



Automotive Equipment

ELECTRONIC WHEEL WASHER LR400

OPERATOR'S MANUAL



CE

EN

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ORIGINAL INSTRUCTIONS

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1. INTRODUCTION

The purpose of this manual is to furnish the owner and operator with a set of practical, safe instructions on the use and maintenance of the product. Follow all the instructions carefully and the machine will give you an efficient and long-lasting service, making your work considerably easier.

The following points 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 even death.
- WARNING: Dangers or unsafe procedures that can cause serious injury or even death.
- CAUTION: Dangers or unsafe procedures that can cause minor injuries or damage to property.

Read these instructions carefully before powering up the machine. Keep this manual and all illustrative material supplied with the machine in a folder near the tyre changer where it is readily accessible for consultation by the machine operators. The technical documentation supplied is considered an integral part of the machine; and must always accompany the equipment if it is sold or transferred to a new owner. The manual is only to be considered valid for the model with the serial number indicated on the nameplate applied to it.

WARNING

Observe the contents of this manual: the producer declines all liability in the case of uses of the machine not specifically described and authorized in this manual.

WARNING

This machine must be used only by qualified and authorized personnel. A qualified operator is construed as a person who has read and understood the manufacturer's instructions as well as the tires and wheel rims manufacturers, is suitably trained, and is conversant with safety and adjustment procedures to be adhered to during operations. Use of the machine by unskilled staff may constitute a serious risk for the operator and for the final user of the product processed (the wheel rim and tyre assembly).

Some of the illustrations in this manual could have been taken from photographs of prototypes: standard production machines may vary in some respects. These instructions are intended for people with basic mechanical skills. Do not attempt to perform operations unless properly qualified and with suitable experience. In case of need, contact an authorized Service Centre for assistance.

2. PRODUCT FEATURES

The electronic wheel washer is a complete system for washing and drying of car and light van wheels made up of a metal rim and a tire, with the tire bead seated on the rim grooves and the tire inflated.

CAUTION

It is not intended for washing of truck or motorbike wheels or for washing of rims or tires alone.

The wheel washer cleans the wheel blasting it with low pressure water and two different types of special plastic granulate while it spins, imposing low contact pressure on the rim and tire and thus preventing damages to it that may arise using high pressure water blasting or hard abrasives. Drying is achieved by blowing the wheel with compressed air.

2.1 TECHNICAL DATA

WHEEL DIAMETER	540-850 mm (21"-33")
WHEEL WIDTH	140-360 mm (6"-14")
MAX SPOKE PROTRUSION	15 mm (0,6") for smooth running (*1)
MAX WHEEL WEIGHT	65 Kg (145 lbs)
WHEEL TYPE	Studded wheel capable
WATER VOLUME	290 lit
GRANULE QTY	23 Kg (50 lbs)
WASHING CYCLES	6
WASHING TIME	10 – 30 – 60 – 90 – 120 – 600 sec
DRYING TIME	20 sec
WORKING PRESSURE	8-10 Bar (116-145 psi)
SOUND-PROOFING	Total on 4 sides
ELECTRIC MOTOR	0,375 kW (0,5 Hp)
HYDRAULIC PUMP	5,5 kW (7,4 Hp) with capacity 500 lit/m
POWER SUPPLY	230-400V 3ph 50Hz
HEATING DEVICE	4,0 kW (5,4 Hp) available on demand
DIMENSIONS	1015x1305x1475 mm (40"x52"x58")
NET WEIGHT	330 Kg (725 lbs)

(*1) The smooth running of the wheel inside the washing chamber is granted for a max projecting spoke rim of 15 mm. Over 15 mm the effect could be in excessive bumping of the wheel against the stabilisation rollers even if the integrity of the wheel will be granted anyway.

2.2 FUNCTIONAL ELEMENTS

External parts (Fig.1 and Fig.2):

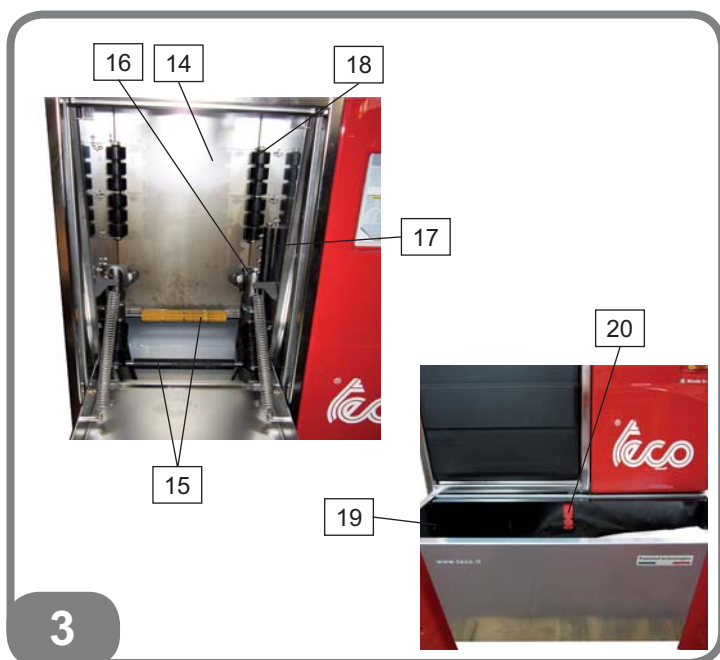
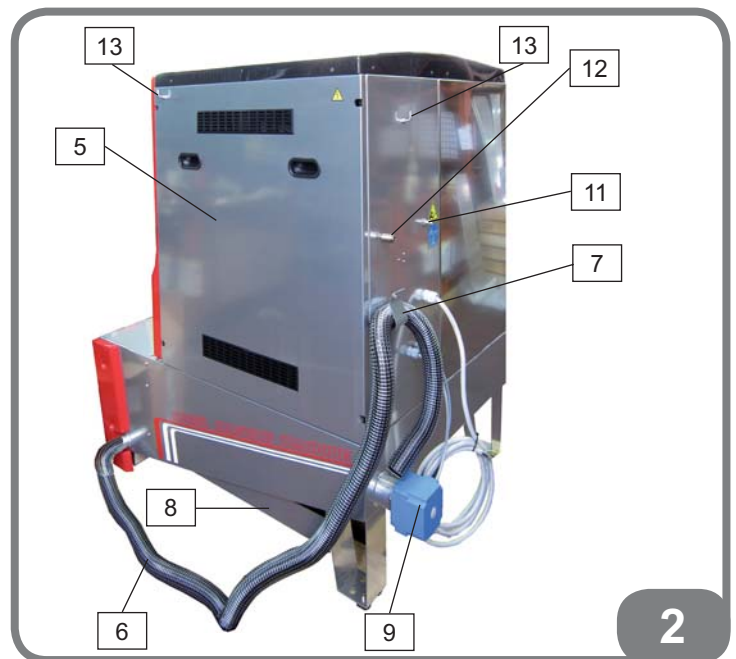
1. Main power switch
2. Washing chamber door
3. Washing tank
4. Washing tank inspection lid
5. Side cover
6. Drain hose
7. Hose support
8. Cross handling bars
9. Heating device (optional)
10. Control panel
11. Compressed air inlet
12. Compressed air outlet
13. Blowing gun hooks

Internal parts (Fig.3):

14. Washing chamber
15. Wheel drive rollers
16. Spray nozzles
17. Drying nozzles
18. Stabilization rollers
19. Segregation bulkhead
20. Water level indicator

Standard accessories (Fig.4):

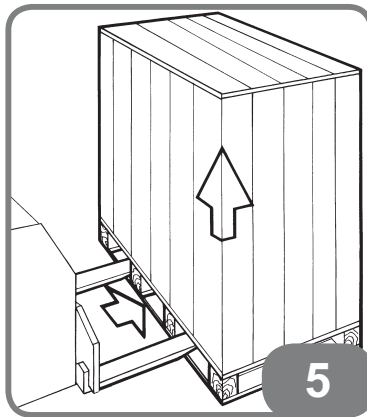
21. Granulate collection basket
22. 25 Kg (55 lbs) of plastic granules
23. Drain pipe Ø50mm and relative hose clip
24. Blowing gun



3. TRANSPORT, STORAGE AND HANDLING

The basic wheel washer packaging consists of 1 package (a carton package on a pallet) containing:

- the wheel washer;
- 1 granulate collection basket (placed inside the washing chamber);
- 25 Kg (55 lbs) of plastic granules (placed inside the washing tank inspection lid);
- 1 drain pipe Ø50mm and relative hose clip (placed inside the washing tank inspection lid);
- 1 blowing gun (placed inside the washing tank inspection lid).



Before installation, the machine must be transported inside its original packing, making sure the product is maintained in the position indicated on the outer packing. The machine can be moved by placing the packages on a wheeled trolley or inserting the forks of a fork lift in the relative openings in the pallet (Fig.5).

CAUTION

Do not stack more than two packs together, as this may result in damage.

Packaging dimensions and weight:

- Length 1160 mm (46")
- Depth 1500 mm (59")
- Height 1670 mm (66")
- Gross Weight ... 405 Kg (890 lbs)

Storage environment conditions:

- Relative humidity ranging from 20% to 95% without condensation;
- Temperature ranging from -10°C (14 °F) to +60°C (140 °F).

WARNING

Carry out the unpacking, assembly and installation operations indicated below with great care. Non-compliance with these recommendations may result in damage to the machine and may jeopardize the operator's safety.

Remove the original packing materials after positioning them as indicated on the packaging and keep them intact so that the machine can be safely shipped at a later date if necessary

After installation, the machine can be moved by inserting the forks of a lift truck under the machine so that the centre of the forks correspond approximately to the centre line of the body (Fig.6). The machine is equipped in fact with handling cross bars positioned at the bottom of the washing tank for an easy shifting inside the working area.



WARNING

Always unplug the power supply cable from the socket before moving the machine.

4. INSTALLATION

WARNING

All regulations in force concerning safety at work must be complied with when choosing the installation position. In particular, the machine must only be installed and operated in protected environments where there is no risk of it being exposed to dripping.

WARNING

The place where the machine is to be installed must conform to applicable safety at work regulations.

The machine shall be installed on a stable, even and rigid floor in order to prevent it from undergoing any structural deformation with a loading capacity of at least 700 kg/m². Position the machine so that it is accessible from all 4 sides.

Working environment conditions:

- Relative humidity ranging from 30% to 95% without condensation;
- Temperature ranging from 0°C (32 °F) to +55°C (131 °F) .

CAUTION

Before placing the wheel washer in its working position:

- **Open the washing chamber door and remove the granulate recovery basket from inside the washing chamber.**
- **Close the washing chamber lid.**
- **Remove the washing tank inspection lid on the front of the wheel washer body and remove the bag containing the plastic granulate.**
- **Reposition the inspection lid.**

The wheel washer body is provided with two handling cross bars on the lower side, running along the left and right side of the wheel washer body, on which the wheel washer shall rest in case it is moved by means of a fork lifter (Fig.6).

WARNING

When using a fork lift to move the wheel washer, do not let the wheel washer rest on any other part of the wheel washer body other than the two bars provided for this use. Lifting the wheel washer by letting any other part of the wheel washer body rest on the fork of a fork lifter leads to danger of severe injuries or death for the operator or any other person standing by the wheel washer and will damage the wheel washer body.

After placing the wheel washer in its working position, connect the drain hose provided along with the wheel washer to the coupling on the front right corner of the wheel washer body and secure it using the hose clip provided with the wheel washer. Secure the drain hose free end into the hose support on the rear of the wheel washer (Fig.7).



CAUTION

Make sure that the drain hose is firmly secured by the hose support to prevent it from inadvertently detach from the hose support and fall on the ground, thus leading to water spillage from the wheel washer body to the workshop floor once the wheel washer body is filled with water.

IMPORTANT: for correct, safe use of the equipment, users must ensure a lighting level of at least 300 Lux in the place of use.

WARNING

The machine must not be operated in potentially explosive atmosphere.

4.1 ELECTRICAL AND PNEUMATIC HOOK-UPS

WARNING

All operation required for the electrical hook-up of the machine must be carried out exclusively by a qualified electrician.

- The electrical supply must be suitably sized in relation to:
 - absorbed power specification indicated on the machine data plate.
 - the distance between the machine and the power supply hook-up point, so that voltage drops under full load do not exceed 4% (10% in the case of start-up) below the rated voltage specified on the data plate.
- The user must equip the machine with the following:
 - a dedicated power plug in compliance with the relevant electrical safety standards.
 - a suitable residual current device (residual current set to 30 mA) on the mains connection.
 - power line fuses in accordance with specifications in the main wiring diagram of this manual.
 - a suitable grounding system installed on the workshop mains lane.

- To prevent unauthorised use of the machine, always disconnect the mains plug when the machine is not used (switched off) for extended periods 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.

WARNING

For correct and safe operation of the machine it must be connected to an efficient grounding circuit.
NEVER connect the ground wire to a gas pipe, water pipe, telephone line or other makeshift system.

For correct operation of the wheel washer the compressed air supply line must provide a pressure range from a minimum of 8 bar (116 psi) to a maximum of 10 bar (145 psi).

CAUTION

For efficient operation of the wheel washer it is strongly suggested to connect the wheel washer to the compressed air supply using a hose with an outer diameter of at least 10 mm to prevent reduction of the compressed air flow during the drying phase at the end of the washing cycle.

- Before connecting the wheel washer to the compressed air supply, mount an air conditioning group with condensate separator and a pressure reducer valve that will filter, dry and reduce the pressure to the working pressure required as indicated in the TECHNICAL DATA paragraph.
- Hook-up the compressed air using the male coupling provided on the wheel washer rear side.

CAUTION

Two compressed air couplings are provided on the rear side of the wheel washer, one of male type, which is meant for connecting the wheel washer to the compressed air supply, and one of the female type, which is meant to supply compressed air to auxiliary implements such as a blow gun.

- Connect the wheel washer to the electrical power supply.

WARNING

Right after connecting the machine to the electrical supply check the motor rotation as follows:

- a dedicated power plug in compliance with the relevant electrical safety standards.
- Remove the service lid on the right side of the wheel washer removing the four bolts that secure the lid to the wheel washer body.
- Turn power supply to the wheel washer on acting on the switch placed on the wall socket.
- Make sure the front lid is closed.
- Turn the wheel washer on by turning the main power switch on the wheel washer front side to the right.
- Wait for the self check to complete. Once the self check is complete the LCD display on the wheel washer control panel will show "READY" on the upper line and a number on the lower line.
- Press one of the 4 washing cycle buttons on the wheel washer control panel, marked 30", 60", 90" and 120".
- The wheel spinning motor will start first, then the pump motor will start.
- Check the rotation directions of both motors. If necessary press the red "STOP" button on the wheel washer control panel to stop either motor rotation and wait for the motor rotation to slow down to check rotation direction of either motor.
- If both motors rotate in the direction shown by the arrows attached on the motors themselves, the connection is correct.
- If both motors rotate in the opposite direction then those shown by the arrows attached on the motors, it is necessary to have two phase wires on the three-phase plug inverted from each other, by specialised personnel.
- If only one motor rotates in the opposite direction then that shown by the arrow attached on the motor itself, it is necessary to have two phase wires on the motor wiring box inverted from each other, by specialised personnel.
- Replace the service lid in its position on the right side of the wheel washer and secure it with the four bolts removed before.

DANGER

Operating the wheel washer without replacing the service lid in its position might lead to exposure of the operator to electrical shock hazard.

WARNING

Operating the wheel washer with either of the two motors rotating in the wrong direction might lead to damages to the wheel washer.

4.2 WHEEL WASHER FILLING IN

- Remove the washing tank inspection lid on the front the wheel washer body.
- A segregation bulkhead is placed within the wheel washer body below the inspection lid to keep the granulate away from collecting on the front of the wheel washer body and enhance the collection of the granulate by the pump.
- In the middle of the segregation bulkhead a water level indicator is provided on which two double arrows are present on above the other (Fig.8).



- Fill the wheel washer body through the opening of the inspection lid with clean tap water until water level reaches the middle of the lower double arrow on the water level indicator.

CAUTION

Do not pour the plastic granulate into the washing tank before filling it with water.

- Reposition the inspection lid and open the washing chamber door.
- Position the bag containing the plastic granulate on the washing chamber door and open it.
- Pour the plastic granulate into the water within the wheel washer body through the washing chamber.

CAUTION

Do not pour the plastic granulate into the water within the wheel washer body through the inspection lid, as the segregation bulkhead would then prevent them from being collected by wheel washer pump and the washing effect of the wheel washer would be severely impaired.

WARNING

Do not pour cleaning agents other than the plastic granules approved by the manufacturer into the water. Operating the wheel washer with cleaning agents other than those approved by the manufacturer (e.g. detergents, abrasives, different plastic granulate) may lead to excessive foam formation and spillage from the wheel washer body, unsatisfactory cleaning performance, damages to the wheel washer or to the wheels being washed.

The manufacturer takes no responsibility for damages of any type that may arise if the wheel washer is operated with cleaning agents other than those approved by the manufacturer.

Operating the wheel washer with cleaning agents other than those approved by the manufacturer will void the warranty.

- Close the washing chamber door and remove the inspection lid again.
- Fill the wheel washer body through the opening of the inspection lid with clean tap water until the water level reaches the middle of the upper double arrow on the water level indicator.
- The water level shall in any case lay between the upper and the lower edges of the upper double arrow on the water indicator.

WARNING

Filling the wheel washer body with water up to the point where the water level lays above the upper edge of the upper double arrow may lead to pump motor overloading and operation disruption due to tripping of the motor protection circuit breaker protection the pump motor from overloading and may also lead to reduced endurance of the pump motor.

CAUTION

Filling the wheel washer body with water up to the point where the water level lays below the upper edge of the upper double arrow will lead to reduced washing effect.

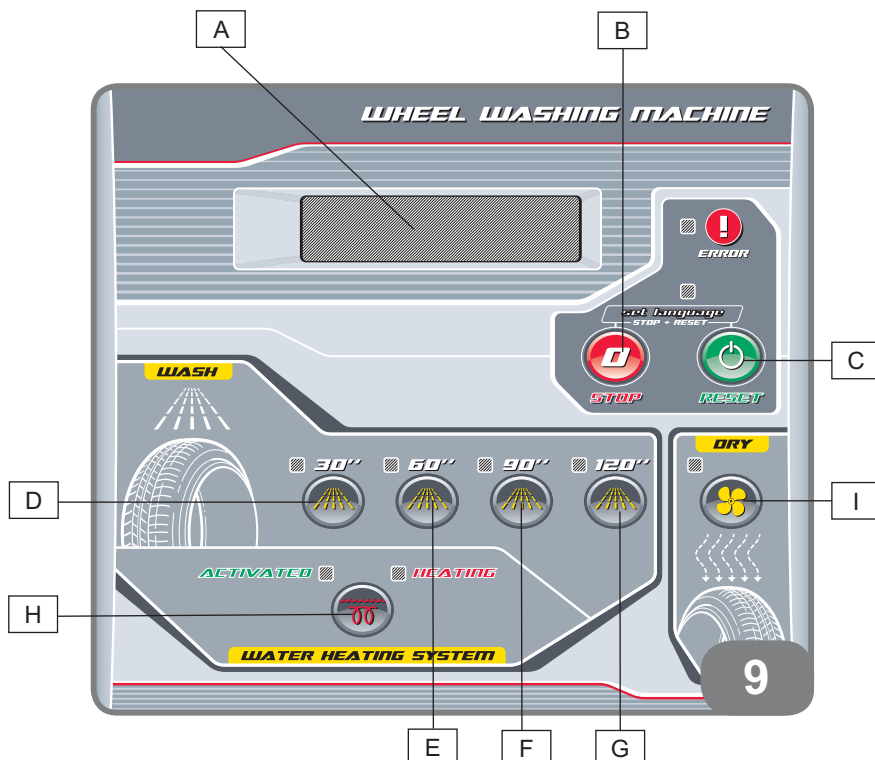
- Reposition the inspection lid again.

5. OPERATIVE PROCEDURE

5.1 CONTROL PANEL

Control panel elements (Fig.9):

- A. LCD display
- B. Stop
- C. Reset
- D. 30" washing cycle
- E. 60" washing cycle
- F. 90" washing cycle
- G. 120" washing cycle
- H. Water heating
- I. Drying cycle



5.2 SWITCHING ON THE MACHINE

- Turn the wheel washer on by turning the “**MAIN POWER SWITCH**” on the wheel washer front side to the right.
- Wait for the start-up diagnostic to complete.
- When the start-up diagnostic is completed the wheel washer LCD display on the control panel will switch to the main operation page and will show “**READY**” on the first line and a number on the second line stating the number of washing cycles remaining before changing the water inside the wheel washer body is requested.

NOTE

In case the internal watch has been setup, as specified further in this manual, the second line of the LCD display will show the number of washing cycles remaining before changing the water inside the wheel washer body is requested and the current time.

NOTE

If the timing feature for the water heating system has been setup and activated, a “*” symbol will be shown on the second line of the LCD display on the right of the current time. Read further on this manual for details about the water heating system, the timer feature and how to setup the internal watch and the timing feature for the water heating system.

5.3 LCD DISPLAY LANGUAGE SETUP

Set the LCD display language to the language desired:

- Press the red “**STOP**” button and the green “**RESET**” button and keep them depressed.
- The wheel washer LCD display will start cycling among the 6 available languages while both the red “**STOP**” button and the green “**RESET**” button are kept depressed. A two-letter indication of the language presently chosen will be shown on the first line of the LCD display:
 1. EN for English;
 2. IT for Italian;
 3. FR for French;
 4. DE for German;
 5. SP for Spanish;
 6. PY for Russian.
- Release the “**STOP**” and “**RESET**” button once the desired language is shown on the LCD display.
- The LCD display will show all messages in the language set.
- The language setup is kept in case the wheel washer is turned off or the power supply to the wheel washer is disrupted.

5.4 WASHING OF A WHEEL

- Open the washing chamber door and let it rest upon the handle of the inspection lid.
- The red led on the right of the LCD display will turn on and the LCD display will show “**DOOR OPEN**” on the first line.

WARNING

Make sure to remove any decorative plastic element from the rim before performing the washing. Check that the valve cap is firmly tighten onto the valve.

WARNING

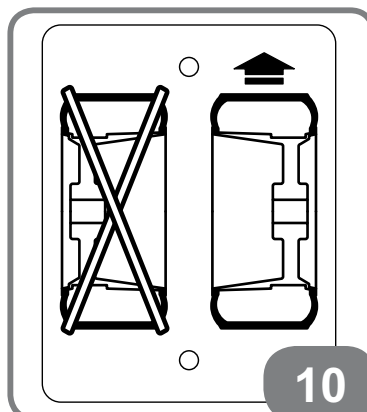
Make sure the wheel has a tire suiting the rim installed, that the tire bead are seated on the rim grooves and that the tire is inflated at least 1 bar (15 psi).

The wheel washer is meant to wash wheel composed of a rim and a tire suiting the rim properly assembled onto the rim. Washing a rim alone, a tire alone, a wheel with a mismatched rim-tire combination or with a tire not properly assembled onto the rime may lead to damaging the rim, the tire or the wheel washer

WARNING

Washing a wheel with the tire bead not set on rim horns or with a tire inflated to an insufficient pressure or not inflated at all may lead to water and plastic granulate penetrating inside the wheel, causing unpredictable unbalancing of the wheel and damage to the rim or to TPMS sensors eventually assembled into the rim.

- Put the wheel with its own tire to be washed on top of the washing chamber door with the outer side facing right, i.e. towards the control panel and as shown on the instruction panel mounted on the internal side of the washing chamber door (Fig.10).
- Roll the wheel along the washing chamber door and upon the front horizontal support roller inside the washing chamber until it rests up straight on the two horizontal support rollers. If the wheel cannot stand by itself, make it rest against one of the two vertical stabilization support rollers on the left and right side of the washing chamber. In this case it is not necessary that the wheel stands perfectly vertical as it will stand automatically up right as soon as the rear horizontal support roller starts rotating driving the wheel to spin around its own axis.



CAUTION

The washing and drying systems on either side of the washing chamber are optimized so that optimal washing and drying effect is achieved by placing the outer side of the wheel facing right (Fig.10). Placing the wheel inside the washing chamber with the outer side facing left will lead to reduced effectiveness of both the washing system and the drying system.

- Close the washing chamber door. The red led on the right of the LCD display will turn off and the LCD display will revert showing the main operating page.
- Depending on the size and type of the wheel rim and on the amount of dirt on it select the right washing program. 4 main washing programs are available:
 1. 30 and 60 seconds washing programs are mainly aimed at washing wheels with a steel rim or particularly cleaned wheels. They are activated by pressing the “30” or “60” button on the control panel respectively.
 2. 90 and 120 seconds washing programs are mainly aimed at washing wheels with an alloy rim or particularly dirty wheels. They are activated by pressing the “90” or “120” button on the control panel respectively.

NOTE

Further 2 special washing cycles are available and selectable from the console: a short washing program (pre-washing) and a long washing program (continuous washing). Read further on this manual for details about these additional washing cycles.

- After pressing the button corresponding to the desired washing program, the blue led by the pushed button will turn on, the LCD display will show “STARTING” on the first line and the driving motor will start rotating leading the wheel to spin.
- After a few seconds the pump motor will start and the pump will draw water and plastic granules from the machine body and send them to the washing nozzles mounted on the two sidewalls of the washing chamber, that will in turn divert them towards the spinning wheel.
- The LCD display will show “WASHING” on the first line and the time remaining to the end of the washing cycle.

CAUTION

Pressing the red “STOP” button at any time during the washing cycle will make the blue led by the button corresponding to chosen washing cycle turn off and the LCD display show “STOPPING” on the first line, while the pump motor and the driving motor come to a stop. After a short while the LCD display will revert to the main operation page.

CAUTION

While performing either a washing cycle (read further in this manual for information about washing cycles and how to perform them), an additional drying cycle (read further in this manual for information about the additional drying cycle and how to perform it) or the fast warming cycle (read further in this manual for information about the fast warming cycle and how to perform it), opening the washing chamber door will make the red led by the LCD display turn on and the LCD display show “STOPPING” on the first line while the pump and drive motor come to a stop.

NOTE

Closing the washing chamber door and pushing the green “RESET” button will make the LCD display show “WAIT” for 5 seconds, then the operating cycle being performed when the washing chamber door will restart from the point where it was interrupted.

5.5 DRYING OF A WHEEL

- Once the washing cycle has completed (or at any time during the washing cycle if the “DRY” button is depressed), the LCD display will show “DRYING” and the pump motor stops while the driving motor will continue rotating keeping the wheel spinning.
- The blue led by the button corresponding to chosen washing cycle will turn off and the blue led by the “DRY” button will turn on.
- After a short while a 20 second drying time will start during which compressed air drawn from the compressed air hook-up will be alternately directed to the two sides of the wheel through the blowing nozzles mounted on the two sidewalls of the washing chamber removing the water and the granules from the sides of the wheel. The LCD display will show “DRYING” on the first line and the time remaining to completion of the drying cycle on the second line.
- At the end of the drying cycle the compressed air blowing and the driving motor are stopped and the blue led by the “DRY” button turns off.
- The LCD display will show “STOPPING” on the first line while the driving motor comes to a stop, then quickly revert to the main operation page.

CAUTION

Pressing the red “STOP” button at any time during the drying cycle will make the LCD display show “STOPPING” on the first line while the driving motor comes to a stop. After a short while the LCD display will revert to the main operation page.

NOTE

Closing the washing chamber door and pushing the green “RESET” button will make the LCD display show “WAIT” for 5 seconds, then the operating cycle being performed when the washing chamber door will restart from the point where it was interrupted.

5.6 ADDITIONAL DRYING CYCLES

The wheel washer can perform a standalone 20 second drying cycle without first going through any washing cycle. This is especially useful in case the drying cycle performed at the end of a washing cycle didn't remove completely water from the wheel, as can be the case if compressed air supply to the wheel washer has poor flow capacity.

To perform such a standalone drying cycle:

- Introduce the wheel inside the washing chamber as specified at the beginning of the “WASHING OF A WHEEL” paragraph, then push the “DRY” button.
- The blue led by the “DRY” button will turn on and the LCD display will show “STARTING” on the first line and the driving motor will start rotating leading the wheel to spin.
- After a short while a 20 second drying time will start during which compressed air drawn from the compressed air hook-up will be alternately directed to the two sides of the wheel through the blowing nozzles mounted on the two sidewalls of the washing chamber removing the water and the granules from the sides of the wheel. The LCD display will show “DRYING” on the first line and the time remaining to completion of the drying cycle on the second line.
- At the end of the drying cycle the compressed air blowing and the driving motor are stopped and the blue led by the “DRY” button turns off.
- The LCD display will show “STOPPING” on the first line while the driving motor comes to a stop, then revert to the main operation page.

CAUTION

Pressing the red "STOP" button at any time during the drying cycle will make the blue led by the "DRY" button turn off and the LCD display show "STOPPING" on the first line while the driving motor comes to a stop. After a short while the LCD display will revert to the main operation page.

CAUTION

While performing either a washing, an additional drying cycle or the fast warming cycle (read further in this manual for information about the fast warming cycle and how to perform it), opening the washing chamber door will make the red led by the LCD display turn on and the LCD display show "STOPPING" on the first line while the pump and drive motor come to a stop.

NOTE

Closing the washing chamber door and pushing the green "RESET" button will make the LCD display show "WAIT" for 5 seconds, then the operating cycle being performed when the washing chamber door will restart from the point where it was interrupted.

6. SPECIAL PROGRAMS

6.1 SHORT WASHING PROGRAM AND RELATIVE DRYING PHASE

The wheel washer can perform a 10 second washing cycle (also named PRE-WASHING) followed by a 20 second drying cycle. This is especially useful to remove the bulk of dust from a wheel after a long warehousing stay, after dismantling it from a vehicle or prior to changing the tire to reduce dust runoff during tire changing.

To perform such a short washing cycle:

- Push the green "RESET" and keep it depressed, then push the "30" button contemporarily.
- The LCD display will show "STARTING" on the first line and the driving motor will start rotating leading the wheel to spin.
- After a few seconds the pump motor will start and the pump will draw water and plastic granules from the machine body and send them to the washing nozzles mounted on the two sidewalls of the washing chamber, that will in turn divert them towards the spinning wheel. The LCD display will show "WASHING" on the first line and the time remaining to the end of the washing cycle.

CAUTION

Pressing the red "STOP" button at any time during the washing cycle will make the LCD display show "STOPPING" on the first line, while the pump motor and the driving motor come to a stop.

After a short while the LCD display will revert to the main operation page.

- Once the washing cycle has completed (or at any time during the washing cycle if the "DRY" button is depressed the LCD display will show "DRYING" and the pump motor stops while the driving motor will continue rotating keeping the wheel spinning.
- The blue led by the "DRY" button will turn on.
- After a short while a 20 second drying time will start during which compressed air drawn from the compressed air hook-up will be alternately directed to the two sides of the wheel through the blowing nozzles mounted on the two sidewalls of the washing chamber removing the water and the granules from the sides of the wheel. The LCD display will show "DRYING" on the first line and the time remaining to completion of the drying cycle on the second line.
- At the end of the drying cycle the compressed air blowing and the driving motor are stopped and the blue led by the "DRY" button turns off.
- The LCD display will show "STOPPING" on the first line while the driving motor comes to a stop, then quickly revert to the main operation page.

CAUTION

Pressing the red "STOP" button at any time during the drying cycle will make the LCD display show "STOPPING" on the first line while the driving motor comes to a stop.

After a short while the LCD display will revert to the main operation page.

6.2 LONG WASHING PROGRAM AND RELATIVE DRYING PHASE

The wheel washer can perform a 10 minute washing cycle (also named CONTINUOUS WASHING) that hasn't been washed for a long time where the dirt has strongly attached to the rim surface, especially on the inner side, where most of the braking dust will concentrate.

To perform such a long washing cycle:

- push the green "RESET" and keep it depressed, then push the "120" button contemporarily.
- The four blue LEDs by the 30", 60", 90 and 120" buttons will turn on and the LCD display will show "STARTING" on the first line and the driving motor will start rotating leading the wheel to spin.
- After a few seconds the pump motor will start and the pump will draw water and plastic granules from the machine body and send them to the washing nozzles mounted on the two sidewalls of the washing chamber, that will in turn divert them towards the spinning wheel.
- The LCD display will show "CONT. WASHING" on the first line and the time passed since the beginning of the washing cycle.

CAUTION

Pressing the red "STOP" button at any time during the washing cycle will make the four blue LEDs by the 30", 60", 90 and 120" buttons turn off and the LCD display show "STOPPING" on the first line, while the pump motor and the driving motor come to a stop.

After a short while the LCD display will revert to the main operation page.

- Once the washing cycle has completed or at any time during the washing cycle if the "DRY" button is depressed, the LCD display will show "DRYING" and the pump motor stops while the driving motor will continue rotating keeping the wheel spinning.
- The four blue LEDs by the 30", 60", 90 and 120" buttons will turn off and the blue led by the "DRY" button will turn on.
- After a short while a 20 second drying time will start during which compressed air drawn from the compressed air hook-up will be alternately directed to the two sides of the wheel through the blowing nozzles mounted on the two sidewalls of the washing chamber removing the water and the granules from the sides of the wheel. The LCD display will show "DRYING" on the first line and the time remaining to completion of the drying cycle on the second line.
- At the end of the drying cycle the compressed air blowing and the driving motor are stopped and the blue led by the "DRY" button turns off.
- The LCD display will show "STOPPING" on the first line while the driving motor comes to a stop, then revert to the main operation page.

CAUTION

Pressing the red "STOP" button at any time during the drying cycle will make the LCD display show "STOPPING" on the first line while the driving motor comes to a stop.

After a short while the LCD display will revert to the main operation page.

6.3 WATER HEATING SYSTEM USAGE (IF AVAILABLE)

The wheel washer can be equipped at manufacturing with a 4 kW (5,4 Hp) 3-phase heating system with an integrated water temperature control (available on demand). The water heating system operation is entirely controlled by the computer controlling the whole operation of the wheel washer.

The integrated temperature control is set to stop operation of the water heating system when the water temperature reached 50 °C (122 °F) and to start it again when the water temperature falls below 47 °C (116 °F). This water temperature range is set by the manufacturer and provides optimal washing and drying results while preventing burning hazard to the operator.

The wheel washer is equipped also with a TIMING FEATURE to start operation of the water heating system only at prescribed time of the day. This permits the operator to let the wheel washer turned on and the water heating system activated at night time while the water heating system operation will be resumed only 1 or 2 hours before workshop opening, thus having the water at the right temperature from the very beginning of operation while not wasting energy to keep the water warm during the night.

Directions regarding the setup of the timing feature are given further in this manual.

CAUTION

The time needed for taking the water temperature to the set temperature strongly depends on the temperature of the water when the water heating system operation is started and may take up to 2 hours when the wheel washer has been just filled with fresh tap water.

- To enable the water heating system press the "WATER HEATING SYSTEM" button on the control panel while in the main operation page. The green led on the left of the "WATER HEATING SYSTEM BUTTON" will turn on.

CAUTION

If the wheel washer is not equipped with the water heating system, the LCD display will show "NO HEATER" on the first line for a few seconds then revert to the main operation page.

The green led by the "WATER HEATING SYSTEM" button will not turn on.

NOTE

Operation of the water heating system is interrupted when the wheel washer pump and drive motors are being started and when the washing chamber door is open. Normal operation of the water heating system is restored as soon as the wheel washer pump and drive motors are fully started and the washing chamber door is closed.

- To disable the water heating system press the "WATER HEATING SYSTEM" button on the control panel while in the main operation page. The green led on the left of the "WATER HEATING SYSTEM BUTTON" will turn off.

CAUTION

Switching of the water heating system from on to off and vice-versa is only possible while the wheel washer is not operating, i.e. the LCD display is in the main operation page.

Pressing the "WATER HEATING SYSTEM" button while the LCD display is not in the main operation page will have no effect.

- After the water heating system has been activated, the integrated temperature control will continuously check the water temperature.
- In case the water temperature is lower than 47 °C (116 °F) and the current time lies within the time range for heating system operation, or the timer feature has not been set or activated, the computer controller will turn power to the heating system on and the red led on the right of the "WATER HEATING SYSTEM" will turn on.
- In case the water temperature is higher or equal to 50 °C (122 °F) or the current time lies out the time range for heating system operation, if the timer feature has not been set and activated, the computer controller will turn power to the heating system off and the red led on the right of the "WATER HEATING SYSTEM" will turn off.

CAUTION

While performing either a washing cycle (read further in this manual for information about washing cycles and how to perform them), an additional drying cycle (read further in this manual for information about the additional drying cycle and how to perform it) or the fast warming cycle (read further in this manual for information about the fast warming cycle and how to perform it), opening the washing chamber door will make the red led by the LCD display turn on and the LCD display show "STOPPING" on the first line while the pump and drive motor come to a stop.

If the water heating system is currently activated and turned on, hence the green and red led by the "WATER HEATING SYSTEM" button are turned on, the water heating system will be turned off but not deactivated, hence the red led by the "WATER HEATING SYSTEM" button turns off and the green led remains turned on.

Any blue led that was turned on when the washing chamber door was opened will remain turned on.

After a short while the LCD display will show "DOOR OPEN".

6.3.1 SETUP OF THE INTERNAL WATCH AND OF THE TIMING FEATURE OF THE WATER HEATING SYSTEM.

To setup the internal watch and the timing feature for the water heating system, if present proceed as follows:

- Press the green "RESET" button and keep it depressed.
- Press the "DRY" button and keep both the "RESET" and the "DRY" buttons depressed for at least 5 seconds.
- The LCD display will show "TIME START END *" on the first line.
- Release both the "RESET" and the "DRY" button.

"TIME" will start flashing on the first line of the LCD display and "00:00" will show on the second line. If the internal watch has already been set previously, the current time will show. At this point the current time can be set for the internal watch.

- Press and release the "30" button to increase the hours of the time shown on the second line by one hour. Keep the "30" button depressed for progressively increasing the hours of the time shown on the second line.
- Press and release the "60" button to decrease the hours of the time shown on the second line by one hour. Keep the "60" button depressed for progressively decreasing the hours of the time shown on the second.

- Press and release the “ 90 ” “ button to increase the minutes of the time shown on the second line by one minute. Keep the “ 90 ” “ button depressed for progressively increasing the minutes of the time shown on the second line.
- Press and release the “ 120 ” “ button to decrease the minutes of the time shown on the second line by one minute. Keep the “ 120 ” “ button depressed for progressively decreasing the minutes of the time shown on the second line.
- Press the “STOP” button at any time for exiting to the main operation page without saving the time set.
- Press the “RESET” button to save the set time as the current time and proceed to setting the water heating system start time.

“START” will flash on the first line of the LCD display and “00:00” will show on the second line. If the start time for the water heating system has already been set previously, the current start time will show. At this point the start time can be set for water heating system timing feature.

- Press and release the “ 30 ” “ button to increase the hours of the time shown on the second line by one hour. Keep the “ 30 ” “ button depressed for progressively increasing the hours of the time shown on the second line.
- Press and release the “ 60 ” “ button to decrease the hours of the time shown on the second line by one hour. Keep the “ 60 ” “ button depressed for progressively decreasing the hours of the time shown on the second.
- Press and release the “ 90 ” “ button to increase the minutes of the time shown on the second line by one minute. Keep the “ 90 ” “ button depressed for progressively increasing the minutes of the time shown on the second line.
- Press and release the “ 120 ” “ button to decrease the minutes of the time shown on the second line by one minute. Keep the “ 120 ” “ button depressed for progressively decreasing the minutes of the time shown on the second line.
- Press the “STOP” button at any time for exiting to the main operation page without saving the start time set.
- Press the “RESET” button to save the set start time and proceed to setting the water heating system end time.

“END” will flash on the first line of the LCD display and “00:00” will show on the second line. If the end time for the water heating system has already been set previously, the current start time will show. At this point the end time can be set for water heating system timing feature.

- Press and release the “ 30 ” “ button to increase the hours of the time shown on the second line by one hour. Keep the “ 30 ” “ button depressed for progressively increasing the hours of the time shown on the second line.
- Press and release the “ 60 ” “ button to decrease the hours of the time shown on the second line by one hour. Keep the “ 60 ” “ button depressed for progressively decreasing the hours of the time shown on the second.
- Press and release the “ 90 ” “ button to increase the minutes of the time shown on the second line by one minute. Keep the “ 90 ” “ button depressed for progressively increasing the minutes of the time shown on the second line.
- Press and release the “ 120 ” “ button to decrease the minutes of the time shown on the second line by one minute. Keep the “ 120 ” “ button depressed for progressively decreasing the minutes of the time shown on the second line.
- Press the “STOP” button at any time for exiting to the main operation page without saving the end time set.
- Press the “RESET” button to save the set end time and proceed to activate or deactivate the timing feature of the water heating system.

“*” will flash on the first line of the LCD display and “OFF” will show on the second line. If the activation state for the water heating system has already been set either to ON or OFF previously, the current activation state will show. At this point the activation state for water heating system timing feature can be set.

- Press and release the “ 30 ” “ button to change the activation state for water heating system timing feature either from OFF to ON or from OFF to ON.
- Press the “STOP” button at any time for exiting to the main operation page without saving the activation state for the water heating system timing feature set.
- Press the “RESET” button to save the set activation state for the water heating system timing feature and exit to the main operation page.

CAUTION

If the start and end time of the water heating system timing feature are set but the activation state is not set to ON, the timing feature will have no effect on the water heating system.

CAUTION

If the wheel washer is turned off or the power supply to the wheel washer is interrupted, the internal watch will be reset and the water heating system timing feature will be disabled.

The start and end time for the timing feature as well as the activation state will be kept, if they were previously set.

If the start and end time for the timing feature were previously set and the activation state was set to ON, setting the internal watch will automatically resume the water heating system timing feature operation.

6.3.2 FAST WARMING PROCEDURE

The wheel washer can perform a special operating cycle where both the pump and the water heating system are operated simultaneously until the water inside the wheel washer body reaches the preset temperature of 50°C (122 °F). Due to the dissipation of the power output of the pump to heat, the time needed to reach of the preset water temperature is shortened considerably, typically by about 35%.

This is especially useful to reach the preset water temperature at the beginning of the day if, for any reason, the timing feature for the water heating system was not in use during the night, for example due to a night time power failure.

- To perform such a fast warming cycle push the green “RESET” and keep it depressed, then push the “WATER HEATING SYSTEM” button.
- The green led by the “WATER HEATING SYSTEM” button will turn on and the LCD display will show “STARTING” on the first line and the pump motor will start making the pump draw water and plastic granules from the machine body and send them to the washing nozzles mounted on the two sidewalls of the washing chamber, that will in turn divert them towards the middle of the washing chamber.
- During the fast warming cycle the driving motor will not rotate.
- After a few seconds the LCD display will show “FAST WARMING” on the first line while the water heating system is turned on and the red led by the “WATER HEATING SYSTEM” button turns on.

CAUTION

If the wheel washer is not equipped with the water heating system, the LCD display will show “NO HEATER” on the first line for a few seconds then revert to the main operation page.

The green led by the “WATER HEATING SYSTEM” button will not turn on while the fast warming cycle will not be performed

CAUTION

If the temperature of the water is already within the preset range, the LCD display will show “TEMPERATURE OK” on the first line for a few seconds then revert to the main operation page. The water heating system will be activated, if not already activated before pushing the “RESET” button and the “WATER HEATING SYSTEM” button.

In this case the green led by the “WATER HEATING SYSTEM” button will turn on.

CAUTION

The fast warming cycle can be performed even if the water heating system is already activated.
There is no need to first deactivate the water heating system then perform the fast warming cycle.

CAUTION

Once the preset water temperature has been reached on by pressing the red “STOP” button at any time during the fast warming cycle the LCD display will show “STOPPING” on the first line, while the pump motor comes to a stop and the water heating system is turned off. After a short while the LCD display will revert to the main operation page.

NOTE

After the fast warming cycle has ended, the water heating system will remain activated to keep the water temperature within the preset range as the water naturally cools down along time.

7. DISPLAY MESSAGES

CAUTION

Messages are available in 6 different languages. To know more concerning language set up, refer to the dedicated paragraph. The below table is intended for operators who have selected the English option.

DISPLAY MESSAGES	DESCRIPTION
ERR1	<p>Pump motor protection due to overloading or short circuit.</p> <ol style="list-style-type: none"> 1) Disconnect the wheel washer from power supply. 2) Open the washing chamber door and use the blowing gun to free the water spray nozzles from granules which may have obstructed the passage. 3) Disassemble the side cover and open main power box (left side). 4) Control the pump motor protection circuit breaker (left side). 5) Rotate the switch in vertical position. 6) Reassemble the side cover. <p>➤ If ERR1 persists, contact an authorized Service Center for assistance.</p>
ERR2	<p>Drive motor protection due to overloading or short circuit.</p> <ol style="list-style-type: none"> 1) Disconnect the wheel washer from power supply. 2) Disassemble the side cover and open main power box (left side) 3) Control the drive motor protection circuit breaker (right side) 4) Rotate the switch in vertical position. 5) Check if motor drive shaft can be freely rotated by hand. 6) Reassemble the side cover. <p>➤ If ERR2 persists, contact an authorized Service Center for assistance.</p>
ERR3	<p>Water heating system protection due to overloading or short circuit.</p> <ol style="list-style-type: none"> 1) Disconnect the wheel washer from power supply. 2) Disassemble the side cover and open water heating system power box (right side) 3) Control heater device protection circuit breaker 4) Rotate the switch in vertical position. 5) Reassemble the side cover. <p>➤ If ERR3 persists, deactivate the water heating system and contact an authorized Service Center for assistance. Note that the machine can operate correctly if heating device is not activated.</p>
ERR4 !	<p>Pump motor remains energized all the time due to a pump motor contactor failure.</p> <ol style="list-style-type: none"> 1) Disconnect the wheel washer from power supply. 2) Contact an authorized Service Center for assistance.
ERR4 TR	<p>Momentarily anomaly of the pump motor contactor.</p> <ol style="list-style-type: none"> 1) Press “RESET” on the control panel to restart operations. Operations will restart from the point where it was interrupted. <p>➤ If ERR4 TR appears frequently, contact an authorized Service Center for assistance.</p>
ERR5 !	<p>Drive motor remains energized all the time due to a drive motor contactor failure.</p> <ol style="list-style-type: none"> 1) Disconnect the wheel washer from power supply. 2) Contact an authorized Service Center for assistance.
ERR5 TR	<p>Momentarily anomaly of the drive motor contactor.</p> <ol style="list-style-type: none"> 1) Press “RESET” on the control panel to restart operations. Operations will restart from the point where it was interrupted. <p>➤ If ERR5 TR appears frequently, contact an authorized Service Center for assistance.</p>
ERR6 !	<p>Water heating device remains energized all the time due to a contactor failure.</p> <ol style="list-style-type: none"> 1) Disconnect the wheel washer from power supply. 2) Contact an authorized Service Center for assistance.
ERR6 TR	<p>Momentarily anomaly of the water heating system contactor.</p> <ol style="list-style-type: none"> 1) Press “RESET” on the control panel to restart operations. Operations will restart from the point where it was interrupted. <p>➤ If ERR6 TR appears frequently, contact an authorized Service Center for assistance.</p>

ERR TR	Transitory anomaly. 1) Press "RESET" on the control panel to restart operations. Operations will restart from the point where it was interrupted. ➤ If ERR TR appears frequently, contact an authorized Service Center for assistance.
DOOR OPEN	Washing chamber door is open. 1) In case the washing chamber door has not been voluntarily open by the operator, check if granules interfere with door spring movement and eventually remove them. 2) If the problem persists, check the correct functioning of the proximity micro-switch and eventually contact an authorized Service Center for replacement. ➤ Closing the washing chamber door and pushing the green "RESET" button will make the LCD display show "WAIT" for 5 seconds, then the operating cycle being performed when the washing chamber door will restart from the point where it was interrupted.
RELEASE KEY	Wait for cycle completion before starting a new one.
CHECKING	Initial control at wheel washer power up.
STARTING	Cycle starting phase.
STOPPING	Cycle stopping phase.
WASHING	Washing cycle on-going.
DRYING	Drying cycle on-going.
READY	Waiting for cycle restart.
FAST WARMING	Fast warming cycle on-going. ➤ To perform such a fast warming cycle push the green "RESET" and keep it depressed, then push the "WATER HEATING SYSTEM" button.
CONT. WASHING	Long (continuous) washing cycle on-going. ➤ To perform such cycle push the green "RESET" and keep it depressed, then push the "120" button contemporarily.
TEMPERATURE OK	Water temperature is already within the preset range. The LCD display will show "TEMPERATURE OK" on the first line for a few seconds then revert to the main operation page.
NO HEATER	The wheel washer is not equipped with the water heating system. The LCD display will show "NO HEATER" on the first line for a few seconds then revert to the main operation page.

8. MAINTENANCE

- Check the water level daily referring to the water indicator placed on the segregation bulkhead.

WARNING

The manufacturer is not to be held responsible for any claims deriving from the use of non-original spare parts or accessories.

WARNING

Unplug the machine from the socket and make sure that all moving parts have been locked before performing any adjustment or maintenance operation. Do not remove or modify any part of the machine (except for service interventions).

CAUTION

Keep the work area clean.

8.1 REMOVING THE PLASTIC GRANULATE

Every time the wheel washer body is to be emptied from water, the plastic granulate has to be collected and then removed from the wheel washer for re-using them, after refilling the wheel washer body with clean water.

The granulate collection basket (Fig.4), delivered along with the wheel washer, is to be used for this purpose.

To correctly place the granulate collection basket is provided with a V shaped seat on its lower side and with a support tab out side of each perforated sidewall.

To easily move the granulate collection basket, this is provided with two plastic handles, one laying outside of the front wall of the collection basket and the other laying inside the rear wall of the collection basket.

To remove the plastic granulate from the wheel washer:

- Turn the wheel washer acting on the main switch on the front of the wheel washer.
- Open the washing chamber door and place the granulate collection basket inside the washing chamber letting the V-shaped notch on its bottom engage with the front horizontal roller spanning between the sidewalls of the washing chamber and the two support tabs on the sidewalls of the collection basket rest each on one of the rear inclined support rollers mounted on the sidewalls of the washing chamber.
- After placing the collection basket inside the washing chamber check that the two support tabs on its sidewalls correctly rest on the rear inclined support rollers mounted on the sidewalls of the washing chamber (Fig.11).



CAUTION

Once the collection basket has been correctly placed inside the washing chamber the two openings on the sidewalls of the collection basket shall face each one the washing nozzle mounted on the sidewalls of the washing chamber.

- Close the washing chamber door and perform a long washing cycle by pushing the green “RESET” button and, while keeping it depressed, push the “120” button thus activating the continuous washing cycle. Read earlier in this manual for information about the long washing cycle.
- While the pump motor rotates, the water inside the wheel washer body will be drawn from the pump along with the plastic granulate floating inside it and will be sent to the washing nozzles that will divert it inside the collection basket through the openings on its sidewalls.
- Water and granulate will be collected then inside the collection basket.
- The two perforated sidewalls of the collection basket will let the water drain back to the wheel washer body while retaining the plastic granulate inside the collection basket.

NOTE:

Once the long washing cycle has completed most of the granulate floating in the water inside the wheel washer body will be collected inside the collection basket.

Wait for 5 minutes after completion of the long washing cycle to let as much water as possible drain back to wheel washer body then remove the collection basket from the wheel washer along with granulate collected inside it by holding it through the two handles.

WARNING

Once the collection basket is filled with granulate its weight will be considerably higher.

Removing of the collection basket from inside the washing chamber once it is filled with granulate is best performed by two people, each holding one of the two handles.

- Level the granulate inside the collection basket manually and check the level of the granulate does not lay more than 5 mm (0,2”) below the lower end of the openings on the sidewalls of the basket.
- If this is the case the amount of granulate is low. Add new granulate into the collection basket and level it manually until it reaches the lower end of the openings on the sidewalls of the basket.

8.2 CHANGING THE WATER INSIDE THE WHEEL WASHER

Once the wheel washer has performed 500 washing cycles the LCD display will show “CLEAN” on the first line. It is time then to drain the water inside the wheel washer body, rinse the wheel washer body and fill it again with clean water.

CAUTION

During the first washing cycles burrs from machined parts of the wheel washer and the plastic granulate will detach and settle into the water.

It is strongly suggested to perform an intermediate water change and rinsing of the wheel washer body and the plastic granulate, as explained further in this paragraph, to achieve best washing performance.

Such an intermediate water change should be performed after the wheel washer has performed about 100 washing cycles and the LCD display shows “READY” on the first line and 400 on the second line.

WARNING

Draining waste water from the wheel washer body to the sewage may be subject to limitations in your country.

Always follow local law and regulation when draining waste water from the wheel washer body to the sewage.

Appropriate treatment of the waste water from the wheel washer body may be required in your country prior to draining it to the sewage.

- Prior to beginning to drain the wheel washer body, remove the plastic granulate floating in the water. Direction on how to perform such operation can be found reading the previous paragraph “REMOVING THE PLASTIC GRANULATE”.
- After having removed the plastic granulate floating in the water, disconnect the wheel washer from the power supply and the compressed air supply.

DANGER

Always disconnect the wheel washer from the power supply and the compressed air supply prior to moving the wheel washer and proceeding to change the water.

Failure to do so may lead to damages to the wheel washer and electrical shock hazard when taking the wheel washer back into operation.

NOTE

If necessary, move the wheel washer to a location where a sewage drain located on the floor can be easily reached with the drain hose attached on the right side of the wheel washer.

WARNING

Directions on how to properly move the wheel washer with the aid of a fork lift can be found reading the chapter "INSTALLATION". Follow these direction thoroughly to prevent damages to the wheel washer.

- Remove the inspection lid on the front of the wheel washer and the segregation bulkhead laying below the inspection lid.
- Detach the drain hose on the right side of the wheel washer from the support on the rear of the wheel washer paying attention that the free end of the drain hose never lays below the water level to prevent water spilling at unwanted locations.
- Take the drain hose free end above a sewage drain on the floor and lay it on the sewage drain so that the water outflow from the drain hose goes into the sewage drain.
- Wait for the wheel washer body to drain completely then rinse the wheel washer body thoroughly.
- Wait for the rinsing water inside the wheel washer body to drain as well.
- Reposition the drain hose securing it into the hose support on the rear of the wheel washer.
- Remove the washing residuals from the bottom of the empty washing tank and then clean the washing tank.

WARNING

Always follow local law and regulation when handling waste residuals from the wheel washer body. Appropriate treatment of the waste residuals from the wheel washer body may be required in your country.

WARNING

Make sure that the drain hose is firmly secured by the hose support to prevent it from inadvertently detach from the hose support and fall on the ground, thus leading to water spillage from the wheel washer body to the workshop floor once the wheel washer body is filled with water.

- Place the collection basket along with the plastic granulate onto the sewage drain.
- Rinse the plastic granulate inside the collection basket thoroughly and wait for the rinsing water to drain out of the collection basket.
- If necessary, reposition the wheel washer to its working location.

CAUTION

Directions on how to properly move the wheel washer with the aid of a fork lift can be found reading the chapter "INSTALLATION". Follow these direction thoroughly to prevent damages to the wheel washer.

- Fill the wheel washer body through the opening of the inspection lid with clean tap water until water level reaches the middle of the lower double arrow on the water level indicator.
- Reposition the inspection lid and open the washing camber lid.
- Position the collection basket containing the plastic granulate on the washing chamber door and tilt it to pour the granulate back into the wheel washer body through the washing chamber.
- Reconnect the wheel washer to the power supply and the compressed air supply.
- Turn the wheel washer on action on the main switch on the front of the wheel washer. After the wheel washer completes the start-up self diagnostics, if the 500 washing cycles had been reached, the LCD display will still show "CLEAN" on the first line.
- Push the green "RESET" button on the front of the wheel washer to reset the washing cycle counter and revert to the main operation page to restart operation.

9. SCRAPPING

If the machine is to be scrapped, separate all electrical, electronic, plastic and ferrous components. Dispose of them separately, as provided for by local regulations in force.

10. ENVIRONMENTAL INFORMATION

The following disposal procedure shall be exclusively applied to the machines having the crossed-out bin symbol on their data plate.



This product may contain substances that can be hazardous to the environment or to human health if it is not disposed of properly. We therefore provide you with the following information to prevent releases of these substances and to improve the use of natural resources. Electrical and electronic equipment should 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 in this page, remind you of the need to properly dispose of the product at the end of its life.

In this way it is possible to prevent that a not 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 used in these products.

For this purpose the electrical and electronic equipment manufacturers and dealers set up proper collection and treatment systems for these products. At the end of life of your product contact your dealer to have information on the collection arrangements.

When buying this new product your dealer will also inform you of the possibility to return free of charge another end of life equipment as long as it is of equivalent type and has fulfilled the same functions as the supplied equipment.

A disposal of the product different from what described above will be liable to the penalties prescribed by the national provisions in the country where the product is disposed of.

We also recommend you to adopt further measures for environment protection: recycle the internal and external packing of the product and properly dispose of dead batteries (if contained in the product).

With your help the amount of natural resources used to produce electrical and electronic equipment can be reduced, the use of landfills for the disposal of the products, minimized, and the quality of life improved by preventing that potentially hazardous substances are released into the environment.

11. FIRE-EXTINGUISHING DEVICES

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

Dry materials
 Water ... YES
 Foam ... YES
 Powder ... YES*
 CO2 ... YES*

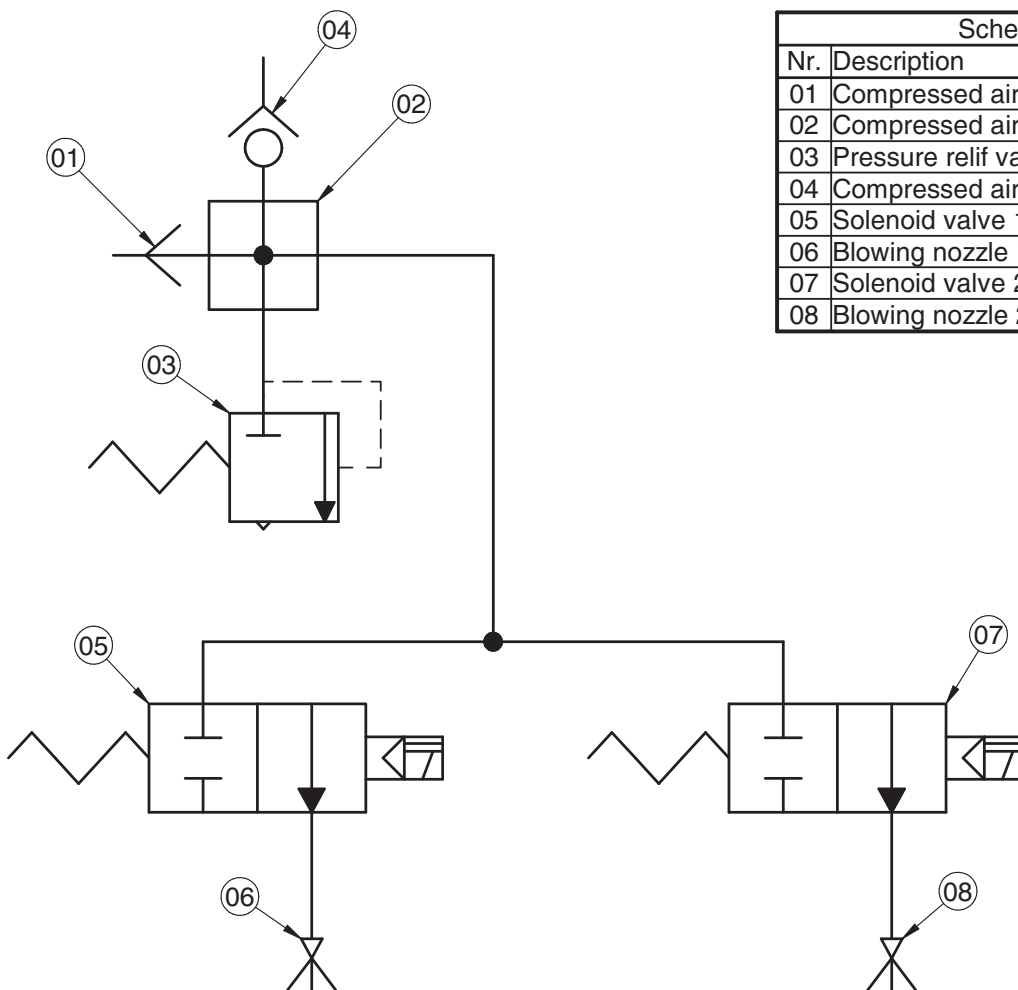
Electrical equipment
 Water ... NO
 Foam ... NO
 Powder ... YES
 CO2 ... YES

Flammable liquids
 Water ... NO
 Foam ... YES
 Powder ... YES
 CO2 ... YES

NOTE
 YES* can be used if more appropriate fire extinguishing materials are not available or for minor fires.

WARNING
 This table contains general instructions to be used as guidelines for users. All the applications of each type of extinguisher must be obtained from the relevant manufacturer.

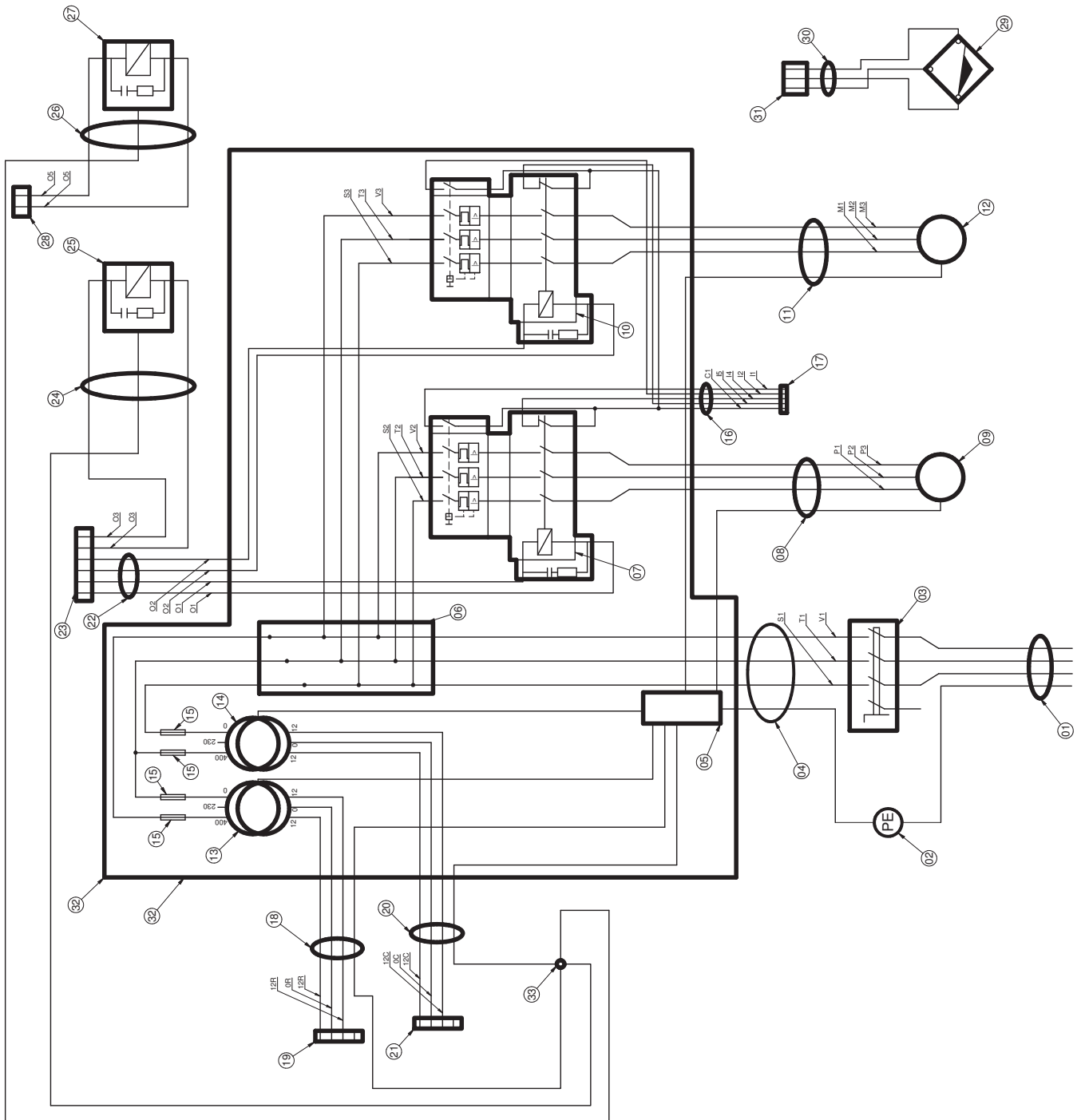
12. PNEUMATIC DIAGRAM



Scheme description	
Nr.	Description
01	Compressed air inlet
02	Compressed air distributor
03	Pressure relief valve
04	Compressed air outlet for auxiliary implement
05	Solenoid valve 1
06	Blowing nozzle 1
07	Solenoid valve 2
08	Blowing nozzle 2

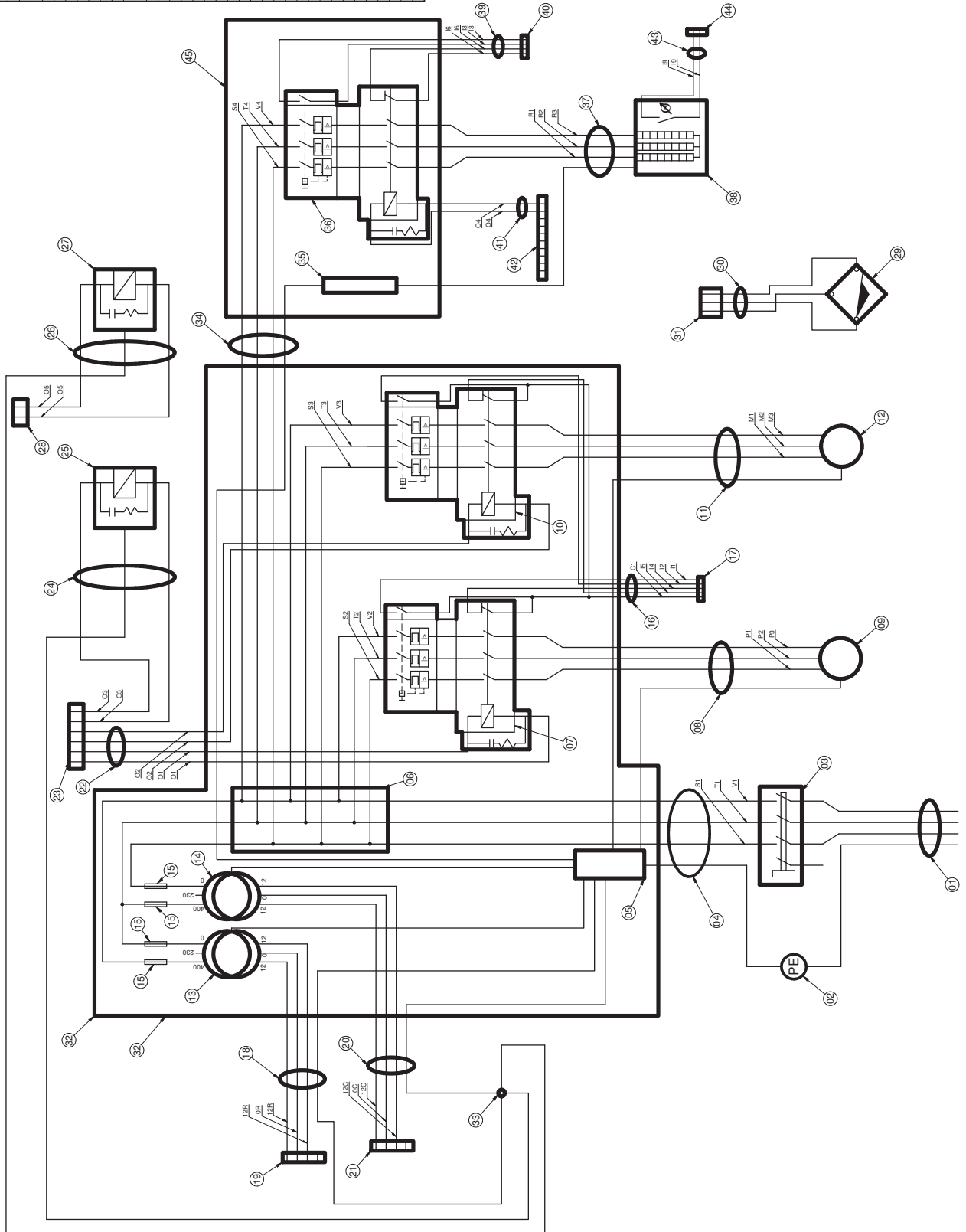
13. ELECTRIC DIAGRAM (W/O HEATING SYSTEM)

Nr.	Description
01	Mains cable
02	Main grounding terminal
03	Main switch
04	Main powerbox power supply cable
05	Main powerbox grounding terminal
06	Power distribution box
07	Pump motor starter
08	Pump motor power supply cable
09	Pump motor
10	Wheel drive motor starter
11	Wheel drive motor power supply cable
12	Wheel drive motor
13	PCB relais power supply transformer
14	PCB microcontroller power supply transformer
15	Fuse: 1A, gG/gL
16	Main powerbox diagnostic cable
17	J6 connector on PCB (PHOENIX CONTACT MSTB 5-ways)
18	PCB relais power supply cable
19	J10 connector on PCB (TYCO AMP MODU I 4-ways)
20	PCB microcontroller power supply cable
21	J2 connector on PCB (TYCO AMP MODU II 4-ways)
22	Main powerbox control cable
23	J8 connector on PCB (TYCO AMP MODU I 6-ways)
24	Solenoid valve 1 control cable
25	Solenoid valve 1
26	Solenoid valve 2
27	Solenoid valve 2 control cable
28	J7 connector on PCB (TYCO AMP MODU I 2-ways)
29	Proximity sensor
30	Proximity sensor cable
31	J5 connector on PCB (PHOENIX CONTACT MSTB 2-ways)
32	Main powerbox
33	Grounding terminal on PCB



Nr.	Description
01	Mains cable
02	Main grounding terminal
03	Main switch
04	Main power supply cable
05	Main powerbox grounding terminal
06	Power distribution box
07	Pump motor starter
08	Pump motor power supply cable
09	Pump motor
10	Wheel drive motor starter
11	Wheel drive motor power supply cable
12	Wheel drive motor
13	PCB relays power supply transformer
14	PCB microcontroller power supply transformer
15	Fuse: 1A;G/G/L
16	Main powerbox diagnostic cable
17	J6 connector on PCB (PHOENIX CONTACT MSTB 5-ways)
18	PCB relays power supply cable
19	J10 connector on PCB (TYCO AMP MODUJ 4-ways)
20	PCB microcontroller power supply cable
21	J2 connector on PCB (TYCO AMP MODU II 4-ways)
22	Main powerbox control cable
23	J8 connector on PCB (TYCO AMP MODU I 6-ways)
24	Solenoid valve 1 control cable
25	Solenoid valve 2 control cable
26	Solenoid valve 2
27	J7 connector on PCB (TYCO AMP MODU I 2-ways)
28	Proximity sensor
29	Proximity sensor cable
30	J5 connector on PCB (PHOENIX CONTACT MSTB 2-ways)
31	J5 connector on PCB (PHOENIX CONTACT MSTB 2-ways)
32	Main powerbox
33	Grounding terminal on PCB
34	Water heater powerbox power supply cable
35	Water heater powerbox grounding terminal
36	Water heater starter
37	Water heater power supply cable
38	Water heater
39	Water heater powerbox diagnostic cable
40	J4 connector on PCB (PHOENIX CONTACT MSTB 4-ways)
41	Water heater powerbox control cable
42	J9 connector on PCB (TYCO AMP MODU I 10-ways)
43	Water temperature probe cable
44	J3 connector on PCB (PHOENIX CONTACT MSTB 2-ways)
45	Water heater powerbox

14. ELECTRIC DIAGRAM (WITH HEATING SYSTEM)



EC statement of conformity

We, TECO srl, via Pio La Torre 10, 42015 Correggio (RE), ITALY,
do hereby declare, that the product

LR400 WHEEL WASHER MACHINE

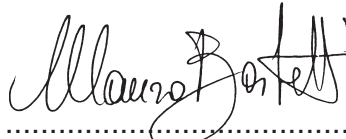
to which this statement refers, manufactured by us and for which we hold the relative technical dossier, is compliant with the following standards:

- EN ISO 12100-1; EN ISO 12100-2
- EN 60204-1

with reference to EC directives:

- 2006/42/CE
- 2006/95/CE;
- 2004/108/CE.

Correggio, 01/10/2011



TECO srl
Barbetti Ing. Mauro

IMPORTANT: The EC Conformity Declaration is cancelled if the machine is not used exclusively with TECO original accessories and/or in observance of the instructions contained in the user's manual.

The form of this statement conforms to EN 45014 specifications.



Automotive Equipment

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