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## 2. IMPORTANT SAFETY INSTRUCTIONS



### **WARNING - SAVE THESE INSTRUCTIONS FOR LATER USE.**

Failure to comply with the instructions may lead to incorrect use of the appliance, and may result in risk of fire, bodily injuries or death and/or damage to the laundry and/or the appliance.



**WARNING - Read the IMPORTANT SAFETY INSTRUCTIONS in this manual carefully before operating the appliance. Improper use of the appliance may cause risk of fire, electrical shock or serious body injuries or death as well as serious damage to the appliance.**

- ◆ This English version is the original version of this manual. The instructions for the appliance are only complete with the programming, user and spare parts information.
- ◆ Safety instructions included in manuals for personnel operating the appliance must be printed and posted on a visible place near the machine in the laundry room.
- ◆ The washer extractor is designed for fabrics washing only, other objects can damage the washer and can cause damage or injuries.
- ◆ The manufacturer is not responsible for the damage to the fabrics that are washed by an inappropriate washing method.
- ◆ Always follow the instructions and/or warnings that are stated on the fabrics, washing products or cleaning products mentioned by the manufacturer.
- ◆ The washer must be set up in accordance with the instructions. All drain, inlet, electrical connections, ventilation, groundings and other connections must be done in accordance with the installation manual, in compliance with the local standards done by qualified technicians with proper authorization.
- ◆ The valid standards for connecting to the local power network (TT, TN, IT, ...) must be followed. In the standard execution, the appliance may not be suitable for connecting to an IT supply system. Contact your commercial distributor for assistance.
- ◆ All appliances are produced according to the EMC-directive (Electro-Magnetic-Compatibility). They can be used in restricted surroundings only (comply minimally with class A requirements). For safety reasons there must be kept the necessary precaution distances with sensitive electrical or electronic device(s).
- ◆ Do not change the parameters of the frequency inverter. This can cause serious injury, fire, washer damage, etc.
- ◆ During transportation and storage never use excessive forces on the packing because components can be damaged protruding the contour line of the appliance.
- ◆ Use copper conductors only. This appliance must be connected to a supply circuit to which no lighting units or general-purpose receptacles are connected.
- ◆ Any changes concerning the installation which are not described in this Installation Manual must be approved by the supplier or manufacturer. Otherwise, the supplier and manufacturer are not responsible for potential injuries to operators or for any damages. Interventions in the appliance execution or functions are not allowed, and the manufacturer refuses any responsibility in such cases.
- ◆ The washer extractor must be installed on level. If not, the washer may become unbalanced during extraction and, although fitted with an unbalance safety, the washer may become seriously damaged what may result in bodily injuries.
- ◆ Never put the washer in operation when the transporting braces are not removed. The washer should always be tested before use.
- ◆ Keep the appliance top and surface and the area around clean and clear of combustible or flammable products.
- ◆ Do not store flammable materials around the appliances. Define the dangerous areas in the laundry room and obstruct an admission to them during appliances operating.
- ◆ Do not wash articles that have been previously cleaned in, wash in soaked in, or spotted with gasoline, dry-cleaning solvents, or other flammable or explosive substances as they give off vapors that could ignite or explode.
- ◆ Do not add gasoline, dry-cleaning solvents, or other flammable or explosive substances to the wash water. These substances give off vapors that could ignite or explode.
- ◆ Under certain conditions, hydrogen gas may be created in the hot water system that has not been used for two or more weeks. **HYDROGEN GAS IS EXPLOSIVE.** If the hot water system has not been used for such period open all hot water taps and let the water run out for few minutes. This will release any accumulated gas. As this gas is flammable, do not smoke or use open flames during this time.
- ◆ **TEMPERATURE IN WASHING MACHINE TUB:** The electronic controller uses the temperature sensor in the tub to control the temperature of the washing bath. There are a lot of things that have influence on the temperature measurement. Therefore the temperature control of the washing bath is not very precise.

- ◆ Always strictly comply with the instructions that are written on the laundry chemicals-, laundry aids-, dry-cleaning solvents- and disinfectants packaging to avoid personal injury. Keep these agents out of the reach of children, preferably in a locked cabinet.
- ◆ Do not tamper the washer-extractor controls and do not bypass the safety instructions and the warnings.
- ◆ Do not use some means on the soap dispenser lid to hold it open by filling or when the machine operates. The discharge or splashing of hazardous liquid can cause serious scalding and burning.
- ◆ Do not operate the appliance when parts are broken or missing or when covers are open. The appliance may not be operated until the fixed guards are put correctly in place.
- ◆ The appliance must not be stored, installed or exposed to the weather, extreme low or high temperature and humidity levels. Do not hose down the washer. NEVER allow the appliance to get wet.
- ◆ Check the functioning of the door lock mechanism on regular base. NEVER bypass the doorlock mechanism.
- ◆ Disconnect the power and close all water and steam supply before cleaning, servicing and at the end of each operating day.
- ◆ Out of the venting at the back of the washer can escape warm vapor or and hot air. Do not cover the vent but protect it sufficiently. It serves air gap and as a vapor outlet to prevent pressure building in the washer.
- ◆ Do not repair or replace any part of the appliance or attempt any servicing unless specifically recommended in the service manual or published user-repair instructions that you understand and have the skills to carry out. Only qualified service personnel may open the appliance to carry out servicing.
- ◆ Information contained in this manual is intended for use by a qualified service technician familiar with proper and safe procedures to be followed when repairing an electrical appliance. All tests and repairs should be performed by a qualified service technician equipped with proper tools and measuring devices. All component replacements should be made by a qualified service technician using only factory approved replacement parts.
- ◆ Improper assembly or adjustment may occur if service or repair is attempted by persons other than qualified service technicians or if parts other than approved replacement parts are used. Improper assembly or adjustment can create hazardous conditions.
- ◆ There can be a risk of injury or electrical shock while performing services or repairs. Injury or electrical shock can be serious or even fatal. Consequently, extreme caution should be taken while performing voltage checks on individual components or a product. PLEASE NOTE: Except as necessary to perform a particular in servicing a product, the electrical power supply should ALWAYS be disconnected when servicing a product.
- ◆ All industrial (OPL - On Premise Laundry) washers are designed for use in Laundry with professionally trained attendants.
- ◆ Before the appliance is removed from service or discarded, remove the door.
- ◆ Any Water or Steam Leaks Must Be Repaired Immediately. Closed supply immediately.
- ◆ If any problems or failures should arise, immediately contact your dealer, serviceman or manufacturer.
- ◆ The manufacturer reserves the right to change the manuals without previous notice.

**⚠ WARNING -- CAUTION**

**This appliance must be connected to a grounded metal, permanent wiring system, and additionally an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment-grounding terminal or lead on the appliance.**

**⚠ WARNING -- CAUTION**


**In order to minimize the risk of fire, electrical shock and injury, THIS WASHER MUST BE PROPERLY GROUNDED. Never plug in or direct-wire an appliance unless it is properly grounded in accordance with all local and national codes.**  
**If more appliances in the same location, mutual grounding must be applied where possible.**


**⚠ WARNING -- CAUTION**


**The washer extractor is intended to be permanently connected, it MUST be secured mounted to a NON-COMBUSTIBLE, adequate floor structure. A concrete foundation is required. Metal reinforced wood floors are NOT allowed due to the risk of fire and excessive vibrations.**  
**NEVER install the washer on an upper floor or over a basement without a load support designed by a structural engineer.**


**⚠ WARNING -** Although the appliance may be in the „off“ position, there is still electrical power to the switch supply terminals.


**⚠ WARNING -** When power supply has been switched off wait for at least 10 minutes before starting inspection or servicing the washer. Before starting inspection of frequency inverter, check for residual voltage across main circuit terminals + and -. This voltage must be below 30 VDC before you can access the inverter for inspection.

 **WARNING** - Do not allow children to play on, in or around the appliance at any time. Close supervision of children is necessary when the appliance is used near children. Never permit children to operate the appliance.

 **WARNING** - Do not open door until cylinder remains stopped and water has been drained completely. If the door safety lock does not work, do not use washer until the door lock mechanism is repaired.

 **CAUTION!** - Follow all valid basic safety rules and laws. The instructions in this manual cannot account for every possible dangerous situation. They must be generally understood. Caution and care are factors which can not included in the design of the appliance and all persons who install, operate or maintain the appliance must be qualified and familiar with the operating instructions. It is up to the user to take proper care when operating the appliance.

 **CAUTION!** - Do not remove warning signs placed on the appliance. Observe signs and labels to avoid personal injuries. Safety labels appear at crucial locations on the appliance. Failure to maintain legible safety labels could result in injury to the operator or service technician.

 **CAUTION!** - If the installed appliance operate with coin, token or similar operation for use in self-service situations, then the owner-installer must provide a remote-located emergency stop device. This device must be placed in such a way that it is easy and safely accessible for the users. The emergency stop device takes care that at least the control circuit of the appliance is interrupted.

### 3. TECHNICAL SPECIFICATIONS

DRY LOAD CAPACITY (1/10)	6 kg / 13 lb	7 kg / 18 lb	10 kg / 25 lb	16 kg / 35 lb
<b>MACHINE DIMENSIONS *</b>				
Width	660 mm / 25.98"	660 mm / 25.98"	660 mm / 25.98"	835 mm / 32.87"
Depth	770 mm / 30.31"	770 mm / 30.31"	865 mm / 34.05"	1040 mm / 40.94"
Height	1070 mm / 42.12"	1070 mm / 42.12"	1130 mm / 44.48"	1295 mm / 50.98"
<b>PACKING DIMENSIONS</b>				
Width	750 mm / 29.53"	750 mm / 29.53"	750 mm / 29.53"	930 mm / 36.61"
Depth	850 mm / 33.46"	850 mm / 33.46"	950 mm / 37.40"	1140 mm / 44.88"
Height	1250 mm / 49.21"	1250 mm / 49.21"	1300 mm / 51.18"	1510 mm / 59.44"
Transportation volume	0.79 m <sup>3</sup> / 27.89 ft <sup>3</sup>	0.79 m <sup>3</sup> / 27.89 ft <sup>3</sup>	0.92 m <sup>3</sup> / 32.48 ft <sup>3</sup>	1.6 m <sup>3</sup> / 56.5 ft <sup>3</sup>
<b>DIMENSIONS OF INNER DRUM</b>				
Diameter	530 mm / 20.86"	530 mm / 20.86"	530 mm / 20.86"	650 mm / 25.6"
Depth	270 mm / 10.63"	330 mm / 12.99"	420 mm / 16.53"	500 mm / 19.68"
Drum Volume	60 dm <sup>3</sup> / 15.85 gal	73dm <sup>3</sup> / 19.28gal	95 dm <sup>3</sup> / 25.1 gal	166dm <sup>3</sup> / 43.8 gal
Door opening	285 mm / 11.22"	285 mm / 11.22"	285 mm / 11.22"	410 mm / 16.14"
<b>WEIGHT</b>				
Net	230 kg / 508 lb	235 kg / 519 lb	275 kg / 607 lb	465 kg / 1026 lb
Gross	240 kg / 530 lb	250 kg / 552 lb	300 kg / 662 lb	495 kg / 1092 lb
<b>ELECTRICAL DATA</b>	3x380-415V+N 50/60Hz 3x380-415V 50/60Hz 3x440-480V 50/60Hz 3x220-240V 50Hz 1x220-240V 50/60Hz - not applicable for electrical heating 1x200-208V 50/60Hz - not applicable for 7kg / 18lb, or for el. heating			
<b>POWER SUPPLY -- deviations</b>	-6% to +10% of the voltage supply ±1 Hz			
<b>INPUT POWER MACHINE</b>				
Electric heating 6kW	6.75 kW	6.75 kW	7.5 kW	-
Electric heating 9 kW	9.75 kW	9.75 kW	10.5 kW	11.3 kW
Electric heating 12 kW	-	12.75 kW	13.5 kW	14.3 kW
Electric heating 18 kW	-	-	-	20.3 kW
Without heating or steam	0.75 kW	0.75 kW	1.5 kW	2.3 kW
<b>NOMINAL MOTOR OUTPUT</b>	0.75 kW	0.75 kW	1.5 kW	2.2 kW
<b>Residual current device (RCD)</b>	100mA, class B			
<b>SUPPLY PROTECTION DEVICE</b>	Use „slow“ type Protection Devices (circuit breakers: <b>curve D</b> )			
Steam or without electrical heating 200-240V 1/3AC 380- 400V + N 3AC	16A (15A)	16A (15A)	16A (15A)	20A
Steam or without electrical heating (380- 480V 3AC)	10A	10A	10A	16A (15A)
El. heating 6kW (200-240V 3AC)	25A			
El. heating 6kW (380-480V 3AC)	16A			
El. heating 9kW (200-240V 3AC)	32A			
El. heating 9kW (380-480V 3AC)	20A			
El. heating 12kW (200-240V 3AC)	40A			
El. heating 12kW (380-480V 3AC)	25A			
El. heating 18kW (200-240V 3AC)	60A			
El. heating 18kW (380-480V 3AC)	40A			

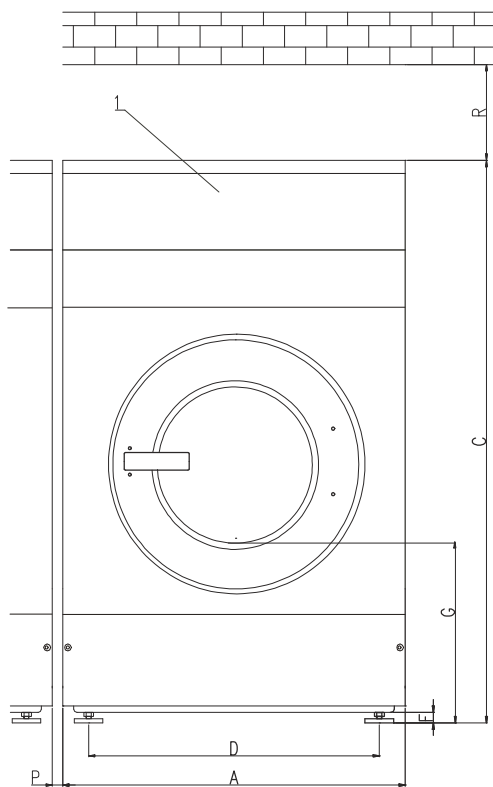
Tab.3.A

WASHING FUNCTIONS				
Washing	48 RPM	48 RPM	48 RPM	45 RPM
High extracting	1000 RPM	1000 RPM	1000 RPM	980 RPM
G-factor	300	300	300	350
CONNECTION				
WATER CONNECTION				
Water pressure range	0.1-0.8 MPa / 1-8 bar / 14.5-116 PSI	0.1-0.8 MPa / 1-8 bar / 14.5-116 PSI	0.1-0.8 MPa / 1-8 bar / 14.5-116 PSI	0.1-0.8 MPa / 1-8 bar / 14.5-116 PSI
Recommended water pressure	0.3-0.5 MPa / 3 - 5 bar / 43 - 73 PSI	0.3-0.5 MPa / 3 - 5 bar / 43 - 73 PSI	0.3-0.5 MPa / 3 - 5 bar / 43 - 73 PSI	0.3-0.5 MPa / 3 - 5 bar / 43 - 73 PSI
Water inlet	BSP 3/4"	BSP 3/4"	BSP 3/4"	BSP 3/4"
Maximal water temperature	90°C / 194°F	90°C / 194°F	90°C / 194°F	90°C / 194°F
DRAIN CONNECTION				
Drain valve diameter	76 mm/3"	76 mm/3"	76 mm/3"	76 mm/3"
Flow amount with drain valve	3.5 l/s	3.5 l/s	3.5 l/s	3.5 l/s
STEAM CONNECTION				
Steam connection	G1/2"			
Steam pressure low	1-3 bar / 14,5-44 PSI			
Steam pressure high	3-8 bar / 44-116 PSI			
ELECTRICAL CONSUMPTION				
Light soiled fabrics, wash 60°C (1)				
Without electrical heating	0.2 kWh	0.2 kWh	0.3 kWh	0.5 kWh
With electrical heating	1.2 kWh	1.3 kWh	1.7 kWh	3.5 kWh
WORKING CONDITIONS				
Ambient temperature	+5°C (41°F) to +35°C (95°F)	+5°C (41°F) to +35°C (95°F)	+5°C (41°F) to +35°C (95°F)	+5°C (41°F) to +35°C (95°F)
Relative humidity	30% to 90% without condensation	30% to 90% without condensation	30% to 90% without condensation	30% to 90% without condensation
Height above sea level	up to 1000 m / 3280 ft	up to 1000 m / 3280 ft	up to 1000 m / 3280 ft	up to 1000 m / 3280 ft
Storage temperature	0°C (32°F) to +55°C (131°F)	0°C (32°F) to +55°C (131°F)	0°C (32°F) to +55°C (131°F)	0°C (32°F) to +55°C (131°F)
FLOOR DATA				
Max.static load on floor	2413 N	2492 N	3002 N	5450 N
Max.dynamic load on floor	650 N	730 N	1100 N	1220 N
Frequency of dynamic load	16 Hz	16 Hz	16 Hz	16Hz
NOISE				
Equivalent sound power level Leq (dB(A))	< 70 dB(A)	< 70 dB(A)	< 70 dB(A)	< 70 dB(A)

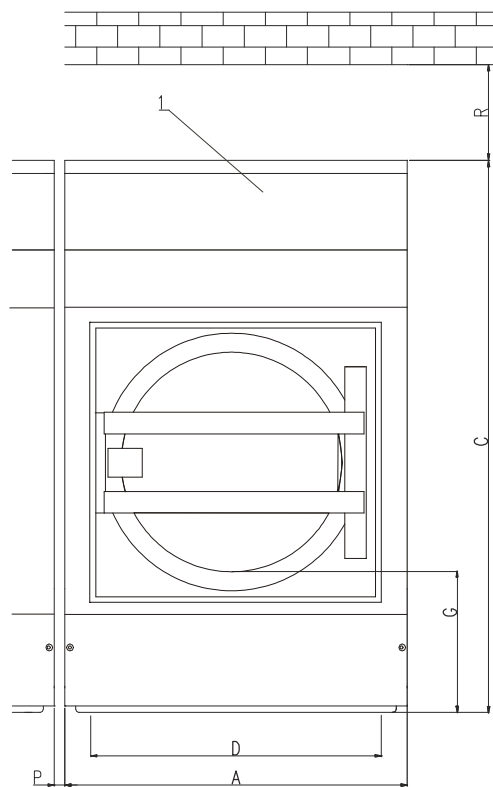
Tab.3.A continuation

★ maximum dimensions including protruding parts

(1) Depends of cold and hot water supply temperature and wash program setup



6kg / 13lb, 7kg / 18lb, 10kg / 25lb



16kg / 35lb

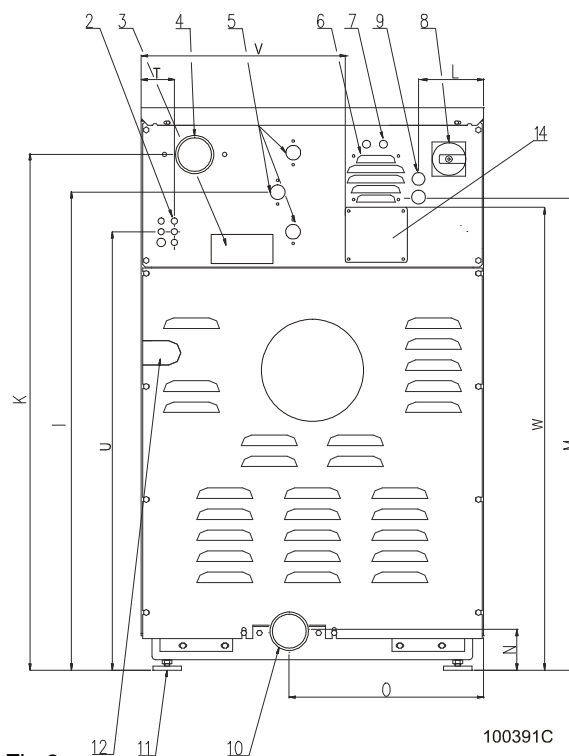
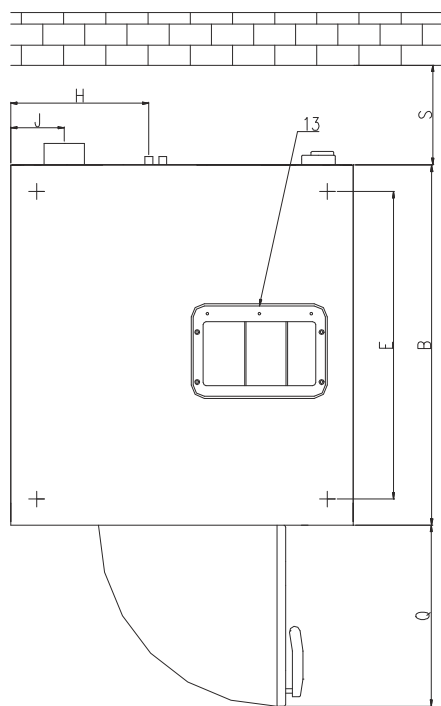


Fig.3.

1. Control panel
2. Connection liquid soap
3. Serial plate
4. Soap hopper venting
5. Water supply
6. Frequency inverter
7. Fuses

8. Main switch
9. Electrical supply connection
10. Drain
11. Adjustable leg
12. Steam connection
13. Soap hopper
14. Liquid soap relay board box

	6kg / 13lb	7kg / 18lb	10kg / 25lb	16kg / 35lb
<b>A</b>	660 mm / 25.98"	660 mm / 25.98"	660 mm / 25.98"	835 mm / 32.87"
<b>B</b>	685 mm / 26.97"	685 mm / 26.97"	785 mm / 30.91"	960 mm / 37.8"
<b>C</b>	1070 mm / 42.13"	1070 mm / 42.13"	1130 mm / 44.49"	1295 mm / 50.98"
<b>D</b>	560 mm / 22.05"	560 mm / 22.05"	560 mm / 22.05"	715 mm / 28.15"
<b>E</b>	585 mm / 23.03"	585 mm / 23.03"	685 mm / 26.97"	815 mm / 32.09"
<b>F</b>	20 mm / 0.79"	20 mm / 0.79"	20 mm / 0.79"	-
<b>G</b>	420 mm / 15.54"	420 mm / 15.54"	480 mm / 18.90"	430 mm / 16.92"
<b>H</b>	263 mm / 10.35"	263 mm / 10.35"	263 mm / 10.35"	300 mm / 11.81"
<b>I</b>	910 mm / 35.83"	910 mm / 35.83"	970 mm / 38.19"	1135 mm / 44.68"
<b>J</b>	103 mm / 4.06"	103 mm / 4.06"	103 mm / 4.06"	120 mm / 4.72"
<b>K</b>	980 mm / 38.58"	980 mm / 38.58"	1040 mm / 40.94"	1195 mm / 47"
<b>L</b>	44 mm / 1.73"	44 mm / 1.73"	44 mm / 1.73"	44 mm / 1.73"
<b>M</b>	835 mm / 32.87"	835 mm / 32.87"	895 mm / 35.24"	1015 mm / 39.96"
<b>N</b>	78 mm / 3.07"	78 mm / 3.07"	78 mm / 3.07"	55 mm / 2.16"
<b>O</b>	375 mm / 14.76"	375 mm / 14.76"	375 mm / 14.76"	415 mm / 16.33"
<b>P</b>	15 mm / 0.6"	15 mm / 0.6"	15 mm / 0.6"	20 mm / 0.79"
<b>Q</b>	445 mm / 17.52"	445 mm / 17.52"	445 mm / 17.52"	530 mm / 20.86"
<b>R</b>	700 mm / 27.56"	700 mm / 27.56"	700 mm / 27.56"	700 mm / 27.55"
<b>S</b>	600 mm / 23.6"	600 mm / 23.6"	600 mm / 23.6"	600 mm / 23.62"
<b>T</b>	68 mm / 2.67"	68 mm / 2.67"	68 mm / 2.67"	200 mm / 7.87"
<b>U</b>	850 mm / 33.46"	850 mm / 33.46"	850 mm / 33.46"	1060 mm / 41.73"
<b>V</b>	-	-	339 mm / 13.34"	470 mm / 18.5"
<b>W</b>	-	-	874 mm / 34.40"	1052 mm / 41.41"

Tab.3.B



## 4. MACHINE INSTALLATION

### 4.1. MACHINE INSPECTION

When the machine is delivered, it is necessary to do a visual inspection for any damage that may have occurred during transit. If the package or pallet are damaged or signs of possible damage are evident, let the carrier note the condition on the shipping papers before the shipping receipt is signed.

Remove the package as soon as possible and check if the information on the serial plate correspond with your order. The serial plate is located on the rear of the machine, fig.4.1. This determines the type of model you have bought, the voltage and the serial number.

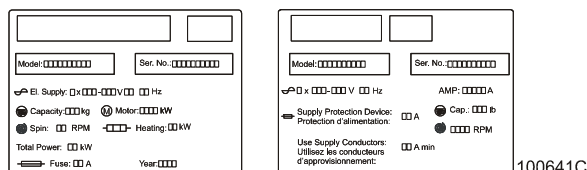


Fig.4.1. Serial plate

Check if the machine is not damaged and if all the accessories are included according to your order. The accessories and manuals are located inside the machine.

### 4.2. WASHER STORAGE

When the machine will be stored after delivery, be sure this is followed:

- Use the delivered package to protect the machine against moisture and dirt.
- The machine may not be installed within the reach of spraying water.
- Avoid severe climatic storage conditions and excessive humidity. When the temperature changes and this causes damp, you must avoid water under and around the machine and also on his covers.
- If possible, leave the machine in the transporting package or at least let it set on the transporting wooden id until the time of final installation on the foundation according the chapter 4.3. of this manual.

### 4.3. WASHER POSITIONING



#### **WARNING!**

**IF THE MACHINE IS LOCATED ON AN ELEVATED BASE FOR EASIER OPERATION.  
THE MACHINE SHOULD BE SECURED FOR SAFETY REASONS.**

- Before placing the machine on its place, remove the packaging, loosen the rear panel (see fig.4.4., pos.4) and the service panel (pos.3). Remove the four bolts, which holds the machine on the wooden pallet. Lift up the machine carefully, take care not to damage the machine components.
- Leave at least a 0.6m / 23,6" free space between the rear panel of machine and the wall. Leave at least a 15 mm / 0.6" free space between the side panel of the machine and the wall or other machine. Above the machine must be minimum 0.7m / 27.56" of free space for the maintenance access.
- All passages and spaces the machine has to be transported through at installation should be reasonably dimensioned to meet the height and width of the machine including the package.
- Never push, pull or press the components protruding from the contour line of machine(control panel, door, control elements, water inlet and outlet pipes, etc.).
- Make sure that the loading door is closed during handling.
- Take care that the floor where the machines will be placed is underneath supported. The washer should not be installed on an upper floor or over a basement without approval of structural engineer about the requirements of permissible loading, vibrations and noise level in the building.
- Take care that the floor where the machines will be placed is not combustible.

## FREELY ON THE FLOOR

The machine is to be located on a not elevated leveled concrete floor that comply with static and dynamic stress of the machine.

The friction coefficient must be higher then 0,5 between the rubber feet and the floor material. Do not place the machine on a smooth surface but on a rough floor material like concrete. If the friction coefficient is less, then the machine can move while spinning. If this should happens fasten the machine, see „Fasten with anchoring bolts“.

### MACHINES 6kg / 13lb, 7kg / 18lb, 10kg / 25lb

Position the machine only on his 4 adjustable rubber feet.

### MACHINES 16kg / 35lb

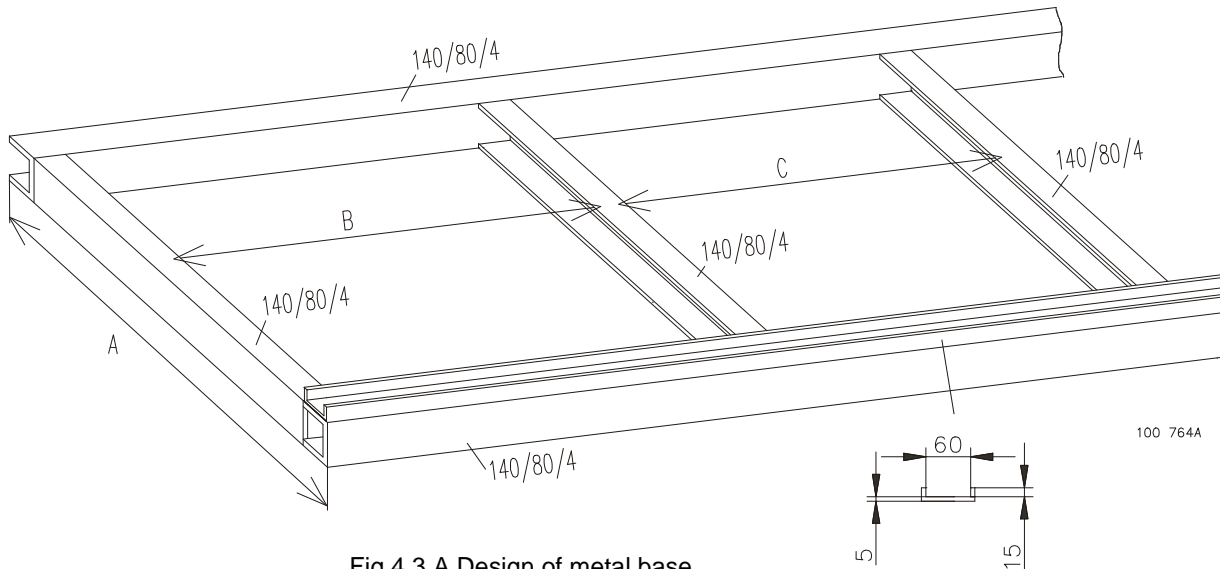
Place between the four corners of the frame and the floor a thin rubber sheet of 10 x 10 cm / 3.93" x 3.93" with thickness between 1-2 mm / 0.04" - 0.08" maximum. We advice to fasten this machines always, see „Fasten with anchoring bolts“.

## FREELY ON AN ELEVATION

### MACHINES 6kg / 13lb, 7kg / 18lb, 10kg / 25lb

If you choose to place the machine on a metal base or pad, use a U-profile to secure the machine position. Fix the U-profile to the iron frame by welding or fix it to the floor by anchoring bolts. This is necessary to prevent that the machine moves from the base. Make a base according, fig.4.3.A.

Place the machines front rubber feet in the U-profile.



	6kg / 13lb	7kg / 18lb	10kg / 25lb
Distance A	660	660	760
Distance B	480	480	480
Distance C	590	590	590

Tab.4.3.A Frame dimensions

**⚠ WARNING!**  
**NEVER APPLY THIS FOR A 16 kg / 35 lb MACHINE.**

## SECURE ON AN ELEVATION

The machine can also be secured to a mounting base or foundation by means of bolts and anchoring bolts to assure the safety. When a concrete pad or a frame is used then is the maximum height 305 mm / 12". The pad or frame must be designed so that it can carry the static and dynamic forces. The thickness of iron profiles is minimum 4 mm / 0.158".

For 6kg / 13lb, 7kg / 18lb, 10kg / 25lb machines, remove the four rubber feeds from the machine frame. Do not tighten anchoring bolts before the concrete base around the bolts is completely secured. Tighten the anchoring bolts with the prescribed torque of the bolts.

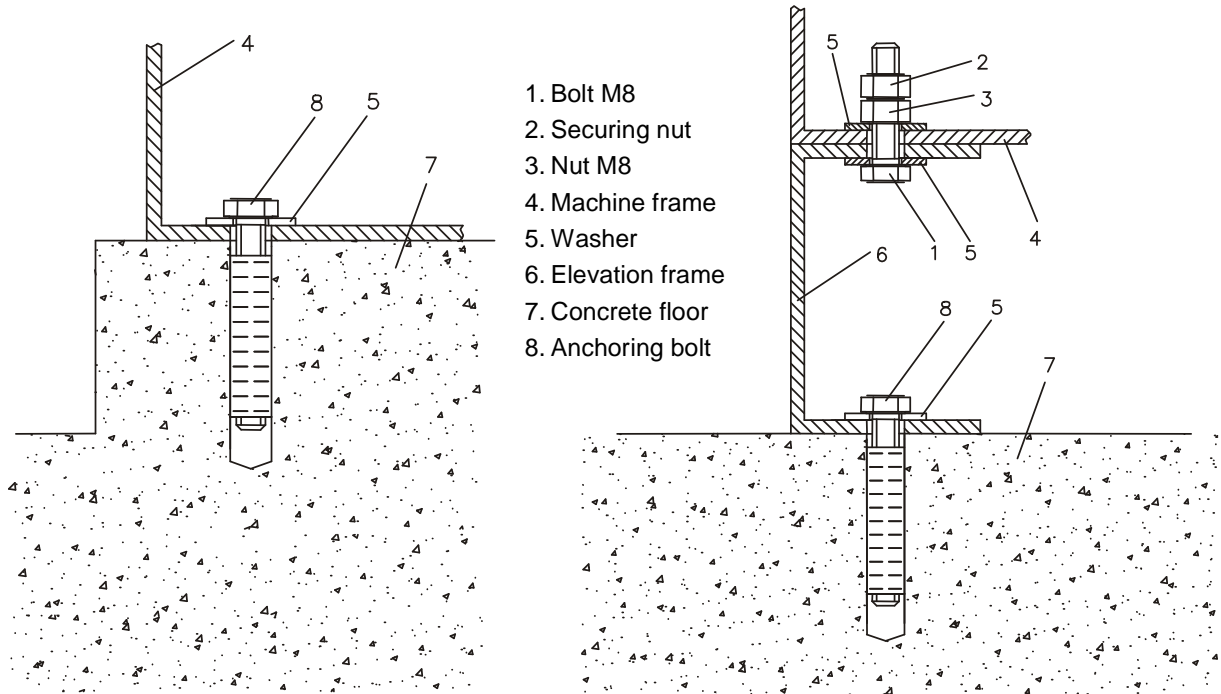
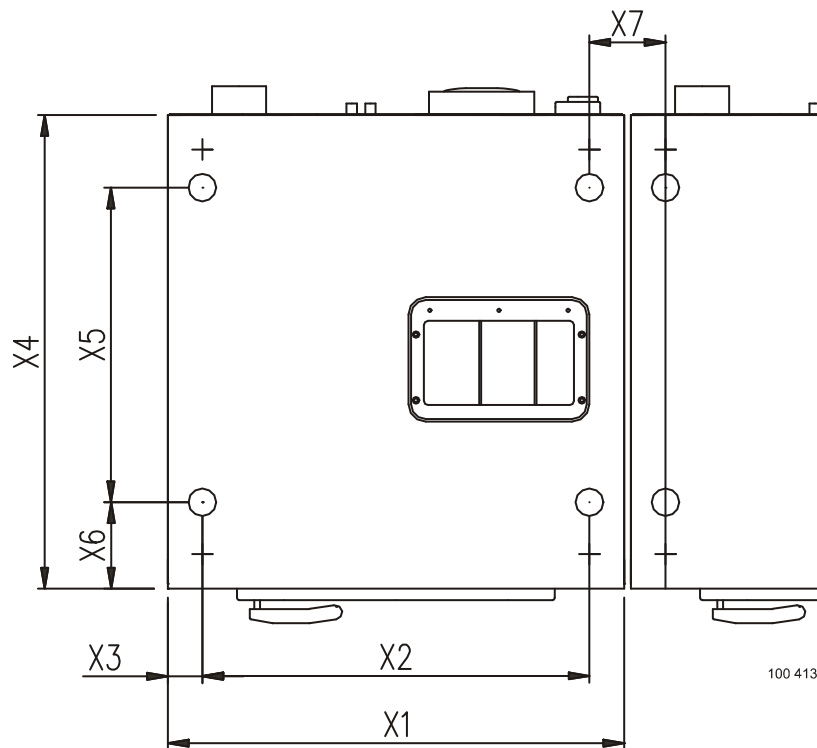


Fig.4.3.B On an elevation

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100 413

Fig.4.3.C Frame fixation dimensions

	6kg / 13lb	7kg / 18lb	10kg / 25lb	16kg / 35lb
<b>X1</b>	660 mm / 25.98"	660 mm / 25.98"	660 mm / 25.98"	830 mm / 32.7"
<b>X2</b>	560 mm / 22.05"	560 mm / 22.05"	560 mm / 22.05"	715 mm / 28.1"
<b>X3</b>	50 mm / 1.97"	50 mm / 1.97"	50 mm / 1.97"	57.5 mm / 2.26"
<b>X4</b>	685 mm / 26.97"	685 mm / 26.97"	785 mm / 30.91"	960 mm / 37.8"
<b>X5</b>	455 mm / 17.91"	455 mm / 17.91"	565 mm / 22.24"	815 mm / 32.09"
<b>X6</b>	130 mm / 5.12"	130 mm / 5.12"	130 mm / 5.12"	80 mm / 3.15"
<b>X7</b>	115 mm / 4.53"	115 mm / 4.53"	115 mm / 4.53"	135 mm / 5.32"

Tab.4.3.B Distances anchoring bolts

## LEVELING THE MACHINE



**WARNING!**  
**THE MACHINE MUST RELIABLY REST IN ALL FOUR CORNERS OF THE MACHINE!**  
**THE MACHINE MAY NOT ROCK.**  
**THE MACHINE MUST BE IN WATER LEVELLED POSITION.**

### MACHINES 6kg / 13lb, 7kg / 18lb, 10kg / 25lb

The rubber feet are screwed on the bottom of the machine frame and are adjustable with a wrench size 13 mm / 0.5" and 17 mm / 0.7". Check the position of the top of the machine by a water level and adjust machine legs, fig.3., pos.11. Adjust the four rubber feet until the machine is leveled and tighten the nuts M10 back to the bottom of the frame as counter nut.

### MACHINES 16kg / 35lb

The 16kg / 36lb machines don't have rubber feet for adjustment to water level. When it is necessary use thin hard plates of 10 x 10 cm / 3.93" x 3.93" with thickness of 1 mm / 0.04" and place them under the frame corner of the lowest position. Use more of them until the machines stands water level. It is always advisable to bolt down this machine after leveling. Take care that the machine is in the lowest possible position. If the machine with his cabinet rocks can it damage the machine cabinet. The manufacturer is not responsible for consequences caused by a wrong installation.

## 4.4. SHIPPING BRACKETS



**WARNING!**  
**DO NOT TRY TO OPERATE THE MACHINE WITHOUT REMOVING THE SHIPPING BRACKETS**  
**OTHERWISE THIS CAN LEAD TO INJURY TO PEOPLE AND CAN DAMAGE THE MACHINE.**  
**DO NOT TRANSPORT THE MACHINE WITHOUT SHIPPING BRACKETS MOUNTED.**

The machine is blocked for transport. This eliminates all possible movement of the tub assembly during transportation. There are 3 striking shipping bars which must be removed before putting the machine into operation.

On each machine is an instruction sheet that shows the location of the shipping brackets.

**IMPORTANT: UNSCREW ONLY THE BOLTS-NUTS WHERE INDICATED!**

1. Remove shipping bracket front, fig.4.4. pos.1.
2. Remove shipping bracket rear right, fig.4.4. pos.2.
3. Remove shipping bracket rear left, fig.4.4. pos.2.

After removing the shipping brackets put the service panel, fig.4.4. pos.3 and the rear panel, fig.4.4. pos.4 back on the machine. Keep the shipping brackets pos.1, 2 for possible future transportation.

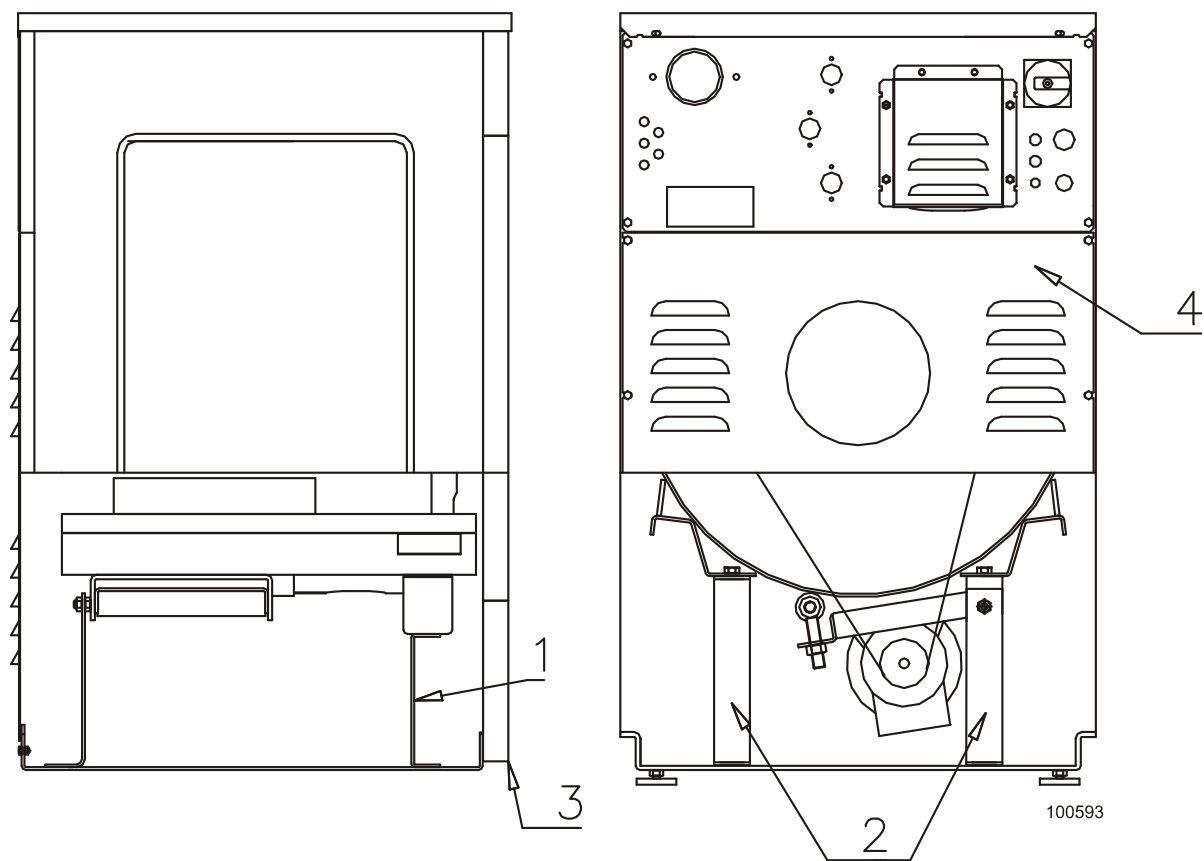


Fig.4.4. Transporting brackets

## 4.5. ELECTRICAL CONNECTION

### GENERAL

The machine has been designed for connecting to the electrical network according the specification of your order. Before connection check the electrical data stated on the Data Plate (fig.3., pos.3), if they correspond to your electrical network. An individual branch circuit needs to be used for each machine. The way of the connection is described in fig.4.5.A. For electrical protection, there must be installed a residual current device (RCD) and a circuit breaker in the electrical installation of the building (laundry switchboard). For correct selection see below.

### IMPORTANT:

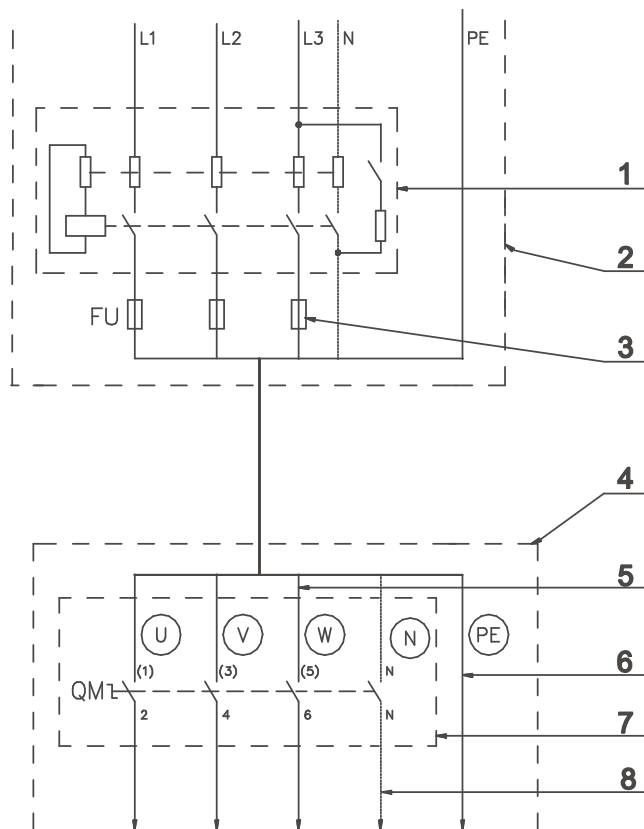
- If the machine is not equipped with a main switch then supply disconnecting devices need to be provided in the installation for all electrical supplies connected to the machine, in accordance with EN 60204-1 standard, point 5.3.
- Make sure the supply voltage is always within the limits specified in the „Technical specifications“ table in all circumstances. When you have long distances in the electrical installation, it may be necessary to use bigger cables to reduce the voltage drop.
- When the machine is connected near a large capacity power supply transformer (500kVA or more, wiring length shorter than 10 m) or there is a power capacitor switch-over, a power supply improving reactor must be installed. If you do not install this, the inverter may get damaged. Contact your sales office for more info.



### WARNING!

**GROUNDING: IN EVENT OF MALFUNCTION OR BREAKDOWN OR LEAKAGE CURRENT, THE GROUNDING WILL REDUCE THE RISK OF ELECTRICAL SHOCK AND SERVE AS A PROTECTING DEVICE, BY PROVIDING A PATH OF LEAST RESISTANCE OF ELECTRICAL CURRENT. THEREFORE IT IS VERY IMPORTANT AND THE RESPONSIBILITY OF THE INSTALLER TO ASSURE THE WASHER IS ADEQUATELY GROUNDED AT THE POINT OF INSTALLATION TAKING INTO CONSIDERATIONS THE NATIONAL AND LOCAL CONDITIONS AND REQUIREMENTS.**

1. Residual current device (RCD)
2. Laundry electrical switchboard
3. supply protection device
4. Washing machine
5. Phase conductors
6. Protective conductor
7. Main switch inlet terminal switchboard
8. Neutral conductor



505529

Fig.4.5.A Machine connection to electrical network (with a residual current device)

## RESIDUAL CURRENT DEVICE (RCD)

In some countries an RCD is known as an „earth leakage trip“ or „Ground Fault Circuit Interrupter“ (GFCI) or an „Appliance Leakage Current Interrupter“ (ALCI) or „earth (ground) leakage current breaker“.

Specifications:

- Tripping current: 100mA (if locally not available/allowed use a 30mA trip current, preferably selective type with small time delay set)
- Install max. 2 machines on each RCD (for 30mA, only 1 machine)
- Type B. There are components inside the machine which make use of DC voltages and therefore a „type B“ RCD is necessary. For information only: Type B is better performance than type A, and type A is better than type AC.

When locally allowed, there must always be installed an RCD. In some power network earthing systems (IT, TN-C,...), an RCD might not be allowed (see also IEC 60364).

Some washer control circuits are supplied with a separating transformer. Therefore the RCD may not detect faults in the control circuits (but the fuse(s) of the separating transformer will).

## SUPPLY PROTECTION DEVICE

A supply protection device basically protects the machine and wiring against overloads and short circuits.

As supply protection device, you can use either (glow-wire) fuses or (automatic) circuit breakers.

See the table 3.A, „Technical specifications“ for the rating of the nominal current and other specifications of the supply protection device. In this table there is specified that the protection must be the „slow“ type, for circuit breakers this means curve D. Although not recommended, if for some reason you can not use a slow type, select the protection device with 1 step higher nominal current rating to avoid disconnecting during start-up.

## SUPPLY CABLE

The supply cable is not delivered with the machine.

Specifications:

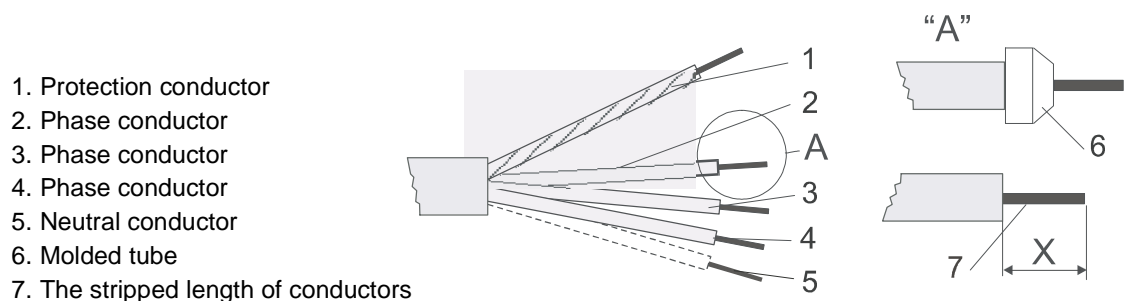
- conductors with copper cores
- stranded conductors are strongly recommended (flexible wiring) to avoid conductor breaking because of vibration
- **THE CROSS SECTION DEPENDS ON THE USED SUPPLY PROTECTION DEVICE. SEE TABLE 4.5.A FOR THE MINIMAL CROSS SECTION**
- As short as possible, directly from the supply protection device to the washer without branching off.
- No plug or extension cords: The machine is intended to be permanently connected to the electrical network

Connection:

- Insert the cable through the hole in the on the rear panel, insure a strain relief (turnbuckle) is used so that the supply cable can not move.
- Strip the conductor ends according fig.4.5.B.
- The protective conductor must be longer so that when the cable is pulled out accidentally, this conductor is disconnected the last one!
- With stranded conductors, use „wire end tubes“ with an insulated sleeve (6) for L1/U, (L2/V), (L3/W), (N) conductors. Make sure there can not be make accidental contact, since the supply cable stays under voltage even when the main switch is off.
- Crimp a ring terminal (eyelet) to the protection conductor for good fixation to the PE terminal.
- Connect the supply cable conductors to the incoming terminals (main switch (1)) marked with L1/U, (L2/V), (L3/W), (N), and the terminal (copper screw) marked with PE, see fig.4.5.C.
- Provide a sag in the cable, in front of the cable strain relief. This will avoid ingress of condensed water into the machine, see fig.4.5.C.

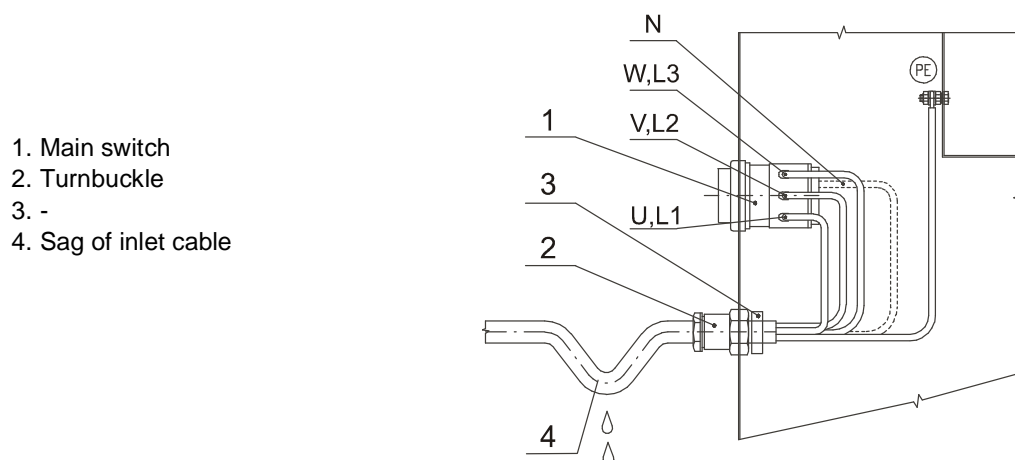
Power supply protection device nominal current (US)		Min. phase conductor section in mm <sup>2</sup> (AWG)	Min. Protection conductor section in mm <sup>2</sup> (AWG)
Automatic circuit breakers	Fuses		
16A (15A)	10A (10A)	1,5 mm <sup>2</sup> (AWG 15)	1,5 mm <sup>2</sup> (AWG 15)
20A (20A)	16A (15A)	2,5 mm <sup>2</sup> (AWG 13)	2,5 mm <sup>2</sup> (AWG 13)
25A (-)	20A (20A)	4 mm <sup>2</sup> (AWG 11)	4 mm <sup>2</sup> (AWG 11)
40A (40A)	32A (30A)	6 mm <sup>2</sup> (AWG 9)	6 mm <sup>2</sup> (AWG 9)
63A(-)	50A (50A)	10 mm <sup>2</sup> (AWG 7)	10 mm <sup>2</sup> (AWG 7)
80A	63A	16 mm <sup>2</sup>	16 mm <sup>2</sup>
100A	80A	25 mm <sup>2</sup>	16 mm <sup>2</sup>
125A	100A	35 mm <sup>2</sup>	25 mm <sup>2</sup>

Tab.4.5.A Manufacturer's recommended minimal conductor section



505 530

Fig.4.5.B Adaptation of conductor ends of supply cable



505 531

Fig.4.5.C Connection of main power inlet

### MACHINE PROTECTIVE EARTH CONNECTION AND EQUIPOTENTIAL BONDING!!!

Independent of the supply cable, the machine must be connected to the laundry protective earth system with a separate conductor. The protection conductor enabling this connection is not a part of the delivery. If there are other washers/appliances with exposed conductive parts which can be touched simultaneously make sure to make equipotential bonding between all these appliances.

The external protective conductor for this purpose can be connected to a conductive part of the enclosure at the rear side and is identified by an earth mark.

THE MINIMUM PROTECTION CONDUCTOR'S CROSS SECTION CAN BE FOUND IN TABLE 4.5.A.

Use a cross section of at least 4 mm<sup>2</sup> / AWG 11 even when the supply cable cross section is smaller.



## EMERGENCY STOP DEVICE

The machines are equipped with an emergency stop device in accordance with ISO13850 - category 0 stop function. Nevertheless, the emergency stop device is omitted on machines designed for coin, token, external payment system or similar operation for use in self-service situation. The owner-installer-user must provide remote-located emergency stop device(s). This emergency stop device(s) needs to stop each machine in accordance with ISO13850 - category 0. There are made provisions in the wiring harness, were immediate removal of power to the actuators can be accomplished. See the electrical schematic of the machine for correct connection of the device.

## CHECKING ROTATION DIRECTION

Check if the drum rotates from the front view in clockwise direction during extraction. If it rotates in opposite direction, disconnect two phases wires of the connection from the frequency inverter to the motor, switch them over and check again the rotation direction.

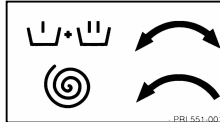


Fig.4.5.D Spin direction

## MULTIPLE MACHINES IN LINE SINGLE PHASE

When multiple single phase machines are connected to the same electrical network, it is necessary to connect the machines according to fig.4.5.E. The phase of the frequency control and motor which is connected to the terminal inside the machine, has to be connected alternatively for the first machine with the first phase L1 of the network, the second machine with the second phase L2, ... The fourth machine must again be connected to the first phase L1. This assures a better load of the electrical network.

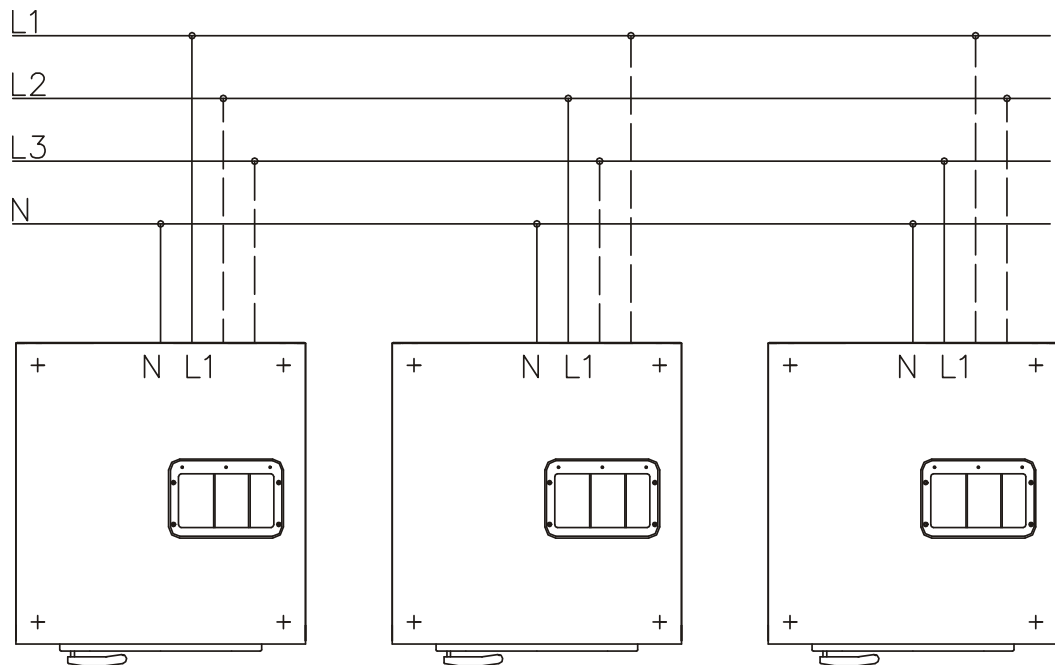


Fig.4.5.E Multiple machines in line

100 677

## 4.6. WATER CONNECTION

The washer is equipped with 3/4" BSP (British Standard Pipe Thread) hot and cold water inlet valves, indicated by a sticker next to the inlet. Use the water inlet hoses that accompany the washer as they are properly adapted to the water valves and appliance. NEVER use a rigid connection to the water supply.

There are 2 kinds of water inlet hoses, water inlet hoses with at both sides BSP threaded nuts or at one side a BSP nut and a NPT nut on the other end. The NPT Nut is marked with groove.

For best operation of the washer, water pressure must be between 43 - 73 PSI (pound per square inch) or 0.3 - 0.5 MPa. Water pressure that is below minimum requirements can lengthen the wash cycle or/and not allow proper function of the washer.

It is also necessary to connect ALL available water inlets to a water supply. If a hard water supply is not present, connect it with soft cold water. If no hot water supply is present, contact your dealer for the proper required action.

## TO INSTALL

Flush the water system in order to remove any particles that may be in the water system. Insert a „screen seal hose washer“ into the faucet connection end of the inlet hose and the standard hose seal washer at the opposite end of the inlet hose. When connecting inlet hoses, be sure hose connections are not cross-threaded on the water valves. Tighten securely by hand plus 1/4 turn with pliers. DO NOT over tighten as this will strip threads on the water valve(s). The water hardness can have an influence on the wash results. The soap supplier can help you with making the right decisions concerning hard water, soft water, washing programs, type of soap and other related items to give the best wash results.

## HOT WATER

### IMPORTANT -- TEMPERATURE IN WASHING TUB

The electronic controller uses the temperature sensor in the tub to control the temperature of the washing bath. There are a lot of things that have influence on the temperature measurement. Therefore the temperature control of the washing bath is not very precise.

In principle, the manufacturer strives that the real temperature inside the washer is never higher than the programmed temperature so that textile linen will not be damaged because of too high temperature.

If for certain applications a very precise washing bath temperature is necessary, appropriate measures must be taken.

If any part needs to be replaced (wash controller, temperature sensor,...) and your application needs very precise temperatures, appropriate measures must be taken.

The manufacturer will refuse any responsibility for all consequences because of inaccurate temperatures inside the washing machine tub.

The hot water supply needs to be large enough to provide the required hot water for the installed washers. For good wash results we advise a hot water supply that is set between 140 - 160°F / 70 - 80°C. To determine the boiler capacity you can use the data in below table. Please be aware that this is an average and depends highly of the boiler, boiler temperature, linen, program set up and washing program used.

CAPACITY	Hot water	
	dm <sup>3</sup>	gal
<b>6-7 kg / 13-18 lb</b>	15	4
<b>10 kg / 25 lb</b>	16	4.5
<b>16 kg / 35 lb</b>	31	8

Tab.4.6.A

## WATER CONSUMPTION

The water consumption depends on the programmed values in the controller. These default values can be found in the programming manual. For a pre-wash and wash the low water level (LL) is used. The high water level (HL) is used for rinsing. The programmed units correspond to an average amount of water. You can calculate the total water consumption in one washing program by counting up the amount of water by each washing step. Be aware of the fact that these are only indicative values.

An example is shown for a system with cold and warm water supply for a machine with capacity of 10kg / 25lb.

Program (60°C / 140°F) Light soiled linen			
Consumption	Cold water	Hot water	Total
1. Wash 60°C	11 l / 2.9 gal	20 l / 5.28 gal	31 l / 8.18 gal
2. Rinse (2x)	76 l / 20.05 gal	-	76 l / 20.05 gal
3. Last rinse	31 l / 8.18 gal	-	31 l / 8.18 gal
<b>TOTAL</b>	<b>118 l / 31.14 gal</b>	<b>20 l / 5.28 gal</b>	<b>138 l / 36.41 gal</b>

Tab.4.6.B Water consumption

The values received from this calculation is only an estimation of the real water consumption. The deviation depends on many circumstances. In the wash cycle for example there will be taken a mix of warm water and cold water. The mix of the water depends on the temperature of both. The total amount of water consumed depends also on the loading, type of linen and the drum rotation.

## 4.7. STEAM CONNECTION

**⚠ WARNING!**  
INSTALL A STEAM SUPPLY DISCONNECTING DEVICE IN THE VICINITY OF EACH WASHER.  
DISCONNECT THE STEAM SUPPLY ALWAYS BEFORE ANY SERVICE OR INTERVENTION, GIVING SUFFICIENT TIME TO COOL DOWN THE PARTS TO AVOID INJURIES.

**⚠ WARNING!**  
IT IS NECESSARY TO INSERT A FILTER WITH PERMEABILITY UP TO 300 MICROMETERS IN FRONT OF THE STEAM VALVE. POSSIBLE DIRT BIGGER THAN 300 MICROMETERS MIGHT DAMAGE THE STEAM VALVE AND CAN CAUSE ITS LEAKAGE.

## 4.8. WATER DRAIN CONNECTION

The machine is equipped with a drain valve of OD 76 mm (3"). The drain outlet is situated on the rear of the machine. The drain has to be connected to the waste channel. You can use the elbow, which is a part of the delivery when ordered. Secure the elbow with a clamp.

THE WASTE CHANNEL MUST BE LOCATED LOWER THAN THE DRAIN PIPES BECAUSE THE WATER DISCHARGES FROM THE MACHINES BY GRAVITY. DO NOT REDUCE THE DIAMETER OF THE MACHINE DRAIN PIPES.

1. Waste channel cover
2. Drain elbow Ø76 mm / 3"
3. Clamp
4. Waste channel

Without rubber feet:

X1 = 55 mm / 2.16"

With rubber feet:

X1 = 73 mm / 2.87"

X2 > 100 mm / 3.93"

X3 > 20 mm / 0.78"

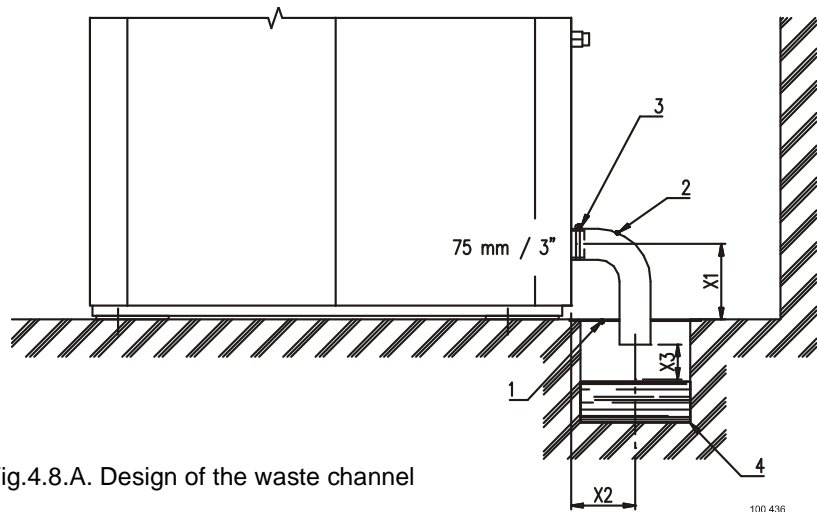


Fig.4.8.A. Design of the waste channel

The main drain pipe must have the capacity to be able to handle the total output of all connected machines. There must also be a hole every twenty meter in the drainpipe, fig.4.8.B., pos.1 to assure the good working of the drain. This allows air in the main drain and facilitates drainage of the water flow. Every time a machine is coupled on the drainpipe, the diameter of the tube or the width of the waste channel must be more. See, fig.4.8.B., D1, D2, D3.

The recommended drain pipes diameter are:

D1 = 75 mm / 3" for one machine

D2 = 100 mm / 4" for two machines

D3 = 125 mm / 5" for three machines

If the main drain cannot be sufficiently deodorized, install a deodorizer per machine.

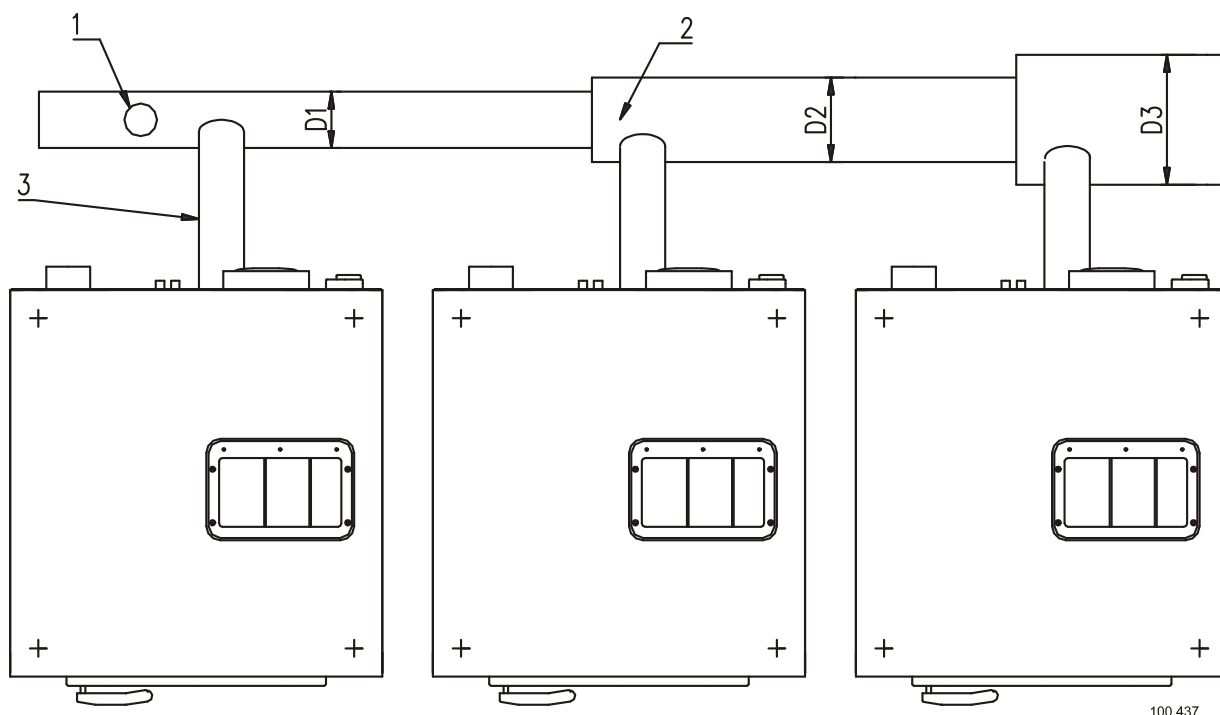


Fig.4.8.B. Recommended drain pipe diameters

## 4.9. AIR VENT CONNECTION

**⚠ WARNING!**  
**VAPOURS ESCAPE FROM THE MACHINE THROUGH THE AIR VENT OPENING!**  
**DO NOT COVER OR CONNECT TO ANYTHING!**

On the backside, the washers are provided with an air vent opening of O.D. 75 mm / 3".

It is part of the back flow prevention water system. It also takes care that the tub can not be pressurized by water intake and vapor of the hot water. It allows also proper measuring of the water level.

For the safety of everyone make sure that unauthorized persons cannot reach the backside of the machine.

## 4.10. LIQUID SOAP CONNECTION

**General** : Always use liquid soap pumps with a flow rate that can bring the requested quantity in less than 30sec.

**Important** : Start pumping immediately after the water valves are open. The incoming water dilutes the liquid soap and brings it into the tub assembly.

**Caution** : Secure the location of the wiring and hoses in such a way that they can not be pinched, damaged or rubbed.

### For all models except model „MFSxxPNF“

The washer has provisions for connecting external dosing of liquid soaps. For connecting the liquid soap inlets and wiring the top panel needs to be opened.

On the rear panel is a plastic connection, [fig.4.10.A](#). Depending of the number of liquid soap pumps that will be used, drill holes (max. 5) of Ø 0.315" / 8 mm in the connection part for each pump. Also drill holes (max. 5) of Ø 0.256" / 6.5 mm in the soap dispenser nipples located at the back of the soap dispenser, [fig.4.10.B., pos.1](#). By default, these nipples are closed. Drill only the ones that will be used. **Take care that the drill particles are carefully removed so that they can not clog up the hoses and openings.**

Between the two parts, connect a PVC hose with a somewhat smaller diameter then the 0.39" / 10 mm nipples, so that the hoses have tension on the nipples. Secure liquid hoses by means of clamps on both sides. Take care that the hoses are as straight as possible in a direct line and secure the hoses in such a way that they can not be damaged or rubbed.

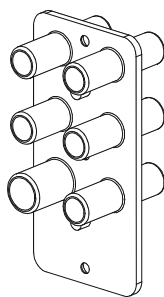


Fig.4.10.A Hose connection part

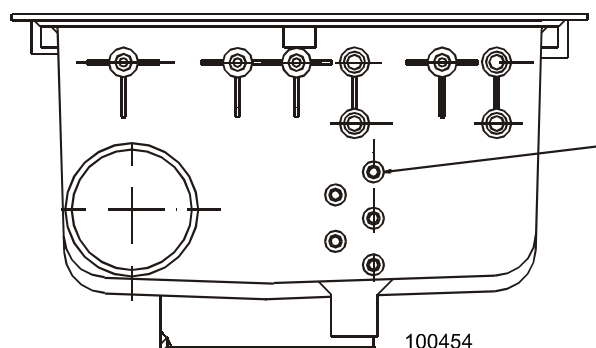


Fig.4.10.B Hose connection part

**⚠ WARNING!**

**CHECK THAT THE HOSE CONNECTIONS ARE TIGHT (CHECK THE CLAMPS)! ANY LEAKAGE OF CHEMICALS MAY CAUSE SERIOUS BODY INJURIES AS WELL AS SERIOUS DAMAGE TO THE WASHER.**

**For model „MFSxxPDF“ only**

The liquid soap pump system supply needs to be connected to an external electrical source. The wiring diagram is located inside the cabinet on the left or right panel in the plastic bag. On the electronic control, is a sticker that indicates the availability of 8 liquid soap signals and their position. Fix the input wires in the matching 9-pole connector in according to the wiring diagram indicated and push him in the „Z“ connector on the electronic controller. The code number for the matching 9-pole connector can be found in chapter „List of Recommended Parts“ at the end of this manual.

The first pin in the „Z“ connector is common for the liquid soap signals and of the electronic controller. The signals are 12V dc and the current must be limited to 10 mA per signal.

**Never** put outside voltage to the pins of the „Z“ connector. It will destroy the electronic controller.

**For models „Not MFSxx“**

The liquid soap pump system supply needs to be connected to an external electrical source. Only authorized workers with a valid qualification must execute the electrical connection of the machine according to the valid local standards. Do not connect the pump system in the washer.

The liquid soap signals are available in the machine on a connector, see fig.4.10.C. The first terminal is the common line of the signals. The following terminals are the signals that will be active depending of the programmed wash program. These signals have a potential of max. 250V. Use a cable that is sufficient for their function and pass it in the appropriate opening in the machine. Connect these signal terminals like the manufacturer of the liquid soap system requires.

The liquid soap system may draw maximum 0,1A out the control circuit of the washer-extractor.

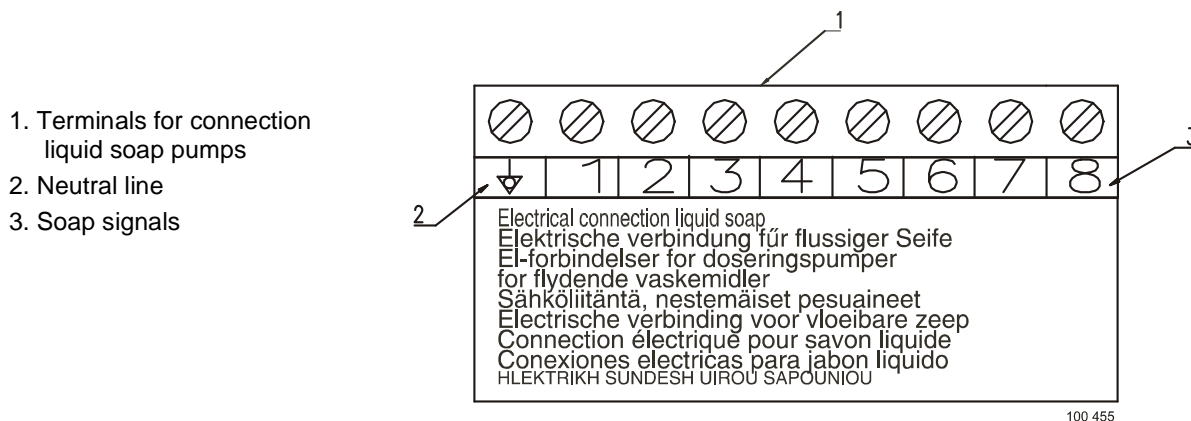


Fig.4.10.C Electrical connection soap pumps

## For models „MFSxxPNF“ only

All internal connections for external dosing of liquid soaps are factory installed. Therefore, when connecting the liquid soap and wiring the machine, for pump signals, it is not necessary to open the machine.

On the rear panel, [fig.4.10.D](#), is a plastic connection part ([pos.6](#)). Depending of the number of liquid soap pumps that will be used, drill holes (max. 5) of  $\varnothing 0.315'' / 8 \text{ mm}$  in the connection part. On the connection part is also a nipple of  $\frac{1}{2}''$  ID. Use this nipple **ONLY** for entering diluted soap. Drill with 11.5 mm.

By default, these nipples are closed. Drill only the ones that will be used. Take care that the drill particles are carefully removed so that they can not clog up the hoses and openings.

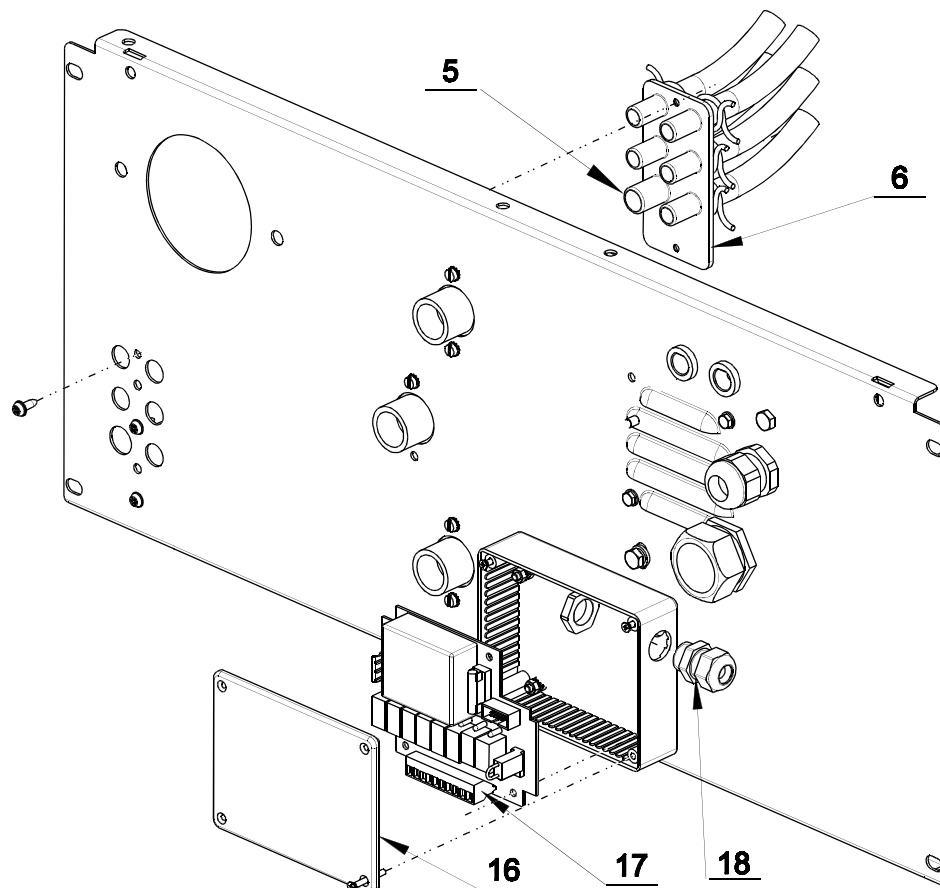


Fig.4.10.D Rear panel

For the electrical connection is a plastic box provide at the rear side of the machine. On the back of the cover ([pos.16](#)) an explanation can be found for the electrical connection, ([fig.4.10.E](#)). Details can also be found on the electrical wiring diagram of the machine.

Factory default is 24V ac signals when they are programmed „Active“. For details and programming, see programming manual.

Bring the liquid soap signal cable through the strain relief ([pos.18](#)) and connect to the removable connector ([pos.17](#)) by pulling it from the header. After the connections are made in accordance with the required installation, push the connector ([pos.17](#)) back on the header. Tighten the cable with the strain relief ([pos.18](#)) and close the box again with cover ([pos.16](#)).

Voltage: „INT“ = Internal Voltage	
24Vac / 100mA	
Voltage: „EXT“ = External Voltage	
12-240V / 2A	
Remove Connector „E“ for easier Wire Installation	Supply 1
	Supply 2
	Supply 3
	Supply 4
	Supply 5
	Supply 6
	Supply 7
	Supply 8
	EXT Voltage
	INT Common
E	

## 4.11. FIG.4.10.E ELECTRICAL CONNECTION EXPLANATION

## **4.12. PREPARING THE MACHINE FOR OPERATION**

### **CHECKING BEFORE PUTTING INTO SERVICE**

1. Make sure the transporting braces are removed.
2. Put out all items from wash drum.
3. Check the machine horizontal position.
4. Check connection and clearance of your drain, channel or central drainage.
5. Check protective connection (earth) and electrical supply connection.
6. Open water valves to machine and check hose and connections for leaks.
7. Read carefully the „User´s manual“ and „Programming manual“, which are a part of delivery.
8. Initialize the programmer after machine installation. The calibration of the zero level must not happen anymore. This calibration is executed in the factory and is not changeable.
9. Start a wash program as test.
10. Check the drum rotation direction during extracting according to the extracting label.
11. Check the vibration switch function during extracting (see also chapter „Adjustments and parts exchange“, adjustment of the vibration switch.
12. Check the emergency function.

## 5. MAINTENANCE AND ADJUSTMENTS

### **WARNING!**

**ALWAYS FOLLOW SAFETY INSTRUCTIONS! DO NOT BYPASS ANY SAFETY DEVICES OR THEIR PARTS, ANY INTERFERENCE TO THE MACHINE FUNCTIONS AND CONSTRUCTION ARE PROHIBITED. BEFORE MAINTENANCE WORK DISCONNECT THE MACHINE POWER SUPPLY.**

**USE THE PROPER CHEMICAL AGENTS WHICH AVOID CALCIUM SEDIMENTS ON HEATING ELEMENTS AND OTHER MACHINE PARTS. DISCUSS THIS ISSUE WITH YOUR SUPPLIER OF WASHING PRODUCTS. THE MANUFACTURER OF THE MACHINE IS NOT RESPONSIBLE FOR THE DAMAGE OF HEATING ELEMENTS AND OTHER MACHINE PARTS DUE TO CALCIUM SEDIMENTS.**

In case of serious failures call the technical service of your supplier. When replacing any parts of the machine, exchange them with original parts obtained from your dealer or ordered through the spare parts catalogue.

### 5.1. MAINTENANCE

#### CHECKING AND MAINTENANCE DAILY

1. Remove the linen or other parts (paperclips, needles, ...) who are left lying in the drum to avoid injuries and damage to the rubber door seal, seals, glass etc.
2. Clean the door seal from any remaining detergent and other foreign matter.
3. Clean the top and body when water or detergent traces are on the machine. Use a damped cloth, do not use abrasive cleaners. Dry with a soft cloth.
4. Hoppers must be cleaned at the end of each working day. Remove sediments inside the reservoir by means of a plastic spatula and splash by water.
5. Check water and possible steam inlets for leakage.
6. At the end of the working day, open the machine door to allow airing out the machine and to prolong the door gasket life service. We recommend to shut off all electrical power inlets and main water inlets.

#### CHECKING AND MAINTENANCE EVERY THREE MONTHS

### **WARNING!**

**HOT MACHINE PARTS SHOULD BE ALLOWED TO COOL FIRST !**

1. Check if the drain valve is not leaking during the wash process. It is also important that the valve opens properly afterwards (drain valve opens when electrical power falls out). Wash out the drain if the water doesn't drain fluent.
2. Check for the belt tightness or possible damage; therefore remove the machine rear cover.
3. Check the tightness of the bolts according to chapter „5.2. Tightening moments“.
4. Check visually all hoses and connection inside the machine for leaking.
5. Make sure that the control components are protected against moisture and dust during the clean up. Wipe and clean up the machine inside.
6. Tighten the contacts of heating elements terminals on machines with electrical heating.

#### CHECKING AND MAINTENANCE EVERY SIX MONTHS

1. The filters in the water connection at the valves need to be cleaned. Turn off the tap. Unscrew the hoses at the back of the appliance. Take out the filter at the center with pointed pliers, clean and re-insert. When re-attaching the hoses, make sure that the seals are seated correctly. Check water inlets for leaks. Tighten the connections or replace the seals of the inlet hose if necessary.

** BEFORE REMOVING TOP OR BACK PANEL OF THE MACHINE, SWITCH POWER OFF AND WAIT FOR AT LEAST 10 MINUTES. BEFORE STARTING INSPECTION OF FREQUENCY INVERTER, CHECK FOR RESIDUAL VOLTAGE ACROSS MAIN CIRCUIT TERMINALS + AND -. THIS VOLTAGE MUST BE BELOW 30VDC BEFORE YOU CAN ACCESS THE INVERTER FOR INSPECTION.**

2. Clean and remove dirt and dust from:
  - the cooling fin of the inverter
  - the motor cooling fins
  - the internal ventilator of the inverter (if present)
  - the external ventilator (if present)
  - the external air relieves of the machine
  - check if ventilator in coolfins of inverter (if present) is functional
  - check if external ventilator (if present) is functional



## 5.2. ADJUSTMENTS AND PART'S EXCHANGES

### 5.2.1. ADJUSTMENT OF DOOR SEAL THRUST

**MACHINES 6kg / 13lb, 7kg / 18lb, 10kg / 25lb**

If there is a water leakage around the door it is necessary to find out if the problem has been caused due to the door shift out of its position or if the door seal thrust should be adjusted. In some cases the door seal has to be replaced. (fig.5.2.1.A).

1. For increasing (decreasing) the pressure of the door seal, take off spacers (pos.1) (add spacers) between the door frame and the hinge blocks. Therefore remove the screws (pos.4) on the door frame. Tighten the screws again after positioning the spacers.
2. The adjustments of the door seal pressure must be executed as follows. The door rubber (pos.2) must still touch the tub rubber at the hinge side when the door opens at 5°.
3. Adjust the position of the door by loosening the screws (pos.4) on the door frame. The door hook must be right in the center of the door lock opening. Tighten the screws (pos.4) again after correct positioning of the door.

1. Adjusting spacers of the door hinge
2. Door seal
3. Door glass
4. Bolts of the door hinge
5. Door frame

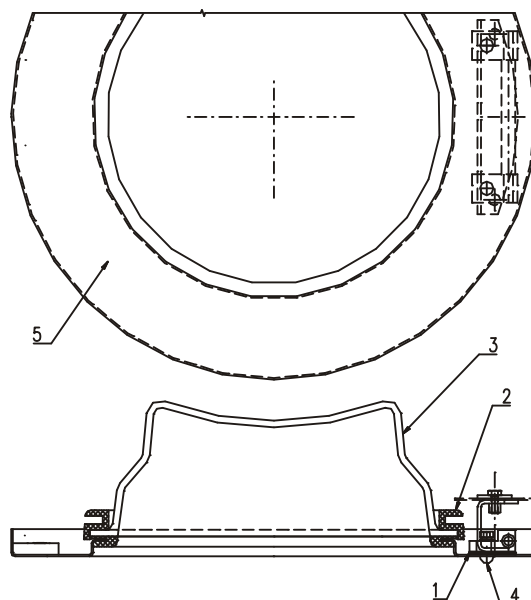


Fig.5.2.1.A Door fastening

**MACHINES 16kg / 35lb**

1. Loosen two bolts (6) fastening the top door hinge (7), fig.5.2.1.B.  
**BE CAREFUL TO AVOID POSSIBLE FALLING OF THE DOOR WITH LOOSENED HINGE TO THE FLOOR. RISK OF INJURIES!**
  2. Take off the elimination washer (8).
  3. Tighten the two bolts (6) fastening the top door hinge.
  4. Do the same with the bottom hinge.
  5. Check if the door hinge has not moved, closing and opening of the door must be smooth.
- If the thrust adjusting has not been sufficient, exchange the door seal.

6. Hinge bolt
7. Hinge
8. Elimination washer
9. Door

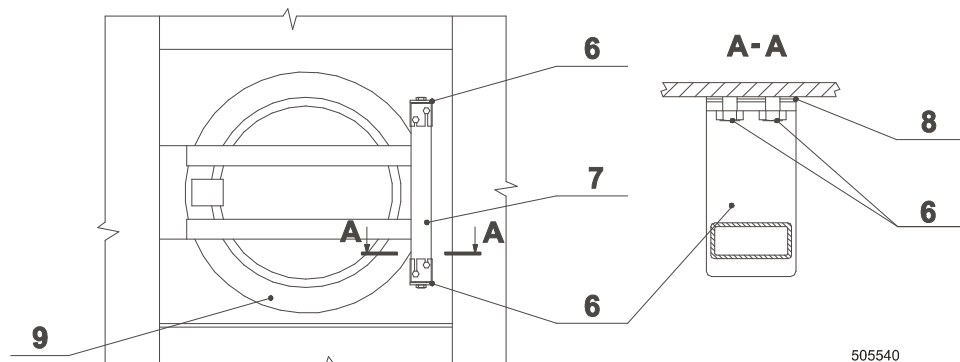


Fig.5.2.1.B Door fastening

### 5.2.2. REPLACEMENT OF DOOR RUBBER

#### MACHINES 6kg / 13lb, 7kg / 18lb, 10kg / 25lb

1. Open the door. Remove the door glass (fig.5.2.1.A., pos.3) with rubber (pos.2) from the stainless steel door (pos.5) by pushing it towards the drum. Do it carefully, do not damage the glass.
2. Remove the seal (pos.4) from the glass.
3. Place a new rubber seal with wider groove on the glass with the edge up.
4. Moisten the seal groove (pos.2) for door with soap water. Place a smooth cord in the groove all around. Tighten up the margin by cord and fit the unit to the door opening (pos.5) (with the clip up). Hold one end of the cord firmly on the door. Pull the other cord end towards the center of the glass for the rubber edge properly fit in.

### 5.2.3. ADJUSTING OF VIBRATION SWITCH

#### **⚠ WARNING!**

**MAKE SURE THE MACHINE IS DISCONNECTED FROM POWER SUPPLY BY PULLING OUT THE PLUG!**

The vibration switch is an important safety element which must - if correctly adjusted - stop the machine if excessive vibrations and shaking occur due to an unbalance caused by improper distribution of linen in the washing drum. It is recommended that at the first installation and then once in a year a qualified worker verifies the vibration switch, fig.5.2.3.

1. Dismantle (6kg / 13lb, 7kg / 18lb, 10kg / 25lb) the top cover by two bolts on machine rear for machines. For the 16kg / 36lb the top cover can be folded open and supported by the support at the right side panel.
2. Check the distance between microswitch (pos.1) and the limiter (pos.2).
3. The distance between the microswitch and the spring holder must be 0,2 mm / 0.008".
4. Check the position and condition of the sensor (pos.3) in the limiter (pos.2). It must be exactly in the center of the hole! Unscrew the out of balance switch plate and move the plate up, down, left and right to adjust the center of the sensor to the center of the hole on the limiter.
5. At the first installation and then once in a year the vibration switch has to be tested on his functionality. After starting the extraction mode and after reaching the maximum RPM, carefully switch over the vibration switch by moving the flexible sensor manually. The machine will stop extracting and will return to 0 RPM.

#### **⚠ WARNING!**

**DO NOT OPERATE THE MACHINE IF THIS FUNCTION DOESN'T WORK ANYMORE!**

**DO THIS CAREFULLY TO AVOID INJURIES BY VIBRATING AND FIRM PARTS OF THE MACHINE!  
AFTER YOU HAVE CHECKED THE FUNCTION, MOUNT THE MACHINE COVER BACK!**

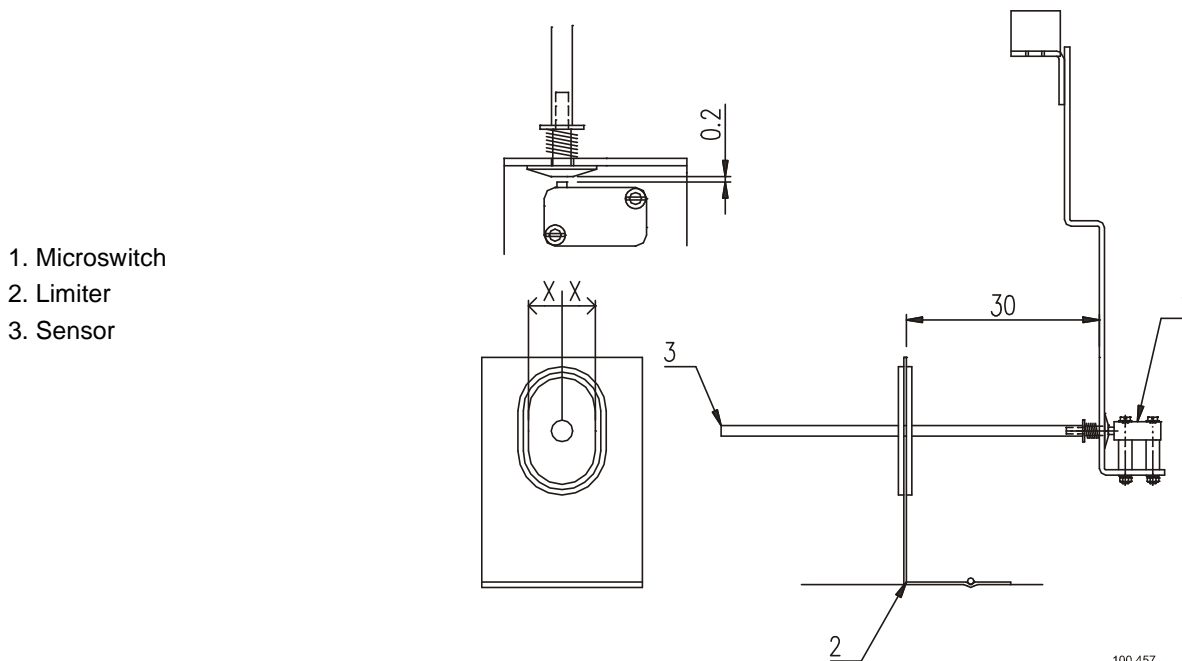


Fig.5.2.3. Vibration switch

## 5.2.4. REPLACEMENT / REGULATION OF THE BELT

**⚠ WARNING!**  
**MAKE SURE THE MACHINE IS DISCONNECTED FROM POWER SUPPLY BY PULLING OUT THE PLUG FROM THE SOCKET.**

On a new machine and after a belt replacement, make an inspection of the belt tightness:

1. After first 24 hrs of operation
2. After first 80 hrs of operation
3. Every 6 months or every 1000 operation hours - which ever come first.

The belts are accessible from the rear of the machine.

If the belts are too tight the bearing seating are under stress and their life service will be shortened. If the belts are too loose they can be slipping on the pulley and can cause a noisy operation. In the case when it's needed, tighten the belts.

### **MACHINES 16kg / 35lb**

The testing force of belt tensioning is 200 N which can be measured by tension meter. Procedure for approximate belt tensioning with belt deflection 20 mm / 0.78": apply a load of 5,5kg / 12lb to the middle of the belt. Change the belts if they are worn out or damaged.

**⚠ WARNING!**  
**TO CHANGE THE BELTS: NEVER USE A CROWBAR, SCREW DRIVER OR ALIKE TO TAKE OFF THE BELTS OVER THE PULLEY GROOVES!**

1. Dismantle the rear panel, fig.5.2.4., pos.1.
2. Take off the belts, (pos.2.) by pulling the belt and turning the drum pulley (pos.5).
3. Put a new belt (pos.2) of identical type on pulleys (pos.5 and 8). The re-assembly of the belts is done in the reverse order as the disassembly.
4. The belt must be placed in the correct motor pulley trenches in such way the belt is running in the center of the drum pulley.

To tighten or loosen the belt tension:

1. Loosen the bolts (pos.4) for securing the motor position.
2. First unscrew the lower nut (pos.6) and then unscrew the upper nut (pos.7) for increasing the belt tension.
3. For decreasing the belt tension screw the lower and upper nut (pos.6 and pos.7) and lift the motor suspension. After this tighten all the bolts.
4. After the belt replacement, check the pulley alignment, the tightness of belts, bolts and nuts. Keep the belts and pulleys clean and free of oil, lubricants, water etc.

1. Rear panel
2. 2 x Belt
3. 2 x Screw M12 : Alignment
4. 2 x Screw M10
5. Motor pulley
6. Securing nut of bolt M16 (lower)
7. Securing nut of bolt M16 (upper)
8. Drum pulley

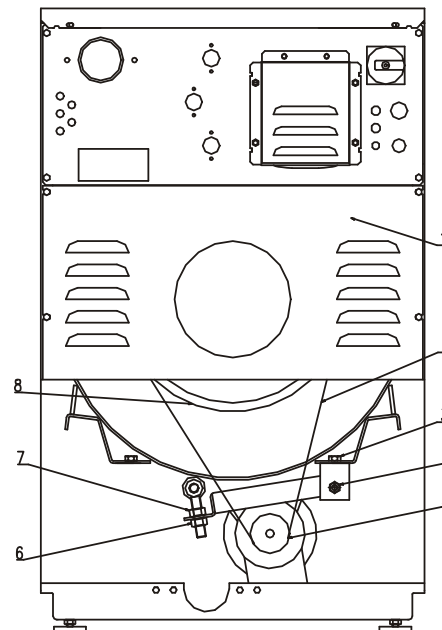


Fig.5.2.4. Regulation of belt

### 5.2.5. WATER FILTERS

Machines are equipped with filters on water inlets. It is necessary to clean up the filters occasionally to avoid a prolongation of filling the machine with water. Intervals of cleaning depend on the quality of the water, for example foreign particles in the water line.



#### **WARNING!**

**BEFORE YOU START CLEANING THE WATER FILTERS, CHECK IF ALL WATER INLET TO THE MACHINE IS CLOSED**

### 5.2.6. TIGHTENING MOMENTS



#### **WARNING!**

**REGULARLY, ONCE IN THREE MONTHS OR EVERY 500 WORKING HOURS INSPECT THE TIGHTNESS OF THE BOLTS!**

**REPLACE A DAMAGED BOLT WITH A BOLT OF THE SAME STRENGTH VALUE MARKED ON HIS HEAD! IGNORING OF THE BOLT QUALITY AND MECHANICAL STRENGTH CAN CAUSE SERIOUS BODILY INJURIES!**

The recommended torque values for standardized steel bolts:

M6 8.8: C = 10 Nm

M8 8.8: C = 25 Nm

M10 8.8: C = 45 Nm

M12 8.8: C = 80 Nm

M16 8.8: C = 200 Nm

The bolts that have to be inspected are:

Bolts which are used for the reinforcement triangles for the cabinet. This reinforcements are found in the front (2 pieces) and in the back (2 pieces) of the machine = 16 bolts M6 and M8.

Bolts for fixation of bearing house in tub M10 or M12.

### 5.2.7. FUSES

The internal fuses FU1, FU2 for controlling circuits have value 1A (230V or 400V) and dimension L=32 mm / 1.26" and  $\varnothing = 6,3$  mm / 0.24". The fuses are accessible from the machine rear, fig.3., pos.7.

## 6. TROUBLESHOOTING AIDS

### 6.1. ERROR HANDLING

The timer allows the full control of the washing machine. When an error occurs then automatically the machine will go over to a safe state. With the diagnostic program you can determine the problem (See „Programming manual“). This program will test all the functions of the washing machine.

If a failure occurs then the computer will display a diagnostic message. The message is a number that correspond with a typical problem.

If a failure occurs and the timer gives no message you can consult chapter 6.2.

### 6.2. PROBLEM CHECK LIST

Problem	Cause	Solving the problem
When the power is switched on : the display is not lighting up  Remark : The display must always light up when the power connector is connected to the power board (EPROM with software must be implemented)	<ul style="list-style-type: none"> <li>• no external power</li> <li>• the emergency button is activated</li> <li>• the power connector is not connected on the board</li> <li>• the power connector is inverse connected</li> <li>• the fuse on the PWR board has jumped</li> <li>• the input connector is disconnected</li> <li>• the EPROM that contains the software is not implemented</li> </ul>	<ul style="list-style-type: none"> <li>• verify the external tension of the machine</li> <li>• deactivate the emergency button</li> <li>• connect the power connector</li> <li>• check the wiring and connect the connector as it must be</li> <li>• if the transformer is deformed replace the PWR board</li> <li>Check the wiring and the tension at the power Connector</li> <li>If the transformer is still OK change the Fuse</li> <li>• if the display is lighting up: verify that the input signals or the + 16 V signal are not touching the cabinet</li> <li>• put the right EPROM with software into the socket on the board.</li> </ul>
The machine is not starting up when the start button is pressed.	<ul style="list-style-type: none"> <li>• the key switch stands in Program mode</li> <li>• the correct amount of coins is not inserted</li> <li>• the door is not closed properly</li> </ul>	<ul style="list-style-type: none"> <li>• set the Key switch to Run mode</li> <li>• the start button must be pressed when 00 is flashing on the lower display</li> <li>• close the door</li> </ul>
Coins are inserted but the displayed program price is not counting down	<ul style="list-style-type: none"> <li>• the micro contact mounted on the coin drop is not functional</li> <li>• the optocoupler mounted on the coindrop is not functional</li> <li>• check the wiring to the coindrop</li> <li>• verify if you have entered a coin value in the u-submenu for the corresponding coindrop</li> </ul>	<ul style="list-style-type: none"> <li>• verify the well functioning of the micro contact of the coindrop : positive pulses should be generated</li> <li>• verify the well functioning of the optocoupler positive pulses should be generated</li> <li>• if the wiring is broken: repair the wiring</li> <li>• insert the correct coin value in the u-submenu</li> </ul>
Coin drop is accepting coins but does not start the washer	<ul style="list-style-type: none"> <li>• the start button is not pushed after the amount is flashing on '00'</li> <li>• the right amount is not reached</li> <li>• the door is not closed properly</li> </ul>	<ul style="list-style-type: none"> <li>• push the start button</li> <li>• Put the right amount in the coindrop</li> <li>• close the door</li> </ul>
The machine is not responding on pressing the keyboard buttons	<ul style="list-style-type: none"> <li>• the key switch is not functional (no dot is displayed when switching in Program mode)</li> <li>• the START button is not functional (the key switch stands in Program mode)</li> <li>• the SET button is not functional (the key switch stands in Run mode)</li> <li>• no button is functional and the key switch is in the right position</li> </ul>	<ul style="list-style-type: none"> <li>• check if the input connector A is well connected and check the wiring between the input connector and the keyswitch</li> <li>• set the Key switch to Run mode</li> <li>• set the Key switch to Program mode</li> <li>• check if the connector K of the keyboard is well connected</li> </ul>
The dot to indicate that the software is in program mode can not be enabled or disabled	<ul style="list-style-type: none"> <li>• the key switch is not functional</li> </ul>	<ul style="list-style-type: none"> <li>• check if the input connector A is well connected and check the wiring between the input connector and the keyswitch</li> </ul>

Problem	Cause	Solving the problem
	<ul style="list-style-type: none"> <li>the infrared key is not functional</li> </ul>	<ul style="list-style-type: none"> <li>set the menu-item, Ir = On use the key switch at a distance less than 0,5 meter and in front of check the battery (the LED of the infrared key is eluminated when the button is pressed)</li> </ul>
The machine is not behaving as expected	<ul style="list-style-type: none"> <li>if the wrong machine type is selected the wrong outputs will be activated</li> <li>the suspension is not working, the shock absorbers are cold</li> </ul>	<ul style="list-style-type: none"> <li>check if the right machine type is selected in the S-submenu</li> <li>change shock absorbers or springs</li> </ul>
A program is started, but the outputs are not activated	<ul style="list-style-type: none"> <li>check if connector R and Q are connected</li> <li>check if connector R and Q are not inverted</li> </ul>	<ul style="list-style-type: none"> <li>connect the connector at the correct position</li> <li>Pin Q10 must be supplied with 220Vac when the door is closed</li> </ul>
Dashes are displayed and on the lower display a counter is counting down	<ul style="list-style-type: none"> <li>this is a wait state caused by a power interruption or a safety sequence at the end of the process</li> </ul>	<ul style="list-style-type: none"> <li>wait until the counter has reached 0</li> <li>do not switch of/on the power again as you will restart the counter</li> </ul>
Wrong water level (the water level sensor must not be calibrated)	<ul style="list-style-type: none"> <li>check if the programmed water levels in the P-submenu are the correct ones</li> <li>check if the right machine type is selected in the S-submenu</li> <li>you have changed the machine type but the standard water levels are not changed</li> </ul>	<ul style="list-style-type: none"> <li>set the right water levels</li> <li>select the right machine type in the S-submenu</li> <li>the standard water levels can only be reinitialised by changing the program Set in the S-submenu : standard wash</li> </ul>
The process is stopped and there is still water in the drum	<ul style="list-style-type: none"> <li>you can start a new program and advance the program to the tumble sequence</li> <li>the drain is stopped up</li> <li>the drain valve is blocked</li> </ul>	<ul style="list-style-type: none"> <li>advancing a program : turn the key switch in program-mode and press the start button</li> </ul> <p>When the water is drained you can open the door</p> <ul style="list-style-type: none"> <li>clean the drain</li> <li>clean the drain valve</li> </ul>
The water does not stay in the machine	<ul style="list-style-type: none"> <li>the drain valve is not closing</li> <li>leakage of rubber between tub and drain valve</li> </ul>	<ul style="list-style-type: none"> <li>check wiring from drain valve</li> <li>change drain valve when broken</li> <li>Replace rubber piece</li> </ul>
Machine is not filling or filling time is too long	<ul style="list-style-type: none"> <li>inlet taps are closed</li> <li>water pressure too low</li> <li>water is blocked somewhere</li> <li>inlet valve filter is blocked</li> <li>inlet valve is damaged</li> </ul>	<ul style="list-style-type: none"> <li>open inlet taps</li> <li>look at your supply installation</li> <li>check for kinks in the inlet hose</li> <li>close water inlet and clean filter</li> <li>replace inlet valve</li> </ul>
Machine is filling with water in the 'OFF' position	<ul style="list-style-type: none"> <li>inlet valve is damaged</li> </ul>	<ul style="list-style-type: none"> <li>replace inlet valve</li> </ul>
Machine is leaking	<ul style="list-style-type: none"> <li>clamps of hoses are not tightened</li> <li>some hose is damaged</li> <li>sealing is damaged</li> <li>supply and drain hoses are not connected properly</li> </ul>	<ul style="list-style-type: none"> <li>tighten the clamps</li> <li>replace the hose</li> <li>change the sealing</li> <li>connect the hoses properly</li> </ul>
There is a door seal leakage	<ul style="list-style-type: none"> <li>the door rubber seal is damaged</li> <li>insufficient door pressure</li> </ul>	<ul style="list-style-type: none"> <li>change the door rubber seal</li> <li>remove spacers from behind the hinges</li> </ul>
There is no warm water in the wash sequence	<ul style="list-style-type: none"> <li>program is not correct</li> <li>the hoses are not correct connected</li> <li>incoming supply is not warm</li> </ul>	<ul style="list-style-type: none"> <li>change program to correct temperature</li> <li>connect the supply hoses correctly, the incoming supply to the warm water inlet valve.</li> <li>use warm water supply, check your warm water installation</li> </ul>
The heating time is too long	<ul style="list-style-type: none"> <li>heating elements are defective</li> <li>wiring is damaged or wrong</li> <li>calcium sediments cover the heating elements</li> </ul>	<ul style="list-style-type: none"> <li>change heating elements</li> <li>check, replace or repair wiring</li> <li>clean or replace the heating elements</li> </ul>
There is too much vibration during extracting	<ul style="list-style-type: none"> <li>bolts of cabinet and reinforcements are not fixed properly</li> <li>vibration switch is not correct installed</li> </ul>	<ul style="list-style-type: none"> <li>tighten the bolts</li> <li>reinstall vibration switch</li> </ul>

Problem	Cause	Solving the problem
	<ul style="list-style-type: none"> <li>the suspension is damaged, the shock absorbers are cold</li> </ul>	<ul style="list-style-type: none"> <li>change the shock absorbers</li> </ul>
Door fails to open	<ul style="list-style-type: none"> <li>a fault is occurred</li> <li>power is off, safety is working</li> <li>power is off, after a couple of minutes waiting the door is jammed</li> </ul>	<ul style="list-style-type: none"> <li>wait until the counter has reached '0'</li> <li>wait until safety device is inactive</li> <li>you can always open the door by the mechanical override, be sure the machine is stopped spinning and there is no hot water anymore in the tub.</li> </ul>
Machine will not spin	<ul style="list-style-type: none"> <li>a fault in the program is made</li> <li>wiring is damaged</li> <li>V-belts are broken</li> <li>Motor is broken</li> <li>Frequency converter is damaged</li> </ul>	<ul style="list-style-type: none"> <li>check the program</li> <li>check and replace wiring</li> <li>replace the V-belts</li> <li>repair or change motor</li> <li>repair or replace the frequency converter</li> </ul>
There is a lack of steam	<ul style="list-style-type: none"> <li>leak in steam system</li> <li>too many condense in the steam system</li> <li>too much machines on 1 supply</li> </ul>	<ul style="list-style-type: none"> <li>repair the leakage</li> <li>Remove the condense</li> <li>Disconnect other machines or increase steam capacity</li> </ul>

### 6.3. DOOR FAILS TO OPEN



#### **WARNING!**

**NEVER OPEN THE DOOR WHILE DRUM IS STILL RUNNING**

**NEVER OPEN THE DOOR IF TOO HOT IS INDICATED! RISK OF BURN OR SCALD INJURIES !**

**NEVER OPEN THE DOOR IF THE MACHINE PARTS FEELS TOO WARM**

**NEVER OPEN THE DOOR IF THE WATER IS TOO HOT**

**IF THE WASHING WATER WAS NOT DRAINED, BY OPEN THE DOOR, IT WILL RUN OUT**

In case of a power failure or an emergency situation, proceed as follows:

1. Verify if all condition are present to safely open the door
2. Remove service panel
3. Find the cord of emergency door opening on the left side. Pull on it gently but firm
4. If a light click is heard, the lock went to open position
5. Open the door if all safety conditions are fulfilled
6. Put the service panel back on his place and secure it again

## 7. LIST OF RECOMMENDED SPARE PARTS

Find more detailed information in the spare part manual for individual machines.

PRI 340 055 051	Drain valve 3" 230V
PRI 340 020 035	2-way water inlet valve
PRI 340 030 038	3-way water inlet valve
273 112 994 945	Rubber for door glass, applicable for 16kg / 35lb
PRI 505 000 045	Rubber for door glass, applicable for 6kg / 13lb, 7kg / 18lb, 10kg / 25lb
PRI 610 011 077	Microswitch 83.161.3
PRI 530 030 012	Rubber tub housing, applicable for 16kg / 35lb
PRI 530 020 012	Rubber tub housing, applicable for 6kg / 13lb, 7kg / 18lb, 10kg / 25lb
PRI 530 030 013	Ring, applicable for 16kg / 35lb
PRI 530 020 013	Ring, applicable for 6kg / 13lb, 7kg / 18lb, 10kg / 25lb
514 038	Contactor of frequency inverter LC1-D09
514 038	Heating contactor, LC1-D09, 6kW / from 200 to 440V, 9kW / 400V, 12kW / 400V
514 039	Heating contactor, LC1-D12, 9kW / 230V
514 042	Heating contactor, LC1-D18, 18kW / 400V
PRI 345 002 019	Heating contactor, LC1-D32, 12kW- 18kW / 230V
345 805 163 032	Fuse 1A 32x6.3
PRI 401 022 021	Fuse 0,5A, 200-208V / 440V
PRI 342 000 011	Heating element 2000W 230V, 6kW, applicable for 6kg / 13lb, 7kg / 18lb, 10kg / 25lb
PRI 342 000 028	Heating element 3000W 230V, 9kW, applicable for 6kg / 13lb, 7kg / 18lb, 10kg / 25lb
PRI 551 002 217	Heating element 2x2000W 230V, 12kW, applicable for 16kg / 35lb
PRI 342 000 032	Heating element 2x3000W 230V, 9kW, 18kW, applicable for 16kg / 35lb
PRI 342 000 040	Heating element 2x1500W 230V, 9kW, 440V, app. for 6kg/13lb, 7kg/18lb, 10kg/25lb
PRI 342 000 031	Heating element 2x2000W 230V, 12kW, applicable for 6kg/13lb, 7kg/18lb, 10kg/25lb
PRI 607 000 093	Belt XPZ 1562, applicable for 7kg / 18lb
101 175	Belt XPZ 1587, applicable for 6kg / 13lb, 10kg / 25lb
PRI 607 000 110	Belt XPZ 1512
PRI 320 000 012	Motor 0.75 kW, applicable for 6kg / 13lb, 7kg / 18lb
PRI 320 000 013	Motor 1.5 kW, applicable for 10kg / 25lb
PRI 320 000 009	Motor 2.2 kW, applicable for 16kg / 35lb
101 872	Frequency inverter 0.75kW, 200-240V, 380-480V 3AC + N, app. for 6kg / 13lb, 7kg / 18lb
101 871	Frequency inverter 0.75kW, 380-480V, without N, applicable for 6kg / 13lb, 7kg / 18lb
101 822	Frequency inverter 1.5kW, 200-240V, 380-480V 3AC + N, applicable for 10kg / 25lb
101 824	Frequency inverter 1.5kW, 380-480V, without N, applicable for 10kg / 25lb
101 823	Frequency inverter 2.2kW, 200-240V, 380-480V 3AC + N, applicable for 16kg / 35lb
101 825	Frequency inverter 2.2kW, 380-480V without N, applicable for 16kg / 35lb
PRI 348 000 123	Keyboard MCB EC, grey
100 052	Keyboard MCB EC, black
100 521	Keyboard MCB FC, black
100 629	Keyboard MCB FC, grey
520 681	Keyboard MCG FC grey
525 909	Keyboard MCG FC black
516 694	Electronic Controller MCB EC
516 696	Electronic Controller MCB FC
516 697	Electronic Controller MCG EC
516 698	Electronic Controller MCG FC
516814	9-Pole connector for liquid soap supply



## 8. PUTTING THE MACHINE OUT OF SERVICE

### 8.1. DISCONNECTING THE MACHINE

1. Disconnect the electric power supply from the washer.
2. Make sure that the power supply, water supply, drain and in case of steam, the steam supply, are all disconnected.
3. Remove the electrical cable, drain hose, water hoses and in case of steam, the stream line from the washer.
4. Insulate the outer power supply cables.
5. Mark the machine „OUT OF SERVICE“.
6. Remove the door completely from the washer to prevent that somebody locks in.
7. Unscrew all nuts (bolts) which attach the washer to the foundation.
8. Place the washer in a safe place for further handling.

### 8.2. MACHINE LIQUIDATION

For the machine liquidation after finishing its usage period, respect the following instructions:

#### 8.2.1. POSSIBILITY OF THE MACHINE LIQUIDATION BY THE SPECIALIZED COMPANY

Machine liquidation is executed by the competent company which respects material sorting and conditions for the waste liquidation.

#### 8.2.2. POSSIBILITY OF THE MACHINE LIQUIDATION BY OWN POTENTIAL

It is necessary to divide material into the following groups :

- |   |                    |
|---|--------------------|
| 1. Plates of printed circuits incl. LCD.....  | waste group 160215 |
| 2. Electrolytic capacitors.....   | waste group 160215 |
| 3. Cabling .....  | waste group 160216 |
| 4. Other electrical components; motor, frequency converter,<br>contactors, heating elements ..... | waste group 160216 |
| 5. Plastics .....   | waste group 191204 |
| 6. Rubber .....   | waste group 191204 |
| 7. Metal .....  | waste group 160117 |
| 8. Hubs with bearings.....  | waste group 170410 |

Offer the sorted waste to the company which is competent for further treatment.

#### REMARKS:

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# IMPORTANT !

**MACHINE TYPE:**

**PROGRAMMER:**

- ELECTRONIC TIMER MCB EC
- ELECTRONIC TIMER MCB FC
- ELECTRONIC TIMER MCG FC

**INSTALLATION DATE:**

**INSTALLATION  
CARRIED OUT BY:**

**SERIAL NUMBER:**

**ELECTRICAL DETAILS:**

**.....VOLT.....PHASE.....HZ**

**NOTE:**

ANY CONTACTS WITH YOUR DEALER REGARDING  
MACHINE SAFETY, OR SPARE PARTS, MUST INCLUDE  
THE ABOVE IDENTIFICATION.

MAKE CERTAIN TO KEEP THIS MANUAL IN A SECURE  
PLACE FOR FUTURE REFERENCE.

**DEALER:**





# MFS 18-25-35

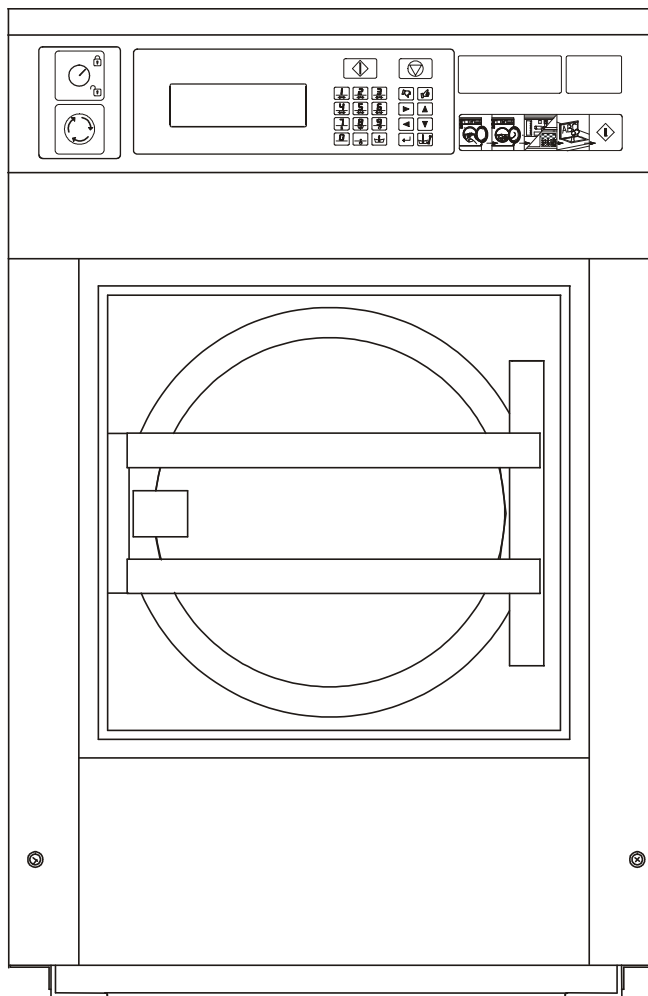
INSTALLATION AND MAINTENANCE MANUAL

SOFT MOUNTED WASHER EXTRACTOR

PUBLICATION DATE: 28 Jun 2007

WITH ELECTRONIC PROGRAMMER

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