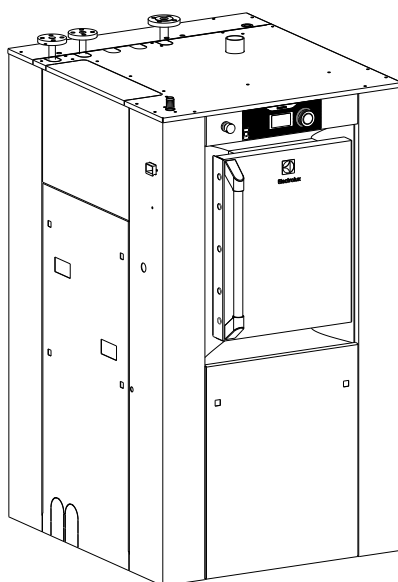


Installation manual

Washer-extractors

WB6–20 — WB6–27 — WB6–35 Clean Room



Electrolux
PROFESSIONAL

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The manufacturer reserves the right to make changes to design and component specifications.

1 Safety precautions



This machine should be installed in conformance to the health and safety regulations, and only used in a sufficiently aerated area.

Check the instructions before installing or using the machine.

Before any use, it is compulsory to read the instruction handbook.

Users must have learnt how the machine operates.

This device must not be installed in places accessible to the public.

The machine is only intended for water-wash use.

Do not allow minors to use the machine.

Do not hose down the machine with water.

Only use detergent intended for water-wash of textiles. Never use dry cleaning agents.

The machine's door lock must under no circumstances be bypassed.

Servicing shall be carried out only by authorized personnel.

If the machine develops a fault, this must be reported to the person in charge as soon as possible. This is important both for your safety and that of others.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety and understand the hazards involved.

Do not modify this appliance.

Only authorized spare parts shall be used.

It is forbidden to wash textiles soaked with solvents.

In order to prevent damage to the electronics (and other parts) that may occur as the result of condensation, the machine should be placed in room temperature for 24 hours before being used for the first time.

In case of a gas heated machine, do not assemble the machine on premises containing a dry cleaning machines or other similar machines.

Make sure not to over load the machine.

Please wash only items offering appropriate distribution inside the drum. Do not wash items such as mattresses or shoes. Call our technical departments before washing nonstandard items. Noncompliance with these instructions may void the manufacturer's guarantee in case of abuse of the washer-extractor.



IMPORTANT



Never try to open the outer drum door before the complete stop of the cage.



CAUTION



Disconnect all the sources of energy before any intervention on the machine.



The machines comply with the European Directive EMC (Electromagnetic Compatibility). They have been tested in laboratory and approved as such. It is so prohibited to add wires or nonshielded electric cables in the cabinets except for option and executed by qualified technician, strands or cables' troughs.

Considering that the volume of the outer drum is superior to 150 litres, the standard kept for the electric part is the IN 60204.



Never use the main switch as an emergency stop. Use it only when the machine does not work in progress. Instead of that, use the emergency stop buttons in both sides of the machine.



CAUTION



The machine can work without the protective casing when the electric supply is not cut off.

Interlock the main isolating switch with a padlock.

Close the steam or gas inlet valves.



CAUTION



With AIDO(Automatic Inner Door Opening) option, Take care of the disc of the opening system on your side. Risk of cutting with the edge of the disc!!

Take care also of the locking system on your side; risk of cutting with the edge of the plate!!



CAUTION



When you put your hands into the drum, take care of the edge of the outer drum doors on your sides. Risk of cutting with the edge of the metal plate!!



CAUTION



In case of barrier washing machine (two outer doors) , make sure to have more pressure in the clean linen area (unloading side) than in the dirty linen area (loading side) to be sure to not suck bacteria from the dirty side to the clean side.



IMPORTANT



Ensure that the machine is not loaded beyond its nominal capacity (see "Specific load" in the instruction booklet's technical characteristics).

An excessive load has consequences for the lifetime of the machine's organs, as follows:

- Rapid destruction of the suspension elements (springs, shock absorbers);
- Excessive fatigue of motorization elements (engine, belt);
- Rapid reduction of lifetime of drum bearings (rolling bearings);
- Opening and destruction of drum doors and tank doors during oil dehydration.

This is particularly important for your safety and that of others.

The consequence is an immediate cancellation of the warranty.



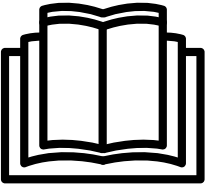
THINK OF THE ENVIRONMENT!



The use and handling of chemical products such as detergent, chlorine, acids, descaling agents, etc may create hazards for health and environment ; the following precautions should be taken:

- Do not breathe the dusts or steam;
- Avoid contact with skin or eyes (may cause burns);
- In case of important spillage, wear a protecting mask, gloves, and eye protectors;
- Handle with care;
- Consult the use and first aid advice on the packing;
- Do not dispose pure products in the environment.

1.1 Symbols

	Caution. An exclamation mark inside an equilateral triangle offers the user important advice about usage, servicing and hazardous conditions.
	Caution, presence of dangerous current. A flash of lightning with an arrow at its end displayed inside an equilateral triangle, warns the user about the presence of uninsulated "dangerous current" sufficient in intensity to cause electrocution.
	Caution, hot surface. This symbol warns the user of the presence of high temperatures which could cause severe burns. Some surfaces can reach close to 200 °C (392 °F).
	Read the instructions before using the machine.
	Warning, do not operate with casing removed. This symbol warns the user that there are mechanisms inside the machine which can be dangerous. The protective housing must be in place during use.

1.2 Personal protection equipment

Given below is a summary table of the Personal Protection Equipment (PPE) to be used during the various phases of the machine's service life.

Phase	Protection garments 	Safety footwear 	Gloves 	Glasses 	Ear protectors 	Mask 	Safety helmet 
Transport		X	O				
Handling		X	O				
Unpacking		X	O				
Installation		X	O				
Normal use	X	X	X	X			
Adjustments	O	X					
Routine cleaning	O	X	X	O			
Extraordinary cleaning	O	X	X	O			
Maintenance	O	X	O				
Dismantling	O	X	O				
Scrapping	O	X	O				

Legend : X : PPE required ; O : PPE available or to be used if necessary.

Normal use : Safety footwear must be defined for a use on a wet floor. And use glasses and gloves to manipulate chemical products.

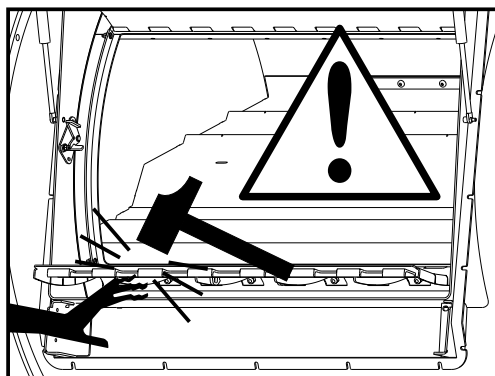
1.3 Preliminary instructions



WARNING



Risk of jamming when opening the lower door for unloading



WARNING



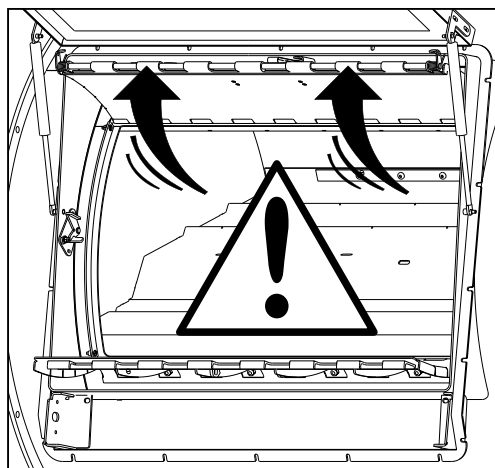
Risk of jamming with trolley and lower door when opening (if trolley height = 850mm)



WARNING



Risk of the upper door being raised quickly on loading



WARNING



After the installation, Send back the commissioning form ,signed document, to Electroluxprofessional to validate the warranty of the product.

1.4 Data plate explanation

In this chapter, you will find the explanation of the different data input on the data plate of your product.

- Commercial name : Usual name of your product (i.e. WB6–20).
- Type : Type of your product (you have the same on the Declaration of Conformity CE if delivered with CE certification).
- Model : Model of your product (can be different of commercial name) (i.e WSBA6180H17 for commercial name WB6–20) .
- Serial Number : serial number of your product which indicate the week of the production of your product (the first 4 digit indicate the year and the week of production) and the plant where it has been produced (finish by 17)
- Product N°: Product number of your product.
- Date : The date of the end of manufacture of your product
- Capacity : for washer product, the maximum loaded weight of linen for your product (in kg)(i.e. 20 kg for WB6–20)
- Some technical data depending of the heating of your product : see list below :
- Some technical data depending of the voltage ordered.
the voltage looks like that 380–415V 3 50–60Hz
under this, you find the protection request for your product (i.e 16 A)
- Different logos are available on your data plate .
They represent the different certification obtained for your product
CE, EAC
ETL intertek for USA and Canada countries
- QR code : when you scan it, you will be able to obtain the full documentation for your product (Complete installation and user manuals)
- Standardized protection index of your product : IP24D

Electric heating :

- P.Max : maximum power installed of your product
- Power of the motorization in kW and its isolation class (F) .
- Heating power in W .

Commercial name : WHB5500H

Product N° : 9892420151

Serial N° : 3232000817

Type : WS....

Date : 20/07/2023



Electrolux Professional Laundry Systems France 10430 Rosières-près-Troyes - FRANCE



Commercial name : WHB5500H

Type : WS....

Model : WSB5500H17

Serial N° : 3232000817

Product N° : 9892420151

Capacity : 50 kg

P.Max : 42000 W

- kW Isol.Class. : -

36000 W

380-415 V ~ 3 50-60 Hz

63 A



For safety reasons use only original spare parts.



Date : 20/07/2023

Made in France by
Electrolux Professional Laundry Systems France
10430 Rosières-près-Troyes - FRANCE



32101642E

Commercial name : WHB5500H

Product N° : 9892420151

Serial N° : 3232000817

Type : WS....

Date : 20/07/2023



Electrolux Professional Laundry Systems France 10430 Rosières-près-Troyes - FRANCE



Indirect steam heating :

Left side

- P.Max : maximum power installed of your product
- Power of the motorization in kW and its isolation class (F) .
- Heating power in W .

Right side

- P.Maxi. (kPa) maximum pressure

For additional information, do not hesitate to consult with our quality department.

Commercial name : WHB5500H

Product N° : 9898420006

Serial N° : 1502002317

Type : WS....

Date : 11/02/2022

Electrolux Professional Laundry Systems France 10430 Rosières-près-Troyes - FRANCE



Commercial name : WHB5500H

Type : WS....

Model : WSB5500H17

Serial N° : 1502002317

Product N° : 9898420006

Capacity : 50 kg

P.Max : 6000 W

P. maxi. 600 kPa

5.5 kW Isol.Class. : F

380-415 V 3 50-60 Hz

16 A

For safety reasons use only original spare parts.



IP24D

Date : 11/02/2022

Made in France by
Electrolux Professional Laundry Systems France
10430 Rosières-près-Troyes - FRANCE

32101642E

Commercial name : WHB5500H

Product N° : 9898420006

Serial N° : 1502002317

Type : WS....

Date : 11/02/2022

Electrolux Professional Laundry Systems France 10430 Rosières-près-Troyes - FRANCE



2 Environmental information

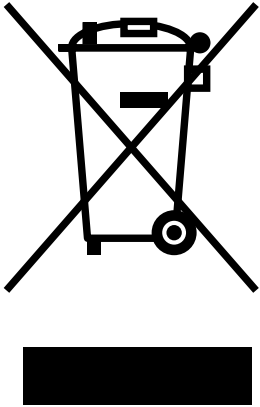
Concerned by providing the end user with useful and necessary environmental information, we wish to precise:

- Data about energetic consumptions, wastes (atmospheric and liquid) and sound level are indicated in the paragraph «Technical characteristics».
- Foreseeing its recycling, this machine is fully dismantable.
- This machine is free from any asbestos.
- In conformity with French regulations.
- In the other countries, we recommend that you comply with the legislation in force in the country where the machine is installed.
- In France, all owners of packing waste producing a weekly volume below 1100 litres can forward these to the local collection and treatment department. If exceeding this volume, the owners of packing waste will ensure their valuation by reuse, recycling or, any other action aiming at producing reusable materials or energy... or provide them contractually to a certified intermediate authorised to transport, trade or broke waste.

Therefore, this forbid:

- land filling raw waste;
- open air burning or incineration without energy collection.
- Packaging of our machines are according with the french legislation related to environment requirements.

For additional information, do not hesitate to consult with our environmental department.



Scrapping of machine

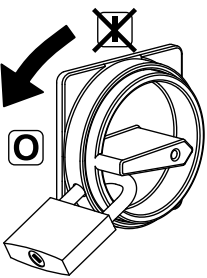
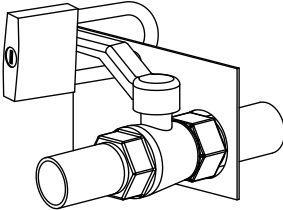
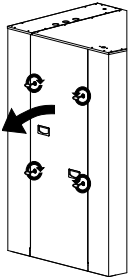
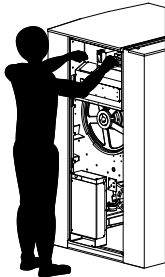
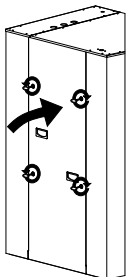
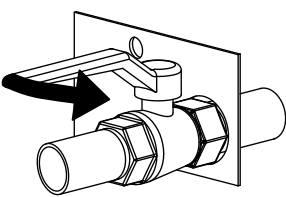
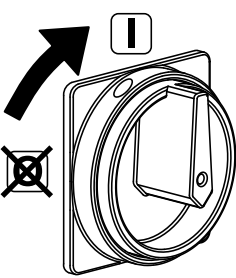
When the machine is no longer to be used, it must be submitted to a recycling facility for destruction.

The majority of the components in the machine can be reused, but it also contains other materials that must be taken care of in the correct way.

Therefore, never mix the machine or its parts with domestic waste as this may lead to health hazards or damage to the environment.

3 Locking and tagging procedure

A red insert at the beginning of this instruction handbook schematically shows the locking and tagging procedure described below. If you wish, you can detach this insert and display it close to the machine to remind maintenance personnel of the safety instructions.

1		Always respect items 2, 3 and 4 carefully before doing any repair or maintenance work on the machine.		
2		Put the main switch to Off and lock the handle with a padlock in one of the three holes provided for this purpose.		Close the stop valves for the other supplies (steam, gas, thermal fluid, compressed air) to stop and lock their handle with a padlock.
3		Open the fixed protectors (casings, doors) with the key provided or a special tool.		Do the maintenance.
4		Close and carefully lock the fixed protectors.		
5			Unlock the stop valves and the main switch.	

4 Handling

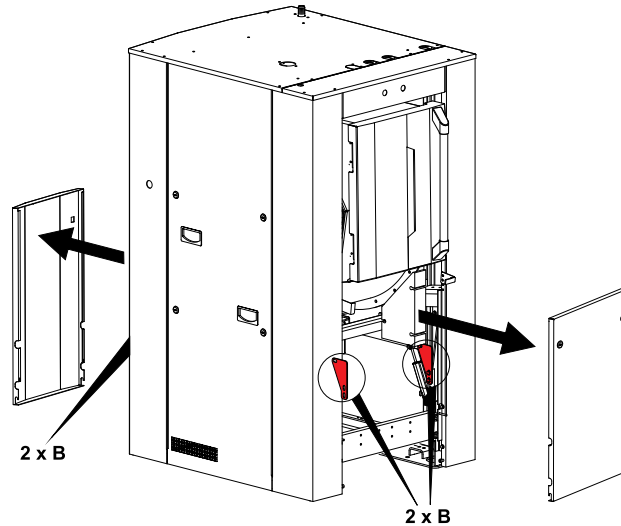


Important



It is obligatory that all these operations are undertaken by handling specialists.

Before any handling, check that the four transport locks fitted are still in place and well-tightened. To do so, remove the front and rear casings and check presence of four locks (B).



4.1 Lifting with a fork-lift truck

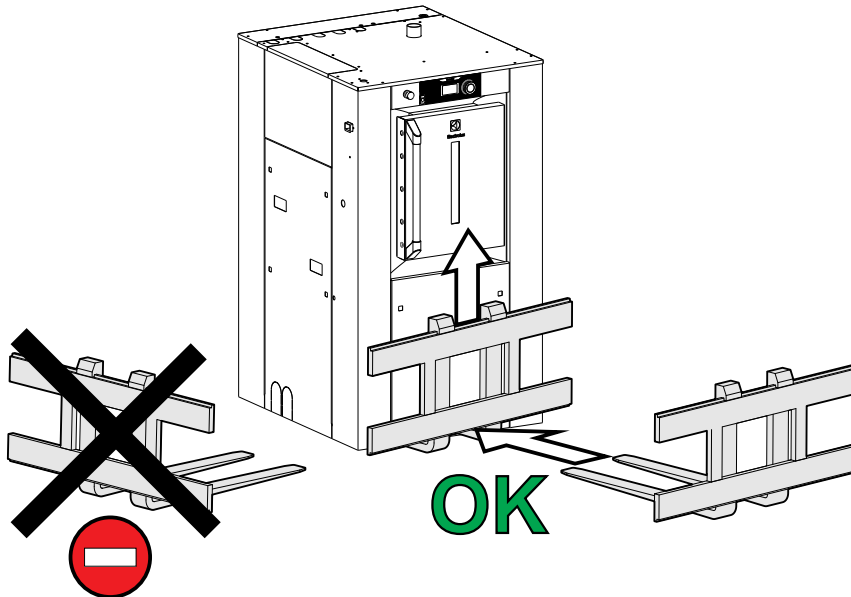


Warning



You should never handle the machine in its longitudinal side (any other than shown on the drawing below) with a fork-lift truck. Important risk of parts deterioration for those fixed under the machine.

This can be carried out from the front or back, at the centre of the machine.



4.2 Lifting with handlings straps

Lifting in that case can only be done with handling straps (minimum capacity 1000 daN / 2200 lb) which bear weight of the machine.

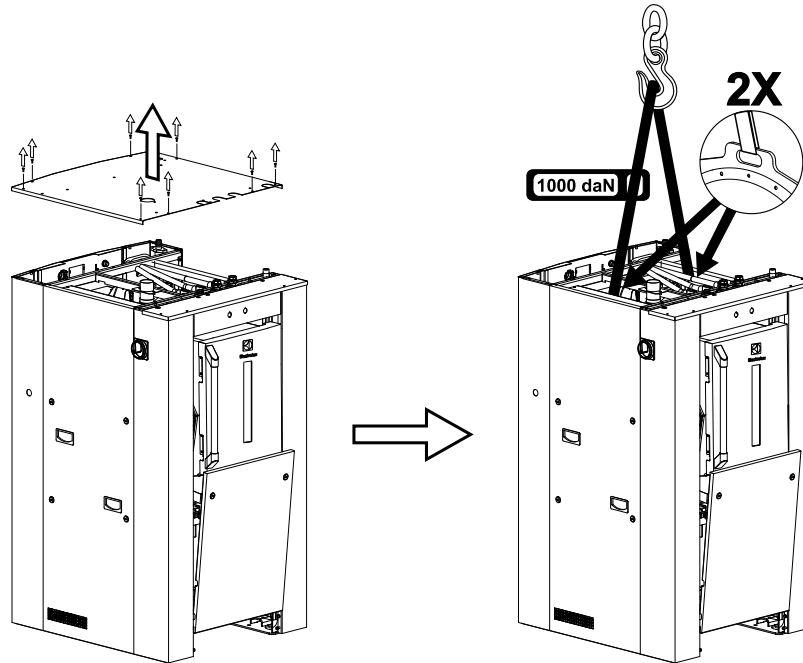
Remove the top cover and pass the straps in the lifting holes.



Caution



Make sure to place the straps correctly to avoid any bending of parts of the machine.



Caution



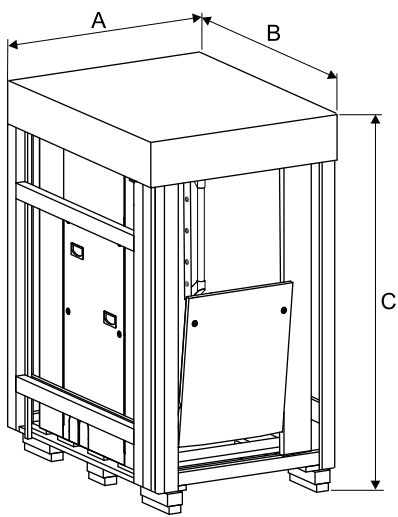
In order to avoid any bending of casings, you should never climb and stand on top of the machine.



5 Packing-Weight

5.1 Packing

Packing dimensions in mm/in	Size A	Size B	Size C
Washer extractor type WB6–20	1065/41.92	1390/54.72	1830/72.04
Washer extractor type WB6–27	1220/48.03	1390/54.72	1830/72.04
Washer extractor type WB6–35	1440/56.69	1390/54.72	1830/72.04



5.2 Weight

Weight in kg/lb (machine + crate)*	
Washer extractor type WB6-20	700/1543
Washer extractor type WB6-27	740/1631
Washer extractor type WB6-35	800/1764

* Precise weight depends on accessories fitted.

6 Technical characteristics

6.1 Technical data

	Units	WB6-20	WB6-27	WB6-35
Drum diameter	mm	770	770	770
Drum length	mm	474	585	805
Drum volume	litre	189	250	350
Opening inner drum doors (LxH)	mm	350x400	450x400	600x400
Opening outer drum door (LxH)	mm	365x587	468x587	658x587
G-factor, max.		350	350	350
Specific load	kg	20	27	35
Floor area	m ²	1.12	1.29	1.56
Max. unbalance	kg	2.5	3.6	4.8
Net weight	kg	670*	710*	770*
Weight loaded (high level)	daN	796	885	1015
Water volume, washing (low level)	l	54	75	105
Water volume, washing (high level)	l	108	150	210
Heat loss		3 % of installed heating power		

* Precise weight depends on accessories fitted.

6.2 Connections

Water	Units	WB6-20	WB6-27	WB6-35
Bath inlet (water + detergent)	mm-BSP	DN20-3/4"	DN20-3/4"	DN20-3/4"
Capacity at 250 kPa	l/min	70	70	70
Functioning limits for water valve	kPa	50-300	50-300	50-300
Water consumption for a wash program ¹	l	213	308	426

Drain	Units	WB6-20	WB6-27	WB6-35
Drain connection, outer ø	mm	75	75	75
Maximum drain flow rate	l/min	240	240	240
Waste water collector	DN-mm	150	150	150

Air vent	Units	WB6-20	WB6-27	WB6-35
Air vent connection, outer ø	mm	60	60	60

Indirect steam	Units	WB6-20	WB6-27	WB6-35
indirect steam heating	mm-BSP	DN15-1/2"	DN15-1/2"	DN15-1/2"
indirect steam heating return	mm-BSP	DN15-1/2"	DN15-1/2"	DN15-1/2"
Maximum supply pressure	kPa	600	600	600
Installed calorific power	kcal	34400	34400	34400
Average calorific consumption	kcal/h	10500	11500	12500
Inner volume indirect steam	l	1.8	2.29	2.65

1. ISO 93 98-4 standard type B.

Electricity	Units	WB6-20	WB6-27	WB6-35
Supply voltage	V	380/415	380/415	380/415
Frequency	Hz	50/60	50/60	50/60
Electric cable (section)	mm ²	See chapter "Feeder cable section"		
Rated electric power, electric heating	kW	15	19.5	28.8
Rated electric power, indirect steam heating	kW	6	6.2	6.4

Heating	Units	WB6-20	WB6-27	WB6-35
Installed heating power, electric heating	kW	13.5	18	27
Electric consumption for a standardized cycle, electric heating	kWh	11.3	12.7	18.6
Electric consumption for a standardized cycle, indirect steam heating	kWh	0.4	0.45	0.5

Floor load	Units	WB6-20	WB6-27	WB6-35
Frequency of the dynamic force	Hz	15.2	15.2	15.2
Max transmitted floor load	daN	820	878	1012
Max pressure transmitted to floor	kPa	8.82	7.98	7.55

6.3 Dimensions — WB6-20 – WB6-27 – WB6-35

WB6-20

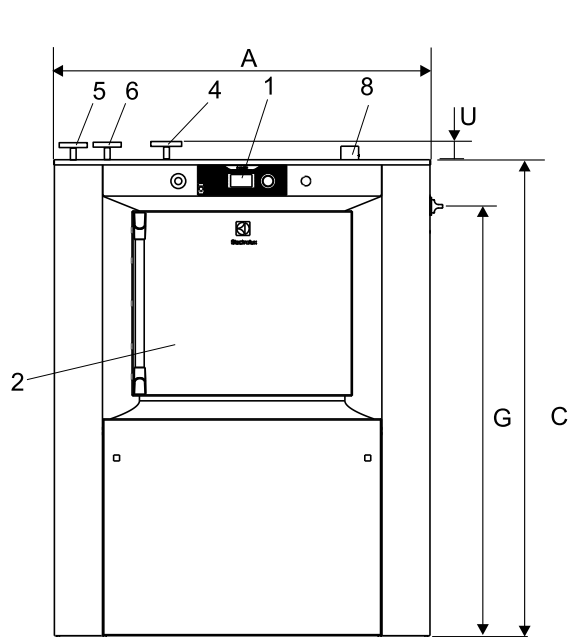
A	B	B1	C	D	E	E1	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
915	1040	1168	1620	830	125	71		1435	175	375		210	150	80	780	360		75	960	410	280	40	60	475	175°

WB6-27

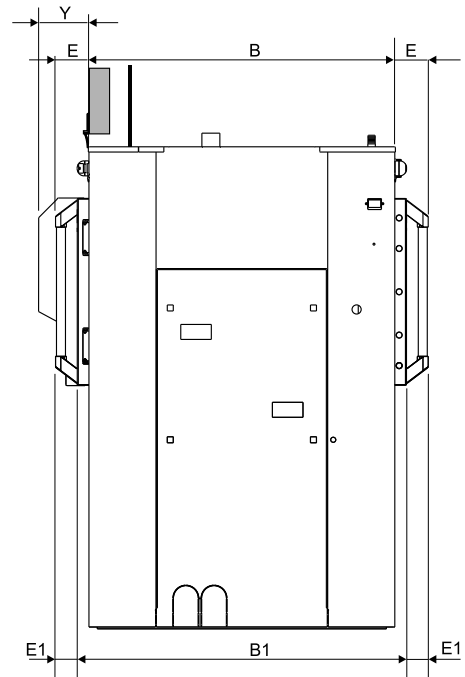
A	B	B1	C	D	E	E1	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
1050	1040	1168	1620	830	125	71		1435	175	375		210	150	80	780	440		75	960	410	280	40	60	575	175°

WB6-35

A	B	B1	C	D	E	E1	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
1270	1040	1168	1620	830	125	71		1435	175	375		210	150	80	780	550		75	960	410	280	40	60	730	175°

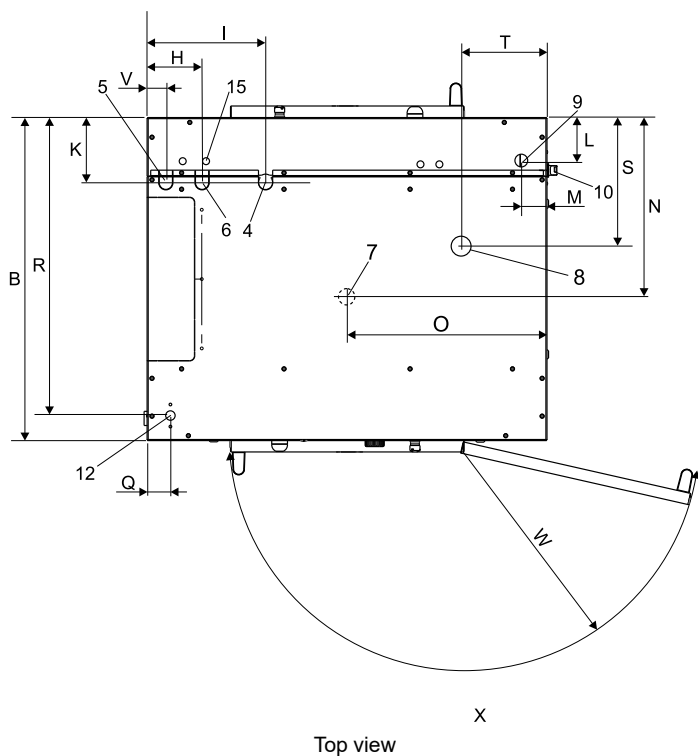
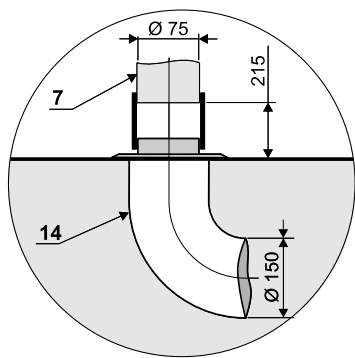
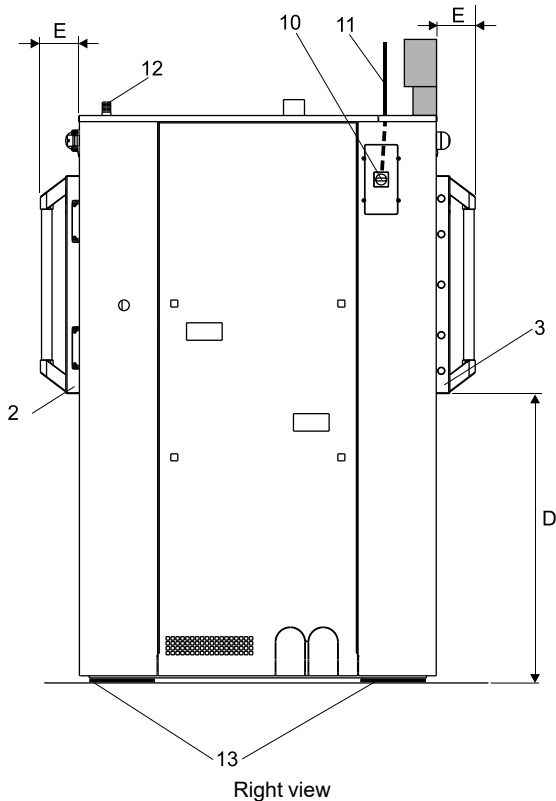
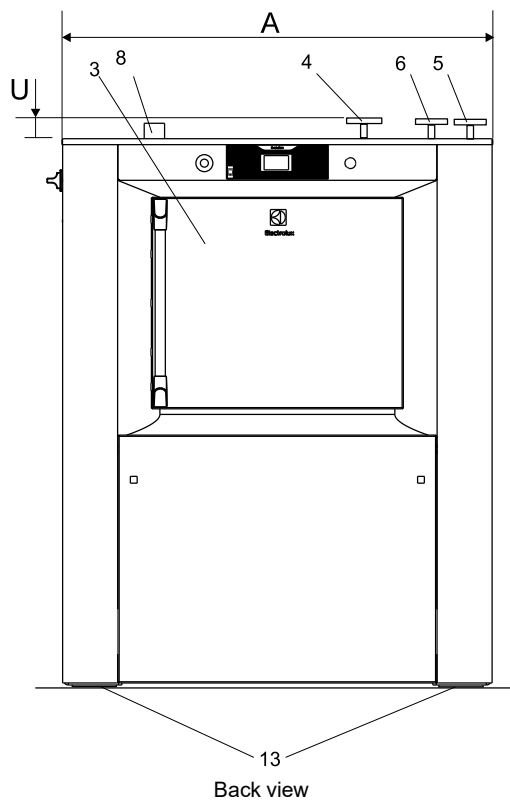


Front view



Left view

1	Control panel	9	Electrical connection
2	Loading door	10	Main switch
3	Unloading door	11	Electric cable
4	Bath Inlet (water + detergents)	12	Liquid detergents inlet
5	Indirect Steam inlet	13	Rubber plate
6	Indirect Steam return	14	Waste water collector
7	Drain connection	15	Compressed air inlet
8	Air vent connection	Y	Option AIDO = 170 mm on left view



7 Sound levels

The sound power level of the machine is determined by using ISO 3747:2012.

According to test code IEC 60704–2–4 the sound power level at extraction and during washing are according to the table:

Wash	dB(A)	67
Extraction	dB(A)	82

8 Working place lighting

The lighting should be designed so as to avoid eye strain for the operator ; it should be uniform without any glare, and should be sufficient to detect any hazards.

The average lighting value on the working place recommended by the clothing industry for inspecting linen is **500 lux**. Whenever possible, the working place should be illuminated by daylight.

9 Supplies

Take the box placed inside of the inner drum.

1. Accessories delivered with each machine
 - 1 instruction handbook + converter handbook
 - 3 keys for casings
 - 1 opening inner drum lever
 - 1 connection bellow $\varnothing$ 60 + 1 collar
 - 1 hose $\varnothing$ 75 mm + 1 collar for drain
 - 1 connection nozzle
 - 4 fixing dowels
 - 4 bolsters (see explanation for the setting)
 - 2 mating flange DN 15 with 2 seals
 - 1 mating flange DN 20 with 1 seal
2. Accessories delivered with each barrier washers
 - 1 rubber seal + aluminium extruded sections
 - 4 flange safety locks (machines with weighing equipment)

10 Mechanical installation

Depending on its destination, the washer extractor is delivered bare or may be placed on a transport pallet and/or packed with plastic film.

In some cases, it may be delivered in a crate, or in maritime packing (wood box).

10.1 Unpacking

Take off the plastic film or remove the machine from his transport pallet.

Please refer to the handling chapter in this instruction handbook for a description of handling operations.



Important



Check that no damage has been caused during transport.

10.2 Installation

The installation must be done by competent technicians in accordance with local codes and regulations. When there are not local codes and regulations, the installation must comply with European standards applicable.

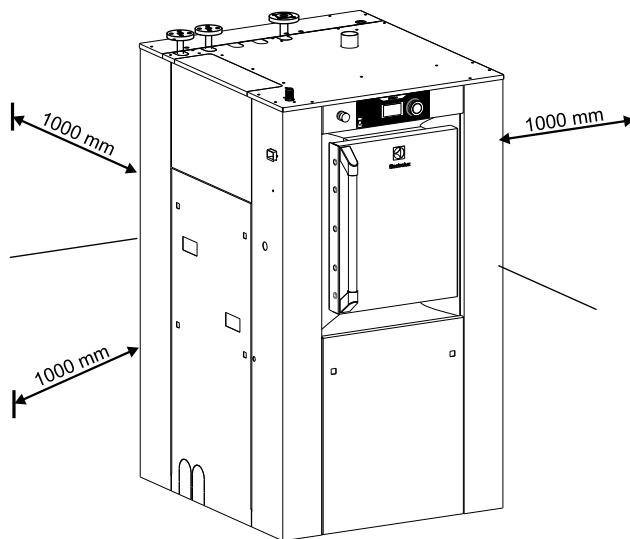
The machine must be installed on a perfectly even surface, strong and horizontal, capable resisting to the efforts shown in the technical characteristics.

Adjustment of the machine by addition of level plate should be avoided.

Control the horizontal level using a water level placed on the machine's sole.

Place the washer extractor so that it is easy for the user and the service technician to do their work.

Leave at least 1 m (40") (according to the recommendation in standard EN 60204) between the machine, a wall or any other machine at the sides.



10.3 Installing the shock absorber plates

Preparation of the ground and the machine.

- Carefully degrease the ground and the machine's base plates.

Positioning the shock absorber plates.

- Place each shock absorber plate (P) at its respective location (see diagram) raising each of the machine's support points in series and taking care to let the plate inside of the base plates.

Commissioning the machine

- Time: before commissioning the machine, each support point must be embedded by being crushed in by the absorber plate's upper layer and the lower layer must have been pushed into the porosity in the ground. The crushing time is 2 hours at an ambient temperature of 18 °C.



Warning



Electrical safety device.

As rubber is a very good electric insulating material, the earthing of the machine is compulsory.

Moving machines sealed with the shock absorber plates

- Moving machines sealed with the shock absorber plates

10.4 Instructions for securing the machine on the ground



Caution



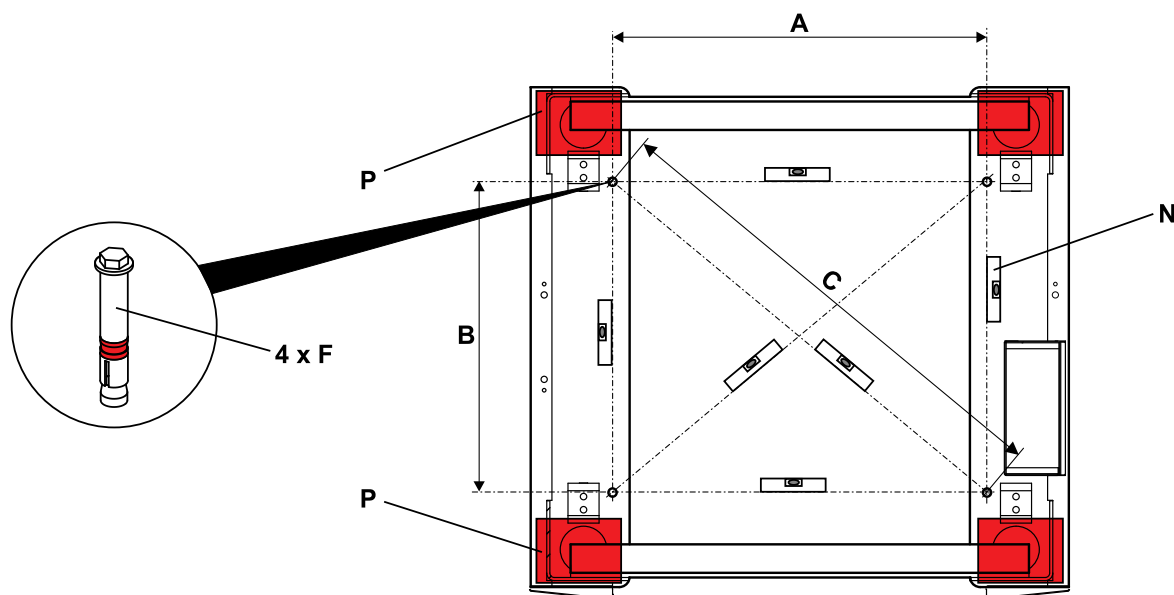
Only for machines without weighing equipment.

Place the machine on a perfectly even surface and horizontal.

Control this using a water level (see drawing).

Each point must be level.

	A	B	C
WB6-20	568 mm	600 mm	826 mm
WB6-27	723 mm	600 mm	939 mm
WB6-35	944 mm	600 mm	1118 mm



Shock absorber plate : P

Water level: N

Fixing dowels: F

Mark the place of the drilling hole for the fixing dowels (F) and drill the holes for fixing of flanges (holes $\varnothing$ 12 mm (1/2"), depth 80 mm (3")). Put the dowels in the flanges, position the flanges and screw.

Put the machine in position and secure it with the dowels without tighten.

11 Remove of the transport locks fitted

When your machine is placed at its right place, before anything, you have to remove all the transport locks as described below :

11.1 Remove of transport locks of casing :

Remove the front and rear casings fixed with red transport fixations.

Keep the transport locks fitted with their screws and bolts to be able to assemble them again in case you would need to lift the machine.

11.2 Remove of transport locks fitted :



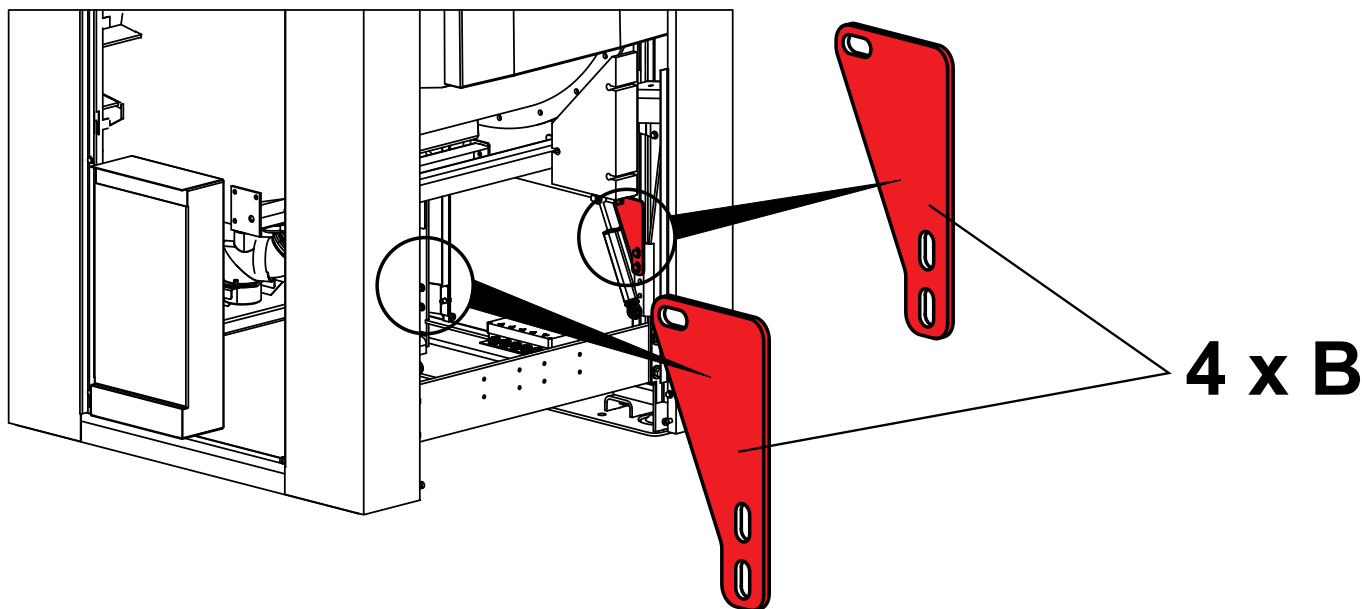
Important



Before putting the machine into service, it is compulsory to remove the 4 transport locks fitted.

To do so, remove the front and rear casings, then the fixing screws of the transport locks (B).

Keep the transport locks fitted with their screws and bolts to be able to assemble them again in case you would need to lift the machine.

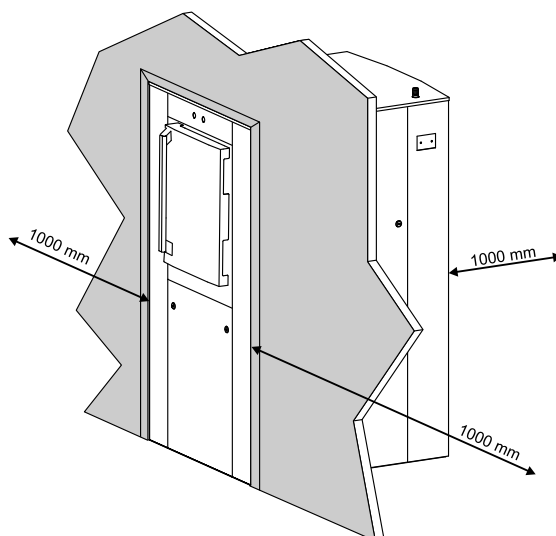


Important



Never handling the machine without the transport locks.

12 Barrier partition



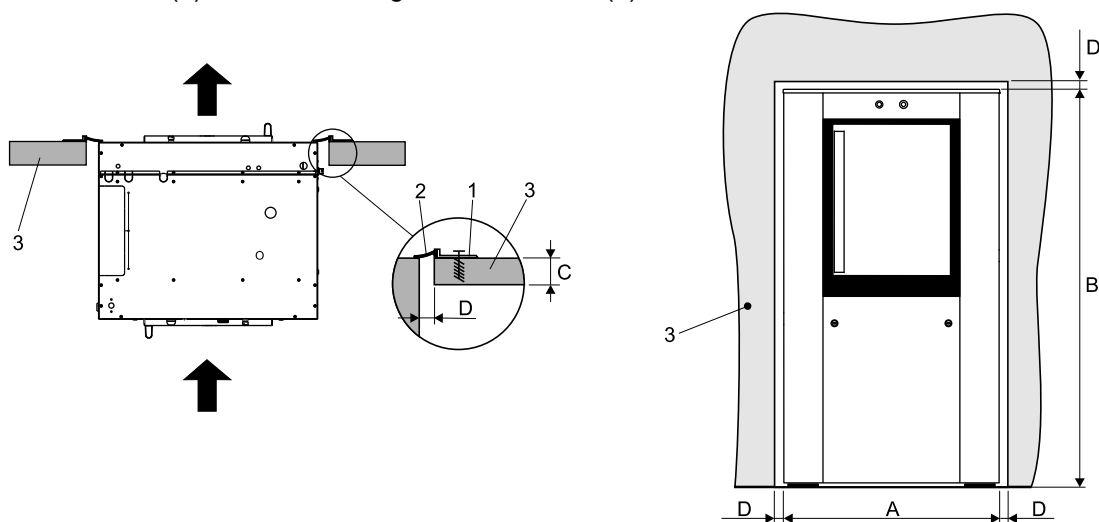
Leave at least 1 m (40") (according to the recommendation in standard EN 60204) between the machine, a wall or any other machine at the sides.

1	Aluminium profile
2	Rubber seal
3	Barrier partition

mm/in	A	B	C	D
WB6-20	915/36.02	1620/63.78	*	30/1.18
WB6-27	1050/41.34	1620/63.78	*	30/1.18
WB6-35	1270/67.72	1620/63.78	*	30/1.18

* Minimum 70 mm (2.76"), maximum 100 mm (4"),.

- The barrier partition (3) shall be built after the installation of the machine.
- Line up the barrier partition (3) with the machine (2).
- Mount the rubber seal (1) on the cutoff edge of the machine (2).



In a cleanroom environment, you may want to minimize air leakage through the barrier wall around the washer. To achieve air tightness, we can recommend the use of either :

- A non-porous, soft seal in a material compatible with cleanroom use (non-porous)
- A silicone compatible with cleanroom use

In such case, the measurement D shall not exceed 5mm (0.2")

If you do not aim at complete airtightness, you may use the aseptic partition seal kit supplied with the machine.
To do so, please refer to the instructions below.

- The barrier partition shall be built after the installation of the machine.
- Line up the barrier partition with the machine.

Note that the barrier washer may, in worst cases, vibrate with a maximum amplitude of +/- 2mm at its top.

13 Drain connection

The machine's exhaust sleeve outside diameter is of 75 mm (3"). It is located underneath the machine.

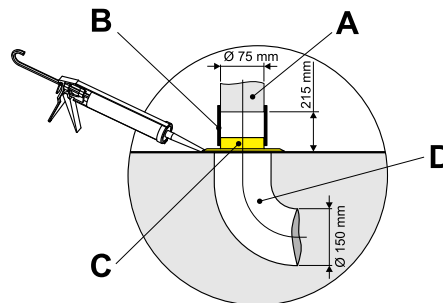
The waste water collector diameter 150 mm (6") (manufactured by customer) should have a 3 cm/m (3 %) slope and resist to a temperature of 90 °C (194 °F). It should be connected to the waste water general network in accordance with local codes and regulations.

Adapt and connect the machine's exhaust sleeve to the waste waters' collector (rubber bend and connection nozzle are supplied in the machine with collars).

Drawing of drain connection to waste waters' collector

1. Connect the hose (B) to the connect nozzle (C).
2. Seal and fix the nozzle (C) using 2 screws.
3. Then connect the hose (B) to the drain's evacuation sleeve (A).

A	Drain's evacuation sleeve
B	Connection hose
C	Connection nozzle
D	Waste water collector



14 Bath inlet (water + detergents)

The washer extractor is fitted with a DN 20 flange, a mating flange DN 20 and a seal for the bath inlet.

The supply pipe to the machine should be fitted with manual shut-off valve to facilitate installation and service. Fit filter to the manual shut-off valve with Teflon. Refer to local utilities regulations when fitting nonreturn valves. A screen at the entrance to the machine filter should be necessarily mounted, it must have a mesh size of 0.3 mm

Any malfunction of water solenoid or water pneumatic valves due to a absence or a poor maintenance of the filters will not be taken under warranty.

The following values apply to water pressure:

Water supply pressure, 50 kPa (7.25 psi) mini.

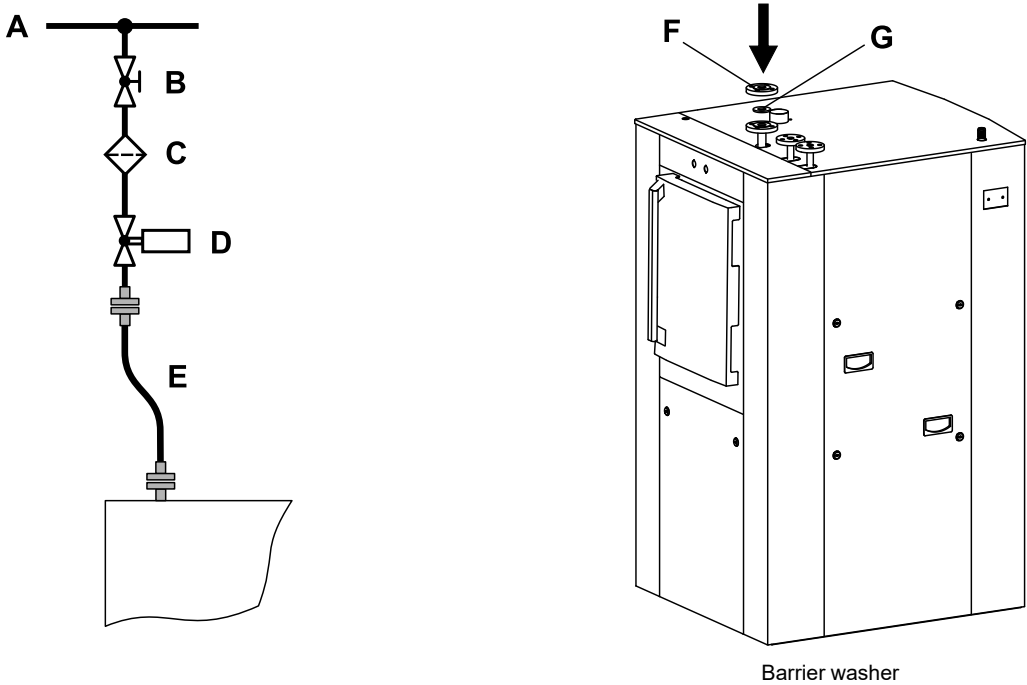
Water supply pressure, 300 kPa (43.5 psi) maxi.

The hoses should be flushed through before being connected to the machine.

The hereunder example sketch shows the connection of the machine to the water inlet.

- | | |
|----------|--|
| A | Water |
| B | Manual stop valve DN 20 (provided by customer) |
| C | Water filter DN 20 |

- D Valve (provided by customer)
- E Flexible pipe DN 20
- F Mating flange DN 20 (provided)
- G Seal DN 20 (provided)

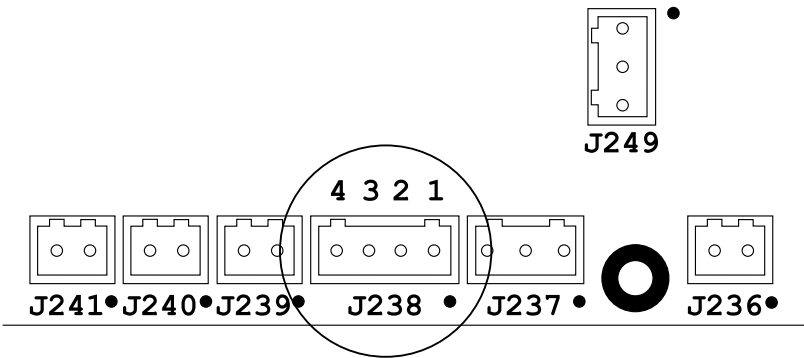


14.1 Connection of external water supply

Electrical installation must be carried out by an authorized personnel

All external equipment which is connected to the machine must be CE/EMC approved and connected using an approved shielded cable.

Connect the electrical control of the water inlet valve on the J238 terminal of the A2 I/O card in the electric cabinet of the machine.



Outputs 24 VDC / 1 amp maxi

Output J238-1 = 0 V

Output J238-2 = Water inlet no 3

Output J238-3 = Water inlet no 2

Output J238-4 = Water inlet no 1

15 Liquid detergents connection



Caution



Liquid detergents are particularly aggressive.

We advise you to use only products with pH lower than 9 in order to avoid the machine's rubbers from being attacked.

Dilute imperatively all of your detergents before letting them flow into the machine.



ADVISE IF USING LIQUID DETERGENTS

After use, there is always chemical remaining in the liquid detergents' dosing pipes.

When the machine is not running, this detergent may slowly drip and so, quickly corrode the parts in contact with. In order to avoid (ex. corrosion of the drum or by bleach), we advise you to forecast a device to drain every night the distribution pipes of the liquid detergents.



Caution



The running of detergents must be independent from the running of the machine.

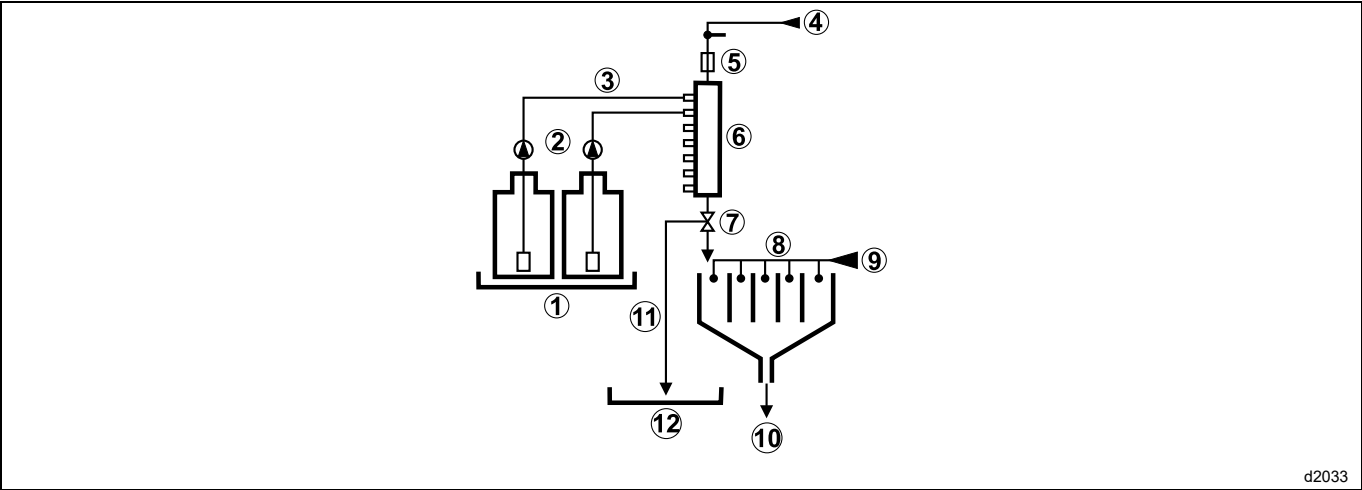
The control information of detergents must imperatively be relayed.

It is imperative to use armoured wires for every connection in the electrical box.

15.1 Connection scheme of liquid detergents

We advise you to use one of the two systems shown hereby to connect your liquid detergents.
Single inlet dose controller with a compulsory rinsing device.

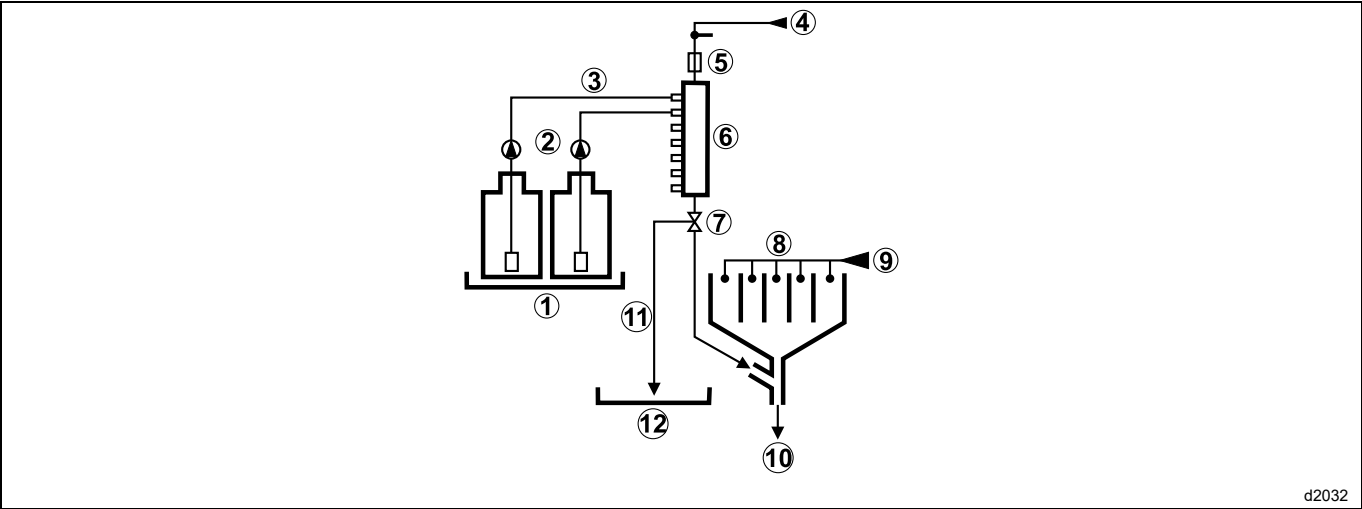
1	Retention tank	7	3 way valve
2	Pump	8	Scoops + Rinsing
3	Liquid detergents	9	Water
4	Water	10	Washer extractor
5	Soap box rinsing electrovalve	11	Toward retention tank
6	Dose controller	12	Retention tank



d2033

Multi-inlet dose controller with a compulsory rinsing device.

1	Retention tank	7	3 way valve
2	Pump	8	Scoops + Rinsing
3	Liquid detergents	9	Water
4	Water	10	Washer extractor
5	Soap box rinsing electrovalve	11	Toward retention tank
6	Dose controller	12	Retention tank



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15.2 Electrical liquid detergents' connection

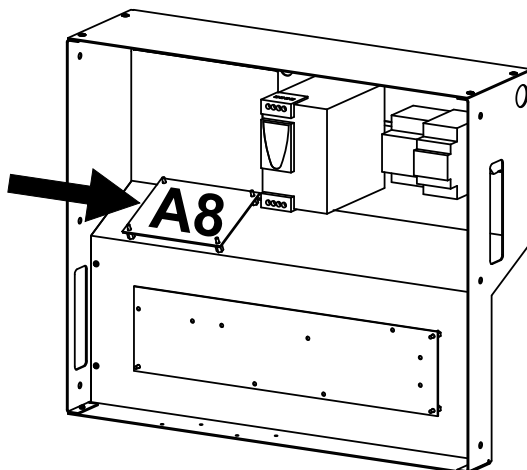


Electrical installation must be carried out by an authorized personnel.



The A8 output relay card allows to connect from 1 to 16 electrovalves of liquid detergents.

The card is situated in the electric box.



Drive the connection cables along the partition wall and the through the cablethrough of the machine to arrive at A8 board.

To connect the wires on the J802 terminal block, introduce a screwdriver in the upper aperture to open the cable clamp.

Connection on the A8 output relay card

C Common of signals

1 Signal 1

2 Signal 2

3 Signal 3

4 Signal 4

5 Signal 5

6 Signal 6

7 Signal 7

8 Signal 8

9 Signal 9

10 Signal 10

11 Signal 11

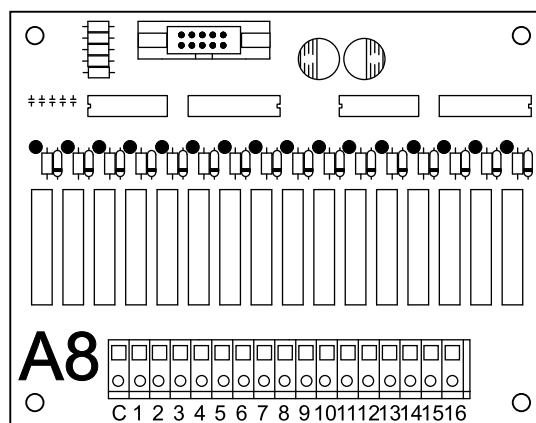
12 Signal 12

13 Signal 13

14 Signal 14 (controlled by water level)

15 Signal 15 (controlled by water level)

16 Signal 16 (reserved)



Supply voltage : 250 V~ maximum

Maximum intensity : 6 A.

16 Indirect steam heating

Steam and condensate connections

The washer extractor is fitted with 2 DN 15 flanges, 2 mating flanges DN 15 and 2 seals for the indirect steam heating.

Steam connection

The customer must install a line purge, a manually closing valve with handwheel lockable in off position (do not use a 1/4 turn valve) and a filter on the supply side of the washer-extractor.

Hereunder values apply to the steam pressure.

Recommended pressure: 300 at 600 kPa (3 at 6 kg/cm²) (43.5 at 87 psi)

Limiting of values:

- **mini. 100 kPa (1 kg/cm²) (14.5 psi)**
- **maxi. 600 kPa (6 kg/cm²) (87 psi)**

Connection size : flange DN 15.

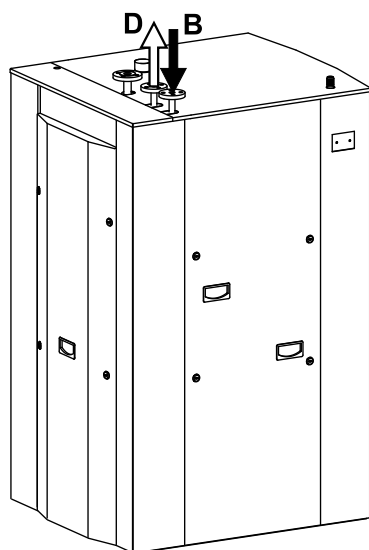
Condensate connection

The customer must install a steam trap with float closed with an incondensables drainage device, a by-pass, a non-return valve and a manual closing valve lockable in off position (do not use a 1/4 turn valve).

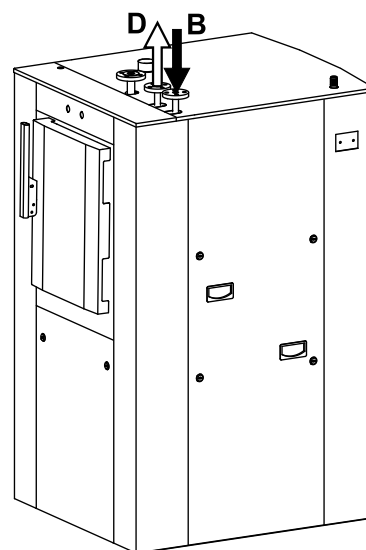
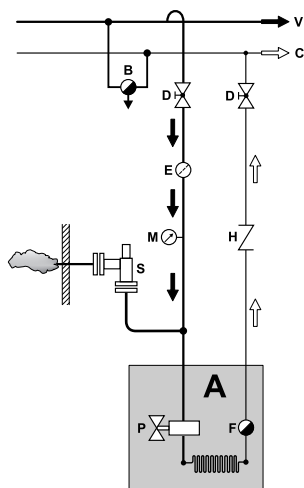
Connection size: flange DN 15.

Connect the steam installation on the top of the machine (see example sketch).

A	Washer-extractor	H	Non-return valve (provided by customer)
B	Line trap (provided by customer)	M	Pressure gauge (provided by customer)
C	Return of condensates	N	Insulation for the pipework (provided by customer)
D	Manual stop wheel valve (provided by customer)	P	Steam electrovalve (provided)
E	Steam filter (provided by customer)	S	Safety valve (provided by customer)
F	Steam trap (provided)	V	Steam inlet

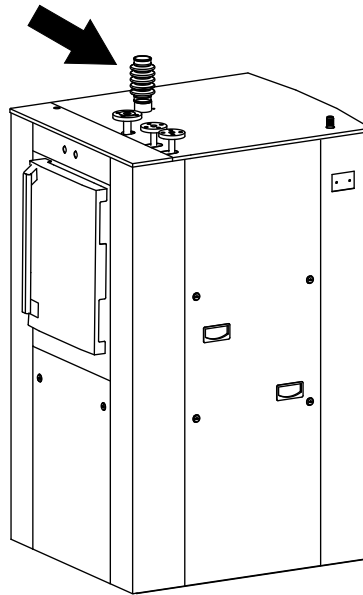


No-Barrier washer



Barrier washer

17 Air vent connection for clean room installation



The air vent of the outer drum opens on the top of the machines. You may connect according to one of the 2 alternatives we recommend below.

It is important that the machine is put at atmospheric pressure as the levelling of water depends on it.

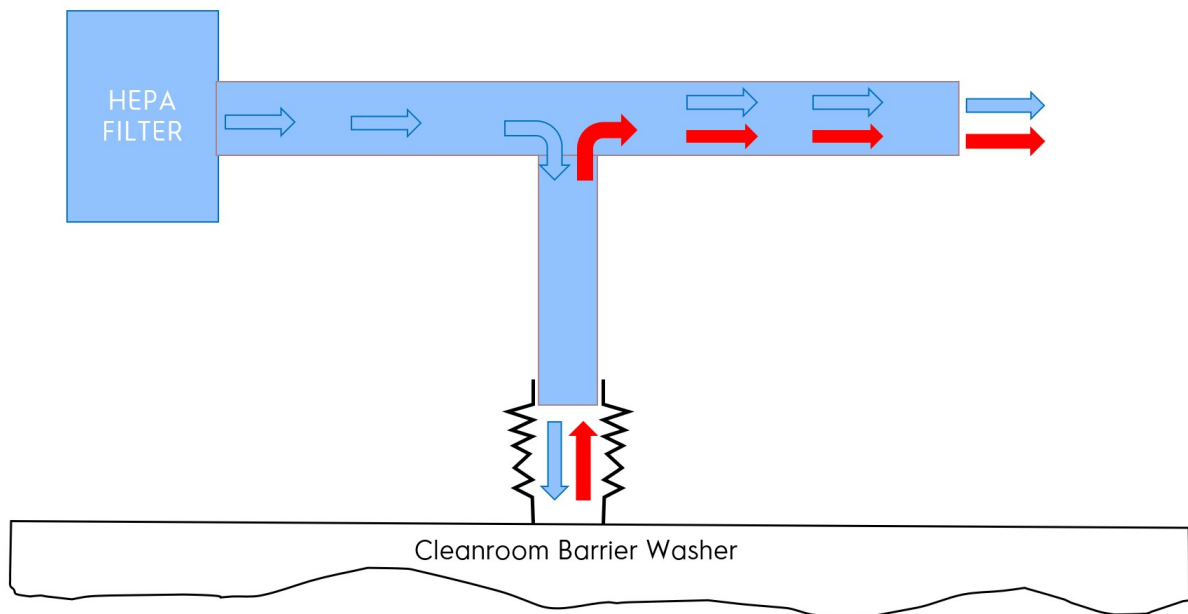
Alternative 1 :

Pressurized HEPA (High Efficiency Particulate Air) filtered air

When the machine drains water, clean air must go in

When the machine fills with water, dirty air goes out and must be pushed away by HEPA filtered air

Exhaust clean and dirty air into a grey room

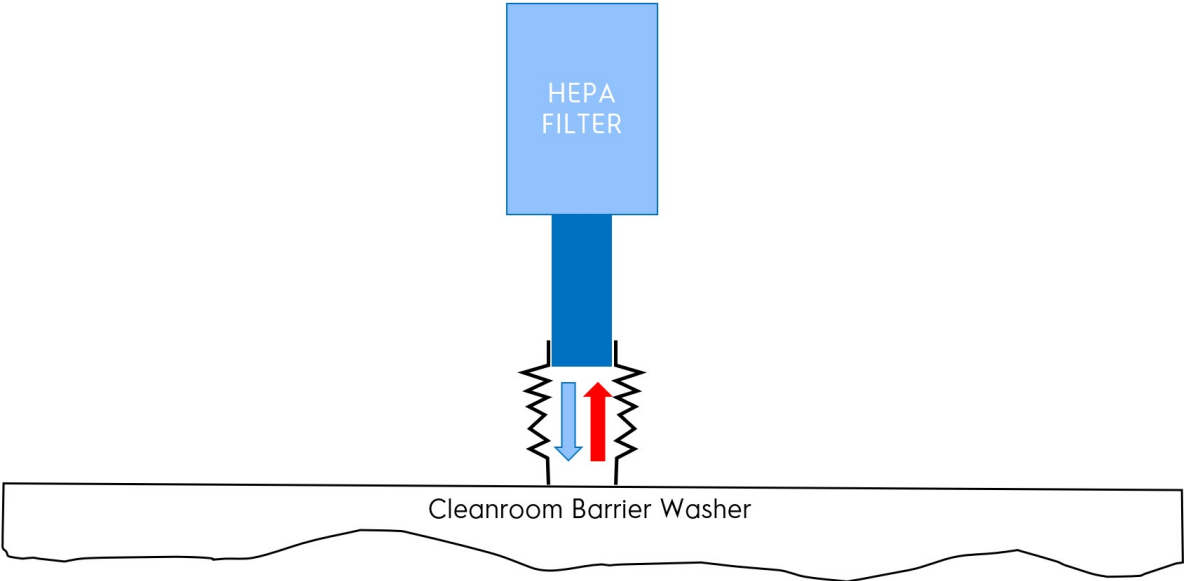


Alternative 2 :

When the machine drains water, clean air must go in

When the machine fills with water, dirty air goes out and must be trapped in the HEPA filter.

The type of HEPA to be used must be so that it works both ways and traps the particles inside. It must not release the particles when the machine drains water.



18 Note about the A.C. power

According to the EN 60204-1:2018 standard, the machine is provided for A.C. supplies corresponding to the extracted characteristics below :

4.3.2 A.C. supplies

Voltage:

Steady state voltage: from 0.9 to 1.1 of nominal voltage.

Frequency:

from 0.99 to 1.01 of nominal frequency continuously.

from 0.98 to 1.02 short time.

Harmonics:

Harmonic distortion not to exceed 10 % of the total r.m.s. voltage between live conductors for the sum of the second through to the fifth harmonic. An additional 2 % of the total r.m.s. voltage between live conductors for the sum of the sixth through to the 30th harmonic is permissible.

Voltage unbalance:

Neither the voltage of the negative sequence component nor the voltage of the zero sequence component in three-phase supplies shall exceed 2 % of the positive sequence component.

Voltage interruption:

Supply interrupted or at zero voltage for not more than 3 ms at any random time in the supply cycle. There shall be more than 1 second between successive interruptions.

Voltage dips:

Voltage dips shall not exceed 20 % of the peak voltage of the supply for more than one cycle. There shall be more than 1 second between successive dips.

19 Feeder cable sections

The feeder cable sections mentioned in our literature are given only as a guide.

To obtain a value perfectly suited to your own application and which takes account of the different correction factors in respect of your plant, refer to the tables below.

Table 1 (in accordance with EN Standard 60204-1)

Values given for:

- Cable with copper conductors
- Cable with PVC insulation (for other insulants see Table 3)
- Ambient temperature 40°C max. (for others see Table 2)
- Three-phase cable under load without including starting currents
- BT / C/ E cable layout.

Maximum Admissible Current

Cable section	Seated in Cable Duct or Cable trough	Wall fixing	Cable tray
	B2	BC	E
3 x 1.5 mm ²	12.2 A	15.2 A	16.1 A
3 x 2.5 mm ²	16.5 A	21 A	22 A
3 x 4 mm ²	23 A	28 A	30 A
3 x 6 mm ²	29 A	36 A	37 A
3 x 10 mm ²	40 A	50 A	52 A
3 x 16 mm ²	53 A	66 A	70 A
3 x 25 mm ²	67 A	84 A	88 A
3 x 35 mm ²	83 A	104 A	114
3 x 50 mm ²	-	123 A	123 A
3 x 70 mm ²	-	155 A	155 A

Table 2 (correction factors for different ambient temperatures)

Ambient temperature	Correction factor
30 °C	1.15

35 °C	1.08
40 °C	1.00
45 °C	0.91
50 °C	0.82
55 °C	0.71
60 °C	0.58

Table 3 (correction factors for different cable insulating materials)

Insulating material	Max. Working tempera- ture range	Correction factor
PVC	70°C (158 °F)	1.00
Natural or Synthetic Rubber	760°C (140 °F)	0.92
Silicone Rubber	120°C (248 °F)	1.60

Table 4 (B2, C and correction factors for cable grouping)

Number of cables	B2	E	E
	Seated in Cable Duct	Wall fixing or Cable trough	Cable tray
1	1.00	1.00	1.00
2	0.80	0.85	0.87
4	0.65	0.75	0.78
6	0.57	0.72	0.75
9	0.50	0.70	0.73

The total current included for using Table 1 should be the maximum rated current for the machine divided by the product of the different correction factors. Other correction factors may also be applied ; consult the cable manufacturers.

Calculation : Example

- The machine has a rated current of 60 A.
- The ambient temperature is 45 °C ; Table 2 gives a correction factor of 0.91.
- Rubber cable insulant : Table 3 gives a correction factor of 0.92.
- The cable is fixed directly to the wall (Column C), with 2 cables side by side. Table 4 gives a correction factor of 0.85.

$$\text{Total current : } \frac{60 \text{ A}}{0.91 \times 0.92 \times 0.85} = 84 \text{ A}$$

Taking Column C in Table 1 (wall fixing), we obtain a minimum cable section of : 3 x 25 mm².

20 Electricity power supply



Prior to use, the washer-extractor should be plugged into a correctly earthed power socket complying with the standards in force.



Caution



The electrical installation of the machine must be undertaken by qualified personnel.



Caution



Ensure that the electrical voltage is correct and that the power of your supply is sufficient, before connecting the machine.



Caution



The main switch is located on the right side of the machine , identified by this sticker.



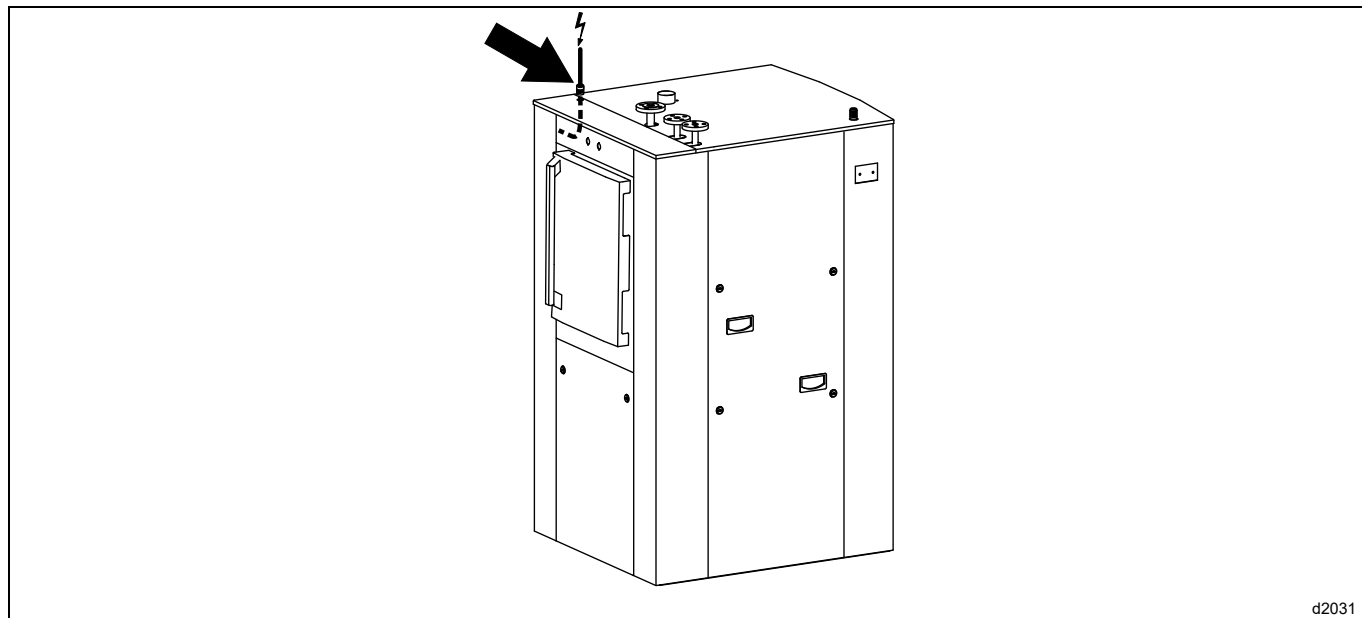
Note!

The use of power electronics (converter or filter for example) may lead to unexpected release of breakers with 30 mA differential current device.

Therefore a Type B residual differential protection system with reinforced immunity of 300 mA in accordance with standard NFC 15100 must be used for our washing machines.

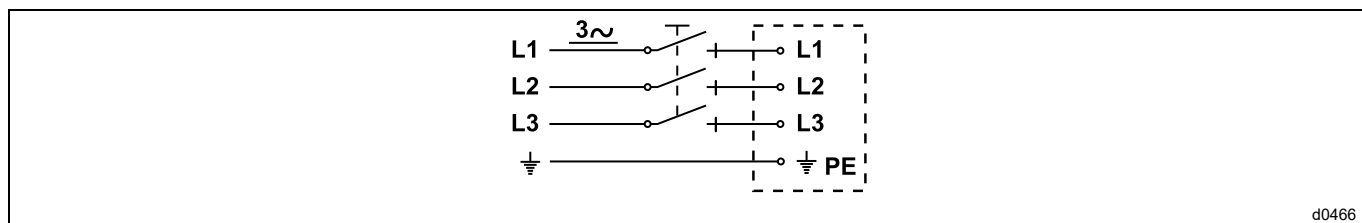
To avoid these untimely activations, you ought to use differential protecting systems with residual current only, having a high level of reinforced immunity as regards leakage transient current.

Pass the power supply cable of the machine through the stuffing box on the top of the machine.



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For each machine, install a fixed multipolar circuit breaker (or fuses protector) in the laundry main cabinet.

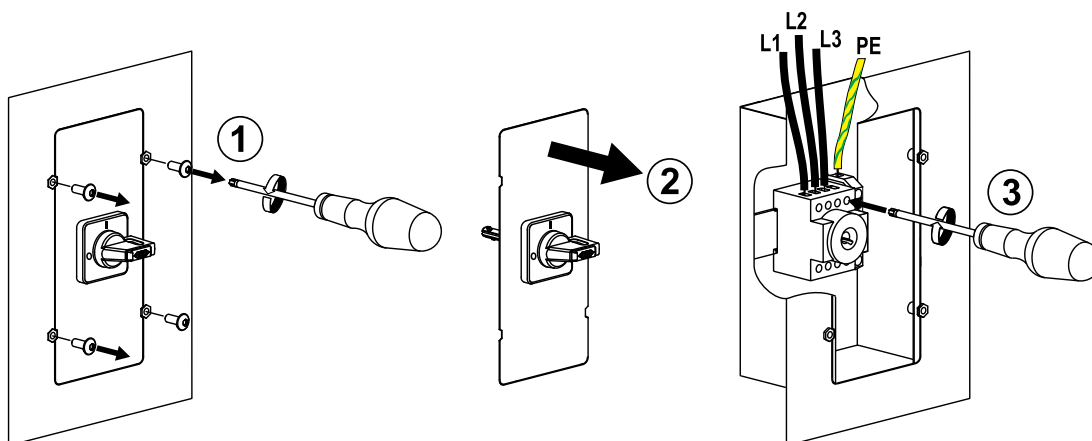


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Connect the power supply cable on the machine main switch. Connect the 3 phases on the main switch (see marks L1, L2, L3) and connect the earth wire on the earth terminal (PE) of this main switch. (see chapter “Function checks”).

**Caution**

In case of a machine with integrated weighing, you must use a flexible power supply cable to connect the machine.



Machine type	Heating	Supply Voltage	Rated Power	Rated Intensity	Connection cable section	Protection
WB6-20	Electric	380/415 V 3+E ~ 50/60 Hz	15 kW	21.6 A	4 x 6 mm ²	3 x 32 A
	Indirect Steam	380/415 V 3+E ~ 50/60 Hz	6 kW	8.7 A	4 x 2.5 mm ²	3 x 16 A
WB6-27	Electric	380/415 V 3+E ~ 50/60 Hz	19.5 kW	28.2 A	4 x 6 mm ²	3 x 40 A
	Indirect Steam	380/415 V 3+E ~ 50/60 Hz	6.2 kW	9 A	4 x 2.5 mm ²	3 x 16 A
WB6-35	Electric	380/415 V 3+E ~ 50/60 Hz	28.8 kW	41.6 A	4 x 10 mm ²	3 x 50 A
	Indirect Steam	380/415 V 3+E ~ 50/60 Hz	6.4 kW	9.3 A	4 x 2.5 mm ²	3 x 16 A

21 Compressed air connection



Caution



This compressed air connection is **only** for the WB6 models with one of these following options:

Clean room option : to pilot the drain valve.

Low pressure steam heating : to pilot steam inlet valve.



Caution



The compressed air admitted to the distributors must be purified to the following values:

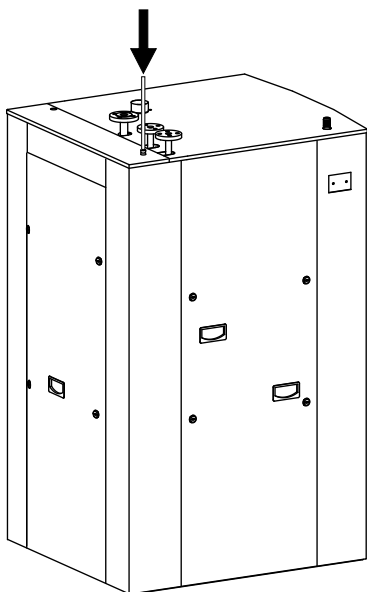
- it must be free from solid particles larger than 5 µm. The filter present on our machines has a filtration of 5µm.
- It should not contain more than 1.5 g of water / m³
- It should not contain more than 5 mg of oil condensate / m³

The manual stopping valve lockable in closed position (provided by customer) should be installed on the machine's compressed air supply.

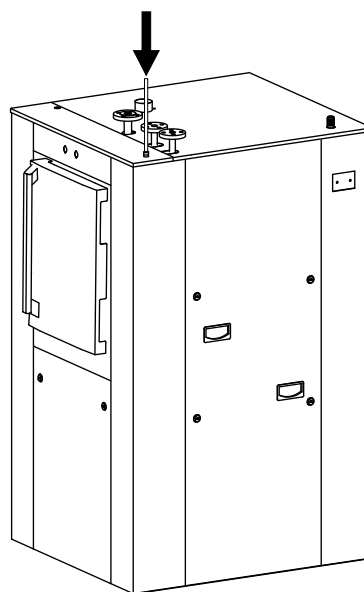
The supply pipe should accept a pressure of at least 1 Mpa (10 bar).

Connection diameter : rapid action hose coupling DN 6 for hose Ø 6/8 mm.

Advised pressure	550-700 kPa (5.5-7 bar)
Minimum pressure	550 kPa (5.5 bar)
Maximum pressure	700 kPa (7 bar)
Consumption	10 l/h



No-Barrier washer



Clean room Barrier washer

21.1 Compressed air standard ISO 8573–1

This chapter explains the required by our product for the air compressed quality, from the standard EN ISO 8573-1. This standard shows the quality of the compressed depending on the particles inside it, the tolerance of these particles give a classification of the required compressed air for our product.

Show in the table below the classification :

ISO 8573–1:2010	First Digit				Second Digit		Third Digit
	Solid particles				Water		Oil
	Max.number of particles per m3			Mass concentration	pressure dew point	Liquid	Total oil content (liquid, aerosol and vapour)
	0.1 ... 0.5 µm	0.5... 1 µm	1 ... 5 µm	mg/m3	°C	g/m3	mg/m3
0	In accordance with specifications by device user, stricter requirements than Class 1						
1	< 20,000	< 400	< 10	-	< -70	-	0.01
2	< 400,000	< 6,000	< 100	-	< -40	-	0.1
3	-	< 90,000	< 1,000	-	< -20	-	1
4	-	-	< 10,000	-	< +3	-	5
5	-	-	< 100,000	-	< +7	-	-
6	-	-	-	< 5	< +10	-	-
7	-	-	-	5 ... 10	-	< 0.5	-
8	-	-	-	-	-	0.5 .. 5	-
9	-	-	-	-	-	5 ... 10	-
X	-	-	-	> 10	-	> 10	> 10

So, the customer should arrange the installation of filter device, as well as a pressure regulator (manometer) on the machine's compressed air supply.



Important



To ensure the proper functioning of pneumatic devices (cylinders, distributors, clamps, silencers) of our products, the following air quality is recommended:

Particles = class **7**

Water = class **4**

Oil = class **4**

Recommended air quality class **[7;4;4]**, this means that:

For dust, we tolerate between 5 and 10 mg of dust per cubic meter of compressed air.

For water, we tolerate a dew point which does not exceed 3°C

For oil, the presence of 5 mg of oil per cubic meter of compressed air is tolerated

22 Function checks



Caution



Before putting the machine into service, carry out the working tests.
The operating inspection must be done by an approved technician.



Warning



Before any rotation of the drum, be sure that you have taken off the supplies into the drum. see chapter "Outer doors manual opening".

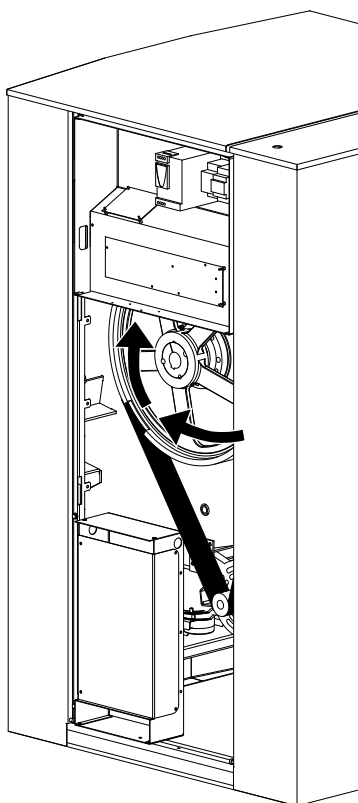
Manual operation

The procedure for operating the various machine functions manually is described in the chapter "Machine operation" under the heading "Manual operation".

- Switch on the machine's main switch and check the voltage on the three phases (3 x 400 volts).
- Check the direction of rotation of the inner drum during spinning. The inner drum should rotate as shown by the arrow on the drawing below. Check this point especially if you have changed the machine's motor or frequency converter.



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- Check the direction of rotation of the circulating pump and of the draught accelerator gas heating.



The exchangers of the gas heated machines have a water circulating pump.

Before the first start of the machine, you must check if this pump is priming well.

Therefore, it is necessary to fill the machine with water and to run only the circulating pump, without heating, by pushing, with an isolated screwdriver, on the manual control of the exchanger's KM3 contactor.

To be sure that the pump is well primed (10 to 15 seconds), you must pay attention to a change in the running noise when the water goes through the circuit.

- Check that the inner drum is empty.
- Open the manual valves controlling the water and steam supplies (for steam heating machines).
- Operate the machine manually to fill with cold water, then hot water. Check that these water supplies are connected as they should be.
- Start the machine on wash action, and check that the motor is revolving alternately in the both ways, as normal for wash action.
- Start heating by programming a final temperature. Check that the steam valve opens or the heating element relay reacts, as appropriate.
- Check that the detergents container is working as they should.
- Check the water and steam connections and the drain valve for signs of any leakages.
- Empty the water from the machine and open its door.

Automatic operation

- Check that the external switch or switches are switched on and that the manual valves for water and steam (if the machine has steam heating) are open.
- Run one of the machine's built-in (standard) with heating.
- Check that the program proceeds normally, and the water filling, detergent filling, heating and motor action are all working in accordance with the program display on the display screen.

Final checking

If all function checks have been satisfactory, reassemble all protection casings.

23 Conversion of measurement units

This following is a list of correspondences of the main frequency used units, to avoid the need to use measurement unit conversion table.

bar	1 bar = 100 000 Pa 1 bar = 1.019 7 kg/cm ² 1 bar = 750.06 mm Hg 1 bar = 10 197 mm H ₂ O 1 bar = 14.504 psi	British thermal unit	1 Btu = 1 055.06 J 1 Btu = 0.2521 kcal
calorie	1 cal = 4.185 5 J 1 cal = 10–6 th 1 kcal = 3.967 Btu 1 cal/h = 0.001 163 W 1 kcal/h = 1.163 W	Continental horse power	1 ch = 0.735 5 kW 1 ch = 0.987 0 HP
cubic foot	1 cu ft = 28 316 8 dm ³ 1 cu ft = 1 728 cu in	cubic inch	1 cu in = 16.387 1 dm ³
foot	1 ft = 304.8 mm 1 ft = 12 in	gallon (U.K.)	1 gal = 4.545 96 dm ³ or l 1 gal = 277.41 cu in
gallon (U.S.A.)	1 gal = 3.785 33 dm ³ or l 1 gal = 231 cu in	horse power	1 HP = 0.745 7 kW 1 HP = 1.013 9 ch
inch	1 in = 25.4 mm	joule	1 J = 0.000 277 8 Wh 1 J = 0.238 92 cal
kilogramme	1 kg = 2.205 62 lb	kg/cm²	1 kg/cm ² = 98 066.5 Pa 1 kg/cm ² = 0.980 665 bar 1 kg/cm ² = 10 000 mm H ₂ O 1 kg/cm ² = 735.557 6 mm Hg
pound	1 lb = 453.592 37 g	meter	1 m = 1.093 61 yd 1 m = 3.280 83 ft 1 m = 39.37 in
cubic meter	1 m ³ = 1 000 dm ³ 1 m ³ = 35.214 7 cu ft 1 dm ³ = 61.024 cu in 1 dm ³ = 0.035 3 cu ft	pascal	1 Pa = 1 N/m ² 1 Pa = 0.007 500 6 mm Hg 1 Pa = 0.101 97 mm H ₂ O 1 Pa = 0.010 197 g/cm ² 1 Pa = 0.000 145 psi 1 MPa = 10 bar
psi	1 psi = 0.068947 6 bar	thermie	1 th = 1 000 kcal 1 th = 10+6 cal 1 th = 4.185 5 x 10+6 J 1 th = 1.162 6 kWh 1 th = 3 967 Btu
watt	1 W = 1 J/s 1 W = 0.860 11 kcal/h	watt-hour	1 Wh = 3 600 J 1 kWh = 860 kcal
yard	1 yd = 0.914 4 m 1 yd = 3 ft 1 yd = 36 in	temperature degrees	0 °K = –273.16 °C 0 °C = 273.16 °K t °C = 5/9 (t °F–32) t °F = 1.8 t °C + 32

24 Disposal information

24.1 Appliance recyclability and disposal

24.1.1 Recyclability

Our appliances are manufactured using a significant percentage of recyclable metals (such as stainless steel, iron, aluminium, galvanized sheet, copper, etc.), which can be recovered through the local recycling systems, in compliance with the regulations in force in the country of use.

National regulations regarding waste disposal may vary. Disposal of the appliance must therefore be carried out in accordance with the applicable legislation and the directives issued by the competent authorities in the country where the appliance is decommissioned.

The components of the appliance must be separated and disposed of in accordance with their material composition (e.g. metals, oils, greases, plastics, rubber, refrigerant gases, insulating boards and other insulating material, glass wool, LEDs, etc.) and in full compliance with applicable local and international waste management regulations.

Compressors may contain oils and refrigerants fluids - are special waste and has to be recycled on local bases regulations.

24.1.2 Procedure regarding appliance disposal and component / material recovery

This product should not simply be disposed of in the environment at the end of its life cycle; it is imperative instead either to dispose of it in accordance with local environmental regulations, or, preferably, to deliver it whole to an authorized recycling center.

All removed components, including doors and other structural parts, must be delivered together with the appliance to an authorized recycling or dismantling facility.

The dismantling/recycling center will apply state of the art technologies and methods available to them to effectively disassemble the products for best recyclability.

Note that printed circuit boards, electrical motors or other components identified in European Union legislation to be of high critical raw materials recovery potential need to be addressed specifically.

In case of doubts or questions, always refer to your reference customer care service.

Before disposing of the appliance, carefully inspect its physical condition and preservation state, checking for potential leaks of liquids or gases, as well as for broken parts that may pose hazards during handling and subsequent dismantling.



The symbol on the product indicates that this product should not be treated as domestic waste, but must be correctly disposed of in order to prevent any negative consequences for the environment and human health. For further information on the recycling of this product, contact the local dealer or agent, the customer care service or the local body responsible for waste disposal.

Note!

When dismantling the appliance, any marking, this manual and other documents concerning the appliance must be destroyed.

24.2 Disposal of packing

The packing must be disposed of in compliance with the current regulations in the country where the appliance is used. All the packing materials are environmentally friendly.

They can be safely kept, recycled or burned in an appropriate waste incineration plant. Recyclable plastic parts are marked as following examples.

	Polyethylene: • Outer wrapping • Instructions bag
	Polypropylene: • Straps
	Polystyrene foam: • Corner protectors



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