# INSTALLATION MANUAL

DOC. NO. 438.9200-15/14 EDITION 24.2008

# EX618 – EX670 Selecta, Emerald & Clarus Control

# Installation manual

# EX618 – EX670

# Selecta, Emerald & Clarus Control

WARNING: ALL OPERATING AND MAINTENANCE PROCEDURES SHOWN ON THE NEXT PAGE OF THIS MANUAL MUST BE FOLLOWED DAILY FOR PROPER OPERATION OF YOUR WASCOMAT MACHINE.

PLEASE ENTER THE FOLLOWING INFORMATION AS IT APPEARS ON THE MACHINE(S) DATA PLATE(S).

| | |
|---|---|
| **MACHINE TYPE OR MODEL** | |
| **MACHINE SERIAL NUMBER(S)** | |
| **ELECTRICAL CHARACTERISTICS: _____ VOLTS, _____ PHASE, _____ HZ.** | |

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

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# SAFETY AND WARNINGS SIGNS

## Replace If Missing Or Illegible

**One or more of these signs must be affixed on each machine as indicated, when not included as part of the front instruction panel.**

## LOCATED ON THE OPERATING INSTRUCTION SIGN OF THE MACHINE:

**CAUTION**

1. Do not open washer door until cycle is completed, operating light is off, and wash cylinder has stopped rotating.
2. Do not tamper with the door safety switch or door lock.
3. Do not attempt to open door or place hands into washer to remove or add clothes during operation. This can cause serious injury.

**MACHINE MUST NOT BE USED BY CHILDREN**

**PRECAUCION**

1. No abra la puerta de la máquina lavadora sino hasta que la máquina haya terminado su ciclo, la luz operativa esté apaga da y el cilindro de lavado haya completamento terminado de girar.
2. No interferia o manipule el switch o la cerradura de la puerta.
3. No trate de abrir la puerta o meta las manos dentro de la máquina para meter o sacar ropa mientras la máquina está en operación, pues puede resultar seriamento herido.

**LAS MÁQUINAS NO DEBEN SER USADAS POR NIÑOS**

**LOCATED AT THE REAR OF THE MACHINE:**

## INSTALLATION AND MAINTENANCE WARNINGS – *AVERTISSEMENT*

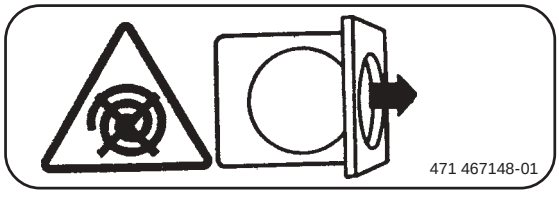
1. **This machine MUST be securely bolted according to the installation instructions, to reduce the risk of fire and to prevent serious injury, or damage to the machine.**
   ***Pour reduire les risques d'incendie, fixer cet appareil sur un plancher beton sans revetement.***
2. **If installed on a floor of combustible material, the floor area below this machine must be covered by a metal sheet extending to the outer edges of the machine.**
3. **This machine MUST be connected to a dedicated electrical circuit to which no other lightning unit or general purpose receptacle is connected. Use copper conductor only.**
   ***Utiliser seulement des conducteurs en cuivre.***
4. **This machine MUST be serviced and operated in compliance with manufacturer's instructions. CHECK DOOR LOCK EVERY DAY FOR PROPER OPERATION TO PREVENT INJURY OR DAMAGE. IF THE DOOR LOCK FAILS TO OPERATE PROPERLY, PLACE THE MACHINE OUT OF ORDER UNTIL THE PROBLEM IS CORRECTED.**
5. **Disconnect power prior to servicing of machine.**
   ***Deconnecter cet appareil del'alimentation avant de proceder a l'entretien.***
6. **To remove top panel, first remove screws at the rear. When remounting the top, reinstall them. To remove the top panel on models on which it is secured by one or two keylocks, use the keys provided in the drum package. Be certain to relock after remounting the top panel.**

MANUFACTURED BY WASCATOR
DISTRIBUTED BY WASCOMAT, INWOOD, NEW YORK, USA

471 766202-04

## LOCATED ON THE DOOR:

If you need to order more safety or warning signs, call Wascomat's parts department at 516-371-2000, or call your local dealer.



471 467148-01

## NOTICE TO: OWNERS, OPERATORS AND DEALERS OF WASCOMAT MACHINES

IMPROPER INSTALLATION AND INADEQUATE MAINTENANCE, POOR HOUSEKEEPING AND WILLFUL NEGLECT OR BYPASSING OF SAFETY DEVICES MAY RESULT IN SERIOUS ACCIDENTS OR INJURY. TO ASSURE THE SAFETY OF CUSTOMERS AND/OR OPERATORS OF YOUR MACHINE, THE FOLLOWING MAINTENANCE CHECKS MUST BE PERFORMED ON A DAILY BASIS.

1. Prior to operation of the machine, check to make certain that all operating instructions and warning signs are affixed to the machine and legible. (See the following page of this manual for description and location of the signs.) Missing or illegible ones must be replaced immediately. Be sure you have spare signs and labels available at all times. These can be obtained from your dealer or Wascomat.

2. Check the door safety interlock, as follows:

   (a) OPEN THE DOOR of the machine and attempt to start in the normal manner:

   For CLARUS microprocessor models, choose a program and press the START button.

**THE MACHINE(S) MUST NOT START !**

   (b) CLOSE THE DOOR to start machine operation and, while it is operating, attempt to open the door without exerting extreme force on the door handle. The door should remain locked!

   If the machine can start with the door open, or can continue to operate with the door unlocked, the door interlock is no longer operating properly. The machine must be placed out of order and the interlock immediately repaired or replaced. (See the door interlock section of the manual.)

3. DO NOT UNDER ANY CIRCUMSTANCES ATTEMPT TO BYPASS OR REWIRE ANY OF THE MACHINE'S SAFETY DEVICES, AS THIS CAN RESULT IN SERIOUS ACCIDENTS.

4. **Be sure to keep the machine(s) in proper working order**: Follow **all** maintenance and safety procedures. Further information regarding machine safety, service and parts can be obtained from your dealer or from Wascomat through its Technical Support Department - 516/371-0700.

All requests for assistance must include the model, serial number and electrical characteristics as they appear on the machine identification plate. Insert this information in the space provided on the previous page of this manual.

5. **WARNING**: DO NOT OPERATE MACHINE(S) WITH SAFETY DEVICES BYPASSED, REWIRED OR INOPERATIVE! DO NOT OPEN MACHINE DOOR UNTIL DRUM HAS STOPPED ROTATING!

# Contents



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

## Safety

**This machine must only be used with water. Never use dry cleaning agents or other solvents.**

**Do not allow children to operate the machine.**

**Do not hose down or spray the machine with water.**

**All mechanical and electrical installation must be carried out by qualified personnel.**

**Do not bypass the door locking device.**

**Should the machine malfunction, report the fault immediately to supervising personnel.**

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## Technical data

| | EX618 | EX625 | EX630 | EX640 | EX655 | EX670 |
|---|---|---|---|---|---|---|
| Innerdrum | | | | | | |
| volume litres/ft³ | 75/2.6 | 105/3.7 | 130/4.6 | 180/6.4 | 240/8.5 | 300/10.6 |
| diameter mm/inch | 520/20 1/2 | 595/23 7/16 | 650/25 9/16 | 725/28 9/16 | 795/31 5/16 | 795/31 5/16 |
| Drum speed | | | | | | |
| wash rpm | 52 | 49 | 49 | 44 | 42 | 42 |
| extraction rpm | 1100 | 1025 | 980 | 930 | 890 | 820 |
| Heating | | | | | | |
| electricity kW | 5.4/7.5 | 7.5/10 | 13 | 18 | 23 | 23 |
| steam | x | x | x | x | x | x |
| hot water | x | x | x | x | x | x |
| G-factor | 350 | 350 | 350 | 350 | 350 | 300 |
| Weight, net kg/lbs | 159/350 | 201/443 | 267/588 | 350/771 | 400/882 | 509/1122 |

## Connections

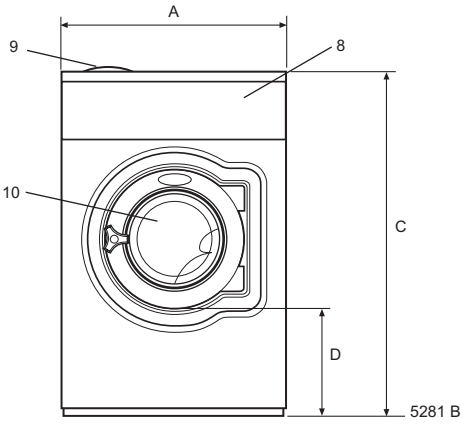
| | EX618 | EX625 | EX630 | EX640 | EX655 | EX670 |
|---|---|---|---|---|---|---|
| Water valves connection | DN20 3/4" | DN20 3/4" | DN20 3/4" | DN20 3/4" | DN20 3/4" | DN20 3/4" |
| Rec. water pressure psi | 30-90 | 30-90 | 30-90 | 30-90 | 30-90 | 30-90 |
| kPa | 200-600 | 200-600 | 200-600 | 200-600 | 200-600 | 200-600 |
| Functioning limits psi | 8-145 | 8-145 | 8-145 | 8-145 | 8-145 | 8-145 |
| for water valve kPa | 50-1000 | 50-1000 | 50-1000 | 50-1000 | 50-1000 | 50-1000 |
| Capacity at 45 psi | | | | | | |
| (300 kPa) gallon/min | 5 | 5 | 5 | 5 | 15 | 15 |
| l/min | 20 | 20 | 20 | 60 | 60 | 60 |
| Drain valve | | | | | | |
| outer Ø mm/inch | 75/3 | 75/3 | 75/3 | 75/3 | 75/3 | 75/3 |
| Draining gallon/min | 45 | 45 | 45 | 45 | 45 | 45 |
| capacity l/min | 170 | 170 | 170 | 170 | 170 | 170 |
| Steam valve connection | DN15 1/2" | DN15 1/2" | DN15 1/2" | DN15 1/2" | DN15 1/2" | DN15 1/2" |
| Rec. steam pressure psi | 45-90 | 45-90 | 45-90 | 45-90 | 45-90 | 45-90 |
| kPa | 300-600 | 300-600 | 300-600 | 300-600 | 300-600 | 300-600 |
| Functioning limits for psi | 8-115 | 8-115 | 8-115 | 8-115 | 8-115 | 8-115 |
| steam valve kPa | 50-800 | 50-800 | 50-800 | 50-800 | 50-800 | 50-800 |

# Technical data

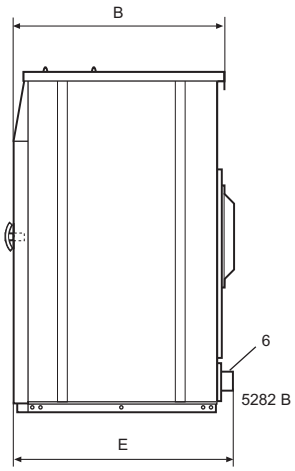
| | |
|---|---|
| **1** | Electrical connection |
| **2** | Cold water |
| **3** | Hot water |
| **4** | Hard water (option) |
| **5** | Steam connection |
| **6** | Drain |
| **7** | Liquid detergent supply |
| **8** | Control panel |
| **9** | Soap box |
| **10** | Door opening, EX618: ø 310 mm/12 3/16", EX625: ø 365 mm/14 3/8", EX630: ø 395 mm/15 9/16", EX640, EX655, EX670: ø 435 mm/17 1/8" |

| | A | B | C | D | E | F | G | H | I | K | L | M | N | O | P | R | S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EX618** | 720 | 690 | 1115 | 355 | 720 | 825 | 45 | 1030 | 220 | 1010 | 135 | 910 | 830 | 360 | 100 | 240 | – |
| **EX625** | 830 | 705 | 1300 | 365 | 740 | 910 | 45 | 1115 | 220 | 1100 | 135 | 995 | 910 | 415 | 100 | 295 | – |
| **EX630** | 910 | 785 | 1325 | 435 | 825 | 1035 | 125 | 1245 | 215 | 1225 | 300 | 1125 | – | – | 100 | 305 | 455 |
| **EX640** | 970 | 870 | 1410 | 470 | 945 | 1120 | 115 | 1330 | 230 | 1290 | 315 | 1205 | 370 | 410 | 100 | 335 | 485 |
| **EX655** | 1020 | 915 | 1445 | 500 | 955 | 1155 | 100 | 1360 | 215 | 1320 | 300 | 1240 | 350 | 360 | 100 | 360 | 510 |
| **EX670** | 1020 | 1060 | 1445 | 500 | 1135 | 1155 | 100 | 1360 | 215 | 1320 | 300 | 380 | – | – | 100 | 360 | 335 |

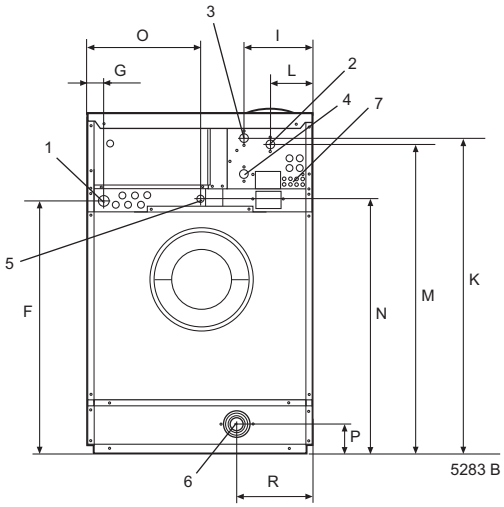
**EX618, EX625, EX630**




Front

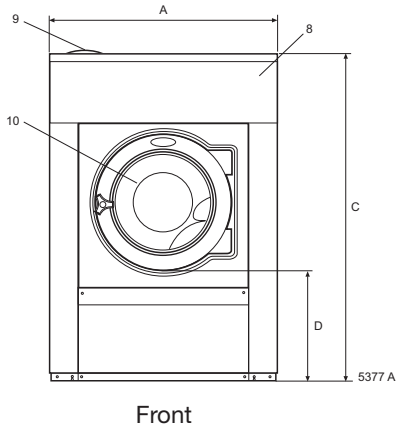



Right side

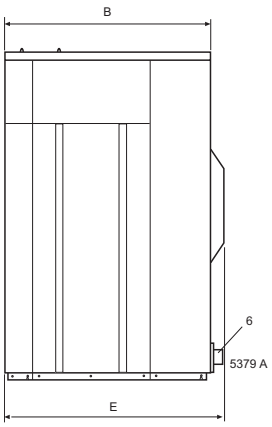



Rear side

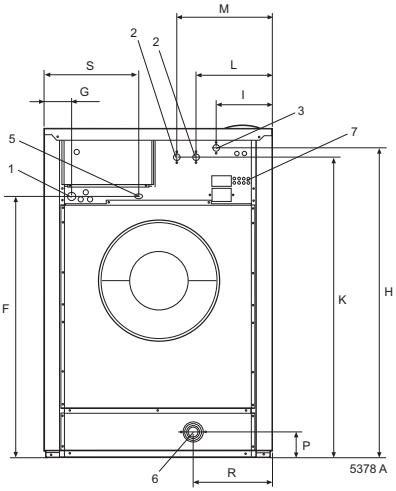
**EX640, EX655, EX670**




Front




Right side



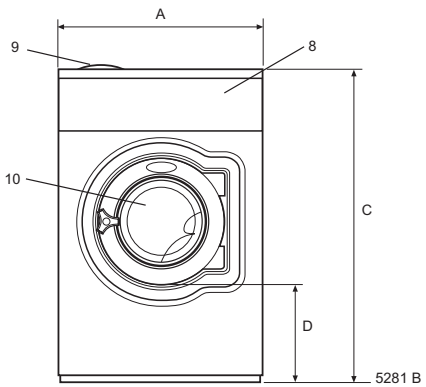

Rear side

# Technical data

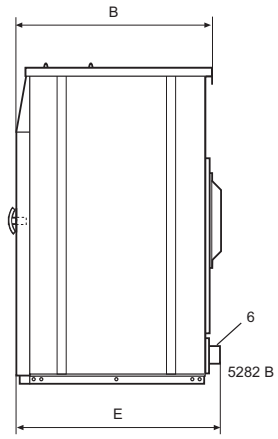
| in inch | A | B | C | D | E | F | G | H | I | K |
|---|---|---|---|---|---|---|---|---|---|---|
| **EX618** | 28 3/8 | 27 3/16 | 43 7/8 | 14 | 28 3/8 | 32 1/2 | 1 3/4 | 40 9/16 | 8 11/16 | 39 3/4 |
| **EX625** | 32 11/16 | 27 3/4 | 51 3/16 | 14 3/8 | 29 1/8 | 35 13/16 | 1 3/4 | 43 7/8 | 8 11/16 | 43 5/16 |
| **EX630** | 35 13/16 | 30 7/8 | 52 3/16 | 17 1/8 | 32 1/2 | 40 3/4 | 4 15/16 | 49 | 8 7/16 | 48 1/4 |
| **EX640** | 38 3/16 | 34 1/4 | 55 1/2 | 18 1/2 | 37 3/16 | 44 1/8 | 4 1/2 | 52 3/8 | 9 1/16 | 50 13/16 |
| **EX655** | 40 3/16 | 36 | 56 7/8 | 19 11/16 | 37 5/8 | 45 1/2 | 3 15/16 | 53 9/16 | 8 7/16 | 51 15/16 |
| **EX670** | 40 3/16 | 41 3/4 | 56 7/8 | 19 11/16 | 44 11/16 | 45 1/2 | 3 5/16 | 53 9/16 | 8 7/16 | 51 15/16 |

| in inch | L | M | N | O | P | R | S |
|---|---|---|---|---|---|---|---|
| **EX618** | 5 5/16 | 35 13/16 | 32 11/16 | 14 3/16 | 3 5/16 | 9 7/16 | – |
| **EX625** | 5 5/16 | 39 3/16 | 35 13/16 | 16 5/16 | 3 5/16 | 11 5/8 | – |
| **EX630** | 11 13/16 | 44 5/16 | – | – | 3 5/16 | 12 | 17 15/16 |
| **EX640** | 12 3/8 | 47 7/16 | 14 9/16 | 16 1/8 | 3 5/16 | 13 3/16 | 19 1/8 |
| **EX655** | 11 13/16 | 48 13/16 | 13 3/4 | 14 15/16 | 3 5/16 | 14 3/16 | 20 1/16 |
| **EX670** | 12 3/16 | 14 15/16 | – | – | 3 15/16 | 14 3/16 | 13 3/16 |

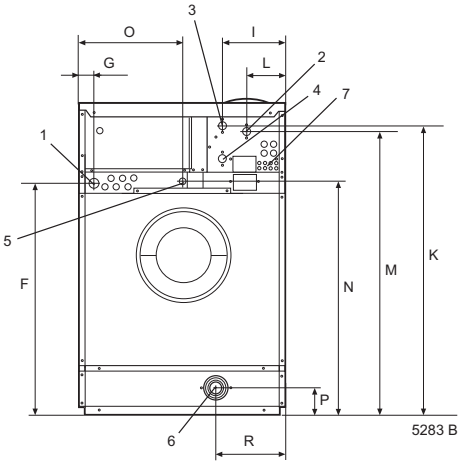
**EX618, EX625, EX630**




Front

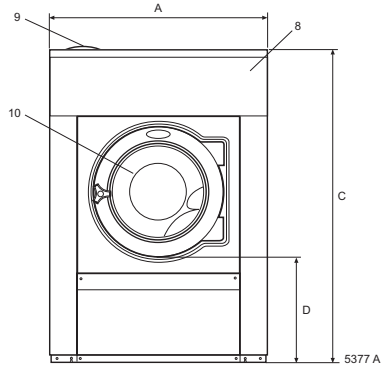



Right side

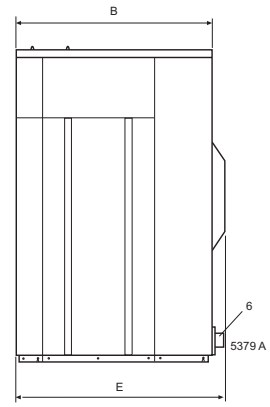



Rear side

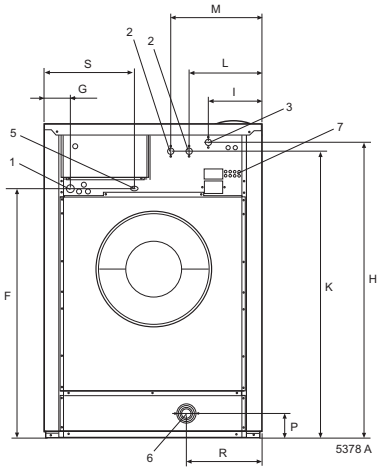
**EX640, EX655, EX670**




Front




Right side




Rear side

# Technical data

| | | EX618 | EX625 | EX630 | EX640 | EX655 | EX670 |
|---|---|---|---|---|---|---|---|
| Frequency of the dynamic force | Hz | 18.7 | 17.1 | 16.4 | 15.5 | 14.8 | 13.7 |
| Max floor load at extraction | lbs force | 435±120 | 554±120 | 723±120 | 940±240 | 1085±240 | 1320±312 |
| | kN | 1.8±0.5 | 2.3±0.5 | 3.0±0.5 | 3.9±1.0 | 4.5±1.0 | 5.5±1.3 |

## Transportation and unpacking, EX618, EX625

The machine is delivered complete with expansion bolts etc. packed inside the machine in the drum.

The machine is delivered bolted onto the transport pallet and packed in a crate or box.

- Remove packing from the machine.
- Remove front and rear panel. Remove the bolts between the machine and pallet.
- Mount front and rear panel.
- Mount the feet.
- Place the machine on its final position.
- Level the machine with the feet of the machine.

Fig. 1

The machine also comes with transport safety devices (four plate angles between the frame and the drum).

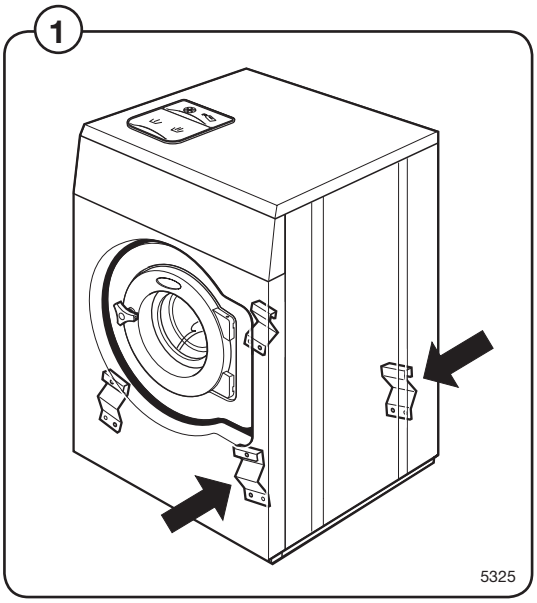
In order to remove the safety devices:

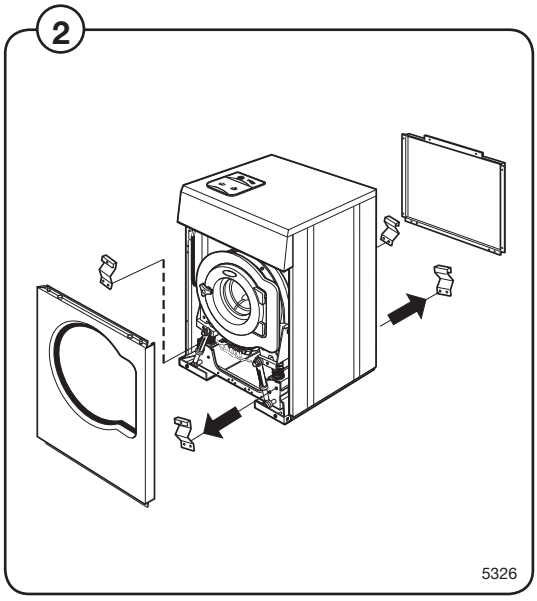
- Unpack the machine.

Fig. 2

- Remove front and rear panel.
- Remove both front metal angels.
- Remove both rear metal angels.

**Note!**
Once the shipping safety devices have been removed, handle the machine carefully to avoid damage to the suspension components.



## Transportation and unpacking, EX630, EX640, EX655, EX670

The machine is delivered complete with expansion bolts etc. packed inside the machine in the drum.

The machine is delivered bolted onto the transport pallet and packed in a crate or box.

- Remove packing from the machine.
- Remove front and rear panel. Remove the bolts between the machine and pallet.
- Mount front and rear panel.
- Mount the feet.

Fig. (4)

**NOTE!**
Regarding EX670 note the positioning of the two front feet.

- Place the machine on its final position.
- Level the machine with the feet of the machine.

Fig. (3) The machine also comes with transport safety devices (two plate angles between the support and the drum).

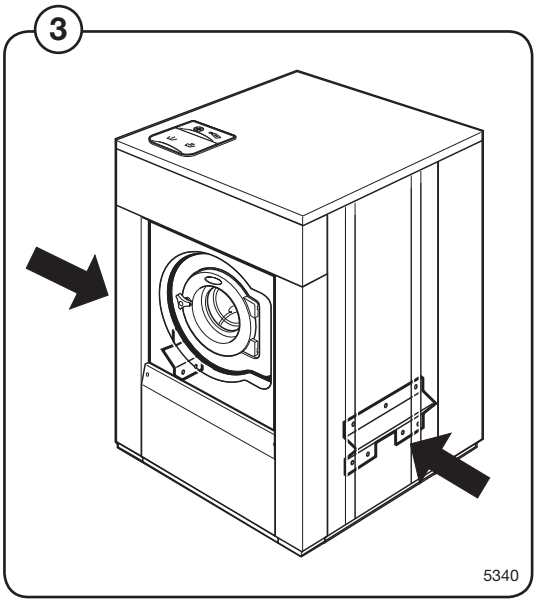
In order to remove the safety devices:

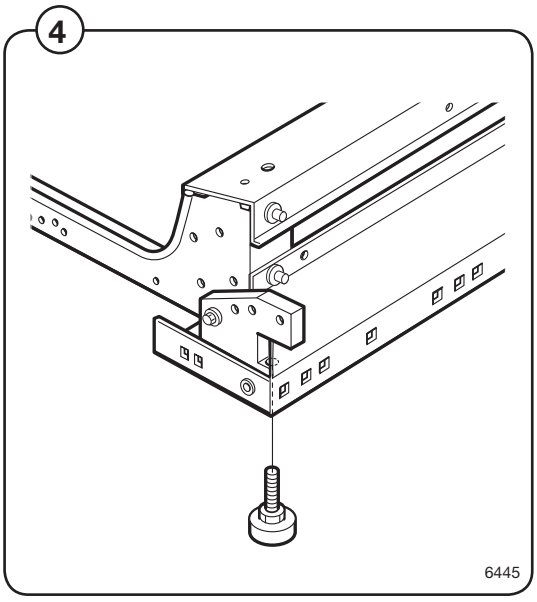
- Unpack the machine.

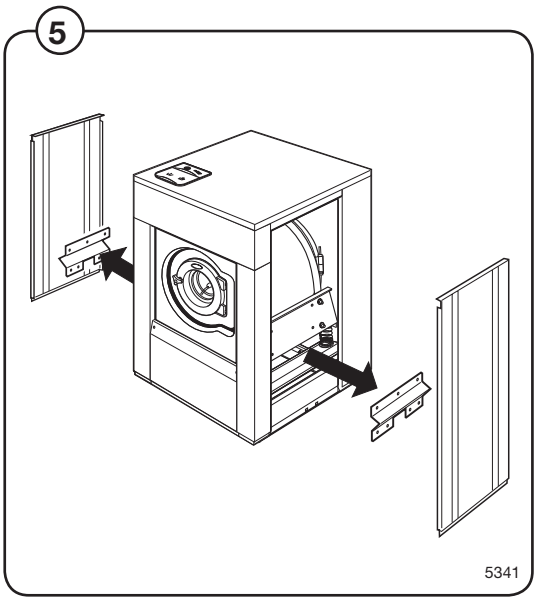
Fig. (5)

- Remove the two side panels.
- Remove the two transport securities.

**Note!**
Once the shipping safety devices have been removed, handle the machine carefully to avoid damage to the suspension components.



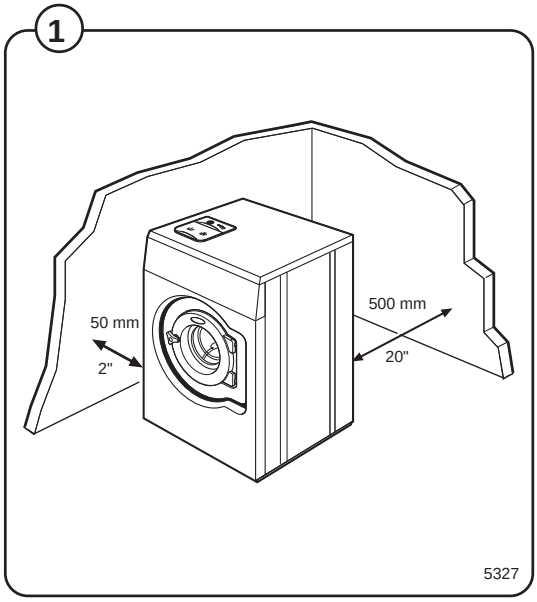



## Siting and floor

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

Fig. 1 In order to make installation and servicing the machine easier the following clearances are recommended:

- At least 20 inches (500 mm) between the machine and the wall behind
- and min. 2 inches (50 mm) on both sides of the machine whether installed next to the wall or other machines.



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## Mechanical installation

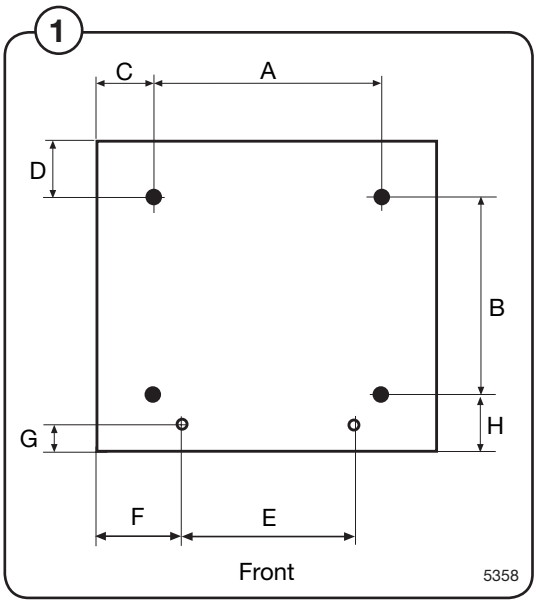
Fig. (1)

- Mark and drill 2 holes (ø 8 mm/5/16") about 40 mm/1 9/16" deep (EX618-625) and ø 10 mm/3/8" and 50 mm/2" deep (EX630-655) in the positions.

● = position of feet

○ = drilling points for expander bolts

- The machine must be lifted in its base frame.
- Place the machine over the two drilled holes on the foundation.
- Check that the machine is in level, both side-to-side and front to back. Adjust with the feet.




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

- Insert the expansion bolts supplied in the holes drilled in the floor. Fit the washers and nuts, and tighten securely.

| in mm | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| EX618 | 495 | 460 | 110 | 130 | 375 | 170 | 40 | 100 |
| EX625 | 575 | 465 | 130 | 140 | 455 | 185 | 35 | 95 |
| EX630 | 635 | 490 | 135 | 175 | 515 | 195 | 60 | 110 |
| EX640 | 715 | 545 | 125 | 205 | 595 | 185 | 60 | 115 |
| EX655 | 790 | 615 | 115 | 180 | 670 | 175 | 60 | 115 |
| EX670 | 903 | 835 | 60 | 180 | 670 | 175 | 60 | 75 |

| in inch | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| EX618 | 19 1/2 | 18 1/8 | 4 5/16 | 5 1/8 | 14 3/4 | 6 11/16 | 1 9/16 | 3 15/16 |
| EX625 | 22 5/8 | 18 5/16 | 5 1/8 | 5 1/2 | 17 15/16 | 7 5/16 | 1 3/8 | 3 3/4 |
| EX630 | 25 | 19 5/16 | 5 5/16 | 6 7/8 | 20 1/4 | 7 11/16 | 2 3/8 | 4 5/16 |
| EX640 | 28 1/8 | 21 7/16 | 4 15/16 | 8 1/16 | 23 7/16 | 7 5/16 | 2 3/8 | 4 1/2 |
| EX655 | 31 1/8 | 24 3/16 | 4 1/2 | 7 1/16 | 26 3/8 | 6 7/8 | 2 3/8 | 4 1/2 |
| EX670 | 35 9/16 | 32 7/8 | 2 3/8 | 7 1/16 | 26 3/8 | 6 7/8 | 2 3/8 | 2 15/16 |

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## Water connections

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

Water pipes and hoses should be flushed clean before installation. After installation hoses should hang in gentle arcs.

The machine may have between two and four 3/4" DN 20 water connectors. All connectors present on the machine must be connected up. The table shows the possible connection options, which will depend on the water types to be connected to the machine. Check the machine plates too.

All water connectors must be connected up, otherwise the wash program will not function correctly.

Hoses are to be of an approved type and grade, to comply with national regulations.

The water pressure data is as follows:

- min: 6 psi (40 kPa)
- max: 140 psi (1 MPa)
- recommended: 30-90 psi (200-600 kPa)

| | Water type | Water connection | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| Fig. 1 | cold and hot | cold | hot | | ** |
| Fig. 2 | cold and hot | cold | hot | cold*/ hot | ** |

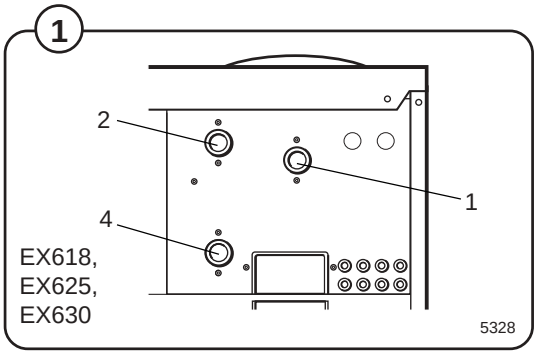
* For detergent container.

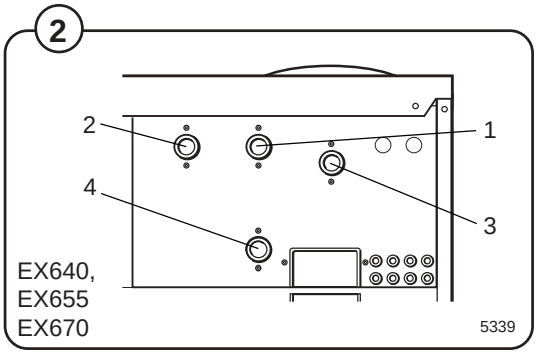
** Only machine with Clarus Control.

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 reuse from tank.

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

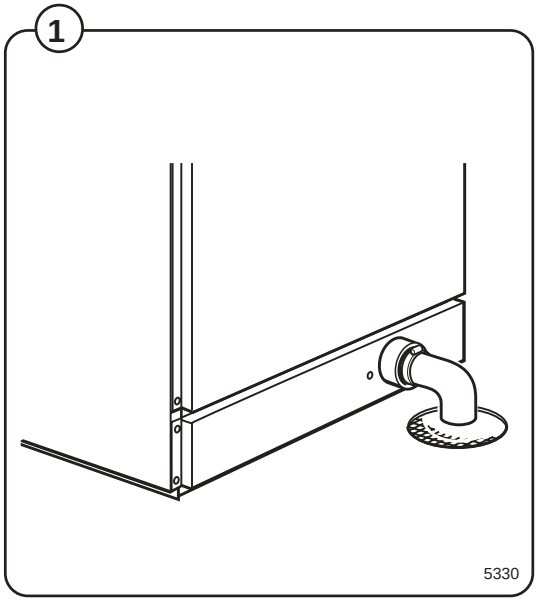


## Drain connection

Connect a 75 mm (2 1/2") 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.

Fig. 1 The drainage pipe should be located over a floor drain, drainage channel or the like so that the distance between the outlet and the drain is at least 25 mm (1").



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## Steam connection

The water supply to the machine should be fitted with manual shut-off valves and filters to facilitate installation and servicing.

The connection hose must be of type ISO/1307-1983 or equivalent. Connection size at filter: DN 15 (1/2").

Steam pressure required:

- minimum: 7 psi (50 kPa)
- maximum: 115 psi (800 kPa)

Fig. 1
- Remove the cover (A).

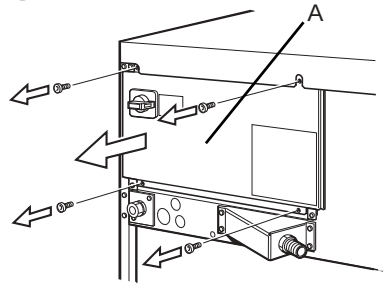
Fig. 2
- Mount the articulated nipple to the steam valve.

Fig. 3
- Mount the steam valve on the machine.

Fig. 4
- 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.

Fig. 5
- Mount the hose with wires between steam valve and machine.
  Connect wires in the steam valve.
  Connect ground cable to the terminal ground connection.
  Mount the cable connector on X46 on distribution card.

1



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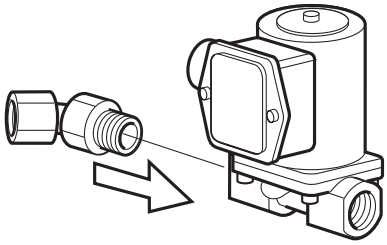
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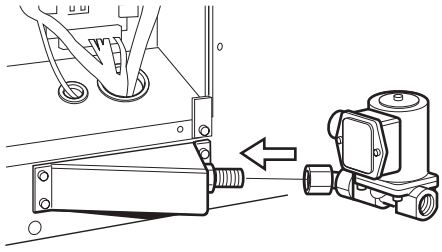
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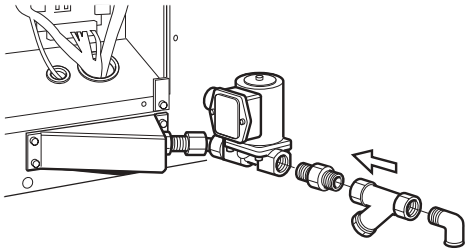
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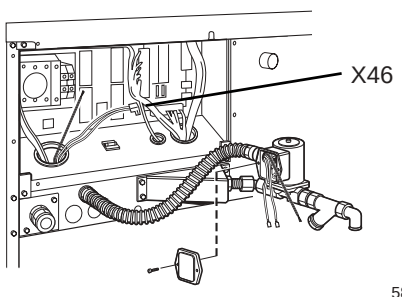

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## Connection of external liquid supplies

**Electrical installation must be carried out by an authorized personnel!**

**All optional equipment connected must be EMC-approved to EN 50081-1 or EN 50082-2.**

Fig. 1 Distribution card A can be used to control external functions, output and input signals.

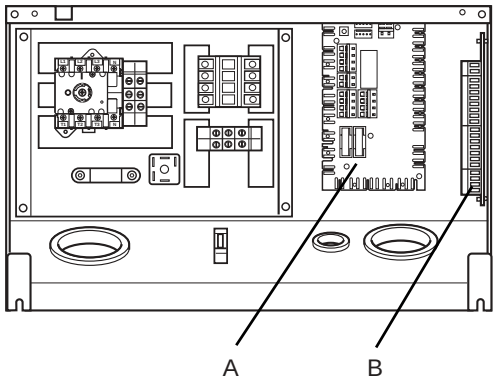
Fig. 2 **Outputs (200-240V AC):**
**Only Clarus Control**

| | |
|---|---|
| X71:1,2 | Signal "Door locked, program on" |
| X72:1 | 0 V (common) |
| X72:2 | Liquid supply 1 |
| X72:3 | Liquid supply 2 |
| X72:4 | Liquid supply 3 |
| X72:5 | Liquid supply 4 |
| X73:1 | Detergent box 1 (Y11) |
| X73:2 | Detergent box 2 (Y12) |
| X73:3 | Detergent box 3 (Y13) |
| X73:4 | Detergent box 4 (Y14) |
| X73:5 | Detergent box 2 (Y22) |

**Inputs:**

| | |
|---|---|
| X70:1,2 | Paus/PC5 |
| X70:3,4 | Start/Stop |

1

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2

Card A

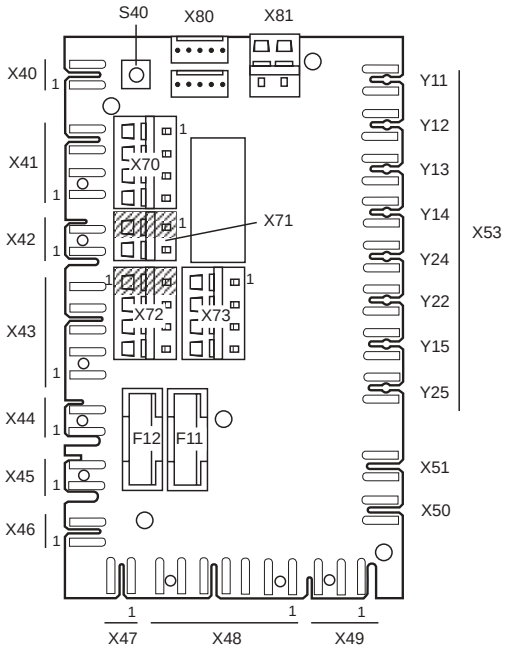


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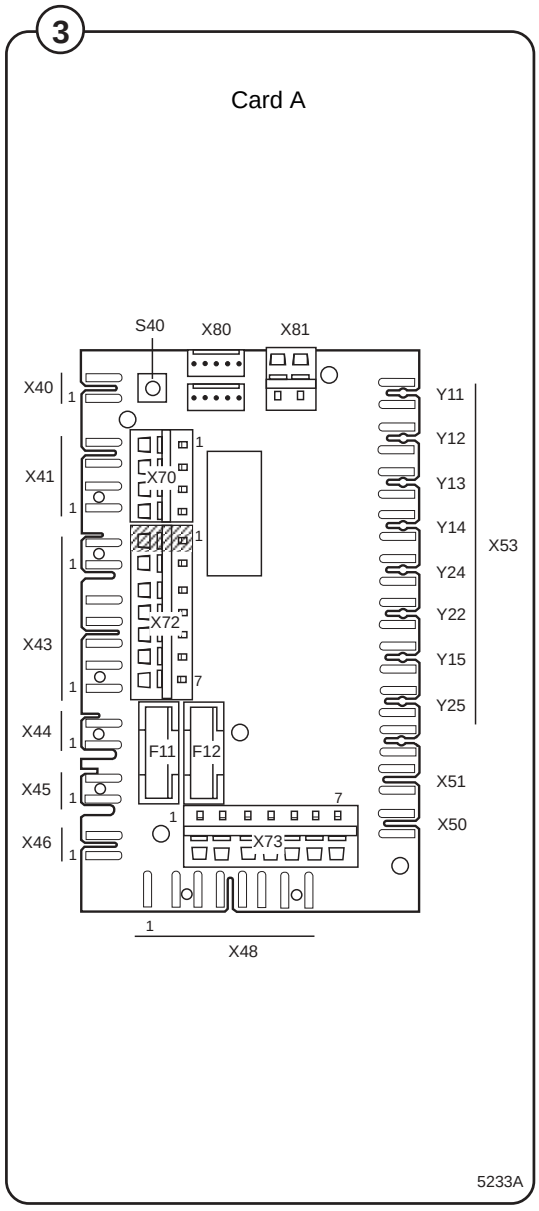
Fig. 3

**Outputs (200-240V AC):**
**Only Emerald and Selecta Control**

| | |
|---|---|
| X70 | See Payment system |
| X72:1 | 0 V (common) (Door locked) |
| X72:2 | L1 (Door locked) |
| X72:3 | Liquid supply 1 (Prewash, Emerald), (Detergent, Selecta) |
| X72:4 | Liquid supply 2 (Main wash, Emerald), (Sour, Selecta) |
| X72:5 | Liquid supply 3 (Softener) |
| X72:6 | Liquid supply 4 (Bleach, Selecta) |
| X72:7 | Liquid supply 5 (Bleach, Emerald), (Starch, Selecta) |
| X73:1 | Heating |
| X73:2 | Detergent box 2 (Y12) |
| X73:3 | Cold water (Y15) |
| X73:4 | Detergent box 2 (Y22) |
| X73:5 | Hot water (Y25) |
| X73:6 | Inverted drain |
| X73:7 | Drain |



**Price reduction**

Fig. 3

| | |
|---|---|
| X70:1 | Timer, opto- input (120-230V) |
| X70:2 | Timer, opto- input |

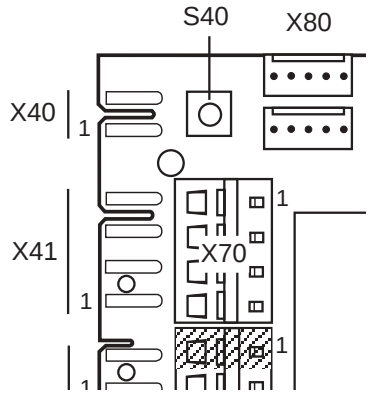
**External coin-meter**

Fig. 3

Fig. 5

| | |
|---|---|
| X70:1 | 0V (common), output |
| X70:2 | Coin 2 |
| X70:3 | Coin 1 |
| X70:4 | Price programming |

4

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5

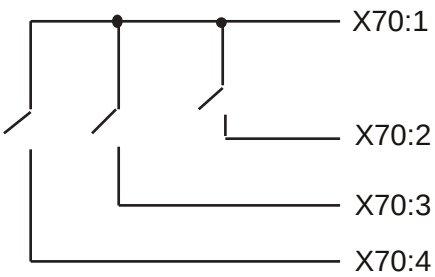


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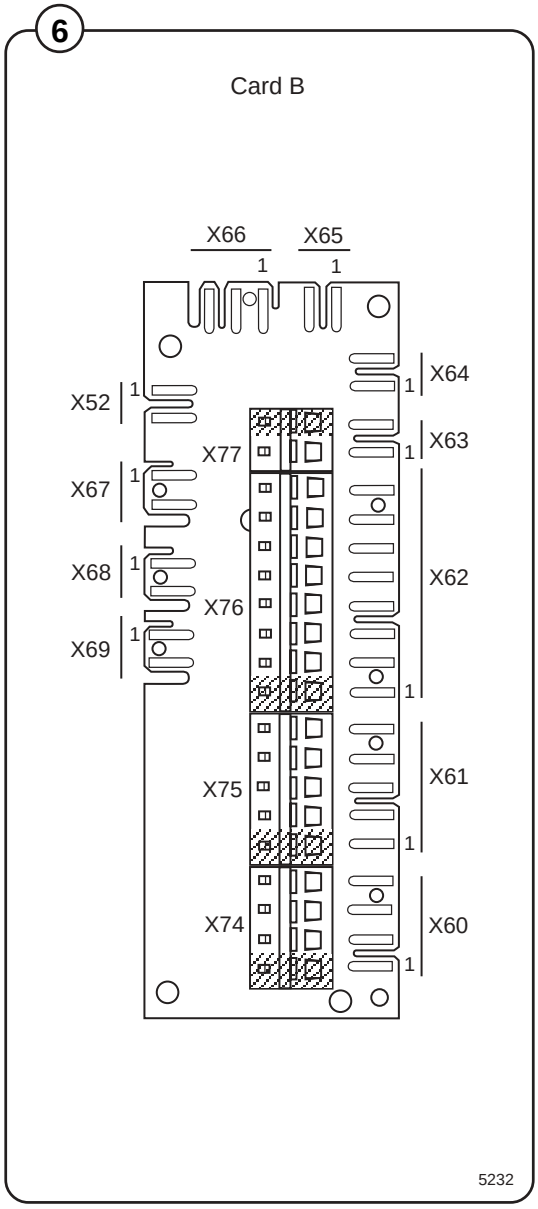
Fig. 6 If more signals are required the machine can be equipped with a second distribution card B **(only Clarus Control).**

**Outputs (200-240V AC):**

| | |
|---|---|
| X75:1 | 0 V (common) |
| X75:2 | Liquid supply 5 |
| X75:3 | Liquid supply 6 |
| X75:4 | Liquid supply 7 |
| X75:5 | Liquid supply 8 |
| X76:1 | 0 V (common) |
| X76:2 | Drain lock |
| X76:3 | Drain A |
| X76:4 | Drain B |
| X76:5 | Drain C |
| X76:6 | Inlet A |
| X76:7 | Inlet B |
| X76:8 | Inlet C |
| X77:1 | Buzzer (N) |
| X77:2 | Buzzer (L1) |

**Inputs:**

| | |
|---|---|
| X74:1,2 | Switch between heating 1/heating 2 |
| X74:3,4 | No function |



## Electrical installation

**Electrical installation must be carried out by licensed, qualified personnel!**

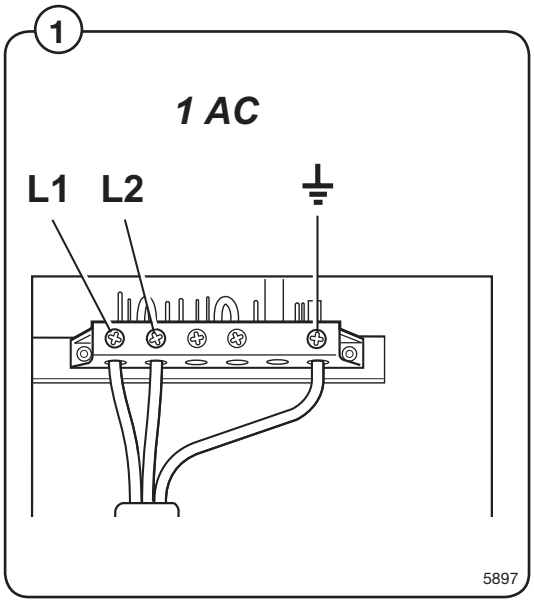
**Machines with frequency-controlled motors can be incompatible with certain types of earth leakage circuit breakers. It is important to know that the machines are designed to provide a high level of personal safety, which is why items such as ground-fault interrupting circuit breakers are not necessary.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

- **contact a licensed, qualified electrician to ensure that the appropriate type of breaker is chosen and that the breaker rating is correct**
- **for maximum reliability, connect only one machine per circuit breaker**
- **it is important that the earth wire is properly connected, including to the ground fault circuit breaker**.

An individual electrical disconnect must be provided in proximity to each machine.

**Fig.** (1) The connecting cable should hang in a gentle curve.

For proper circuit breaker sizer, see table on the next page.



Single-phase connection:

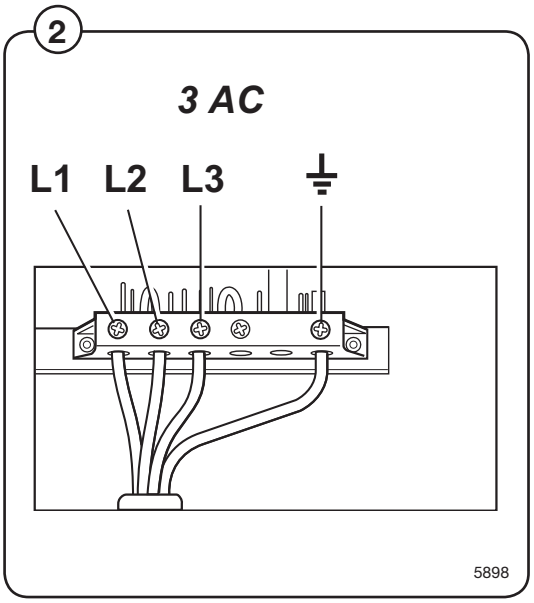
**Fig.** (2) Connect the earth and other two wires as shown in example ”1AC” in the figure.

Three-phase connection:

Connect the earth and the three phases as shown in example ”3AC” in the figure.

When the installation is completed, check:

- that the drum is empty.
- that the machine operates by turning on the mains switch, starting the machine and using RAPID ADVANCE to reach the spin cycle (see operations manual).



## EX618

| Heating alternative | Voltage alternative | Total kW | Fuse A |
|---|---|---|---|
| No heating or Steam heating | 100-120 V 1 AC | 1.1 | 15 |
| | 208-240 V 1 AC | 1.1 | 15 |
| El heating | 220-230 V 3 AC | 7 | 20 |

## EX625

| Heating alternative | Voltage alternative | Total kW | Fuse A |
|---|---|---|---|
| No heating or Steam heating | 208-240 V 1 AC | 1.3 | 15 |
| El heating | 208-240 V 3 AC | 9.2 | 30 |

## EX630

| Heating alternative | Voltage alternative | Total kW | Fuse A |
|---|---|---|---|
| No heating or Steam heating | 208-240 V 1 AC | 1.6 | 15 |
| El heating | 208-240 V 1 AC | 12.5 | 60 |
| | 208-240 V 3 AC | 11.8 | 35 |
| | 440/480 V 3 AC | 13.5 | 20 |

## EX640

| Heating alternative | Voltage alternative | Total kW | Fuse A |
|---|---|---|---|
| No heating or Steam heating | 208-240 V 1 AC | 2.3 | 15 |

## EX655

| Heating alternative | Voltage alternative | Total kW | Fuse A |
|---|---|---|---|
| No heating | 208-240 V 1 AC | 2.6 | 15 |
| or Steam heating | 480 V 1 AC | 2.6 | 15 |
| El heating | 208-240 V 3 AC | 18.3 | 60 |

## EX670

| Heating alternative | Voltage alternative | Total kW | Fuse A |
|---|---|---|---|
| No heating or Steam heating | 208-240 V 1 AC | 2.1 | 15 |

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# Function checks, Emerald/Selecta

Perform the following checks once the machine is installed:

- Open the manual water valves.
- Turn on the power at the external switch.
- Put detergent into compartment 2.
- Choose a high-temperature program.
- Press the **START** button. If the machine is coin-operated insert the amount of coins or tokens shown on the display.

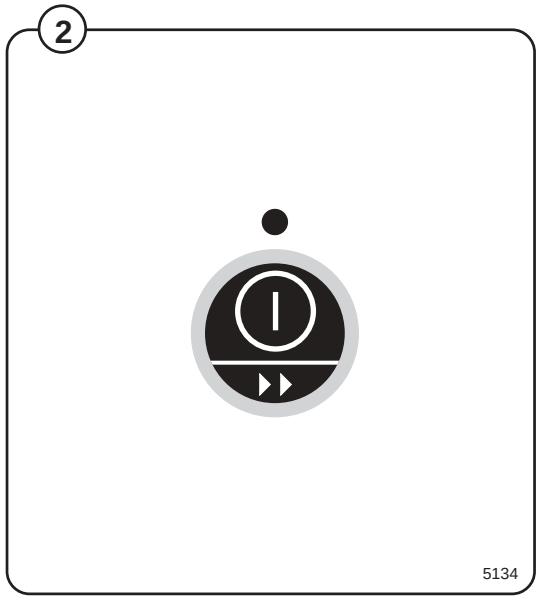
  Once the display counter shows 0, press **START.**

Check:

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

Fig. 1


Fig. 2



# Function checks, Clarus Control

## Manual operation

- Switch on the machine's main switch.
- Open the manual valves for water and for steam if the machine has steam heating.

In the operating manual, chapter "Manual operation", one can find how to operate the machine manually.

- Check that the drum is empty and close the door.
- Close the drain valve.
- 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 motor on wash action, and check that the motor is revolving clockwise and anticlockwise alternately, as normal for wash action.
- Start heating by entering a final temperature and then pressing **START**. Check that the steam valve opens or the heating element relay reacts, as appropriate.
- Check that all sources of detergent supply are working as they should, including the built-in detergent supply compartments, where present.
- 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.

To keep your machine in proper working order, follow the preventive maintenance recommendations provided below.

The maintenance interval should be adjusted according to machine usage. The suggested schedule assumes an 8 hour work day, and a 5 day work week..

## Daily

- Check the door and door lock:
  - Open the door and try starting the machine. The machine MUST NOT START.
  - Close the door, start the machine and try opening the door. It MUST NOT BE POSSIBLE TO OPEN THE DOOR WHILE THE MACHINE IS OPERATING!
  - Check that the door does not leak.
  - Clean the door seal, removing any detergent and fluff.
- Check that the drain valve does not leak during the wash cycle.
- Clean out any detergent remaining in the detergent compartment. Rapid advance through a program and let the water rinse the compartment.
- Inspect liquid chemical tubing and connections for leaks. Repair as necessary.

## Every third month (refer this service to qualified personnel)


**May only be carried out by authorized personnel.**

- Check that the door does not leak.
- Check the drain valve and remove any lint.
- Inspect the interior of the machine (during an actual wash cycle to ensure that no leaks are noticed) by:
  - Turning of the main power switch of the machine.
  - Remove the top cover and the protective front and rear plates.
  - Cover the detergent dispenser to prevent water from splashing inside the machine.
  - Start a wash program.
  - KEEP CLEAR OF MOVING PARTS WHILE MACHINE IS OPERATING!!

- Inspect all internal hoses, seals and gaskets for signs of leakage. Repair as necessary.
- Check that water inlet screens are clean of debris. Dirty screens result in longer fill times, which reduce productivity.
- Inspect the drive belt. Adjust the tension or replace if necessary (see section 30. Motor).
- Check that there are no signs of leakage on the floor beneath the machine. Locate and repair any leak.
- On heated machines, if the heating time is unusually long, check the heating elements (see section 40. Heating). If the water is very hard, check whether there are lime deposits on the heating elements. Decalcify the elements if necessary. Adapt the amount of deliming agent to the manufacturer's guidelines.
- Never switch on the heating elements when there is no water in the machine. This will cause the slow-blow fuse to trigger.
- Inspect the shock absorbers and coil springs. (Only EX- and H-model).