

metos

POT WASHER

TYPE: Master LP4

Accessories
DETERGENT DISPENSER
DVGW VALVE

Installation and Operation Manual



S/N:

Valid from:..02/2003

Rev.: 2.0

Dear Customer,

Congratulations on deciding to choose a Metos equipment for your kitchen activities. You made an excellent choice. We will do our best to make also you a satisfied Metos customer like thousands and thousands of others all over the world.

Please read this manual carefully. You will learn many right, safe and efficient working methods in order to get the best possible benefit from the equipment. The instructions and hints in this manual will give you a quick and easy start in using this equipment. You will note very quickly how nice it is to use the Metos equipment.

All rights are reserved for technical changes.

You will find all the main technical data on the rating plate fixed to the equipment. When you need service or technical help, please let us know the serial number of the equipment. This will make it easier to provide you with the correct service. Please write the contact information of your local Metos service in advance on the lines below.

METOS TEAM

Metos service phone number:.....

Contact person:.....

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1. General

Carefully read the instructions in this manual as they contain important information regarding proper, efficient and safe installation, use and maintenance of the appliance.

Keep this manual in a safe place for eventual use by other operators of the appliance.

The installation of this appliance must be carried out in accordance with the manufacturer's instructions and following local regulations. The connection of the appliance to the electric and water supply must be carried out by qualified persons only.

Persons using this appliance should be specifically trained in its operation.

Switch off the appliance in case of failure or malfunction. The periodical function checks requested in the manual must be carried out according to the instructions. Have the appliance serviced by a technically qualified person authorized by the manufacturer and using original spare parts.

Not complying with the above may put the safety of the appliance in danger.

1.1 Symbols used in the manual



This symbol informs about a situation where a safety risk might be at hand. Given instructions are mandatory in order to prevent injury.



This symbol informs about the right way to perform in order to prevent bad results, appliance damages or hazardous situations.



This symbol informs about recommendations and hints that help to get the best performance out of the appliance.

1.2 Symbols used on the appliance



This symbol on a part informs about electrical terminals behind the part. The removal of the part must be carried out by qualified persons only.

1.3 Checking the relation of the appliance and the manual

The rating plate of the appliance indicates the serial number of the appliance. If the manuals are missing, it is possible to order new ones from the manufacturer or the local representative. When ordering new manuals it is essential to quote the serial number shown on the rating plate.

2. Safety

2.1 Safety instructions in case of malfunction



Check the following:

- Has the appliance been used according to instructions?
- Are all possibly removable parts refitted?
- Is the main switch in the ON position?
- Are the circuit breakers (fuses) of the appliance in the electrical supply centre in working order? Ask an authorized person to check the circuit breakers.
- If this does not help, contact an authorized service person.

2.2 Installation



Electrical and water connections must be carried out by authorized personnel only.

Make sure that the mains voltage is the same as that indicated on the data plate of the appliance. The machine shall be connected to the main switch.



Water connection must be carried out in a manner that complies with the regulations of the local water supply authority. Check the tightness at the connection point before starting up. See also “Water connections” in Chapter “Installation”.

2.3 Detergent and rinse aid



Only detergents and rinse aids intended for dishwashing machines are allowed. Hand dishwashing detergent must not be used because it leads to excessive foaming and to a poor dishwashing result. Contact your dishwashing detergent supplier for the choice of suitable detergent and rinse aid. Pay attention to risks involved in the handling of machine dishwashing detergents and rinse aids (see safety instructions of the detergent).



Protective gloves and goggles should be used when handling machine dishwashing detergent and rinse aid. Read warning text on the detergent and rinse aid container.

2.4 Washing and cleaning of the machine



The machine performs final rinse with 85° C hot water. The door must not be opened until the final rinse is finished.



The temperature of the dishwater in the tank is approx. 60° C and mixed with detergent. Be careful when emptying and cleaning the machine. Use protective gloves.

2.4.1 High pressure cleaning of the dishwasher



High pressure cleaning of the machine is forbidden.

In order to satisfy official requirements concerning the safety standards of Metos dishwashers, electrical components of approved sealing classes are used.

There is no sealing class capable of withstanding high pressure.

2.4.2 Inside of the machine



Don't use steelwool for cleaning the machine.



Don't use foaming detergents for cleaning the machine.

2.4.3 Outside of the machine



It is recommended to use a damp cloth only.

2.5 Floors



When rinsing floors, water can splash up under the machine and damage the electrical components, which have not been designed to withstand rinsing with water. Do not spray the floor closer than 1 meter from the dishwasher. Special protective covers are available for high pressure washers to prevent splashes.



Splashes from underneath can also arise when using ordinary water hoses.

2.6 Repairs and maintenance of the machine



Switch off the power before removing the front panel. Avoid contact with hot pipes and booster heaters.

2.7 Disposal of the appliance



The disposal of the appliance when its economical lifetime has been reached must be carried out in accordance with local rules and regulations. Contact professional personnel specializing in recycling.

3. Functional description

3.1 Application of the appliance

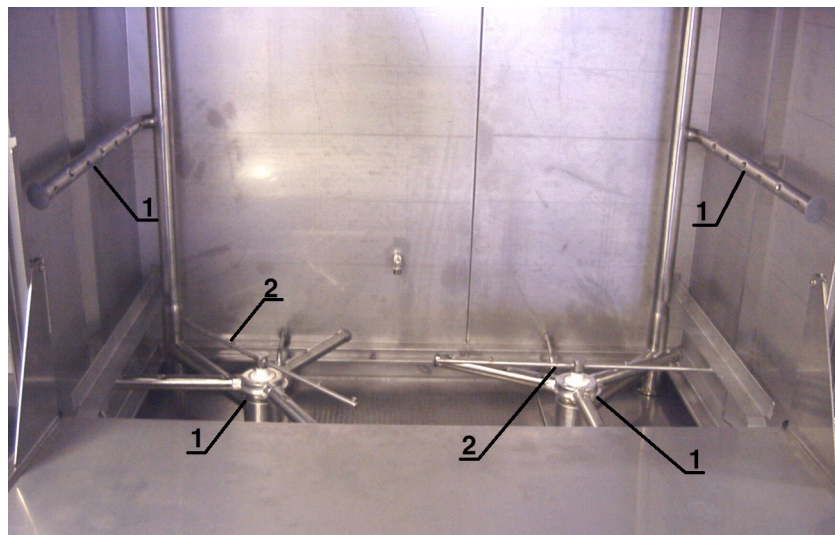
The machine is intended for washing items used for the preparation and serving of food, including various types of items used for the storage of food. Washing must therefore be carried out with a machine dishwashing detergent and rinse aid suitable for this purpose.

3.1.1 Prohibited use/Use for other purposes

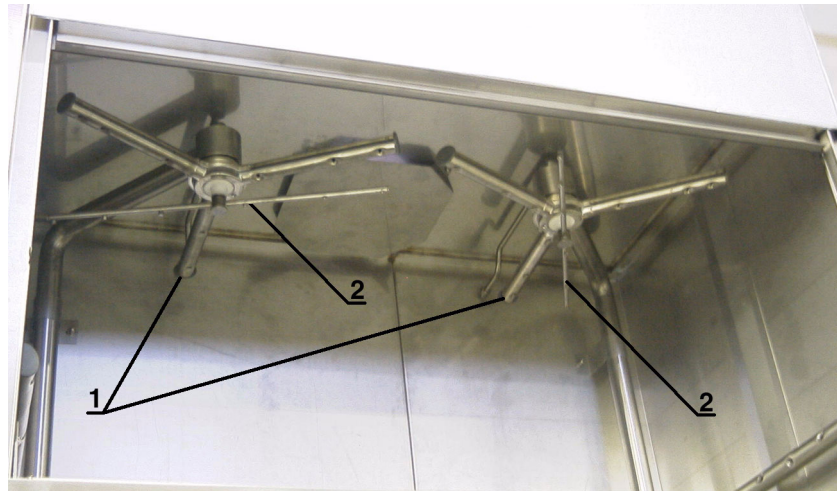


Use of the machine for applications other than it is designed for must always be checked in advance with the manufacturer.

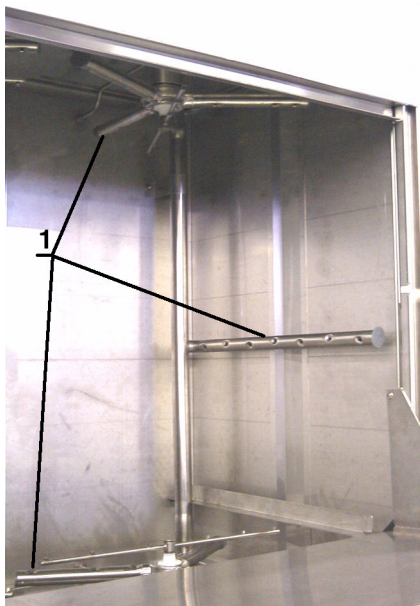
3.2 Construction



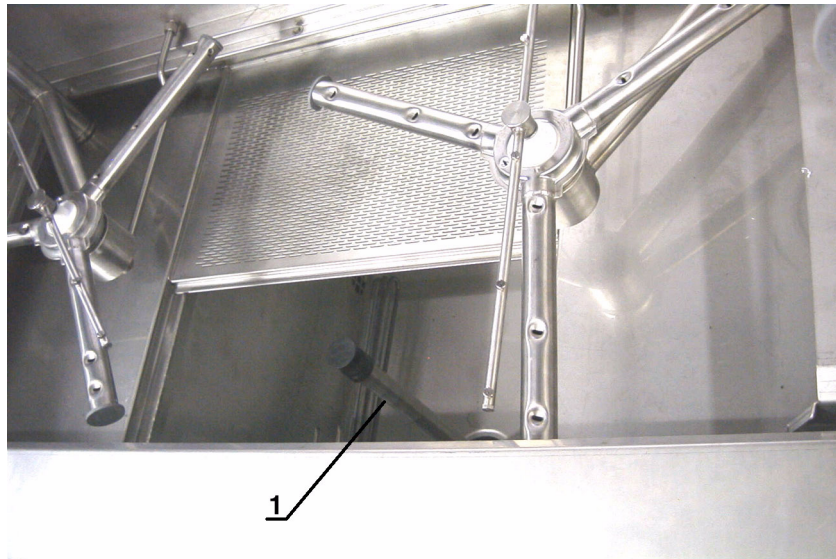
1. Rinse arm
2. Wash arm



- 1. Wash arms
- 2. Rinse arm



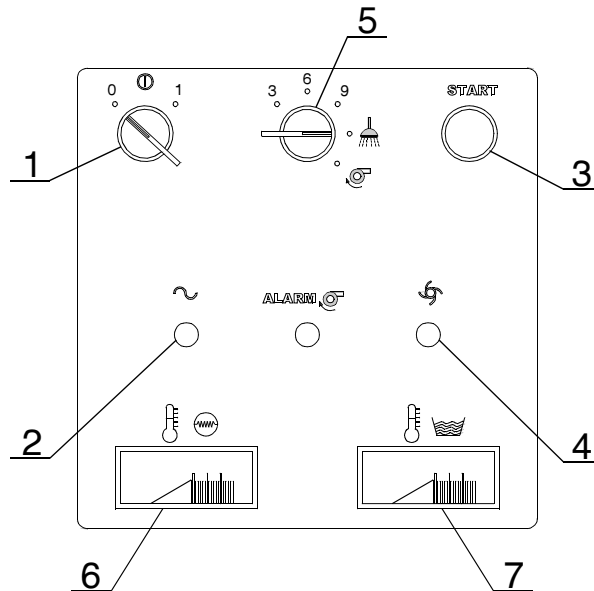
- 1. Wash arm



1. Overflow pipe

3.3 Operating principle

3.3.1 Operating switches and indicator lights



1. Control switch
2. Electric input indicator light
3. START button
4. Cycle start indicator light
5. Cycle selector pos.1 (3'): wash time 3 minutes pos.2 (6'): wash time 6 minutes pos.3 (9'): wash time 9 minutes pos.4: continuous rinse pos.5: continuous wash
6. Boiler temperature display
7. Tank temperature display

3.3.2 Alarm

Alarms are indicated by blinking of the cycle indicator light (4). See details in "Troubleshooting".

4. Operation instructions

4.1 Before using the appliance

4.1.1 Preparing the operation

- Check that the machine is clean and there is no dirt in wash and rinse nozzles.
- Check that there is detergent and rinse aid in respective containers.
- Place the overflow pipe in the correct position in the tank.
- Check that all the filters are properly in place (there is no pump filter in type LP4).
- Close the door.
- Start the machine by turning the machine's main switch to position 'ON'. The indicator light will turn on and the machine starts filling with water.
- After the tank has filled, the water heating will begin automatically.



It is forbidden to use the machine without filters.

4.2 Operation procedures

- The machine is ready for wash when the tank temperature is approx. 60°C and the boiler temperature is 80-85°C.
- If the detergent is put manually in the tank, put the detergent in the tank before the wash is started.
- Remove food residues from the dishes and place the dishes in the rack. It is useful to draw the rack on to the door to help loading the dishes. Lids and pans are placed in an upright position and kettles and pots on the bottom of the rack. The dishes must be placed so that water can freely clean them.
- Close the door and choose the desired wash time (3, 6 or 9 minutes) by turning the cycle selector clockwise. It is recommended to use the continuous wash for very dirty dishes.
- Push the START button to begin the wash. When the wash starts, the green indicator light will turn on. When the indicator light goes off, the wash cycle is finished.
- The rack can now be removed and another rack inserted in the machine for wash.



If the cycle selector is in position 4, the machine rinses continuously. When the cycle selector is in position 5, the machine washes continuously. When you use the continuous wash program, complete washing by choosing continuous rinse.



Don't change the wash program during the cycle.

4.2.1 Replacing water



It is advisable to replace the water in the tank at least every 30 wash cycles, or at least twice a day. The emptying and filling the machine is explained in Chapters “After use” and “Before using the appliance”.

4.3 After use

4.3.1 Cleaning

In order to ensure perfect performance, the appliance must be carefully cleaned at least once a day in the following way:

Inside

1. Turn the main switch of the machine to position 0. The signal light below the switch goes off. Turn the voltage off with the main switch.
2. Open the door, remove the filters and clean them with a brush under running water. Remove the overflow pipe to drain the water out of the tank.
3. Unscrewing the plug to access into the wash arms. Clean the wash arms inside with a brush and running water. The wash arms are removed by loosening the fastening screws.
4. Reassemble the arms and put the wash arms back in place. Tighten the fastening screws.
5. Rinse the inside of the machine with a water hose.
6. Remove the pump filter (LP2) and clean it carefully. Put it back in place. Leave the overflow pipe and tank strainers inside the machine.

Outside

1. Clean the outside of the machine with a damp cloth.
2. Leave the door open until the next day.



Never use foaming detergent for cleaning the surfaces of the machine. Detergent can get inside the machine and cause foaming and a bad wash result.

Contact your detergent supplier and to ask for detailed information about methods and products that you can use for cleaning the machine regularly.

5. Installation

5.1 General

See installation drawings in Chapter “Technical specifications”.



When connecting benches, roller conveyors etc., it is not allowed to make any holes in the machine!

The 'CE'-mark is only valid for machine in original design.

5.2 Operating conditions

5.2.1 Lighting

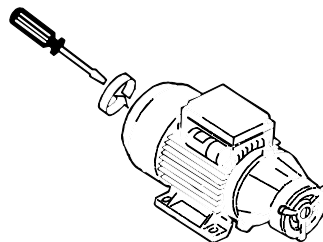
In order to ensure the best possible working conditions during the operation of the machine and during service and maintenance, make sure that the machine is placed in a well-lit room.

5.2.2 Ventilation

A satisfactory working environment requires ventilation in the dishwashing room. The recommended ventilation is 600m³/h.

5.3 Booster pump

When the machine has not been used for a while, check that the supplementary booster pump rotates freely. To do this, turn a screwdriver placed in the special notch on the ventilating side of the motor shaft (see figure). If the pump is blocked, lightly tap the end of the screwdriver with a plastic hammer.



5.4 Electrical connections

See wiring diagrams of the machine.

The dishwasher must be connected to the power supply according to the regulations currently in force. Make sure that the mains voltage is the same as that indicated on the rating plate of the machine.

The power supply connection to the machine must be equipped with an appropriate main switch.

Check that the circuit is connected to earth.



Machines are delivered with overheat protection (TS) not connected. Connect it after tank filling.

5.5 Water and drain connections

See installation drawings and technical specifications.

Make sure that the machine stands horizontally. Adjust, if necessary, with the aid of the legs of the machine. The hot water connection is connected to (1). The connections should be equipped with a vacuum valve, non-return valve and stop cock.

Connect the drain tube to (2), so that the water can flow out freely. The drain is connected to the sewer, where it should end above water level.

5.6 Staff training



Before taking the machine into use, make sure that the personnel receive the requisite information for handling and maintenance!

6. Adjustment instructions

6.1 Setting the detergent dispenser

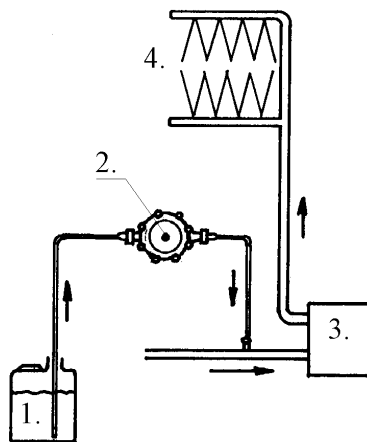
If the appliance is equipped with a detergent dispenser, its operating time can be adjusted by turning the "TDET" potentiometer on the data card.

The detergent dispenser is connected to the card with a flat connector according to the wiring diagram (230V).



The dispenser functions automatically both when loading with water and at the end of each cycle according to the times just set described above.

6.2 Setting the rinse aid dosing pump



1. Rinse aid container
2. Adjusting screw of the rinse aid dispenser
3. Boiler
4. Rinse

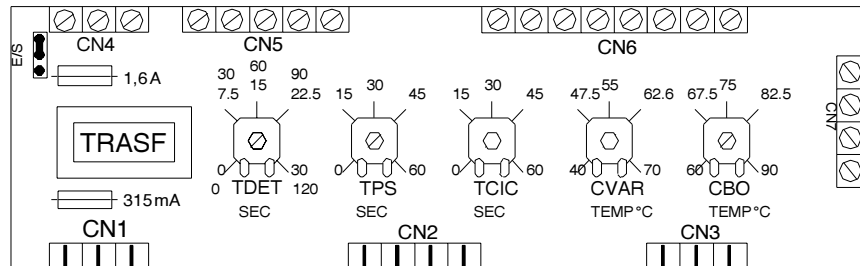
- Check that the adjusting screw on the pump is completely open.
- Pump so much rinse aid that it reaches the pump (pumping is carried out by pressing the adjusting screw in and out). Pump after this 10-15 times.
- Adjust the amount of rinse aid by turning the adjusting screw. The basic setting is about 10 cm measured from the pipe. The amount of rinse aid can be regulated between 0...4 cm³, which is equivalent to 0...30 cm drawn into the suction tube. The amount of rinse aid can be reduced by screwing clockwise and increased by screwing counterclockwise.

Adjustment instructions

- Fill the machine with warm water.
- Ready for use.

The rinse aid dosage is roughly set at the factory.

6.3 Adjustments, programming



E/S = Selector switch for economizing the boiler current

Machine adjustments

Table 1:

ADJUSTABLE FUNCTION	CONTROL RANGE
CBO setting the boiler temperature	min 60° C – max 90° C
CVAR setting the tank temperature	min 40° C – max 70° C
TCIC increasing the cycle time length	min 0 sec. – max 60 sec.
TPS drain pump function time	min 0 sec. – max 60 sec.
TDET detergent dispenser function time	in filling: min 0 sec. - max 120 sec.
TDET detergent dispenser function time	in rinsing: min 0 sec. - max 30 sec.

Factory settings

Table 2:

ADJUSTABLE FUNCTION	BASIC SETTING
CBO	85° C
CVAR	65° C
TCIC	0 sec.
TPS	0 sec.
TDET	0 sec.

Machines delivered from the factory have the above basic settings.

7. Troubleshooting

Table 3:

TYPE OF PROBLEM	POSSIBLE CAUSE	SOLUTION
Appliance does not start.	Main switch is turned off.	Turn on the switch.
Appliance does not take water	Water faucet is closed.	Open the water faucet.
	Rinse arm nozzles are clogged.	Clean the nozzles, the connecting pipes and the filter of the solenoid valve.
Washing results are not satisfactory.	Nozzles on the wash arms are clogged or the wash arms do not rotate.	Unscrew and clean the nozzles and the wash arms. Reassemble them and put them back in place.
	Too much or too little detergent.	Increase or decrease the amount of detergent.
	Suction filter is dirty.	Remove the filter and clean it with a brush under running water. Put it back in place.
	Too short wash program	Choose a longer program
	Dishes incorrectly placed in the rack	Correct
Glasses and other dishes are not completely dry.	The amount of rinse aid is insufficient.	Increase the amount of rinse aid by turning the screw on the dispenser (see "Setting the rinse aid dosing pump").
	Dishes have stayed too long in the machine	As soon as the wash cycle is finished, pull out the rack exposing glasses and other dishes to the air, so they dry more quickly.
	The rinse water temperature is less than +80°C.	Check the temperature on the boiler thermostat (5).
Streaks and spots on glasses and other dishes.	Too much rinse aid.	Decrease the amount of rinse aid by turning the micrometric screw on the dispenser (see "Setting the rinse aid dosing pump").
	Water marks on glasses and other dishes.	Check the hardness of water.
The machine stops suddenly during the wash cycle.	The machine has been connected to an overloaded circuit.	Connect the machine separately (call the service).
	A safety device of the machine has interrupted the operation.	Check the safety devices (call the service).
The machine stops running during wash cycle and starts drawing water.	Water from the previous day has not been replaced	Empty the tank and refill it.
	Water temperature in the tank is too high. Defective pressure switch.	Check the thermostat and the pressure switch.
	The overflow pipe is in awrong position.	Remove the overflow pipe and put it in the correct position.

Table 3:

The machine does not wash or the wash pump is noisy.	The rotation direction of the pump is incorrect due to wrong connection of power supply cable.	Check and adjust the connection of the cable wires.
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Alarms

Below are presented the alarms the machine will give. The alarms are indicated by blinking of the signal light (4). Call the service when any of the alarms occurs.



1 Blink: Boiler sensor defect



2 Blinks: Tank sensor defect



3 Blinks: Boiler overhear (4 sec. > 100°)



4 Blinks: Tank overhear (4 sec. > 75°)



5 Blinks: Boiler heating problem (240 sec. over setting value)



6 Blinks: Tank heating problem (20 min. over setting value)



7 Blinks: Filling problem (is activated after 12 min. from opening the solenoid valve)



In case of any other problems with the machine, call the service.

8. Spare parts

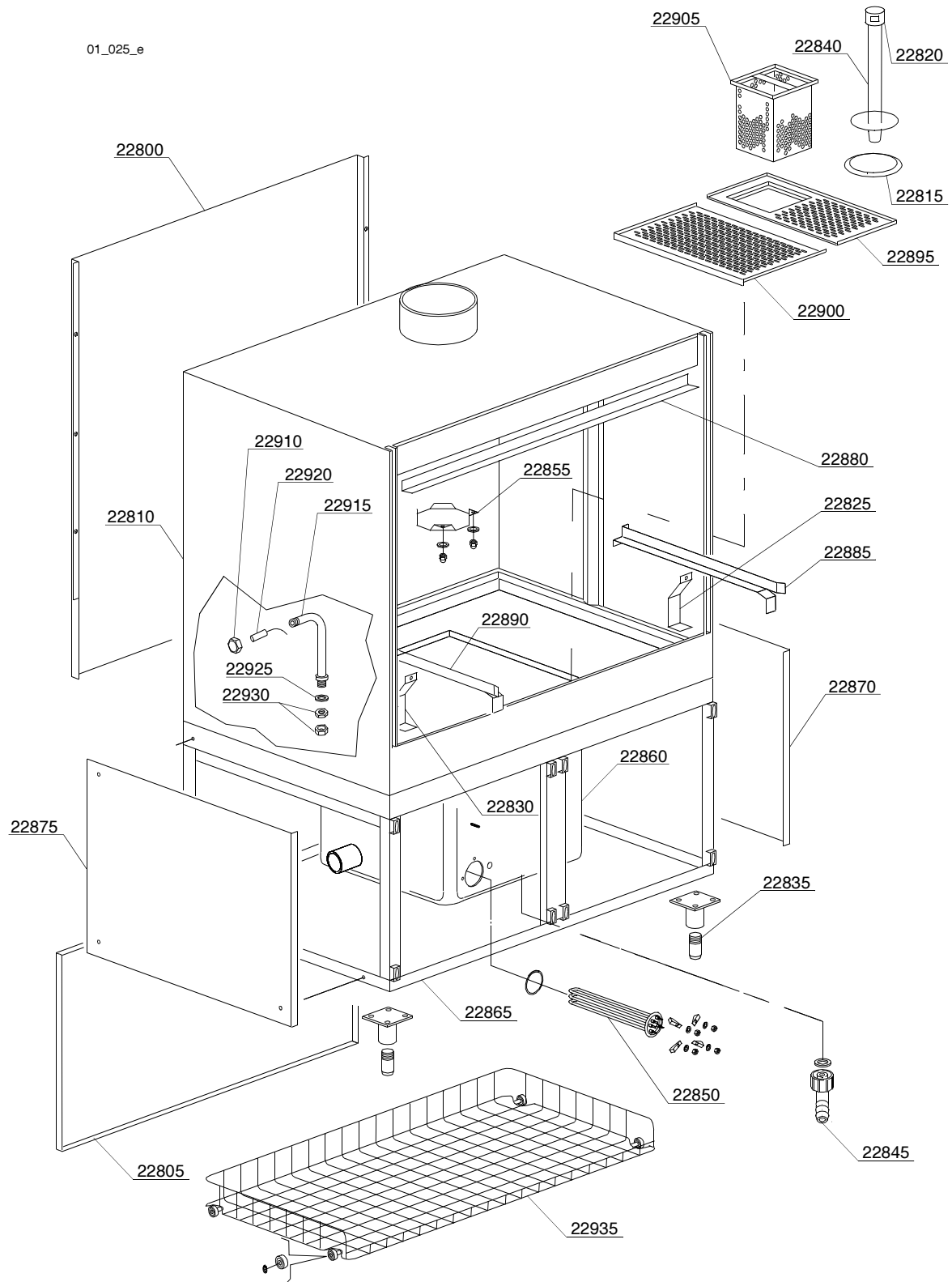
General body parts.....	27
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8.1 Voltage codes

Voltage code	Voltage
A	3/N/PE~400/230V 50Hz
B	~250V 16A 50Hz
C	3/N/PE~380/220V 50Hz
D	3/PE~200V 50-60Hz
F	2/PE 220-240V 50Hz
G	3/N/PE~415/240V 50Hz
H	3/PE~230V 50Hz
I	3/PE~220V 60Hz
J	3/PE~380 50Hz
K	3/PE~400V 50Hz
L	3/PE~415V 50Hz
M	3/PE~440V 60Hz
N	3/PE~460V 60Hz
O	3/PE~480V 60Hz
P	1/N/PE~220-240V 50Hz
R	2/PE~220-230V 60Hz
S	3/N/PE~400/230V 50Hz
T	3/PE~230V 60Hz

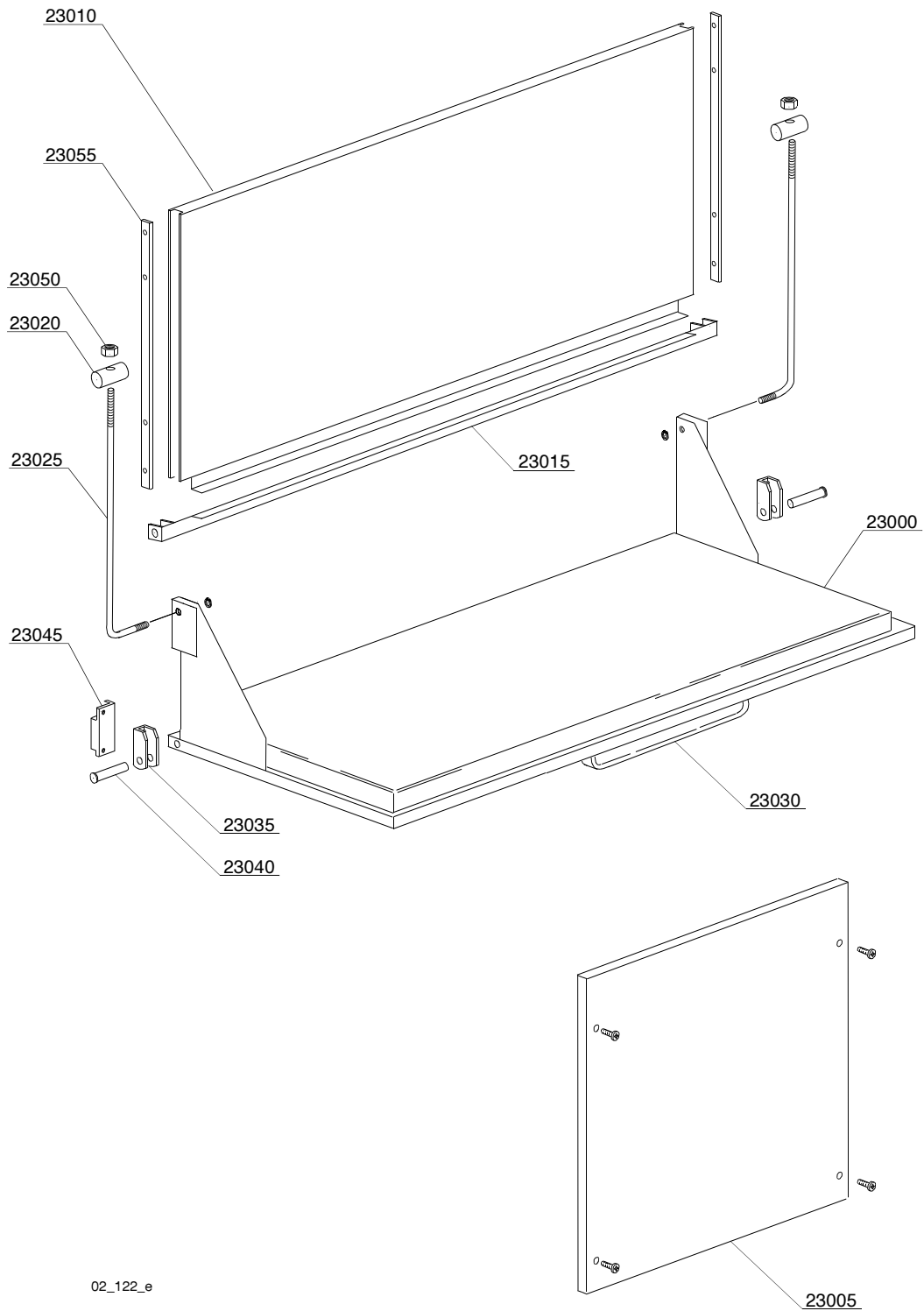
8.2 Product codes

Product code	Full name
Model codes	
Type codes	
LP4800	Master LP4
Accessory codes	
dd	DETERGENT DISPENSER
dvgw	DVGW VALVE



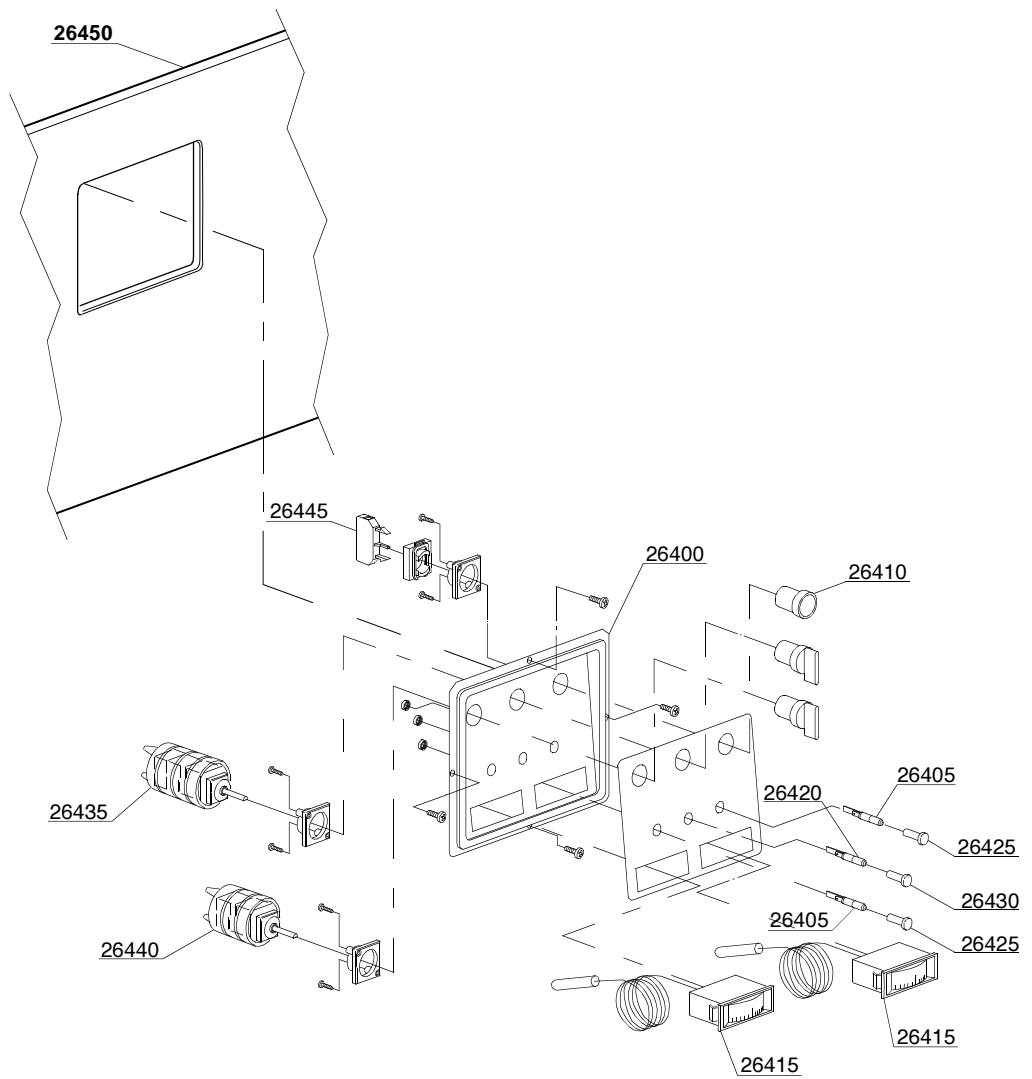
Spare parts

ID	Code	Model	Type	Accessory	Voltage	Description
MODULE:General body parts						
22800	89909		LP4800			Back panel
22805	89910		LP4800			Lower back panel
22810	89902		LP4800			Body
22815	11600002		LP4800			Flange gasket
22820	11600019		LP4800			Terminal overflow pipe
22825	80936		LP4800			Right splash guard
22830	80937		LP4800			Left splash guard
22835	80116		LP4800			Foot
22840	89933		LP4800			Overflow pipe
22845	15613		LP4800			Drain elbow
22850	30001011		LP4800			9KW heating element
22855	80931		LP4800			Chimney splash guard
22860	89903		LP4800			Tank
22865	89904		LP4800			Base
22870	89905		LP4800			Right lower panel
22875	89906		LP4800			Left lower panel
22880	89926		LP4800			Upper chimney
22885	89911		LP4800			Right internal slide
22890	89912		LP4800			Left internal slide
22895	89916		LP4800			Front surface filter
22900	89915		LP4800			Back surface filter
22905	88302		LP4800			Trap filter
22910	88114		LP4800			Nut
22915	89006		LP4800			Reed-holder
22920	2000309		LP4800			Economizer reed
22925	10200171		LP4800			25x17x2 gasket
22930	22214		LP4800			Nut
22935	C118		LP4800			Stainless steel basket with wheels



Spare parts

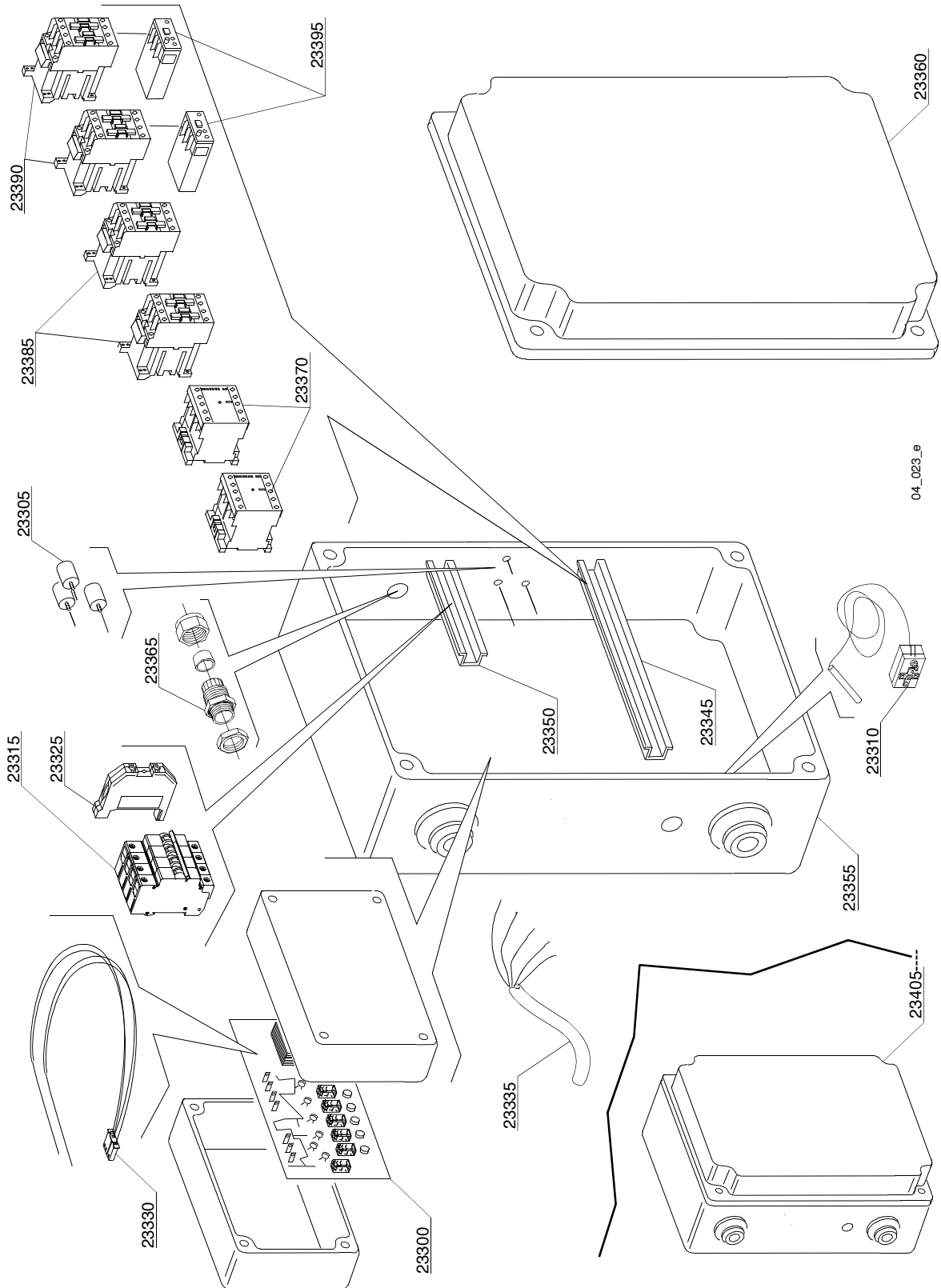
ID	Code	Model	Type	Accessory	Voltage	Description
MODULE:Lockup system						
23000	89901		LP4800			Door with steel handle
23005	89907		LP4800			Lower door
23010	89900		LP4800			Upper door
23015	89922		LP4800			Levers support
23020	22219		LP4800			Small cylinders
23025	22220		LP4800			Door rod
23030	80750		LP4800			Stainless steel handle
23035	22206/B		LP4800			Door support
23040	22220/A		LP4800			Hinge door
23045	80232		LP4800			Reed magnet
23050	11721		LP4800			Nut
23055	80700		LP4800			Slide for door



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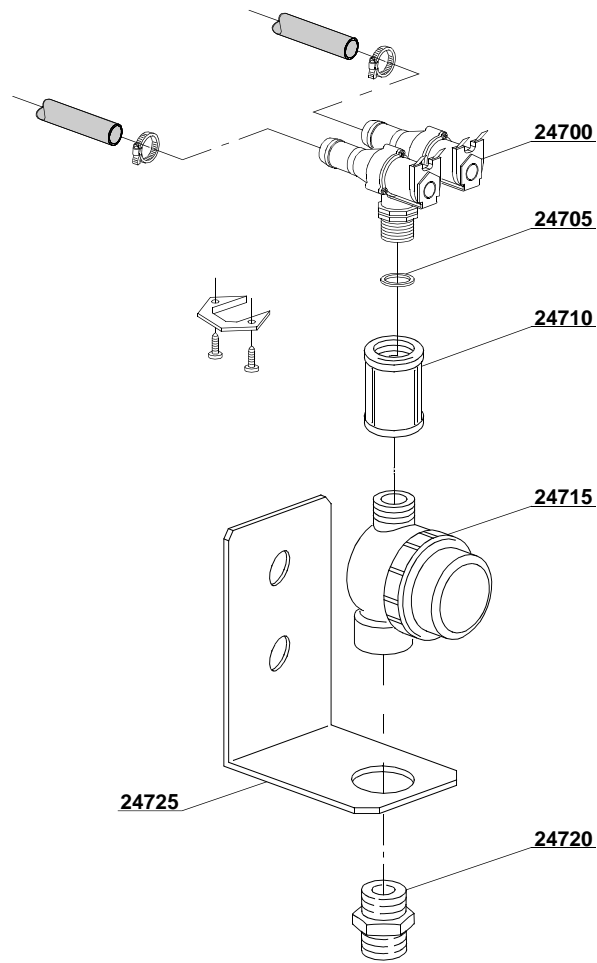
Spare parts

ID	Code	Model	Type	Accessory	Voltage	Description
MODULE:Control panel						
26400	88935	em	LP4800			Stainless steel control panel
26405	15826	em	LP4800			Pilot lamp
26410	3002053	em	LP4800			Green push button
26415	10500005	em	LP4800			Thermometer
26420	15826/A	em	LP4800			Transparent lamp
26425	15826/B	em	LP4800			Green gem
26430	15826/C	em	LP4800			Red gem
26435	80410	em	LP4800			5 position selector with knob
26440	30009001	em	LP4800			0-1 selector with knob
26445	3002054	em	LP4800			Green contact piece (NO)
26450	89908	em	LP4800			Right lower door
26450	88908	em	LP4800			Lower door



Spare parts

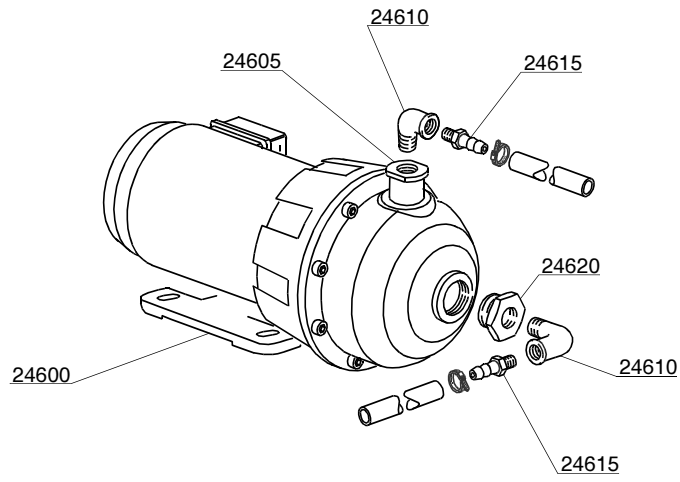
ID	Code	Model	Type	Accessory	Voltage	Description
MODULE:Control electric components						
23300	50556		LP4800		A	3/6/9 min. electronic timer
23305	15149		LP4800			Low noise filter
23310	2000430		LP4800			Safety thermostat
23315	2000411		LP4800			Automatic fuse C32
23325	10300401		LP4800			6/8mm ² yellow/green terminal
23330	50563		LP4800			Thermostat probe
23335	80200		LP4800			5x4x3400 cable
23345	80408		LP4800			L=345mm slide
23350	80409		LP4800			L=140mm slide
23355	80417		LP4800			Fairlead
23360	80407		LP4800			Proof box
23365	80414		LP4800			Cable-press
23370	15086		LP4800			Remote control switch 230V 50/60Hz 4C
23385	10300050		LP4800			25A/12A remote control switch
23390	10300054		LP4800			25A/16A remote control switch
23395	2907080		LP4800			6-10A temperature relay
23405	89100		LP4800			400Vac 3N complet electric box



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Spare parts

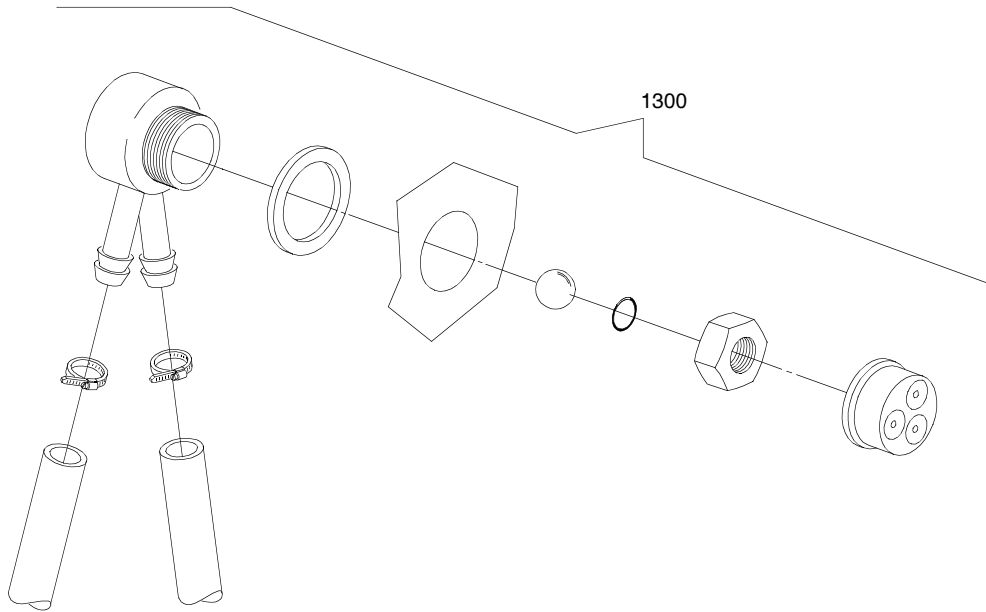
ID	Code	Model	Type	Accessory	Voltage	Description
MODULE:Solenoid valve group						
24700	30001001		LP4800			Single solenoid valve
24705	N.C.		LP4800			Pression reducing valve
24710	80275		LP4800			Pipe coupling
24715	2000121		LP4800			Filter
24720	12025		LP4800			Nipple
24725	22236		LP4800			Support



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Spare parts

ID	Code	Model	Type	Accessory	Voltage	Description
MODULE:Booster pump						
24600	15100/L	sd,i	LP4800	bp		Booster pump
24605	80273	sd,i	LP4800	bp		1 - 3/8 pipe fitting
24610	12017	sd,i	LP4800	bp		Elbow
24615	10221311	sd,i	LP4800	bp		Rubber-holder
24620	80272	sd,i	LP4800	bp		1 1/4 - 3/8 pipe fitting

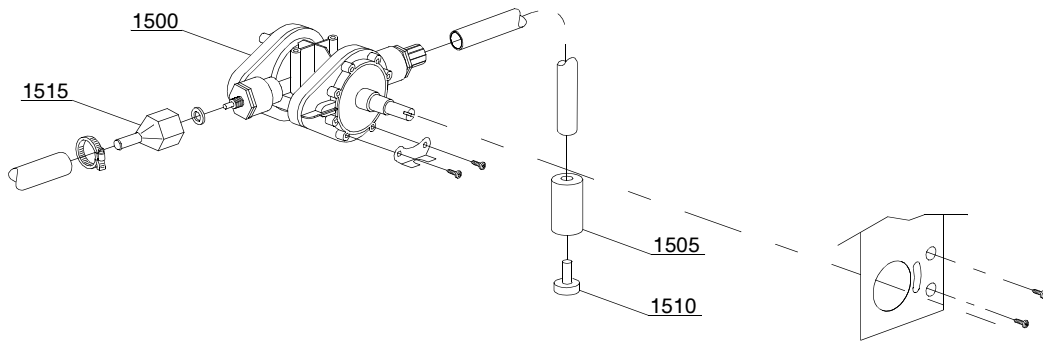


08_005_e

Spare parts

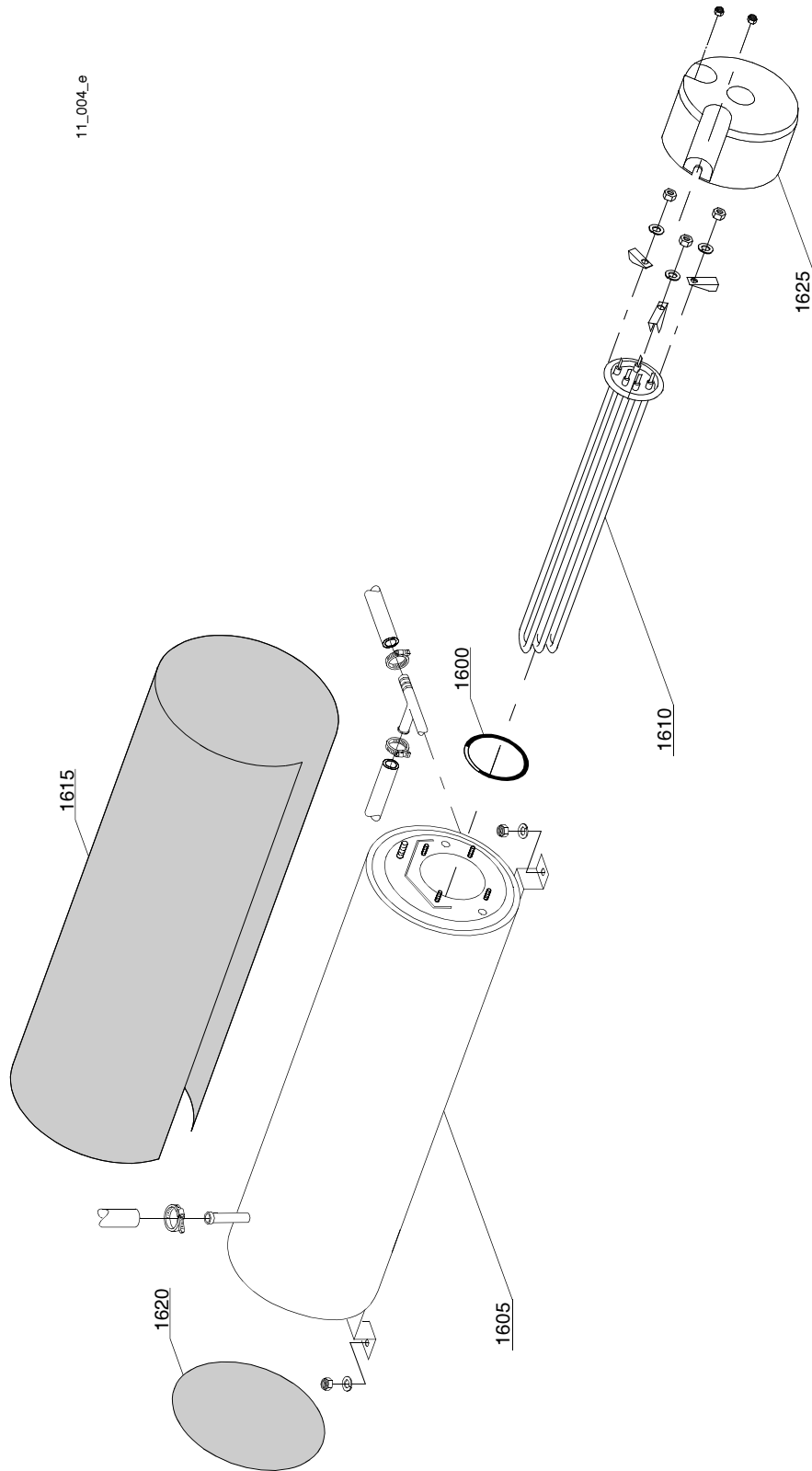
ID	Code	Model	Type	Accessory	Voltage	Description
MODULE:DVGW						
1300	999900006		LP4800	dvgw		DVGW assembly

10_002_e



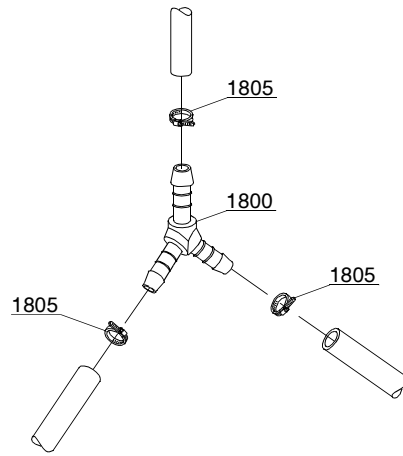
Spare parts

ID	Code	Model	Type	Accessory	Voltage	Description
MODULE:Shining product dosing device group						
1500	10798		LP4800			Shining product dosing device
1505	12525		LP4800			Counter-weight
1510	15058		LP4800			Small filter
1515	10798/B		LP4800			Brass pipe fitting



Spare parts

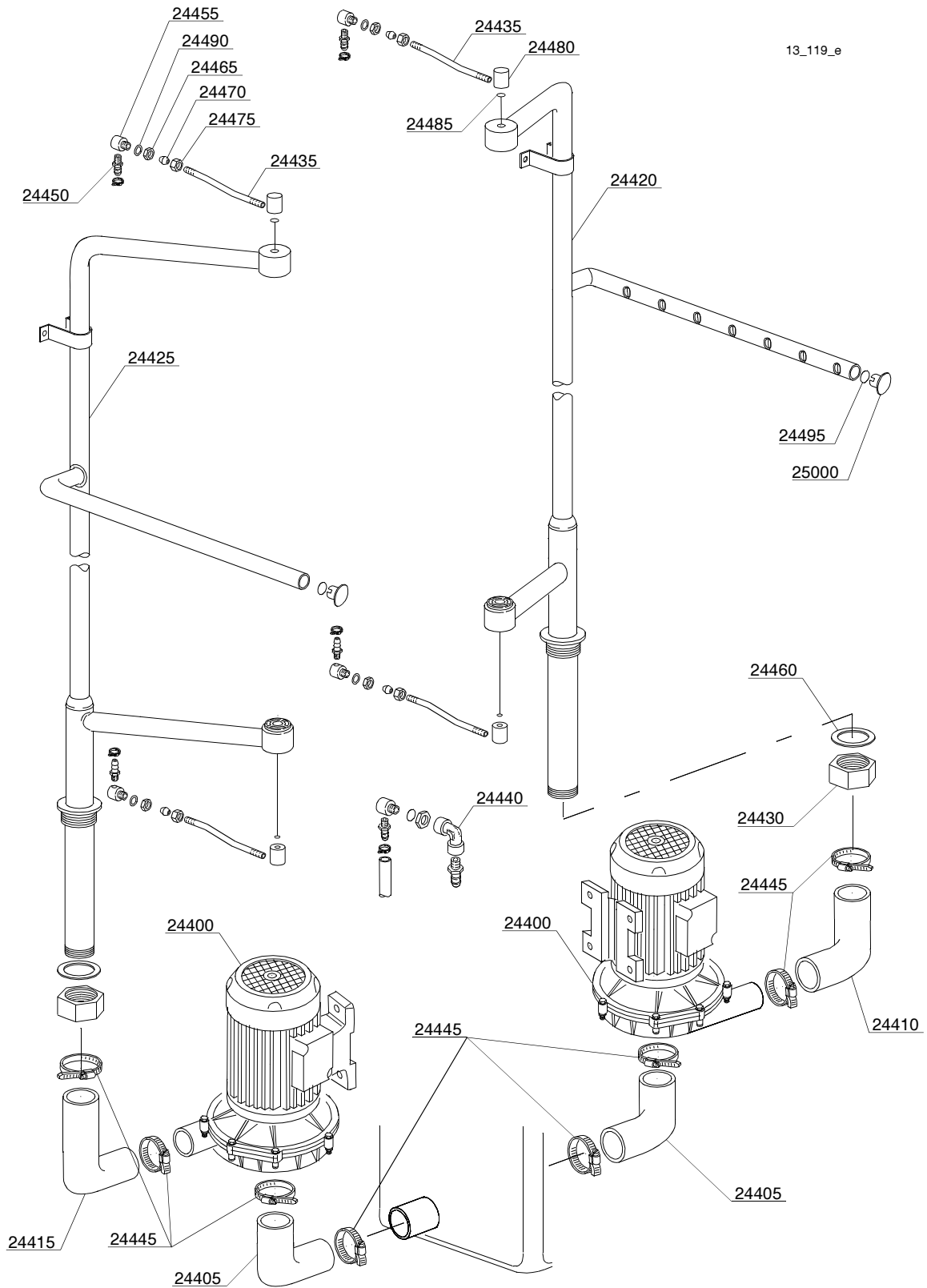
ID	Code	Model	Type	Accessory	Voltage	Description
MODULE:Boiler group						
1600	13015		LP4800			6225 OR 160 NBR gasket
1605	89005		LP4800			Boiler
1610	30001011		LP4800			9KW heating element
1615	30002030		LP4800			Insulating boiler
1620	75205		LP4800			O160 bottom
1625	75311		LP4800			Heating element guard



12_003_e

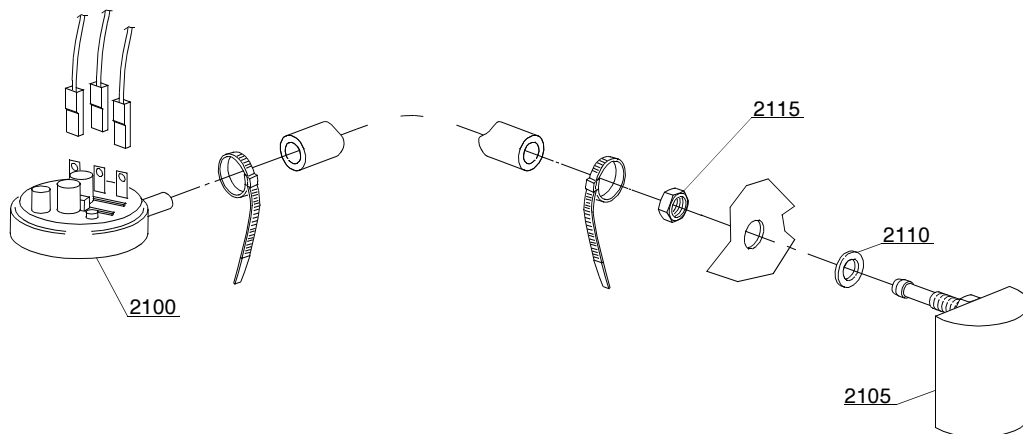
Spare parts

ID	Code	Model	Type	Accessory	Voltage	Description
MODULE:3 ways derivation						
1800	540091	sd,i	LP4800			O12 mm plastic 3 ways derivation
1805	11807	sd,i	LP4800			12/22 clamp



Spare parts

ID	Code	Model	Type	Accessory	Voltage	Description
MODULE:Wash pump						
24400	80912	uw	LP4800			3,6Hp wash pump
24405	3002020	uw	LP4800			Suction pipe coupling
24410	10200124/A	uw	LP4800			Right top delivery pipe
24415	550221	uw	LP4800			Left top delivery pipe
24420	89001	uw	LP4800			Right wash ramp
24425	89002	uw	LP4800			Left wash ramp
24430	88127	uw	LP4800			Ramp fixing nut
24435	89004	uw	LP4800			Rinse pipe
24440	12018	uw	LP4800			Elbow
24445	2902491	uw	LP4800			60/80 clamp
24450	12005	uw	LP4800			Rubber-holder
24455	80231	uw	LP4800			Rinse pipe fitting
24460	10200173/A	uw	LP4800			75x58x3 gasket
24465	10200101	uw	LP4800			Nut
24470	10200182	uw	LP4800			Bicone washer
24475	10600016	uw	LP4800			Nut
24480	10600202	uw	LP4800			Rinse elbow
24485	13009	uw	LP4800			OR 2050 NBR gasket
24490	10200171	uw	LP4800			25x17x2 gasket

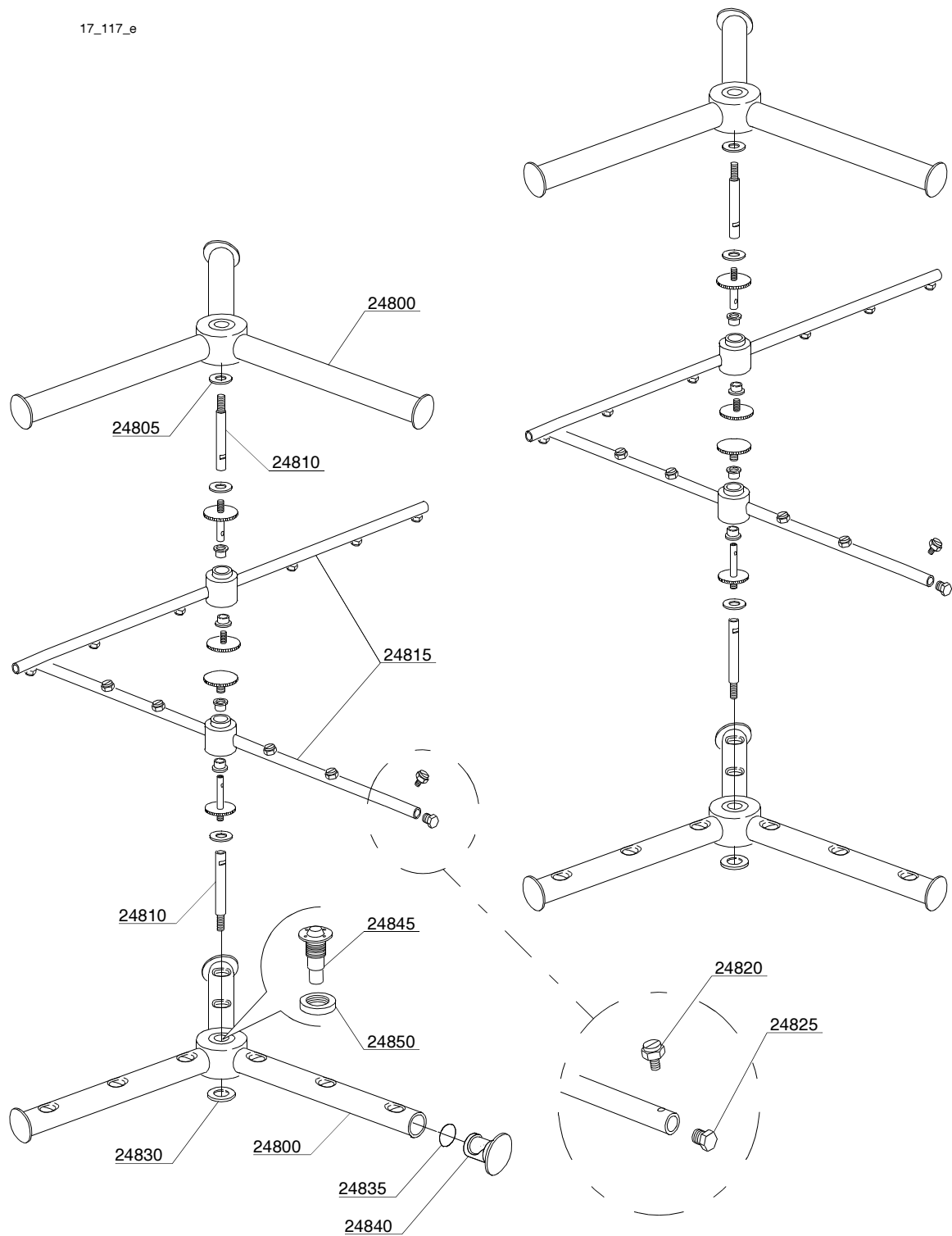


16_001_e

Spare parts

ID	Code	Model	Type	Accessory	Voltage	Description
MODULE:Pressure switch group with air trap						
2100	88110		LP4800			260-30 pressure switch
2105	80106		LP4800			Air trap assembly
2110	13301	sd,i	LP4800			Gasket
2115	11702	sd,i	LP4800			M8 stainless steel nut

17_117_e



Spare parts

ID	Code	Model	Type	Accessory	Voltage	Description
MODULE:Turret group with rotating arms						
24800	90004	uw	LP4800			Upper/lower complet wash rotor
24805	13009	uw	LP4800			OR 2050 NBR gasket
24810	80321	uw	LP4800			Top axle
24815	90003	uw	LP4800			Rinse group
24820	560018	uw	LP4800			Stainless steel rinse nozzle
24825	560017	uw	LP4800			Rinse arm plug
24830	11600033	uw	LP4800			Flux reducer
24835	13023	uw	LP4800			OR 131 (4093) NBR gasket
24840	3003029	uw	LP4800			Plastic plug
24845	88975	uw	LP4800			Hub for rotor
24850	75317	uw	LP4800			Nut for hub

9. Technical specifications

Flow chart LP4800

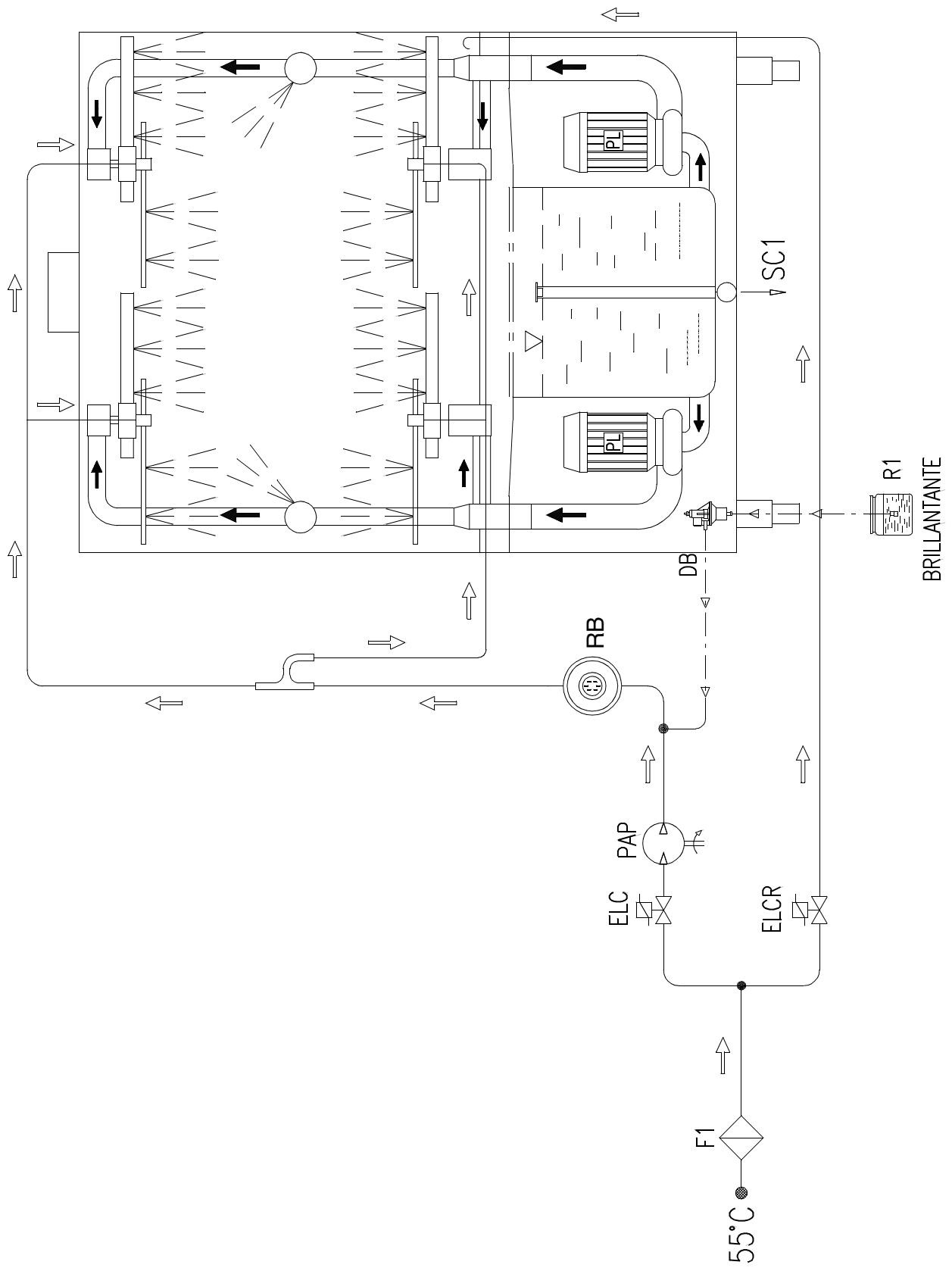
Main circuit 41806

Main circuit 41808

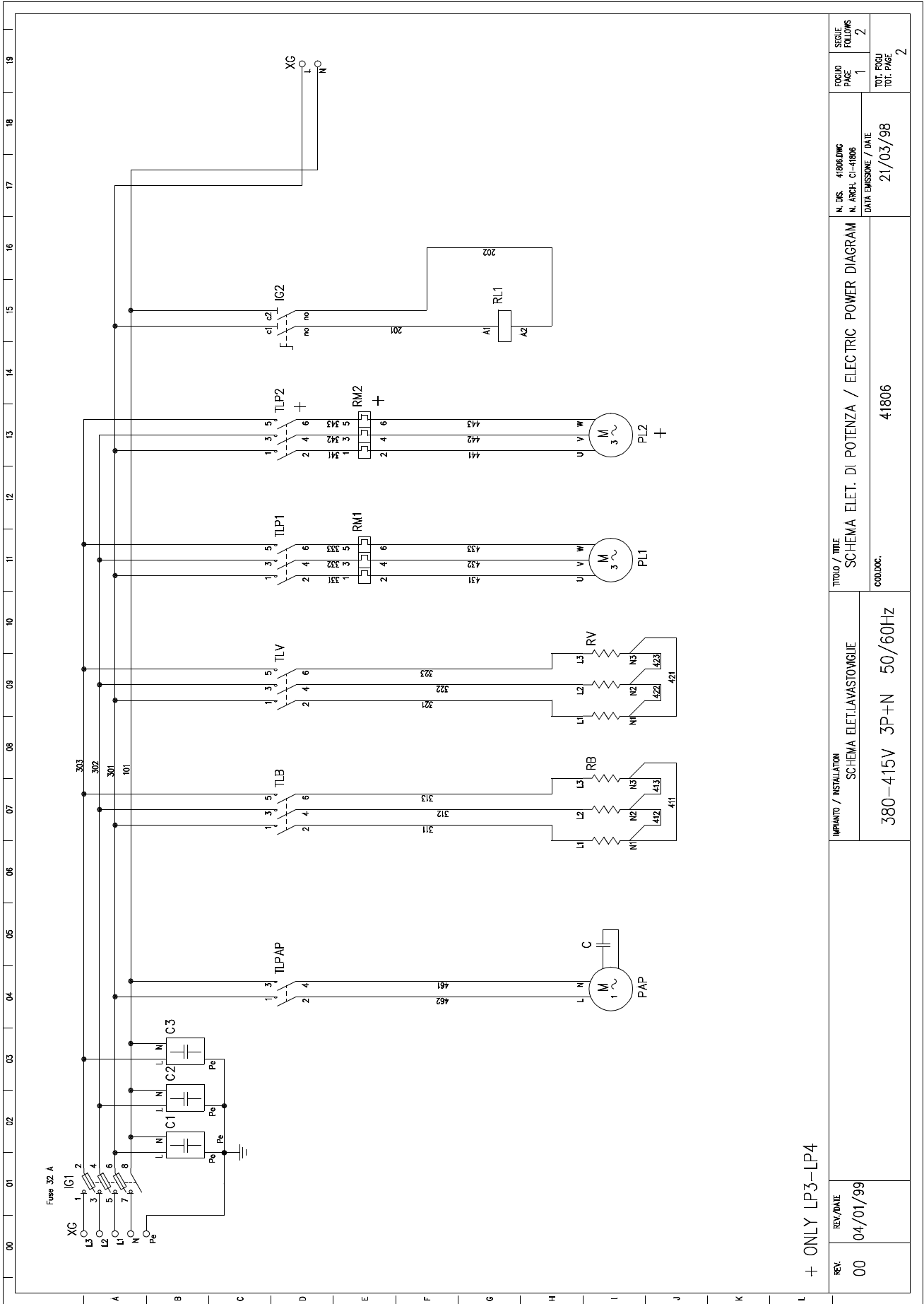
Control circuit 41801

Symbols

Installation drawing LP4



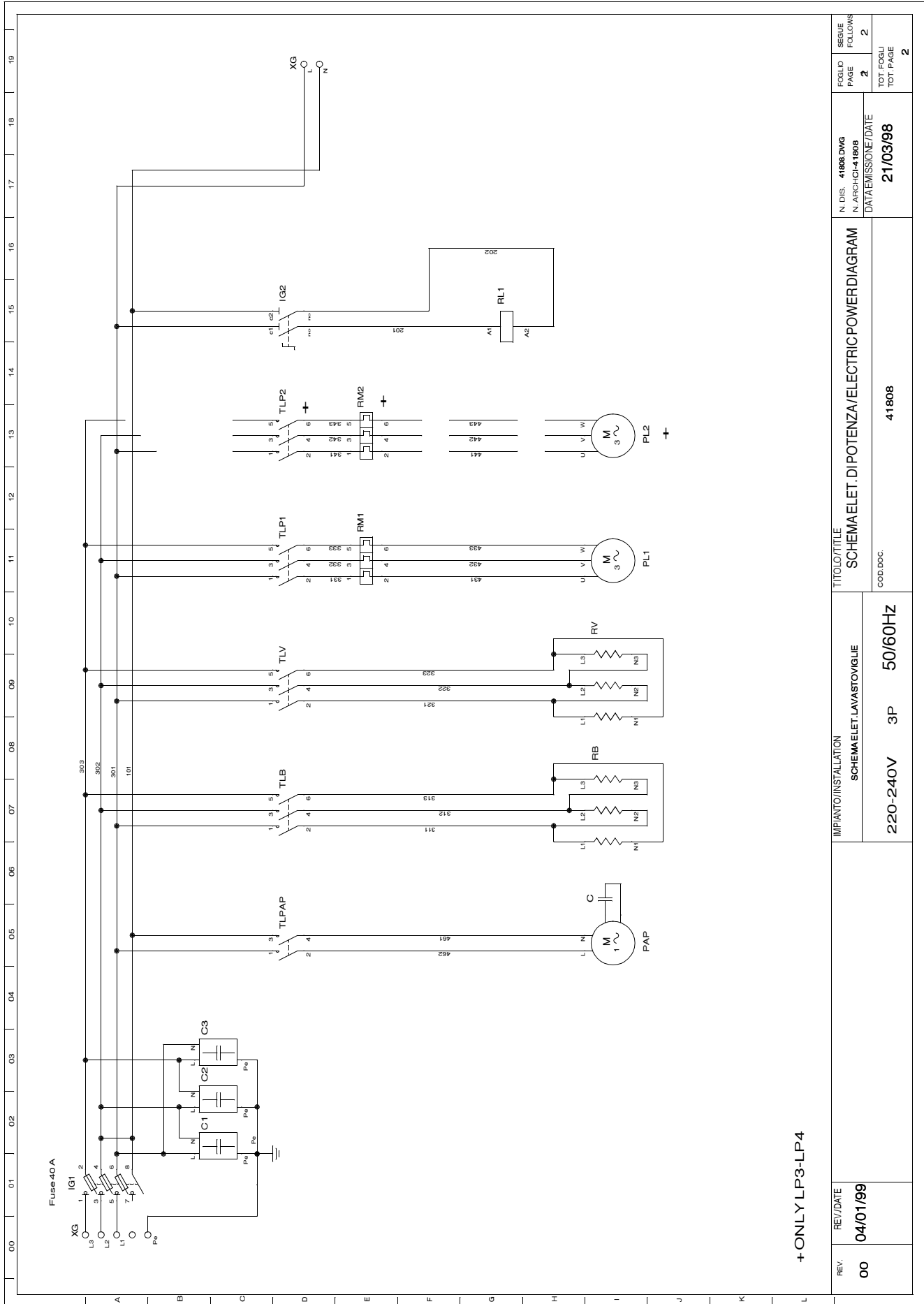
Flow chart LP4800



+ ONLY LP3-LP4

REV. 00	REV./DATE 04/01/99	IMPIANTO / INSTALLATION SCHEMA ELET.LAVASTOMGIE	TITOLO / TITLE SCHEMA ELET. DI POTENZA / ELECTRIC POWER DIAGRAM	N. DKS. 41806/DWG N. ARCH. CI-41806	FOGLIO PAGE 1	SEGLIE FOLLOWS 2
380-415V 3P+N 50/60HZ			COD.DOC. 41806	DATA EMISSIONE / DATE 21/03/98	TOT. FOGLI TOT. PAGE 2	

Main circuit 41806



REV.	00
REV./DATE	04/01/99

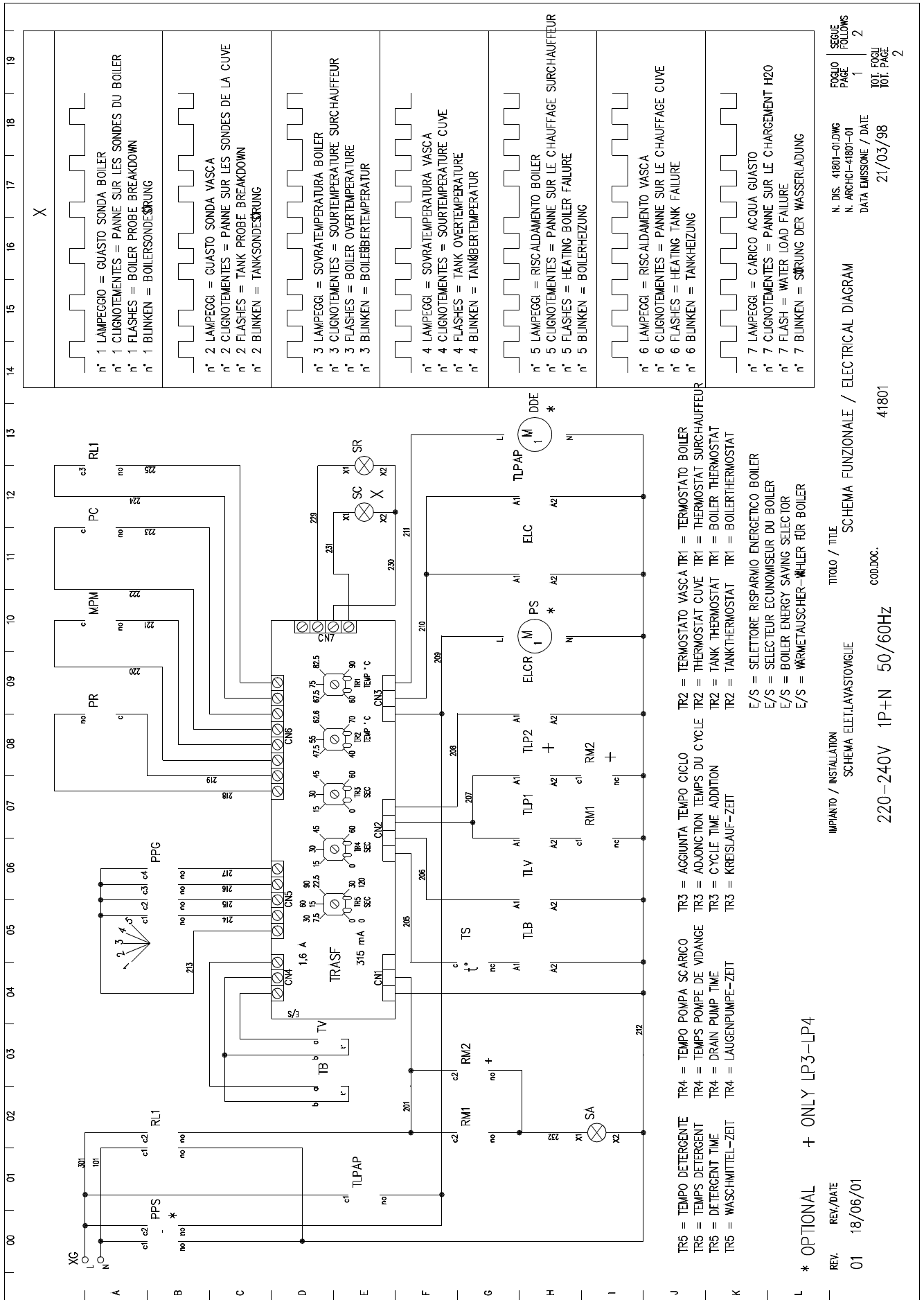
IMPIANTO/INSTALLATION	
SCHEMALETT.LAVASTOVIGLIE	
220-240V	3P
50/60Hz	

TITOLO/TITLE	
SCHEMALETT.DIPOTENZA/ELECTRIC POWER DIAGRAM	
COD.DOC. 41808	

N. DIS.	41808.DWG
N. ARCHIVI	41808
DATA/MISSIONE/DATE	
21/03/98	

FOLIO	2
PAGE	2
TOT. FOGLI	2
TOT. PAGE	2

Main circuit 41808



X

n° 1 LAMPEGGIO = GUASTO SONDA BOILER
 n° 1 CLIGNOTEMENTES = PANNE SUR LES SONDES DU BOILER
 n° 1 FLASHES = BOILER PROBE BREAKDOWN
 n° 1 BLINKEN = BOILERSONDESTRUNG

n° 2 LAMPEGGI = GUASTO SONDA VASCA
 n° 2 CLIGNOTEMENTES = PANNE SUR LES SONDES DE LA CUVE
 n° 2 FLASHES = TANK PROBE BREAKDOWN
 n° 2 BLINKEN = TANKSONDESTRUNG

n° 3 LAMPEGGI = SOVRATEMPERATURA BOILER
 n° 3 CLIGNOTEMENTES = SOURTEMPERATURE SURCHAUFFEUR
 n° 3 FLASHES = BOILER OVERTEMPERATURE
 n° 3 BLINKEN = BOILERBEREITERTEMPERATUR

n° 4 LAMPEGGI = SOVRATEMPERATURA VASCA
 n° 4 CLIGNOTEMENTES = SOURTEMPERATURE CUVE
 n° 4 FLASHES = TANK OVERTEMPERATURE
 n° 4 BLINKEN = TANKBEREITERTEMPERATUR

n° 5 LAMPEGGI = RISCALDAMENTO BOILER
 n° 5 CLIGNOTEMENTES = PANNE SUR LE CHAUFFAGE SURCHAUFFEUR
 n° 5 FLASHES = HEATING BOILER FAILURE
 n° 5 BLINKEN = BOILERHEIZUNG

n° 6 LAMPEGGI = RISCALDAMENTO VASCA
 n° 6 CLIGNOTEMENTES = PANNE SUR LE CHAUFFAGE CUVE
 n° 6 FLASHES = HEATING TANK FAILURE
 n° 6 BLINKEN = TANKHEIZUNG

n° 7 LAMPEGGI = CARICO ACQUA GUASTO
 n° 7 CLIGNOTEMENTES = PANNE SUR LE CHARGEMENT H2O
 n° 7 FLASH = WATER LOAD FAILURE
 n° 7 BLINKEN = STÖRUNG DER WASSERLADUNG

TR5 = TEMPO DETERGENTE TR4 = TEMPO POMPA SCARICO TR3 = AGGIUNTA TEMPO CICLO TR2 = TERMOSTATO VASCA TR1 = TERMOSTATO BOILER
 TR5 = TEMPS DETERGENT TR4 = TEMPS POMPE DE VIDANGE TR3 = ADJONCTION TEMPS DU CYCLE TR2 = THERMOSTAT CUVE TR1 = THERMOSTAT SURCHAUFFEUR
 TR5 = DETERGENT TIME TR4 = DRAIN PUMP TIME TR3 = CYCLE TIME ADDITION TR2 = TANK THERMOSTAT TR1 = BOILER THERMOSTAT
 TR5 = WASCHEMITTEL-ZEIT TR4 = LAUGENPUMPE-ZEIT TR3 = KRESLAUF-ZEIT TR2 = TANKTHERMOSTAT TR1 = BOILERTHERMOSTAT
 E/S = SELETTORE RISPARMIO ENERGETICO BOILER
 E/S = SELECTEUR ECONOMISEUR DU BOILER
 E/S = BOILER ENERGY SAVING SELECTOR
 E/S = WÄRMETAUSCHER-WÄHLER FÜR BOILER

L * OPTIONAL + ONLY LP3-LP4

REV. 01 18/06/01

IMPIANTO / INSTALLATION SCHEMA ELETTAVANTVIGLIE
 TITOLO / TITLE SCHEMA FUNZIONALE / ELECTRICAL DIAGRAM

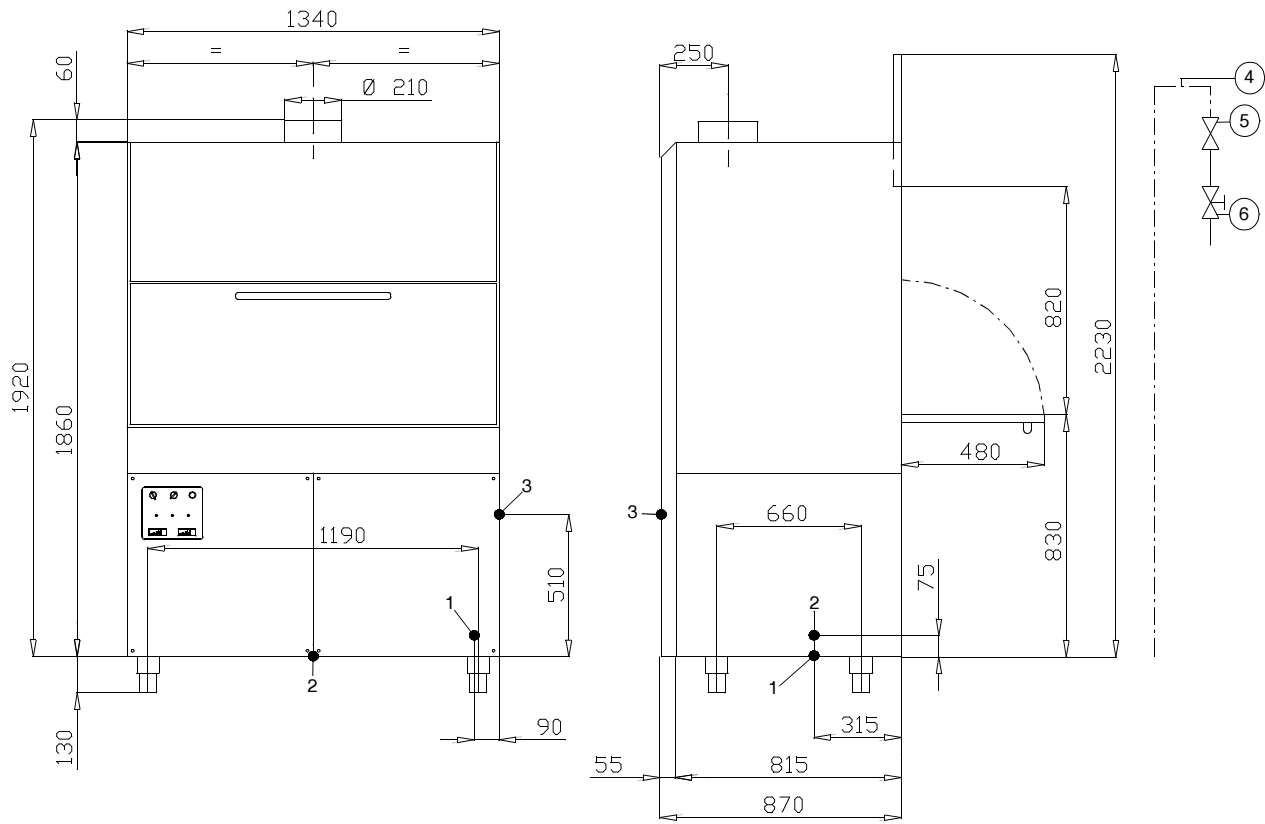
220-240V 1P+N 50/60Hz
 COD.DOC. 41801

N. DIS. 41801-01/DWG N. ARCH. 41801-01
 DATA EMISSIONE / DATE 21/03/98
 SEGLIO FOLGIO 1
 FOLGUE PAGE 1
 TOT. FOLI 2
 TOT. PAGE 2

Control circuit 41801

Technical specifications

Installation drawing LP4



1. Water connection ”
2. Drain connection 1”
3. Electric connection

Technical specifications

Item	SN from	Model	Type	Accessory	Voltage	Specification
Warm water connection 55-70°C			LP4800			""""
Warm water connection pressure			LP4800			0,1 - 0,4 MPa
Warm water flow			LP4800			27 l/min
Drain connection			LP4800			"1 1/4""""
Floor drain (without drain pump)			LP4800			0,3 l/s
Floor drain (with drain pump)			LP4800			3 l/s
Ventilation			LP4800			600 m/h
Wash cycle time incl.rinse, P1			LP4800			3 min
Wash cycle time incl.rinse, P2			LP4800			6 min
Wash cycle time incl.rinse, P3			LP4800			9 min
Tank volume			LP4800			100 litres
Final rinse flow			LP4800			9 l/programme
Rack size			LP4800			1220mm x 720mm
Noise level			LP4800			a. 72,5 dB (A)
Weight of the machine			LP4800			465 kg
Pump motor			LP4800			2 x 2,7 kW
Tank heating			LP4800			9 kW
Boiler			LP4800			9 kW
Max. effect			LP4800			14,4 kW
Main fuse			LP4800		A	25 A
Main fuse			LP4800		H	40 A

DICHIARAZIONE DI CONFORMITA' CE
DECLARATION OF CONFORMITY CE
DECLARATION DE CONFORMITE CE
KONFORMITÄTSEKLRUNG CE
DECLARACION DE CONFORMIDAD CE
DECLARAÇÃO DE CONFORMIDADE CE



DIHR S.p.a. - Via del lavoro 22/B
31033 Castelfranco V.to (TV) - ITALY
Tel. +39 423 7244 - Fax +39 423 720442

Il sottoscritto, legale rappresentante della azienda sopra indicata, dichiara che l'apparecchiatura:

The undersigned, officer of the above-written company, hereby declares that the machine:

Je soussigné, représentant légal désigné, déclare que l'appareil:

Der Unterzeichnete als rechtilicher Vertreter des oben genannten Firma, erklärt, daß die Einrichtung:

Quien subscribe, designado representante legal de la empresa antes mencionada, declara que el aparato:

O abaixo assinado, legal representante da empresa acima mencionada, ceclara que a maquina:



ANNO DI COSTRUZIONE - MANUFACTURING YEAR - ANNEE DE CONSTRUCTION
JAHR DES BAU - AÑO DE CONTRUCCIÓN - ANO DE FABRICO

2002

- È stata progettata e costruita in conformità alle norme armonizzate:
- Is in compliance with the International regulations:
- Est conforme aux normes internationales:
- Mit den internacionales Vorschriften konform ist:
- Es conforme a las normas internacionales:
- Esta de acordo com as normas internacionais:
- secondo quanto prescritto dalle seguenti direttive e successivi emendamenti:
- according to the following directives and standards and further amendaments:
- selon les prescription et directives suivantes et les amendements successifs:
- die folgenden Richtlinien und späteren Normen gemäß ist:
- la prescripcion de la siguientes directivas y en los normas sequen:
- de acordo com as normas internacionais:

EN 60335-1

EN 60335-2-58

EN 55014-1

EN 55014-2

98/37

93/68

73/23

89/336

92/31

- e in applicazione a quanto previsto dalle direttive citate, sono state dotate di marchiatura CE e sono stati predisposti i fascicoli tecnici presso la nostra sede.
- and pursuant of the above mentioned directives, the CE marks have been applied. Furthermore, adequate technical materials have been prepared and are available from our offices.

- en application des directives citées, il portent la marque CE et les dossiers technique sont déposés dans notre siège.

- Und daß er in Ubereinstimmung mit den Vorschriften obengenannten Richtlinien mit dem CE-Zeichen vorgesehen sind und daß für Ihn angemessenes technisches Haften herstellten wurde, die bei uns in der Firma zur Verfügung stehen.

- y, conforme con lo previsto en las citadas directivas, han recibido la marca CE. Existe asimismo los especifico prospectors técnicos relativo disponible en nuestra sede.

- a marca CE foi aplicada no seguimento das directivas acima mencionadas. Os equipamentos estao tecnicamente preparados e adequado e encotram-se disponiveis mas nossas instalações.

- declina ogni responsabilità per sinistri a persone, a cose o ad animali derivanti da manomissione della macchina da parte di terzi, ovvero da carenze di manutenzione, di riparazione o di installazione della stessa da parte di personale non qualificato.

- declines all responsibility for damages ro people, properties and animals reslting from bad servicing of the machine by third parties as from inadequate maintenance or repairs or installation by unskilled workers.

- décline toute responsabilité pour tout sinistre à personnes, choses ou animaux résultant de l'endommagement de la mchine per des tiers, c'est-à-dire dû à une maintenance, des réparations ou une installation inadéquates effectuées par du personnel non-qualifié.

- die Firma Dühr lehnt jede Verantwortung für an Personen, Sachen und Tiere verursachten Schäden ab, welche von Manipulation beziehungsweise Änderung seitens Dritten, unsachgemäßenem Gebrauch der Maschinen, mangelhafte Wartung und Reparaturen ober Inbetriebnahme seitens unsachliches Personals abhängig sind.

- declina toda responsabilidad por daños a personas, cosas o animales producidos del mal servicio de la maquina por terceras partes asi como por reparaciones o mantenimiento inadecuados o de instalaciones por parte del personal no cualificado.

- declina toda e qualquer responsabilidade por danos causados a pessoas, bens e animais, resultantes do mau manuseamento da máquina por parte de terceiros assim como mauteção incorrecta ou reparações indadequadas ou instalação por pessoal não qualificado.

Castelfranco V.to, data



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A. I. Spinetti