

Installation manual

Washer extractor

**WS6–8, WS6–9, WS6–11, WS6–14,
WS6–20, WS6–28, WS6–35**

Compass Pro

Type W3....



Electrolux
PROFESSIONAL

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Contents

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

1 Safety Precautions

- Servicing shall be carried out only by authorized personnel.
- Only authorized spare parts, accessories and consumables shall be used.
- Only use detergent intended for water-wash of textiles. Never use dry cleaning agents.
- The machine shall be connected with new water hoses. Re-used water hoses must not be used.
- The machine's door lock must under no circumstances be bypassed.
- 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.
- DO NOT MODIFY THIS APPLIANCE.
- When performing service or replacing parts, the power must be disconnected.
- When the power is disconnected, the operator must see that the machine is disconnected (that the plug is removed and remains removed) from any point to which he has access. If this is not possible, due to the construction or installation of the machine, a disconnection with a locking system in the isolated position shall be provided.
- In accordance with the wiring rules: mount a multi-pole switch prior to the machine to facilitate installation and service operations.
- If different rated voltages or different rated frequencies (separated by a /) are stated at the machine data plate, instructions for adjusting the appliance for operation at the required rated voltage or rated frequency are stated in the installation manual.
- Stationary appliances not fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under overvoltage category III, the instructions state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
- The openings in the base, shall not be obstructed by a carpet.
- Maximum mass of dry cloth: WS6–8: 8.5 kg, WS6–9: 9.5 kg, WS6–11: 11.5 kg, WS6–14: 14.5 kg, WS6–20: 21 kg, WS6–28: 29.5 kg, WS6–35: 38.5 kg.
- A-weighted emission sound pressure level at working stations:
 - Wash: WS6–8: <70 dB(A), WS6–9: <70 dB(A), WS6–11: <70 dB(A), WS6–14: <70 dB(A), WS6–20: <70 dB(A), WS6–28: <70 dB(A), WS6–35: <70 dB(A).
 - Extraction: WS6–8: <70 dB(A), WS6–9: <70 dB(A), WS6–11: <70 dB(A), WS6–14: <70 dB(A), WS6–20: <70 dB(A), WS6–28: <70 dB(A), WS6–35: <70 dB(A).
- Maximum inlet water pressure: 1000 kPa
- Minimum inlet water pressure: 50 kPa
- Additional requirements for the following countries; AT, BE, BG, HR, CY, CZ, DK, EE, FI, FR, DE, GR, HU, IS, IE, IT, LV, LT, LU, MT, NL, NO, PL, PT, RO, SK, SI, ES, SE, CH, TR, UK:
 - The appliance can be used in public areas.
 - This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
- Additional requirements for other countries:

– 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. Children should be supervised to ensure that they do not play with the appliance.

– This appliance is intended to be used in household and similar applications such as: (IEC 60335-2-7) staff kitchen areas in shops, offices and other working environments, farm houses, by clients in hotels, motels and other residential type environments, bed and breakfast type environments, areas for communal use in blocks of flats or in laundrettes.

1.1 General safety information

The machine is only intended for water-wash use.




Do not hose down the machine with water.

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.

1.2 Commercial use only

The machine/machines covered by this manual is/are made for commercial and industrial use only.

1.3 Symbols

	Caution
	Caution, high voltage
	Read the instructions before using the machine

2 Warranty terms and exclusions

If the purchase of this product includes warranty coverage, warranty is provided in line with local regulations and subject to the product being installed and used for the purposes as designed, and as described within the appropriate equipment documentation.

Warranty will be applicable where the customer has used only genuine spare parts and has performed maintenance in accordance with Electrolux Professional user and maintenance documentation made available in paper or electronic format.

Electrolux Professional strongly recommends using Electrolux Professional approved cleaning, rinse and descaling agents to obtain optimal results and maintain product efficiency over time.

The Electrolux Professional warranty does not cover:

- service trips cost to deliver and pick up the product;
- installation;
- training on how to use/operate;
- replacement (and/or supply) of wear and tear parts unless resulting from defects in materials or workmanship reported within one (1) week from the failure;
- correction of external wiring;
- correction of unauthorized repairs as well as any damages, failures and inefficiencies caused by and/or resulting from;
 - insufficient and/or abnormal capacity of the electrical systems (current/voltage/frequency, including spikes and/or outages);
 - inadequate or interrupted water supply, steam, air, gas (including impurities and/or other that does not comply with the technical requirements for each appliance);
 - plumbing parts, components or consumable cleaning products that are not approved by the manufacturer;
 - customer's negligence, misuse, abuse and/or non-compliance with the use and care instructions detailed within the appropriate equipment documentation;
 - improper or poor: installation, repair, maintenance (including tampering, modifications and repairs carried out by third parties not authorized third parties) and modification of safety systems;
 - Use of non-original components (e.g.: consumables, wear and tear, or spare parts);
 - environment conditions provoking thermal (e.g. overheating/freezing) or chemical (e.g. corrosion/oxidation) stress;
 - foreign objects placed in- or connected to- the product;
 - accidents or force majeure;
 - transportation and handling, including scratches, dents, chips, and/or other damage to the finish of the product, unless such damage results from defects in materials or workmanship and is reported within one (1) week of delivery unless otherwise agreed;
- product with original serial numbers that have been removed, altered or cannot be readily determined;
- replacement of light bulbs, filters or any consumable parts;
- any accessories and software not approved or specified by Electrolux Professional.

Warranty does not include scheduled maintenance activities (including the parts required for it) or the supply of cleaning agents unless specifically covered within any local agreement, subject to local terms and conditions.

Check on Electrolux Professional website the list of authorized customer care.

3 Technical data

3.1 Drawing

3.1.1 WS6-8, WS6-9, WS6-11

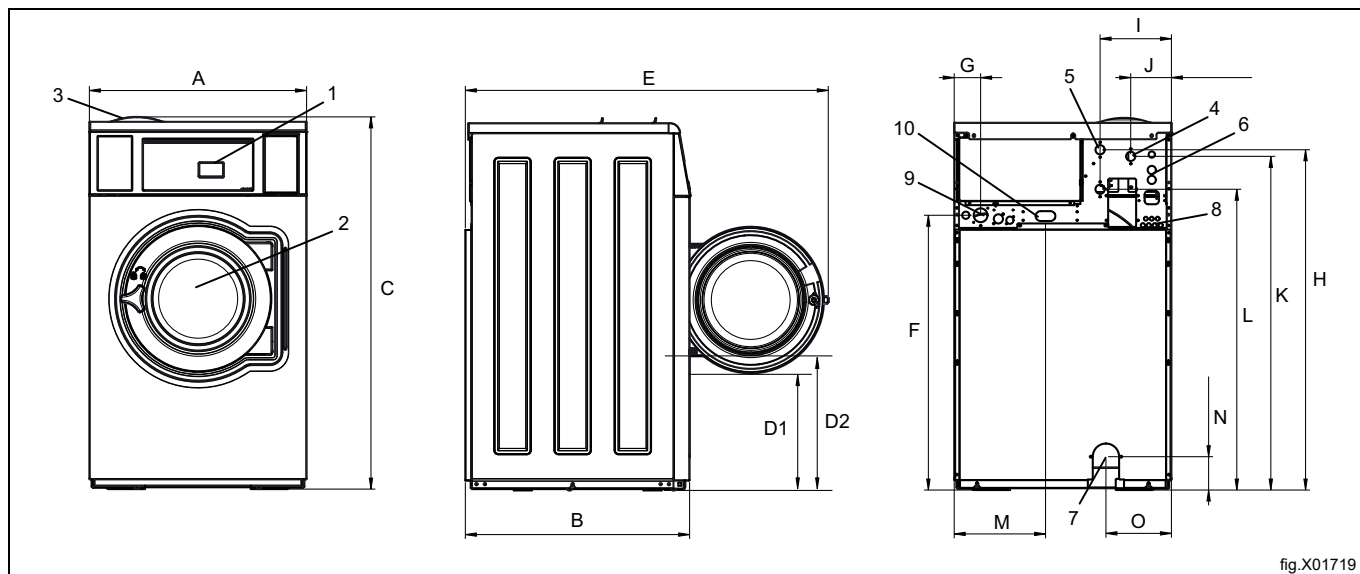


fig.X01719

1	Operating panel
2	Door opening, WS6-8, WS6-9: \varnothing 310 mm, WS6-11: \varnothing 365 mm
3	Detergent container
4	Cold water
5	Hot water
6	Re-used water
7	Drain valve
8	Liquid detergent supply
9	Electrical connection
10	Steam connection

mm	A	B	C	D1	D2	E	F	G
WS6-8	660	680	1135	360	425	1110	835	80
WS6-9	660	725	1135	360	425	1150	835	80
WS6-11	720	700	1220	370	440	1185	920	80

mm	H	I	J	K	L	M	N	O
WS6-8	1035	215	125	1015	915	280	100	200
WS6-9	1035	215	125	1015	915	280	105	200
WS6-11	1120	215	125	1100	1000	280	105	210

3.1.2 WS6-14

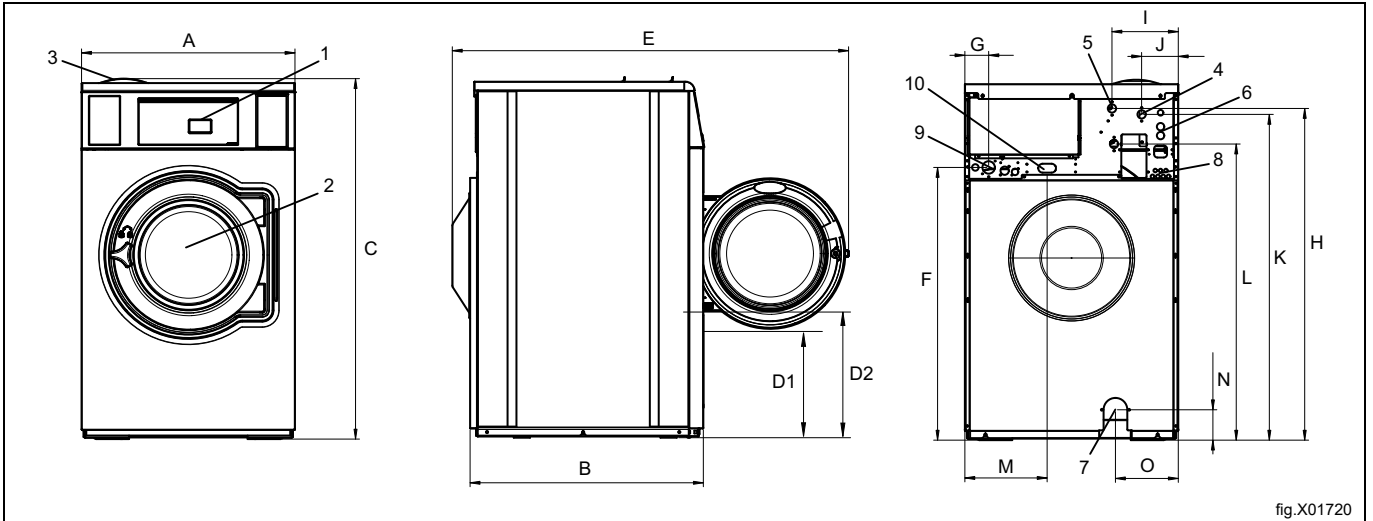


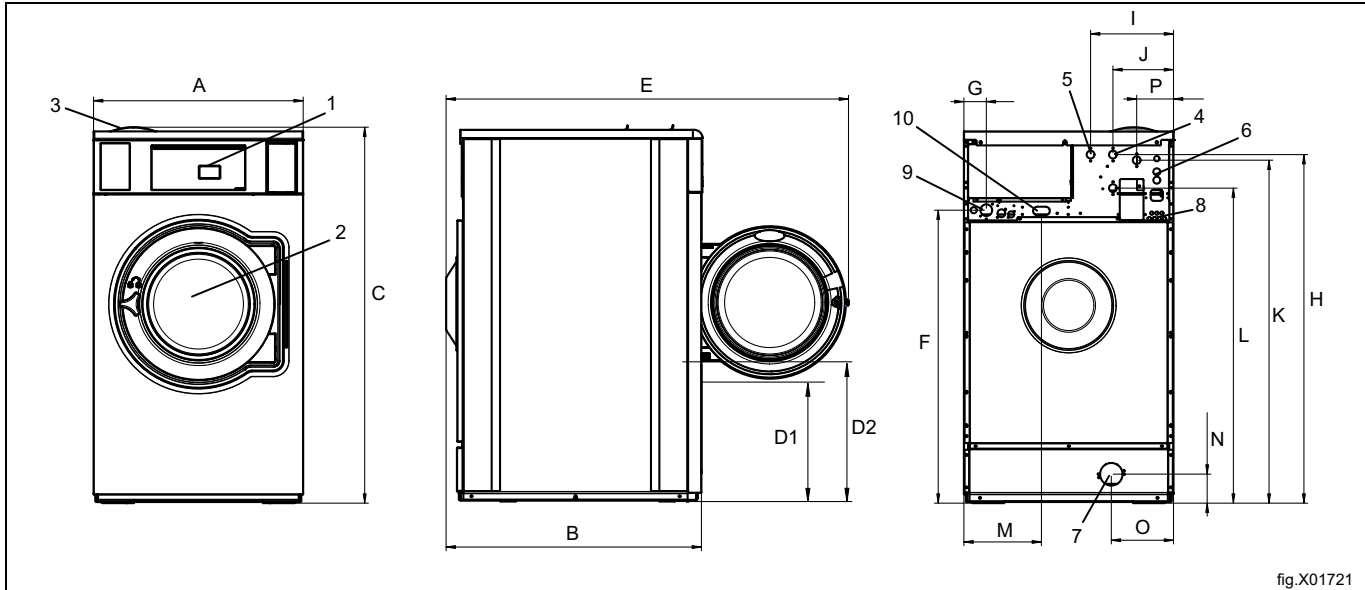
fig.X01720

1	Operating panel
2	Door opening, WS6-14: \varnothing 365 mm
3	Detergent container
4	Cold water
5	Hot water
6	Re-used water
7	Drain valve
8	Liquid detergent supply
9	Electrical connection
10	Steam connection

mm	A	B	C	D1	D2	E	F	G
WS6-14	720	790	1220	370	440	1335	920	80

mm	H	I	J	K	L	M	N	O
WS6-14	1120	215	125	1100	1000	280	105	210

3.1.3 WS6-20



1	Operating panel
2	Door opening, WS6-20: \varnothing 395 mm
3	Detergent container
4	Cold water
5	Hot water
6	Re-used water
7	Drain valve
8	Liquid detergent supply
9	Electrical connection
10	Steam connection

mm	A	B	C	D1	D2	E	F	G
WS6-20	750	915	1345	440	515	1435	1050	80

mm	H	I	J	K	L	M	N
WS6-20	1245	295	215	1225	1125	280	105

mm	O	P
WS6-20	225	130

3.1.4 WS6-28, WS6-35

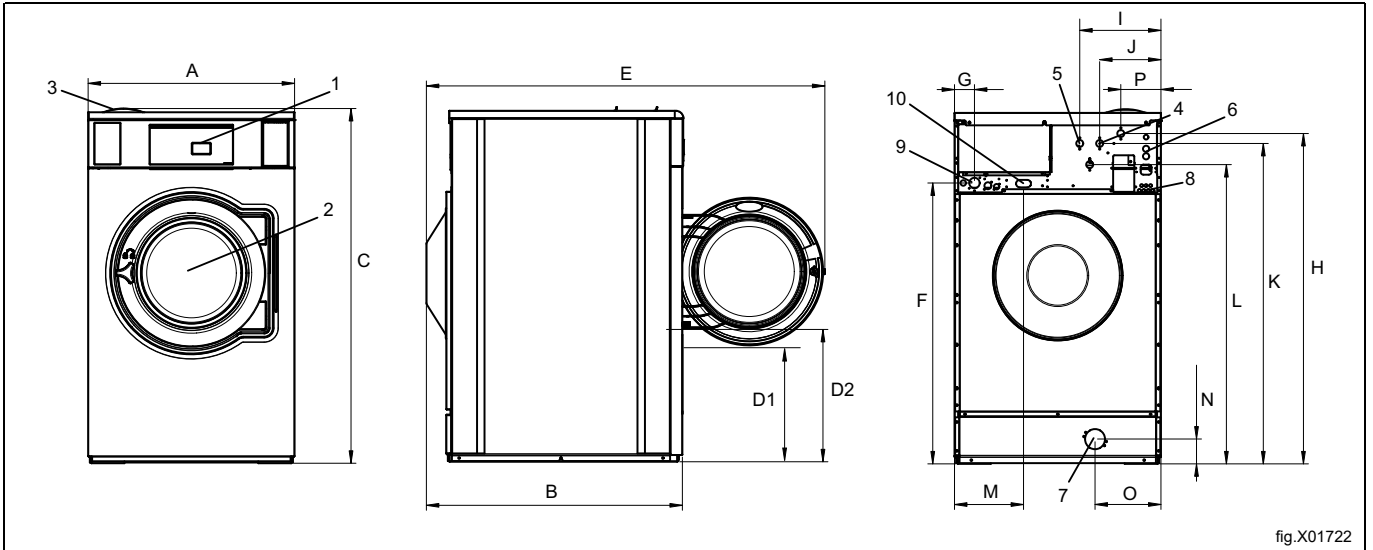


fig.X01722

1	Operating panel
2	Door opening, WS6-28, WS6-35: \varnothing 435 mm
3	Detergent container
4	Cold water
5	Hot water
6	Re-used water
7	Drain valve
8	Liquid detergent supply
9	Electrical connection
10	Steam connection

mm	A	B	C	D1	D2	E	F	G
WS6-28	830	1030	1430	470	550	1590	1135	80
WS6-35	910	1115	1465	505	585	1675	1170	80

mm	H	I	J	K	L	M	N
WS6-28	1330	325	245	1290	1205	280	105
WS6-35	1365	345	245	1325	1245	280	105

mm	O	P
WS6-28	265	160
WS6-35	210	160

3.2 Technical data

		WS6-8	WS6-9	WS6-11	WS6-14	WS6-20	WS6-28	WS6-35
Weight, net	kg	116	114	152	154	221	262	307
Drum volume	litres	75	85	105	130	180	250	330
Drum diameter	mm	520	520	595	595	650	725	795
Drum speed during wash	rpm	49	49	46	46	44	42	40
Drum speed during extraction	rpm	830	830	776	776	742	702	671
G-factor, max.		200	200	200	200	200	200	200
Heating: Electricity	kW	5.4	5.4	5.4	7.5	13	18	23
	kW	7.5	7.5	7.5	10			
	kW			10				
Heating: Steam		x	x	x	x	x	x	x
Heating: Hot water		x	x	x	x	x	x	x
Frequency of the dynamic force	Hz	13.8	13.8	12.9	12.9	12.4	11.7	11.2
Floor load at max extraction	kN	1.6 ± 3.4	1.7 ± 3.8	1.9 ± 4.4	2.3 ± 5.4	3.0 ± 6.7	3.8 ± 8.3	4.3 ± 9.9
Sound power/pressure level at extraction*	dB(A)	73/59	73/59	69/54	70/56	73/58	74/59	73/57
Sound power/pressure level at wash*	dB(A)	62/48	62/48	61/47	62/47	68/53	66/50	67/51
Heat emission of installed power, max	%	5	5	5	5	5	5	5

* Sound power levels measured according to ISO 60704.

3.3 Connections

		WS6-8	WS6-9	WS6-11	WS6-14	WS6-20	WS6-28	WS6-35
Water valves	DN BSP	20 3/4"	20 3/4"	20 3/4"	20 3/4"	20 3/4"	20 3/4"	20 3/4"
Recommended water pressure	kPa	200-600	200-600	200-600	200-600	200-600	200-600	200-600
Continuous operating pressure	kPa	50-800	50-800	50-800	50-800	50-800	50-800	50-800
Capacity at 300 kPa	l/min	20	20	20	20	30	60	60
Drain valve ø outer	mm	75	75	75	75	75	75	75
Draining capacity	l/min	170	170	170	170	170	170	170
Steam valve connection	DN BSP	15 1/2"	15 1/2"	15 1/2"	15 1/2"	15 1/2"	15 1/2"	15 1/2"
Recommended steam pressure	kPa	300-600	300-600	300-600	300-600	300-600	300-600	300-600
Functioning limits for steam valve	kPa	50-800	50-800	50-800	50-800	50-800	50-800	50-800

* There are NH and DN (BSP) threaded on the valves of this machine, please refer to Water connection section for further information.

4 Setup

4.1 Unpacking

Note!

For WS6-14-WS6-35 two persons are recommended for the unpacking.

Remove the front and rear panel.

Remove the bolts between the machine and pallet. There is one to the right in the front of the machine and another diagonally opposed to it, at the back of the machine.

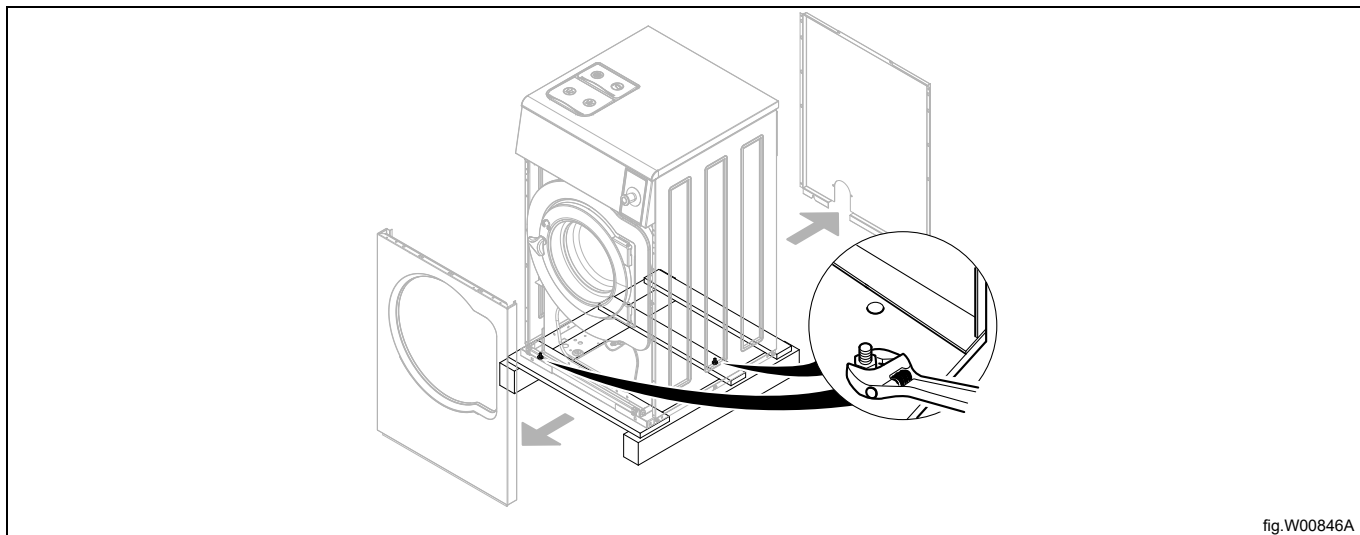


fig.W00846A

Remove the machine from the pallet.

Note!

When moving the machine, handle it with care.

Place the machine on its final position.

4.2 Recycling instruction for packaging

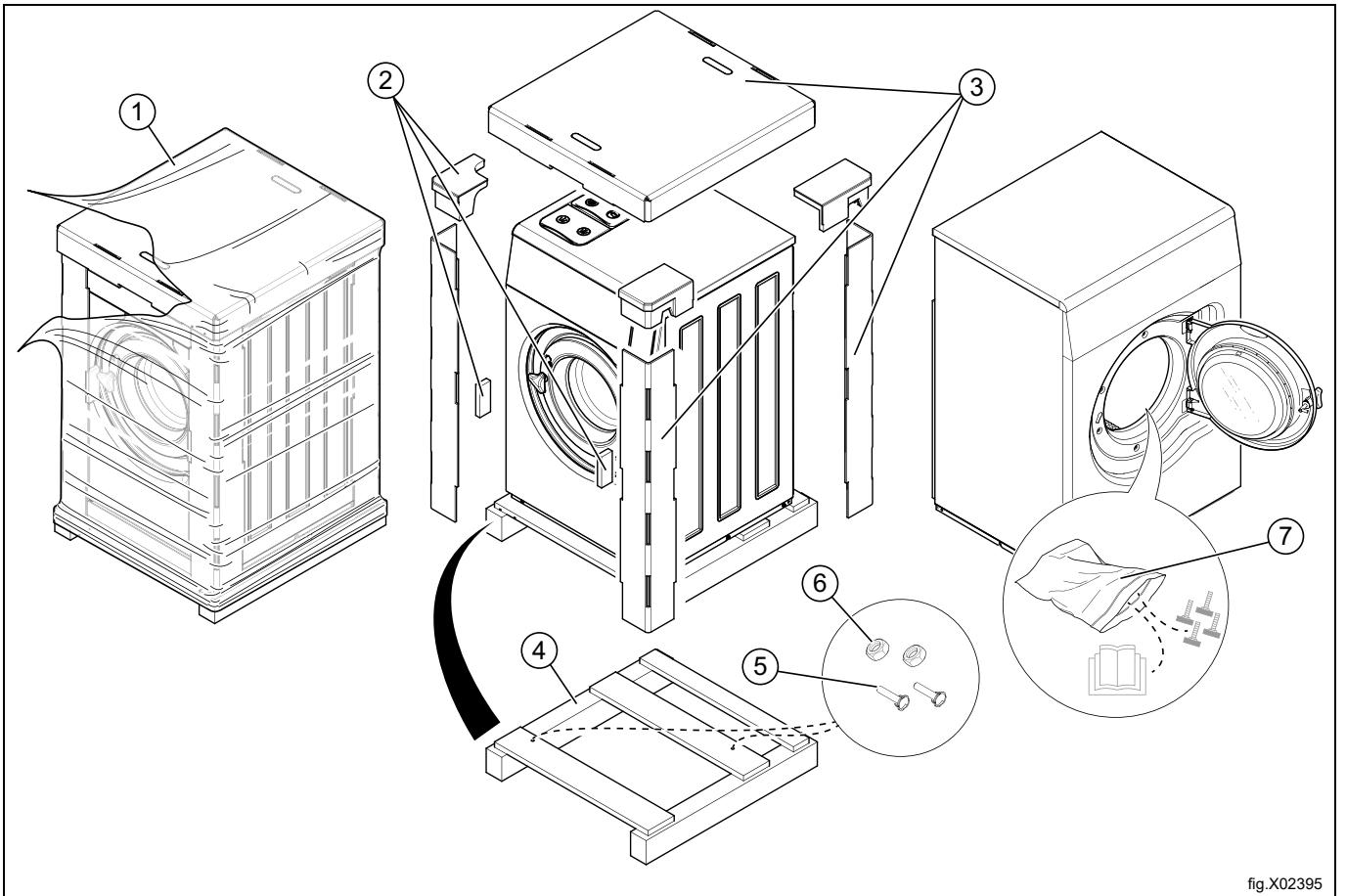


fig.X02395

Fig.	Description	Code	Type
1	Wrapping film	LDPE 4	Plastics
2	Corner protection	PS 6	Plastics
3	Cardboard packaging	PAP 20	Paper
4	Pallet	FOR 50	Wood
5	Screw	FE 40	Steel
6	Nut	FE 40	Steel
7	Plastic bag	PET 1	Plastics

4.3 Siting

Install the machine close to a floor drain or open drain.

The machine should be positioned so that there is plenty of room for working, both for the user and service personnel.

The figure shows minimum distance to a wall and/or other machines. Failure to respect the prescribed distances will prevent easy access for maintenance and service operations.

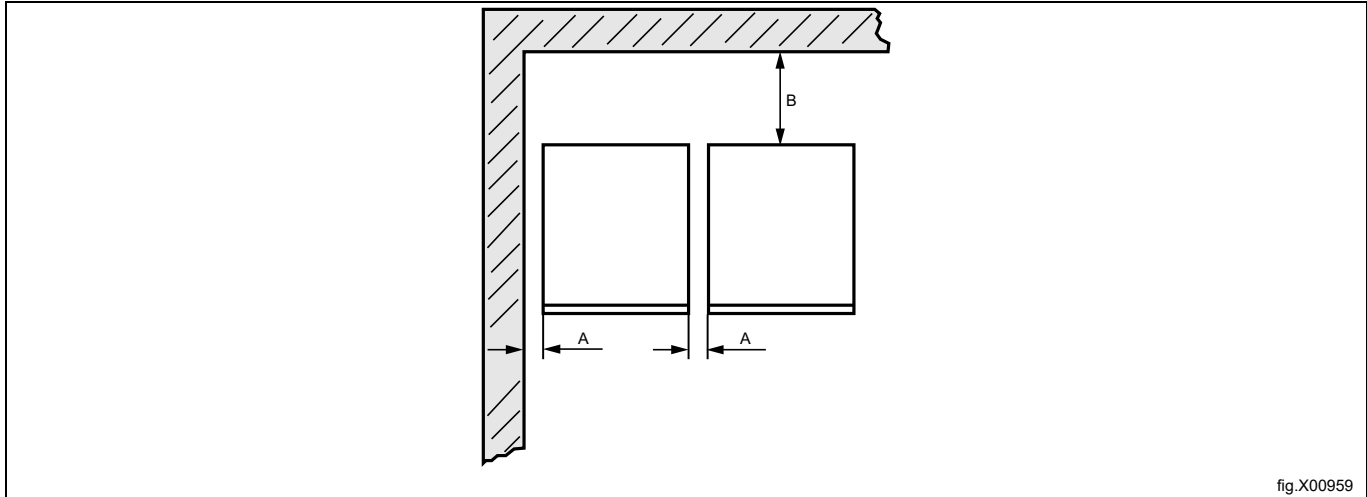


fig.X00959

A	25 mm
B	500 mm

4.4 Mechanical installation

Foundation requirement

In this type of machine, the drum is attached directly to the frame. As a result the floor under the machine must be stable enough to absorb the dynamic forces generated during spin cycles. For that reason, the mounting bolts must be cast into the floor material itself.

When securing the machine to an existing concrete floor, it must be at least 200 mm thick, with a minimum concrete strength of 20.7 MPa. The floor must be free of seams and cracks.

If the floor is less than 200 mm, an alternative might be to cast a plinth. The floor must be able to withstand the loads indicated in the table in the Technical data section.

If an existing concrete floor (of 200 mm minimum thickness) is to serve as the foundation, but it is not possible to cast "J" bolts into the concrete, an alternative is to use so called chemical anchor bolts.

The machine must be securely fastened to a suitable foundation using 4-M16 (5/8 inch) threaded rod, heavy duty flat washers and lock nuts or lock washers. **Also two M10 (3/8 inch) expansion bolts (1) MUST be installed at the front of the machine. If all six anchors are not properly installed, large vibrations in the machine's cabinet may occur.**

Failure to properly secure the machine to its foundation, or securing the machine to an inadequate foundation, will result in severe vibration, damage to the machine, and will void the manufacturer's warranty.

The following table shows the drilling points.

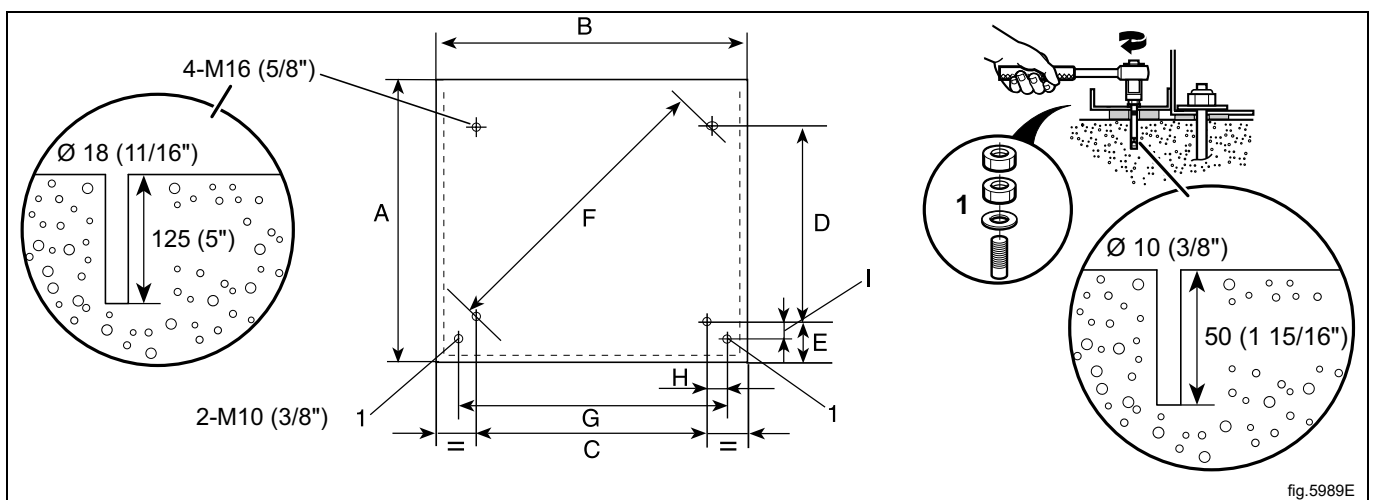


fig.5989E

mm	A	B	C	D	E	F	G	H	I
WS6-8	685	660	496	394	115	633.4	496	-	74.5
WS6-9	725	660	496	443	115	665	496	-	74.5
WS6-11	700	720	575	387	120	693.1	595	10	79
WS6-14	785	720	575	495	120	758.7	595	10	79
WS6-20	875	750	636.5	569.5	120	854.1	657.5	10.5	83.3
WS6-28	950	830	716	633	125	955.7	738	11	86.3
WS6-35	1035	910	789.5	696	135	1052.5	811.5	11	94.5

Mark and drill all holes for bolts in the positions shown.

Fix the thread rod M16 to the floor.

After the machine has been placed over the other four M16 bolts, at the expansion M10 bolts (1), place the two square spacers ($t = 4 \text{ mm}$) over the two holes. They shall be placed between the machine and foundation. Insert the expansion bolts (1) into the holes drilled in the floor.

Level the machine by using stainless or galvanized steel square spacer between the machine and the floor.

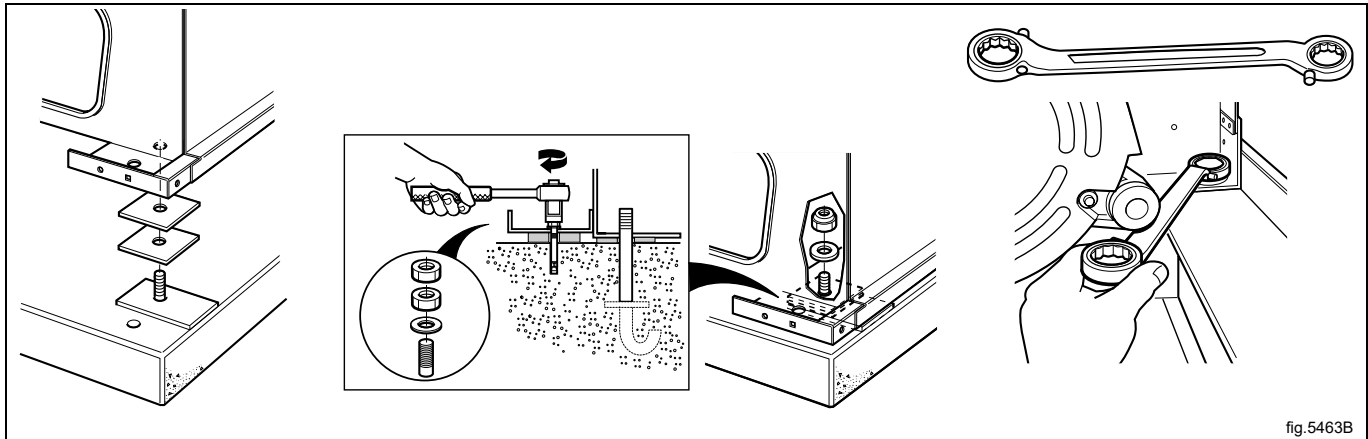
The spacers must be of a size to cover the support surface.

Fit the heavy duty washer and self-locking nuts with the machine and tighten all nuts well.

To tighten the nuts it is recommended to use a ratchet wrench, especially in the right rear corner. Then final tighten torque as recommended spec is M16 (5/8 inch) = 150 Nm, M10 / 3/8 inch) = 40 Nm.



It is of the utmost importance that the machine is placed in level, from side to side as well as front to rear.



After the machine has been in use for a while, check and re-tighten the nuts if necessary.

All nuts shall be checked and re-tighten every year.

Note!

Failure to closely follow the instructions provided in this manual may result in severe damage to the machine, and the risk of personal injury. The manufacturer is not responsible for damage or injury resulting from improper installation.

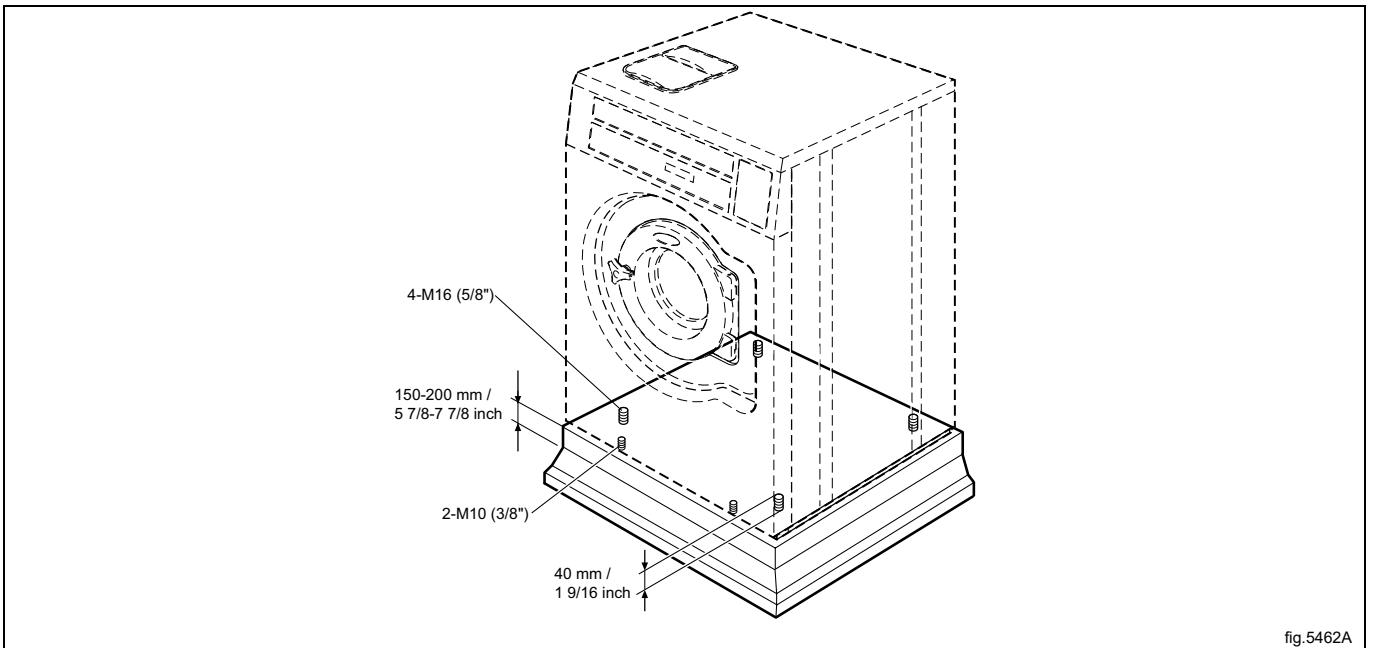
Note!

The use of chemical anchors and/or the use of a fabricated steel mounting base DOES NOT reduce the thickness requirement for the underlying concrete floor. The floor MUST BE AT LEAST 200 MM THICK, or a new concrete foundation MUST be poured.

4.4.1 Casting a plinth

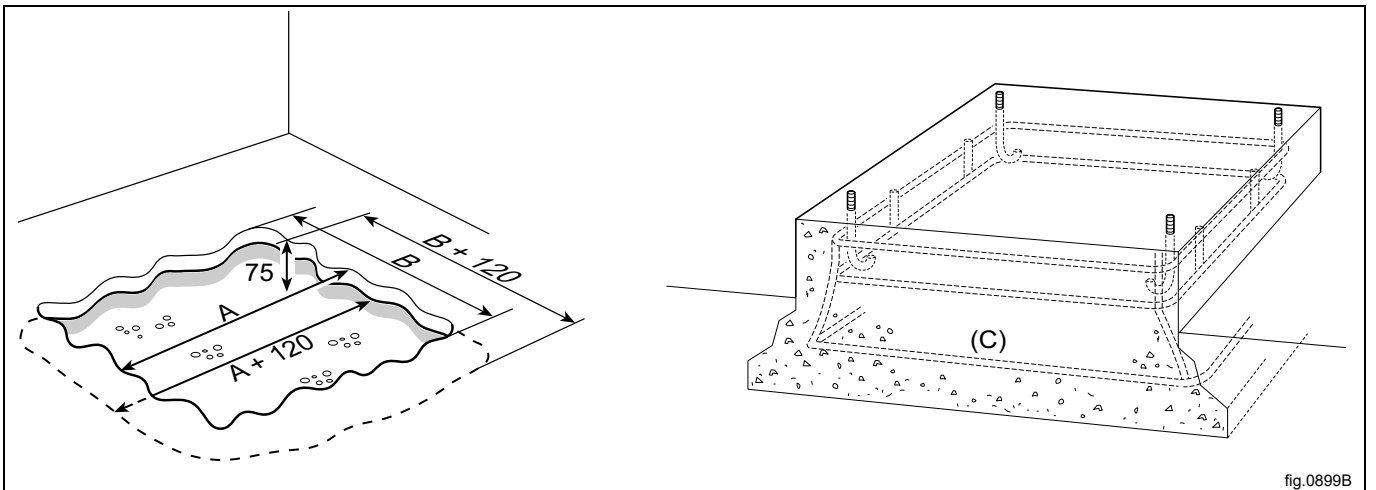
A plinth should be used where the existing floor is less than 150 mm thick or in order to ensure that the machine is above the level of any water leakages.

The plinth should be approximately 150 - 200 mm in height.



Proceed as follows:

- Break up the existing floor to a depth of approx. 75 mm and check that the sides of the hole are tapered outward so that the longest side at the bottom measures 120 mm more than at the top. (See A and B from previous table).



- Make the mould for the plinth.
- 4 bolts must be set into the concrete of the machine base. The bolts need to project 40 mm out of the base. Pour the concrete into the prepared base mould and make sure that the surface is level. Check the previous table for the correct position of the bolts.
- Moisten the hole well and apply concrete to the sides and bottom. Required minimum concrete strength at least 20.7 MPa. Recommend the rebars (C) shall be used around the base. The rebars shall be placed between the bolts and the edge of the foundation. The bolts shall have the fish plate at the bottom or equivalent (bent at the bottom).
- The concrete must be set and strength at least 20.7 MPa before mounting the machine on the plinth.

4.4.2 Chemical bolts / chemical anchors

An alternative to breaking up the existing floor or foundation is to use chemical bolts M16.

1. Mark and drill four holes (\varnothing 18 mm) 125 mm deep for the chemical bolts.
Check the previous table for the correct position of the holes.
2. Clean the drilled holes with a vacuum cleaner. (Insert the small pipe into the hole and shake it).
3. Put down the chemical ampule in the hole.
4. Rotate the bolt into the hole with a drilling machine, so that the glass ampule is broken and its contents mixed.
5. Rotate the bolt to correct depth.

Note!

Do not rotate the bolt against the concrete bottom. Check that the chemicals have filled the hole completely.

6. Remove the drilling machine with the mounting tool. Hold the bolt with one hand. Let the bolt harden before the machine is mounted.

Time for hardening, due to different concrete temperatures:

- 10°C: 6 hours
- 5°C: 2.5 hours
- ± 0°C: 1 hour
- 5°C: 30 minutes
- 10°C: 20 minutes
- 15°C: 15 minutes
- 20°C: 10 minutes

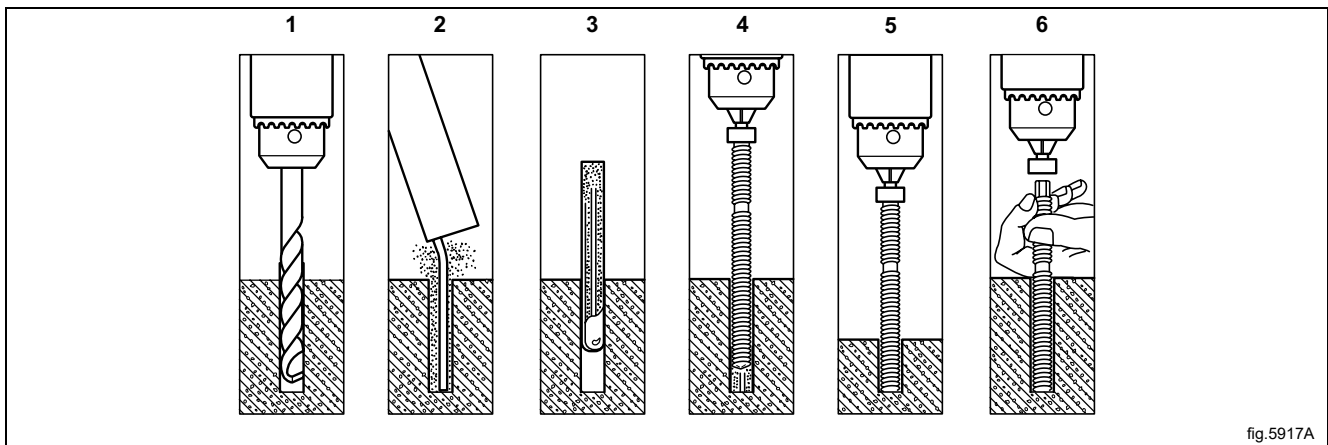


fig.5917A

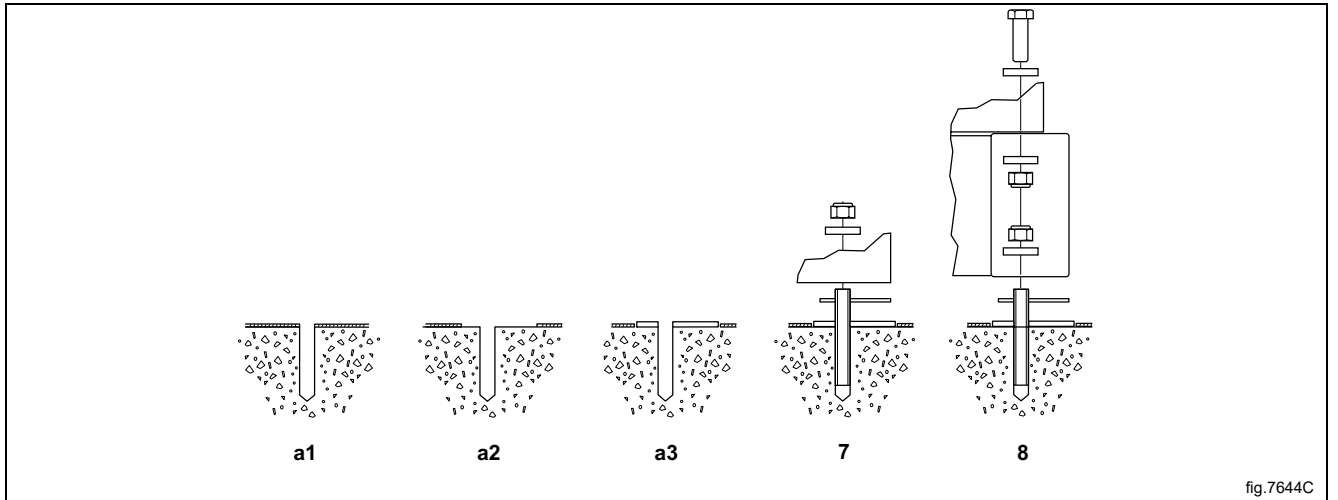
If installation shall be done on vinyl floor coverings chemical anchors shall be used.

- a1. Mark and drill holes for all bolts 4–M16 and 2–M10. Check the previous table for the correct position of the holes.
 - a2. Cut the flooring vinyl material around the hole for all square spacers.
 - a3. Apply sealant to the hole cut in the vinyl floor covering. Insert the washer. Use sealant to seal around the washer between the vinyl and the spacer. Then fix the chemical bolts M16 as step 2, 3, 4, 5 and 6 before.
7. Put the machine into place after the chemical bolts are set. Check that the machine is in level. If it is not, use spacers where required between floor and machine.

Do not use any nut without locking solution and thin washer to fix machine.

Fix the machine in place using the heavy duty washers and lock-nuts with the machine.

8. Or installation with a welded foundation.



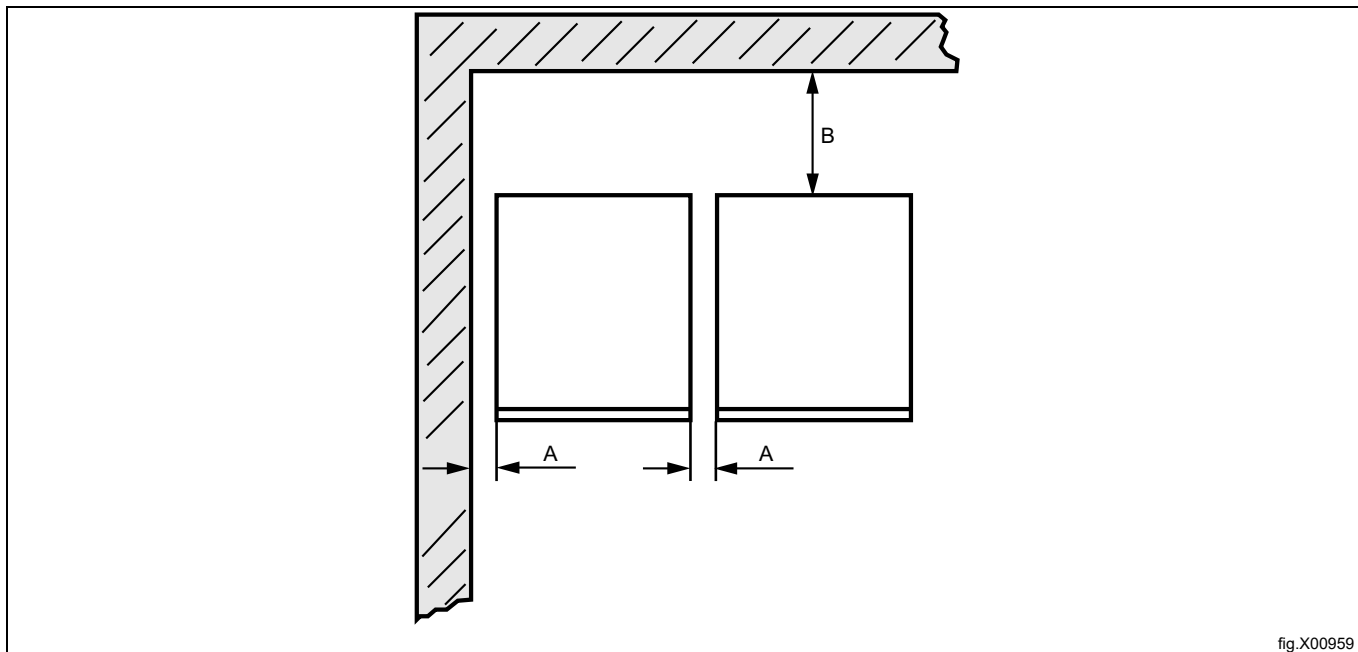
5 Marine installation

5.1 Siting

Install the machine close to a floor drain or open drain.

The machine should be positioned so that there is plenty of room for working, both for the user and service personnel.

The figure shows minimum distance to a wall and/or other machines.



A	25 mm
B	500 mm

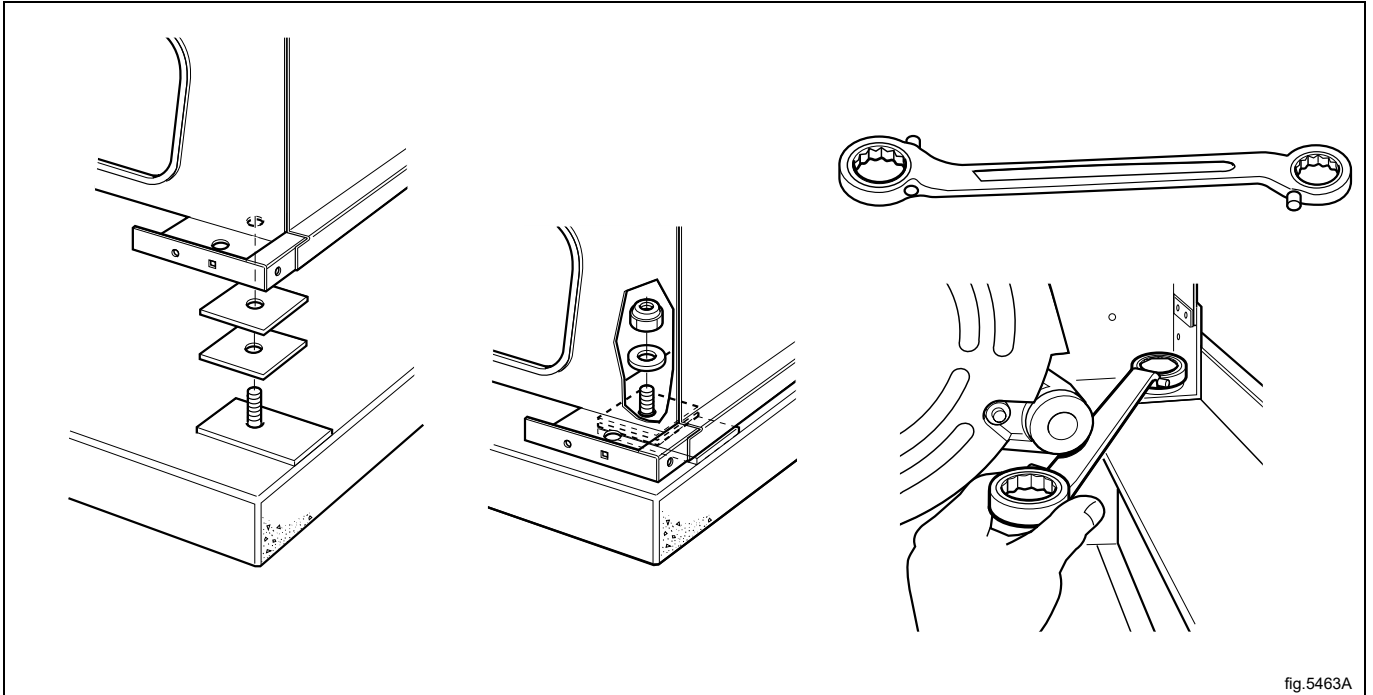
5.2 Mechanical installation

To ensure steadiness of the machine it is important to fasten the machine to the foundation.

Level the machine by using stainless or galvanized steel washers between the machine and the floor. The washers must be of a size to cover the support surface. Fit the washers and self-locking nuts supplied with the machine and tighten well. To tighten the nuts it is recommended to use a ratchet wrench, especially in the right rear corner.



It is of the upmost importance that the machine is placed in level, from side to side as well as front to rear. If the machine is not properly levelled, it may result in out-of-balance without a real out of balance in the drum.



After the machine has been in use for a while, check and re-tighten the nuts if necessary.

Floor

In this type of machine, the drum is attached directly to the frame. As a result the deck under the machine must be stable enough to absorb the dynamic forces generated during spin cycles.

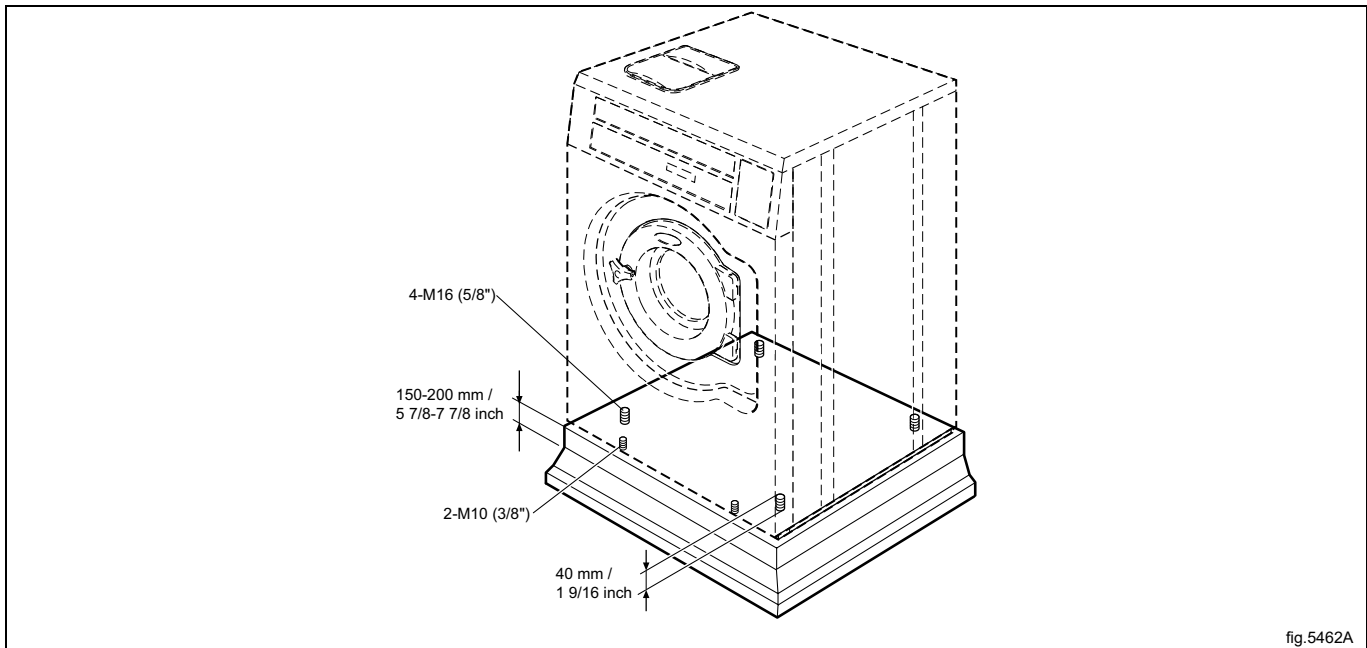
The combination deck and foundation must be able to withstand the loads indicated in the technical data table.

Some marine installations have very thin decks. Special attention to be taken. Reinforcing deck plus increased size of foundation may be necessary.

5.2.1 Casting a plinth

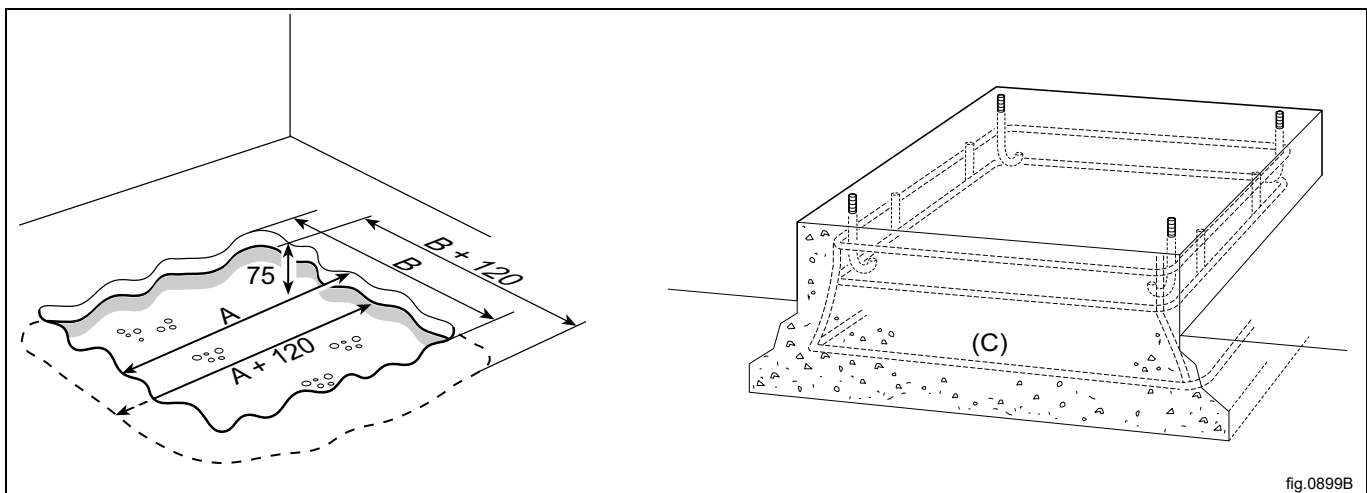
A plinth should be used where the existing floor is less than 150 mm thick or in order to ensure that the machine is above the level of any water leakages.

The plinth should be approximately 150 - 200 mm in height.



Proceed as follows:

- Break up the existing floor to a depth of approx. 75 mm and check that the sides of the hole are tapered outward so that the longest side at the bottom measures 120 mm more than at the top. (See A and B from previous table).



- Make the mould for the plinth.
- 4 bolts must be set into the concrete of the machine base. The bolts need to project 40 mm out of the base. Pour the concrete into the prepared base mould and make sure that the surface is level. Check the previous table for the correct position of the bolts.
- Moisten the hole well and apply concrete to the sides and bottom. Required minimum concrete strength at least 20.7 MPa. Recommend the rebars (C) shall be used around the base. The rebars shall be placed between the bolts and the edge of the foundation. The bolts shall have the fish plate at the bottom or equivalent (bent at the bottom).
- The concrete must be set and strength at least 20.7 MPa before mounting the machine on the plinth.

5.2.2 Welding a foundation

A welded foundation shall be made where a concrete foundation can not be made.

The welded foundation must be able to withstand the loads indicated in the table in the Technical data section. (Equivalent the concrete floor, with a minimum strength of 20.7 MPa). The following figure shows such an example of welded foundation, where the machine fixing points are located and must be mounted to the welded foundation.

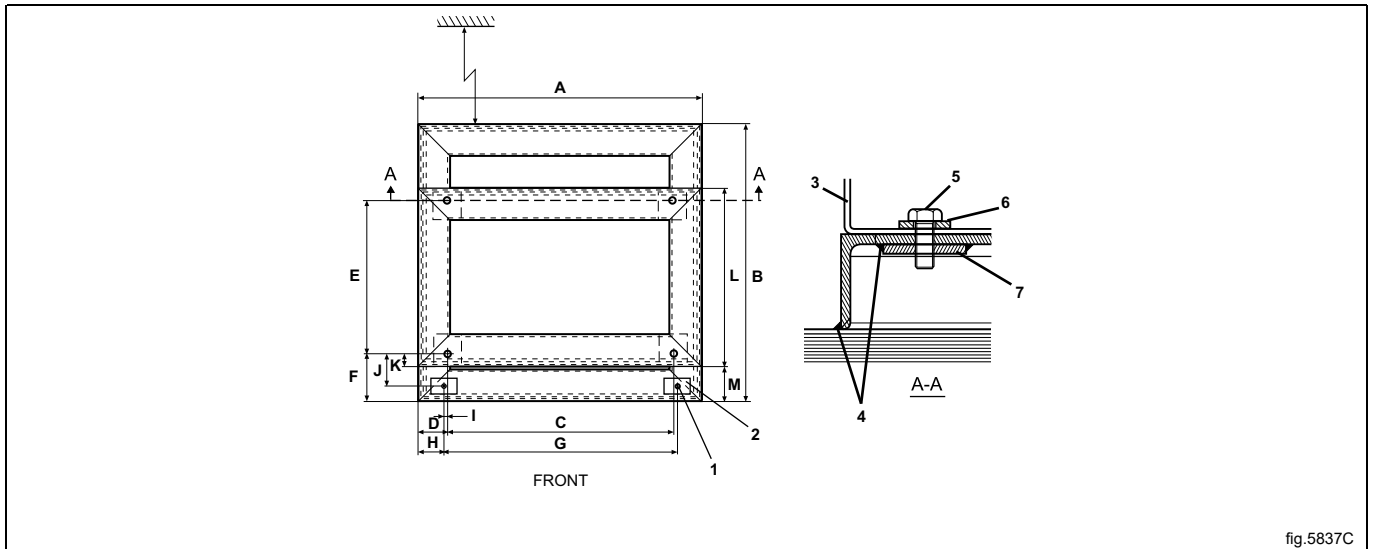


fig.5837C

1	Bolt M10 (2-threaded M10 holes)
2	Washer, welded 66 x 40 x 4 mm
3	Machine frame
4	Welded
5	Bolt M16 x 45 mm (4-threaded M16 holes)
6	Washer 44 / 16.5 x 6 mm
7	Washer 72 x 72 x 8 mm

L-profile dimensions: WS6-8-WS6-14: 80 x 80 x 8, WS6-20-WS6-35: 100 x 100 x 10 mm

mm	A	B	C	D	E	F	G	H
WS6-8	660	685	496	82	394	115	496	82
WS6-9	660	725	496	82	443	115	496	82
WS6-11	720	700	575	75	387	120	595	65
WS6-14	720	785	575	75	495	120	595	65
WS6-20	750	875	636.5	55	569.5	120	657.5	45
WS6-28	830	950	716	55	633	125	738	45
WS6-35	910	1035	789.5	60	696	135	811.5	49.2

mm	I	J	K	L	M
WS6-8	-	74.5	30	455	85
WS6-9	-	74.5	30	505	85
WS6-11	10	79	30	445	85
WS6-14	10	79	30	555	85
WS6-20	10.5	83.3	30	630	90
WS6-28	11	86.3	30	695	95
WS6-35	11	94.5	30	775	105

6 Water connection

All water intake connections to the machine should be fitted with manual shut-off valves and filters, to facilitate installation and servicing.

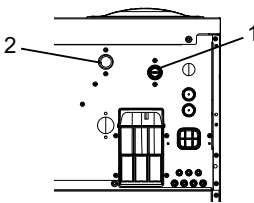
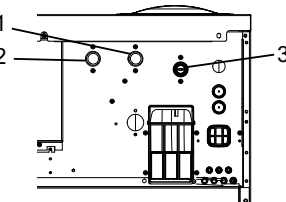
Water pipes and hoses should be flushed clean before installation.

The machine shall be connected with new water hoses. Re-used water hoses must not be used.

Hoses are to be of an approved type and grade and comply with IEC 61770.

After installation hoses must hang in gentle arcs.

All connectors present on the machine must be connected. The table shows the possible connection options, which will depend on the water types to be connected to the machine. Information is also available on the panel above the connections.

	Water type	Water connection
	WS6-8, WS6-9, WS6-11, WS6-14 • Cold and hot	WS6-8, WS6-9, WS6-11, WS6-14 1. Cold 2. Hot
	WS6-20, WS6-28, WS6-35 • Cold and hot	WS6-20, WS6-28, WS6-35 1. Cold 2. Hot 3. Cold (for detergent container) / Hot

There is also an extra water valve which can be used for hard water if soft water is connected to 1.

This valve can also be used for water re-use from tank.

If pump is used, it is only a water connection without valve.

For WRAS-approved machines: Remove the three plastic covers (A).

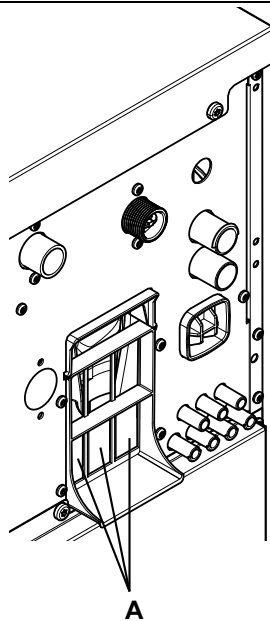


fig.7811B

Water pressure:

Continuous operating pressure: 50–800 kPa (0.5-80 kp/cm²)

Maximum: 1000 kPa (10 kp/cm²)

Recommended: 200–600 kPa (2–6 kp/cm²)

Note!

If the water pressure is below the minimum value, the wash result can not be guaranteed for certain program.

For WRAS-approved machines; always check connection requirements on WRAS website.

For KIWA-approved machines; always check connection requirements on KIWA website.

For NSF-approved machines; always check connection requirements on NSF website.

Plumbing

This machine is approved for all UK applications as suitable for category 5.

The product is listed in the WRAS regulations advisory scheme directory and is suitable for direct connection to mains drinking water. No special plumbing arrangements e.g. break tanks are required.

Water Council approved double check valves should be fitted in between the stopcocks and the water inlet hoses.

FOR AUSTRALIA:

The appliance shall be installed in accordance with the Plumbing Code of Australia (the PCA).

The appliance need to be installed using dual check valves.

Contact details for after sales service: service.au@electroluxprofessional.com

7 Connection of external dosing systems

7.1 Connection of the hoses

The machine is prepared for connection of external dosing systems or water re-use systems etc.

The connections are closed at delivery. Open any of the connections that shall be used by drilling a hole where the hoses shall be connected.

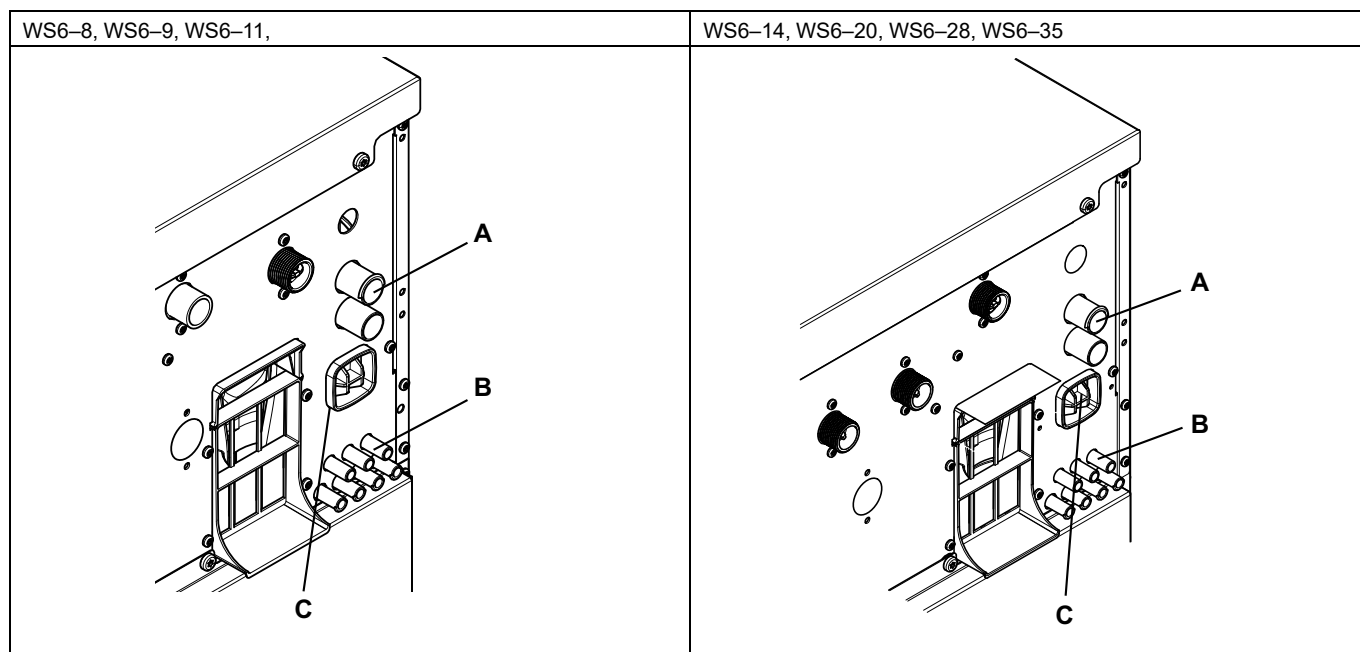
Note!

Make sure there is no burrs left after drilling. When removing burrs make sure burrs does not fall into the siphon breaker.

A = \varnothing 17 mm (used for external dosing systems or systems for re-use of water).

B = \varnothing 6 mm (used for external dosing systems only).

C = Only used for external liquid manifold. (Separate instructions enclosed when ordering).



Always connect hoses on connections (A) with a hose clamp.

For connections (B); if the hoses are made of a soft material such as silicone or similar, use a cable tie to fasten the hose on the connection. If the hoses are made of a hard material, it is not recommended to make the connection tighter by using a cable tie.

Note!

Equipment for external dosing must only be connected to work on pump pressure and not on network pressure.

7.2 Electrical connection of external dosing system



The power supply to the external dosing system must never be connected to the machine's incoming terminal block or to the edge connectors on the I/O-board.

7.2.1 Machine with connectors

Connect the external dosing system to connections A and B on the machine.

Connect the signal cable to B and the power supply to A.

For Efficient dosing system the cables are delivered with the machine.

Connect the power supply cable to the machine A and the other end of the cable together with the cable from Efficient Dosing in a connection box or with plug and receptacle.

Connect one end of the cable to the Efficient Dosing Controller J2 and the other end to the machine B.

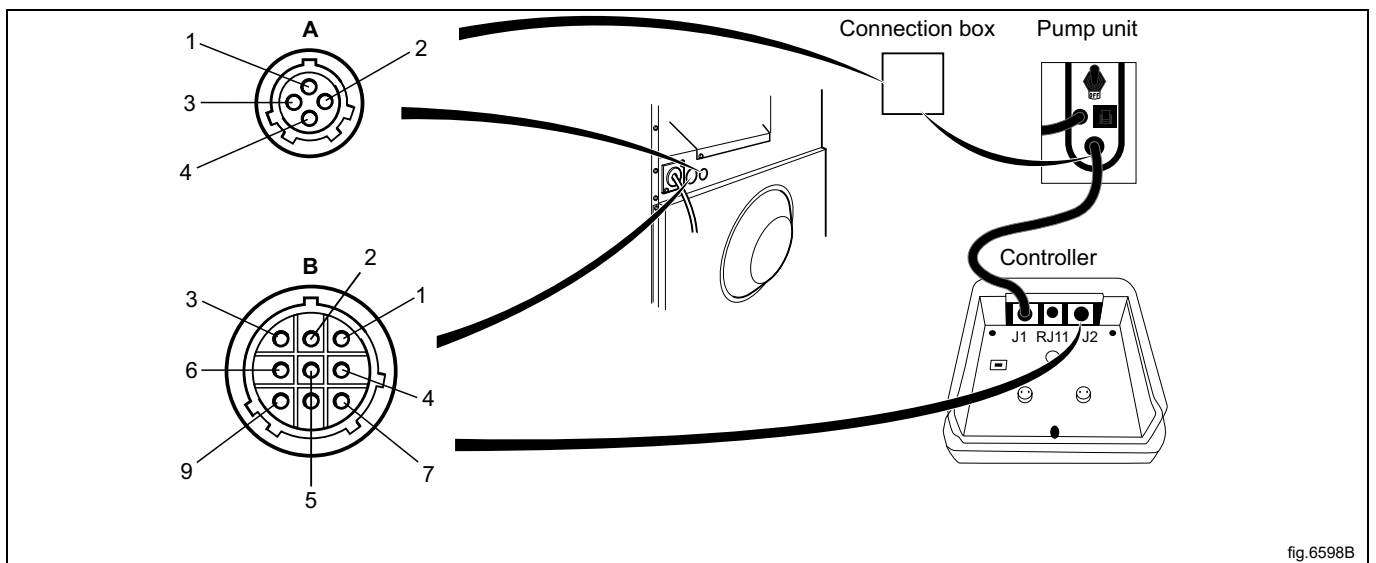


fig.6598B

A	
1	Line
2	Neutral
3	
4	Ground

B	
1	Neutral
2	Program run
3	Gnd
4	Signal 2
5	Signal 3
6	Signal 4
7	Signal 5
8	Rx
9	Tx

7.2.2 Machine without connectors

Connect the external dosing system to the I/O board, which is located to the right of the incoming power supply. The I/O board has edge connectors for connecting external dosing systems. Edge connectors on the I/O board can be loosened for connecting cables.

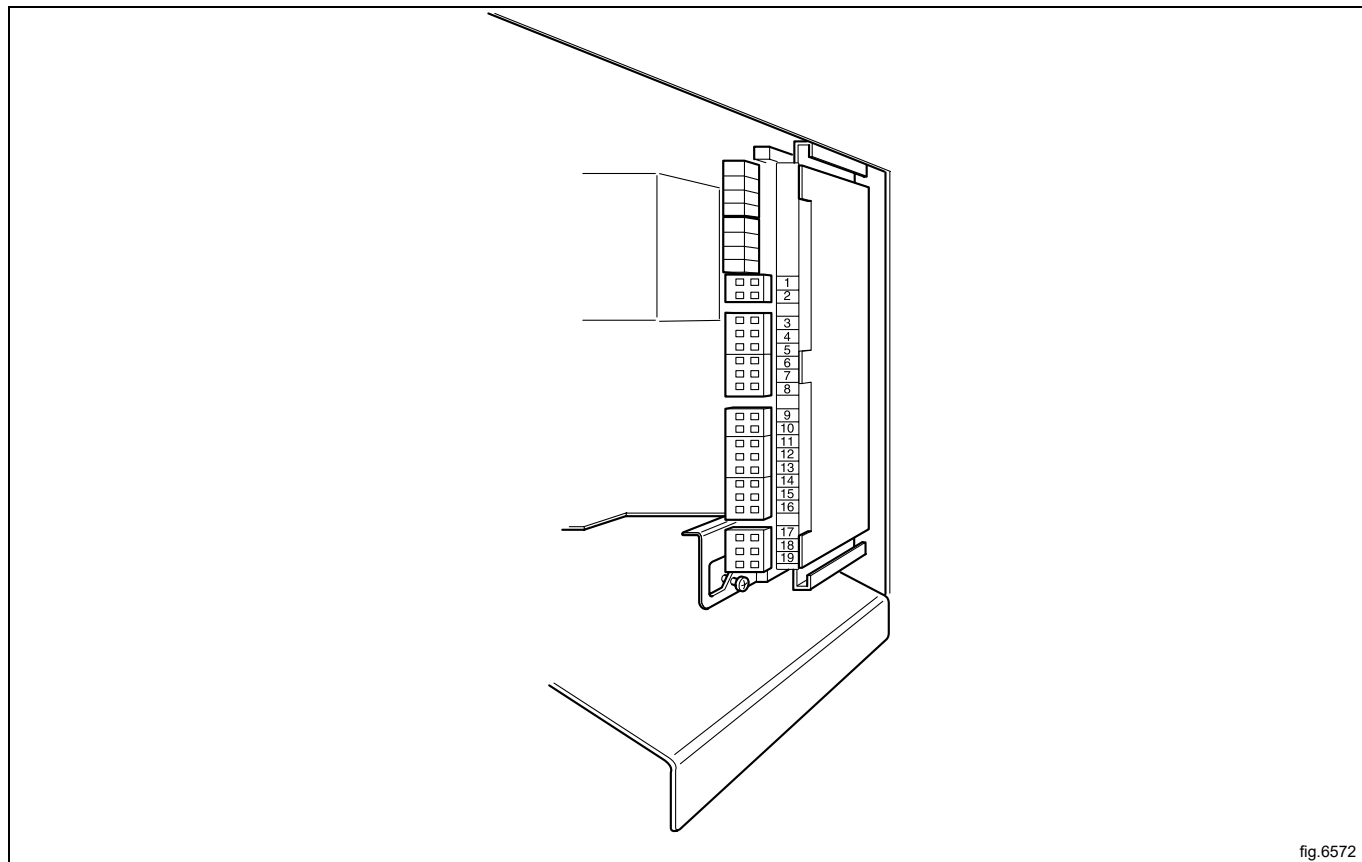


fig.6572

- 11 = N
- 18 = Program run
- 12 = Signal 1
- 13 = Signal 2
- 14 = Signal 3
- 15 = Signal 4
- 16 = Signal 5

7.2.3 Outputs

Connect the power supply (e.g. 24V DC) for the external liquid supplies to 9 and 10. If an internal power supply (from the machine) is being used, it can be taken from 1 (N) and connected to 9 and from 2 (L) and connected to 10. Max load on the outputs 0.5 A.

Signals for external liquid supplies 1-5 are connected to 12-16 where connector:

- 12 = Signal 1
- 13 = Signal 2
- 14 = Signal 3
- 15 = Signal 4
- 16 = Signal 5

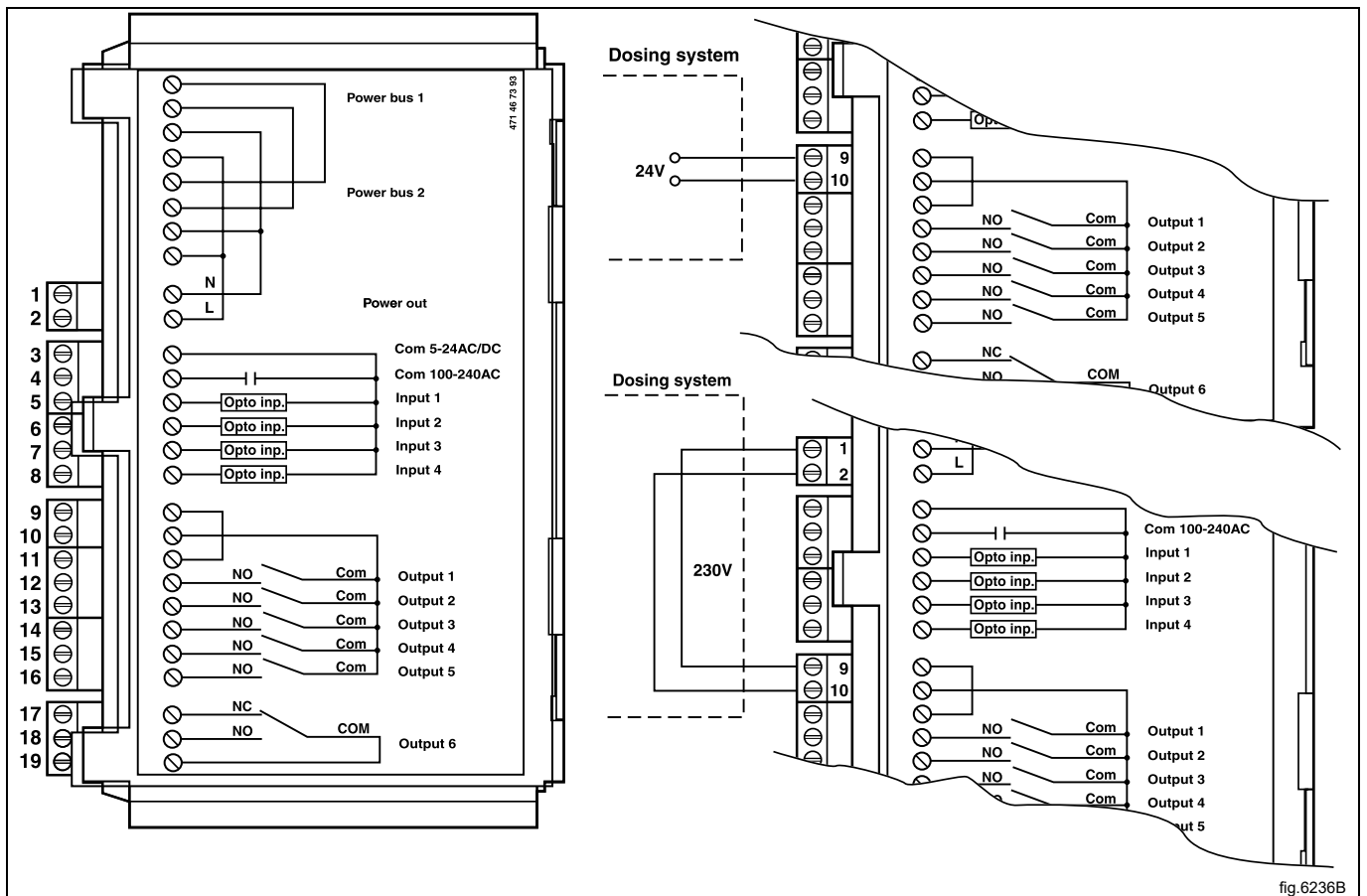


fig.6236B

	6M14	6F01	6R01	6F02	Other programs
Signal 1	-	Pre-wash	Pre-wash	Pre-wash	Pre-wash
Signal 2	Main wash	Main wash	Main wash	Main wash	Main wash
Signal 3	Softener	Softener	Softener	Softener	Softener
Signal 4	Mop last rinse	Desinfection	Pr 1 last rinse	Mainwash	-
Signal 5	Bleach	Bleach	Bleach	Bleach	Bleach

7.2.4 Inputs

The signal level can be 5-24V DC/AC or 100- 240V AC. For 5-24V, the signal reference is connected to 3 and for 100-240V to 4. Potentials on the inputs cannot be mixed.

Note!

The I/O board will be damaged if the voltage on connection 3 is too high > 24V.

Connection 8 may be connected if the program is to pause, e.g. while detergent is being dosed.

The figure shows an example of engaging a 24V pause signal. The program will pause for as long as the pause signal remains activated (high).

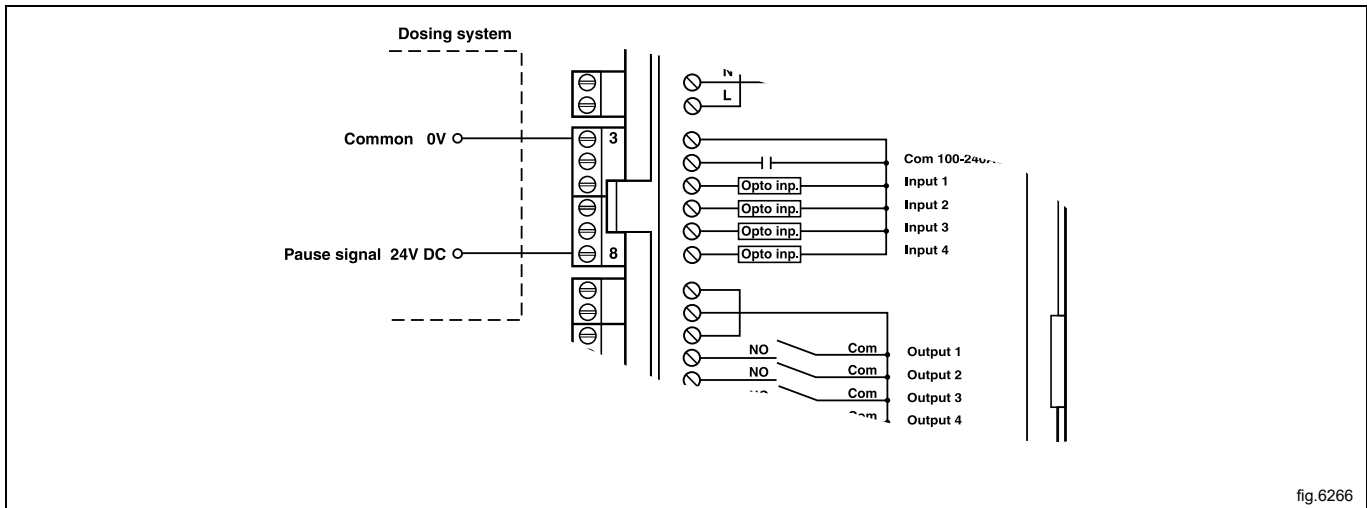


fig.6266

Connection 7. If this is connected, an error message will be displayed if any of the chemical tanks are empty. The program will continue, however.

The figure shows an example of engaging a normal open contact.

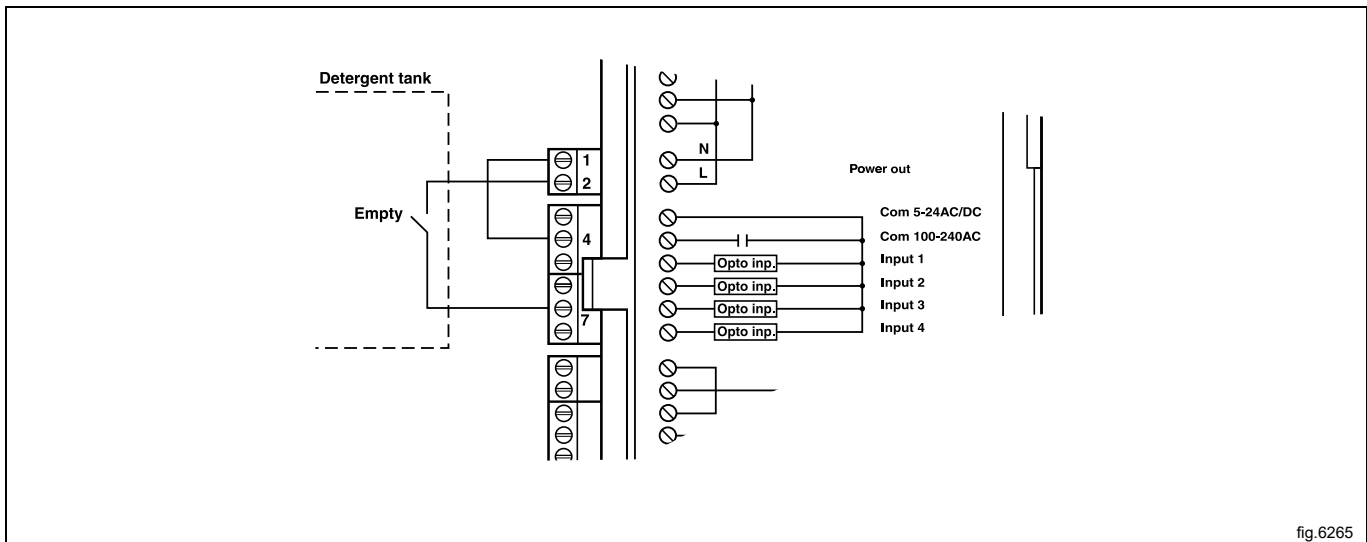
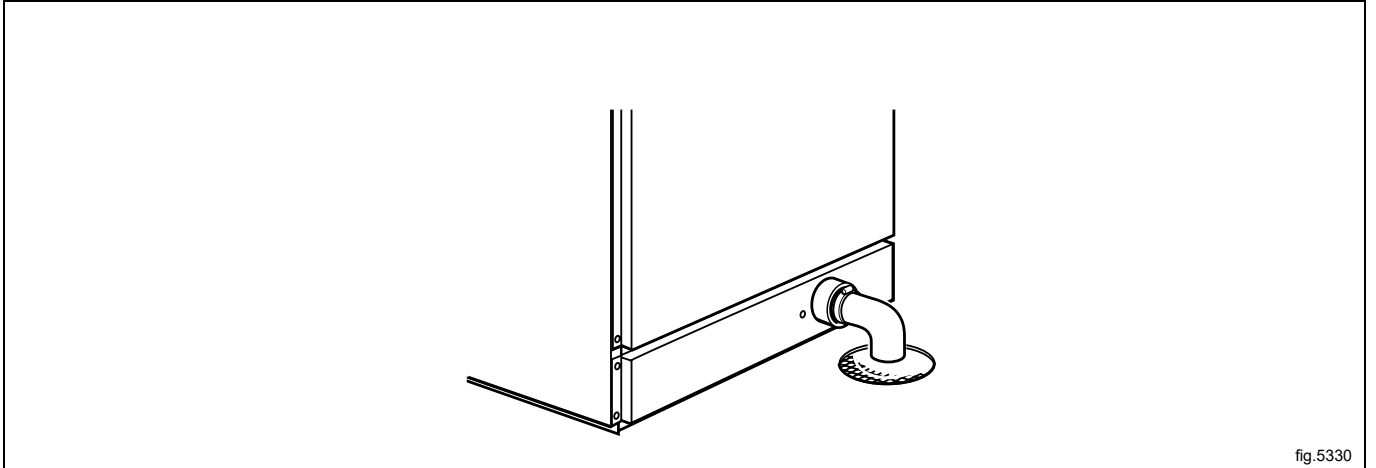


fig.6265

8 Drain connection

Connect a 75 mm (50 mm for models WS6–8, WS6–9, WS6–11) pipe or rubber hose to the machine's drain pipe, ensuring a downward flow from the machine. Avoid sharp bends which may prevent proper draining.

The machine may drain in to a drainage through or into a closed drain system. In either case, be sure to comply with all applicable national and local plumbing code provisions.

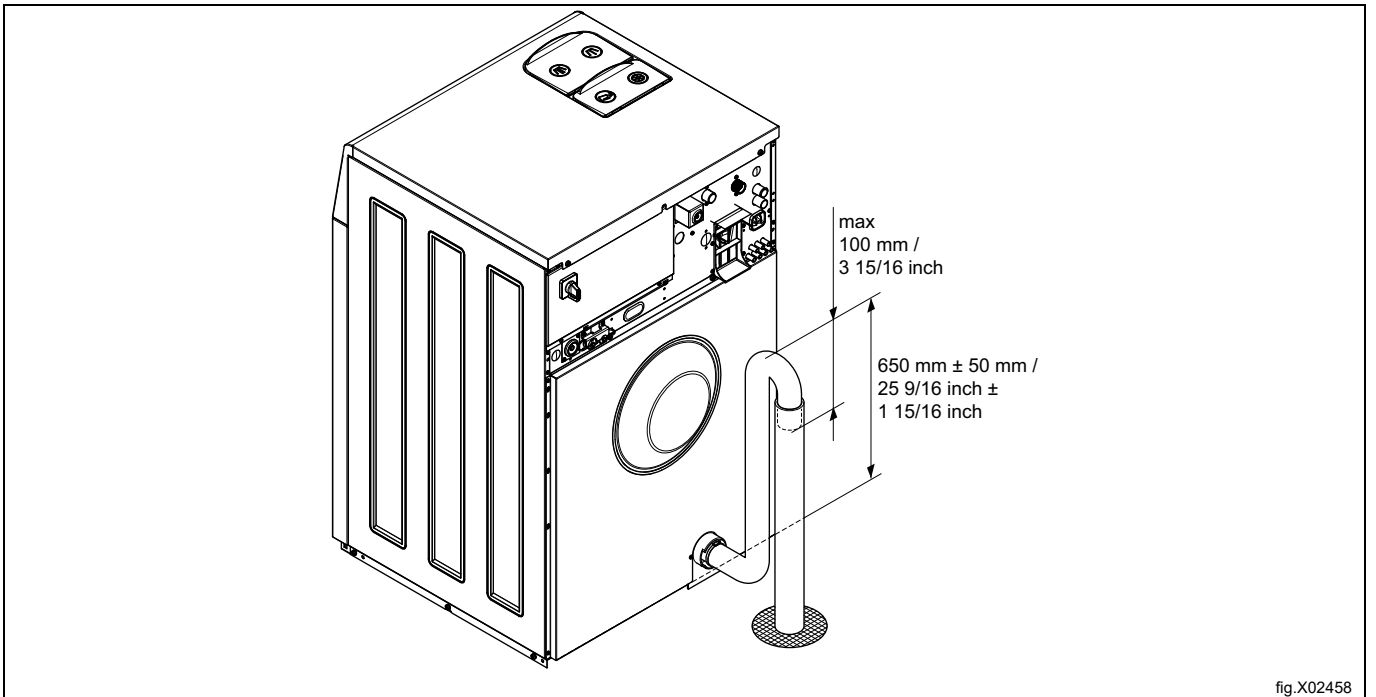


Drain pump (for models WS6–8, WS6–9, WS6–11)

The drainage pipe should be located over a floor drain, drainage channel or the like.

The highest part of the drain hose shall be positioned according to the figure.

Make sure there is no kinks in the hose.



9 Electrical connection

9.1 Electrical installation



The electrical installation may only be carried out by qualified personnel.



Machines with frequency-controlled motors can be incompatible with certain types of earth leakage circuit breaker. It is important to know that the machines are designed to provide a high level of personal safety, which is why items of external equipment such as earth leakage circuit breakers are not necessary but is recommended. If you still want to connect your machine across an earth leakage circuit breaker, please remember the following:

- contact a skilled, authorised installation company to ensure that the appropriate type of breaker is chosen and that the dimensioning is correct
- for maximum reliability, connect only one machine per earth leakage circuit breaker
- it is important that the earth wire is properly connected.

In instances where the machine is not equipped with an omni-polar switch, one must be installed beforehand.

In accordance with the wiring rules: mount a multi-pole switch prior to the machine to facilitate installation and service operations.

The connecting cable shall hang in a gentle curve.

When connecting to a terminal block, the connection cable shell must be stripped 10-11 mm. The cable area must be at least 0.5 mm² and no more than 4 mm² (AWG12/AWG20). The terminal block used is a spring loaded cage clamp.

9.2 Electrical connections

WS6-8

Heating alternative	Main voltage	Hz	Heating power kW	Total power kW	Recommended fuse A
Electric heated	220-240V 1/1N~	50/60	3.0/5.4/7.5	3.3/5.7/7.8	16/25/32
	220-240V 3~	50/60	3.0/5.4/7.5	3.4/5.7/7.8	10/16/25
	380-415V 3N/3~	50/60	3.0/5.4/7.5	3.4/5.7/7.8	10/10/16
	440V 3~	50/60	5.4/7.5	5.7/7.9	10/16
	480V 3~	60	5.4/7.5	5.7/7.9	10/16
Non heated/Steam heated	208-240V 1/1N ~	50/60	*	0.4	10
	380-480V 1 ~ (**)	50/60	*	0.4	10

WS6-9

Heating alternative	Main voltage	Hz	Heating power kW	Total power kW	Recommended fuse A
Electric heated	220-240V 1/1N~	50/60	3.0/5.4/7.5	3.3/5.7/7.8	16/25/32
	220-240V 3~	50/60	3.0/5.4/7.5	3.4/5.7/7.8	10/16/25
	380-415V 3N/3~	50/60	3.0/5.4/7.5	3.4/5.7/7.8	10/10/16
	440V 3~	50/60	5.4/7.5	5.7/7.9	10/16
	480V 3~	60	5.4/7.5	5.7/7.9	10/16
Non heated/Steam heated	208-240V 1/1N ~	50/60	*	0.4	10
	380-480V 1 ~ (**)	50/60	*	0.4	10

WS6-11

Heating alternative	Main voltage	Hz	Heating power kW	Total power kW	Recommended fuse A
Electric heated	220-240V 1/1N~	50/60	3.0/7.5/10.0	3.5/7.9/10.4	16/35/50
	220-240V 3~	50/60	3.0/7.5/10.0	3.5/7.9/10.4	16/25/32
	380-415V 3/3N~	50/60	3.0/7.5/10.0	3.4/7.9/10.4	10/16/16
	440V 3~	50/60	7.5/10.0	7.9/10.4	16
	480V 3~	60	10.0	10.4	16
Non heated/Steam heated	208-240V 1/1N ~	50/60	*	0.8	10
	380-480V 1 ~ (**)	50/60	*	0.8	10

WS6-14

Heating alternative	Main voltage	Hz	Heating power kW	Total power kW	Recommended fuse A
Electric heated	220-240V 1/1N~	50/60	3.0/7.5/10.0	3.5/7.9/10.4	16/35/50
	220-240V 3~	50/60	3.0/7.5/10.0	3.5/7.9/10.4	16/25/32
	380-415V 3/3N~	50/60	3.0/7.5/10.0	3.4/7.9/10.4	10/16/16
	440V 3~	50/60	7.5/10.0	7.9/10.4	16
	480V 3~	60	10.0	10.4	16
Non heated/Steam heated	208-240V 1/1N ~	50/60	*	0.8	10
	380-480V 1 ~ (**)	50/60	*	0.8	10

WS6-20

Heating alternative	Main voltage	Hz	Heating power kW	Total power kW	Recommended fuse A
Electric heated	220-240V 1/1N~	50/60	4.8/13.0	5.3/13.5	25/63
	220-240V 3~	50/60	4.8/13.0	5.3/13.5	16/35
	380-415V 3N/3~	50/60	4.8/13.0	5.3/13.5	10/25
	440V 3~	50/60	13.0	13.5	20
	480V 3~	60	13.0	13.7	20
Non heated/Steam heated	208-240V 1/1N ~	50/60	*	0.8	10
	380-480V 1 ~ (**)	50/60	*	0.8	10

WS6-28

Heating alternative	Main voltage	Hz	Heating power kW	Total power kW	Recommended fuse A
Electric heated	220-240V 3~	50/60	18.0	18.8	50
	380-415V 3N/3~	50/60	18.0	18.8	32
	440V 3~	50/60	18.0	18.8	32
	480V 3~	60	18.0	18.8	25
Non heated/Steam heated	208-240V 1/1N ~	50/60	*	1.1	10
	380-480V 1 ~ (**)	50/60	*	1.1	10

Max. permitted impedance** = 0.26 Ohm

WS6-35

Heating alternative	Main voltage	Hz	Heating power kW	Total power kW	Recommended fuse A
Electric heated	220-230V 3~	50/60	19.1	20.2	63
	220-240V 3~	50/60	19.8/23.0	20.9/24.1	63/63
	380-400V 3N/3~	50/60	19.1	20.2	32
	380-415V 3N/3~	50/60	19.8/23.0	20.6/24.1	32/50
	440V 3~	50/60	21.0/23.0	22.2/24.1	32/35
	480V 3~	60	22.8/23.0	23.9/24.1	32/32
Non heated/Steam heated	208-240V 1/1N ~	50/60	*	1.3	10
	380-480V 1 ~ (**)	50/60	*	1.3	10

Max. permitted impedance*** = 0.26 Ohm

* Total power and recommended fuse does not depend on the heating power in those cases.

** Prepared for 3 ~.

*** The impedance in the mains connected point in accordance with EN31000-3-11. If the impedance in the mains connected point is higher than stated, check with the power supplier.

9.3 Machine connection

Connect the earth and other two wires as shown.

Single-phase connection		Three-phase connection	
1NAC		3AC	
1AC		3N AC	
1N/1		3N AC	

Single phase machines may be powered either by connection between a phase and neutral or by connecting between two phases.

Example:

Machines for 220-240V single phase may be powered from 380V or 400V or 415V system by connection between a phase and neutral or from 220V or 230V or 240V system by connection between two phases.

9.4 Machine connection with ferrite

9.4.1 WS6–28, WS6–35

To obtain approved level of EMC, it is mandatory to use the ferrite which is enclosed with above listed models. (Note that this is only valid for those models).

Before connecting to the machine, the protective earth (PE) wire shall be wrapped around the ferrite.

Prepare the power cord by making sure the protective earth (PE) wire is longer than the other wires according to the table.

Wire size	L	x times through
AWG14 or 2.5 mm ²	230 mm	x 4
AWG12 or 4 mm ²	250 mm	x 4
AWG10 or 6 mm ²	270 mm	x 4
AWG8 or 10 mm ²	290 mm	x 4
AWG6 or 16 mm ²	330 mm	x 4
AWG4 or 25 mm ²	490 mm	x 4

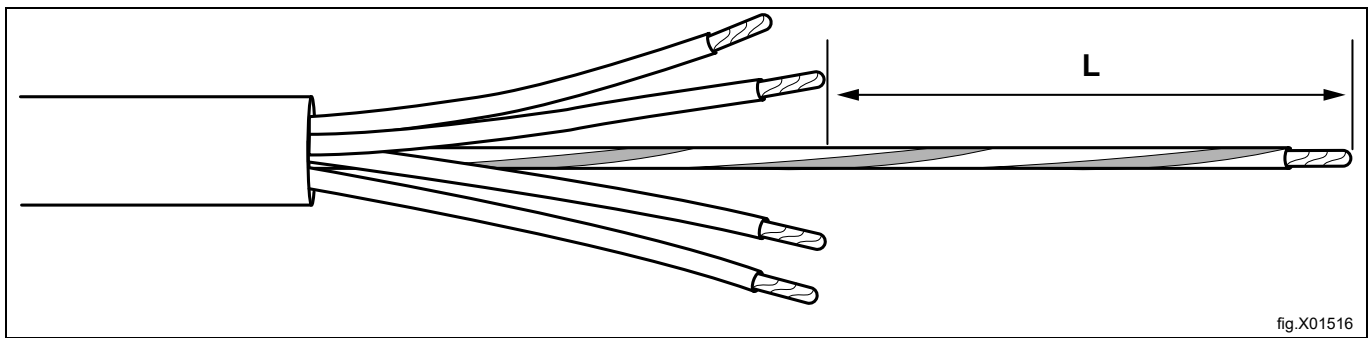


fig.X01516

When the power cord has been prepared according to the table, wrap the protective earth (PE) wire through the ferrite and then connect all wires according to the “Machine connection” section.

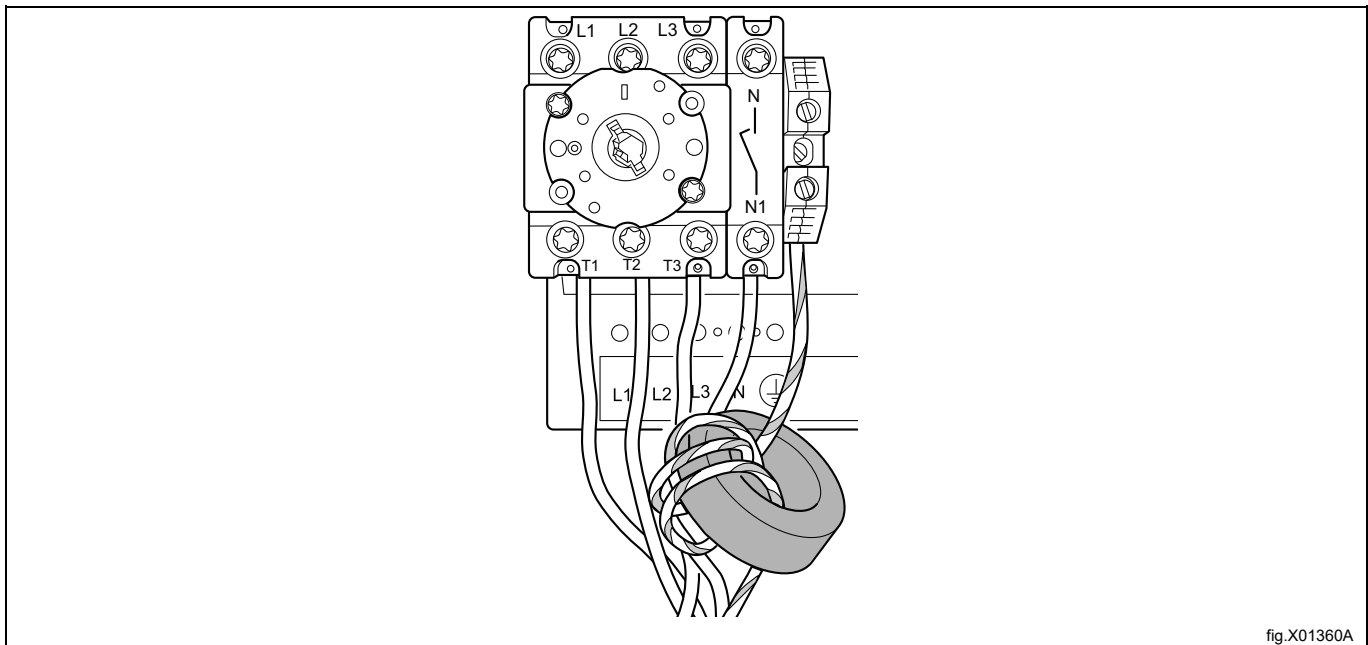


fig.X01360A

9.5 Functions for I/O-cards

The electrical schematic can be one of the following:

9.5.1 External coin meter/Central payment (2A)

The signal received from external coin meters must be a pulse between 300–3000 ms (500 ms is recommended) with a minimum pause of 300 ms (500 ms is recommended) between two pulses.

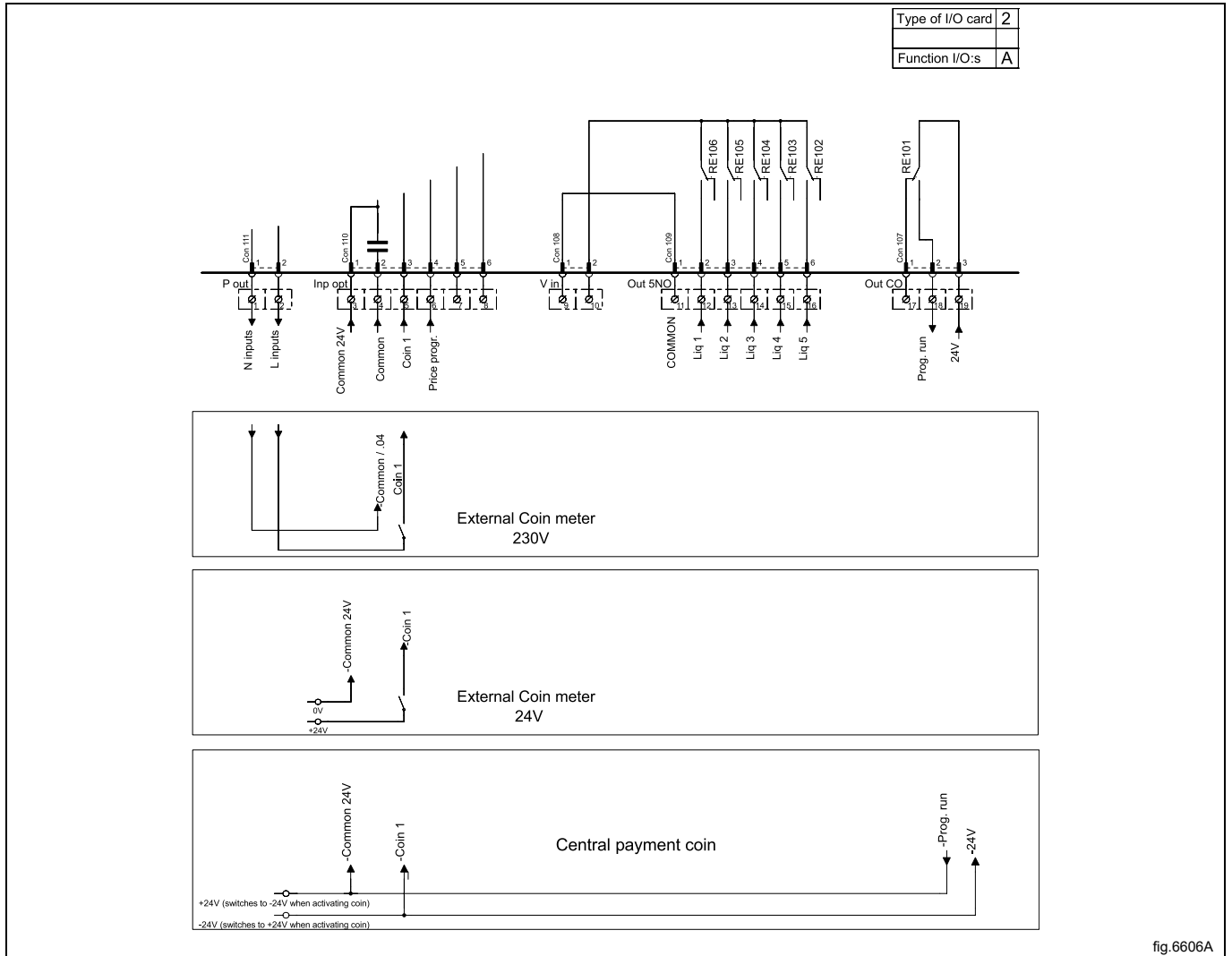


fig.6606A

9.5.2 Central payment (2B)

To start the machine from a central payment system, the payment system must transmit a start pulse to the machine. The start pulse can be either 230V or 24V. In order to receive a feedback signal once the machine has started, 230V or 24V must be connected to connection 19. The feedback signal on connection 18 remains active (high) during the entire program.

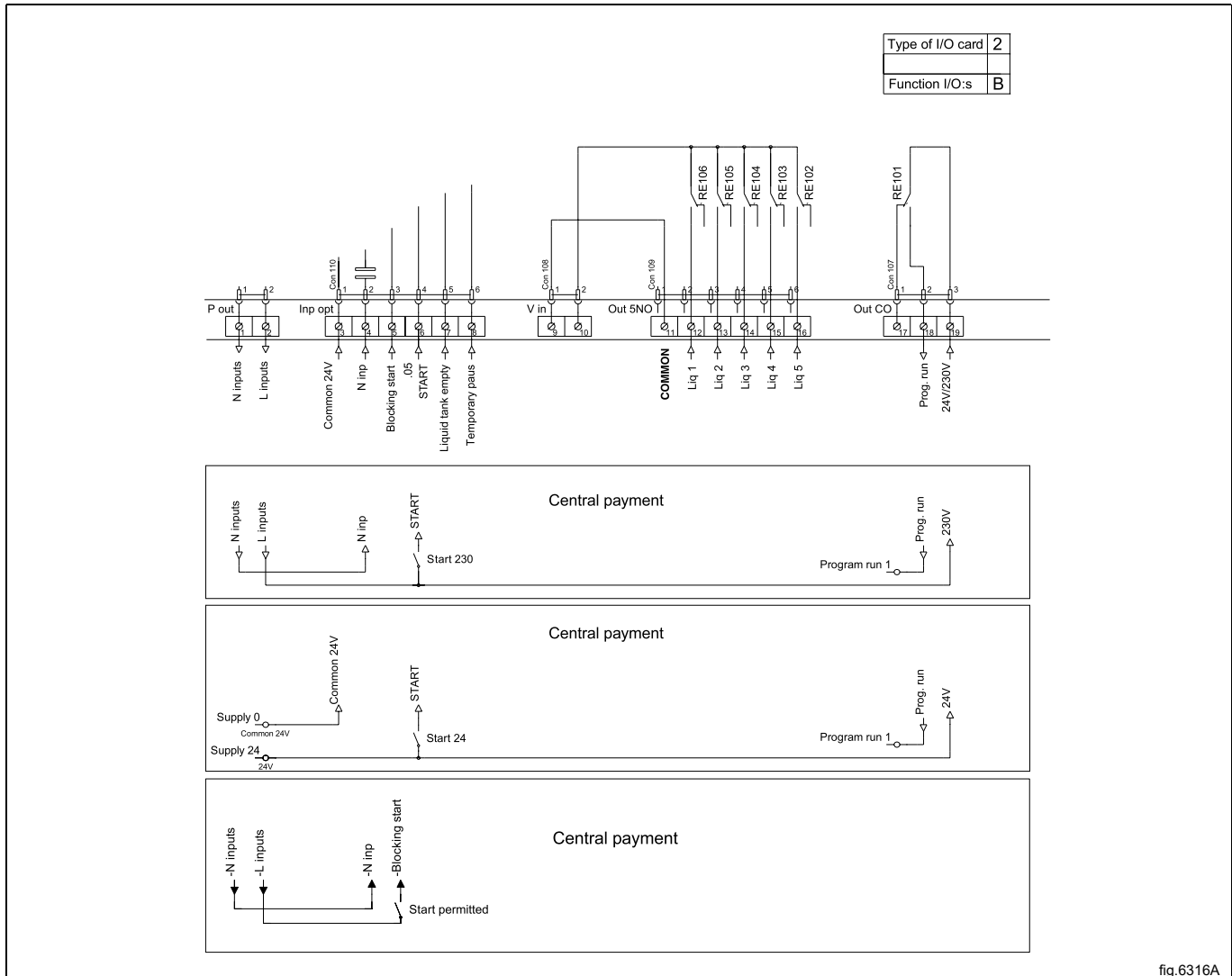


fig.6316A

9.5.3 Central payment (2C)

The central payment or booking system shall transmit an active (high) signal to the machine once permission has been granted to start the machine. The signal must remain active (high) until the machine starts. A feedback signal will be present on connection 18 and remain active (high) whilst the machine door is closed but the program has not started. The feedback signal is powered by 230V or 24V from connection 19.

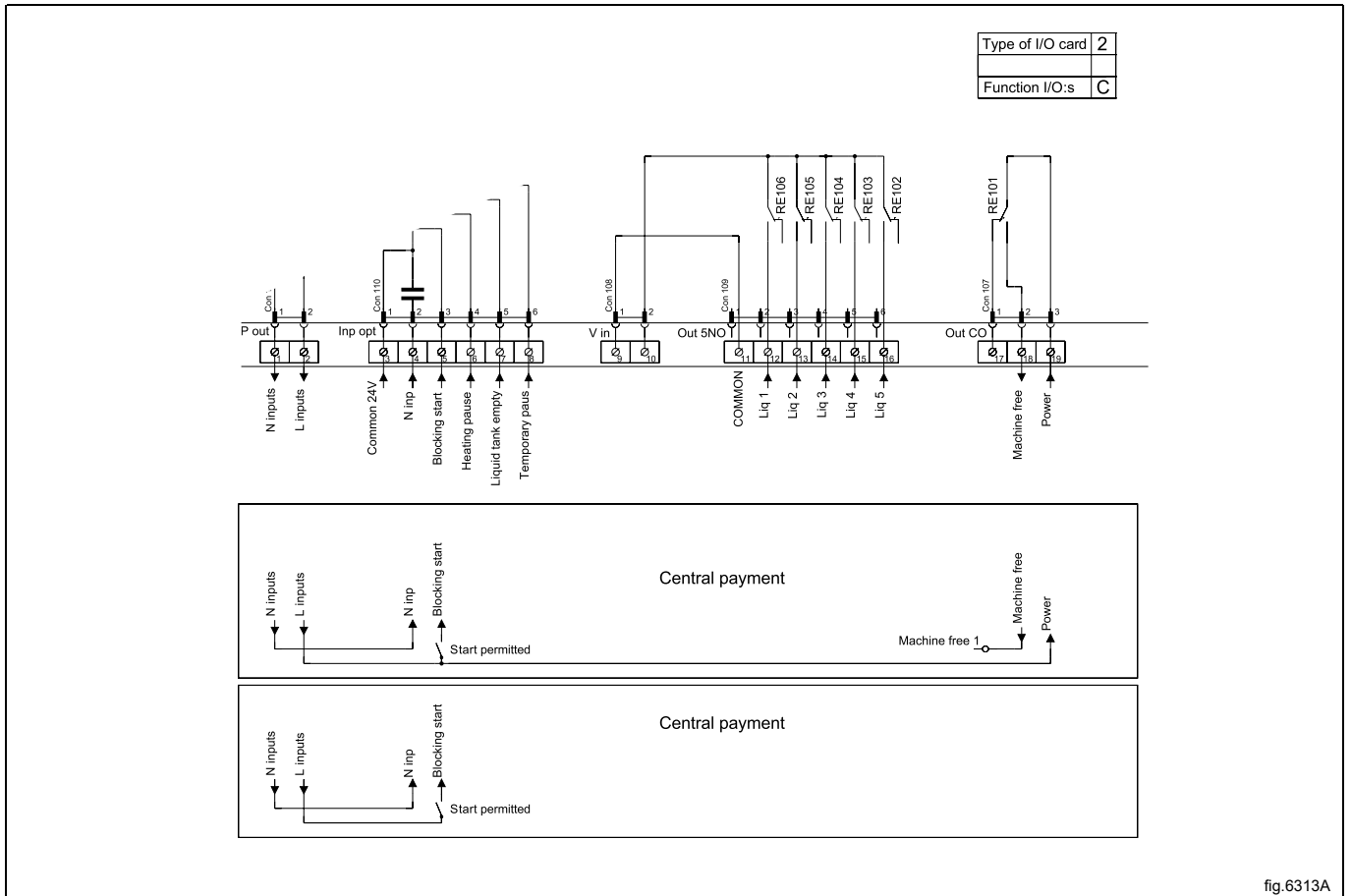


fig.6313A

9.5.4 Outputs for detergent signals and inputs for pause signals, "empty" signal and price reduction (2D)

The figure shows standard function addressing for machines with the coin program package.

By maintaining an active (high) signal on connection 5 ("Price red"), the price of the program can be reduced. This function has a number of uses, including providing reductions during a specific period of the day. Whilst the signal remains active (high), the price of the program is reduced by the percentage entered in the price programming menu.

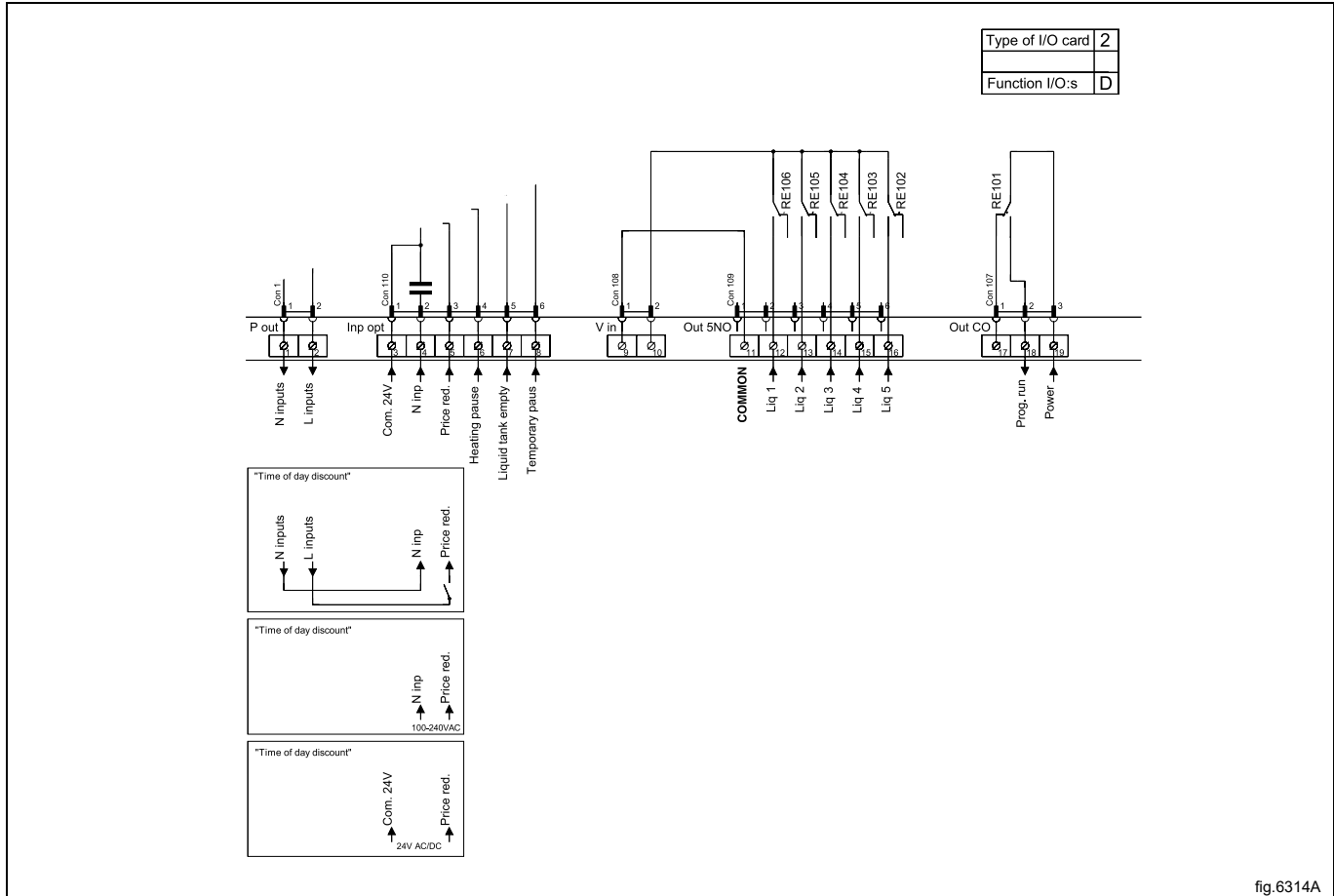


fig.6314A

9.5.5 Central booking/payment (2F)

The central payment or booking system shall provide an active (high) signal to the machine once permission has been granted to start the machine. The signal must remain active (high) until the machine starts. A feedback signal will be present on connection 18 and remain active (high) whilst the program is running. The feedback signal is powered by 230V from connection 19 or external 24V.

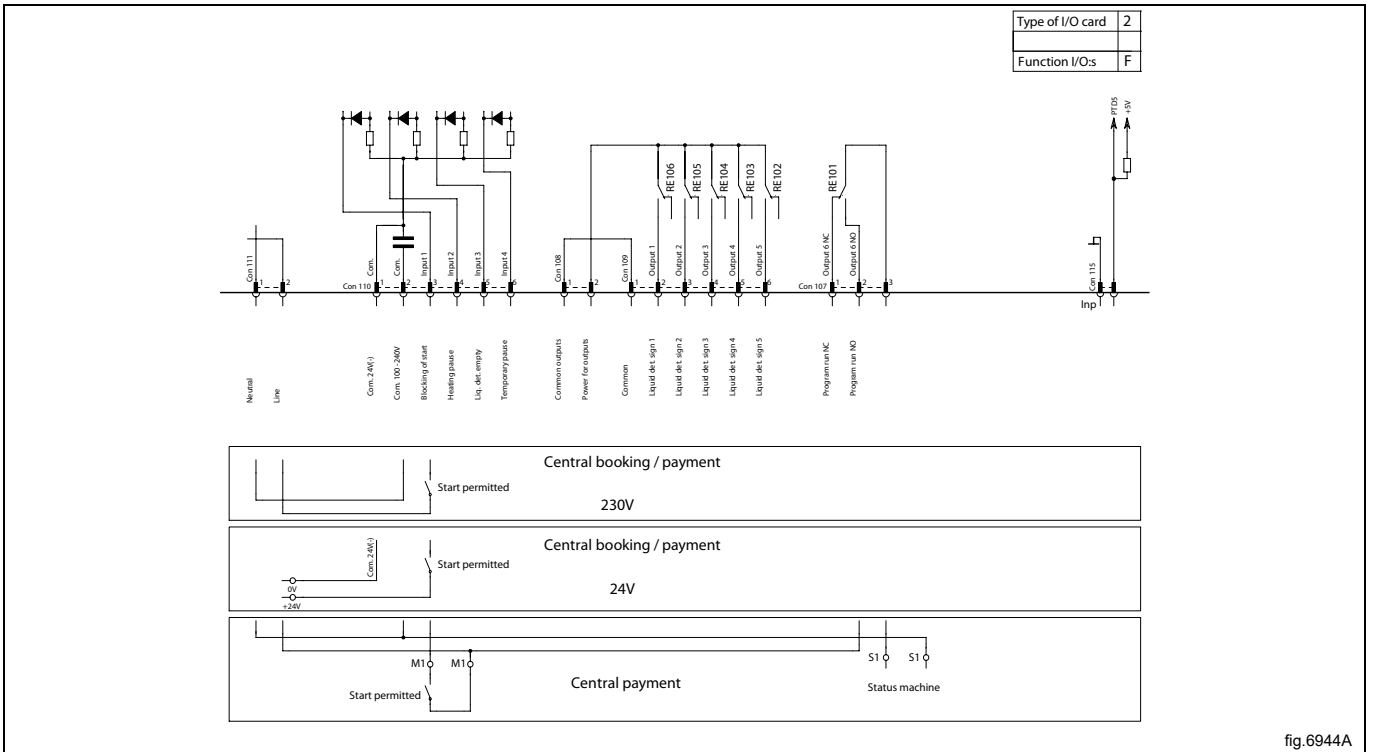


fig.6944A

9.5.6 Machines with I/O module type 3

By maintaining an active (high) signal on connection 3 "Price reduction", the price of the program can be reduced. This function has a number of uses, including providing reductions during a specific period of the day. Whilst the signal remains active (high), the price of the program is reduced by the percentage entered in the price programming menu.

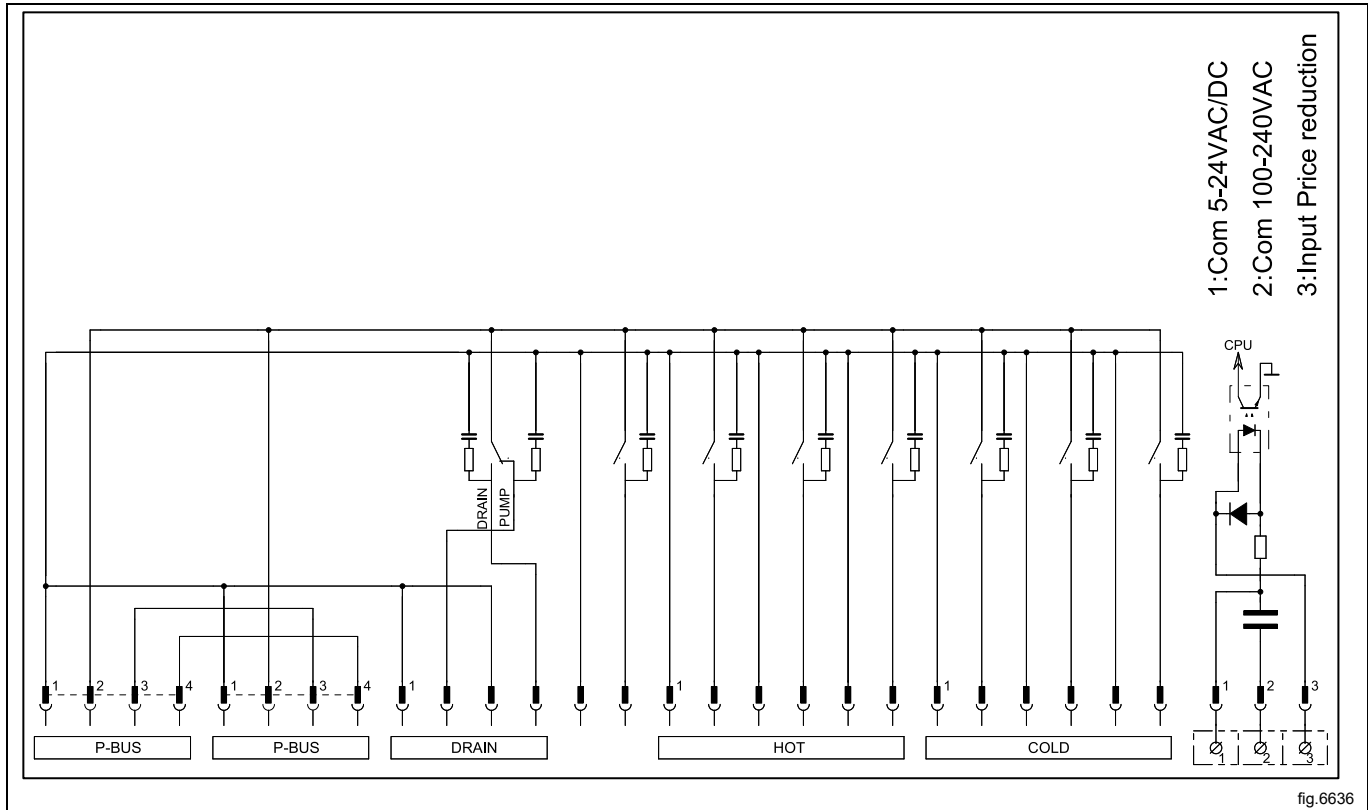


fig.6636

9.6 Converting heating elements

WS6-20 can be converted from 380-415V 3N AC to 220-240V 1N AC with reduced power

Disconnect the power to the machine.

Demount the cover panel to the electrical connections.

Remove the cables that are connected to K21:2 and K22:6. Move the remaining cables from L2 and L3 to L1 or N according to the figure.

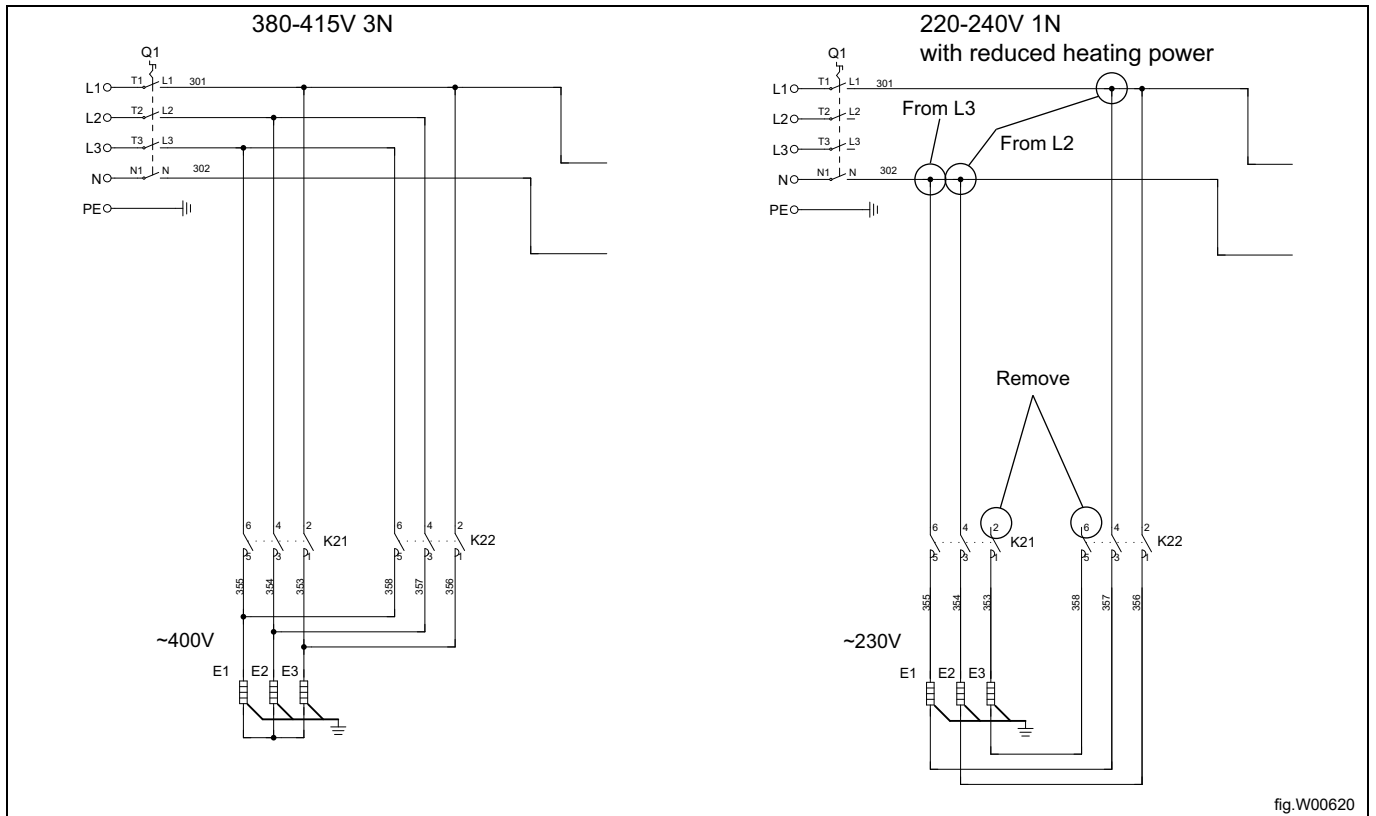


fig.W00620

Remount the cover panel to the electrical connections.

Connect the power to the machine.

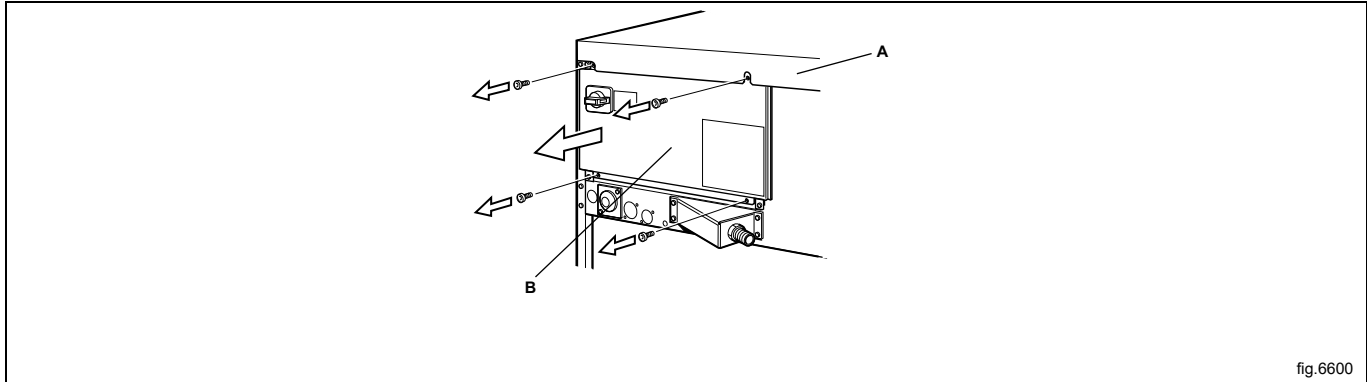
Check that all terminals and wires are secure and test run the machine on a short program with 60°C to ensure that it does heat up.

10 Steam connection

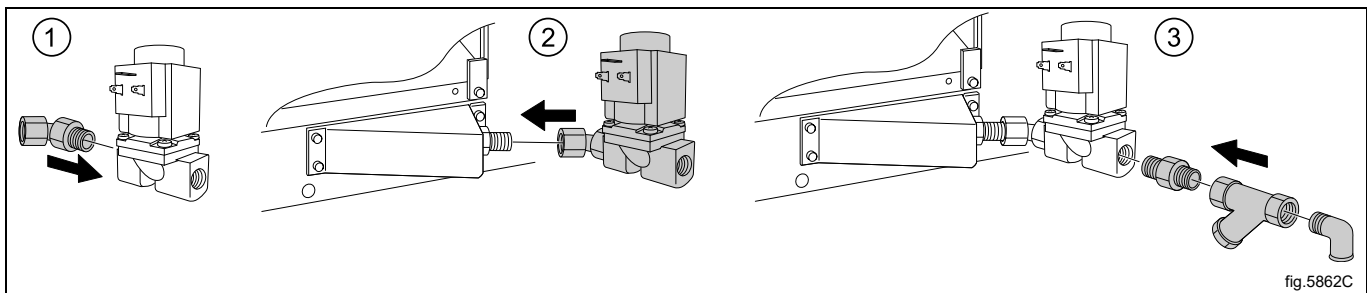
Inlet pipes connected to the machine must be equipped with a manual shut-off valve to facilitate installation and servicing. The connection hose must be of type ISO/1307- 1983 or equivalent.

Connection size at filter: DN 15 (BSP 1/2").

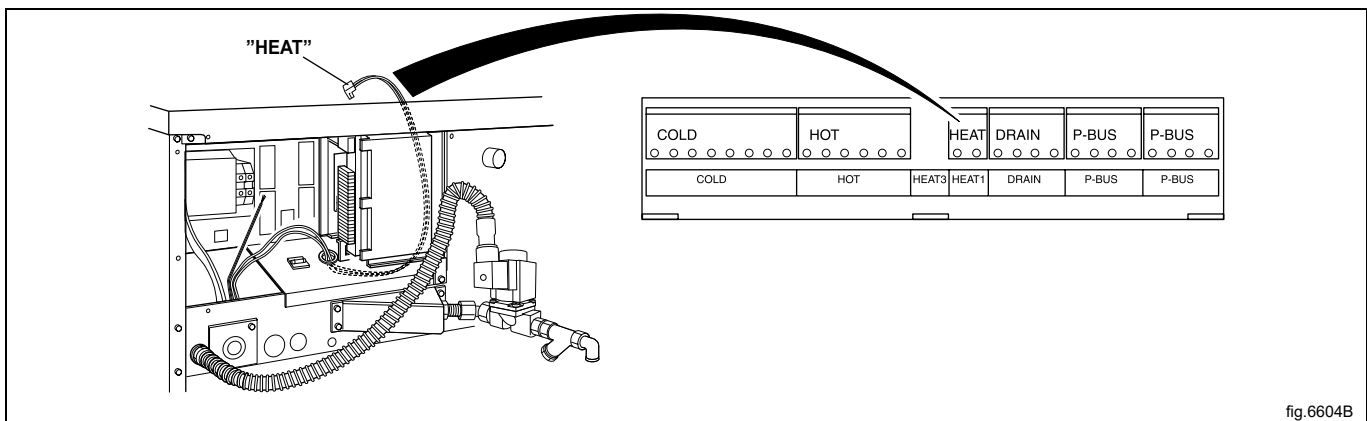
Demount the top panel (A). Demount the casing (B).



Mount the nipple to the steam valve. Mount the steam valve on the machine. Mount nipple, strainer and elbow. Note the direction of the strainer. Mount steam hose to the elbow. Check that there are no sharp angles or bends on the connected steam hose.



Mount the hose with wires between steam valve and machine. Connect the wires to the steam valve. Connect ground cable to the terminal ground connection. Connect the "HEAT" cable connector to the "HEAT" terminal on the I/O board.



Steam pressure required:

- minimum: 50 kPa (0.5 kp/cm²)
- maximum: 800 kPa (8 kp/cm²)
- recommended: 600 kPa (6 kp/cm²)

Note!

A steam heated machine is only intended to use clean steam.

11 At first power up

When the installation is complete and the power is connected for the first time you will be forced to make the following settings. When one setting is ready you will automatically enter the next one.

- Select language
- Set time and date
- Activate/deactivate the service alarm

For more information about the following settings please refer to the Programming and configuration manual.

11.1 Select language

Select language from the list on the display.

This will be the language that all display messages, program names etc will be presented in.

11.2 Set time and date

Select **YES** and press the control knob to get to the menu **TIME/DATE**.

Activate the **SET TIME** menu and set the correct time.

Save the settings.

Activate the **SET DATE** menu and set the correct date. Start by setting the year.

- Set the year. Exit to continue with a long press on the control knob.
- Set the month. Exit to continue with a long press on the control knob.
- Set the day. Exit with a long press on the control knob and then save with a long press on the control knob.

Exit the menu when ready.

12 Function check



May only be carried out by qualified personnel.



A function check must be made when the installation is finished and before the machine can be ready to be used.

Open the manual water valves.

Start a program.

- Check that the drum rotates normally and that there are no unusual noises.
- Check that there are no leaks in water supply/drain connections.
- Check that water passes through the detergent container.
- Check that the door cannot be opened during a program.

Ready to use

If all tests are OK the machine is now ready to be used.

If some of the tests failed, or deficiencies or errors are detected, please contact your local service organisation or dealer.

13 Disposal information

13.1 Disposal of appliance at end of life

Before disposing of the machine, make sure to carefully check its physical condition, and in particular any parts of the structure that can give or break during scrapping.

The machine's parts must be disposed of in a differentiated way, according to their different characteristics (e.g. metals, oils, greases, plastic, rubber, etc.).

Different regulations are in force in the various countries, therefore comply with the provisions of the laws and competent bodies in the country where scrapping takes place.

In general, the appliance must be taken to a specialised collection/scrapping centre.

Dismantle the appliance, grouping the components according to their chemical characteristics, remembering that the compressor contains lubricant oil and refrigerant fluid which can be recycled, and that the refrigerator and heat pump components are special waste assimilable with urban waste.



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 scrapping the machine, any marking, this manual and other documents concerning the appliance must be destroyed.

13.2 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: <ul style="list-style-type: none"> • Outer wrapping • Instructions bag
	Polypropylene: <ul style="list-style-type: none"> • Straps
	Polystyrene foam: <ul style="list-style-type: none"> • Corner protectors



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