

Installation manual

Washer extractors W4400H, W4600H, W4850H, W41100H

Type W4.H.

Clarus Control



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

Safety Precautions



Safety Precautions



The machine is only intended for water-wash use.

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

Do not allow minors to use the machine.

Do not hose down the machine with water.

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.

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.

Children of less than 3 years should be kept away unless continuously supervised.

DO NOT MODIFY THIS APPLIANCE.

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

All external equipment must be connected according to the instructions in the installation manual.

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.

Servicing shall be carried out only by authorized personnel.

Only authorized spare parts shall be used.

When performing service or replacing parts, the power must be disconnected.

Technical data

		W4400H	W4600H	W4850H	W41100H
Innerdrum volume diameter	litres mm	400 920	600 980	850 1220	1100 1220
Drum speed wash extraction	rpm rpm	37 825	36 800	42 720	42 663
Heating electricity steam hot water	kW	36 x x	36 or 54 x x	– X X	- x x
G-factor		350	350	350	300
Weight, net	kg	1095-1450*	1380-1480	2200-2300*	2300-2400*
Sound pressure lev	el dB (A)	75	76	73	73

^{*} Precise weight depends on accessories fitted.

Connections

		W4400H	W4600H	W4850H	W41100H
Water valves connection	DN BSP	25 1"	25 1"	32 1 1/4"	32 1 1/4"
Rec. water pressure	kPa	200-600	200-600	200-600	200-600
Functioning limits for water valve	kPa	50-1000	50-1000	50-1000	50-1000
Capacity at 300 kPa	l/min	110	110	150	150
Drain valve outer	Ømm	110	110	110	110
Draining capacity	l/min	400	400	400	400
Steam valve connection	DN BSP	20 3/4"	20 3/4"	32 1 1/4"	32 1 1/4"
Rec. steam pressure	kPa	300-600	300-600	300-600	300-600
Functioning limits for steam valve	r kPa	50-800	50-800	50-800	50-800
Compressed air connection	DN BSP	6 1/8"	6 1/8"	6 1/8"	6 1/8"
Rec. air pressure	kPa	500-700	500-700	500-700	500-700
Consumption	l/h	20	20	20	20

Dimensions

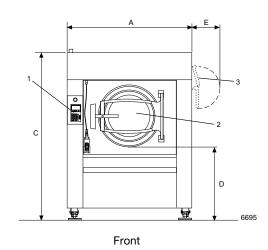
W4400H

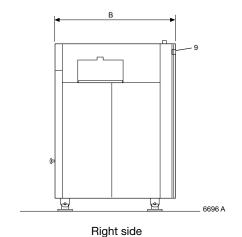
Α	В	O	D	Е	F	G	Н	I	K	L	М	N	0	Р	R	S	T	U	V
1325	1450	1975	870	300	1825	270	660	525	425	895	1385	380	435	2205	1140	2235	950	345	370

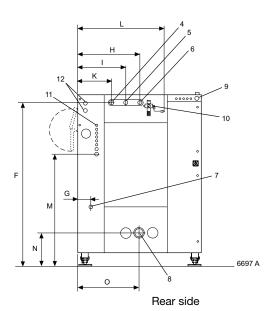
W4600H

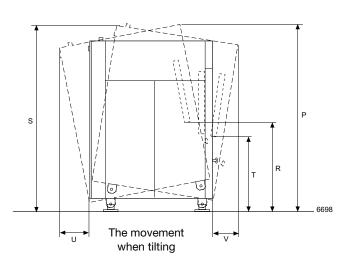
Α	В	C	D	E	F	G	Н	I	K	L	М	N	0	Р	R	S	Т	U	V
1390	1585	1975	870	300	1825	270	660	525	425	960	1385	380	435	2200	1120	2225	935	300	325

- 1 Control panel
- 2 Door opening ø 535
- 3 Soap supply injector, powder (optional)
- 4 Cold water connection
- 5 Hot water connection
- 6 Third water connection (optional)
- 7 Steam connection
- 8 Drain
- 9 Electrical connection
- 10 Compressed air
- 11 External liquid supply, 6 pcs Ø 10, 1 pc Ø 16 and 1 pc Ø 20
- 12 Water connection, soap supply injector (optional)









Dimensions

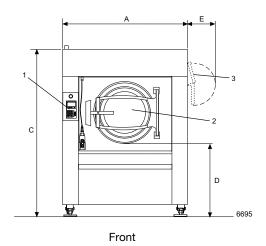
W4850H

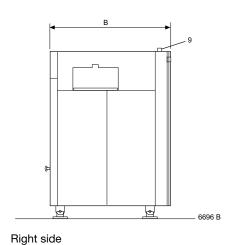
Α	В	C	D	Е	F	G	Н	I	K	L	М	N	0	Р	R	S	Т	U	V
1640	1635	2230	995	380	2135	1070	830	635	445	1140	1660	435	820	2410	1175	2480	960	285	400

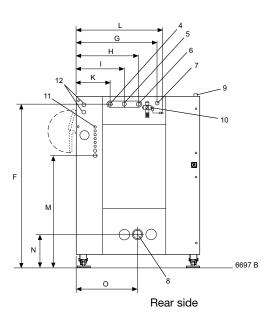
W41100H

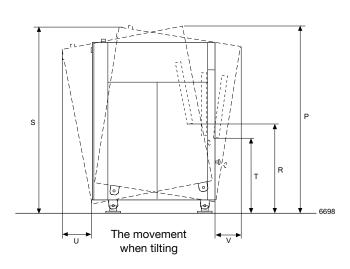
Α	В	С	D	Е	F	G	Н	I	K	L	М	N	0	Р	R	S	Т	U	٧
1640	1850	2230	995	380	2135	1070	830	635	445	1140	1660	435	820	2400	1160	2480	955	240	335

- 1 Control panel
- 2 Door opening ø 700 mm / 27 9/16"
- 3 Soap supply injector, powder (optional)
- 4 Cold water connection
- 5 Hot water connection
- 6 Third water connection (optional)
- 7 Steam connection
- 8 Drain
- 9 Electrical connection
- 10 Compressed air
- **11** External liquid supply, 6 pcs ø 10 mm / 3/8", 1 pc ø 16 mm / 5/8" and 1 pc ø 20 mm / 13/16"
- 12 Water connection, soap supply injector (optional)









Technical data

	W4400H	W4600H	W4850H	W41100H
Frequency of the dynamic force	13.8	13.3	12.0	11.1
Floor load at max extraction kN	15.8 ± 1.2	16.9 ± 1.4	25.9 ± 1.5	27.9 ± 2.0

Sound levels

Airborne sound level dB (A) re 2x10 ⁻⁵ Pa	75	76	73	73
With insulation	< 70	< 70	< 70	< 70

Motor

kW	5.5	6	6.7	6.8

Installation





For the installation of machines with optional equipment (such as the tilt function), see also the section "Optional equipment" at the end of this manual.

The washer extractor is supplied bolted in place on a pallet and packaged in a delivery crate. In some cases the machine may be supplied in waterproof/dustproof packaging. The direction from which the machine must be lifted and the machine centre of gravity are shown on the packaging.

Location and surface

The machine must not be sited over an open floor drain. Check that the floor has an even surface and is level. The floor must be capable of withstanding the following: See "Technical data".

The following clearances are recommended:

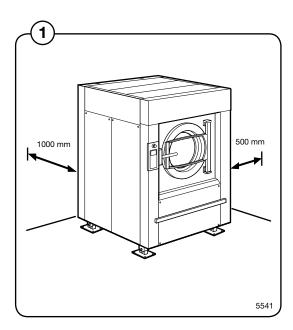
- at least 1000 mm between the machine and any wall behind it.
 - at least 500 mm at each side, between the side of the machine and a wall, or between machines where these are side by side.

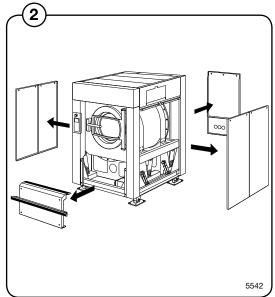
Mechanical installation

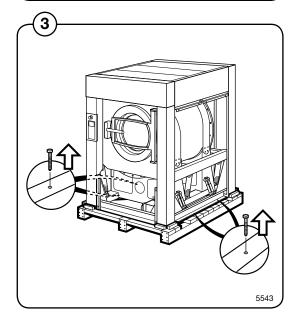
- Remove the packaging material. Remove the machine's rear cover, side panels and lower front panel.
- Remove the eight bolts securing the machine's outer- and innerframe onto the pallet.

Machine equipped with weight measurement

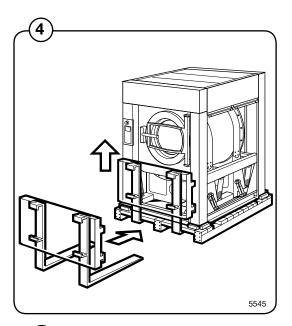
The load cells, which are fitted by the machine's feet, are sensitive to knocks and impacts.

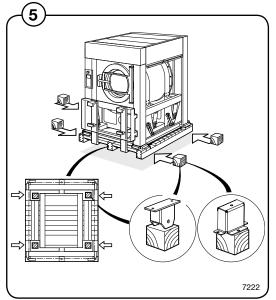




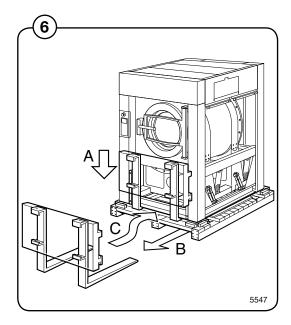


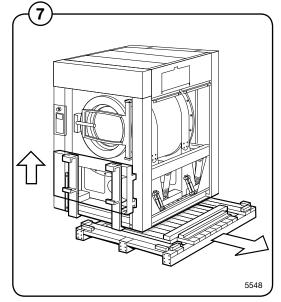
- Use a fork-lift truck to lift the machine.
- Position the four blocks of wood supplied, one beneath each machine foot (on the outer frame), within the recesses in the pallet.

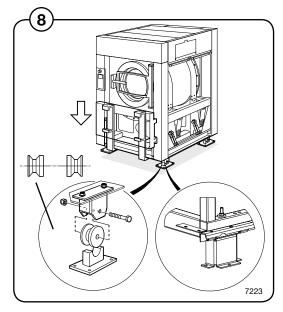




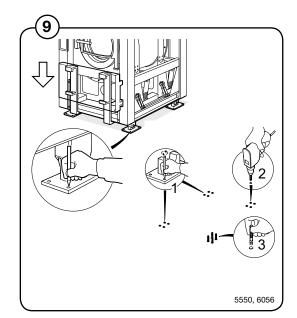
- Lower the machine (A) and withdraw the truck forks (B). The machine should now be standing on the four blocks, and the pallet will be on the floor, clear of the machine. The next step is to insert the truck forks very carefully between machine and pallet (C).
- Lift the machine and remove pallet and blocks.
- The feet can be of two types: fixed feet or rotating feet if the machine is to be fitted with tilt or weighing function. For machines with tilt or weighing function: screw on the machine's feet.
 - If the machine is to have the tilt function, this
 is a suitable time to install the corner posts
 which hold the protective plates, and also,
 where applicable, the position sensors (see
 the section "Tilt function (optional equipment)").
 - It is important that the wheels are installed with the wider side facing in towards the machine in order for the tilt protection to fit.







• Put the machine in place. Mark out and drill the holes for fixing the feet. Hole diameter: 15 mm.



(10)

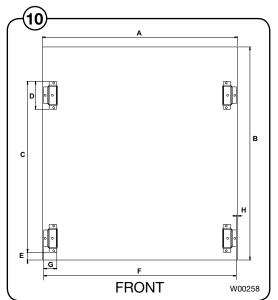
For standard machines

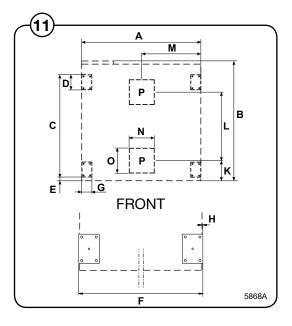
	W4400H	W4600H	W4850H	W41100H
Α	1325	1390	1640	1640
В	1445	1605	1635	1850
С	1160	1315	1370	1585
D	190	190	190	190
E	50	50	50	50
F	1310	1370	1610	1610
G	90	90	90	90
Н	10	10	15	15

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For machines with tilt or weighing function

	W4400H	W4600H	W4850H	W41100H
Α	1325	1390	1640	1640
В	1445	1605	1635	1850
С	1170	1325	1380	1600
D	200	200	200	200
E	50	45	45	45
F	1340	1400	1640	1640
G	140	140	140	140
Н	-10	-10	0	0
K	275	275	270	270
L	715	870	925	1140
М	665	695	820	820
N	335	335	335	335
0	335	335	335	335
Р	Tilting devices			



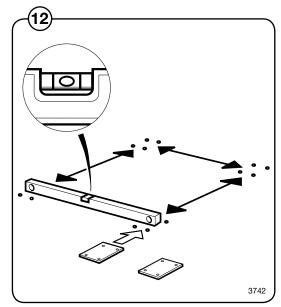


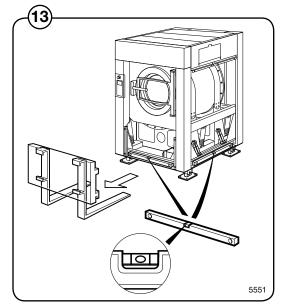


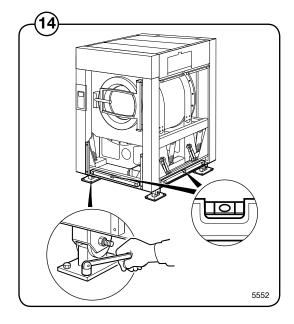


Use a spirit level and, where necessary, the "washers" (or rectangular metal plates) supplied, to ensure that the floor mountings are level.

- Put the machine in place. Use a spirit level on suitable surfaces of the outer frame to check that the machine is level. Check too that the machine is resting firmly on all four feet.
- Bolt the machine feet to the floor. Then check again that the machine is resting firmly (without movement) and is level.







Connecting the water supply

The supply pipes to the machine should be fitted with manual shut-off valves to facilitate installation and service. Fit filters to the manual shut-off valves. Refer to local utilities regulations when fitting non-return valves.

The hoses should be rated for high pressure and for 2.5 MPa.

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

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

The following values apply to water pressure:

• recommended: 300-600 kPa

 limiting values, min: 50 kPa max: 1 MPa

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

The hoses should hang in gradual arcs. This is particularly important if the machine is fitted with a tilting function. Connections with pipes directly to the machine are not allowed.

Connect the hoses as follows:

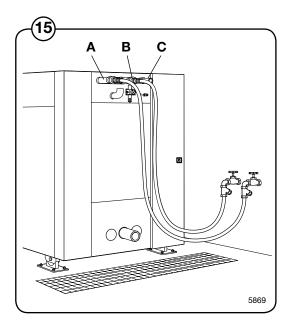
- cold water to (A)
- hot water to (B)
- (if using a third water supply:) the third water hose to (C).

W4400H, W4600H

Sizes of A, B and C: DN 25 (1" BSP).

W4850H, W41100H

Sizes of A, B and C: DN 32 (1 1/4" BSP).



Steam supply

The supply hose (A) must have a manual shut-off valve to make installation and servicing easier. Fit filter to the manual shut-off valve. Connections with pipes directly to the machine are not allowed.

Connect an approved hose between filter and machine. The following values apply to steam pressure:

recommended: 300-600 kPalimiting values, min: 50 kPa

max: 800 kPa

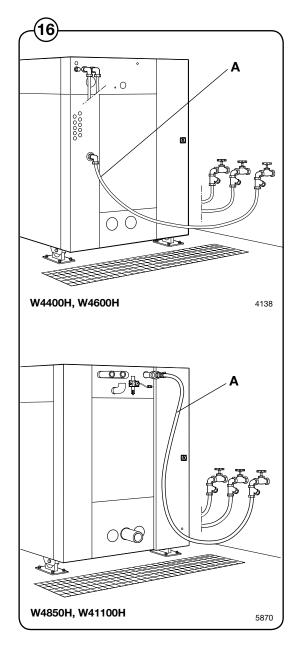
The hose should hang in a gradual arc. This is particularly important if the machine is fitted with a tilting function.

W4400H, W4600H

Connection size: DN 20 (3/4" BSP).

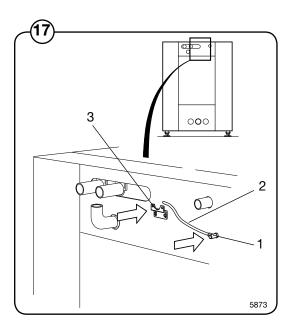
W4850H, W41100H

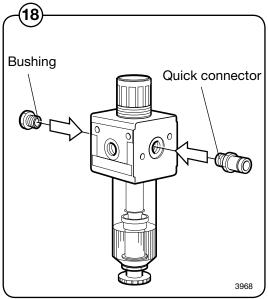
Connection size: DN 32 (1 1/4" BSP).

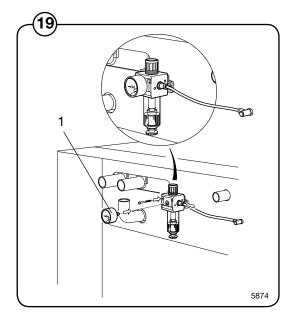


Compressed air connection

- A pressure regulator complete with water separation device is to be installed on the machine. When the machine is supplied, the angled coupling (1), hose (2) and bracket (3) for the pressure regulator will already be installed.
- Install the quick-connector for the hose and a bushing (for the hose from the compressed air supply) on the pressure regulator.
- Install the regulator on the bracket using two screws. Connect the compressed air hose using the quick-connector. Screw on the pressure gauge (1).





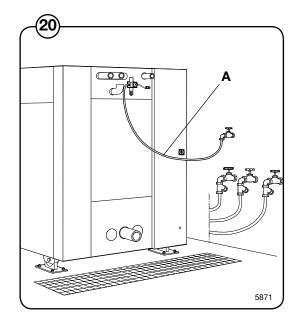


Connect the hose from the compressed air supply to the bushing on the pressure regulator. Connect the hose so it hangs in a gentle arc. This is particularly important if the machine has the tilt function.

The connecting hose must be rated for a pressure of at least 1 MPa.

The following values apply to the compressed air supply:

• Recommended pressure: 500-700 kPa



Drain

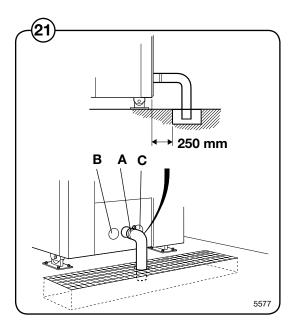
The connector for the machine discharge (A) has an external diameter of 110 mm. The distance between the machine and the floor gully or drainage channel should be at least 250 mm.

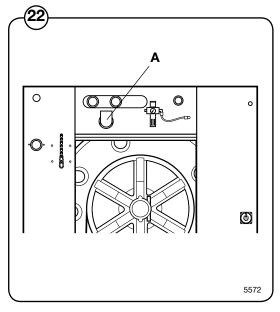
Connect a hose or a pipe to the drain connection. Avoid acute angles or kinks which could impede the flow. The hose or pipe should open into a floor gully, drainage channel or similar waste outlet. Make sure that the hose's function is unaffected by the tilting function if the machine has this feature.

If the machine has a second discharge, B and C must also be connected to the floor drain.

Ventilation

The vent (A) from the washing machine drum is at the back of the machine. If bleach or other additives are used, the pipe should be extended and connected to a ventilation system.





Detergent supply injector

If only non-liquid detergents are to be used in the detergent supply injector, the following adaptation is recommended:

Drill two 5 mm holes in the bottom of each scoop to allow any water left to drain off.

Installation of equipment for external liquid supply





Electrical installation may only be carried out by competent, authorised personnel.





All external equipment which is connected to the machine must be CE/EMC-approved.

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 hose 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.

 $A = \emptyset$ 10 mm, drill = \emptyset 5 mm (used for external dosing systems).

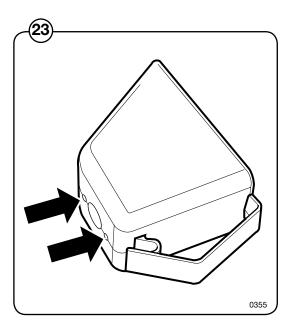
Use the enclosed template by putting it over the connection and drill in the hole.

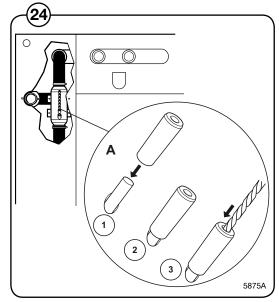
 $B = \emptyset$ 16 mm, drill = \emptyset 11 mm (used for external dosing systems).

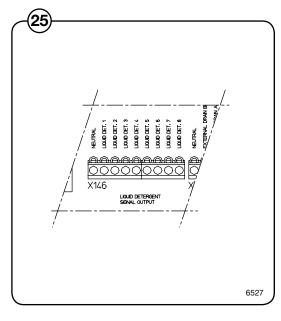
 $C = \emptyset$ 20 mm, drill = \emptyset 15 mm (used for external dosing systems).

The external dosage unit connects to the X146 via the upper terminal in the coin operation unit. There are a total of 8 outlets for the dosing of washing detergent. The number on the terminal corresponds to the numbering of the liquid detergent function when setting the wash programme.

A common zero for all the outlets can be found on the X146 terminal "Neutral". 230 V max 0.5 A only intended for control voltage. If the machine is not fitted with a detergent reservoir, then additional signals can be received from X140.







Electrical installation





Electrical installation may only be carried out by competent, authorised personnel. Check that the earth conductor is correctly connected.

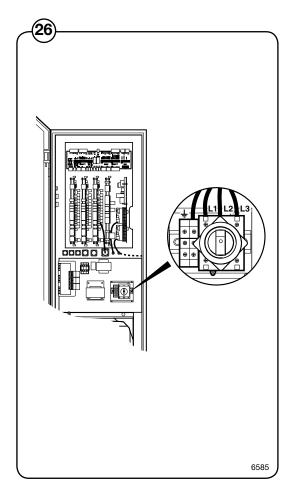
The electrical cable for the machine's power supply should hang in a gentle arc. This is particularly important if the machine is equipped with the tilt function or weighing equipment.

Connect the machine to a separate mains circuit with its own circuit breaker(s). The various ratings required for circuit breakers are shown in the table.

Connect the cable to the main switch inside the compartment on the machine rear, see illustration.

The electrical cable used must be of a suitable size/rating. For the correct size/rating for this cable, check the relevant local or national regulations.

If an earth leakage circuit breaker (or RCD - residual current device) is used, it must be installed to protect the washer extractor only.



Heating Voltage		Total	Fuse	
alternative	alternative	kW	Α	
No heating	200 V 3 AC	5,5	25	
or Steam	208-240 V 3 AC	5,5	25	
heating	230/400 V 3 AC	5,5	25/16	
3	240 V 3 AC	5,5	25	
	346 V 3 AC	5,5	16	
	380 V 3 AC	5,5	16	
	400 V 3 AC	5,5	16	
	415 V 3 AC	5,5	16	
	440 V 3 AC	5,5	16	
	480 V 3 AC	5,5	16	
Electrical heated	230/400 V 3 AC	38	100/63	
	240 V 3 AC	38	100	
	346 V 3 AC	38	80	
	380 V 3 AC	38	63	
	400 V 3 AC	38	63	
	415 V 3 AC	38	63	
	440 V 3 AC	38	63	
	480 V 3 AC	38	50	

W4600H

VV 400011			
Heating	Voltage	Total	Fuse
alternative	alternative	kW	Α
No heating	200 V 3 AC	4,0	20
or Steam	230 V 3 AC	4,0	16
heating	230 V 3 AC	4,0	16
	240 V 3 AC	4,0	16
	240 V 3 AC	4,0	16
	380 V 3 AC	4,0	16
	400 V 3 AC	4,0	16
	415 V 3 AC	4,0	16
	440 V 3 AC	4,0	16
	480 V 3 AC	4,0	16
Electrical heated	230 V 3 AC	38	100
	230 V 3 AC	56	160
	240 V 3 AC	38	100
	240 V 3 AC	56	160
	380 V 3 AC	38	63
	380 V 3 AC	56	100
	400 V 3 AC	38	63
	400 V 3 AC	56	100
	415 V 3 AC	38	63
	415 V 3 AC	56	100
	440 V 3 AC	38	63
	440 V 3 AC	56	80
	480 V 3 AC	56	80

W4850H

Heating alternative	Voltage alternative	Total kW	Fuse A
No heating	200 V 3 AC	6,7	35
or Steam	230 V 3 AC	6,7	25
heating	240 V 3 AC	6,7	20
	380 V 3 AC	6,7	16
	400 V 3 AC	6,7	16
	415 V 3 AC	6,7	16
	440 V 3 AC	6,7	16
	480 V 3 AC	6,7	16

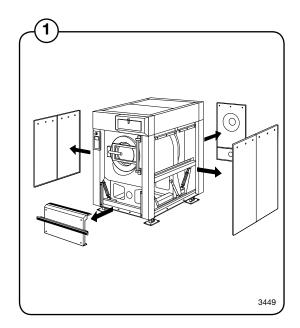
W41100H

Heating alternative	Voltage alternative	Total kW	Fuse A
No heating	200 V 3 AC	5,3	35
or Steam	230 V 3 AC	5,3	25
heating	240 V 3 AC	5,3	20
	380 V 3 AC	5,3	16
	400 V 3 AC	5,3	16
	415 V 3 AC	5,3	16
	440 V 3 AC	5,3	16
	480 V 3 AC	5,3	16

Tilt function

Installation

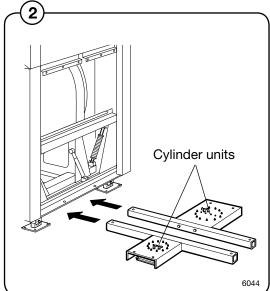
Remove the machine's side panels, lower front panel and rear covers.



For machines with tilt both forwards and backwards:

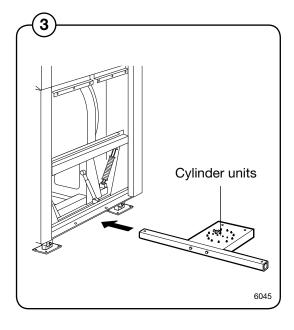
Insert the two cylinder units from the side of the machine underneath the machine frame.

If there is vinyl floor-covering on the floor: To protect the floor from wear, a sheet of stainless steel should be laid beneath each cylinder unit.



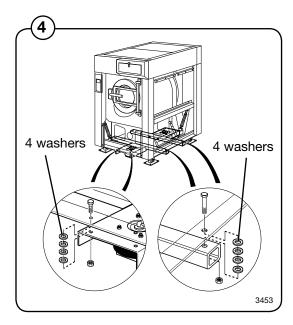
(3) For machines with forward tilt only:

Insert the cylinder unit from the side of the machine underneath the rear section of the machine frame.

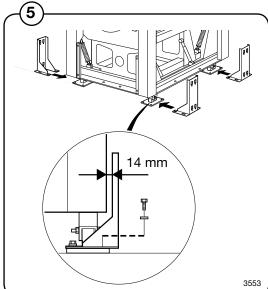


Secure the cylinder units using four bolts and nuts.

It is important to fit four washers (each 5 mm thick) between each cylinder unit and the machine frame (see illustration).

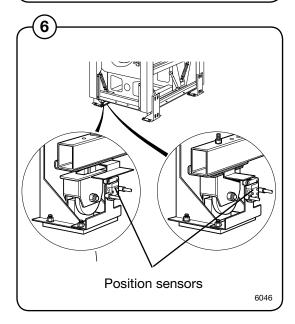


Fit the four corner posts, one for each corner of the machine, using the bolts which secure the machine feet to the floor. Adjust the clearance between the upper part of each corner post and the machine so it is 14 mm.



6 For machines with tilt both forwards and backwards:

Fit two pneumatic position sensors on two of the machine feet: at left-hand front and right-hand rear, diagonally opposed. The position sensors are to be fitted using the inner two fastening bolts of the feet, mounted on the corner posts just installed.



For machines with tilt both forwards and backwards:

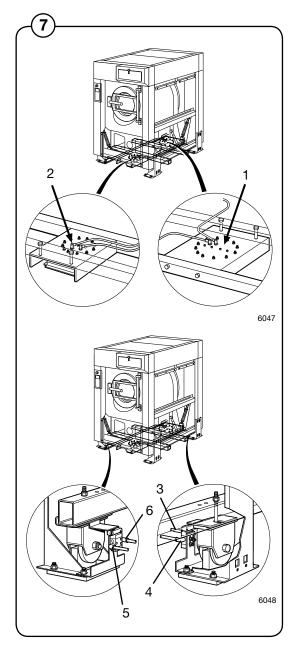
The compressed air lines which are to be connected to the air bellows and position sensors are supplied bundled on the machine rear.

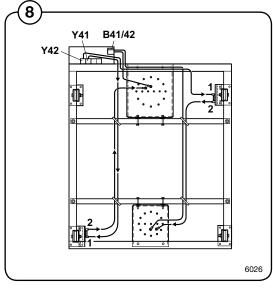
Connect the lines to the air bellows and pressure sensors according to the table below. These lines do not need to be fastened to the frame, but can be laid on the floor underneath the machine.

The air lines are marked as follows:

7	ID marking	Connect to
	1	Rear air bellows
	2	Front air bellows
	3	Rear pressure sensor, connection 1
	4	Rear pressure sensor, connection 2
	5	Front pressure sensor, connection 1
	6	Front pressure sensor, connection 2

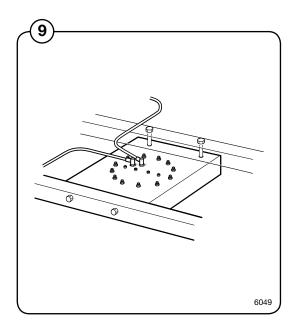
- Note that the tubes for the pressure sensors must be connected correctly, see Fig. 7.
 - Connection 1 same side as data plate.
 - Connection 2 same side as the inset white plate.





9 For machines with forward tilt only:

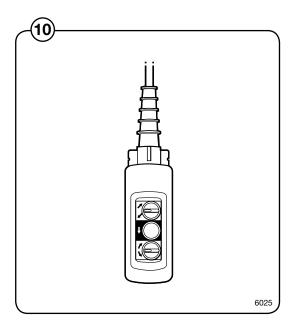
The compressed air line to be connected to the air bellows is supplied bundled on the machine rear. Connect this line to the connection nipple on the top of the bellows.

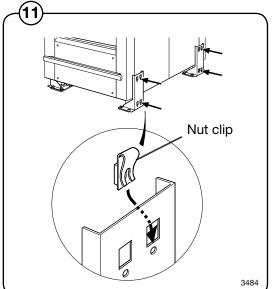


- Before refitting the panels, test the tilt function:
 - Switch on the machine electrical switch(es) and turn on the compressed air supply.
 - Open the door and lock it open.
 - The uppermost switch on the tilt control unit tilts the machine either backwards (turn switch anticlockwise) or forwards (turn switch clockwise). The middle switch returns the machine to its normal (upright) position. These switches must be kept actuated throughout the entire tilt movement. If the switch is released, the tilt movement will halt and the machine will stop in its position.
 - The bottom switch on the control unit rotates the drum either clockwise or anticlockwise.
 - Check that the machine cannot tilt in the opposite direction until it has returned to its normal position after an earlier tilt.
 - Check for any possible leaks from compressed air lines or from bellows and sensors.

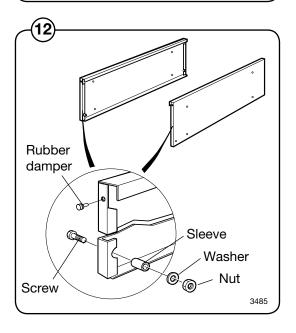
If the test is OK, refit the machine panels/covers.

Fit two nut clips to each corner post. The nut clips slot into the rear grooves on the posts.

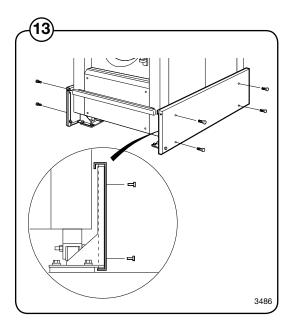




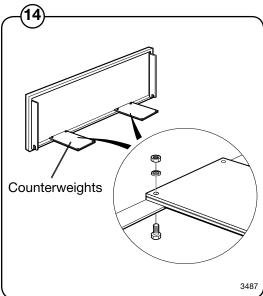
Fit the rubber dampers and sleeves to the front end of each side panel strip.



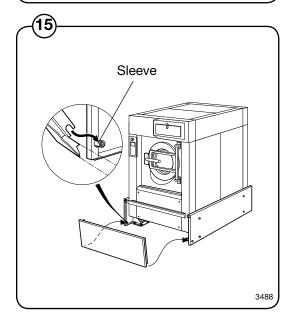
(13) Position and fasten the side panel strips.



Fit the two counterweights to the front panel strip. The bolt heads should be at the bottom.



Hang the front panel strip on the two sleeves you fitted to the side strips. Protective plates are mounted on the front and rear.





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