



SMONTAGOMME
TYRE CHANGER
DESMONTADOR DE NEUMÁTICOS
REIFENMONTIERMASCHINE
DEMONTE PNEUS

M 824

Cod. 4-120285A dell'11/2017

Italiano
English
Français
Deutsch
Español

Manuale d'uso
Operator's manual
Utilisation et entretien
Betriebs und Wartungsanleitung
Uso y mantenimiento

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INTRODUCTION

The purpose of this manual is to provide the owner and machine operator with effective, safe instructions for the operation and maintenance of the tyre changer. Following these instructions carefully will ensure that the machine gives you the effective and long-lasting service that has always distinguished our products, contributing considerably to making you job easier.

The following paragraphs define the levels of danger regarding the machine, associated with the warning captions found in this manual:

DANGER

Refers to immediate danger with the risk of serious injury or death.

WARNING

Dangers or unsafe procedures that can cause serious injury or death.

WARNING

Dangers or unsafe procedures that can cause minor injuries or damage to property.

Read these instructions carefully before starting the machine. Keep this manual and all illustrative material supplied with the machine in a folder near it where it is readily accessible for consultation by the operators.

The technical documentation supplied is considered an integral part of the machine; in the event of sale all relative documentation must remain with the machine.

The manual is only valid for the machine model and serial number indicated on the nameplate applied to the machine itself.



WARNING

Adhere to the contents of this manual: the operator will be entirely responsible in the event of any use of the equipment that is not specifically described in this manual.

Note

Some of the illustrations contained in this manual were derived from photos of prototypes: the standard production machines may differ in some details.

These instructions are for the attention of personnel with basic mechanics skills. We have therefore condensed the descriptions of each operation by omitting detailed instructions regarding, for example, how to loosen or tighten the fixing devices on the machine. Do not attempt to carry out procedures which exceed your level of proficiency, or which you do not have experience with. If in need of assistance, contact an authorised assistance centre.

TRANSPORT, STORAGE AND HANDLING

Conditions for transporting the machine

The tyre changer must be transported in its original packing and maintained in the position shown on the outer packing.

- Packaging dimensions:
 - width 900 mm
 - depth 1150 mm
 - height 970 mm
- **Packaging weight:**
 - STD version
 - in cardboard** 268 Kg
 - in wood** Kg 278
 - FS version
 - in cardboard** 282 Kg
 - in wood** 292 Kg

Ambient conditions for machine transport and storage

Temperature: range from $-25^{\circ} \div +55^{\circ}\text{C}$.

WARNING

Do not stack other goods on top of the packing to avoid damaging it.

Handling

To move the packed machine insert the forks of a fork-lift truck in the channels at the base of the pallet (fig.1).

Before moving the machine, refer to the HOISTING AND HANDLING chapter.

WARNING

Keep the original packaging materials so that the machine can be safely shipped at a later date if necessary.

UNPACKING / ASSEMBLY

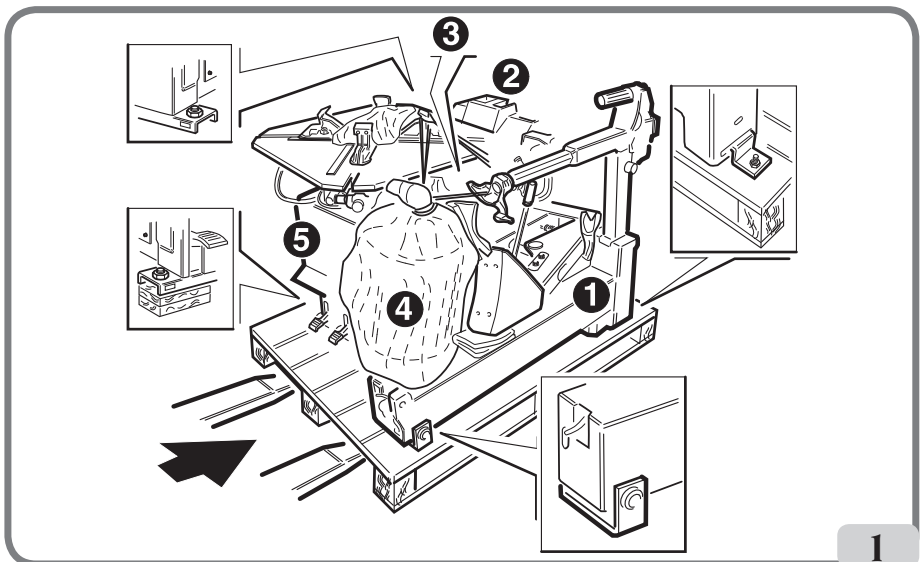


WARNING

Take the utmost care when unpacking, assembling, hoisting and installing the machine as described below.

Failure to observe these instructions can damage the machine and compromise the operator's safety.

- Remove the upper part of the packing and make sure that the machine has not suffered damage in transit; identify the points at which the machine is anchored to the pallet.
- The machine comprises five main units (fig.1):
 - 1 head
 - 2 column guard
 - 3 box with pressure gauge
 - 4 air tank (FS version only)
 - 5 body
- After removing the tower 1, it is advisable to place it in a horizontal position to prevent it from falling and getting damaged.



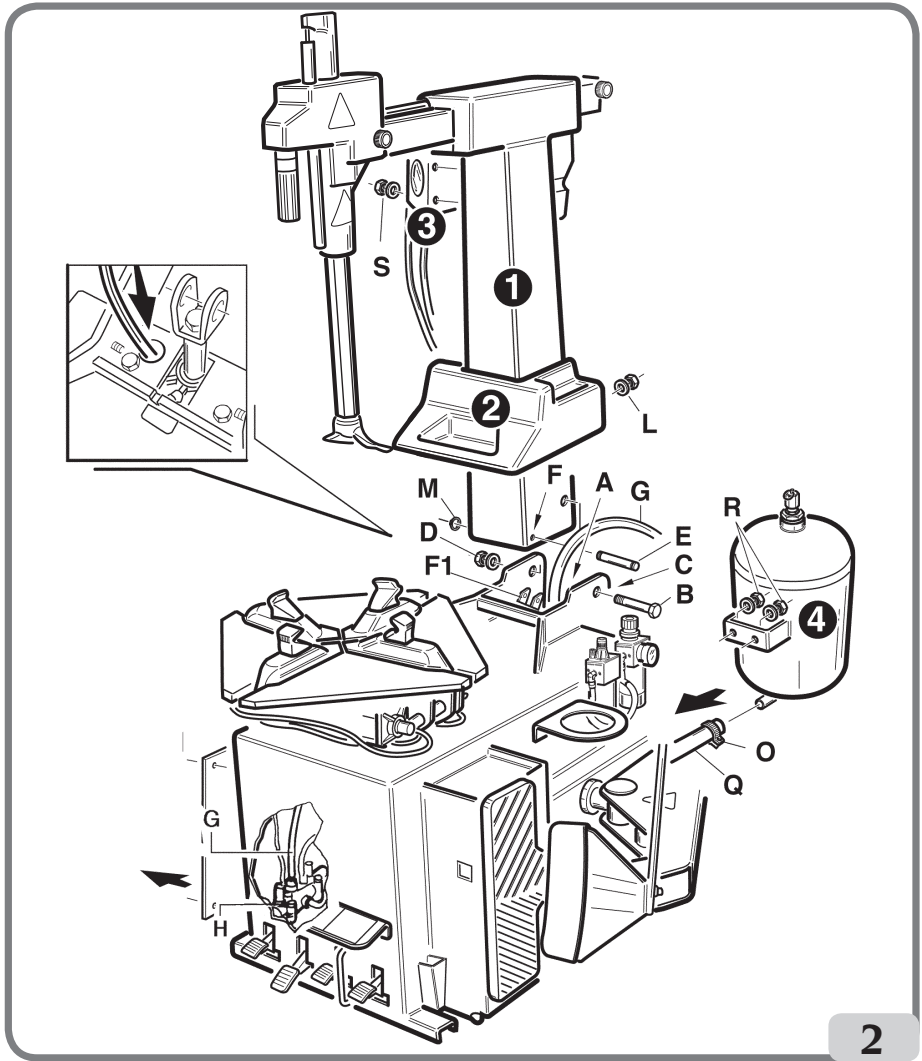
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Assemble the different parts of the machine (Fig. 2):

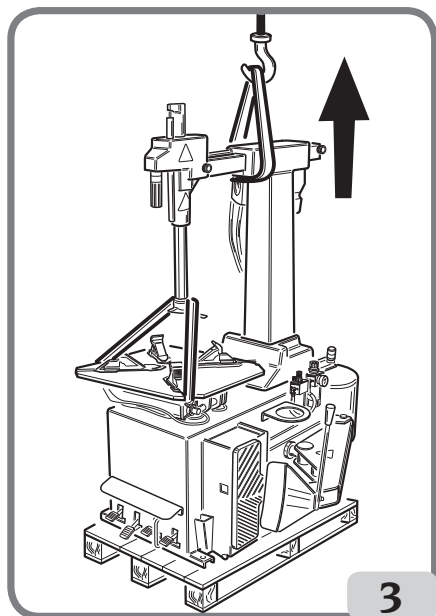
- Remove the side cover.
- Insert the air pipe G, into hole A behind the column tilting cylinder.
- Assemble head 1, insert pin B into hole C and lock it with the screw and washer D.
- Insert pin E into hole F and in the U-bolt F1 of the column tilting cylinder and lock it with ring M.
- Connect pipe G to the intermediate union

- connected to the column lifting valve H.
- Assemble the box with pressure gauge 3 on column 1 and lock it with the screw and washer S.
- Assemble the column guard 2 and lock it with the screws and washers L.
- Fit the hose connector of the tank 4 into hose Q, fasten the tank 4 to the machine with nuts and washers R, and tighten the clamp O onto the hose Q (**FS version only**).



HOISTING/ HANDLING

In order to remove the machine from the pallet, hook it as shown in fig.3.



This hoisting point must be used whenever you need to change the installation position of the machine. Do not attempt to move the machine until it has been disconnected from the electricity and compressed air supply systems.

INSTALLATION CLEARANCES



WARNING

The regulations in force concerning safety at work must be complied with when choosing the installation position.

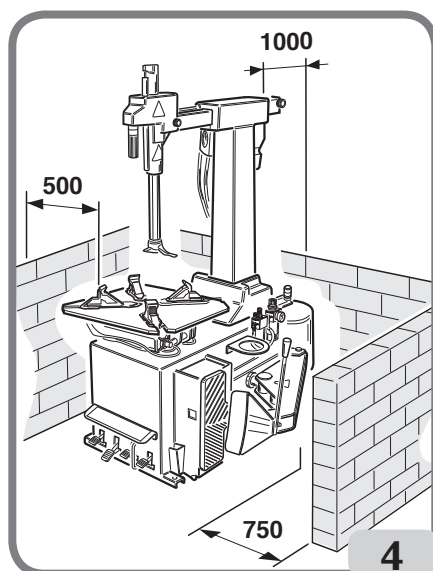
IMPORTANT: for the correct and safe operation of the machine, the lighting level in the place of use should be at least 300 lux.



WARNING

If the machine is installed outdoors, it must be properly sheltered under a roof.

Install the tyre changer in the chosen work position, complying with the minimum clearances shown in fig.4.



Ambient conditions in the place of operation

- Relative humidity from 30% to 95% without condensation.
- Temperature range from 0°C to 50°C.



WARNING

The machine must not be operated in potentially explosive atmosphere.

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ELECTRICAL AND PNEUMATIC HOOK-UPS



WARNING

All operations required for the electrical hook-up of the machine to the power supply must be carried out exclusively by qualified personnel.

The electrical hook-up must be performed according to:

- the electric power consumption of the machine specified on the relative machine data plate.
- the distance between the machine and the power supply hook-up point, to ensure that voltage drops under full load do not exceed 4% (10% during start-up) relative to the rated voltage indicated on the specifications plate.

The operator must:

- fit a power plug onto the power cable in compliance with applicable legislation.
- connect the machine to its own dedicated power supply outlet equipped with a specific type A or B differential circuit-breaker (with sensitivity of 30 mA).

IMPORTANT: only the specified type A and B security breakers will be tripped correctly in response to all the failure currents which may occur on the machine.

- install protection fuses on the power line that are suitably sized in accordance with the indications given in the general electrical layout diagram included in this manual.
- ensure that the workshop electrical system includes a functional grounding circuit.
- **prevent unauthorised use of the machine, always disconnect the power supply plug when the machine is not used (switched off) for extended periods of time.**

- if the machine is connected directly to the power supply by means of the main electrical panel and without the use of a plug, install a key-operated switch or suitable lock-out device to restrict machine use exclusively to qualified personnel.

For correct machine operation the compressed air supply line must provide a pressure range from no less than 8 bar to no more than 16 bar.

NOTE

The machine is equipped with a pressure regulator set at 10 bar (standard machine operation). When working with easily deformable rims (such as vintage car wheels, for example) we recommend temporarily lowering the pressure to 7 - 8 bar.



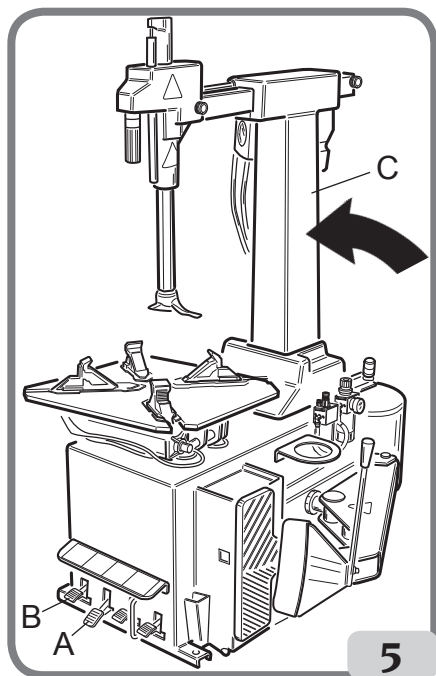
WARNING

For the correct functioning of the machine it is essential to have a good ground connection.

NEVER connect the ground wire to a gas pipe, water pipe, telephone line or other makeshift system.

Before making the electrical and pneumatic hook-ups, make sure that the machine is configured as described below (fig.5):

- pedals A and B (if present) in fully depressed position.
- column C vertical (not tilted).



SAFETY REGULATIONS

The equipment is intended for professional use only.



WARNING

The machine may only be operated by one operator at a time.



WARNING

Failure to observe the instructions and danger warnings may result in serious injury to operators and any other persons in the vicinity. Do not start the machine before reading and understanding all the indications of danger, attention and warning contained in this manual.

In order to operate the machine correctly, it is necessary to be a qualified and authorised operator, able to be trained and to know the safety regulations. Operators are expressly forbidden from using the machine under the influence of alcohol or drugs capable of affecting physical and mental capacity.

The following conditions are essential:

- Be able to read and understand all the information in this manual.
- Have a thorough knowledge of the capabilities and features of this machine.
- Keep unauthorised persons well clear of the area of operations.
- Make sure that the machine has been installed in compliance with established legislation and standards.
- Make sure that all machine operators are suitable trained, that they are capable of using the machine correctly and that they are adequately supervised during their work.
- Never leave nuts, bolts, tools or other equipment on the machine to avoid the risk that they could become entrapped between moving parts during work.
- Do not touch power lines or the inside of electric motors or other electrical equipment until the power has been disconnected and locked out.
- Read this manual carefully and learn how to use the machine correctly and safely.
- Always keep this operator's manual in a place where it can be readily consulted when working with the machine and consult it whenever you are in need of confirmation or explanations.



WARNING

Do not remove or deface the Warning, Caution or Instruction decals. Replace any missing or illegible decal. If one or more decals have been detached or damaged, replacements can be obtained from your nearest dealer.

- When using and servicing the machine, observe the standardised industrial accident prevention regulations for high

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voltages.

- Any unauthorised alterations made to the machine automatically release the manufacturer from any liability in the case of damage or accidents attributable to such alterations. Specifically, tampering with or removal of the machine safety devices is a breach of the regulations relating to Safety at Work.



WARNING

When operating or servicing the equipment, tie back long hair and do not wear loose-fitting clothes, ties, necklaces, rings or wristwatches which could become tangled in moving parts.

TYRE CHANGER DESCRIPTION

The M 824 is an electro-pneumatic tyre changer.

The machine is compatible with any type of drop-centre single-piece rims with the dimensions and weights indicated in the paragraph TECHNICAL DATA.

The sturdily constructed machine operates with the wheel in a vertical position for bead breaking and in a horizontal position for

mounting and demounting tyres. All functions are controlled by the operator via pedals and hand-operated valves and levers.

TECHNICAL DATA

- Turntable clamping capacity
 - internal clamping.....from 13"
 - external clamping.....from 10" to 24"
- Rim width.....from 3.5" to 14"
- Max. tyre diameter1040 mm (41")
- Max. tyre width360 mm (14")
- Bead breaker aperture:
.....from 45 mm to 380 mm
- Bead breaking force
.....15000 N (pressure 10 bar)
- Power supply voltage
 - single-phase...115-230±10%Volt 50/60Hz
 - three-phase...230-400±10%Volt 50/60Hz
 - DV..... 230±10%Volt 1ph 50/60Hz
- Operating pressure.....8 - 10 bar
- Weight.....283 Kg (FS version 297 Kg)
- Noise levels in operating conditions
.....≥ 70 dB (A)

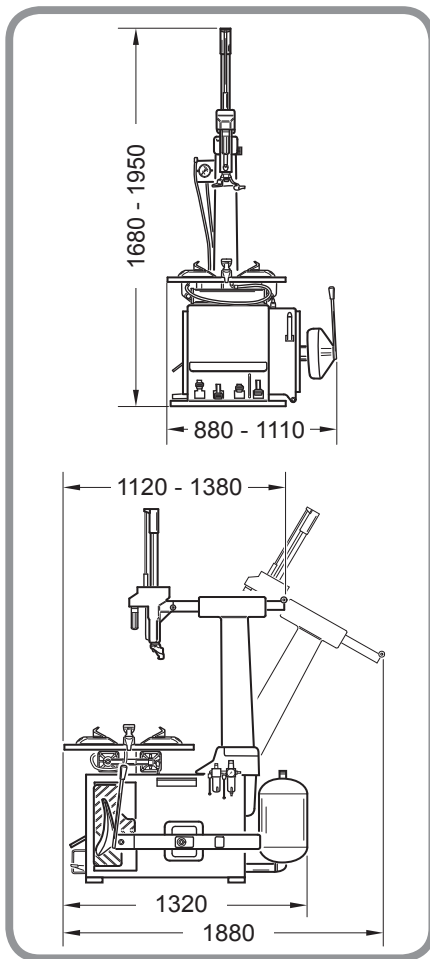
OPTIONAL ACCESSORIES

HELP power unit (8-11100288)

Model	Motor rating	kW	Rotation speed rpm	Torque Nm	Weight of electric/ electronic part kg
M 824	400Volt/3ph 50Hz	0.75	8.5	1200	11.5
	200/230Volt/3ph 60Hz	0.75	8.5	1200	11.5
	200/230Volt/3ph 50Hz	0.75	8.5	1200	11.5
	200/230Volt/1ph 50Hz	0.75	8.5	800	11.5
	200/230Volt/1ph 60Hz	0.75	8.5	800	11.5
	115Volt/1ph 60Hz	0.75	8.5	800	11.5
	200/230Volt/1ph 50/60Hz DV	0.75	6-15	1200	10.2
	115Volt/1ph 50/60Hz DV	0.75	6-15	1200	10.2
	AIR MOTOR	/	6.5	800	/

Swinging arm (8-11100181)
 Arm with bead lifting disc (8-11100183)
 BSR Bridgestone wheels device
 (8-11100182)
 RUN FLAT device (8-11100194)

OVERALL DIMENSIONS



INTENDED OPERATING CONDITIONS

This tyre changer has been designed exclusively for mounting and demounting tyres, using the tools with which they are equipped as described in this manual.



WARNING

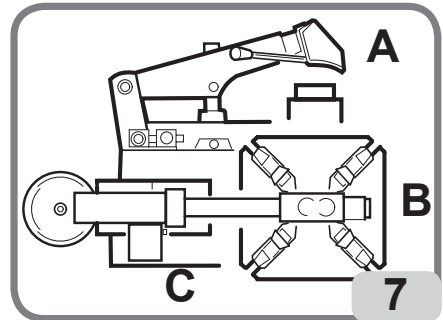
Any use other than those described in this manual is to be considered improper and unreasonable.

The machine is equipped with an inflation system independent of all the other functions described above.

Use the machine inflation system with extreme caution (read the INFLATION section).

Figure 7 shows the operator's positions during the various work phases:

- A Bead breaking
- B Tyre demounting and mounting
- C Inflation area.



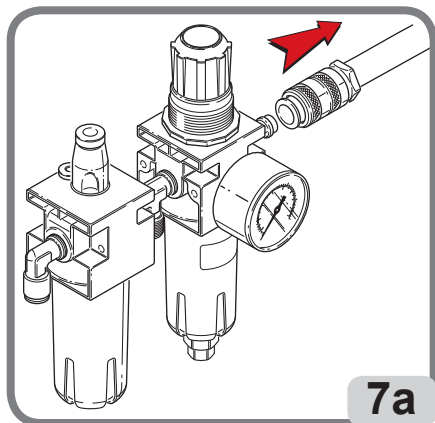
WARNING

Column tilting must be performed from work position C (fig.7), keeping the hands away from moving machine parts.

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 **WARNING**

To stop the machine in an emergency:
- disconnect the power supply plug;
- isolate the compressed air supply network by disconnecting the (quick-coupling) shut-off valve (fig. 7a).



 **WARNING**

When working with the machine it is strongly recommended not to use equipment or tools not manufactured by SIMPEFAIP.

MAIN WORKING ELEMENTS OF THE MACHINE

 **WARNING**

Get to know your machine: The best way to prevent accidents and obtain top performance from the machine is to ensure that all operators know how the machine works.

Learn the function and location of all the controls.

Carefully check that all controls on the

machine are working properly. The machine must be installed properly, operated correctly and serviced regularly in order to prevent accidents and injuries.

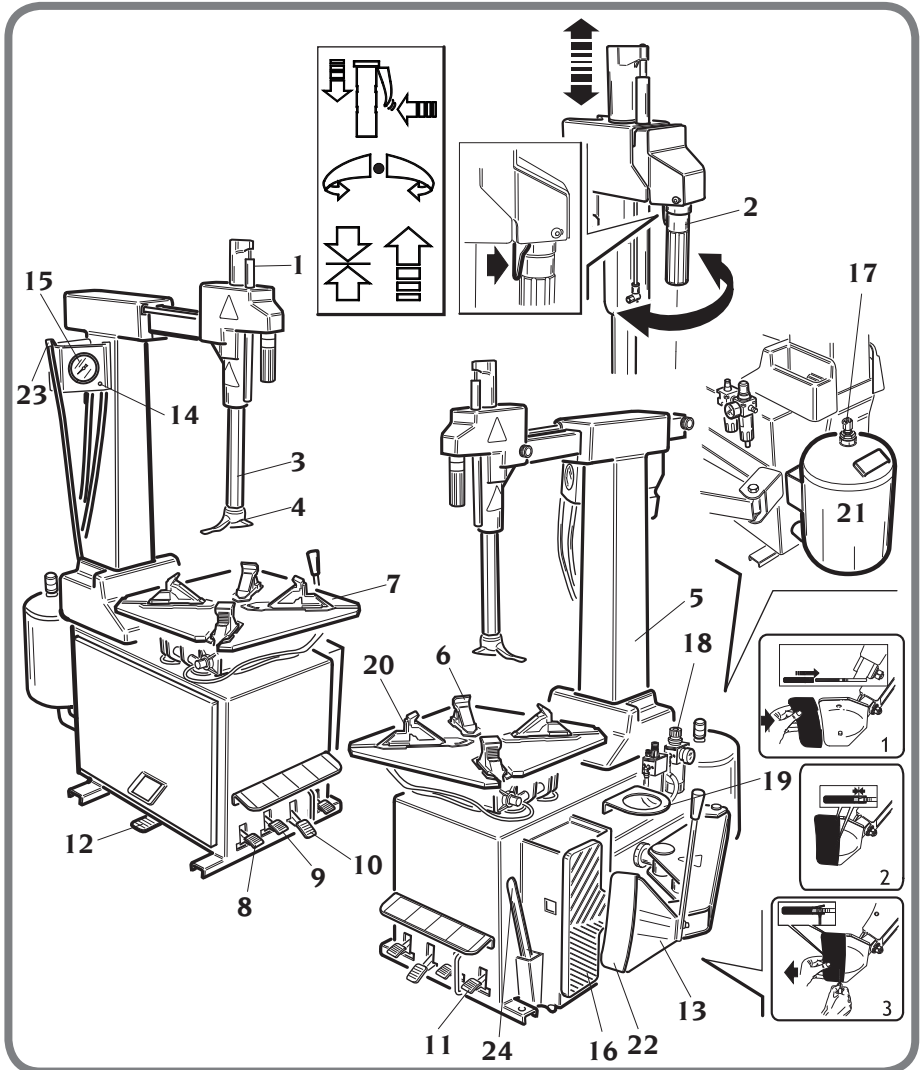
- 1 Vertical arm drive cylinder.
- 2 Locking handle
 - Press lever A to lower the vertical arm, release it to raise it.
 - Hold down lever A and turn handle B to lock the vertical arm.
 - Turn handle B only to release the vertical arm.
- 3 Vertical and horizontal arm (to position the mounting/ demounting tool).
- 4 Mounting/ demounting tool (for mounting and demounting tyre onto/from rim).
- 5 Tilting movable column.
- 6 Clamp gripper (secures the rim to the turntable).
- 7 Turntable (rotary platform supporting the wheel).
- 8 Movable column control pedal (5) (two-position pedal for tilting the column unit).
- 9 Clamp grippers (6) opening and closing control pedal (three-position pedal for opening/closing rim clamps).
- 10 Bead breaker control pedal (two-position pedal to operate the bead breaking shoe (13)).
- 11 Turntable (7) rotation control pedal (three-position pedal):
 - Position 0 (stable) turntable stationary.
 - Pressed downwards (self-returns to centre when released), rotate clockwise.
 - Lifted (self-returns to centre when released), rotate anti-clockwise.
- 12 Inflation pedal (two-position pedal on STD model, three-position pedal on FS version, used to inflate tyre via Doyfe connector (21)).
- 13 Bead breaker shoe (movable shoe to detach the bead from the rim).
- 14 Deflation button (button to remove the

extra air inside the wheel).

- 15 Pressure gauge (reads the wheel pressure).
- 16 Rim rest.
- 17 Safety relief valve (max. pressure 12 bar) (FS versions only).
- 18 Filter Regulator + Lubricator Unit (regulates pressure, filters, removes humidity of and lubricates the compressed air supply).

19 Lube bottle.

- 20 Inflation nozzles (air introduced through these nozzles pushes the beads outward to form a seal and permit inflation) (FS version only).
- 21 Air tank (FS version only).
- 22 Shoe guard.
- 23 Doyfe connector (fits onto tyre valve for inflation).
- 24 Bead lever



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WARNING

For technical characteristics, warnings, maintenance instructions and all other information concerning the air tank, consult the relative usage and maintenance manual provided with the machine documentation.

Danger warning decals



Risk of crushing.
Never insert body parts between the bead breaking shoe, rim and rim support.



When locking the rim on the turntable, never insert your hands between the rim and the clamp gripper.



NEVER stand behind the machine.



NEVER insert your hands between the wheel and the head when lowering the head.



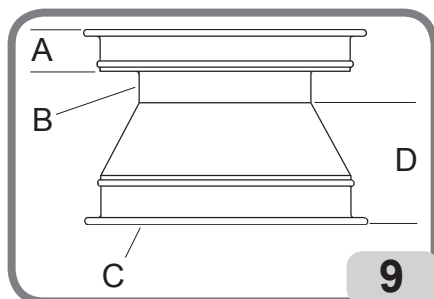
BEAD BREAKING

WARNING

During this operation, noise levels assessed at 85 dB(A) may occur. Therefore we advise operators to wear hearing protection devices.

Deciding from which side of the wheel the tyre must be demounted

Fig. 9



- A Narrow side - Side for mounting the tyre.
- B Rim well.
- C Wheel.
- D Wider side - You cannot mount tyres from this side.

The two sides may be almost identical, but only the narrow side serves for tyre mounting and demounting.

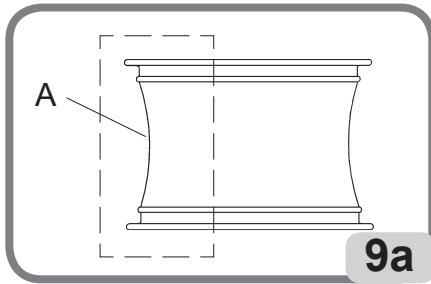
Identify the side for tyre mounting and make sure that this side is facing upward when you install the tyre on the table top (i.e. facing toward the mount/demount head).

Special instructions

Alloy wheels

Some alloy wheels on the market have minimal rim wells or are even completely without rim wells (these wheels are not DOT approved).

Fig.9a



A No rim well



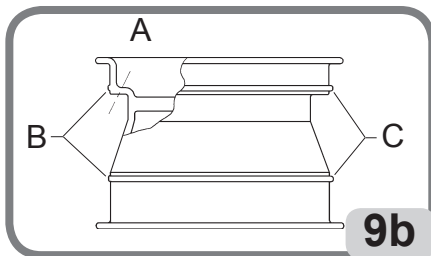
DANGER

When working on this tyre type, the tyre, the rim or both may get damaged, with the risk of the tyre exploding due to pressure causing serious injuries or even death. When mounting tyres on this type of wheel, use the utmost caution.

European style high performance wheels (asymmetrical curvature)

Some European wheels have very pronounced curves on the rim edge, except in the area of the valve hole. On this type of wheel bead, breaking must be performed in correspondence with the valve hole and on the lower and upper side of the wheel.

Fig.9b

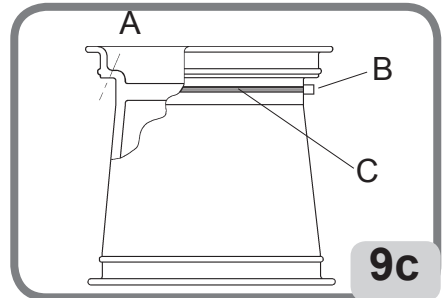


- A Valve hole
- B Slight curvature
- C Pronounced curvature

Wheels for Corvette, BMW, Lamborghini and other wheels with "Low pressure indicator system"

Some types of high performance wheels are equipped with a pressure transmitter secured to the rim with a belt on the side opposite the valve hole. On this type of wheel bead breaking must be done initially in correspondence with the valve hole, on both sides of the rim.

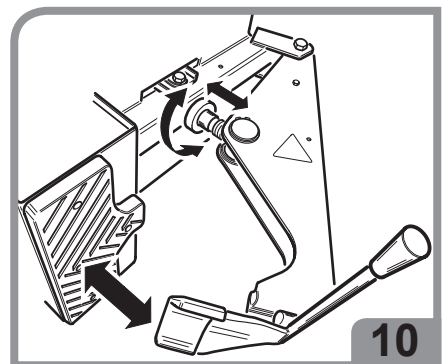
Fig.9c



- A Valve hole
- B Transmitter
- C Attachment belt

Bead breaking

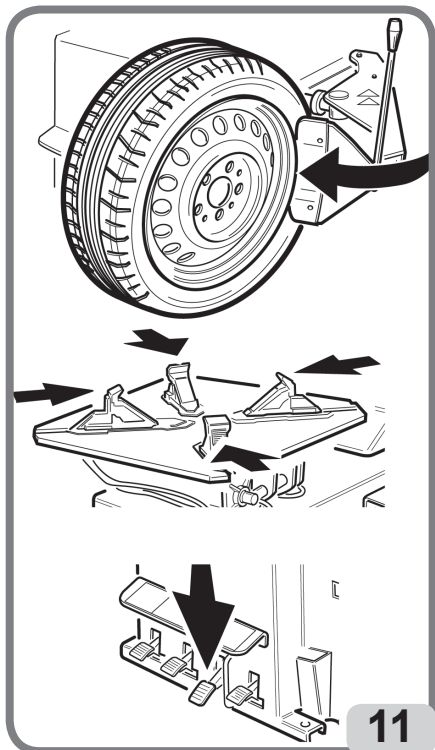
- Fully deflate the tyre, removing the valve.
- Adjust the opening of the bead breaking shoe by turning the screw located on the cylinder stem (fig.10).



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- Position the wheel as shown in fig.11 and move the bead breaking shoe near the rim edge.

IMPORTANT: During the bead breaking operation, you are advised to keep the turntable closed (clamp gripper towards the centre) (fig.11).

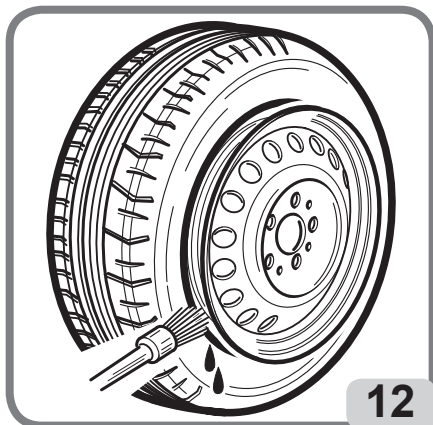


- Press the pedal (fig.11) to operate the bead breaker and detach the bead from the rim.

Repeat this operation on the other side of the wheel.

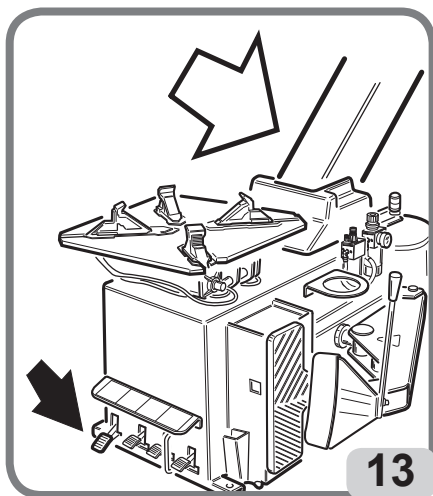
It may be necessary to break the bead at several points to free it completely. After detaching the beads, remove the old balancing weights.

- Thoroughly lubricate the sides of the tyre around the entire circumference of the lower and upper bead to facilitate demounting and avoid damaging the beads (fig.12).



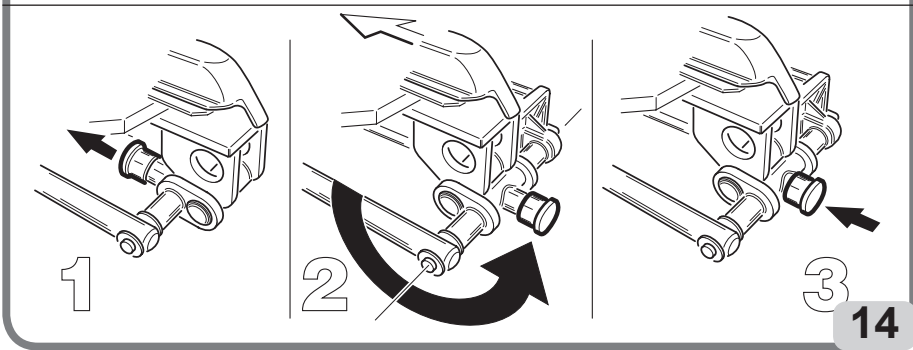
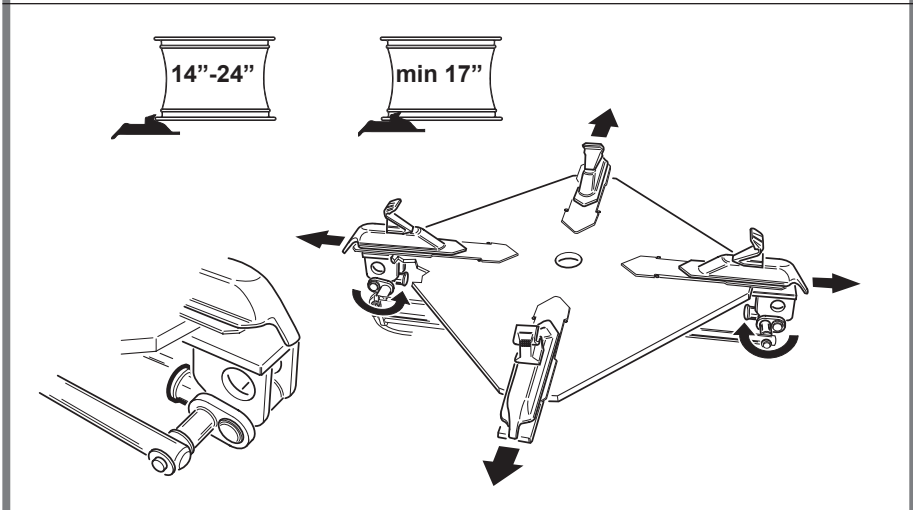
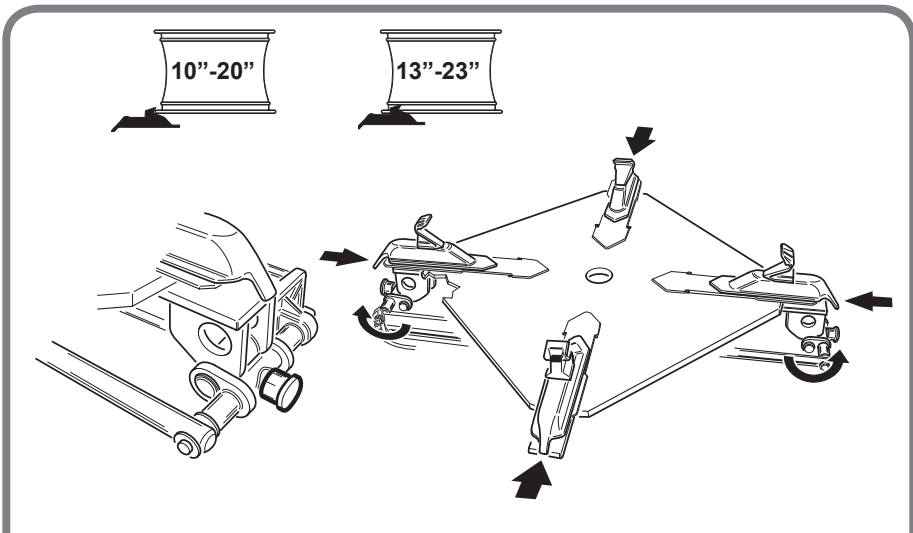
CLAMPING THE WHEEL

- Tip the column back, holding the button in the locked position (fig.13).



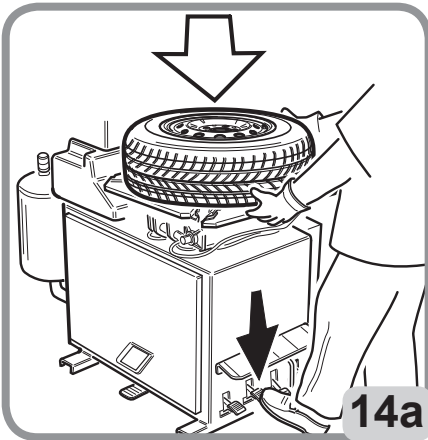
- Place the grippers in an open or closed position (fig.14).

- Place the wheel on the turntable (with the narrow part of the rim structure facing upwards), push lightly downwards and use the control pedal to clamp the

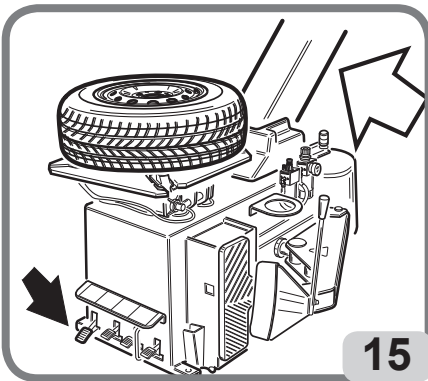


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wheel into position (fig.14a).



- Move the column forward (fig.15).



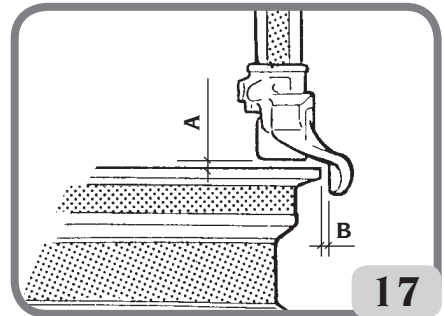
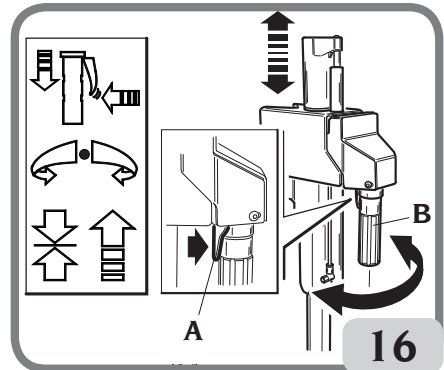
DEMOUNTING

- Release the lock button, releasing both the vertical and horizontal arm (fig 15a), and position the mounting/demounting device correctly against the rim edge (fig.16).

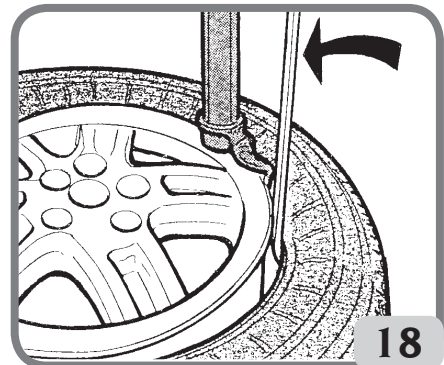
IMPORTANT: pressing the button locks both the vertical and horizontal arms simultaneously.

This space between the rim and the verti-

cal slide will be maintained for as long as the button is in the locking position. The operator can tilt the tower freely (e.g. when demounting wheels of the same size) without repositioning the vertical slide.



- Fit the bead lifter lever (Fig. 18) between the mounting head and the tyre bead.



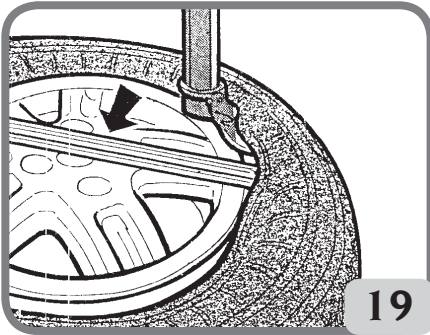
ATTENTION: When working with alloy wheels or wheels with easily damaged paint, we recommend fitting the specific plastic protectors on the lever.



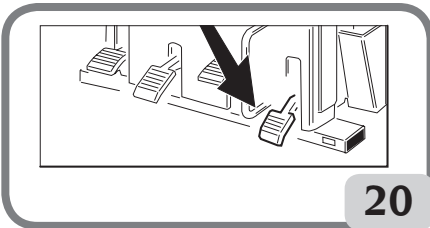
WARNING

Grip the bead lifting tool firmly during use.

- Lift the top bead over the front of the demounting head (fig. 19) and push part of the top bead into the rim well by pressing downwards on the side wall from the side opposite the head.



- Start the demounting procedure by tapping the pedal gently (fig. 20).



- Rotate the wheel by one complete turn, and press onto the tyre by hand on the side opposite the head to ensure that the entire bead is pushed into the rim wheel.

ATTENTION: If the tyre has an inner tube, move the arm out of the working position then remove the inner tube.

- Repeat the same procedure to break the other bead (fig. 21).



- Move the column forward in “not working position”, then remove the tyre from the wheel.

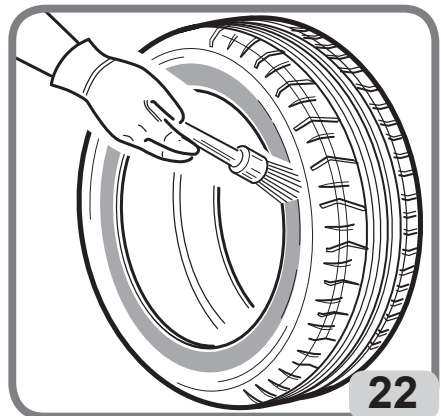
MOUNTING



WARNING

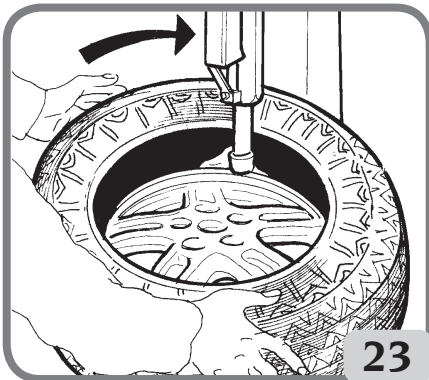
Always check that the tyre size is compatible with the rim size before mounting.

- Before you start with tyre mounting operations, lubricate the beads (fig.22). Lubricated beads require less force to mount/seat and are protected against torsional damage.

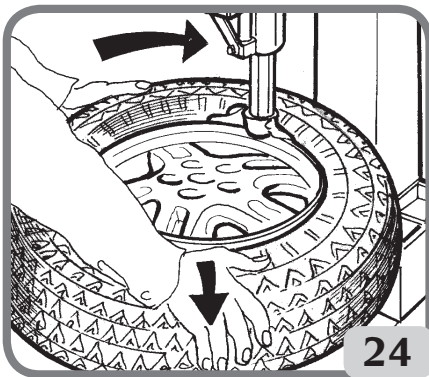


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- Place the tyre on top of the wheel and move the column into the working position.
- Place the bottom bead under the front of the head.
- Press the turntable control pedal to rotate clockwise and mount the bead. Use the rim well space, pressing onto the right hand sidewall to reduce torsion on the bead as the wheel rotates (fig. 23).



- After mounting the bottom bead, repeat the same procedure for the top bead (Fig. 24).



- Move the column forward in “not working position”, then remove the wheel from the tyre changer.

APPROVED UHP AND RUN FLAT TYRE DEMOUNTING AND MOUNTING PROCEDURE

For a detailed description of the UHP and RUN FLAT tyre mounting/demounting procedure, please refer to the instructions in the manual prepared by WDK (German Tyre Industry Association).

INFLATION



WARNING

Inflation is a notoriously hazardous operation. It must be carried out in accordance with the instructions provided below.



WARNING

Noise levels may reach 85 dB(A) during this procedure. Therefore we advise operators to wear hearing protection devices.



WARNING

During bead insertion and inflation, the use of goggles and ear protectors is recommended.



DANGER

Although it does have a pressure limiting function, the machine cannot guarantee sufficient protection if the tyre explodes during inflation. Failure to comply with the instructions below will render tyre inflation dangerous.



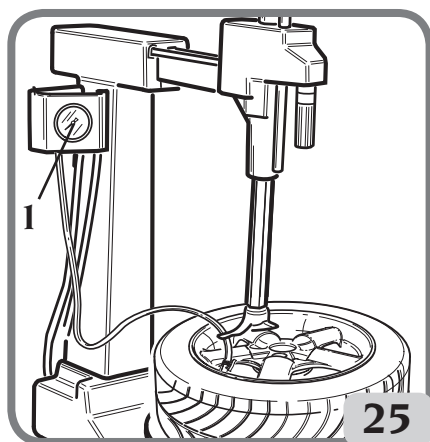
DANGER

NEVER exceed the pressure value recommended by the tyre manufacturer. Tyres may explode if inflated beyond these limits or their structure may be damaged seriously although not visibly at that moment. **KEEP YOUR HANDS AND BODY AWAY FROM THE TYRE DURING INFLATION.** Avoid being distracted during this operation and check the tyre pressure often to prevent the tyre from being excessively inflated. A bursting tyre can cause serious injuries or even death.

Inflating procedure

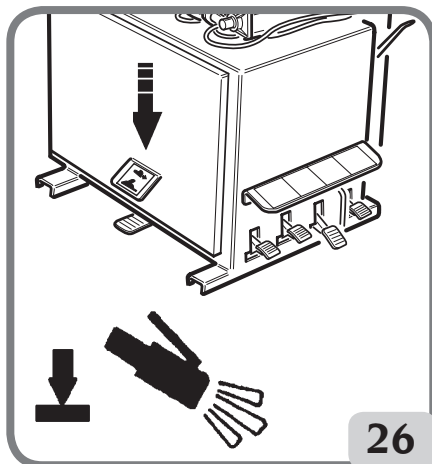
The machine has a pedal for inflating the tyre and a pressure gauge for reading the tyre pressure.

- Release the wheel from the sliding clamps on the table top.
- Bring the horizontal arm to the fully extended position.
- Lower the vertical rod until it touches the rim.
- Lock the horizontal arm and the vertical rod in the positions described above fig. 25.



- Connect the Doyfe inflator chuck on the air hose to the valve stem.

Inflate the tyre by operating the proper pedal (Fig. 26) at short intervals; check the pressure gauge (1, Fig. 25) frequently to make sure that the pressure **NEVER** exceeds the maximum pressure specified by the tyre manufacturer.



Inflating tubeless tyres (FS versions only)

WARNING

Before carrying out the operations described below, always make sure that there is no dirt, dust or other impurities on the jaws near the air outlet holes.

- Make sure that the wheel is secured to the table top with inside clamping (Fig. 27).



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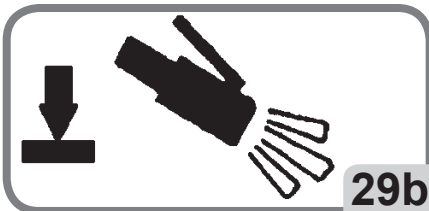
- Connect the Doyfe inflator chuck on the air hose to the valve stem (Fig. 28).
- Hold the tyre with your hands and lift it until there is a slight gap between the lower bead and bottom edge of the rim in order to close the upper bead and the top of the rim (Fig. 28).



- Fully press the inflation pedal down for a short period to the bead seating position (fig. 29a). The tyre will expand and the beads will seat.



- Continue to press the pedal in the inflation position (fig. 29b) until the beads are completely inserted.



Note: to improve the operation of the tubeless tyre inflation system the compressed air line pressure must be between 8/10 bar.

TROUBLESHOOTING

Turntable does not turn

Power cord conductor shorting to ground.

- Check the wiring.

Motor shorted.

- Replace the fuses
- Replace the motor.

Rotation control pedal fails to return to the central position

Control spring broken.

- Replace the command spring.

Bead breaker pedal and table top pedal do not return to home position

Control spring broken.

- Replace the pedal return spring.

No oil in lubricator.

- Top up lubricator with SAE20 non-detergent oil.

Air leak inside the machine

Air leak from bead breaker cock.

- Replace the cock.
- Replace the bead breaker cylinder.

Air leak from the table top cock.

- Replace the turntable cylinder.
- Replace the swivel connector.

Bead breaker cylinder lacks force, fails to break beads and leaks air

Silencer plugged.

- Replace the silencer.

Cylinder seals worn.

- Replace the gaskets.
- Replace the bead breaker cylinder.

Bead breaker cylinder leaks air around the pin

Air seal worn.

- Replace the gaskets.
- Replace the bead breaker cylinder.

Turntable will not rotate in either direction

Inverter faulty.

- Replace the inverter.

Belt broken.

- Replace the belt.

Gear unit clamped.

- Replace the gear unit.

Gear unit noisy. The turntable makes 1/3 of a revolution and then stops

Gear unit seizing.

- Replace the gear unit.

Table top fails to clamp wheels

Turntable does not clamp rim.

- Replace the turntable cylinder.

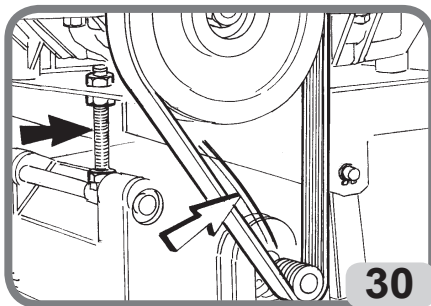
Clamp grippers are worn.

- Replace the clamp grippers.

Turntable mounts or demounts tyres with difficulty

Insufficient belt tension.

- Adjust belt tension (fig.30) or replace it.



Vertical head lifts too little or too far from rim

Clamping plate not adjusted.

- Adjust the plate.

Vertical slide ascends under strain

Defective clamping plate.

- Replace the plate.

Clamping plate not adjusted.

- Adjust the plate.

When the column tilts back, the arm and vertical slide slip to their limit stops

Defective clamping plate.

- Replace the plate.

Clamping plate not adjusted.

- Adjust the plate.

Vertical and horizontal limit stops do not operate

No air passage through cock.

- Replace the cock.

Column not tilted

Faulty tower tilt cylinder.

- Replace the column tilting cylinder.

No air supply to cylinder.

- Replace the cock.

Air escapes from cock.

- Replace the cock or column tilting cylinder.

Air leaks from the vertical and horizontal arm locking cock

Valve seal damaged.

- Replace the handle cock.

Clamping arm cylinders leak air

Faulty piston or seals.

- Replace the pistons and gaskets.

The column tilts violently or too slowly

Incorrect outlet regulator setting.

- ➔ Adjust the outlet regulators.
Hare: speed increase.
Tortoise: speed reduction.

Tyre pressure gauge needle fails to return to 0

Pressure gauge faulty or damaged.

- ➔ Replace the pressure gauge.



WARNING

The "Spare parts" handbook does not authorise the user to carry out work on the machine with the exception of those operations explicitly described in the User Manual. It only enables the user to provide the technical assistance service with precise information, to minimise delays.

MAINTENANCE



WARNING

SIMPESFAIP declines all responsibility in the event of claims resulting from the use of non-original spare parts or accessories.



WARNING

Do not attempt to modify the pressure settings for relief valves or the pressure limiter for any reason whatsoever. The manufacturer declines all liability for damage resulting from tampering with these valves.



WARNING

Before adjusting or servicing the ma-

chine, disconnect the electricity and compressed air supplies and ensure that all moving parts are suitably immobilised.



WARNING

Do not remove or alter any part of this machine (only technical assistance personnel is permitted to do so).



DANGER

When the machine is disconnected from the air supply, the devices bearing the sign shown above may remain pressurised.

The purpose of the regulator filter unit plus lubricator (FRL) is to filter the air, adjust the pressure and lubricate it.

The "FRL" unit supports a maximum input pressure of 18 bar and has an adjustment range of 0.5 to 10 bar. The setting may be modified by pulling the handle out and then turning. After adjusting, return the handle to the locked position by pushing down (fig.31a).

The lubricant flow-rate is adjusted by turning the screw on part "L", (fig.31b); normally this unit is precalibrated to a pressure of 10Bar, with SAE20 viscosity lubricant in order to make a drop of lubricant come out, which can be seen from the specific cover, every 4 times the bead breaker is operated.



DANGER

Before carrying out any maintenance operation or topping up with lubricant, disconnect the machine from the compressed air supply line.

Periodically check the lubricant level through the specific windows and top up as shown in fig.31c. Top up only with non-detergent SAE20 oil equal to 50cc.

The filter regulator "FR" has an automatic

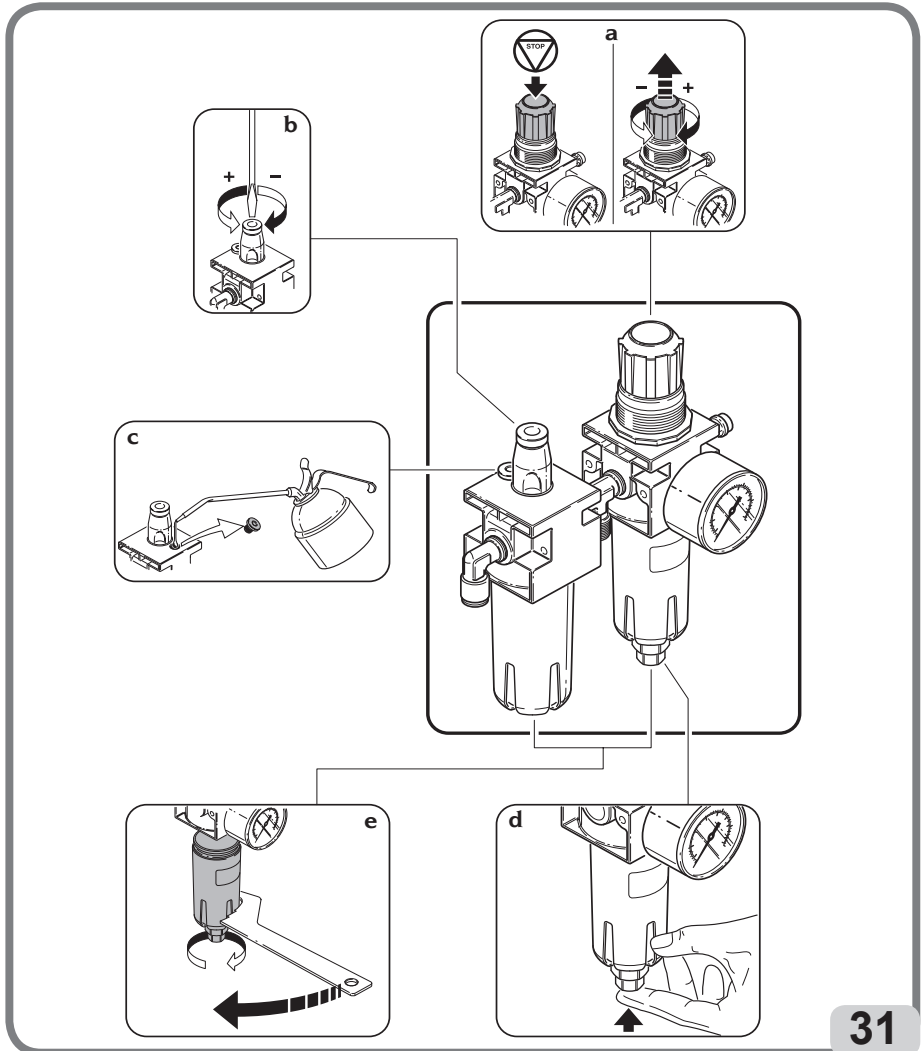
condensation drain system, therefore in conditions of normal use special maintenance is not required. The condensate may however be drained manually at any time (fig.31d).

Normally the cups do not need to be removed, but check if this is necessary for maintenance operations after a long period of use. If a manual operation is not sufficient, use the specific key provided (fig.31e).

Clean with a dry cloth. Avoid contact with solvents.



Keep the working area clean. Never use compressed air, water jets or solvents to remove dirt or deposits from the machine. When cleaning the area, take steps to avoid building up and raising dust as far as possible.



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INFORMATION REGARDING MACHINE DEMOLITION

If the machine is to be scrapped, remove all electrical, electronic, plastic and metal parts.

and dispose of them separately in accordance with current provisions as prescribed by law.

ENVIRONMENTAL INFORMATION

The disposal procedure described below only applies to machines with the symbol of the waste bin with a bar across it



on their data plates.

This product may contain substances that can be hazardous to the environment and to human health if it is not disposed of properly.

The following information is therefore provided to prevent the release of these substances and to improve the use of natural resources.

Electrical and electronic equipment must never be disposed of in the usual municipal waste but must be separately collected for their proper treatment.

The crossed-out bin symbol, placed on the product and on this page, reminds the user that the product must be disposed of properly at the end of its life.

In this way it is possible to prevent that a non specific treatment of the substances contained in these products, or their improper use, or improper use of their parts may be hazardous to the environment or

to human health. Furthermore, this helps to recover, recycle and reuse many of the materials contained in these products.

Electrical and electronic manufacturers and distributors set up proper collection and treatment systems for these products for this purpose.

Contact your local distributor to obtain information on the collection procedures at the end of the life of your product.

When purchasing this product, your distributor will also inform you of the possibility to return another end-of-life piece of equipment free of charge as long as it is of equivalent type and had the same functions as the purchased product.

Any disposal of the product performed in a different way from that described above will be liable to the penalties provided for by the national regulations in force in the country where the product is disposed of.

Further measures for environmental protection are recommended: recycling of the internal and external packaging of the product and proper disposal of used batteries (only if contained in the product).

Your help is crucial in reducing the amount of natural resources used for manufacturing electrical and electronic equipment, minimise the use of landfills for product disposal and improve the quality of life, preventing potentially hazardous substances from being released in the environment.

OIL - WARNINGS AND RECOMMENDATIONS

Used oil disposal

Do not dispose of used oil into sewage mains, storm drains, rivers or streams. Contact a specialised firm for disposal.

Oil spreading or leakage

When the oil has been removed, degrease the area with suitable solvents taking care to disperse solvent fumes. Dispose of all residual cleaning material in accordance with procedures as prescribed by law.

Precautions when using oil

- Avoid contact with the skin.
- Avoid the formation or spreading of oil mists in the atmosphere.
- The following fundamental health precautions must therefore be adopted:
 - avoid spatters (suitable clothing, protective shields on machines)
 - wash frequently with soap and water; do not use cleaning products or solvents that irritate the skin or remove its natural protective oil
 - do not dry your hands using soiled or greasy rags
 - change your clothes if soaked and, in any case, at the end of the work shift
 - do not smoke or eat with greasy hands
- Also adopt the following preventive and protective equipment:
 - mineral oil resistant gloves with plush lining
 - goggles, in case of spatters
 - mineral oil resistant aprons
 - protective shields, in case of spatters

Mineral oil: First aid instructions

- Swallowing: go to Casualty with the characteristics of the type of oil swallowed.

- Inhalation: in case of exposure to strong concentration of vapours or mists, take the affected person out into the open air and then to Casualty.
- Eyes: rinse with plenty of water and go to Casualty as soon as possible.
- Skin: wash with soap and water.

FIREFIGHTING MEANS USABLE

Consult the following table to choose the most suitable fire extinguisher.

Dry materials

Water	YES
Foam	YES
Powder	YES*
CO ₂	YES*

Inflammable liquids

Water	NO
Foam	YES
Powder	YES
CO ₂	YES

Electrical devices

Water	NO
Foam	NO
Powder	YES
CO ₂	YES

YES* Use only if more appropriate extinguishers are not at hand or when the fire is small.



WARNING

The indications in this table are of a general nature. They are designed as a guideline for the user. The applications of each type of extinguisher will be illustrated fully by the respective manufacturers on request.

GLOSSARY

Tubeless tyre inflation system

Inflation system that makes easier the inflation of tubeless tyres.

Insertion system

Operation that is obtained during inflation and that ensures perfect centring between the bead and rim edge.

Unloading regulator

Union allowing regulation of the air flow.

Bead breaking

Operation that allows detaching the tyre bead from the rim edge.

Bead

Cover edge in contact with the rim.

Tubeless

Air pressure tyre.

GENERAL ELECTRIC LAYOUT DIAGRAMS

1Ph Tyre changer

Fig. 32

XS1	Power supply socket
QS1	Inverter
M1	Motor
R1	Resistor
C1	Capacitor

100-115-200-230V DV Tyre changer

Fig. 33

XS1	Power supply socket
AP1	Single / two-speed motor
M1	Motor
SQ1	Two-speed micro-switch
SQ2	Micro-switch CLOCKWISE rotation)
SQ3	Micro-switch ANTICLOCKWISE rotation)

3Ph Tyre changer

Fig. 34

XS1	Power supply socket
QS1	Inverter
M1	Motor

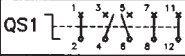
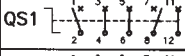
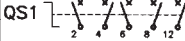
3Ph Tyre changer

Fig. 35

X1	Power supply socket
S2	Inverter
M3	Motor
FR	Fuse

PNEUMATIC SYSTEM DIAGRAM

1	Snap coupling
2	Filter regulator unit
3	Inflation pedal
4	Air pressure gun
5	Deflation push-button.
6	Pressure gauge
7	Column translation valve
8	Turntable valve
9	Bead breaker valve
10	Bead breaker cylinder
11	Right turntable cylinder
12	Left turntable cylinder
13	Column tilting cylinder
14	Clamping handle valve
15	Front clamping cylinder
16	Rear clamping cylinder
17	Column translation cylinder
18	Swivel connector
19	Delivery valve
20	Tank
21	Relief valve
22	5/2 NO Valve
23	Tool actuator cylinder
32	Inflation limiter unit

Posizione / Position	Situazione	Situation
A 	Pedale abbassato Rotazione antioraria del motore Rotazione oraria del piatto autocentrante	Pedal depressed Motor anti-clockwise rotation Turntable clockwise rotation
B 	Pedale alzato Rotazione oraria del motore Rotazione antioraria del piatto autocentrante	Pedal lifted Motor clockwise rotation Turntable anti-clockwise rotation
Neutral 	Pedale in posizione orizzontale Motore spenta Piatto autocentrante fermo	Pedal in horizontal position Motor off Turntable still

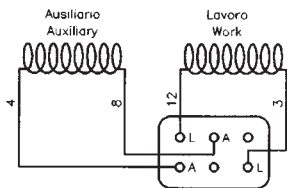
Solo versione CSA - CSA version only

115V 50-60Hz	220V 50-60Hz
C1=40uF 450V	C1=30uF 450V
R1 = 330K 1W	R1 = 330K 1W

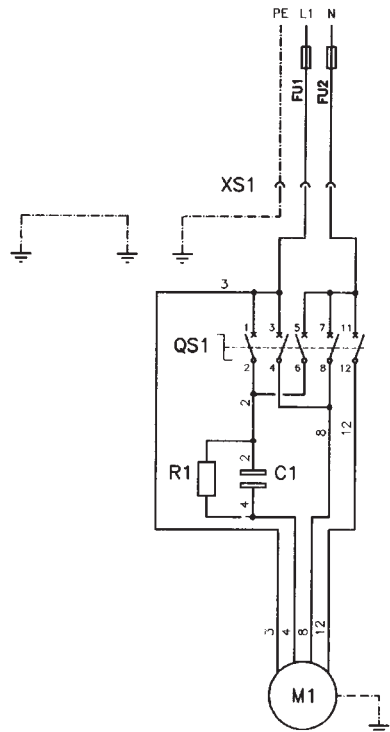
Versione standard - Standard version

115V 60Hz	220V 50-60Hz
C1=45uF 450V	C1=35uF 500V
R1 = 330K 1W	R1 = 330K 1W

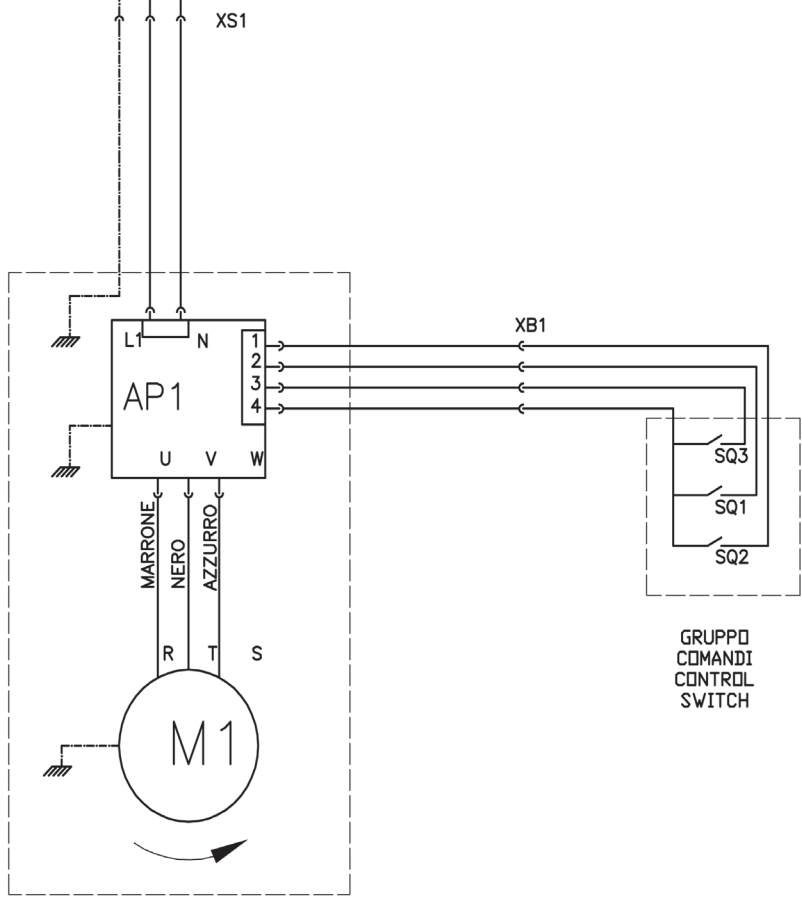
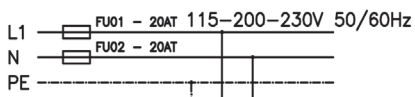
FU1-FU2	
110V 50/60Hz	25A
220V 50/60Hz	20A



Schema cablaggio morsetteria
Wiring diagram terminal-blok

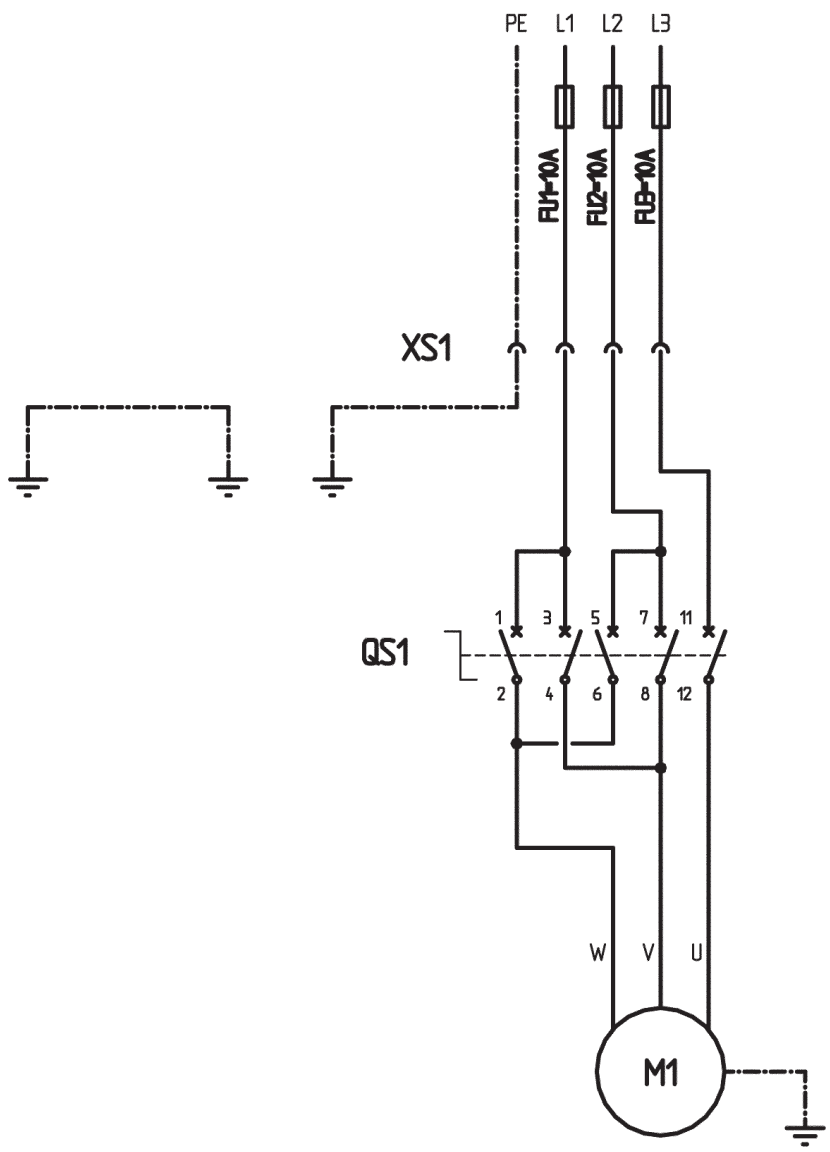


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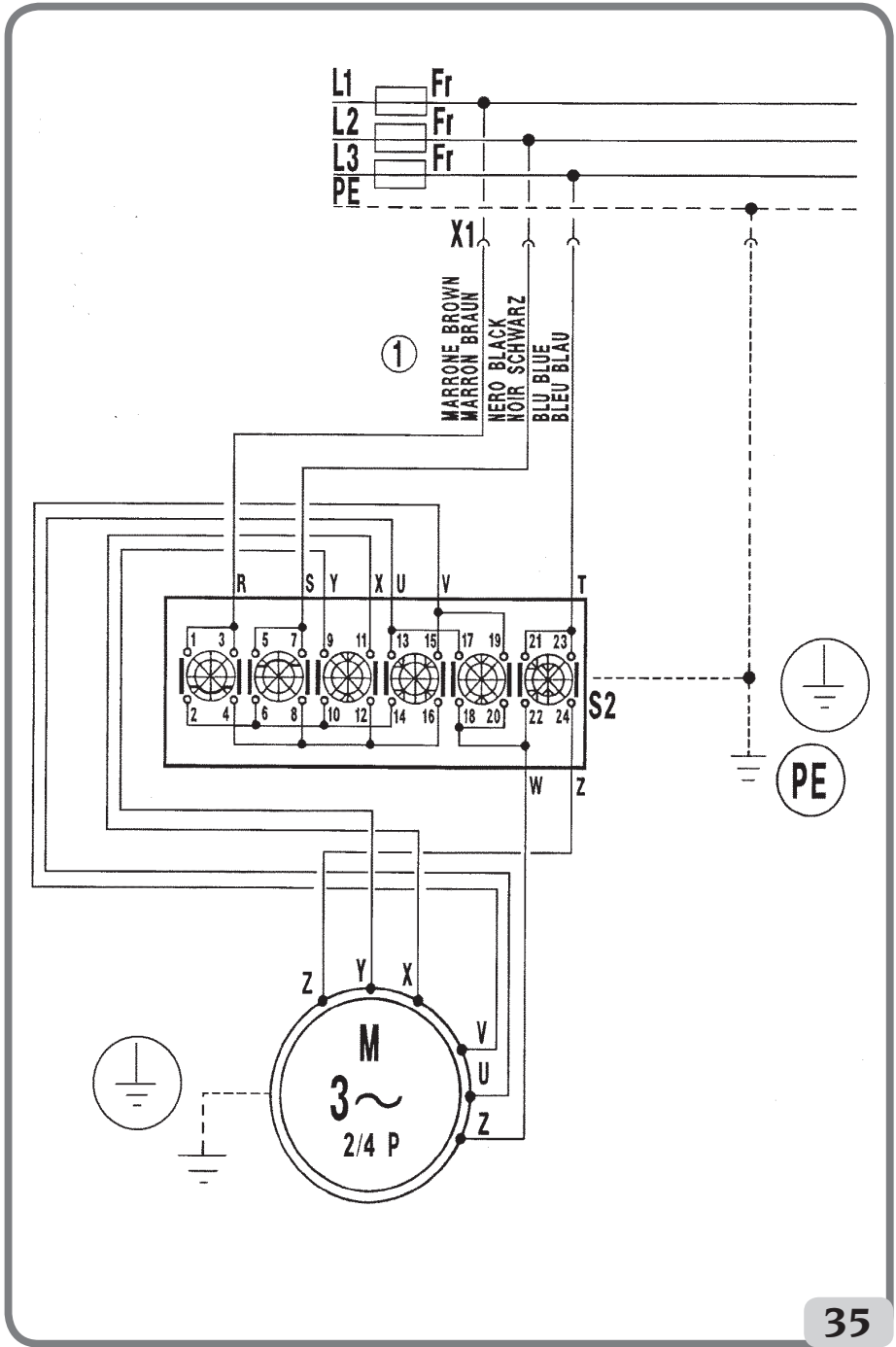


GRUPPO MOTORE
MOTOR UNIT

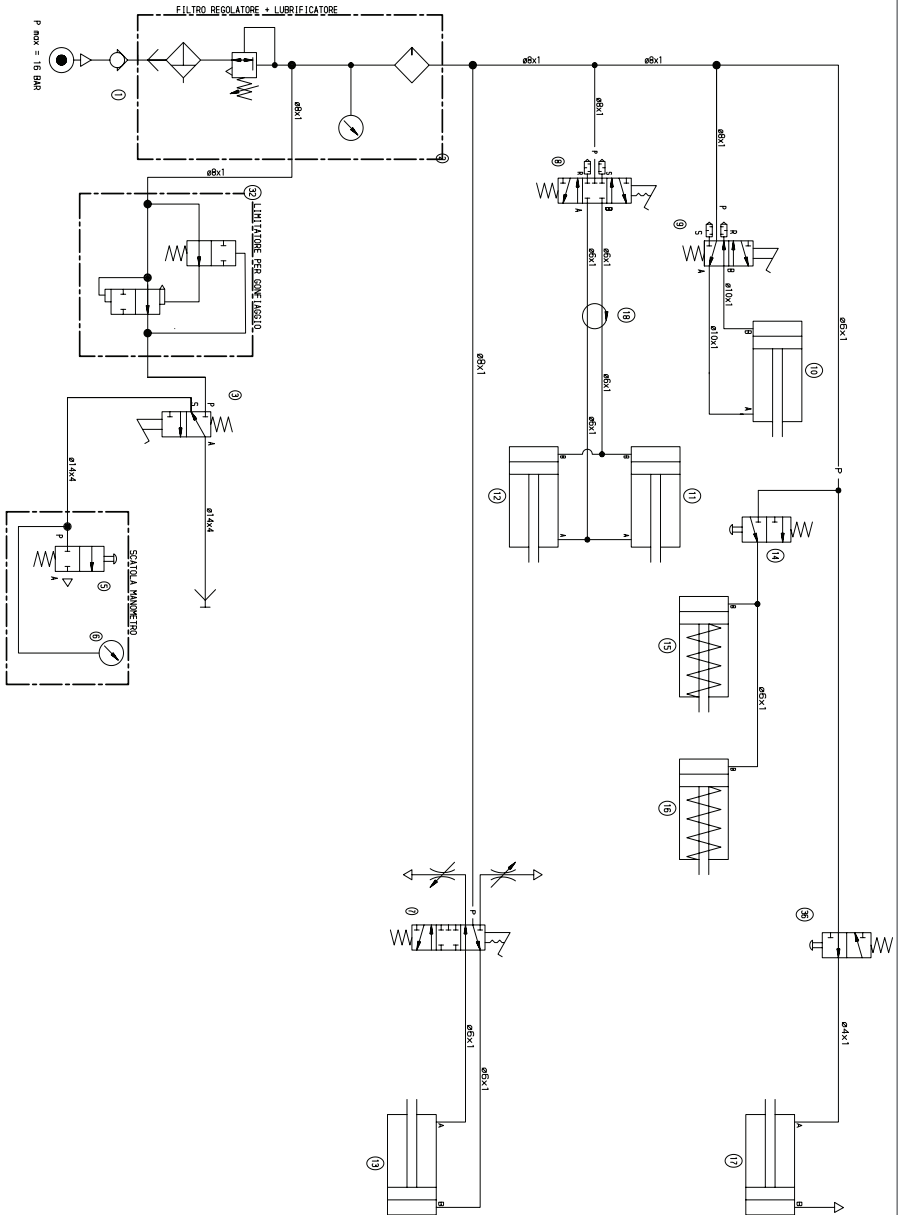
GRUPPO
COMANDI
CONTROL
SWITCH



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STANDARD VERSION



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