

# **INSTALLATION MANUAL**

DOC. NO. 438.9212-35/01 EDITION 19.2007

## **EXSM6135cl**

## **Clarus Control**



# Installation manual

## EXSM6135cl

### 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).

<b>MACHINE TYPE OR MODEL</b>	
<b>MACHINE SERIAL NUMBER(S)</b>	
<b>ELECTRICAL CHARACTERISTICS:</b> _____ 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.

#### PRECAUCION

1. No abra la puerta de la máquina lavadora sino hasta que la máquina haya terminado su ciclo, la luz operativa esté apagada y el cilindro de lavado haya completamente terminado de girar.
2. No interfiera 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 seriamente herido.

MACHINE MUST NOT BE USED BY CHILDREN

LAS MÁQUINAS NO DEBEN SER USADAS POR NIÑOS

### LOCATED AT THE REAR OF THE MACHINE:

## INSTALLATION AND

## MAINTENANCE WARNINGS – AVERTISSEMENT

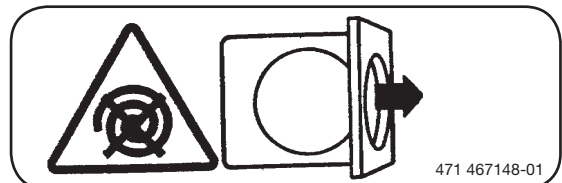
1. This machine **MUST** be securely bolted according to the installation instructions, to reduce the risk of fire and to prevent serious injury, or damage to the machine.  
*Pour reduire les risques d'incendie, fixer cet appareil sur un plancher beton sans revêtement.*
2. If installed on a floor of 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!

# NOTICE TO INSTALLER

Improper installation of this machine:

- May cause serious damage to the machine.
- May result in other property damage.
- May cause personal injury.
- Will void the manufacturer's warranty.

Improper fastening of this machine to its foundation, inferior foundation materials, an undersized foundation, the use of fabricated steel bases not provided by Wascomat or its approved supplier(s), the use of an improper type, number, or size of mounting bolts, or failure to use proper hardware on mounting bolts may result in damage to the machine that will not be covered by the manufacturer's warranty.

Use of a steel base beneath this machine **DRAMATICALLY INCREASES** the mechanical stress placed on the underlying concrete floor or foundation. This must be taken into consideration when employing a steel base to raise the height of the machine.

Increase the manufacturer's recommended floor or foundation thickness requirements by at least three inches (see installation manual) when using six-inch-high Wascomat steel bases to raise the machine's height.

The use of steel bases more than six inches in height is **NOT** recommended. If installation requires a base higher than six inches, contact Wascomat Technical Support at 516-371-0700 for advice.

Connection to line Voltage or over-current protection devices other than those specified on the data plate may result in severe damage to machine components, and will void the manufacturer's warranty.

Refer to complete installation instructions provided in manuals accompanying the machine.

**Contact Wascomat Technical Support at 516-371-0700 with any questions BEFORE installing this machine. Damage resulting from inadequate installation materials or improper installation techniques will void the manufacturer's warranty.**

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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.**

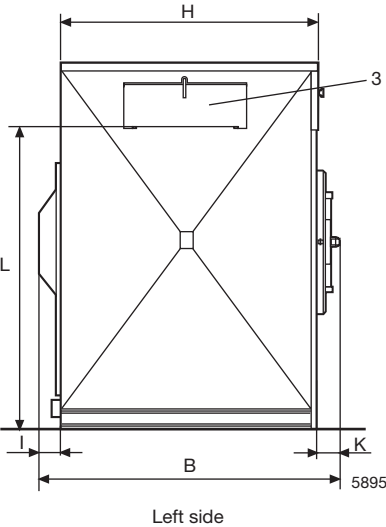
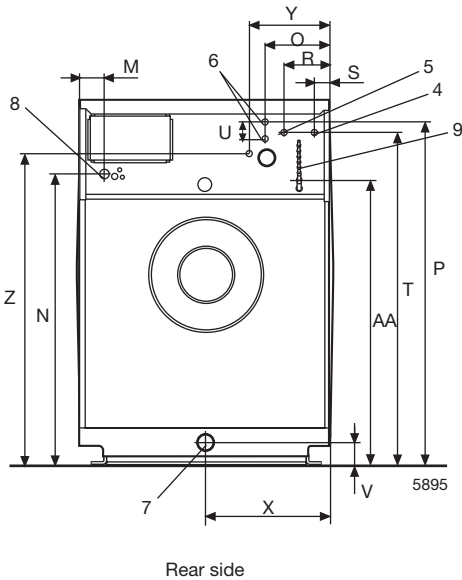
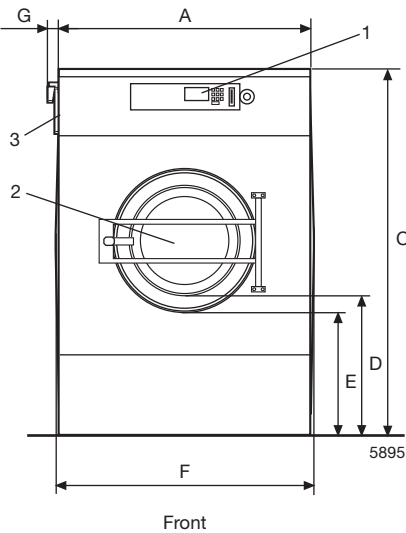
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## EXSM6135cl

Dry load capacity	up to	60 kg	135 lbs
Overall dimensions	Width	1175 mm	46 1/4"
	Depth (at the top)	1190 mm	46 7/8"
	Height	1675 mm	65 15/16"
	Net weight		
Max. floor load at extraction Frequency (dynamic force)			
Crated Dimensions	Volume Weight		
Inner drum	Diameter	980 mm	38 9/16"
	Depth	800 mm	31 1/2"
	Volume	600 litre	21.2 cu.ft
Speed of rotation	Wash		38 rpm
	Distribution		68 rpm
	Extraction, max		630 rpm
G-factor	During wash		
	During extrac., max		217
Motor speed	During wash		380 rpm
	During distrib.		680 rpm
	During extrac., max		6300 rpm
Rated power	Motor, wash		
	Motor, distrib.		
	Motor, extrac.		
Voltage requirements			208-240 V 3-Phase 60 Hz
Full load amps			
Overcurrent protection			
Water connections			
Recommended water pressure	2-6 kp/cm <sup>2</sup>		25-85 psi
Hose connection, water	DN 25		1"
Hose connection, steam	DN 20		3/4"
Hose connection, drain	75 mm		3"

1	Control panel
2	Door opening ø 535 mm/21 1/16"
3	Soap supply injector, powder (optional)
4	Cold water
5	Hot water
6	Cold or hot water, supply injector (optional)
7	Drain
8	Electrical power
9	External liquid supply connections, 6pcs ø10 mm/5/8", 1pc ø16 mm/5/8" and 1pc ø 20 mm/13/16"

Dimensions	mm	inch
A	1145	45 1/16
B	1375	54 1/8
C	1670	65 3/4
D	600	23 5/8
E	535	21 1/16
F	1175	46 1/4
G	50	2
H	1185	46 5/8
I	105	4 1/8
K	120	4 3/4
L	1390	54 3/4
M	110	4 5/16
N	1350	53 1/8
O	305	12
P	1585	62 3/8
R	215	8 7/16
S	75	2 15/16
T	1540	60 5/8
U	75	2 15/16
V	105	4 1/8
X	570	22 7/16
Y	375	14 3/4
Z	1445	56 7/8
AA	1315	51 3/4



## Installation

### Machine foundation

The machines are designed to be bolted in position to a concrete floor or specially prepared concrete foundation. A template showing the size of the foundation and positioning of the foundation bolts is available.

The machine must be securely fastened to a suitable foundation using M16 (5/8 inch) threaded rod, flat washers and lock nuts or lock washers. 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.

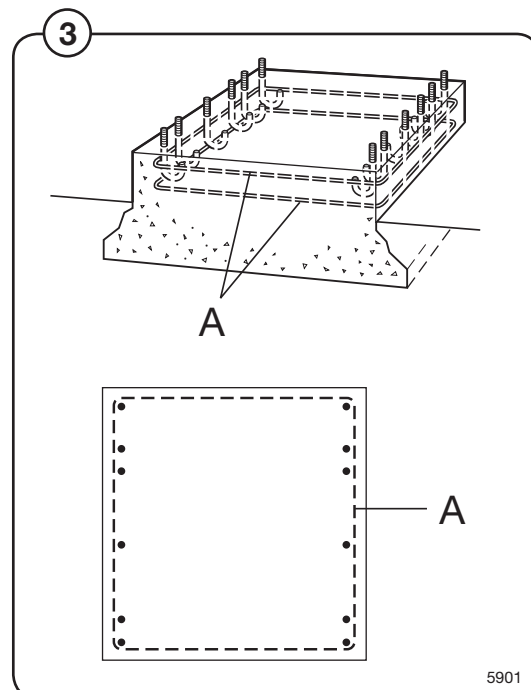
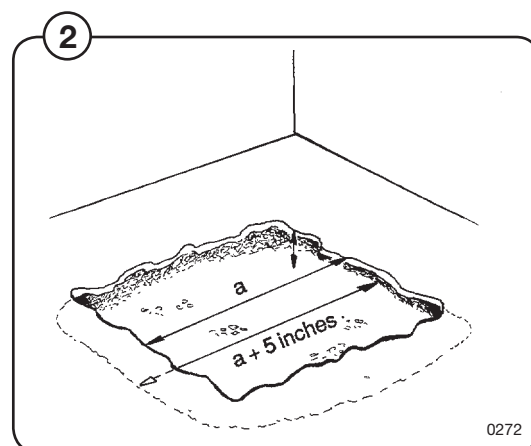
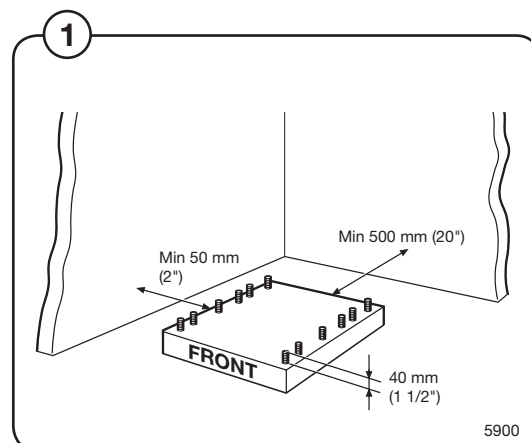
For installation on an existing concrete floor, the floor must be at least 8" thick and of good quality. If the floor does not meet these requirements, then a 6-8" high concrete foundation should be made.

Refer to "Technical data" for static and dynamic floor loading.

Follow the instructions below when making a concrete foundation:

1. Decide where to place the machine and consider maintenance requirements, i.e. determine a suitable distance from the rear of the foundation to the wall, and the distance from the foundation to the nearest side wall. The distance should be at least 20 and 2 inches (if machine is equipped with soap dispenser the distance should be at least 30 inches), respectively.
2. Break up the floor to a depth of at least 3 inches, making sure that the sides of the hole slope inwards - the bottom of the hole should be 5 inches longer than the upper length.
3. Wet the hole well. Brush the bottom and sides with cement grout.
4. Prepare a casing and fill with concrete to form foundation. Make sure the foundation is level.
5. Use the template to position the foundation bolts correctly - bolts are to extend 1 1/2" above concrete.

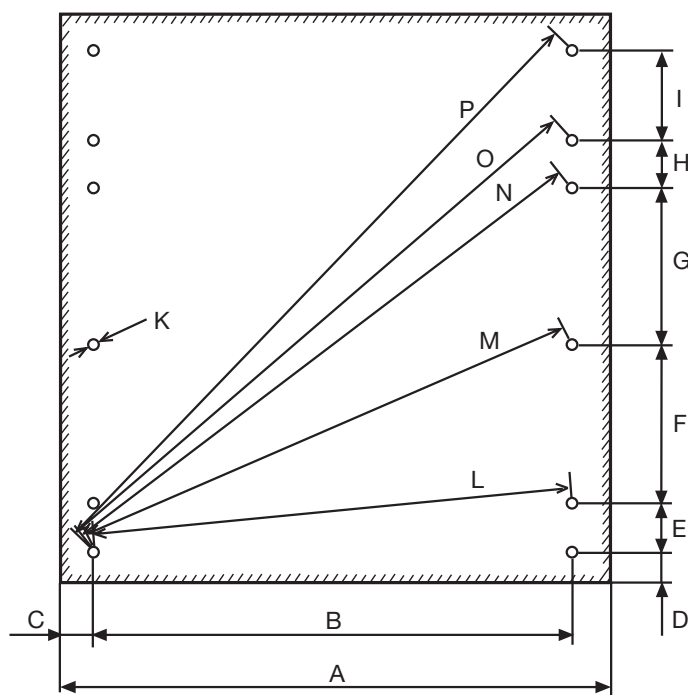
Reinforcing ironrods A shall be used around the base. The ironrods shall be placed between the bolts and the edge of the foundation.



**EXSM6135cI**

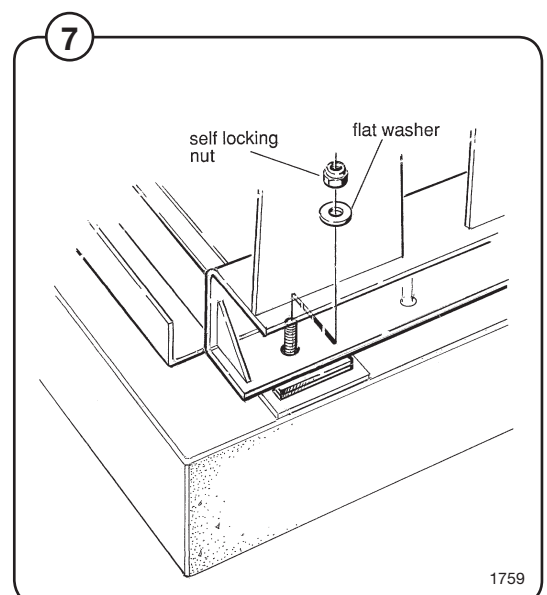
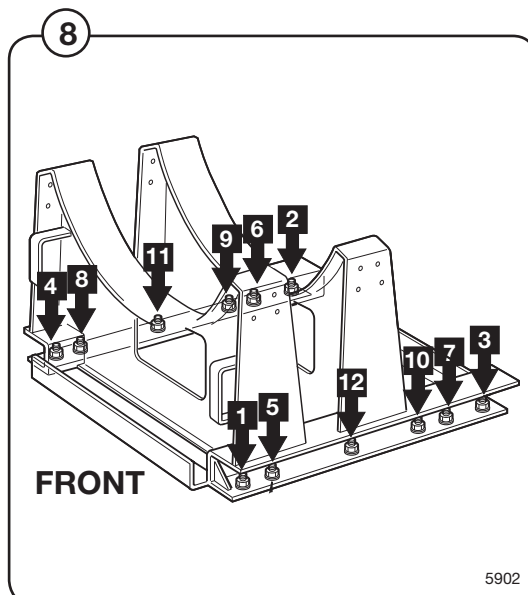
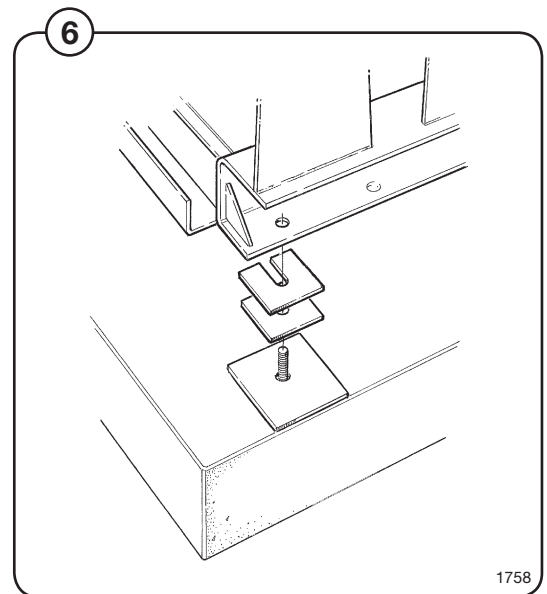
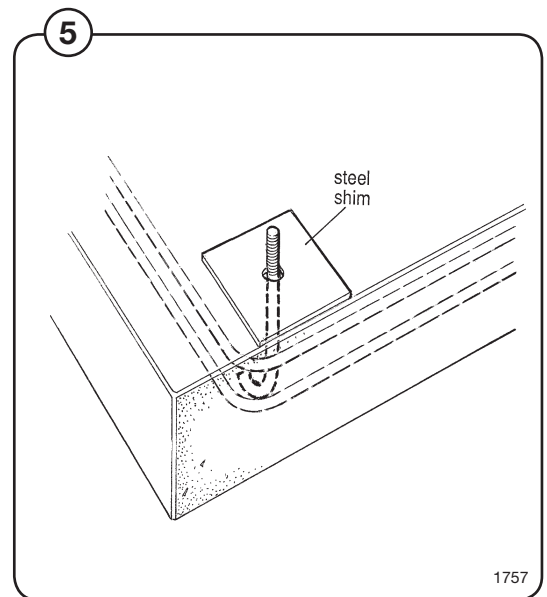
- ④ Measurements for foundation in inches and (mm).

<b>A</b>	44 7/8, (1138)
<b>B</b>	39 3/8, (998)
<b>C</b>	2 3/4, (70)
<b>D</b>	2 5/8, (66)
<b>E</b>	3 15/16, (100)
<b>F</b>	12 7/8, (327)
<b>G</b>	12 7/8, (327)
<b>H</b>	3 15/16, (100)
<b>I</b>	7 5/16, (185)
<b>K (diameter)</b>	7/8, (22)
<b>L</b>	39 1/2, (1003)
<b>M</b>	42 3/4, (1086)
<b>N</b>	49 1/4, (1251)
<b>O</b>	51 3/4, (1314)
<b>P</b>	56 3/4, (1441)

**FRONT**

## Mechanical installation

- 5 • Place wide steel shims on the concrete foundation over the bolts.
- 6 • Lift the machine and lower it in position. Never use the door or the door handle to lift or lower the machine.
- 7 • Check that the machine is level front-to-rear and side-to-side and standing firmly on the ten supporting points. Spacing washers must be mounted if one or more of these points is not resting against the floor/foundation.
- 8 • Place flat washers over the foundation bolts and secure the machine in position by tightening the self-locking nuts. See illustration below.
- 9 • Tighten the nuts in sequence as shown.
- 10 • Check and tighten the nuts every week for the first month.



## Water connections

All intake connections to the machine are to be fitted with manual shut-off valves and filters, to facilitate installation and servicing. In certain cases non-return valves will need to be fitted before the machine to comply with local plumbing regulations.

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

The machine may have two or four 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)



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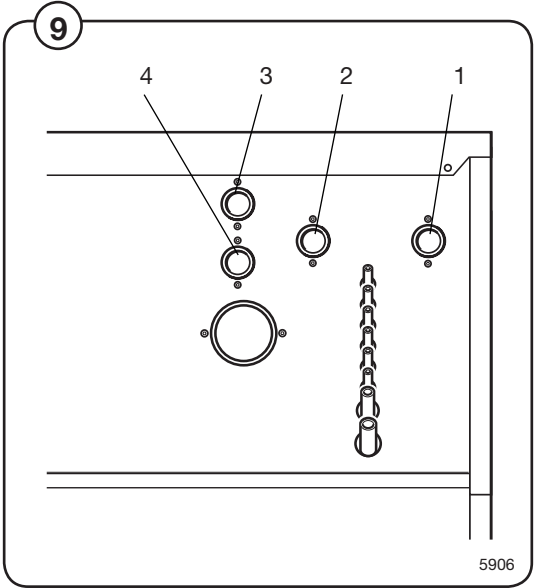
Water type	Water connection			
	1	2	3	4
cold and hot	cold*	hot*	cold or hot**	cold or hot**

\*

1" (DN 25)

\*\*

3/4" (DN 20) for detergent supply

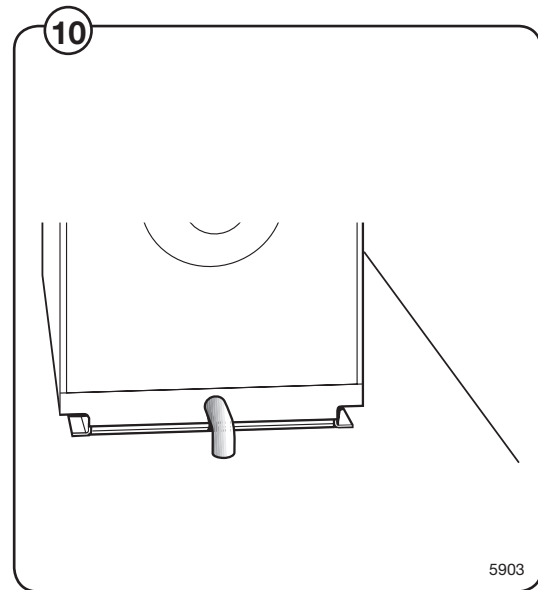


## Drain connection

- ⑩ Connect a 3" (75 mm) flexible hose to the drain outlet of the machine.

The drain hose must not have any sharp bends and must slope from the machine to assure proper drainage. The outlet must open freely to the main drains.

Do not reduce the size of the drain connection from the machine to the waste line.



## Steam connection (optional steam heating)

- 11 The steam inlet pipe must be fitted with a manual cut-off valve in order to facilitate installation and service operations.

Attach the filter supplied with the machine to the manual cut-off valve.

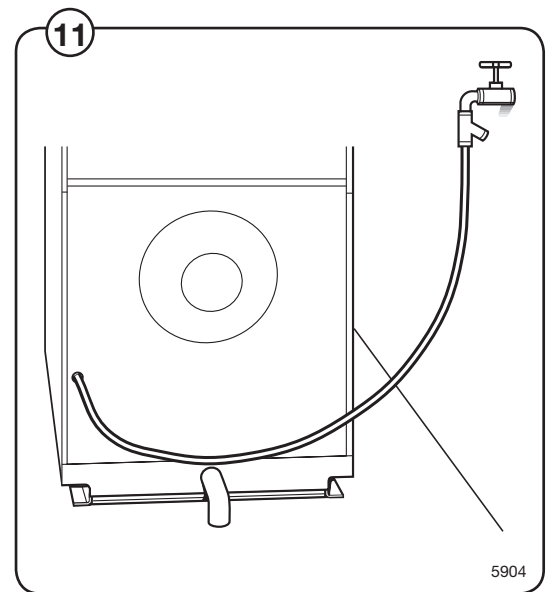
Connection hoses should be of the quality required according to regulations in the country of use.

Connections size at filter: 3/4" (DN 20)

Steam pressure required:

- minimum: 7 psi (50 kPa)
- maximum: 113 psi (800 kPa)

Check there are no sharp angles or bends in the connection hose.



## 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.**



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

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

X71:1,2 Signal "Door locked, program on"

X72:1 0 V

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)

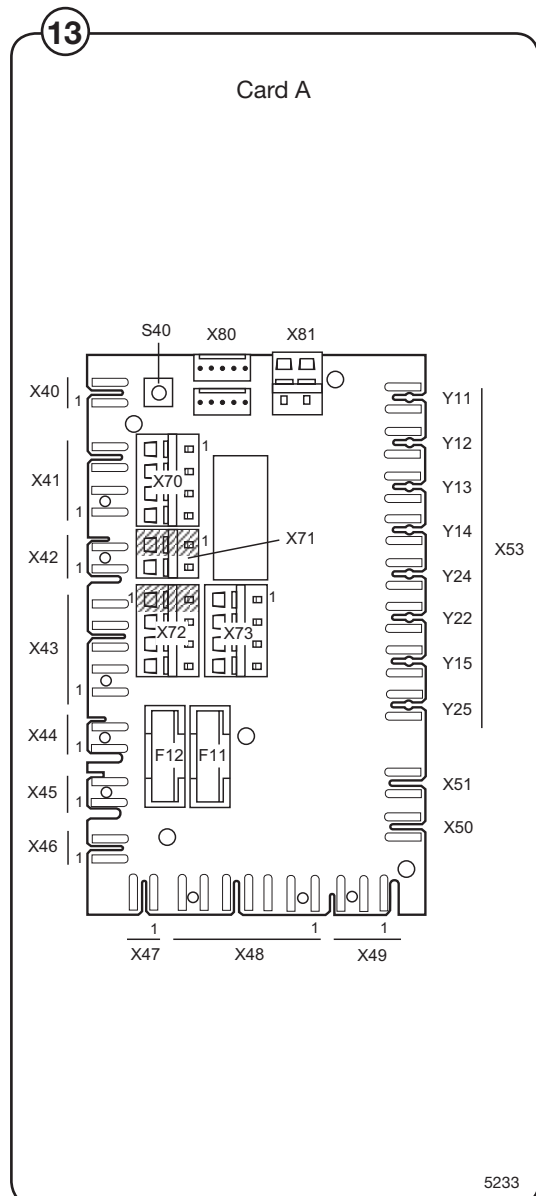
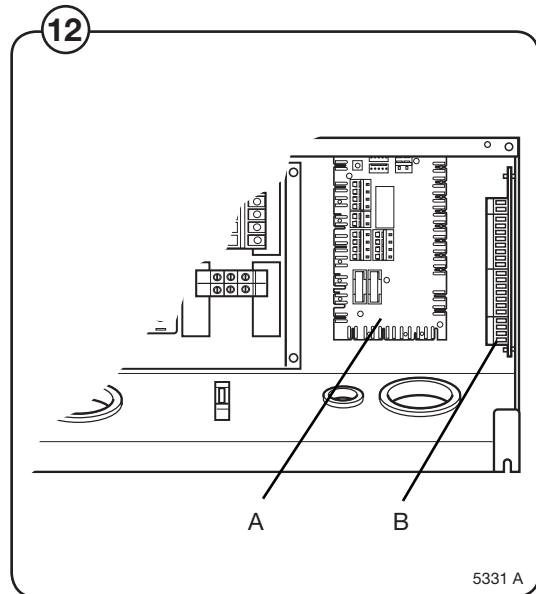
X73:4 Detergent box 4 (Y14)

X73:5 Detergent box 2 (Y22)

**Inputs:**

X70:1,2 Paus/PC5

X70:3,4 Start/Stop



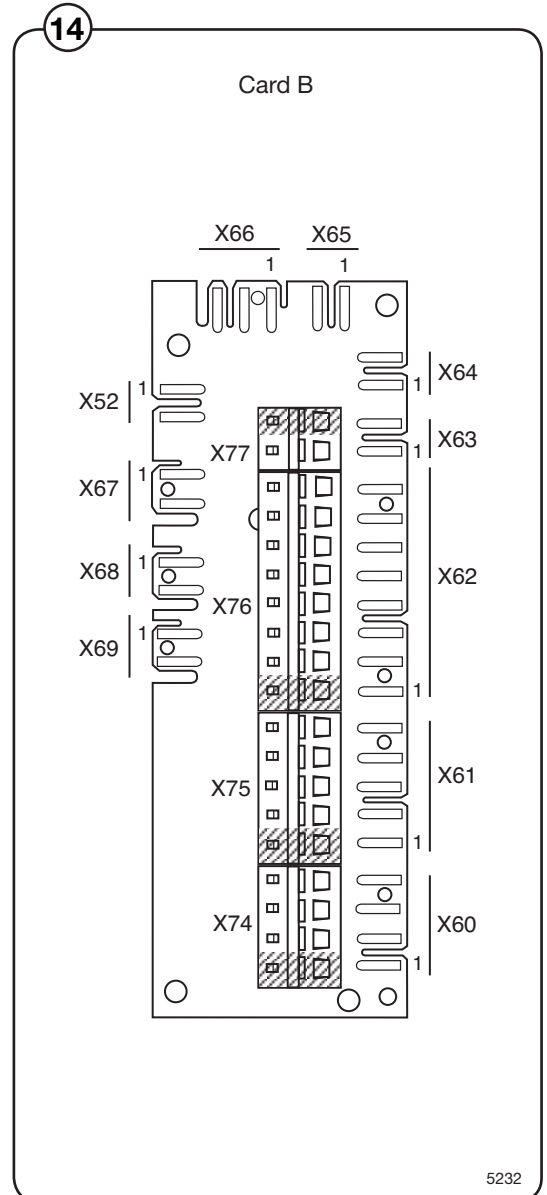
- 14 If more signals are required the machine can be equipped with a second distribution card B.

## Outputs (200-240V AC):

X75:1	0 V
X75:2	Liquid supply 5
X75:3	Liquid supply 6
X75:4	Liquid supply 7
X75:5	Liquid supply 8
X76:1	0 V
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.**

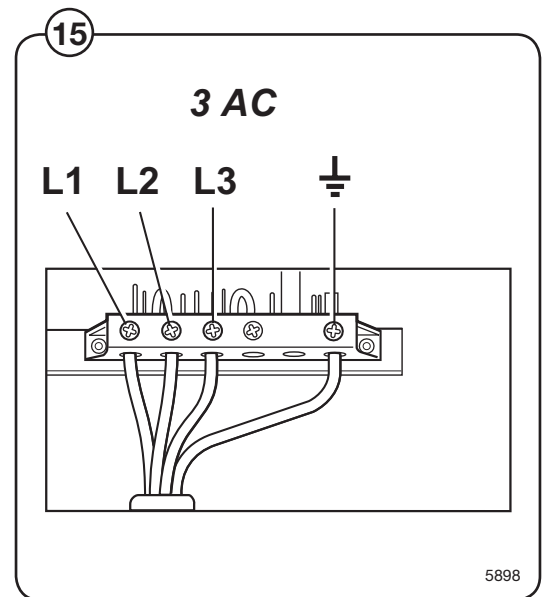
An individual electrical disconnect must be provided in proximity to each machine.

## Three-phase connection:

- 15 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).



Heating alternative	Voltage alternative	Total kW	Fuse A
No heating	200 V 3 AC	2.1	10
or	230 V 3 AC	2.1	10
Steam heating	240 V 3 AC	2.1	10
	380-440 V 3 AC	2.8	10
El heating	230 V 3 AC	40.3	80
	400-415 V 3 N AC	40.8	65



## Function control and safety checklist

In the machine cylinder, you will find the warranty registration card, a copy of the warranty policy and other pertinent material.

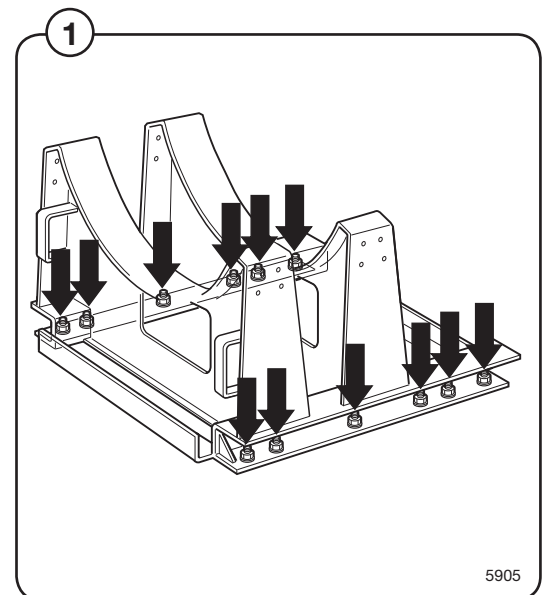
The warranty card should be completed and sent to Wascomat. All other items should be placed in a safe place for future reference.

The machine should be cleaned when the installation is completed, and checked out as detailed below without loading the machine with fabrics:

- Make sure the machine is properly bolted to the floor.
1. Make sure that all electrical and plumbing connections have been made in accordance with applicable local codes.
1. Check the incoming power for proper voltage, phase and cycles.
  - Make sure the machine is properly grounded electrically.
  - Make sure that only flexible water fill and drain hoses of the proper length to avoid sags and kinks have been used.
  2. Open the manual water and steam valves.
  3. Turn on electric power.

Before the machine is operated, the door safety interlock must be checked for proper operation as follows:

- When washer loading door is open, the machine must not start. Verify this by attempting to start washer with door open.
- When washer is in operation, the loading door is locked and cannot be opened. Verify this by attempting to open the loading door when the machine is operating. If necessary, consult this manual for proper operation of the door lock and door safety interlock or call a qualified serviceman.



5905



**Door safety interlock must be checked daily in accordance with above procedure.**

Choose a program.

Press **START** to begin test cycle. The machine will start up and the display window will show cycle information.

Check that:

- the drum is rotating normally at all program steps and that there are no unusual noises.
- there are no leaks from the water/steam connections and the drain valve.
- the door cannot be opened during the program and not until drum has stopped rotating and water level is below security level.

Fit the panels and covers removed during installation. Wipe the machine clean with a damp cloth.

If no problems were encountered, the machine is ready for use.



**All machines are factory tested prior to shipment. Occasionally, some residual water may be found when the machine is installed.**



**Before servicing Wascomat equipment, disconnect electrical power.**



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)



- 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.
- 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. 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.



