



WHAT'S INSIDE MATTERS™

Installation Instructions Front-Loading Multi-Load Commercial Washers

MXS20, MXS25, MXS30, MXS40, MXS55, MXS65
MXR20, MXR25, MXR30, MXR40, MXR55, MXR65

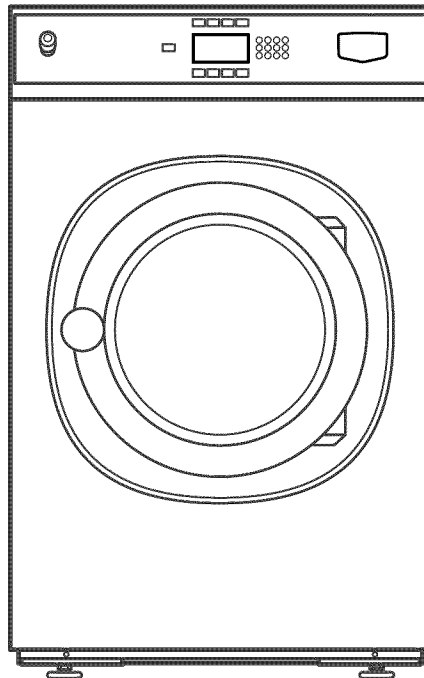


TABLE OF CONTENTS

WASHER SAFETY	2	WASHER MAINTENANCE	16
INSTALLATION REQUIREMENTS	3	Maintenance Schedule.....	16
Tools, Parts, and Equipment	3	Vibration Switch Adjustment and Function Test.....	17
Location Requirements	3	Belt Inspection, Adjustment, and Replacement	18
Electrical Requirements	6	Bolt Torque Values	18
Water Supply Requirements	7	Force of Door Seal.....	19
Drain Requirements	8	Ground Leakage Trips.....	19
INSTALLATION INSTRUCTIONS	8	TROUBLESHOOTING	19
Transport, Handling, Inspection, and Storage	8	REMOVING THE WASHER FROM SERVICE	20
Moving to Final Location	8	DIMENSIONS	20
Water, Drain, and Venting Connections	11	Soft-Mount Models.....	20
Electrical Connection	11	Rigid-Mount Models.....	22
Remove Shipping Brackets	14	TECHNICAL SPECIFICATIONS	24
Complete Installation	15		
Break-In Period	15		
Controls Troubleshooting	15		

WASHER SAFETY

Your safety and the safety of others are very important.

We have provided many important safety messages in this manual and on your appliance. Always read and obey all safety messages.



This is the safety alert symbol.

This symbol alerts you to potential hazards that can kill or hurt you and others.

All safety messages will follow the safety alert symbol and either the word "DANGER" or "WARNING."

These words mean:

⚠ DANGER

You can be killed or seriously injured if you don't immediately follow instructions.

⚠ WARNING

You can be killed or seriously injured if you don't follow instructions.

All safety messages will tell you what the potential hazard is, tell you how to reduce the chance of injury, and tell you what can happen if the instructions are not followed.

IMPORTANT SAFETY INSTRUCTIONS

WARNING: To reduce the risk of fire, electric shock, or injury to persons when using the washer, follow basic precautions, including the following:

- Read all instructions before using the washer.
- Do not wash articles that have been previously cleaned in, washed in, soaked in, or spotted with gasoline, dry-cleaning solvents, other flammable, or explosive substances as they give off vapors that could ignite or explode.
- Do not add gasoline, dry-cleaning solvents, or other flammable, or explosive substances to the wash water. These substances give off vapors that could ignite or explode.
- Under certain conditions, hydrogen gas may be produced in a hot water system that has not been used for 2 weeks or more. **HYDROGEN GAS IS EXPLOSIVE.** If the hot water system has not been used for such a period, before using the washing machine, turn on all hot water faucets and let the water flow from each for several minutes. This will release any accumulated hydrogen gas. As the gas is flammable, do not smoke or use an open flame during this time.
- Do not allow children to play on or in the washer. Close supervision of children is necessary when the washer is used near children.
- Before the washer is removed from service or discarded, remove the door or lid.
- Do not reach into the washer if the drum, tub or agitator is moving.
- Do not install or store the washer where it will be exposed to the weather.
- Do not tamper with controls.
- Do not repair or replace any part of the washer or attempt any servicing unless specifically recommended in this manual or in published user-repair instructions that you understand and have the skills to carry out.
- See "Electrical Requirements" for grounding instructions.

SAVE THESE INSTRUCTIONS

IMPORTANT:

- This washer must be directly wired to the electrical system and may not be attached with a plug.
- The circuit must be a dedicated circuit and may not be combined with any lighting circuit.
- Adequate grounding is essential to washer operation.

INSTALLATION REQUIREMENTS

Tools, Parts, and Equipment

Read and follow the instructions provided with any tools listed here.

Tools Needed

Washers must be installed by professional installers, who should have a full compliment of standard SAE and metric hand tools, and specialized tools as required. Gather the required tools and parts before starting installation.

Additional Materials

Additional materials may be required for this type of installation and the customer is responsible for supplying additional hardware and adapters as necessary. Refer to your model's Spare Parts Catalogue for more information.

Parts Supplied

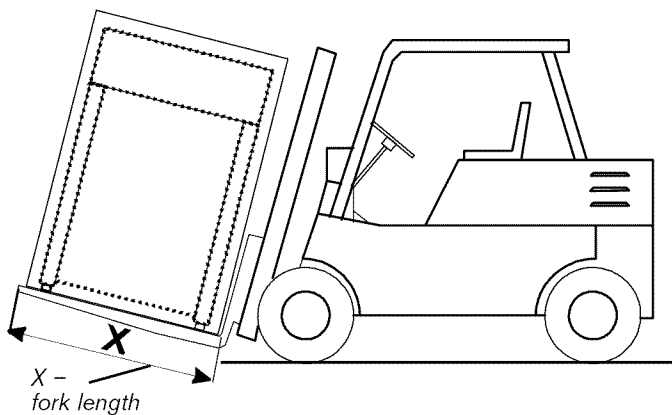
Remove parts bag from washer drum. Check that all parts were included. The number of parts supplied varies with model.

- Molded rubber drain hose and band clamp (1 each)
- Rubber washers for the hoses (4)
- Water supply hoses (2)

Equipment for Handling, Transport, and Storage

Use a lift truck or a manual skid cart for handling the washer when it still is in the packaging material.

- The lift truck forks must be at least 4" (100 mm) longer than the length of the washer frame.



Required Fork Length Chart

Soft Mount				
X	20/25 lbs (9/11 kg)	30 lbs (14 kg)	40/55/65 lbs (18/25/29 kg)	—
Fork Length	36 1/2" (927 mm)	42" (1067 mm)	44" (1118 mm)	—
Rigid Mount				
X	20/25 lbs (9/11 kg)	30/40 lbs (14/18 kg)	55 lbs (25 kg)	65 lbs (29 kg)
Fork Length	36 1/2" (927 mm)	42" (1067 mm)	48 1/2" (1232 mm)	50 1/2" (1283 mm)

- If possible, leave the washer in the packaging or on wooden skid until foundation is prepared for installation. Washer is attached to skid by four (4) M-16 bolts.
- See "Moving to Final Location" for more information on moving washer to its final location.

Location Requirements

Washers must be installed on a level concrete floor on the ground level of a building. Washers should not be installed on a floor other than the ground floor, or in a room with a basement or on a floor with rooms below without approval of a structural engineer.

Proper installation is your responsibility and must meet all governing codes and ordinances.

Working Conditions

- Washers should not be installed within reach of spraying water.
- Do not install washer where it will be exposed to weather or excessive humidity. Do not allow water or condensation to run over walls or floor under washer. Ambient temperature for storage or transportation must be between 34 and 131°F (1 and 55°C).

Floor

Space requirements for installations are determined by the number of washers being installed. See "Technical Specifications" and "Installation Instructions" for more detailed information.

- Installation must be on a solid concrete floor or slab capable of withstanding the weight and vibration produced by the washer. The maximum slope of the floor is 1° under the washer. A rough, uncovered concrete surface is preferable to a smooth or covered surface.

Weight of Washers

Soft Mount						
Weight on floor	20 lbs (9 kg)	25 lbs (11 kg)	30 lbs (14 kg)	40 lbs (18 kg)	55 lbs (25 kg)	65 lbs (29 kg)
Maximum static load (with linen and water)	517 lbs (235 kg)	585 lbs (265 kg)	719 lbs (326 kg)	1102 lbs (500 kg)	1191 lbs (540 kg)	1304 lbs (591 kg)
Maximum dynamic load (alt. stress when extracting)	427 lbs ±112 lbs (194 kg ±51 kg)	495 lbs ±112 lbs (225 kg ±51 kg)	607 lbs ±112 lbs (275 kg ±51 kg)	899 lbs ±157 lbs (408 kg ±71 kg)	1034 lbs ±247 lbs (469 kg ±112 kg)	1124 lbs ±247 lbs (510 kg ±112 kg)
Dynamic load frequency	19.4 Hz	17.9 Hz	17.9 Hz	16.3 Hz	16.3 Hz	15.25 Hz
Rigid Mount						
Weight on floor	20 lbs (9 kg)	25 lbs (11 kg)	30 lbs (14 kg)	40 lbs (18 kg)	55 lbs (25 kg)	65 lbs (29 kg)
Maximum static load (with linen and water)	427 lbs (194 kg)	495 lbs (225 kg)	607 lbs (275 kg)	899 lbs (408 kg)	1012 lbs (459 kg)	1102 lbs (499 kg)
Maximum dynamic load (alt. stress when extracting)	359 lbs ±540 lbs (163 kg ±245 kg)	427 lbs ±899 lbs (194 kg ±408 kg)	495 lbs ±1147 lbs (225 kg ±520 kg)	764 lbs ±1259 lbs (347 kg ±571 kg)	832 lbs ±1686 lbs (377 kg ±765 kg)	877 lbs ±1978 lbs (398 kg ±897 kg)
Dynamic load frequency	13.7 Hz	12.7 Hz	12.7 Hz	11.5 Hz	11.5 Hz	11.5 Hz

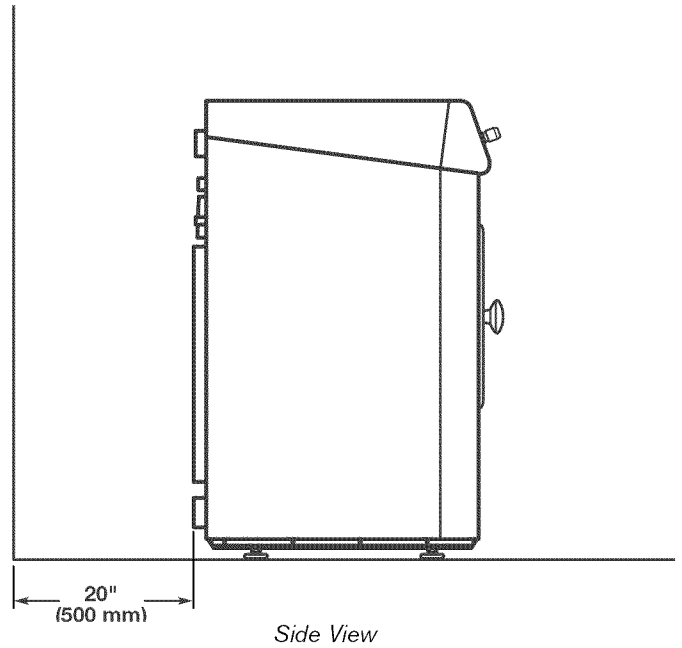
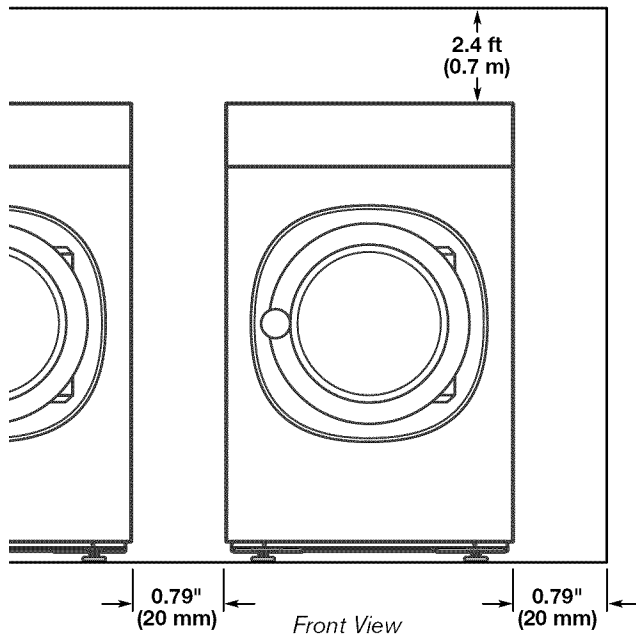
- Soft-Mount models do not have to be anchored. However; if anchoring is necessary, follow the step in the "Anchoring" section.
- Rigid-mount models must be secured with four (4) or eight (8) M16 anchoring bolts, depending on machine size. Install all anchors before final installation of the washer.
- Allow for adequate sanitary sewer drainage, located behind the washers.

Water and Electric

- 3/4" (19 mm) inlet valves for hot and cold water. Determine water hardness levels. Hard or medium levels may require a water softener.
- A dedicated, GFCI-equipped circuit for each washer (see "Electrical Requirements").

Spacing

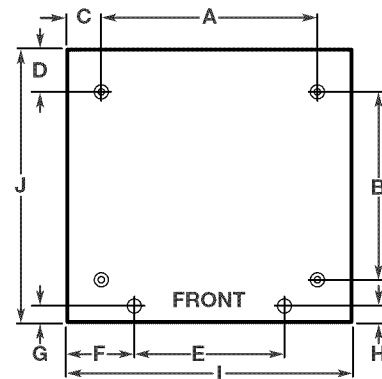
- Washers require 2.4 ft (0.7 m) above the top for maintenance.
- Washers require 0.79" (20 mm) between the sides for maintenance and maximum door clearance.
- Allow 20" (500 mm) behind washer and the wall for maintenance.



Anchoring Soft-Mount Models

- If anchoring is necessary, secure the washer to the floor with two anchoring bolts (not supplied).
- Drill 2 holes for anchoring bolts, following the illustration to the right.
- If necessary, place the feet into a narrow U-shaped section, so that the washer does not move during operation.

- ⊙ - Position of feet
- - Drilling points for anchoring bolts



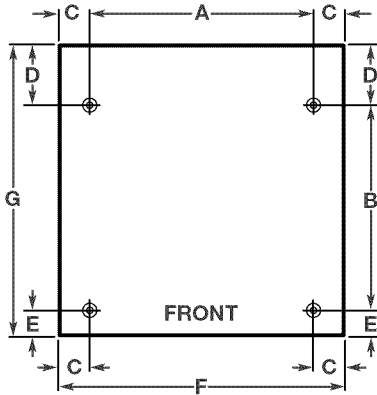
Anchoring Dimensions (inches/mm) – Soft-Mount Models

Model	A	B	C	D	E	F	G	H	I	J
20 lb/9 kg	20.86/530	17.48/444	3.54/90	5.09/129.5	14.76/375	6.59/167.5	1.57/40	4.64/118	27.95/710	27.22/691.5
25 lb/11 kg	24.33/618	17.48/444	3.48/88.5	5.09/129.5	17.91/455	6.69/170	1.37/35	4.64/118	31.29/795	27.22/691.5
30 lb/14 kg	24.33/618	22.20/564	3.48/88.5	6.27/159.5	20.27/515	5.51/140	2.36/60	4.64/118	31.29/795	33.12/841.5
40 lb/18 kg	30.90/785	22.04/560	3.64/92.5	8.32/211.5	23.42/595	7.38/187.5	1.96/50	3.94/100	38.18/970	34.31/871.5
55 lb/24 kg	30.90/785	27.36/695	3.64/92.5	8.32/211.5	26.37/670	5.90/150	1.96/50	3.94/100	38.18/970	39.62/1006.5
65 lb/28 kg	30.90/785	30.31/770	3.64/92.5	8.32/211.5	26.37/670	5.90/150	1.96/50	3.94/100	38.18/970	42.60/1082

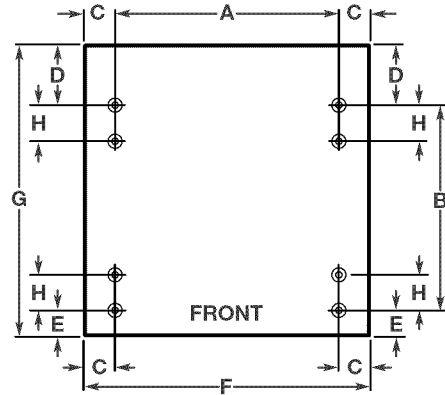
Anchoring Rigid-Mount Models

- Use shims to ensure all corners are level and stable. See “Installation Instructions” section.
- Drill holes for anchoring bolts, following the illustrations below.

○ – Drilling points for anchoring bolts



20-25-30 lb/9-11-14 kg models (4 anchors)



40-55-65 lb/18-24-28 kg models (8 anchors)

Anchoring Dimensions (inches/mm) – Rigid-Mount Models

Model	A	B	C	D	E	F	G	H
20 lb/9 kg	20.55/522	18.66/474	2.71/69	5.47/139	2.26/57.5	25.98/660	26.39/670.5	–
25 lb/11 kg	24.21/615	18.66/474	2.65/67.5	5.47/139	2.26/57.5	29.52/750	26.39/670.5	–
30 lb/14 kg	24.21/615	22.59/574	2.65/67.5	6.06/154	2.26/57.5	29.52/750	30.92/785.5	–
40 lb/18 kg	29.57/751	22.40/569	2.74/69.5	8.68/220.5	1.97/50	35.04/890	33.01/838.5	3.23/82
55 lb/24 kg	29.57/751	28.11/714	2.74/69.5	8.68/220.5	1.97/50	35.04/890	38.76/984.5	3.23/82
65 lb/28 kg	29.57/751	31.06/789	2.74/69.5	8.68/220.5	1.97/50	35.04/890	41.71/1059.5	3.23/82

Product Dimensions

See “Technical Specifications” for specific measurements on each washer size.

Electrical Requirements

It Is Your Responsibility:

- To contact a qualified electrical installer.
- To be sure that the electrical connection is adequate and in conformance with the National Electrical Code, ANSI/NFPA 70-latest edition, or Canadian Electrical Code CSA C22.1, and all local codes and ordinances.
A copy of the above code standards can be obtained from: National Fire Protection Association, One Batterymarch Park, Quincy, MA 02269.
- To supply the required 3 or 4 wire, single phase, 120 volt, 50/60 Hz., or 3 or 4 wire, single phase, 208–240 volt, 50/60 Hz., or 4 wire, three phase, 208-240 volt, 50/60 Hz Circuit capacity AC electrical supply on a separate circuit. Circuit capacity is dependent on washer size and connection type and is shown in the table below. A time-delay fuse or circuit breaker is recommended. Installation of a GFCI (Ground Fault Circuit Interrupter) is also recommended. Connect to an individual branch circuit. Do not fuse the neutral or grounding circuit.

Electrical Connection

⚠ WARNING



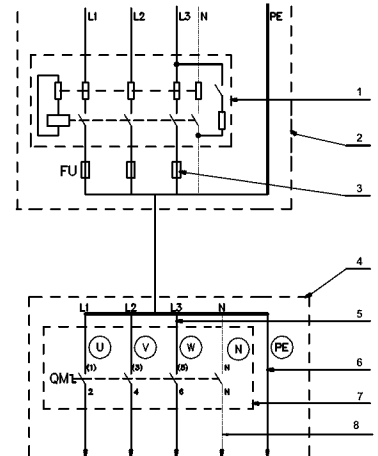
Fire Hazard

- Use 10 gauge copper wire.**
- Use a UL listed strain relief.**
- Disconnect power before making electrical connections.**
- Connect neutral wire (white or center wire) to center terminal (silver).**
- Ground wire (green or bare wire) must be connected to green ground connector.**
- Connect remaining 2 supply wires to remaining 2 terminals (gold).**
- Securely tighten all electrical connections.**
- Failure to do so can result in death, fire, or electrical shock.**

The electrical connections were designed per the specifications provided during the ordering process. Before connecting, verify the voltage and frequency on the washer label. See the Back View in “Dimensions and Technical Specifications” to ensure that the voltage and frequency correspond to your power network. The connection is described in the illustration below.

Washer Connection to Electrical Network (With an Earth Leakage Trip)

1. Earth leakage trip
2. Laundry electrical main switch
3. Power supply protection
4. Washer
5. Phase conductors
6. Protective conductor (earth ground)
7. Main switch inlet terminal switchboard
8. Neutral conductor



Inlet Conductors and Power Supply Protection

Inlet conductors of the washer connection to the electrical network must have copper cores. The cross section of the inlet conductors depends on the voltage and the unit heating type, i.e. total electrical input. Circuit breakers or fuses in the laundry switchboard keep the inlet cable from short-circuiting and overloading.

Manufacturer's Recommended Minimal Conductor Section

Power supply protection device nominal current (US)		Min. phase conductor section in mm ² (AWG)	Min. protective conductor section in mm ² (AWG)
Automatic circuit breakers	Fuses		
16A (15A)	10A (10A)	1.5 mm ² (AWG 15)	1.5 mm ² (AWG 15)
20A (20A)	16A (15A)	2.5 mm ² (AWG 13)	2.5 mm ² (AWG 13)
25A (–)	20A (20A)	4 mm ² (AWG 11)	4 mm ² (AWG 11)
40A (40A)	32A (30A)	6 mm ² (AWG 9)	6 mm ² (AWG 9)
63A (–)	50A (50A)	10 mm ² (AWG 7)	10 mm ² (AWG 7)
80A	63A	16 mm ² (AWG 5)	16 mm ² (AWG 5)
100A	80A	25 mm ² (AWG 3)	16 mm ² (AWG 3)
125A	100A	35 mm ² (AWG 1)	25 mm ² (AWG 1)

See “Technical Specifications” for the corresponding current.

- A separate grounding wire is recommended if codes permit. It is recommended that a qualified electrician determine the grounding path is adequate.

NOTE: Connecting these washers to an IT power supply requires special consideration.

Connection to Washer

These washers were designed for direct wiring into the power supply. The washer must be electrically grounded in accordance with all local codes or, in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70, latest edition, or Canadian Electrical Code, CSA C22.1.

Direct Wire Installation:

Power supply cable must match power supply (4-wire or 3-wire) and be:

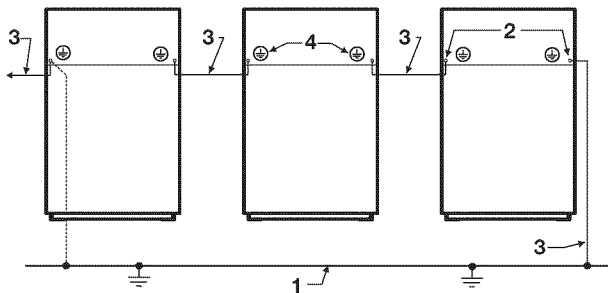
- Flexible armored cable or nonmetallic sheathed copper cable (with grounding wire), in a flexible metallic conduit, to avoid conductor breakage due to vibration. All current-carrying wires must be insulated.
- Copper wire of appropriate gauge for amperage requirement (see “Manufacturer’s Recommended Minimal Conductor Section”). Stranded wire is recommended. Do not use aluminum wire.

Equipotential bonding:

In addition to an equipment-grounding conductor that must be run with the circuit conductor and be connected to the equipment grounding terminal, all washers or appliances in the vicinity must be permanently interconnected with a connector.

The external connection points serve for this purpose. See illustration below.

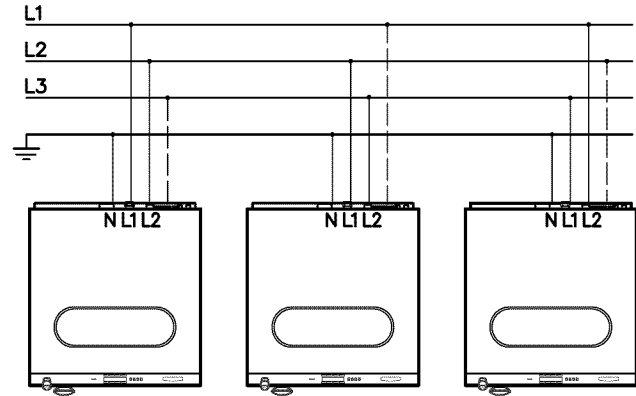
The cross-sectional area of the conductor must be at least electrically equivalent to the cross-sectional area of the copper conductor.



1. Protective grounding structure
2. External protective conductor connection point
3. Protective conductor
4. Grounding identification

Multiple Single-Phase Machines in Line

When installing multiple single-phase washers into an existing 3-phase power supply, alternating the phase used as the hot leg is recommended to evenly distribute power on the system. See illustration.



Water Supply Requirements

Water supply requirements are as follows:

- Valved hot and cold water supply with a water pressure between 14.5 and 116 PSI (100–800 kPa). Water pressure between 43 and 73 PSI (300–500 kPa) is recommended.
- A hot water heater or boiler supplying an adequate amount of water between 120–160°F (49–80°C). The water temperature within the washer is controlled to a maximum temperature that is set in the program. The amount of hot water required to wash a load of laundry is dependent on many factors, including the hot and cold water temperature and the wash program selected. Average amounts of hot water required to wash one load of laundry are shown in the table below.

Hot Water Requirement Per Load		
	Washer Model	Hot Water Per Load*
Soft	20 lb	4 gal (15 L)
	25 lb	6 gal (23 L)
	30 lb	8 gal (30 L)
	40 lb	11 gal (42 L)
	55 lb	14 gal (53 L)
	65 lb	17 gal (64 L)
Rigid	20 lb	4 gal (15 L)
	25 lb	6 gal (23 L)
	30 lb	8 gal (30 L)
	40 lb	11 gal (42 L)
	55 lb	14 gal (53 L)
	65 lb	17 gal (64 L)

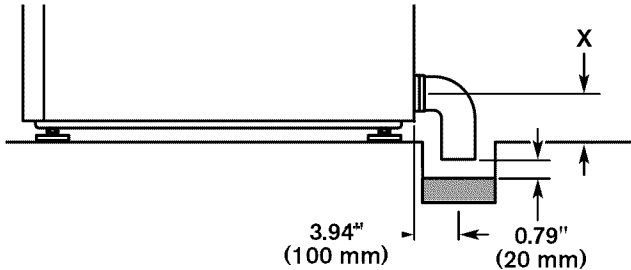
*Approximate values. Assumes 140°F (60°C) hot water supply and 70°F (21°C) cold water supply.

Drain Requirements

The washers have a 3" (76 mm) water drain on their rear side. To connect the drains to a drain hose, use the 3" (76 mm) elbow, which is supplied with the washer. Secure the elbow with a clamp. To maintain washer performance, do not reduce the diameter of the drain pipe.

The washer may drain into a waste channel or directly to a drain.

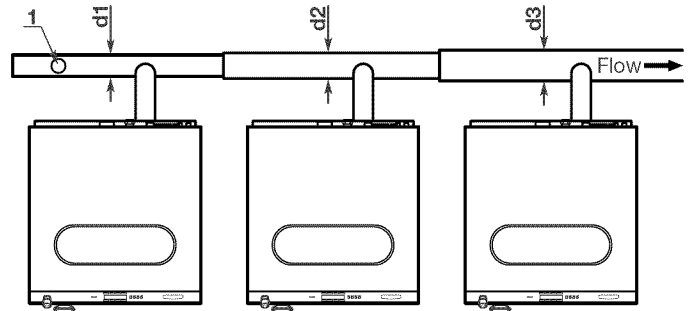
- The waste channel cannot be located under the washer. There should be at least 3.94" (100 mm) between the back of the washer and the middle of the waste channel (see illustration below).
- The waste channel must be lower than the drain pipe. There should be at least a 0.79" (20 mm) air gap between the bottom of the drain and the water level in the channel.



Minimum Waste Channel Measurements

	Soft-Mount Models	Rigid-Mount Models
X	See "Soft-Mount Dimensions", G and O	See "Rigid-Mount Dimensions", G

- The drain pipe should be located over a floor drain or drainage channel.
- The drain pipe must be able to handle wastewater from all of the washers, so the diameter of the drain pipe required is dependent on the number of washers in the line. Sanitary drains must be vented and meet all local and municipal codes. The suggested drain diameter for one to three washers is shown in the illustration below.



Recommended drain pipes diameters:

d1 = 3"/75 mm for one washer

d2 = 4"/100 mm for two washers

d3 = 5"/125 mm for three washers

INSTALLATION INSTRUCTIONS

Transport, Handling, Inspection, and Storage

⚠ WARNING

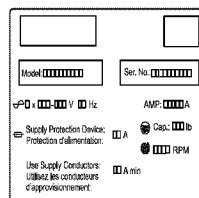
Excessive Weight Hazard

Use two or more people and mechanical equipment to lift, move and install washer.

Failure to do so can result in back or other injury.

NOTE: Refer to "Equipment for Handling, Transport, and Storage" under "Tools, Parts, and Equipment" for proper handling of washer.

1. Inspect carton for damage. Inspect washer if carton shows signs of damage. Do not remove washer from pallet.
2. Verify model number and serial number on the data plate with your order. Remove accessories and manuals from inside washer drum.
3. Store inside in a temperature controlled environment 34° and 131°F (1° and 55°C). Do not expose washer to the weather. Humidity levels must be between 30 to 90% without condensation.



Data Plate

IMPORTANT: Make sure that all components are secured during transportation and installation.

Moving to Final Location

IMPORTANT:

- Make sure all passages and spaces through which the washer will be moved to its installation location are high enough and wide enough for the washer and its packaging.
- Do not push, pull, or press the parts protruding from the washer (front section, door, control panel, belt cover, water inlet, outlet pipes, etc.).
- To avoid damage during handling and installation, make sure all protruding parts are secured.

1. Move the washer near the point of installation.
2. Using a carton knife, make a cut in the plastic film.
3. Remove corrugated top, corrugated corner posts, and corrugated side, front, and rear supports.
4. Dispose of/recycle all packaging materials.
5. Loosen the 4 - M16 x 160 mm bolts attaching the washer to the pallet and gently lift washer.

Soft-Mount Models

Fastening Washer to Concrete Floor

1. To position the washer, lift by the bottom frame.
2. Place the washer over the two drilled holes (see "Anchoring").
3. Make sure the washer is level. If needed, adjust the feet.
4. Mount the anchoring bolts in the drilled holes. Install the washers and nuts, and tighten well. **NOTE:** If necessary, prop up the washer frame with washers or spacers to avoid deformation during tightening of the anchor bolts.
5. See "Dimensions and Technical Specifications" section for installation measurements.

Installation on a Steel Base

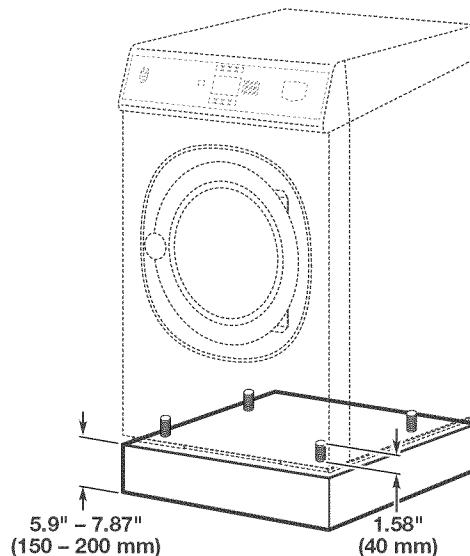
The steel base structure must be able to withstand the static and dynamic loads of the washer floor (see "Technical Specifications"). The base must also allow the washer to be seated in a perfectly level manner.

Rigid-Mount Models

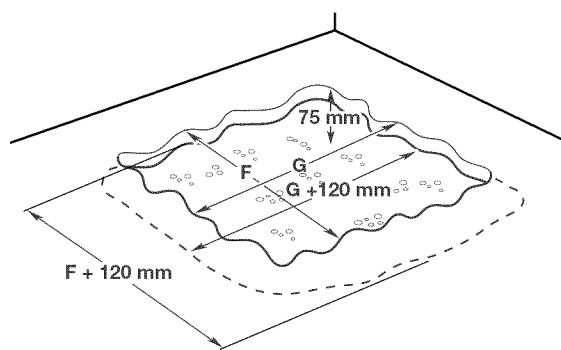
Installation on an Elevated Concrete Pad

Use this method if the existing floor is thinner than 4.72"/120 mm or if the washer is positioned above the existing floor level. The height of the elevated pad could be 5.9–7.87"/150–200 mm (see "Dimensions" illustration below).

1. Break and remove the existing floor down to the depth of approx. 2.95"/75 mm (see "Floor Removal" illustration below). The longest dimensions of the lower part of the hole must be 4.72"/120 mm longer than the dimensions of the upper part of the hole G and F dimensions (see "Anchoring Dimensions" chart).
 2. Wet the complete hole and spread over with cement.
 3. To increase the load-bearing capacity and reduce possible concrete deformations, we recommend inserting an armature into the base of the pad. For adequate connection of the new pad with the existing floor, insert one or more reinforcing bars.
- NOTE:** When inserting the reinforcing bar(s), take into consideration the locations (and space requirements) for drilling holes. These holes will be used for the chemical anchor bolts.
4. Pour concrete into the prepared base. Level the surface carefully into a horizontal plane.
 5. Let the concrete harden for at least two days before installation of the washer. Wait one week before operating the washer with a full load.



Dimensions



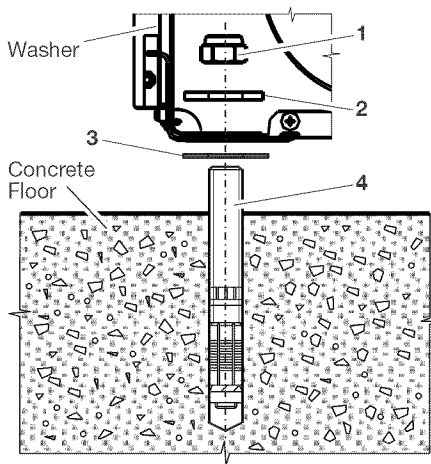
Floor Removal

Moving to Final Location (cont.)

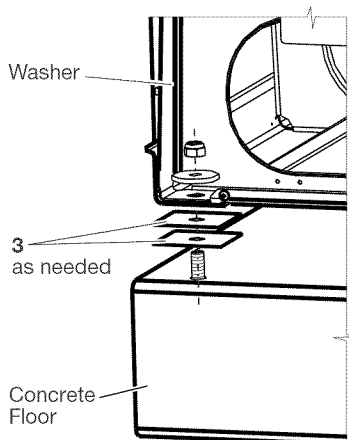
Installation on a Floor or Steel Base

The drum of rigid-mount models is fixed to the frame. The floor and steel base (if used) underneath the washer MUST be stable enough to absorb the dynamic loads which are created during the spinning sequence (see "Technical Specifications" for the values for each model). The existing concrete floor must be at least 4.72"/120 mm thick (see "Anchoring Rigid-Mount Models" section).

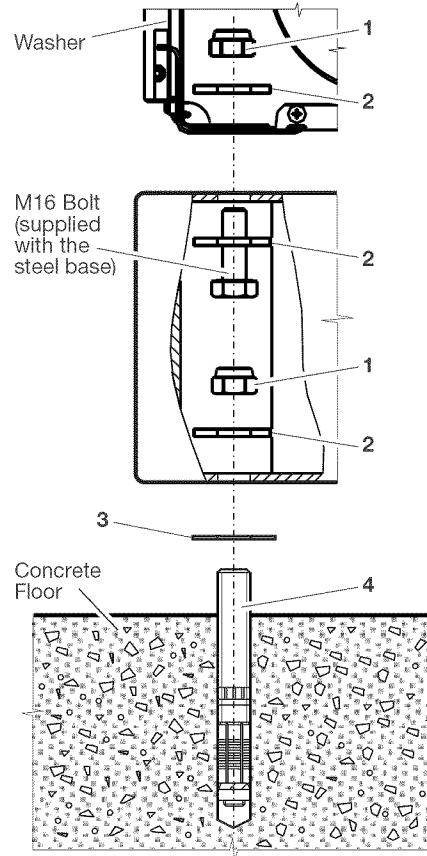
1. Use M16 anchor bolts (not supplied – position 4 in "Concrete Floor Installation – Method 2" illustration below), $\phi 60/\phi 16.5 \times 6$ mm washers (supplied – position 2), and M16 self locking nuts (supplied – position 1) to securely anchor into the steel base (if used) and floor.
2. Make sure the washer is level and stable at all corners. If the washer must be raised to level it, use stainless or galvanised spacing washers (see position 3 in illustrations below) inserted between the washer frame and the floor (see "Leveling the Washer" illustrations below). The dimensions of the spacers must be the same as the dimension of the washer frame in the place where the anchor bolts are located – 0.20" x 0.20"/80 x 80 mm.
3. Fit a washer and self locking nut on the anchor bolt and tighten it with a torque wrench to a torque of 100Nm (75 ft/lb). Recheck the torque after a short period of washer operation.
4. Check that the washer is level.



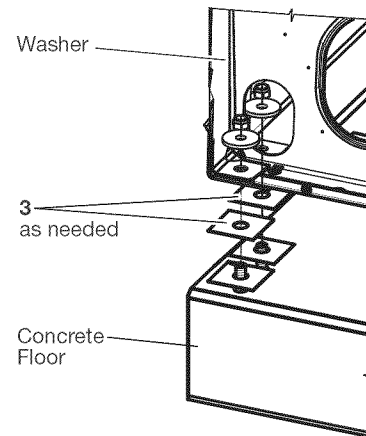
Concrete Floor Installation – Method 1



Leveling the Washer – Method 1



Concrete Floor Installation – Method 2



Leveling the Washer – Method 2

Water, Drain, and Venting Connections

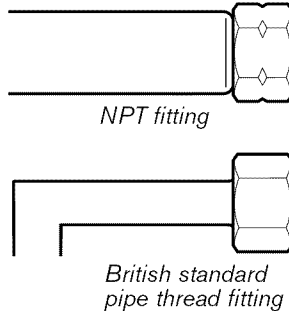
Water Hardness

Determine the water hardness level in water supply. Good wash results are dependent on water hardness. In areas that have medium and very hard water levels, a water softener may be required. Contact your water or soap distributor for determining the proper soap and detergents to be used with your hardness levels for the best wash results.

Water Supply Connections

Washers have 2 water inlets. For connection dimensions, see "Dimensions and Technical Specifications."

1. Always use the flexible hoses delivered with the washer. Do not use a fixed connection to the water supply.
2. Keep proper water pressure within range. See "Dimensions and Technical Specifications."
3. The water connection to the washer requires a 3/4" British Standard Pipe Thread fitting. The ground end is a U.S. thread. Threading an NPT fitting or the NPT end of the adapter hose will damage the threads of the washer.
4. Flush water lines to remove debris. Install the non-grooved side of the adapter hoses to the hot and cold side of the valves. Tighten fittings.
5. Attach grooved end of the adapter hoses to the washer. Tighten fittings.
6. Turn on water and check for leaks in the system.

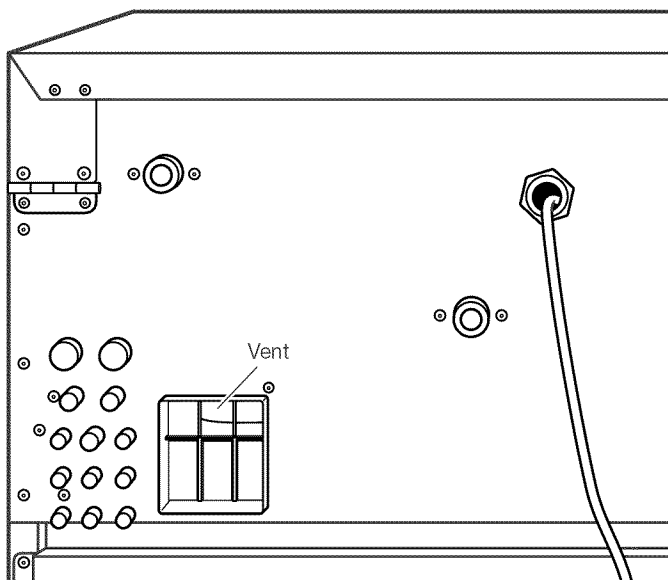


Drain Connections

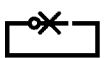
Use the provided drain hose to connect the washer's drain pipe to the facility drain or drain channel. Secure with the provided clamp. The capacity of discharged water for each washer model is 55.5 gal/min (210 L/min).

Venting

To maintain proper venting, do not cover the washer vent.



Rear of Washer



Do not close or cover.



The machine hot air outlet

Electrical Connection

⚠ WARNING



Electrical Shock Hazard

Disconnect power before servicing.

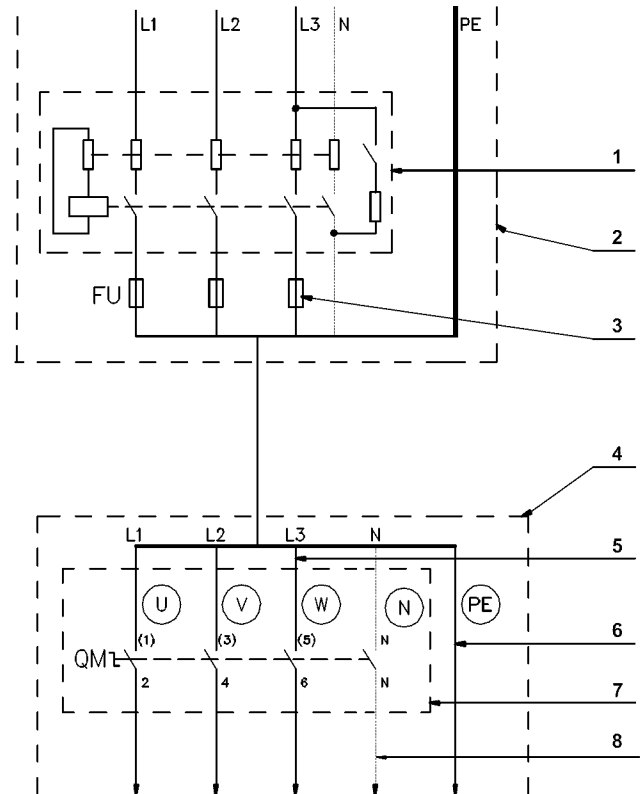
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

Check the data plate to determine electrical requirements. Before making the electrical connection, make sure the voltage and frequency listed on the data plate matches your electrical network. Each washer must be on an individual branch circuit. To ensure uninterrupted electrical current, a residual current device (RCD) and a circuit breaker must be installed in the building's electrical system for each washer. The proper connection is described in the illustration below.

IMPORTANT: Make sure the supply voltage is always within the limits specified in "Technical Specifications." If the electrical installation requires long distances to travel, it may be necessary to use larger cables to reduce the voltage drop.

Washer Connection to Electrical Network (with a residual current device)



1. Residual current device (RCD)
2. Laundry electrical main switch
3. Power supply protection
4. Washer
5. Phase conductors
6. Protective conductor (earth ground)
7. Main switch inlet terminal
8. Neutral conductor

Electrical Connection (cont.)

Residual Current Device (RCD)

In some locations an RCD is known as an "earth leakage trip," "Ground Fault Circuit Interrupter" (GFCI), "Appliance Leakage Current Interrupter" (ALCI), or "earth (ground) leakage current breaker."

Specifications:

- Tripping current: 100mA (if locally not available use a 30mA trip current, preferably selective type with small time delay set).
- Install a maximum of two (2) washers on each RCD (for 30mA, only one (1) washer)
- Type B. There are components inside the washer which use DC-voltages, making a "Type B" RCD necessary.

When locally allowed, an RCD must always be installed. In some electrical network earthing systems (IT, TN-C,...), an RCD might not be allowed (see also IEC 60364).

The washer control circuits are mostly supplied by a separating transformer. Therefore, the RCD may not detect faults in the control circuits (but the fuse(s) of the separating transformer will).

Supply Protection Device

A supply protection device keeps the washer and wiring from experiencing overloads and short circuits. As a supply protection device, you can use either glow-wire fuses or automatic circuit breakers. See "Technical Specifications" for the rating of the nominal current and other specifications of the supply protection device. This table specifies that protection must be the "slow" type, curve D for circuit breakers. Although not recommended, if you cannot use a "slow" type, select the protection device with one (1) step higher nominal current rating to avoid disconnecting during start-up.

Supply Cable

The supply cable is not delivered with the washer.

Specifications:

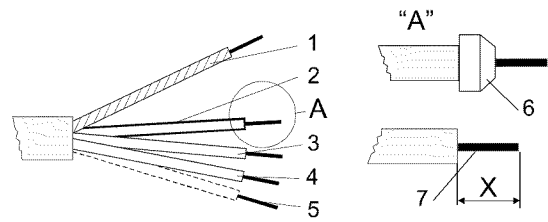
- Use conductors with copper cores.
- Stranded conductors (flexible wiring) are strongly recommended to avoid conductor breaking due to vibration.
- The cross section depends on the used supply protection device. See "Manufacturer's Recommended Minimal Conductor Section" in "Electrical Requirements" for the minimal cross section.
- The cable should be as short as possible, directly across from the supply protection device to the washer without branching off.
- Do not use a plug or extension cords; the washer is intended to be permanently connected to the electrical network.

Connection:

- Insert the cable through the hole on the rear panel. Use a strain relief to secure the supply cable.
- Strip the conductor ends according to "Adaptation of Conductor Ends of Supply Cable" illustration on the right.
- The protective conductor must be longer to ensure it is the last one disconnected if the cable is pulled out unintentionally.

- With stranded conductors, it is recommended to use "wire-end tubes" with an insulated sleeve (6) for L1/U, (L2/V), (L3/W), (N) conductors. Make sure there cannot be unintentional contact, since the supply cable stays under voltage even when the main switch is off.
- Crimp a ring terminal (eyelet) to the protective conductor (ground) for good connection to the PE terminal.
- Connect the supply cable conductors to the terminals (main switch [1]) marked with L1/U, (L2/V), (L3/W), (N), and the terminal (copper screw) marked with PE. See "Main Power Inlet Connection" illustration below.
- Provide a sag in the cable, in front of the cable strain relief. This will stop condensed water from entering the washer. See "Main Power Inlet Connection" illustration below.

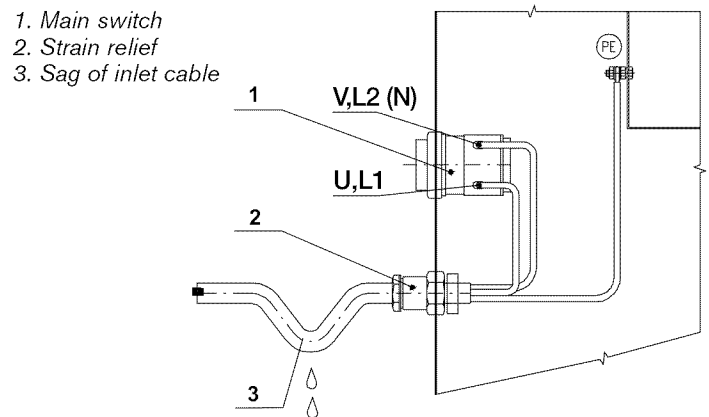
Adaptation of Conductor Ends of Supply Cable



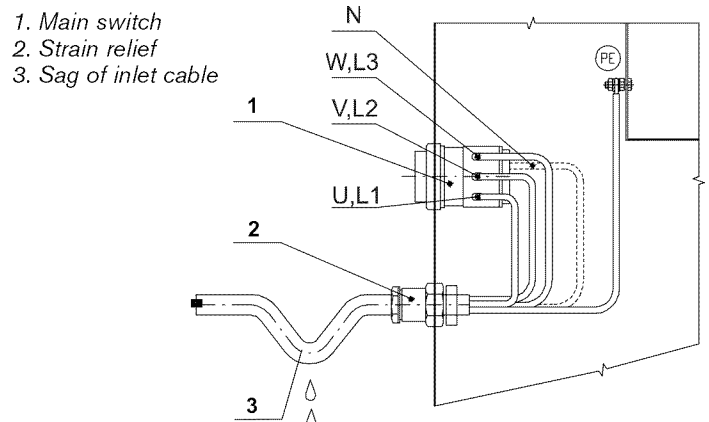
- | | |
|----------------------------------|--------------------------------------|
| 1. Protective conductor (ground) | 5. Neutral conductor |
| 2. Phase conductor | 6. Wire-end tube |
| 3. Phase conductor | 7. The stripped length of conductors |
| 4. Phase conductor | |

Main Power Inlet Connection

Single Phase Connection

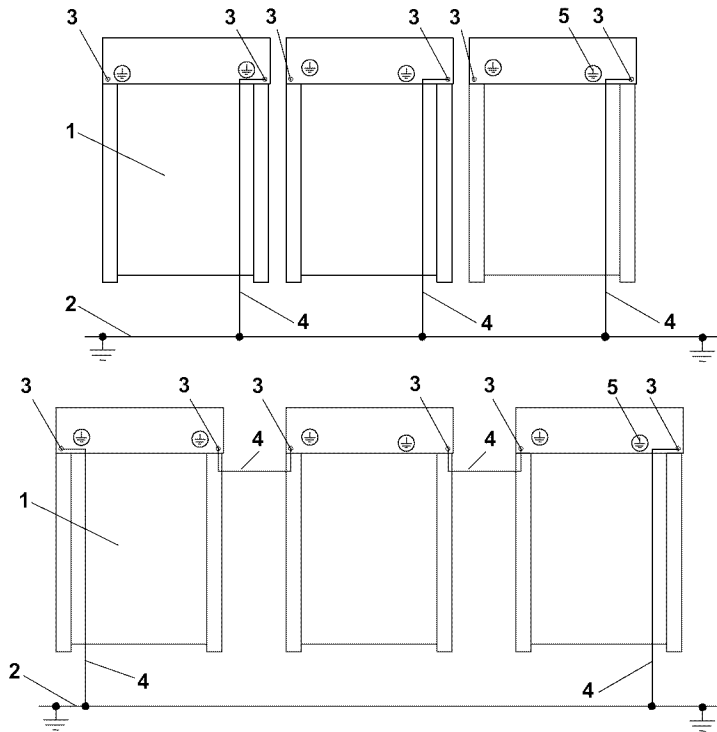


Three Phase Connection



Washer Earth Connection and Equipotential Bonding

Independent of the supply cable, the washer must be connected to the laundry earth system with a separate conductor. The protective conductor, which enables this connection, is not included with the washer. If there are other washers/appliances with exposed conductive parts which can be touched simultaneously, make equipotential bonding between all of these appliances. The external terminal for this purpose is located on the rear panel of the washer frame (see illustration below, position 3). The minimum protective conductor's cross section depends on the supply cable cross section and can be found in "Manufacturer's Recommended Minimal Conductor Section" in "Electrical Requirements." However, to keep a supply cable section of a minimum 4 mm² from malfunction, it is recommended to select a larger conductor section, for example 6 mm².



1. Washer (rear view)
2. Laundry earth connection
3. Washer external terminal
4. Protective conductor – washer connection
5. Earth ground label

Connecting Liquid Soap Supply Systems

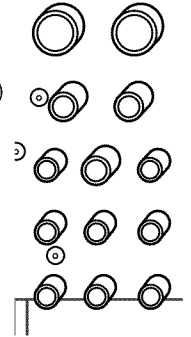
All models come with a liquid soap connection.

Always use liquid soap pumps that have a flow rate high enough to bring the desired quantity into the washer in less than 30 seconds.

IMPORTANT: Start pumping immediately after the water valves are open. The incoming water dilutes the liquid soap and brings it into the tub assembly.

IMPORTANT: Only qualified technicians should perform the installation. Secure the location of the wiring and hoses properly to keep them from being pinched, damaged, or rubbed. Before you start to use liquid soap, check with your liquid soap supplier to ensure the liquid soap will not cause damage and is inert to HD-PE and PVC material. The manufacturer is not responsible for damage caused by the liquid soap.

The washer has connections for external dosing of liquid soaps. A plastic hose connection is located on the rear of the washer to connect the liquid soap hoses. The connection has thirteen (13) nipples that come closed at the factory. You must drill a 0.315" (8 mm) hole in the small nipple for each liquid soap connection used (8 maximum). It is recommended to use the left nipples for connecting the liquid soap pumps first and set the flow rate of the pumps to 15.8–26.4 gal/hour (60–100 L/hour). Use the large nipples when using diluted soap; drill a 0.45" (11.5 mm) hole.



SUGGESTION: Add grease to the drill bit before drilling to help catch drill particles.

NOTE: Gently remove the drill particles so that they cannot clog up the hoses and openings.

IMPORTANT:

- Make sure hose connections and clamps are tight.
- If one of the nipples is open, close and secure the opening with an appropriate cover/plug.

Electrical Connection (cont.)

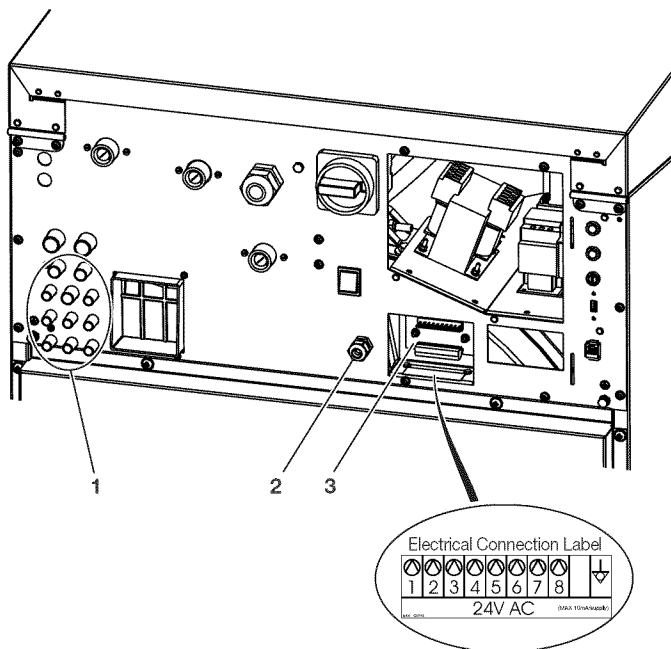
Electrical Connection

The power supply of the liquid soap pump system must be connected to an external electrical source. Only qualified technicians can make the electrical connection according to local codes. Instructions for the correct connection can be found on the wiring diagram located in a plastic bag inside the cabinet. Do not connect the liquid soap pump system in the washer.

Electronic Controller with MC7 and Graphic Display

PN Models: For electrical connection of supply control signals, a plastic box is located on the rear of the washer (see illustration below, position 1). There is also a terminal box with LED's that signal activation of the respective pump (position 3).

A label for electrical connections is located on the back side of the terminal box cover (see illustration below). Detailed information on connecting signals can also be found on the electric schematic of the washer. Signals for the supply pump control are 24V AC. Maximum current for control circuits of pumps must be limited to 10mA. Insert the cable for connection of pump control signals through the plastic cable strain relief (position 2). After connection of conductors to the respective positions of the connector "P" (screw clamps), attach the cable by tightening the cable strain relief and replace the cover on the box. For details about liquid soap supply system programming, see the Programming Manual.

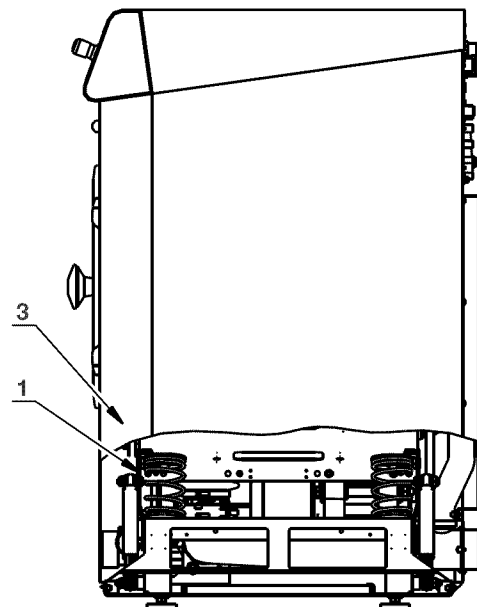
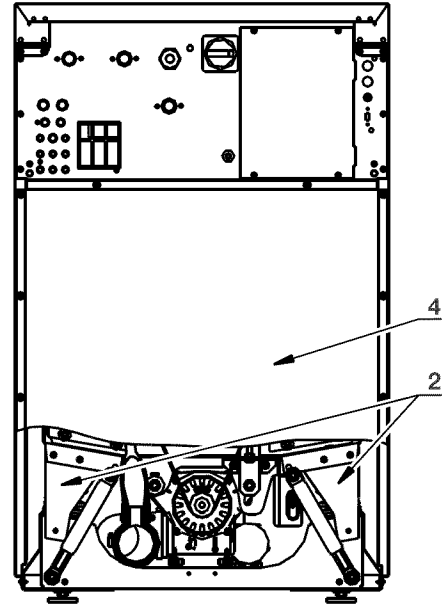


Remove Shipping Brackets

Soft-Mount Models

IMPORTANT: Shipping brackets must be removed before putting the washer into service. Failure to do so can cause damage to the washer. Save the brackets for use if moving the washer in the future.

1. Remove the front panel and rear panel.
2. When the washer is lifted off the pallet, make sure the washer does not come down on the floor with either of the rear corners first. The side panel can be damaged.
3. Mount the feet.
4. Use the feet to level the washer.
5. Replace both panels.



Soft-Mount Model Shown

- 1 - Front metal shipping brackets
- 2 - Rear metal shipping brackets
- 3 - Front panel
- 4 - Rear panel

Complete Installation

! WARNING



Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. **Soft-Mount Models:** Be sure that the shipping brackets are removed.
2. **Rigid-Mount Models:** Verify that the washer is properly bolted in place.
3. Remove the film covering from the cabinet.
4. Open door and make sure that the washer drum is empty.
5. Verify that washer is level and does not rock from side-to-side.
6. Check electrical connection and ground – PE or PEN.
7. Check drain connection and clearance.
8. Turn power on at circuit breaker.
9. **PN Models:** Begin wash cycle. Activate the emergency stop switch. All electrical power to the washer should be deactivated.

Break-In Period

The following checks and adjustments should be performed during the break-in period as follows:

24 operation hours

- Check belt tightness. See “Belt Inspection and Adjustment” in Maintenance.

80 operation hours

- Check belt tightness. See “Belt Inspection and Adjustment” in Maintenance.
- Check mounting bolt tightness. Retighten if necessary (secured installation only).

Controls Troubleshooting

For programming and controls troubleshooting, refer to the Programming Guide.

WASHER MAINTENANCE

Maintenance Schedule

After Each Load

- Remove debris from the wash drum including paper clips, coins, and other hard items.
- When not in use, leave the washer door open to allow the washer to air out and prolong gasket life.

Daily Maintenance

- Clean water, detergent, and other stains off of the washer with a soft cloth dampened with a mild detergent solution.
- Dry with a soft cloth. Do not use abrasives.
- Clean detergent residue and other contamination off the door seal with a soft cloth dampened only with a mild detergent solution. Do not use solvents or acids. Do not lubricate seal with oil or grease.
- Remove residue from the detergent hoppers with a plastic scraper. Wipe the hoppers with a soft cloth dampened with water.
- Check water inlets for leaks. Correct as necessary.
- Check drain valve for leakage during a wash cycle (the valve is in open position when there is no electricity to it).

Maintenance Every 200 Working Hours or Every Month

Make sure external liquid soap supply system is not leaking. Check all hose joints, screw joints and all connections in the system.

Maintenance Every 500 Working Hours or 3 Months

⚠ WARNING



Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

- Observe the washer from the back for one wash cycle. Be sure that water does not leak out of the drain during the wash part of the cycle and that it drains freely at the beginning of extraction. Clean the drain if either of these symptoms are observed.
1. Turn off power to washer at the circuit breaker or fuse box.
 2. Check the tightness of the bolts securing the rear panel of the washer.
 3. Check the belt tightness or for belt damage. See "Belt Inspection, Adjustment, and Replacement."

4. Check mounting bolt tightness. Retighten if necessary (fixed installation only).
5. Inspect all hoses and connections inside the washer for leaks and correct as necessary.
6. Wipe off any stains with a soft cloth dampened with water or a mild detergent solution. Be sure that control components are not exposed to dust and moisture during cleaning.
7. Put covers back on and check that all bolts are properly torqued.
8. Turn on power at circuit breaker or fuse box.

Maintenance Every 1000 Working Hours or 6 Months

- Turn off hot and cold water to the washer at the valves. Clean water filters.
- Clean and remove dirt and dust from:
 - the inverter cooling fin
 - the motor cooling fins
 - the inverter internal fan (if present)
 - the external fan (if present)
 - the external air relieves.
- Make sure the fan in the inverter cool fins (if present) is functioning.
- Make sure the external fan (if present) is functioning.

Maintenance Every 2000 Working Hours or 12 Months

- **Soft-Mount Models:** Adjust and perform functional test on vibration switch (see "Vibration Switch Adjustment and Function Testing").

Vibration Switch Adjustment and Function Test

Soft-Mount Models

⚠ WARNING



Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

The Vibration Switch is a critical component of the washer that avoids washer damage during extraction with an unbalanced load. Vibration Switch adjustment must be performed during installation and checked annually, and should only be done by a qualified technician.

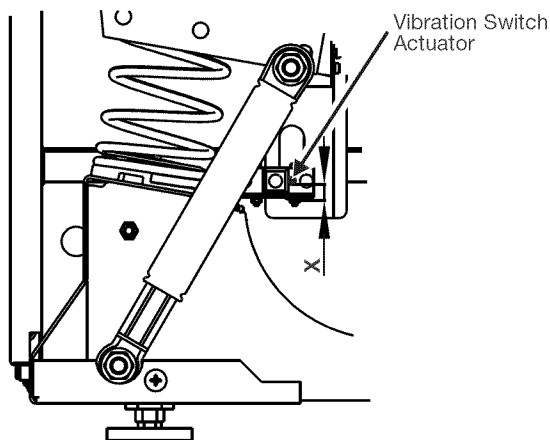
Vibration Switch Adjustment

1. If the washer was just installed, run through one complete extraction cycle without a load so the drum is at its balance point.
2. Turn off power to the washer at the circuit breaker or fuse box.
3. Open the control panel cover.

Setting Vibration Switch Without Laundry Inserted in Drum

Model	X
20-25-30 lb/9-11-14 kg	0.2-0.59"/5-15 mm
40-55-65 lb/18-24-28 kg	0-0.39"/0-10 mm

The X dimension represents the distance between the lower edge of the lug and the actuator (see illustration below).



Verifying the Vibration Switch Function

1. Open the control panel cover.
2. Start the extraction mode.
3. After reaching maximum RPM, switch over the vibration switch by moving the flexible control element manually. The extraction cycle should stop. If extraction does not stop, the vibration switch requires adjustment or is defective.

Belt Inspection and Adjustment

⚠ WARNING



Electrical Shock Hazard

- Disconnect power before servicing.**
- Replace all parts and panels before operating.**
- Failure to do so can result in death or electrical shock.**

On a new washer or after a belt replacement, make an inspection of the belt tightness:

1. After the first 24 hours of operation;
2. After the first 80 hours of operation; and,
3. Every 3 months or 500 hours of operation, whichever comes first.

Belt Inspection and Adjustment

1. Turn off power to washer at the circuit breaker or fuse box.
2. The belts are accessible after the rear cover has been removed. Check the belts to make sure they are neither too tight or too loose. Change the belts if they are worn out or damaged. Always change a complete set of the belts for one transmission with the same type of belts being removed.
3. Be sure that the belt pulleys are aligned by laying a straight edge along the pulley faces. If all points are touching the straight edge, the pulleys are aligned.
4. See "Belt Tension Values" chart to verify the correct tension. To adjust the belt, first loosen the locking nut and loosen or tighten the belt as necessary. (See table below for retightening the locking nut when adjusted and recheck.)
5. Replace rear panel of washer. Turn on power at circuit breaker or fuse box.

Belt Tension Values

Soft-Mount Models	
Model	Value
20 lb/9 kg	67-70 Hz
25 lb/11 kg	65-68 Hz
30 lb/14 kg	79-83 Hz
40 lb/18 kg	64-69 Hz
55-65 lb/24-28 kg	72-75 Hz
Rigid-Mount Models	
Model	X
20 lb/9 kg	88-98 Hz
25 lb/11 kg	62-67 Hz
30 lb/14 kg	73-78 Hz
40 lb/18 kg	56-61 Hz
55 lb/24 kg	63-73 Hz
65 lb/28 kg	80-86 Hz

Bolt Torque Values

IMPORTANT: Replace a damaged bolt with a bolt of the same strength value marked on its head.

Standard torques are used, except in the locations specified below:

All Models

Bolts For:	Dimension	Nm	Torque (ft. lb.)
Securing Door Lock	M5	2.5	108
Central Door Handle	M6	8.8	6.5
Door Handle Turning Mechanism	-	3.5-3.8	2.5-2.8
Door Hinge, Front Panel	M6	8.8	6.5
Anchoring	M16	100	73

Soft-Mount Models

Bolts For:	Dimension	Nm	Torque (ft. lb.)
Spring Holder	M8	10	7.3
Damper	M10	24	17-18
Motor Holder	M12	45	33
Weight	M8	26	19
External Tub Tightening Flange	M8 (15-18-25-30 lb/ 7-8-11-14 kg Models) M8 (40-55-65 lb/ 18-24-28 kg Models)	12 26	8-9 19-20

Rigid-Mount Models

Bolts For:	Dimension	Nm	Torque (ft. lb.)
External Tub Tightening Flange	M8	26	19-20
Motor Holder	M12	5	3.7-4

Force of Door Seal

If there is a water leakage around the door, the door position may have shifted and is out of position or the door seal force may need adjustment. In some cases the door seal needs to be replaced.

Replacing Door Seal

1. Open the door. Remove the door glass with seal from the door frame by pushing it towards the drum.
2. Remove the gasket from the glass.
3. Place a new seal with a wider groove on the glass, with the edge up.
4. Place a smooth cord in the groove, completely encircling the window. Tighten up the margin by the cord and place the door glass in the door opening. Hold one end of the cord firmly on the door. Pull the other cord end towards the center of the glass so the rubber edge can properly fit into it.
5. Apply a small amount of silicone RTV between the door frame and rubber sealing, in the upper and lower parts of the frame. Make sure the silicone is not pushed over the door seal edge when the door is closed. Leave the door closed until the silicone cures.

IMPORTANT: After replacing the door seal, the door seal pressure on the door lock side and hinge side may be too high. If this occurs, run Wash program 1 or Power Wash without any laundry.

Ground Leakage Trips

IMPORTANT: A qualified technician must perform a ground leakage trip function test at least once every 3 months.

If the washer is equipped with a ground leakage trip in the inlet circuit of the electric switchboard, it must be tested regularly. The ground leakage trip is very sensitive and helps avoid electric shock during washer operation.

To test:


Press the ground leakage trip test button while the trip is under tension. If the trip is functioning, it will shut off.

TROUBLESHOOTING

Door Will Not Unlock

In an emergency:

⚠ WARNING



Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

IMPORTANT:

- Before opening the door, turn off the washer.
- Do not open the door if the drum has not completely stopped.
- Do not open the door if "TOO HOT" is displayed.
- Do not open the door if any part of the washer feels too warm.
- Do not open the door if there is water in the drum.

Possible Cause

- A power outage

Solution

- Make sure it is safe to open the door.
- Remove front panel.
- Put your fingers over the edge of the front panel on the door lock side.
- First push the emergency door opening button, then turn the door handle right.
- Open the door.

Error Message Displayed

Possible Cause

- See "Fault Code Overview" in Programming Guide.

Solution

- See "Fault Code Overview" in Programming Guide.

REMOVING THE WASHER FROM SERVICE

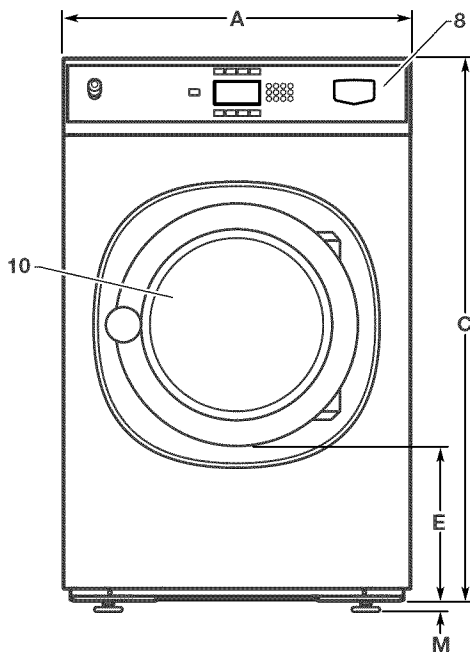
Disconnecting the Washer

1. Disconnect the washer from electricity.
2. Turn off power at the main switch on the rear of the washer.
3. Shut off the water and steam to the washer.
4. Disconnect all water and steam inlets.
5. Insulate the external electric power inlet conductors.
6. Place an "Out of Service" sign on the washer.
7. Unscrew any nuts (bolts) that may be securing the washer to the floor.
8. During transportation, follow the instructions under "Equipment for Handling, Transport, and Storage" in the "Installation Requirements" section.
9. If the washer will not be used again, gently remove the door with the hinge.

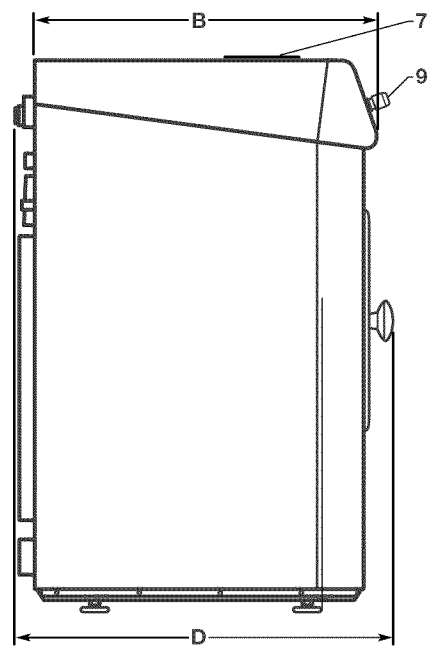
Disposing of the Washer

Scrap according to local codes.

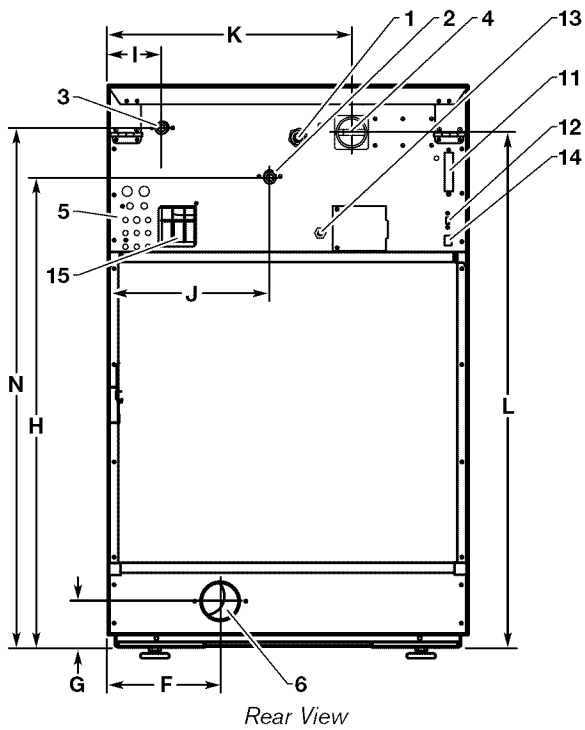
DIMENSIONS (Soft-Mount Models)



Front View



Side View

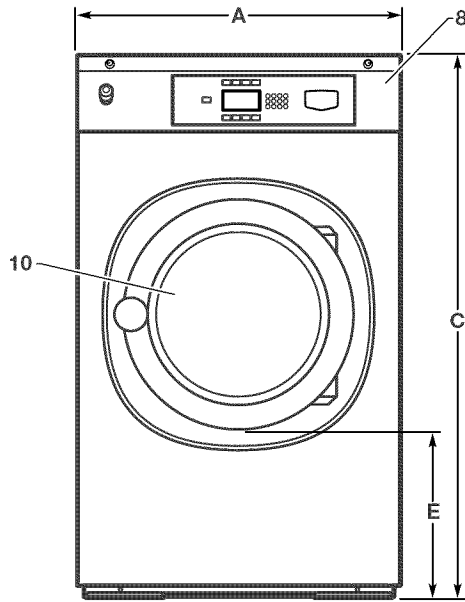


- 1. Electrical connection
- 2. Hot water
- 3. Cold water
- 4. Main switch
- 5. Connection liquid soap
- 6. Drain (valve)
- 7. Soap dispenser
- 8. Control panel
- 9. Button CENTRAL STOP
- 10. Door opening:
20 lb/9 kg: \varnothing 12.99" (330 mm), 25-30 lb/ 11-14 kg: \varnothing 16.14" (410 mm), 40-55-65 lb/ 18-24-28 kg: \varnothing 18.11" (460 mm)
- 11. Fuses
- 12. USB port
- 13. Electrical connection to liquid soap pumps
- 14. Trace-Tech connection (RS485)
- 15. Air relieve/vent

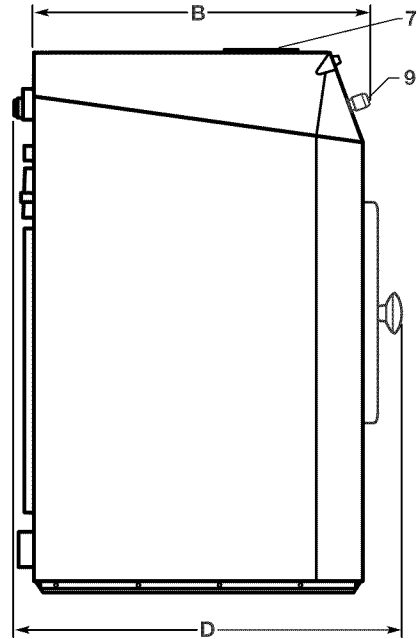
Dimensions (inches/mm)

Model (lb/kg)	A	B	C	D	E	F	G	H	I	J	K	L	M	N
20/9	27.95 710	28.58 726	43.89 1115	31.10 790	13.74 349	9.05 230	3.46 88	36.22 920	4.44 113	11.53 293	15.35 390	40.15 1020	0.94 24	40.35 1025
25/11	31.29 795	29.96 761	48.22 1225	31.29 795	13.46 342	9.05 230	3.46 88	40.55 1030	4.44 113	11.53 293	18.70 475	44.48 1130	0.94 24	44.68 1135
30/14	31.29 795	35.86 911	48.22 1225	37.20 945	13.46 342	9.05 230	3.46 88	40.55 1030	4.44 113	11.53 293	18.70 475	44.48 1130	0.94 24	44.68 1135
40/18	38.18 970	35.66 906	55.51 1410	38.18 970	18.77 477	10.62 270	4.27 108.5	47.83 1215	4.44 113	11.53 293	24.01 610	51.77 1315	0.94 24	51.96 1320
55/24	38.18 970	40.98 1041	55.51 1410	43.50 1105	18.77 477	10.62 270	4.27 108.5	47.83 1215	4.44 113	11.53 293	24.01 610	51.77 1315	0.94 24	51.96 1320
65/28	38.18 970	43.94 1116	55.51 1410	46.65 1185	18.77 477	10.62 270	4.27 108.5	47.83 1215	4.44 113	11.53 293	24.01 610	51.77 1315	0.94 24	51.96 1320

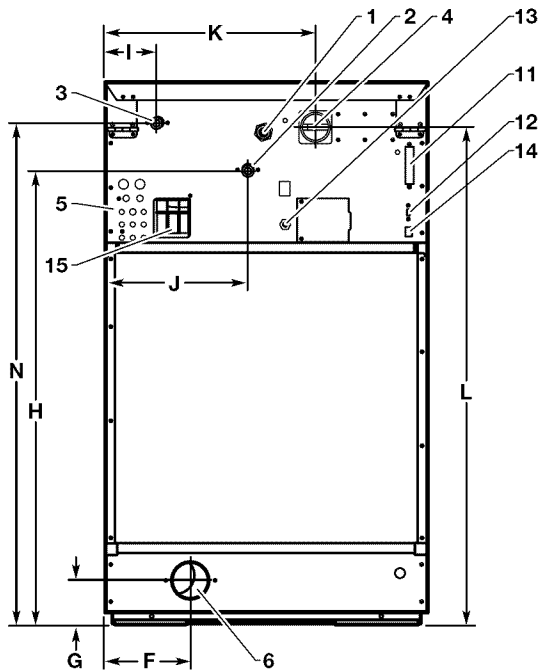
DIMENSIONS (Rigid-Mount Models)



Front View



Side View



Rear View

- | | |
|-----------------------------------|--|
| 1. Electrical connection | 11. Fuses |
| 2. Hot water | 12. USB port |
| 3. Cold water | 13. Electrical connection to liquid soap pumps |
| 4. Main switch | 14. Trace-Tech connection (RS485) |
| 5. Connection liquid soap | 15. Air relieve/vent |
| 6. Drain (valve) | |
| 7. Soap dispenser | |
| 8. Control panel | |
| 9. Button CENTRAL STOP | |
| 10. Door opening: | |
| 20 lb/9 kg: \varnothing 12.99" | |
| (330 mm), 25-30 lb/ | |
| 11-14 kg: \varnothing 16.14" | |
| (410 mm), 40-55-65 lb/ | |
| 18-24-28 kg: \varnothing 18.11" | |
| (460 mm) | |

Dimensions (inches/mm)

Model (lb/kg)	A	B	C	D	E	F	G	H	I	J	K	L	M	N
20/9	25.98 660	26.61 676	43.89 1115	30.91 785	13.74 349	6.53 166	3.46 88	36.22 920	4.44 113	11.53 293	16.34 415	40.15 1020	-	40.35 1025
25/11	29.53 750	26.61 676	48.22 1225	30.91 785	13.46 342	8.85 225	3.85 98	40.55 1030	4.44 113	13.31 338	19.88 505	44.48 1130	-	44.68 1135
30/14	29.53 750	31.02 788	48.22 1225	35.43 900	13.46 342	8.85 225	3.85 98	40.55 1030	4.44 113	13.31 338	19.88 505	44.48 1130	-	44.68 1135
40/18	35.03 890	32.09 815	55.51 1410	36.02 915	18.31 465	11.02 280	5.12 130	47.72 1212	4.44 113	11.93 303	24.61 625	50 1270	-	51.85 1317
55/24	35.03 890	37.80 960	55.51 1410	41.73 1060	18.31 465	11.02 280	5.12 130	47.72 1212	4.44 113	11.93 303	24.61 625	50 1270	-	51.85 1317
65/28	35.03 890	40.75 1035	55.51 1410	44.68 1135	18.31 465	11.02 280	5.12 130	47.72 1212	4.44 113	11.93 303	24.61 625	50 1270	-	51.85 1317

TECHNICAL SPECIFICATIONS

Soft-Mount

Model (lb/kg)	20/9	25/11	30/14	40/18	55/24	65/28
Washer Dimensions (inches/mm)						
Width	27.95/710	31.29/795	31.29/795	38.18/970	38.18/970	38.18/970
Depth	31.10/790	31.29/795	37.20/945	38.18/970	43.50/1105	46.65/1185
Height	44.83/1139	49.16/1249	49.16/1249	56.45/1434	56.45/1434	56.45/1434
Packaging Dimensions (inches/mm)						
Width	29.00/735	32.25/820	32.25/820	40.25/1020	45.75/1160	48.75/1240
Depth	32.50/825	32.50/825	38.25/970	40.75/1035	40.75/1035	40.75/1035
Height	48.75/1235	53.25/1350	53.25/1350	60.75/1545	60.75/1545	60.75/1545
Inner Drum Dimensions						
Diameter (inches/mm)	20.87/530	24.40/620	24.40/620	29.53/750	29.53/750	29.53/750
Drum Volume (gal/L)	19.8/75	27.7/105	35.7/135	47.6/180	63.4/240	74.0/280
Door Opening (inches/mm)	12.99/330	16.14/410	16.14/410	18.11/460	18.11/460	18.11/460
Weight (lb/kg)						
Net	408/185	463/210	563/255	838/380	948/430	1092/495
Gross	441/200	518/235	606/275	871/395	992/450	1135/515
Electrical Requirements						
Supply Voltage (60 Hz)	208–240 V 1-phase					
Power Supply – Deviations	± 10%, with max 1% of the frequency					
Fuse/Breaker Type	Slow (curve D)					
GFCI**	Class B					
Current (Steady State)	8.1 A	11.5 A	13.2 A	16.2 A	18.6 A	18.6 A
Supply Protection Device	15 A	15 A	20 A	20 A	20 A	20 A
Washing Functions						
Washing	49 RPM	49 RPM	49 RPM	42 RPM	42 RPM	42 RPM
High Extaction	1165 RPM	1075 RPM	1075 RPM	980 RPM	980 RPM	915 RPM
G-Factor	400	400	400	400	400	350
Anchoring						
Max. Static Load on Floor (lb/kg)	517/235	585/265	719/326	1102/500	1191/540	1304/591
Max. Dynamic Load on Floor (lb/kg)	427 ± 112/ 194 ± 51	495 ± 112/ 225 ± 51	607 ± 112/ 275 ± 51	899 ± 157/ 408 ± 71	1034 ± 247/ 469 ± 112	1124 ± 247/ 510 ± 112
Frequency of Dynamic Load	19.4 Hz	17.9 Hz	17.9 Hz	16.3 Hz	16.3 Hz	15.25 Hz
Noise						
Equivalent Noise Level (dB[A])	52 dB(A) (Wash) 63 dB(A) (High Spin)	52 dB(A) (Wash) 66 dB(A) (High Spin)	50 dB(A) (Wash) 65 dB(A) (High Spin)	50 dB(A) (Wash) 68 dB(A) (High Spin)	50 dB(A) (Wash) 66 dB(A) (High Spin)	47 dB(A) (Wash) 70 dB(A) (High Spin)

Rigid-Mount

Model (lb/kg)	20/9	25/11	30/14	40/18	55/24	65/28
Washer Dimensions (inches/mm)						
Width	25.98/660	29.53/750	29.53/750	35.03/890	35.03/890	35.03/890
Depth	30.91/785	30.91/785	35.43/900	36.02/915	41.73/1060	44.68/1135
Height	43.89/1115	48.22/1225	48.22/1225	55.51/1410	55.51/1410	55.51/1410
Packaging Dimensions (inches/mm)						
Width	27.25/690	30.75/780	30.75/780	36.25/920	36.25/920	36.25/920
Depth	32.50/825	32.50/825	37.00/940	37.75/960	44/25/1125	46.75/1185
Height	48.50/1230	52.50/1335	52.50/1335	60.50/1535	60.50/1535	60.50/1535
Inner Drum Dimensions						
Diameter (inches/mm)	20.87/530	24.40/620	24.40/620	29.53/750	29.53/750	29.53/750
Drum Volume (gal/L)	19.8/75	27.7/105	35.7/135	47.6/180	63.4/240	74.0/280
Door Opening (inches/mm)	12.99/330	16.14/410	16.14/410	18.11/460	18.11/460	18.11/460
Weight (lb/kg)						
Net	298/135	375/170	419/190	695/315	728/330	783/355
Gross	320/145	408/185	441/200	739/335	783/355	849/385
Electrical Requirements						
Supply Voltage (60 Hz)	120 V 1-phase 208–240 V 1-phase			208–240 V 1-phase		
Current (Steady State)	9.6 A (120 V) 4.8 A (208–240 V)	14.3 A (120 V) 7.5 A (208–240 V)	16.2 A (120 V) 8.1 A (208–240 V)	12.5 A	13.0 A	13.2 A
Supply Protection Device	10 A (120 V) 10A (208–240 V)	15 A (120 V) 10 A (208–240 V)	20 A (120 V) 15 A (208–240 V)	15 A	15 A	15 A
Washing Functions						
Washing	50 RPM	46 RPM	46 RPM	42 RPM	42 RPM	42 RPM
High Extraction	820 RPM	760 RPM	760 RPM	690 RPM	690 RPM	690 RPM
G-Factor	200	200	200	200	200	200
Anchoring						
Max. Static Load on Floor (lb/kg)	427/194	495/225	607/275	899/408	1012/459	1102/499
Max. Dynamic Load on Floor (lb/kg)	359 ± 540/ 163 ± 245	427 ± 899/ 194 ± 408	495 ± 1147/ 225 ± 520	764 ± 1259/ 347 ± 571	832 ± 1686/ 377 ± 765	877 ± 1978/ 398 ± 897
Frequency of Dynamic Load	13.7 Hz	12.7 Hz	12.7 Hz	11.5 Hz	11.5 Hz	11.5 Hz
Noise						
Equivalent Noise Level (dB[A])	49 dB(A) (Wash) 53 dB(A) (High Spin)	49 dB(A) (Wash) 53 dB(A) (High Spin)	50 dB(A) (Wash) 65 dB(A) (High Spin)	50 dB(A) (Wash) 65 dB(A) (High Spin)	50 dB(A) (Wash) 65 dB(A) (High Spin)	50 dB(A) (Wash) 65 dB(A) (High Spin)

Soft-Mount and Rigid-Mount

Model (lb/kg)	20/9	25/11	30/14	40/18	55/24	65/28
Water Connection						
Water Inlet Connection	BSP 3/4"					
Water Pressure Range	14.5–116 PSI/0.1–0.8 MPa/1–8 bar					
Recommended Water Pressure	43–73 PSI/0.3–0.5 MPa/3–5 bar					
Maximum Water Temperature	194°F/90°C					
Drain Connection						
Drain Type	Gravity Feed					
Drain Valve Diameter	3" (76 mm)					
Flow Rate	55.5 gal/min (210 L/min)					
Dispensing						
Liquid Soap Signals	8 (See electrical schematic)					
Soap Dispenser	4 Compartments (Prewash, Powder Wash, Liquid Wash, Fabric Softener/Last Rinse)					
Working Conditions						
Ambient Temperature	41 to 95°F/5 to 35°C					
Relative Humidity	30% to 90% without condensation					
Height Above Sea Level	Up to 3280' (1000 m)					
Storage Temperature	34 to 131°F/1 to 55°C					

