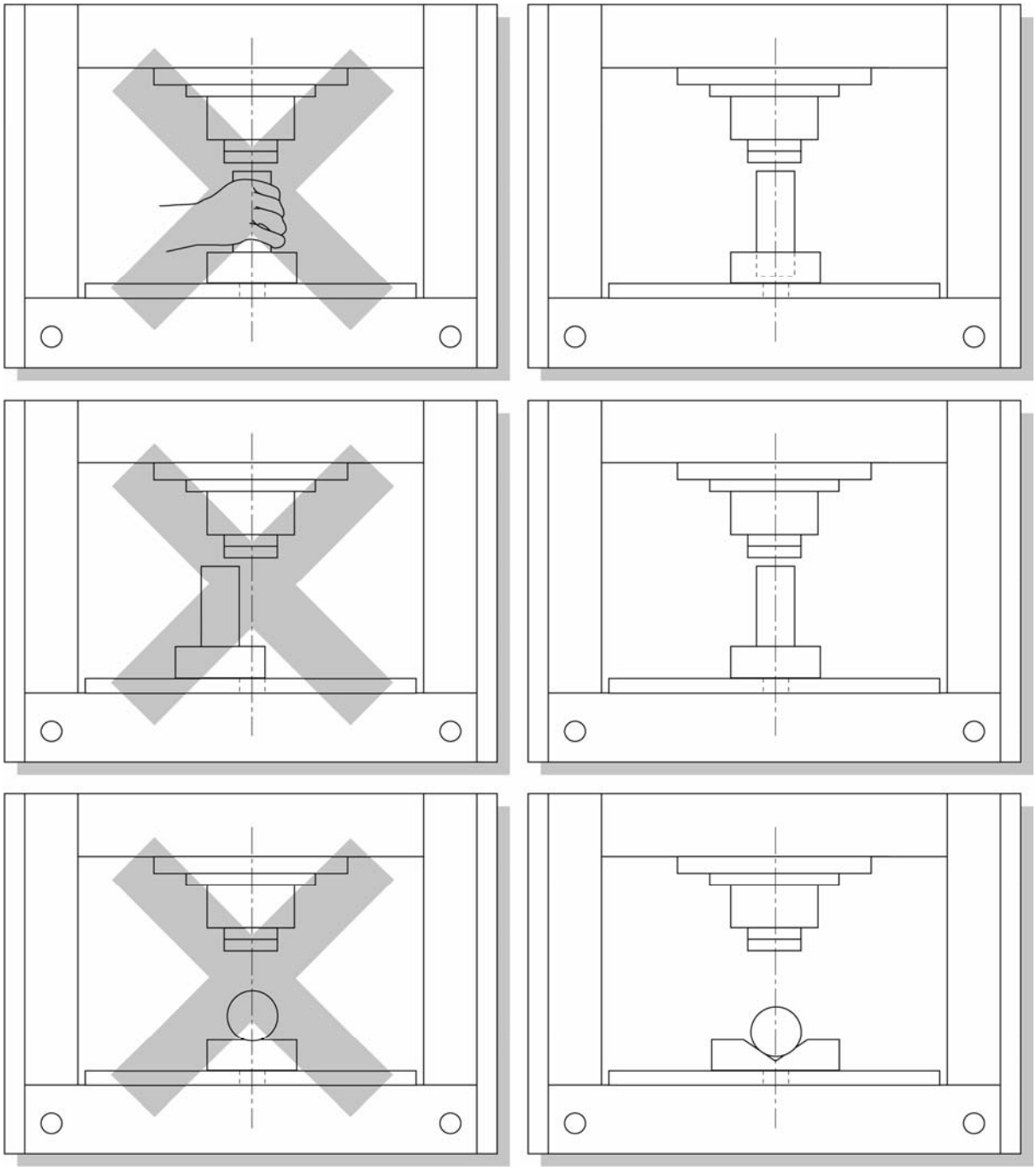


Technical specifications and weights refer to the standard and are not binding.

Item	Power	A	B	C	D	E	F	Piston stroke	Capacity of rapid power unit per 1'	Capacity of slow power unit per 1'	Speed of rapid stem per 1' (mm)	Speed of slow stem per 1' (mm)	Weight (kg)	Installation area (cm)	Motor capacity
154/MR	10 Ton.	1900	500	1100	510	930	140	260	lt. 4	lt. 1	1750	350	194	120 x 60	0,75 KW
156/MR	20 Ton.	1920	500	1110	505	920	140	285	lt. 5	lt. 1	1550	260	208	120 x 60	0,75 KW
P30/MR	30 Ton.	2000	600	1600	700	1000	180	260	lt. 10	lt. 2,4	1550	300	338	170 x 80	1,5 KW
161/R	40 Ton.	2070	850	1650	775	1135	195	260	lt. 10	lt. 2,4	1530	300	530	170 x 90	1,5 KW
162/R	50 Ton.	2080	850	1650	775	1135	205	260	lt. 15	lt. 2,4	1540	210	560	170 x 90	1,5 KW
163/R	70 Ton.	2205	900	1755	880	1120	265	310	lt. 25	lt. 4,5	1600	260	850	190 x 100	3 KW
164/R	100 Ton.	2260	900	1930	1010	1055	280	310	lt. 35	lt. 4,5	1600	180	1100	200 x 120	3 KW

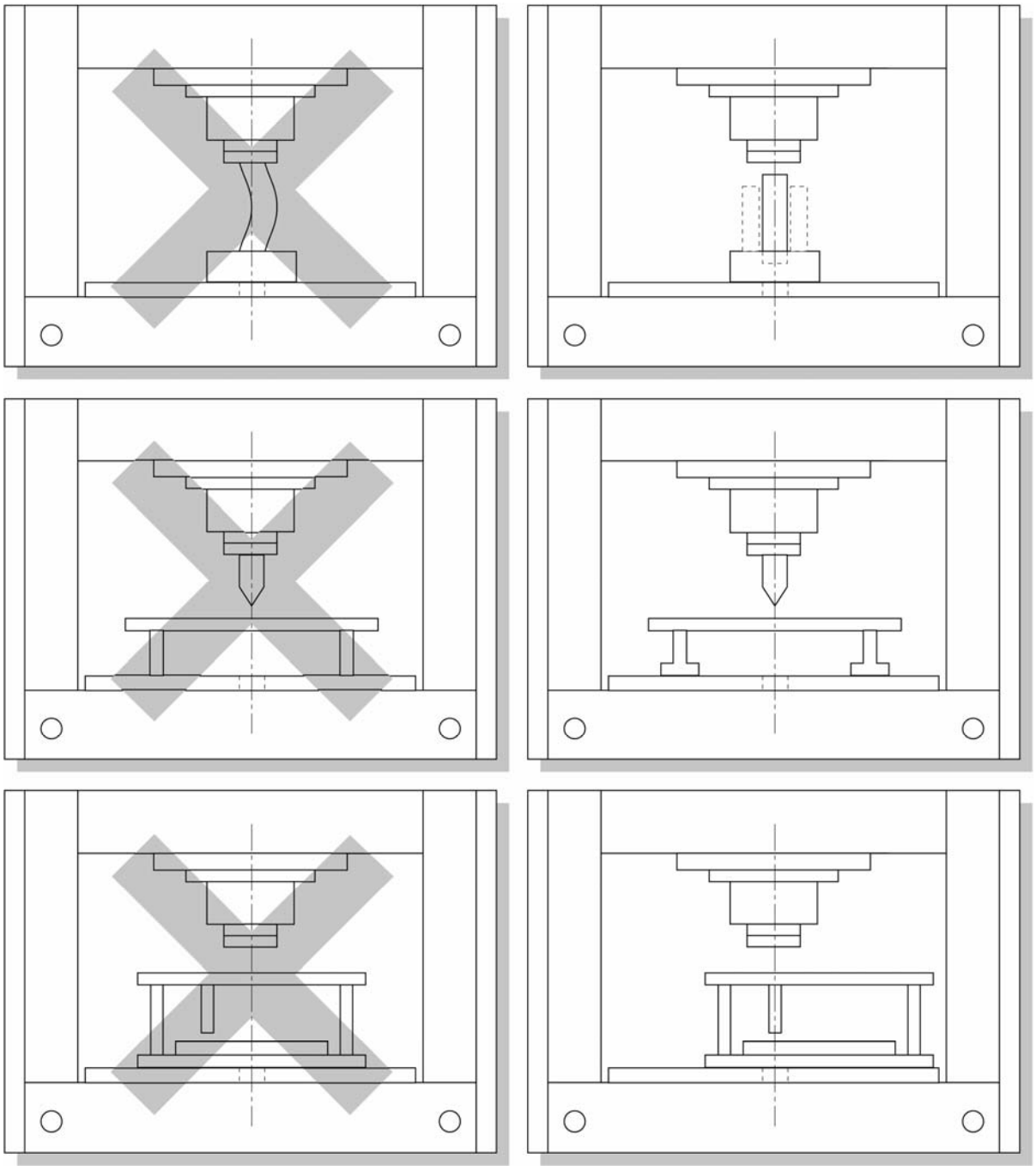
- 8.0 HOW TO USE -

- INCORRECT - **- CORRECT -**



- 8.0 HOW TO USE -

- INCORRECT - **- CORRECT -**



9.0 SETTING THE PRESS AT WORK

After unpacking the machine components, check that the machine and all its components are intact. Observe the following instructions in order to set the press at work.

A) Fit the anchors in their holes on the base.
B) Fix the press to the floor, tightening the anchor bolts (FIG. 4).

To carry out the operation, observe the following instructions (FIG. 4A):

1) Drill at least 100 mm deep with an 18 ø tip. (1).
2) Clean the hole thoroughly (2).
3) Lightly hammer the anchors into the holes (3).
4) Tighten the bolts with a dynamometric wrench calibrated to 70 N·m (4).

Check that the anchors are tight every 1000 working hours.

WARNING

The manufacturer cannot be held liable for any damage caused by the failure to follow the above instructions. Lack of compliance voids the guarantee.

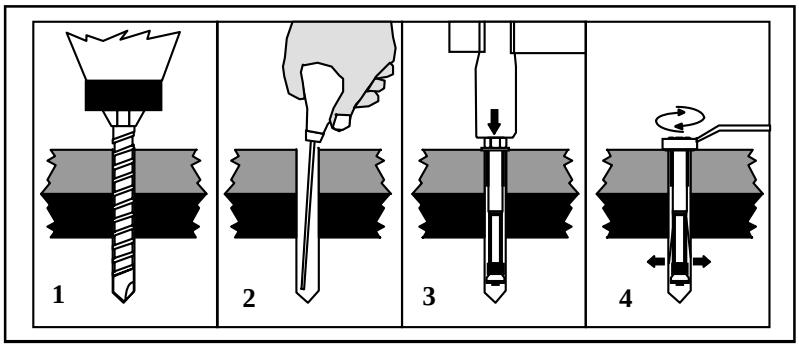
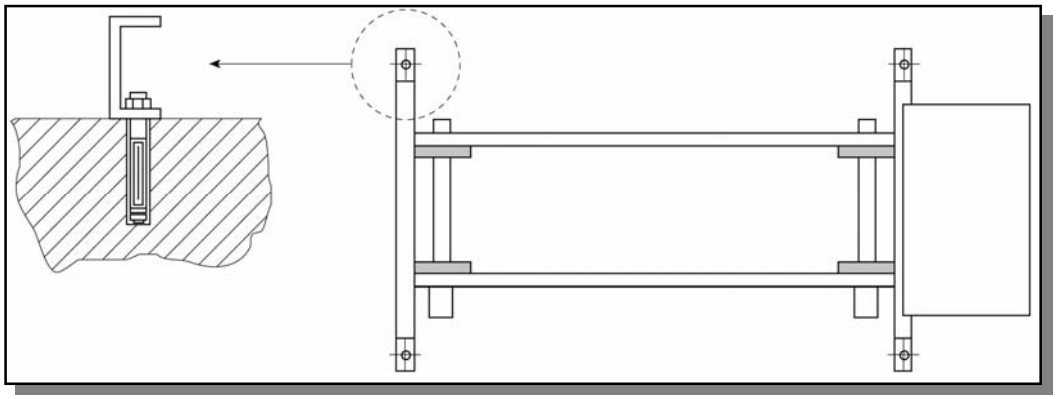


FIG. 4A

C) Check the oil level in the tank of the oil hydraulic power unit by means of the special oil level indicator on the side of the oil hydraulic power unit. Top up with “AGIP ACER 46” hydraulic oil or equivalent.
D) Assemble the lever on the control distributor, disconnecting it from the hard pipe exiting the distributor.

FIG. 4

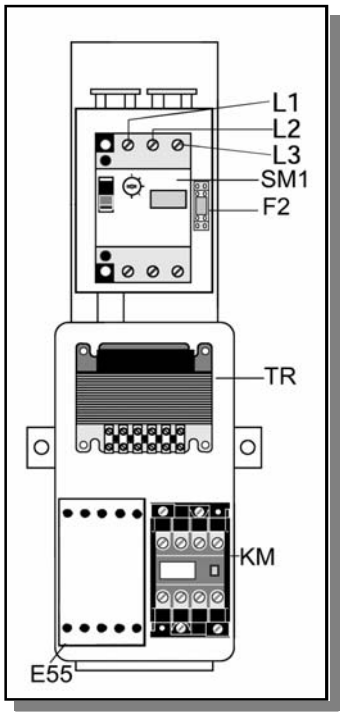


9.1 Wiring

WARNING

BEFORE CARRYING OUT ANY OPERATIONS, CHECK THAT THE PARTS TO BE SERVICED ARE NOT LIVE AND SAFELY DISCONNECTED FROM THE POWER SUPPLY. EVEN THE SIMPLEST ELECTRICAL OPERATIONS REQUIRE RESPONSIBLE AND PROFESSIONALLY QUALIFIED TECHNICIANS.

FIG. 5

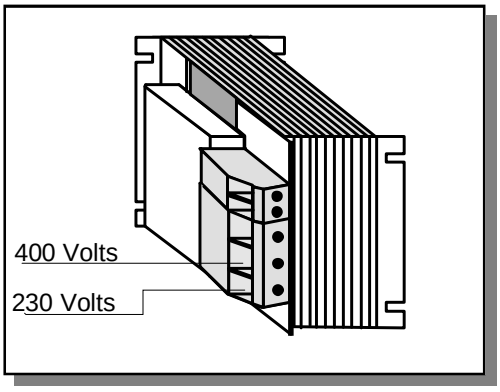


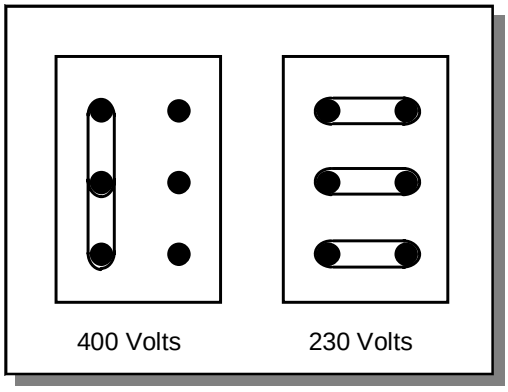
- Connect the press to the electrical power supply using the cable exiting the electric control equipment in the following way:
- Connect the cable to an automatic cutoff device against overcurrents, provided with 30 mA circuit breaker.
- Check that the power supply voltage is 400 Volts.
- Check that there is an effective earth wire and that the power supply connections comply with the regulations in force.
- Should you need to replace the power supply cable, if it is less than 3 m long, use a three-pole + ground cable, at least 4 mm^2 in section. **Never make any connections on the mains line.**

In the case of longer cables, the section of the power supply cable must be adapted to the actual length.
Wiring must be carried out with the ends of the cable connected to terminals L1, L2, L3 of the electric panel (FIG. 5).
The operating voltage is 400 Volts and the connections are provided to withstand this voltage.
The press is provided with special devices if you need to use a 230 Volt power supply.
To change the wiring, proceed as follows:

- Check that there is no voltage by pressing the special switch.
- Remove the cover from the motor's terminal board.
- Extract the nuts from the block of contact bars and invert the position of the bars, placing them horizontally (FIG. 7).
- Retighten the nuts and fit the motor's terminal board cover back on.
- Replace the miniature circuit breaker of the originally supplied remote-control switch with an equivalent one of adequate value. Ask the ***OMCN*** technical assistance department for the necessary circuit breaker.

FIG. 6 - 7





9.2
Motor rotation check

- Turn the main switch to “ON” (1 FIG. 8) to switch on the machine.
- Press the “motor on” push-button for approx. 10 seconds (2 FIG. 8) while pulling the distributor lever (3 FIG. 8) down: the cylinder should descend.
- Should it fail to move, invert the motor rotation.
- First check the motor rotation direction through the tank cap (8 FIG. 10): it should correspond with the arrow next to the cap.
- To carry out this operation, CUT OFF THE POWER SUPPLY by pressing the special switch and invert two power supply cable phases by inverting a pair of terminals on the electric panel.

10.0
USE

- The press may only be used by authorized, adequately trained, responsible and skilled staff in good health. Pease remember that anybody who uses the press without being acquainted with the procedures specified here could seriously endanger persons at risk and the operator himself.
- The control system of the press is bimanual with simultaneously activated dual control. Movement is immediately interrupted as soon as one of the control devices is released, even for an instant (push-buttons or levers).

Before using the machine, the operator must have read, understood and taken in the instructions contained in this handbook.

WARNING

THE MANUFACTURER CANNOT BE HELD LIABLE FOR ANY DIRECT OR INDIRECT INJURY OR DAMAGE CAUSED BY THE FAILURE TO OBSERVE THE INSTRUCTIONS CONTAINED IN THIS HANDBOOK.

It is compulsory to fit the work table supporting pins before operating the press.

WARNING

BEFORE CARRYING OUT ANY OPERATIONS ON THE MACHINE, MAKE SURE YOU HAVE READ AND UNDERSTOOD ALL THE INSTRUCTIONS IN THIS HANDBOOK.

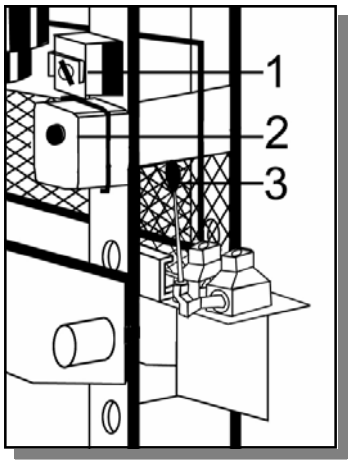
10.1
Operation
FIG. 8

CYLINDER DESCENT:

Set the main switch (position 1 FIG. 8) to the ON position. Press the push-button (2 FIG. 8) while simultaneously pulling the distributor lever 3 down (within 0.5 sec.) The dual control has simultaneous activation: if one of the controls is held for more than 0.5 seconds more than the other, the press will not operate.
To create simultaneous activation, the manufacturer has provided a safety switch which is activated by the distributor lever when it reaches its end of travel.

CYLINDER ASCENT:

Press the push-button (2 FIG. 8) while simultaneously pulling the distributor lever 3 down.
In this case again, if you release one of the two controls even for an instant, the piston stops moving.
Therefore, in order to avoid malfunctions, we recommend pulling the lever as far as it will go to be sure that the switch is activated.



WARNING

DO NOT KEEP ACTIVATING THE PISTON WHEN IT HAS COMPLETED ITS ASCENT AND DESCENT: YOU CAN RISK DAMAGING THE CYLINDER.

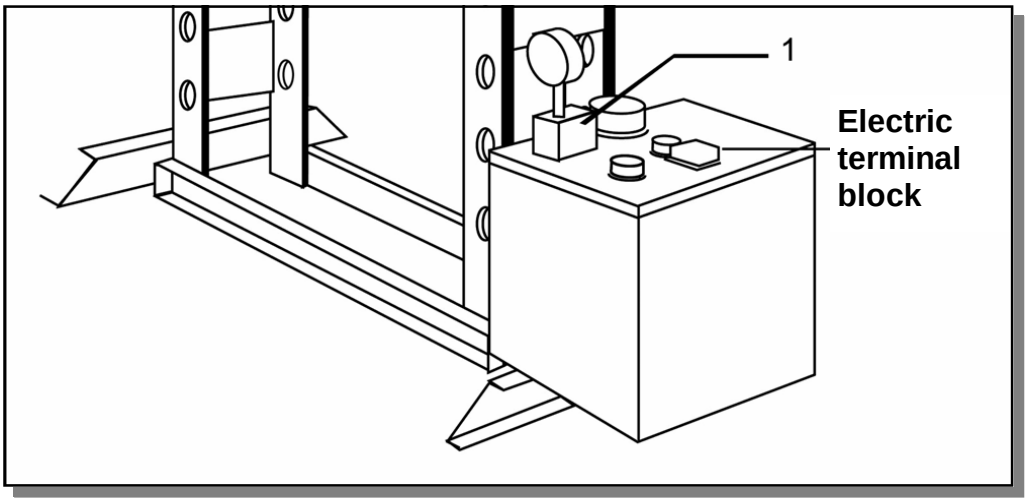
10.2 Adjustments

To regulate the operating pressure, turn the handwheel (1 FIG. 9) on the lid of the oil hydraulic power unit.
Loosen it to reduce the pressure or screw it to increase it. When you turn the handwheel as far as it will go, you have reached maximum pressure.
The work table is moved by operating the winch on the left-hand side of the press.
Before moving the work table, pull out the two stop pins on the bed.
For presses Art. 154/MR and 156/MR without winches, the bed must be moved by hand after pulling out the two stop pins.

WARNING

Before carrying out any operations, put the work table pins back in place.
Check that both surfaces of the bed are resting on the pins.

FIG. 9



11.0 ROUTINE MAINTENANCE

Routine maintenance includes cleaning, lubricating, greasing and adjustments that need to be carried out at regular fixed intervals in order to ensure that the machine operates correctly and the safety devices are in perfect working order.
All those operations not mentioned below are considered extraordinary operations, which may only be carried out by the manufacturer.

WARNING

THE OPERATIONS DESCRIBED BELOW MUST BE CARRIED OUT BY TECHNICAL STAFF SPECIALIZED IN MECHANICS, ELECTRIC ENGINEERING AND OIL HYDRAULICS.

To ensure that the press operates correctly and efficiently, follow the instructions below and perform all the cleaning and routine maintenance operations according to the frequencies described below.

WARNING

CLEANING AND ROUTINE MAINTENANCE MAY ONLY BE CARRIED OUT IN SAFE CONDITIONS. FOR THIS PURPOSE, SET THE MAIN SWITCH TO OFF BEFORE STARTING ANY CLEANING OR MAINTENANCE.

EVERY DAY:
Before starting up the machine, check its overall state by making sure that the piping is intact and without hydraulic oil leaks.

EVERY 1000 HOURS:
- Replace the oil in the power unit using hydraulic oil “AGIP ACER 46” or equivalent in the fixed quantities indicated (See FIG. 9A).
- Clean the pressure regulating valves according to the instructions given below.
- Clean the suction filter according to the instructions given below.
- Check that the anchors fastening the press to the floor are tightened securely.

EVERY 2000 HOURS:
- Replace the suction filter and clean the exhaust filter cartridge on the power unit lid, following the instructions given below.

EVERY 4000 HOURS:
- Replace the exhaust filter cartridge inside the exhaust filter cover, which is located on the power unit. Follow the instructions given below.
- Check the machine’s overall state of repair, making sure that there are no visible signs of buckling and/or cracks on the welding.
- Check that the oil hydraulic system components, piping, flexible tubes and unions are intact.
- Check the state of repair of the electric system components. cable glands, electric control unit, limit switch and power supply cable.
- Replace any of these components if they are not perfectly intact or functional.

TAV. 9A

Item	Oil quantity
Item 154/MR	lt. 30
Item 156/MR	lt. 30
Item P30/MR	lt. 30
Item 161/R	lt. 50
Item 162/R	lt. 50
Item 163/R	lt. 80
Item 164/R	lt. 90

11.1 CHANGING HYDRAULIC OIL

Change the oil as follows:

- Unscrew the cap on the back of the tank.
- Empty the tank completely.
- Screw the cap back on the tank.
- Fill up the tank through the cap (8 FIG. 10) on the top of the tank. The quantity of oil to be put in the tank depends on the type of power unit (see FIG. 9A) for the quantities.

11.2 CLEANING AND REPLACING THE SUCTION FILTER

Replace the suction filter as follows:

- Disconnect the two flexible tubes from the valve stop on the lid of the oil hydraulic power unit.
- Lift the lid with the pump unit and disconnect the filter, undoing the screws.
- Clean the cartridge with compressed air or replace it with a new filtering cartridge.
- Fasten the filter with its screws.
- Put the lid and pump unit back in place.
- Reconnect the two flexible tubes of the valve stop.

11.3 CLEANING AND REPLACING THE EXHAUST FILTER

Clean or replace the exhaust filter as follows:

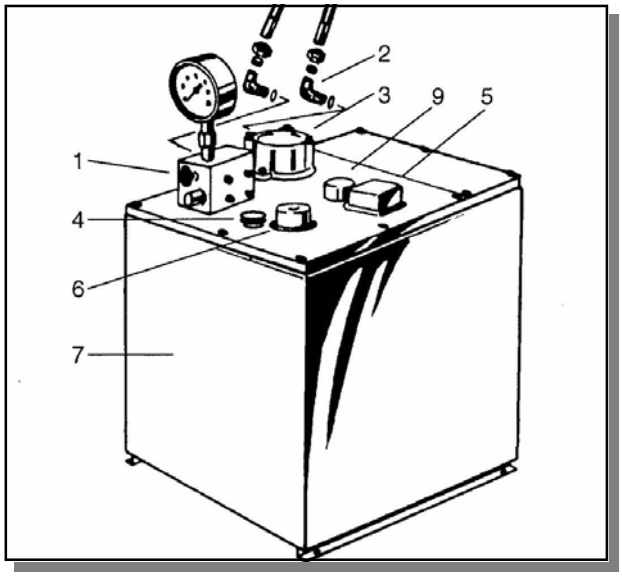
- Take off the filter cover by loosening the screws.
- Pull out the filter cartridge.
- Clean with compressed air or replace it with a new filtering cartridge.
- Put the cover back on, securing it with the screws supplied (FIG. 20).

11.4 CLEANING THE REGULATING VALVES

Clean the regulating valves as follows:

- Pull the valve out of its housing (1 FIG. 10). Clean with compressed air and petrol, handling it with care to avoid damaging it during assembly and dismantling.

FIG. 10



WARNING

Any extraordinary maintenance and repairs must be carried out by the manufacturer.

12.0 - TROUBLESHOOTING TABLE

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
The pumps are on but the cylinder does not move.	1 The motor rotates in the opposite direction. 2 Primary pump cut off valve is faulty. 3 Primary pump cut off valve is broken.	1 Change the motor rotation by inverting two power supply cable phases. 2 Check the cut off valve spring and eliminate the causes of malfunction. 3 Replace the valve spring.
With the cylinder resting on the workpiece, the pressure does not rise smoothly.	1 There is air in the circuit. 2 Suction filter is clogged up	1 Lift and lower the cylinder stem as far as it will go. 2 Lift the lid off the oil hydraulic power unit (as described in the maintenance chapter) and clean or replace the filter.
With the cylinder resting on the workpiece, the pressure does not reach the preset value.	1 No oil in the tank. 2 Oil leak in the circuit. 3 Max. pressure valve is clogged up. 4 Max. pressure valve is broken. 5 One or more pump units are worn. 6 Cylinder gasket is damaged. 7 Cylinder liner is worn or damaged.	1 Check the oil level by looking at the dipstick on the tank cap. Top up if necessary. 2 Check that the pipe fittings and distributor are not leaking oil. Check that the pipe fittings are securely tightened and replace them if necessary. 3 Remove the max. pressure valve, clean it with petrol and compressed air and check the state of the spring. 4 Replace the max. pressure valve. 5 Replace the damaged pump units (contact the OMCN technical service). 6 Replace the damaged gasket (contact the OMCN technical service). 7 Replace the cylinder.
With the cylinder resting on the piece, the pressure decreases too much when the controls are released.	1 The distributor housings or slider are dirty. 2 Cylinder gasket is damaged. 3 Cylinder liner is damaged.	1 Pull the slider out of the distributor housing and clean the slider and its housing. If the slider is damaged, replace the entire distributor (Chap. 21 FIG. 14). 2 Replace the damaged gasket (contact the OMCN technical service) or replace the cylinder. 3 Replace the cylinder.
On operating the controls, the pump does not start.	1 Thermal protection has tripped. 2 Missing phase on the power supply line. 3 Controls not simultaneous	1 Reset the circuit breaker. 2 Check the continuity of the 3 phases on the power supply cable. Replace the cable if necessary. 3 Operate both controls simultaneously within 0.5 sec.

If the problems persist, contact the manufacturer and avoid unspecific operations.
Contact the authorised centres for assistance and ask for original parts.

The list of spare parts is enclosed with this instruction handbook.

13.0 SETTING THE PRESS ASIDE

- If the machine is set aside for long periods, disconnect all supply sources, drain the tank of hydraulic oil and protect any parts that risk damage due to dust or atmospheric agents.
- The flexible tubes and components that risk damage due to drying out must be adequately greased.
- When setting the press at work after a long time, check that the flexible tubes are perfectly intact without cuts, scratches or cracks.

14.0 SCRAPPING THE PRESS

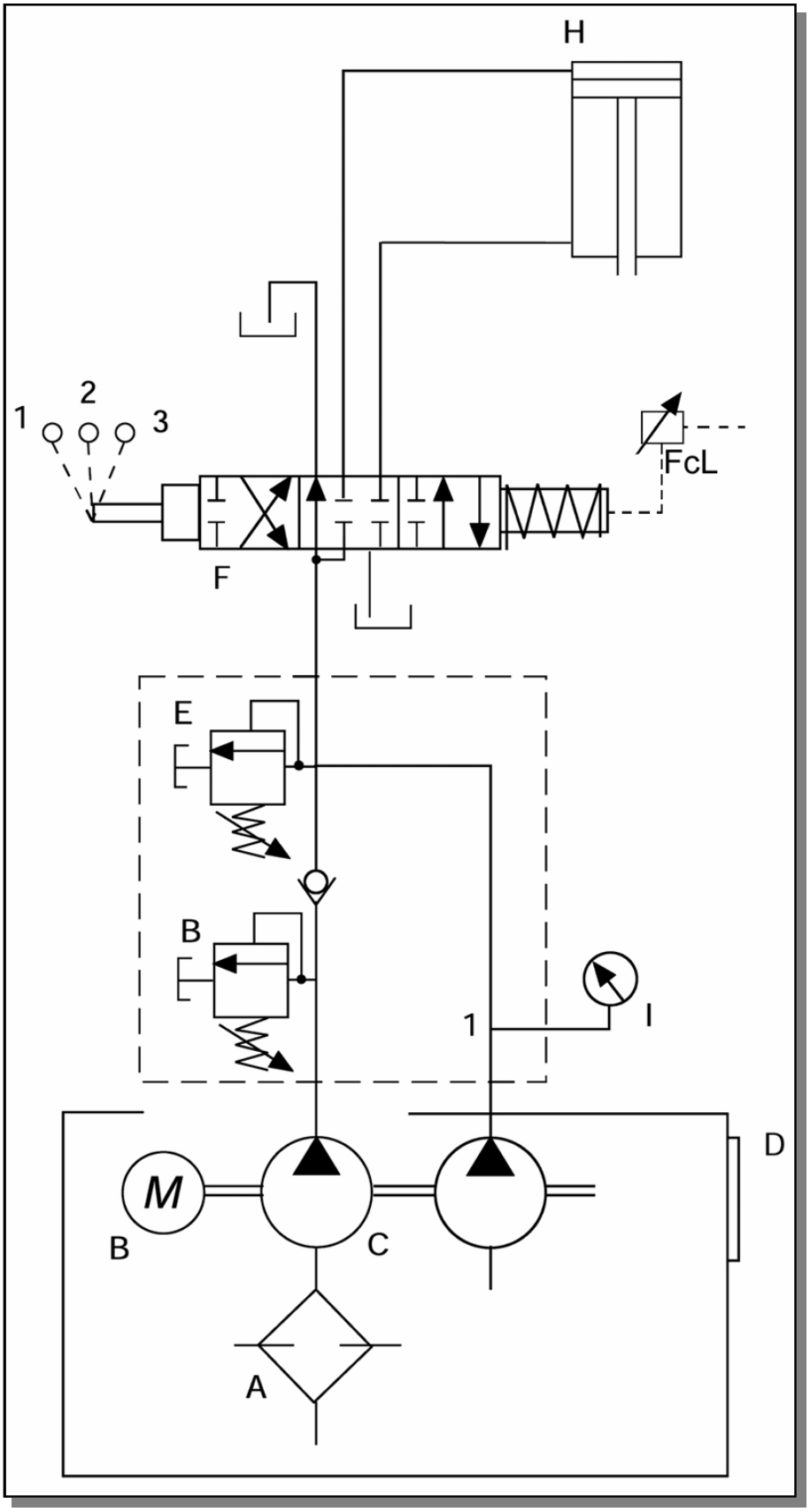
- At the end of the machine's life cycle or when you decide not to use it any more, make it inoperative by removing all the hydraulic oil left in the tank and in the drive cylinder.
- The press must be disposed of as special waste, so dismantle it into homogeneous parts and dispose of them in compliance with the regulations in force.

15.0 FACTORY TESTS

Before packing, the press was subjected to operating tests regarding the parts listed below:

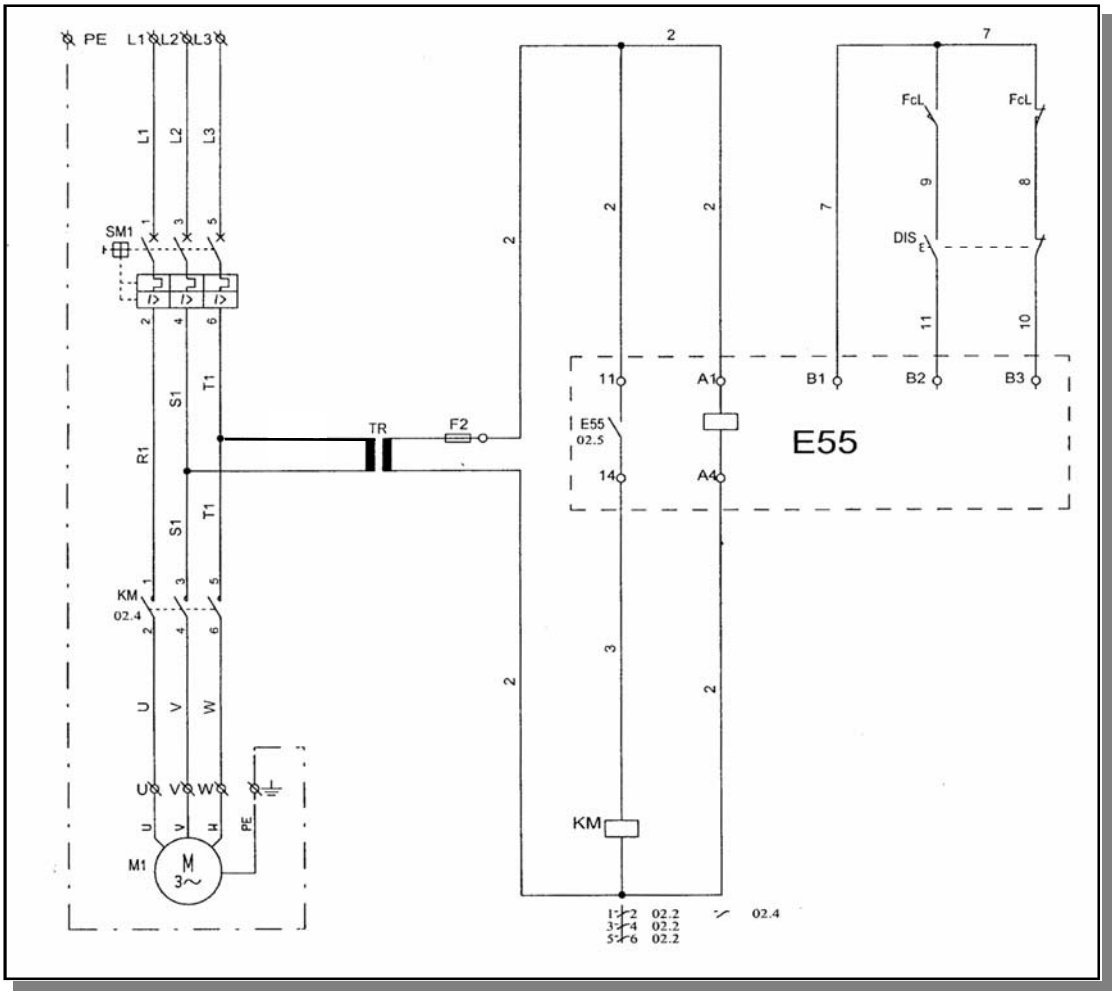
- Ascent - descent piston speed check.
- Bed and cylinder table parallelism check.
- Work table movement check.
- Max. pressure valve check and calibration.
- Check for no leaks or seepage from the pipe fittings.

16.0
OIL HYDRAULIC DIAGRAM
FIG. 11



A	Suction filter
B	20 BAR cut off valve
C	Double pump
D	Oil tank
E	400 BAR max. valve (500 BARS for Art. 156/MR)
F	Manual distributor
FcL	Start switch
H	Cylinder
I	Gauge
M	Electric motor

17.0
ELECTRIC DIAGRAM
FIG. 12

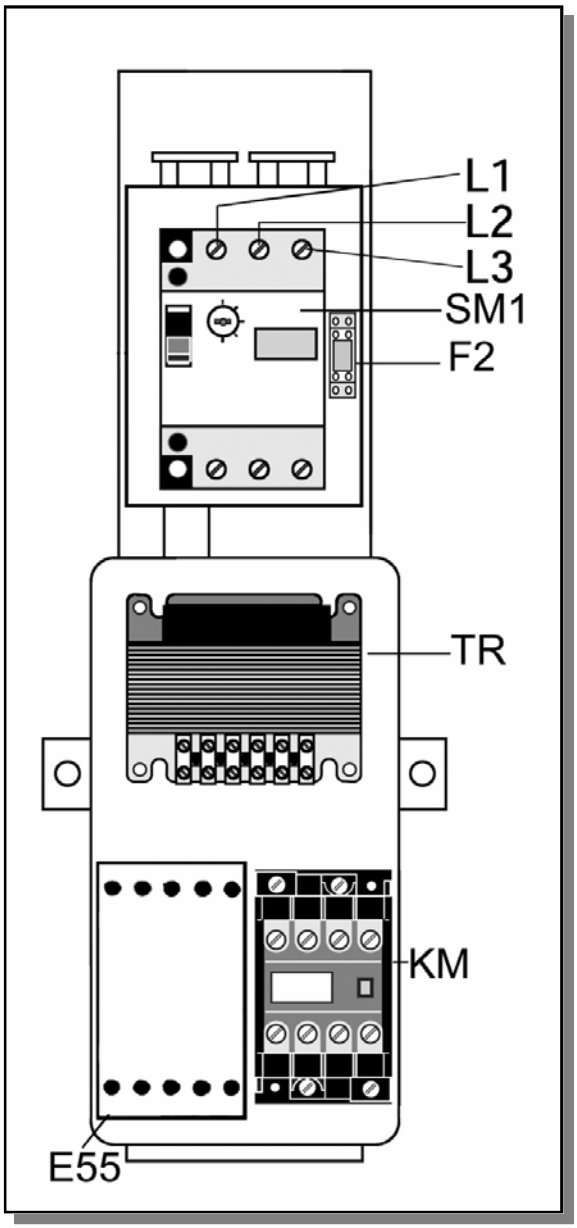


SM1 Circuit breaker
KM Motor control contactor
TR Transformer
DIS Bi-manual control push-button
E55 Simultaneous action control module
FcL Lever control limit switch
F2 Control circuit protection fuse
M1 Electric motor

WARNING

Even the simplest electrical operations require professionally skilled staff.

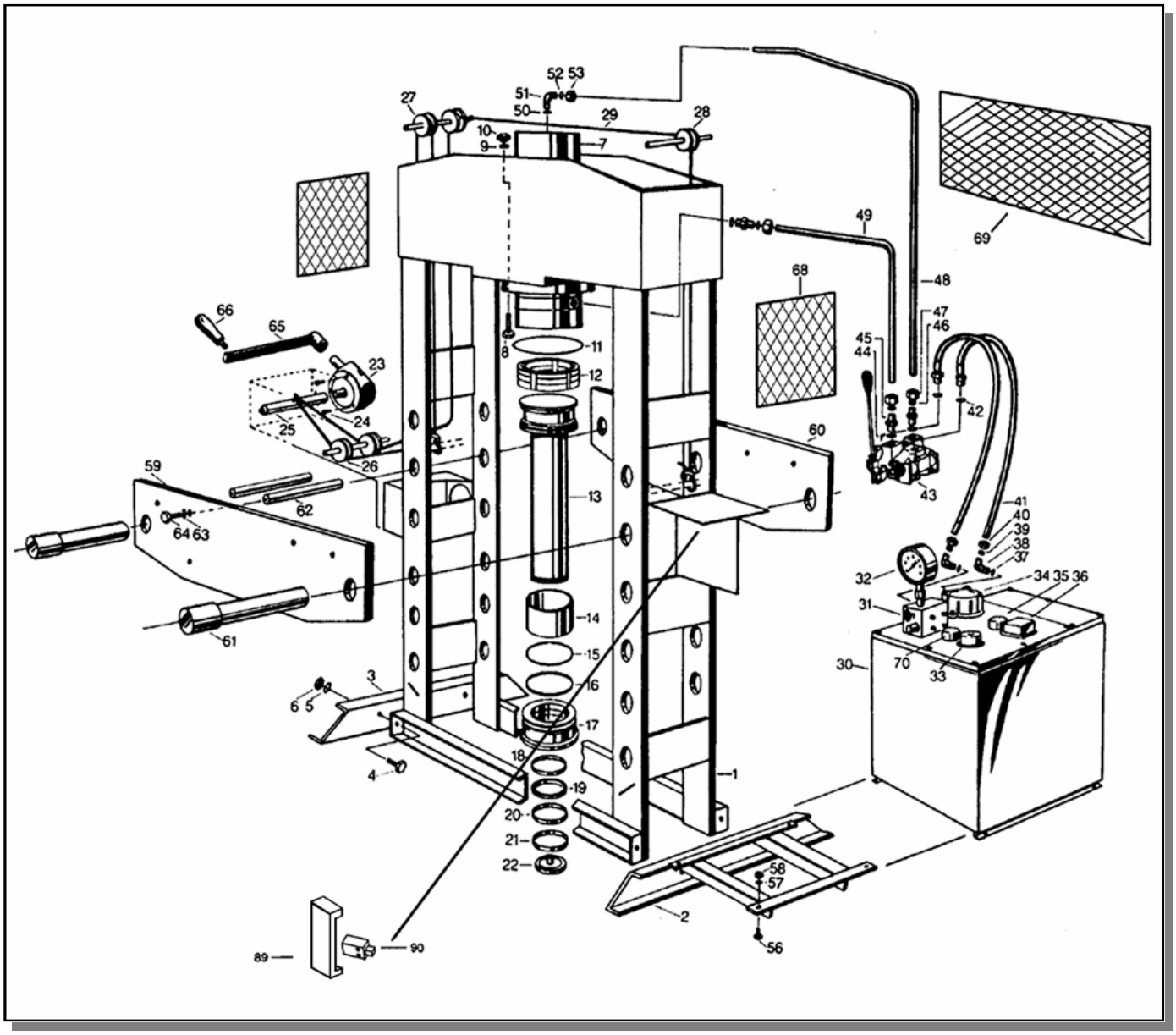
18.0
ELECTRIC BOX
COMPONENTS
FIG. 13



(*) Thermal calibration
Item 154/MR = 4 Amp
Item 156/MR = 4 Amp
Item P30/MR = 4 Amp
Item 161/R = 6,9 Amp
Item 162/R = 6,9 Amp
Item 163/R = 6,9 Amp
Item 164/R = 6,9 Amp

E55	Simultaneous relay
KM	Remote control switch
SM1	Miniature circuit breaker
TR	Transformer
F2	2 Amp secondary fuse

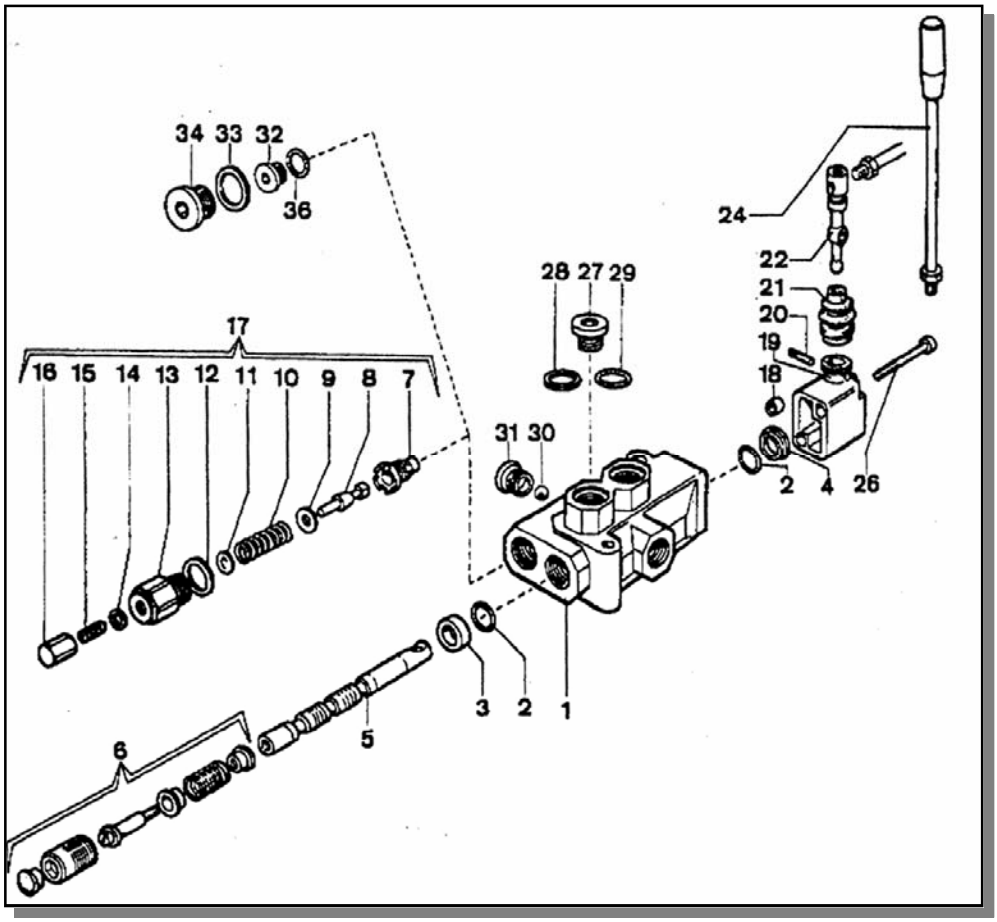
19.0
SPARE PARTS ASSEMBLY DIAGRAM
FIG. 14



1	Frame
2	Bracket component for pump
3	Rest
4	Screw
5	Washer
6	Nut
7	Cylinder
8	Screw
9	Washer
10	Nut
11	OR gasket
12	DAS gasket
13	Stem
14	Spacer
15	OR gasket
16	Anti-extr. ring for OR
17	Flange
18	Guide ring
19	RS gasket
20	Guide ring
21	Scraper ring
22	Protective plate
o 23	Winch
o 24	Screws
o 25	Pin
o 26	Pulley
o 27	Pulley
o 28	Pulley
29	Wire rope
30	Motor pump unit
31	Pressure control valve
32	Gauge
33	Air filter
34	Oil filter
35	Oil cap
36	Electric terminal block
37	Copper gasket
38	Union elbow
39	Sealing ring
40	Nut
41	Return pipe
42	Copper gasket
43	Shunting unit
44	Copper gasket
45	Straight union
46	Sealing ring
47	Nut
48	Lowering pipe
49	Lifting pipe
50	Copper gasket
51	Union elbow
52	Sealing ring
53	Nut
54	Main switch
55	Lever rod
56	Screw
57	Washer
58	Nut
59	Crosspiece
60	Crosspiece
61	Piston pin
62	Spacer pins
63	Washer
64	M16 screw
o 65	Crank
o 66	Grip
67	Pressure pipe
68	Lateral guard
69	Rear guard
70	Oil level cap
89	Switch guard
90	Distributor switch

(o) Parts not included for Art. 154/MR and 156/MR.

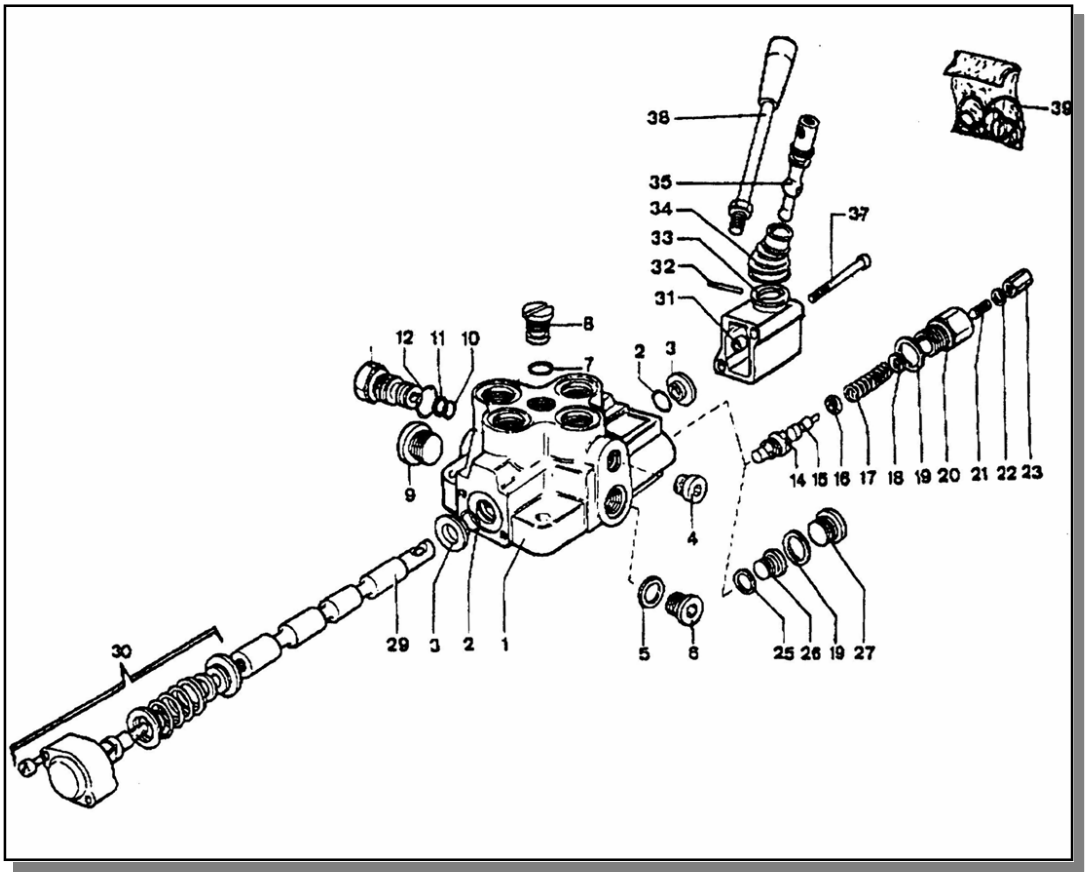
20.0
DIAGRAM OF DISTRIBUTOR'S SPARE PARTS
FIG. 15



Item 154/MR
Item 156/MR
Item P30/MR

1	Central body
2	OR gasket
3	Spacer ring
4	Scraper ring
5	Stem
6	Spacer
	Spring
	Spacer
	Ball housing
	Shim
	Cap
7	Body
8	Mushroom comp. valve
9	Copper washer
10	Spring
11	Piston ring
12	OR gasket
13	Cap
14	Aluminium washer

15	Regulator
16	Max. valve box nut
17	Maximum valve
18	Washer
19	Lever
20	Pin
21	Box lid body
22	Support
24	Lever rod
26	Screw
27	Cap
28	Washer
29	Washer
30	Steel ball
31	Cap
32	Cap
33	Washer
34	Cap
36	Washer

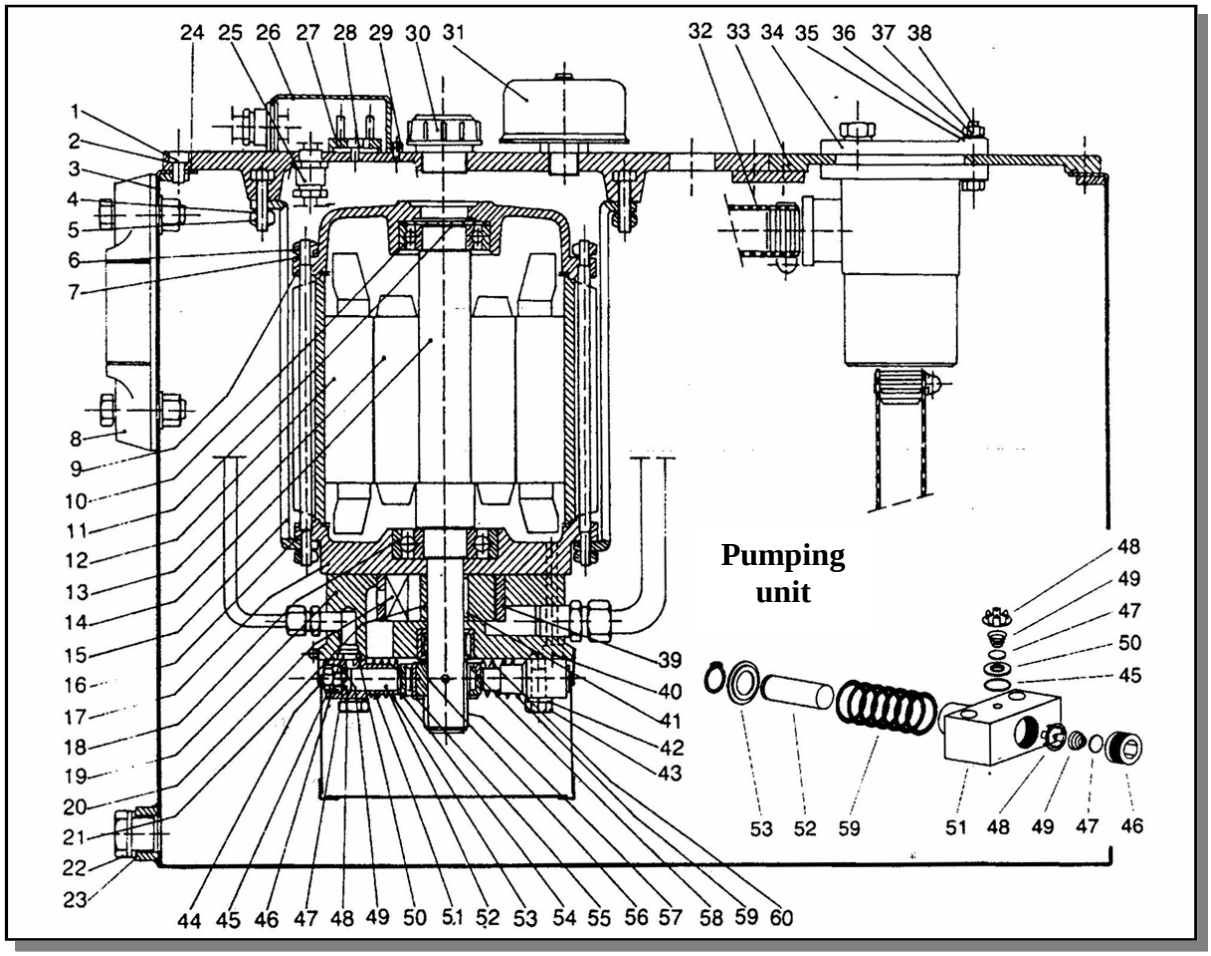


20.0
DIAGRAM OF DISTRIBUTOR'S SPARE PARTS
FIG. 16

Item 161/R
Item 162/R
Item 163/R
Item 164/R

1	Central body
2	OR gasket
3	Spacer ring
4	Cap
5	Washer
6	Cap
7	OR gasket
8	Cap
9	Cap
10	OR gasket
11	Washer
12	Washer
14	Ball housing
15	Pin
16	Washer
17	Spring
18	Spacer
19	Washer
20	Cap
21	Regulator
22	Washer
23	Max. valve box nut
25	Washer
26	Mushroom comp. valve
27	Cap
29	Stem
30	Spacer
	Spring
	Spacer
	Ball housing
	Cap
	Screw
31	Spacer
32	Pin
33	Lever
34	Sc. lid unit
35	Support
37	Screw
38	Lever rod
39	Accessories

21.0
DIAGRAM OF HYDRAULIC
POWER UNIT SPARE PARTS
FIG. 17



1	Lid screws	**21**	Pump rotor	**41**	Tab
2	Tank lid	**22**	Drain plug	**42**	Washer
3	Tank	**23**	Washer	**43**	Pump screw
4	Washer	**24**	OR braid	**44**	Suction filter
5	Self-locking nut	**25**	Cable clamp	**45**	OR ring
6	Screw	**26**	Terminal block	**46**	Drilled screw
7	Washer	**27**	Terminal board	**47**	Pump washer
8	Oil level light	**28**	Terminal board screw	**48**	Spring guide
9	Mot pos. flange	**29**	Terminal block screw	**49**	Spring
10	Rear bearing	**30**	Bleed plug	**50**	Ring
11	Spring washer	**31**	Air bleed filter	**51**	Pumping body
12	Stator housing	**32**	Return tube	**52**	Piston
13	Motor rotor	**33**	Inspection lid	**53**	Spring guide
14	Motor shaft	**34**	Exhaust filter	**54**	Pumping element bearing
15	Mot. supp. bracket	**35**	Washer	**55**	Spacer
16	Motor tie rods	**36**	Washer	**56**	Eccentric
17	Front mot. flange	**37**	Nut	**57**	Spacer
18	Front bearing	**38**	Filter screw	**58**	Spacer
19	Pump unit	**39**	Stator ring	**59**	Spring
20	Blade	**40**	Screw	**60**	Needle bearing

22.0 EXTRA EQUIPMENTS

In order to get better the operations of the machine, and in the meantime to give more safety and functionality to the use of the machine, OMCN supply extra equipments suitable to the different models presented in the manual.

The different equipments suitable for every model of machine are reported on the OMCN general catalogue.

The specific instructions for the safety use of the equipment are supply with the equipment itself and are not reporter in this manual.

NOTES:

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