MAYTAG®
COMMERCIAL LAUNDRY

INSTALLATION INSTRUCTIONS
MFR18, MFR25, MFR30, MFR40, MFR50, MFR60, MFR80
COMMERCIAL WASHER

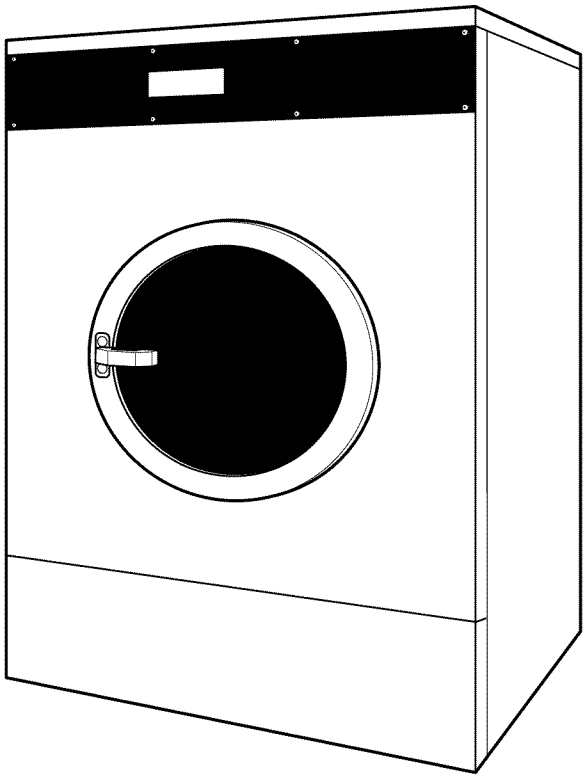


TABLE OF CONTENTS

W10223825B
www.maytagcommerciallaundry.com

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 and Parts

Gather the required tools and parts before starting installation.

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

Tools needed:

These washers must be installed by professional installers. The installer should have a full compliment of standard SAE and metric hand tools as well as other specialized tools as required.

Additional materials required:

Additional materials required vary with the type of installation. The customer is responsible for supplying additional hardware and adapters as necessary.

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 or 2)
- Rubber washers for the hoses (4)
- Water supply hoses (2)

Location Requirements

Washers should be installed on a level concrete floor on the ground level of a building; they can also be installed on an elevated concrete pad up to 12" (300 mm) above the surrounding floor. Consult a structural engineer to approve other locations. The models MFS18 and MFS25 washers can also be mounted on an elevated metal base up to 12" (300 mm) high.

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

You will need:

- The washer should be located in a building and not directly exposed to the weather. The temperature of the building should be 40-95°F (5-35°C) during operation.
- A hot water heater set between 120-160°F (49-80°C).
- Valved hot and cold water supply (3/4" male NPT fitting) within 4 ft. (1.2 m) of the washer with a water pressure between 43 and 73 PSI (0.3-0.5 MPa).
- A dedicated, GFCI-equipped circuit for each washer (see "Electrical Requirements").
- Adequate sanitary sewer drainage located behind each washer.
- 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" (25 mm) under the washer. A rough concrete surface is preferable to a smooth or covered surface.

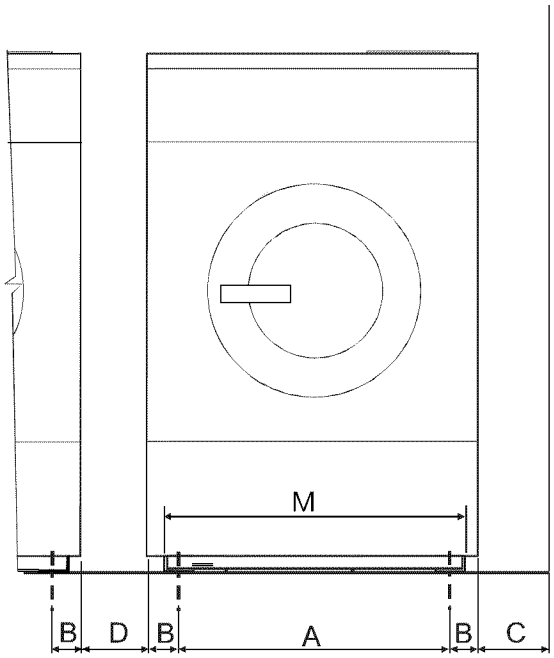
Minimum Installation Clearances:

The location must be large enough to allow the washer door to open completely.

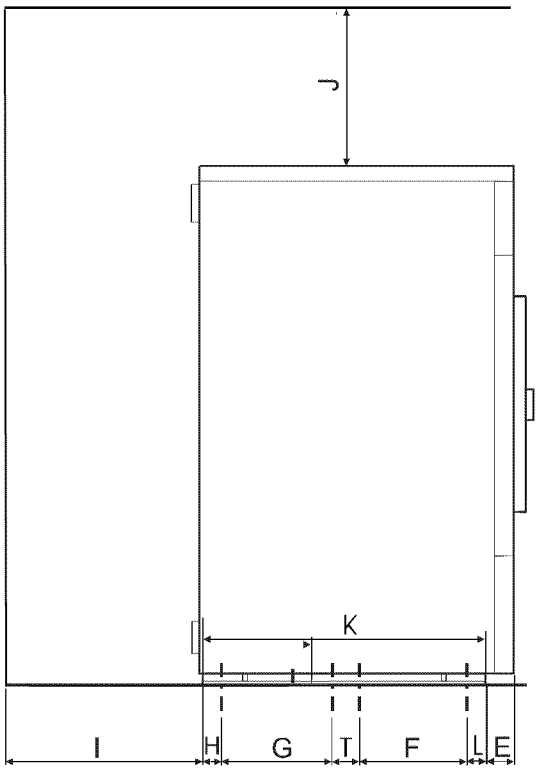
- There should be adequate access behind and above the washer for maintenance and service.

Dimensions for foundation base

(See dimension chart on next page.)



Front View



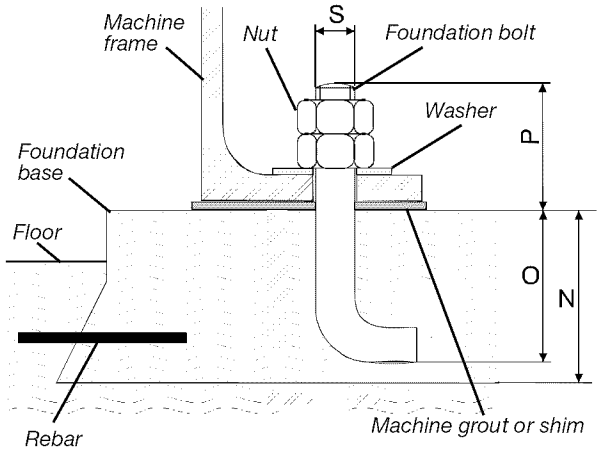
Side View

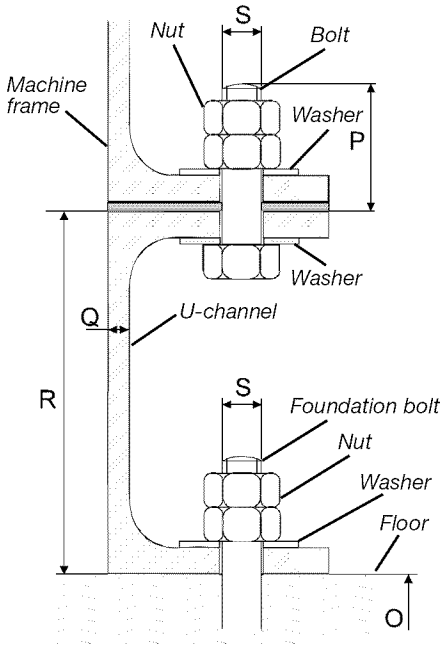
Dimensions for anchor bolt placement

(See dimension chart on next page.)

All washer models can be installed on an elevated cement slab. The base must be able to withstand both the load and vibration of the washer. The washer must be secured with anchor bolts.

(See page 8, "Installation Instructions"). Install the anchors before final installation of the washer. Minimum clearances should be maintained when installing washers in an elevated position.

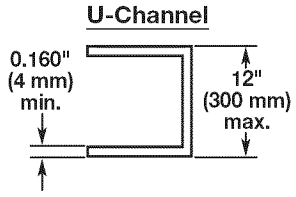




Dimensions for elevated concrete pad

(See dimension chart below.)

When a riser is used, install a U-Channel. The width and depth of the U-Channel should be the same size or larger than the washer footprint width and depth. It is recommended to add 1/4" (6 mm) to all dimensions.

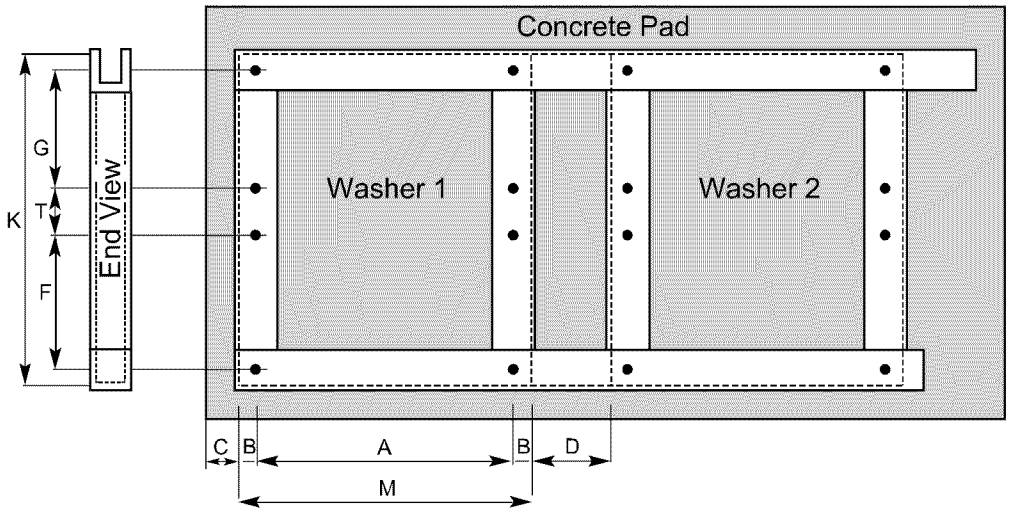


MFR40, MFR50, and MFR60: Add a U-Channel reinforcement between the left and right U-Channel, even with the middle anchor bolt holes. The width of the horizontal section of the U-Channel must be equal to the contacting surface of the frame (at least 0.4" [10 mm]) over the frame anchor bolt hole).

Install the riser to the concrete floor with the same number of anchor bolts as the washer is attached to the riser. Also install the bolts in the same locations. Additional anchor bolts can be installed only in locations where they will not weaken the riser or concrete pad.

NOTE: Some dimensions in the chart below will need to change when risers are used. Contact your structural engineer for floor and foundation conditions and adjusted floor dimensions to account for the specific riser being used. Also, do not use risers higher than as listed in the chart.

Rear of Washers



Dimension chart for foundation base, anchor bolt placement, and elevated concrete pad

	MFR18 (7 kg)	MFR25 (10 kg)	MFR30 (13 kg)	MFR40 (18 kg)	MFR50 (22 kg)	MFR60 (27 kg)	MFR80 (35 kg)
A	20.90" (530 mm)	20.90" (530 mm)	23.39" (594 mm)	27.60" (700 mm)	27.60" (700 mm)	25.04" (636 mm)	32.60" (820 mm)
B	2.60" (65 mm)	2.60" (65 mm)	3.07" (78 mm)	3.10" (77.5 mm)	3.10" (77.5 mm)	4.61" (117 mm)	5.51" (140 mm)
C	4.00" (100 mm)	4.00" (100 mm)	4.00" (100 mm)	4.00" (100 mm)	4.00" (100 mm)	4.00" (100 mm)	4.00" (100 mm)
D	0.79" (20 mm)	0.79" (20 mm)	0.79" (20 mm)	0.79" (20 mm)	0.79" (20 mm)	0.79" (20 mm)	0.79" (20 mm)
E	1.90" (48 mm)	1.90" (48 mm)	1.70" (43 mm)	2.95" (75 mm)	2.95" (75 mm)	1.81" (46 mm)	2.80" (71 mm)
F	10.83" (275 mm)	14.37" (365 mm)	15.75" (400 mm)	14.17" (360 mm)	19.68" (500 mm)	26.57" (675 mm)	11.61" (295 mm)
G	3.50" (90 mm)	11.60" (295 mm)	9.13" (232 mm)	11.61" (295 mm)	9.88" (251 mm)	9.06" (230 mm)	11.61" (295 mm)
H	6.20" (158 mm)	1.10" (28 mm)	1.34" (34 mm)	1.40" (35 mm)	1.40" (35 mm)	1.77" (45 mm)	1.81" (46 mm)
I	27.60" (700 mm)	27.60" (700 mm)	27.60" (700 mm)	27.60" (700 mm)	27.60" (700 mm)	27.60" (700 mm)	27.60" (700 mm)
J	23.62" (600 mm)	27.60" (700 mm)	27.60" (700 mm)	27.60" (700 mm)	27.60" (700 mm)	39.37" (1000 mm)	39.37" (1000 mm)
K	22.10" (560 mm)	28.54" (725 mm)	27.20" (690 mm)	28.54" (725 mm)	32.30" (821 mm)	39.17" (995 mm)	37.91" (963 mm)
L	1.50" (38 mm)	1.50" (38 mm)	1.00" (25 mm)	1.40" (35 mm)	1.40" (35 mm)	1.77" (45 mm)	2.24" (57 mm)
M	23.82" (605 mm)	23.82" (605 mm)	29.30" (744 mm)	31.60" (804 mm)	31.60" (804 mm)	34.02" (864 mm)	43.11" (1095 mm)
N	11.81" (300 mm)	11.81" (300 mm)	11.81" (300 mm)	11.81" (300 mm)	11.81" (300 mm)	11.81" (300 mm)	11.81" (300 mm)
O	4.00" (100 mm)	4.00" (100 mm)	4.70" (120 mm)	6.00" (150 mm)	6.00" (150 mm)	9.00" (230 mm)	9.00" (230 mm)
P	1.50" (40 mm)	1.50" (40 mm)	1.50" (40 mm)	1.50" (40 mm)	1.50" (40 mm)	1.50" (40 mm)	3.75" (95 mm)
Q min.	0.28" (7 mm)	0.28" (7 mm)	0.28" (7 mm)	0.28" (7 mm)	0.28" (7 mm)	0.28" (7 mm)	—
R max.	11.81" (300 mm)	11.81" (300 mm)	9.45" (240 mm)	6.30" (160 mm)	6.30" (160 mm)	3.15" (80 mm)	0" (0 mm)
S min.	5/8" (M16)	5/8" (M16)	5/8" (M16)	5/8" (M16)	5/8" (M16)	3/4" (M20)	3/4" (M20)
T	0" (0 mm)	0" (0 mm)	0" (0 mm)	0" (0 mm)	0" (0 mm)	0" (0 mm)	10.63" (270 mm)

Electrical Requirements

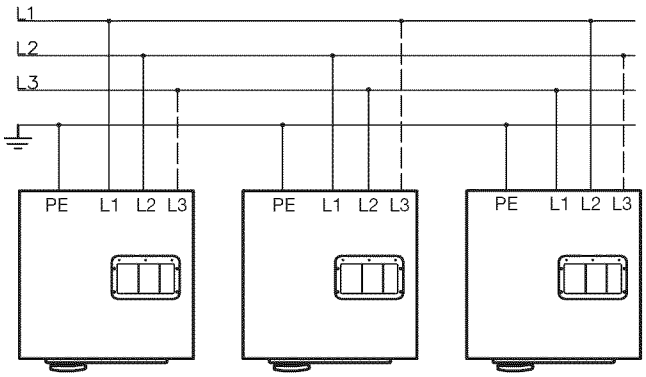
It is your responsibility

- 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, 208-240 volt, 50/60 Hz., AC electrical supply on a separate circuit. Circuit capacity is dependent on washer size and connection type and is shown in the tables below. A time-delay fuse or circuit breaker is recommended. Installation of a GFCI is also recommended. Connect to an individual branch circuit. Do not fuse the neutral or grounding circuit.
- A separate ground wire is recommended if codes permit. It is recommended that a qualified electrician determine the ground path is adequate.
- Coin-operated washers do not have an emergency stop switch. A remote emergency stop device must be installed. The switch must be easily accessable to all users and meet the requirements of ISO13850-category 0.

	Phase (Voltage)	
Model	**1 (120V)**	**1/3 (208–240V)**
MFR18	10A	Not Applicable
MFR25	10A	Not Applicable
MFR30	Not Applicable	15A
MFR40	Not Applicable	15A
MFR50	Not Applicable	15A
MFR60	Not Applicable	20A
MFR80	Not Applicable	20A

NOTES: 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.



Connection to washer

These washers were designed for direct wiring into the power supply. The washer must be electrically grounded in accordance with 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, and all local codes and ordinances.

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 ground wire), in a flexible metallic conduit. All current carrying wires must be insulated.
- Copper wire of appropriate gauge for amperage requirement (see table below). Stranded wire is recommended. Do not use aluminum wire.

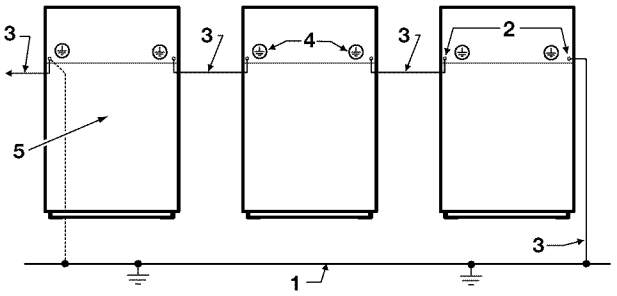
Minimum Recommended Conductor Gauges	
Fuse or Breaker	**Minimum AWG***
15A	14
20A	12
*Copper stranded wire recommended.	

Equipment Potential Bonding:

In addition to the individual washing machine ground wires used in conjunction with the power supply wiring, all washers must be connected with one another using separate insulated conductors #3 in the illustration below. The first and last washers will subsequently be connected to a protective conductor that completes the loop of the protective ground circuit, #1 in the illustration.

There are external protective connection points that serve for this purpose, see illustration.

The wire size of the protective conductor #1 must be at least as large as the insulated conductors #3 being used to interconnect the washing machines.



1. *Protective grounding structure*
2. *External protective conductor connection point*
3. *Protective conductor*
4. *Grounding identification*
5. *Washer (rear view)*

Water Supply Requirements

Water supply requirements:

- Valved hot and cold water supply with a water pressure between 14.5 and 116 PSI (0.1–0.8 MPa).
- A hot water heater or boiler supplying an adequate amount of water between 140–160°F (60–71°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*
MFR18	4.0 gal. (15 L)
MFR25	4.5 gal. (16 L)
MFR30	6.5 gal. (25 L)
MFR40	8.0 gal. (31 L)
MFR50	12.5 gal. (47 L)
MFR60	14.5 gal. (55 L)
MFR80	18.0 gal. (67 L)

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

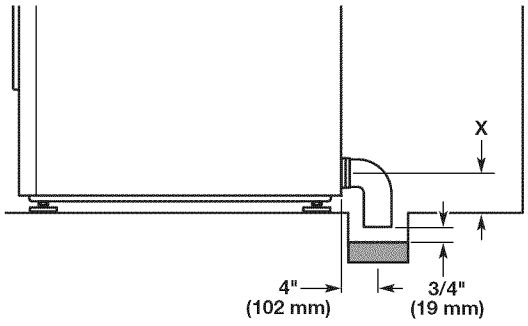
- It is also necessary to connect all available water inlets to a water supply.

Drain Requirements

The washer has a 3" (75 mm) water drain at the back of the washer. A molded drain hose that extends up to 20" (0.50 m)and hose clamp are supplied with the washer. To maintain washer performance, do not reduce the diameter of the drain pipe.

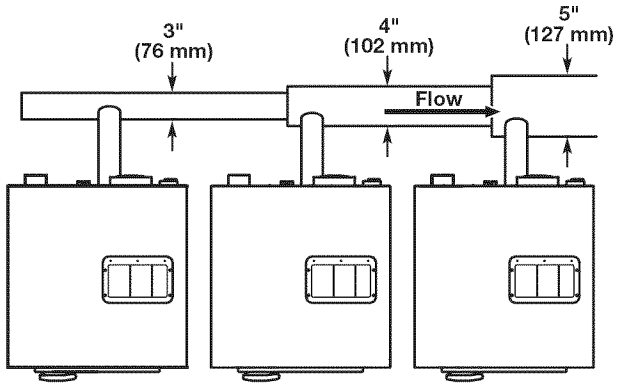
The washer drain may drain into a waste channel or directly to a drain.

- The waste channel cannot be located under the washer. There should be at least 4" (100 mm) between the back of the washer and the middle of the waste channel (see illustration).
- The waste channel must be lower than the drain pipe. There should be at least a 3/4" (20 mm) air gap between the bottom of the drain and the water level in the channel.



Minimum Waste Channel Measurements

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.



Drain Diameter Requirements

Laundry Product Dispenser Pumps

PN Models

Physical and electrical control connections for external liquid laundry product pumps are included in all PN models. If laundry product dispenser pumps will be used, the pumps should have an adequate flow rate to deliver the required amount of product to the dispenser within 30 seconds. Relay supply voltage was set at the factory. Check your material list for supply voltage.

PD Models

It is also possible to connect external liquid laundry product pumps to PD model washers, but the following additional installation steps are required:

- It is necessary to complete the physical connection between the tubing connector not supplied with PDs, and the dispenser.
- The electrical control connection to the liquid product pumps is made on the control board.

See page 9, “Laundry Product Supply Pump Connection”, for additional information.

INSTALLATION INSTRUCTIONS

Inspection and Storage

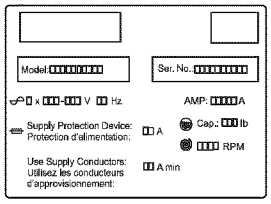
⚠WARNING

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.

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.
3. Store inside in a temperature of -13–130°F (-25–55°C). Do not expose washer to the weather.



Data Plate

Mechanical Installation

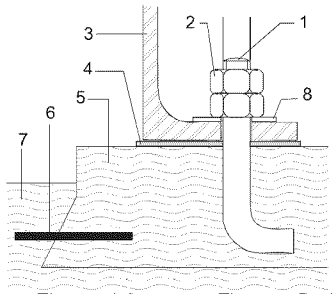
1. Move the washer near the point of installation with a lift truck or fork lift. Remove packing material.
2. Remove rear panel and front service panel, if not already removed. Remove the bolts attaching the washer to the pallet.

   IMPORTANT: This washer is very heavy. Consider equipment and manpower required to move this washer prior to installation and be sure that all necessary preparations are made. See page 15, "Technical Specifications".

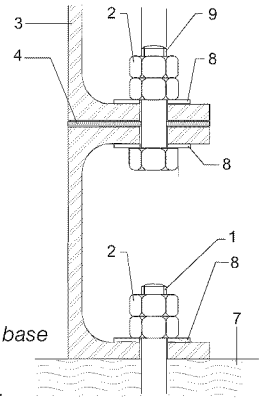
Fixed installation on concrete floor or elevated concrete pad:

1. Lay out and mark the total washer footprint and the anchor locations of the washers.
2. Bond J-bolts with diameter "S" x (P+O) into the concrete or drill into the cured concrete and install chemical anchor bolts (see "Dimensions for anchor bolt placement" on pages 4 and 5). Expansion bolts can be used but are not preferred. Mounting bolts must withstand 2,500 lbs.

   Depth (O) of the anchor bolt must be firmly anchored into the concrete and a minimum dimension (P) must protrude to secure the washer (see "Dimensions for anchor bolt placement" on page 4). For maximum strength, allow concrete to cure for a minimum of 72 hours in dry weather. After curing, check for J-bolt alignment, or install chemical anchor bolts or expansion bolts.



Elevated Concrete Floor or Pad



Steel Base

1. *Foundation bolt*
2. *Counter Nut*
3. *Machine frame*
4. *Machine grout or shim*
5. *Foundation base*
6. *Rebar*
7. *Floor*
8. *Flat Washer*
9. *Bolt*

Washer or riser installation on a concrete pad:

1. Position the washer or riser on the pad over the bolts and spaced above the pad approximately 3/8" to 1/2" using wooden "door-stop" wedges. The washer always needs to be installed level or very slightly tipped, with the front higher (not more than 1/8" [3.5 mm] front to back) and resting on the wedges.
2. Completely fill the space between the washer base frame or riser and the pad with machinery grout under all frame surfaces. Most machinery grout will begin to set in about 20 minutes to 1/2 hour. When the grout is hardened to the touch, remove the wedges and fill in the gaps with additional grout. Be sure to leave a gap under the middle frame member and an opening in the perimeter grout for water to drain out in case of a leak. At this point, "snug" the washer, lock-washer (not shown in the illustration above), and nut on each of the anchoring bolts to make sure the flat washer or riser is level or very slightly tipped, with the front higher. Do not overtighten the nuts at this time.
3. Allow at least two hours (overnight is preferred) before final tightening of the hold-down nuts.
4. Securely fasten the washer (and riser) to the mounting base or foundation with washers and double nuts to keep the washer in place.
5. Retighten these nuts after the washer has been operating for a few days. Recheck at six-month intervals. Be sure to release the counter nut before checking to allow you to verify the correct tightness of the washer (and riser). Retighten the counter nut after checking.

Washer installation on a steel base (riser):

1. If the base profile causes the bolt surfaces to be tapered, it is recommended to use special tapered washers against the base to avoid bending stress on the hold-down bolts. The steel base should be supported by machinery grout between the base and the floor. (See installation procedure above).
2. When the base is installed (level or very slightly tipped with the front higher) and the grout is cured, the washer can then be positioned on the base and bolted in place. Use an 8 mm minimum bolt and an 8 mm minimum nut. With the washer sitting firmly (bolts not tightened) on the base, there may still be some slight "rock" of the washer. Use shims to eliminate any movement before the hold-down bolts are tightened. Any rocking of the washer frame using the hold-down bolts will stress the frame and could lead to premature bearing and/or frame failures.
3. Securely fasten the washer (and riser) to the mounting base or foundation with washers and double nuts to keep the washer in place.
4. Retighten these nuts after the washer has been operating for a few days. Recheck at six-month intervals. Be sure to release the counter nut before checking to allow you to verify the correct tightness of the washer (and riser). Retighten the counter nut after checking.

Electrical Connection

⚠WARNING

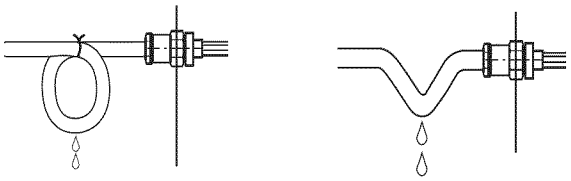
Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

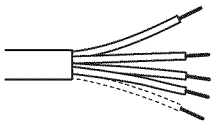
Failure to do so can result in death or electrical shock.

1. Turn off power at fuse box or breaker box.
2. Insert the cable through the hole in the rear panel, making sure to use a strain relief. Connect the power cable to the correct terminal post starting with L1, followed by L2 and—if present— L3 and Neutral. The grounding conductor (green-yellow) should be longer than the phase lines to ensure it is the last to be disconnected if a cable is pulled out unintentionally. When using stranded copper conductors, use "wire end tubes" with an insulated sleeve to avoid unintentional contact.
3. Remove approximately 6" (150 mm) of shielding from cable end to expose insulated wires. Be sure that there is sufficient wire to create a drip loop or wire sag, as shown.

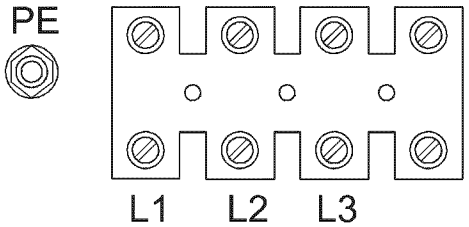


A drip loop or wire sag keeps condensation from running into washer

4. Strip wire insulation an adequate length to make connections. Install eyelets on ground wires with a crimping tool.



5. Connect two or three current conducting wires into the terminal and tighten the screw terminals. Attach ground to the frame ground bolt as shown in the illustrations and tighten the locking nut.

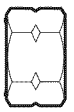


POWER SUPPLY TERMINALS

Water Supply Connection

Connect the water supply to the washer using the flexible inlet hoses provided. Do not use a rigid connection for the water supply.

NOTE: The water connection to the washer requires a 3/4" British Standard Pipe Thread fitting. The smooth end is a NPT U.S. thread.Threading an NPT fitting or the NPT end of the inlet hose onto the washer water inlet threads will damage the fill valve or the manifold.



NPT fitting

1. Flush water lines to remove debris. Install the rubber washers in both fitting ends of each inlet hose. Install the non-grooved fitting nut of the inlet hoses to the hot and cold inlet valves. Tighten fittings.
2. Attach grooved end of the inlet hoses to the washer. Tighten fittings.
3. Turn on water and check for leaks in the system.

Drain Connection

1. Cut the pre-formed drain hose so it fits properly on the drain or in the drain channel.
2. Attach drain hose to washer with clamp provided. If fitted directly to a drain pipe, use a clamp on the drain pipe as well.

NOTE: Model MFR80 has 2 drain connections.

Laundry Product Supply Pump Connection

Up to 8 laundry product supply pumps may be connected to the washer. Tubing and relay connections are provided in the back of the washer.

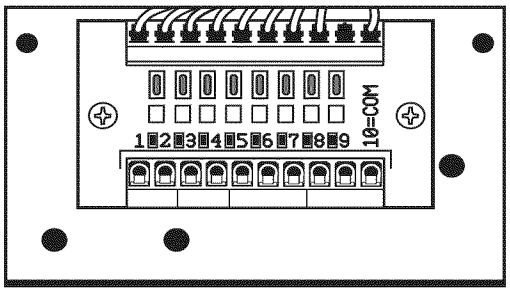
NOTE: Route hoses and wiring so they will not be pinched, damaged, or rubbed during use.

Electrical Relay Connection

The electrical connections are relay connections only and do not provide adequate power for the pumps. The laundry product supply pumps must be powered by a separate electrical source.

PN Models

1. Turn off power at circuit breaker or fuse box.
2. Remove panel screw and remove cover. Connect relay leads to numbers 1 through 8. Connect/common ground to lead 10.
3. Replace cover.



PD Models

1. Turn off power at circuit breaker or fuse box.
2. Open top cover. Route control wires through control section and to relay connector on control board. Connect leads.

   NOTE: Support added control wires with wire ties to keep them away from moving parts. An Insulation Displacement Connector or 1/4" terminals are needed to connect to the supply signal on the control board.

Tubing Connectors

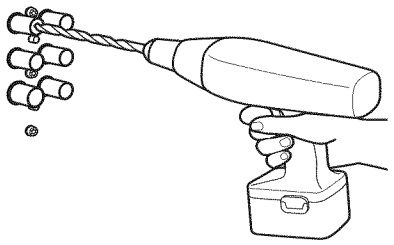
All models

There are 6 tubing connectors in back of the washer. One connector is larger in diameter than the others. The larger diameter connector should be used for the pump requiring chemical mixing with water prior to entering the washer. If additional chemicals are needed, contact the manufacturer. Tubing connectors are sealed at the factory and must be drilled out before use.

NOTES:

- Only drill out connectors that will be used. Any unused open connectors must be sealed to avoid reflux during the fill cycle.
- Holes must be drilled. Attempting to open holes with a punch may damage the washer.

1. Drill out connectors that will be used. Use a drill bit slightly smaller than the interior diameter of the hole. Small tubes are 11/32" and larger tube is 13/32". Remove all debris from the hole. See illustration.

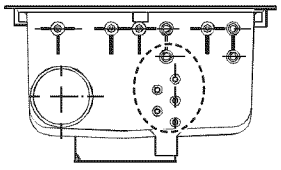


2. Attach flexible hoses rated for commercial laundry chemicals to the connectors. (Secure hoses with hose clamps.)

PD models only

These additional steps are necessary to connect tubing connectors:

3. Open top cover. Locate connectors that were drilled. Attach tightly fitting flexible hoses rated for commercial laundry chemicals onto those connectors on the inside of the washer, long enough to reach the dispenser box connectors. Secure each hose with a hose clamp.



Dispenser connectors -- Rear view

4. Be sure that dispenser connectors fit the hoses. Drill out connectors on the dispenser box with a drill bit slightly smaller than the interior diameter of the hole. Small tubes are 11/32" and larger tube is 13/32". Remove all debris from the hole.
5. Attach flexible hoses rated for commercial laundry chemicals to the connectors. Secure the hoses with a hose clamp.

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. Open door and be sure that the washer drum is empty.
2. Verify that washer is properly bolted in place.
3. Check electrical connection and ground.
4. Turn on water.
5. Check drain connection and clearance.
6. Turn power on at circuit breaker.
7. Turn the washer on. Begin a wash cycle. Watch the drum during the extraction cycle. The drum should rotate clockwise as observed from the front of the washer.
8. Ensure all panels are installed.

IMPORTANT: If the drum rotates counter-clockwise in extract mode, turn off the power supply at the circuit breaker and reverse the polarity of any 2 of the supply wires from the frequency inverter to the motor, or on the motor itself. This should only be performed by qualified personnel.

9. **PN Models:** Begin wash cycle again. 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 page 12, "Belt Inspection and Adjustment".

80 operation hours

- Check belt tightness. See page 12, "Belt Inspection and Adjustment".
- 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

- Remove 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.
- Remove detergent residue and other contamination off the door seal with a soft cloth dampened with a mild detergent solution.
- Wipe clean the bottom of the door glass of any debris that may settle there.
- Remove residue from the soap hoppers with a plastic scraper. Wipe the hoppers with a soft cloth dampened with water.
- Check water and steam inlets for leaks. Correct as necessary.

Maintenance Every 1000 Hours or 6 Months

- 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.

⚠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. Turn off power to washer at the circuit breaker or fuse box.
2. Unlock top cover of washer, remove dispenser screws, and open top (see Top View on page 15 for location of dispenser). Remove bolts securing rear panel of washer.
3. Inspect all hoses and connections inside the washer cabinet for leaks and correct as necessary. Remove dust and debris from inside with a shop vacuum and soft bristled attachment. Pay particular attention to the motor cooling fins, inverter cooling fins, cooling fans, and vents.
4. Wipe up 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.
5. Check that all bolts are properly torqued.
6. Check the ground connection.
7. Check and tighten the contactor terminal screws and inspect connections in the control area.
8. Check and clean the cooling plate and fins of the inverter drive for lint and dirt between cooling fins.
9. Turn off hot and cold water to the washer at the the valves. Clean water filters.
10. Inspect belt and check belt tension. See page 12, "Belt Inspection, Adjustment, and Replacement."
11. Check anchor bolts and nuts securing washer to floor or to base/riser and foundation. Retighten if necessary.
12. Reinstall panels and safety guards.

Belt Inspection and Replacement

Belt Inspection

⚠WARNING

Electrical Shock Hazard

Disconnect power before servicing.

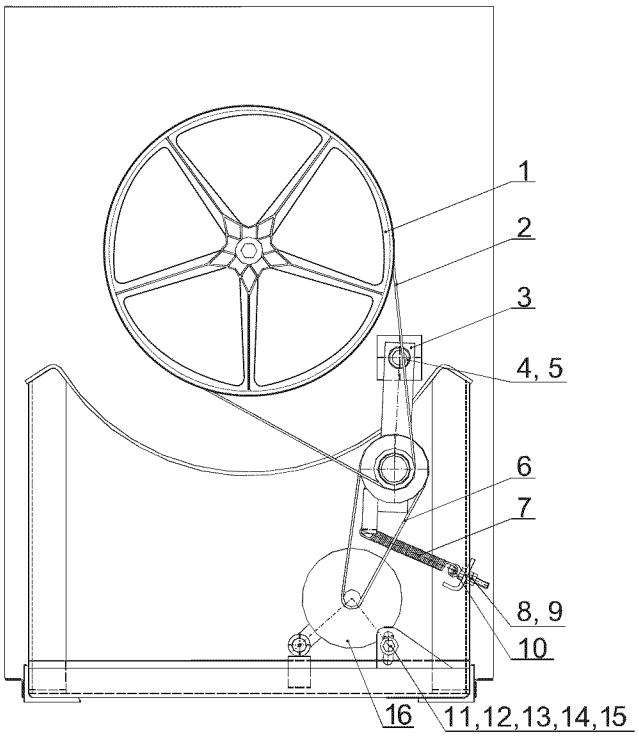
Replace all parts and panels before operating.

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

NOTE: The belt tension is a self-adjusting system and does not need to be adjusted. However, because belts are moving parts and can wear over time, they may need to be replaced.

1. Turn off power to washer at the circuit breaker or fuse box.
2. Remove bolts securing the rear panel of washer. Remove rear panel. Inspect belt for signs of wear and damage. Replace the belt if worn or damaged. See "Belt Replacement".
3. Be sure that the belt pulleys are aligned by laying a straight edge along the drum pulley. The motor pulley should be in line with the straight edge. If the pulleys are not aligned, loosen the motor mounting bolts and adjust. Re-tighten motor mounting bolts.
4. Model MFR25 has a two-belt system that is self-adjusting. Due to the different lengths, each belt will wear at a different rate and may need its tension adjusted occasionally. If the long belt is too loose, loosen the 5/16" x 1¼" bolt (11), but do not remove it. This allows spring (7) tension on the long belt. If needed, increase the spring tension by tightening the M8 nut and counter nut (9) to the maximum belt tension (±230N/ 51 lbs of force). Next, set the necessary belt tension on the short belt by pushing the motor down and securing the motor in place with the 5/16" x 1¼" bolt (11).

   NOTE: Tighten the securing bolt (11) to keep it from deforming the plastic washers (14, 15). Plastic washers keep electrical current away from the frame.



1. *Drum pulley*
2. *PJ1473 Belt*
3. *Idler pulley*
4. *Securing ring*
5. *M6x6 Bolt*
6. *PJ559 Belt*
7. *Spring*
8. *M8x50 Bolt with eye*
9. *M8 Nut*
10. *Pin*
11. *5/16"x1¼" bolt*
12. *Spring washer 8*
13. *Washer 8*
14. *4x25x2 Plastic washer 8*
15. *2x12x3 Plastic washer 8*
16. *Motor*

5. Replace rear panel of washer. Turn on power at circuit breaker or fuse box.

Belt Replacement

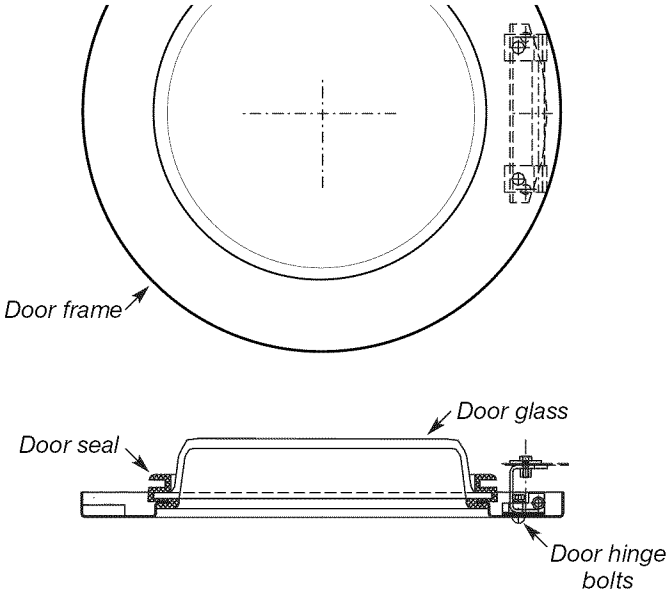
1. Remove bolts securing the rear panel of washer. Remove rear panel.
2. Loosen locking nut and loosen belts. Do not use a prybar or screwdriver to remove the belts except to hold up the motor.
3. Replace with new belts of the same type. When a belt needs to be replaced, always replace the complete set of belts when more than 1 are used.
4. Reinstall rear panel of washer. Turn power on at circuit breaker or fuse box.

Door Seal Adjustment and Replacement

Water leaks around the door seal may occur as the gaskets age. In most cases, this can be resolved through door adjustment. In severe cases, seal replacement is necessary. Follow instructions below.

Door Seal Adjustment (models MFR18 and MFR25)

1. Remove the front cover around the latch. Set cover aside.
2. Increase (decrease) door seal pressure on the hinge and latch sides by removing (inserting) spacer shims between the hinge or latch and door frame. Tighten bolts and locking nuts.
3. Make sure that the door pin is in the center of the door lock opening. Loosen the hinge screws slightly to reposition the door, if necessary. Open the door and re-tighten the screws/bolts when the pin is centered. Add a screw lock compound to maintain proper adjustment.

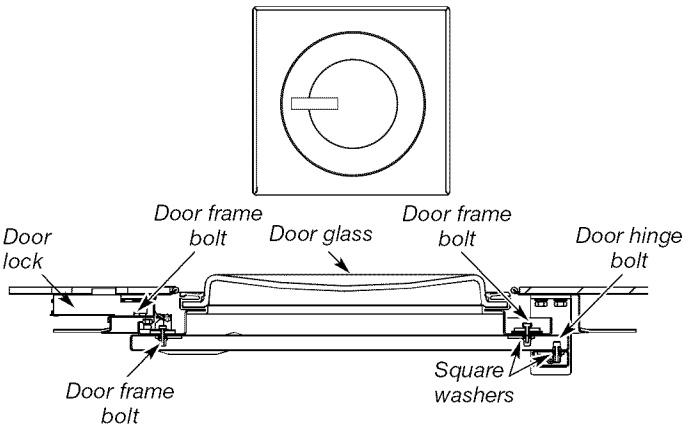


Door Seal (Models MFR18 and MFR25)

4. Check the gasket pressure. Open door and close door latch on the door. Close the door until the closed door latch contacts the roller on the door lock. Slowly release pressure on the door and allow the door to spring back. Measure the distance between the roller and latch without pressure on the latch. Gasket pressure is correct when the distance is 0.2–0.4" (5–10 mm).

Door Seal Adjustment (models MFR30, MFR40, MFR50, MFR60 and MFR80)

1. To adjust pressure on the hinge side, open the door and loosen the door frame bolts clamping the door frame to the hinge. Take out the square washers. Tighten the bolts. Loosen the door hinge bolts. Insert one, two or three square washers between the longitudinal beam and the cross beam as needed. Tighten door hinge bolts when adjusted.
2. To adjust pressure on the latch side, remove the lock cover bolts and lock cover. Remove the door lock bolts. Remove distance lock washers as needed. Replace door lock and latch.
3. Be sure that the door pin is in the center of the door lock opening. Loosen the hinge screws slightly to reposition the door, if necessary. Open the door and re-tighten the bolts when the pin is centered.
4. Check gasket pressure. Open the door and leave door latch handle in unlatched position while the door is open. Slowly close the door until the door latch contacts the roller on the door lock. Release pressure on the door slowly; the door should spring back slightly. Measure the distance between the roller and latch without pressure on the latch. Gasket pressure is correct when the distance is 0–0.2" (0–5 mm).



Door Seal (Models MFR30, MFR40, MFR50, MFR60 and MFR80)

Door Seal Replacement (models MFR18, MFR25, MFR30, MFR40, and MFR50)

1. Open the door. Remove the door glass with rubber from the door frame by pushing it toward the drum. Do not damage the glass.
2. Separate the gasket from the glass.
3. Place a new rubber gasket with the wider groove on the glass with the edge up.
4. Moisten the seal groove gasket with soapy water. Place a smooth cord in the groove so it goes around the entire circumference. Fit the assembly to the door frame. Hold one end of the cord firmly on the door. Pull the other cord end toward the center of the glass and work the gasket onto the door.

Door Seal Replacement (models MFR60 and MFR80)

The door glass is not removable. Remove the old gasket. Use soapy water on the new gasket to make it slide more easily into place.

Fuse Replacement

All washers have 2-1A in-line fuses at the back of the washer. Models MFR18 and MFR25 have an additional 0.5 A in-line fuse.

Opening Door Without Power

In case of a power failure, the door may not open.

To open the door without power:

⚠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. Turn off power supply at the circuit breaker or fuse box.
2. Remove the front service panel.
3. Find the emergency cord on the left side of the washer. Pull the cord firmly until you hear a faint click. Open door.
4. Reinstall front service panel.
5. Turn on power at circuit breaker or fuse box.

REMOVING THE WASHER FROM SERVICE

Disconnecting the Washer

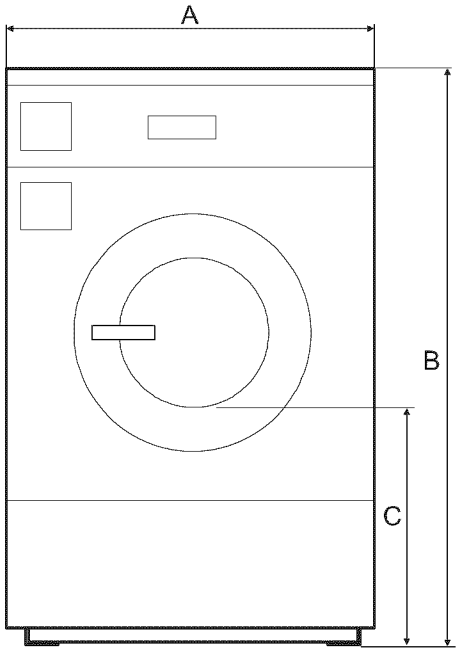
1. Turn off power supply at the circuit breaker or fuse box.
2. Shut off the water to the washer.
3. Disconnect all water inlets.
4. Insulate the external electric power inlet conductors.
5. Place an "Out of Service" sign on the washer.
6. If removing the washer from its location, unscrew any nuts (bolts) that may be securing the washer to the floor.
7. If the washer will not be used again, remove the door with the hinge.

Disposing of the Washer

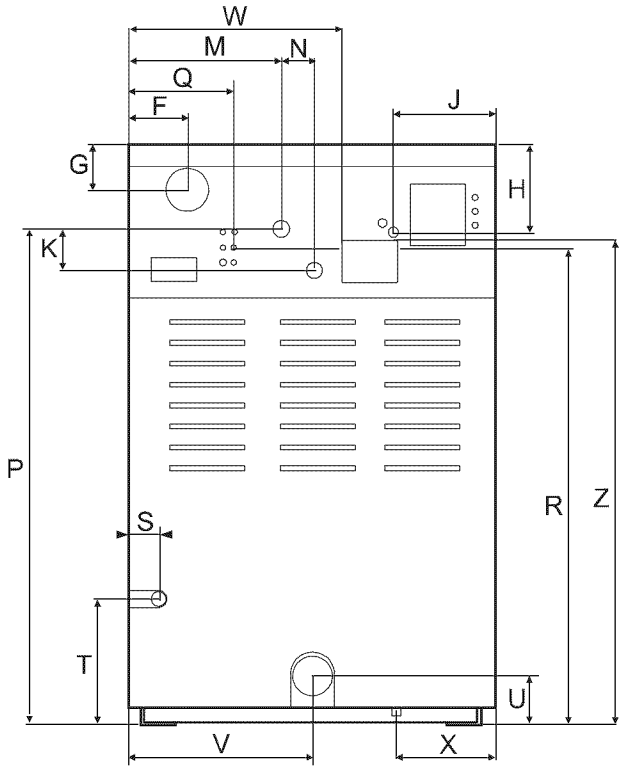
Scrap according to local codes.

DIMENSIONS AND TECHNICAL SPECIFICATIONS

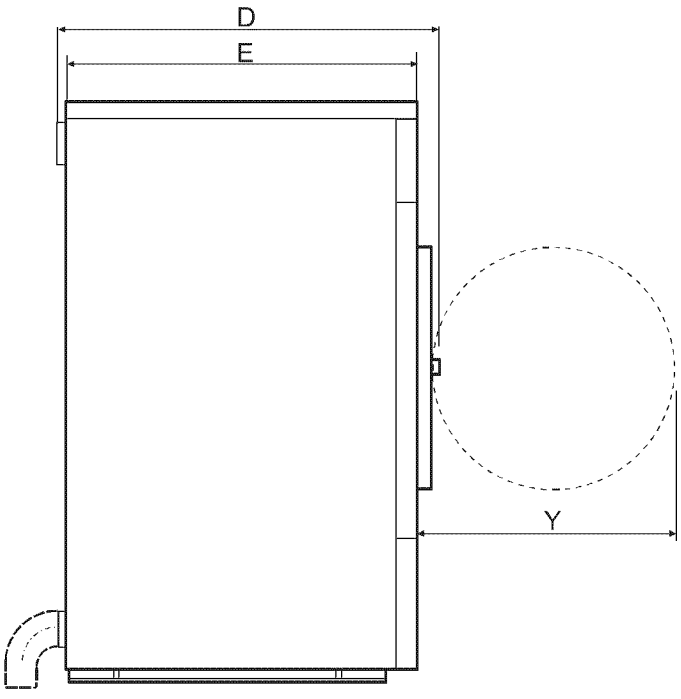
Product Dimensions



Front View



Back View



Side View

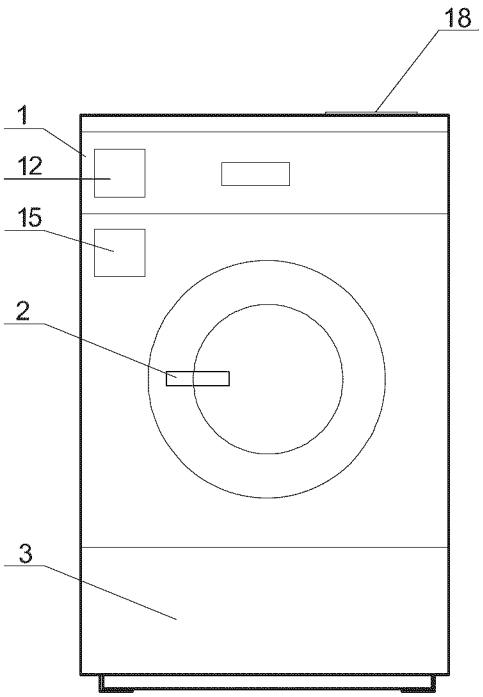
Product Dimension Chart

	MFR18 (7 kg)	MFR25 (10 kg)	MFR30 (13 kg)	MFR40 (18 kg)	MFR50 (22 kg)	MFR60 (27 kg)	MFR80 (35 kg)
A	26.00" (660 mm)	26.00" (660 mm)	29.50" (750 mm)	33.70" (855 mm)	33.70" (855 mm)	34.25" (870 mm)	43.30" (1110 mm)
B	41.10" (1045 mm)	44.90" (1140 mm)	48.23" (1225 mm)	51.80" (1315 mm)	51.80" (1315 mm)	54.33" (1380 mm)	57.48" (1460 mm)
C	16.50" (420 mm)	18.10" (460 mm)	16.90" (430 mm)	20.80" (528 mm)	20.80" (528 mm)	18.03" (458 mm)	20.00" (508 mm)
D	28.00" (710 mm)	34.10" (865 mm)	32.28" (820 mm)	35.24" (895 mm)	39.00" (990 mm)	44.88" (1140 mm)	44.88" (1140 mm)
E	24.40" (620 mm)	30.50" (775 mm)	29.13" (740 mm)	33.70" (855 mm)	37.40" (950 mm)	40.95" (1040 mm)	40.95" (1040 mm)
F	4.00" (102 mm)	4.00" (102 mm)	4.00" (102 mm)	5.50" (10 mm)	5.50" (140 mm)	6.30" (160 mm)	4.90" (125 mm)
G	3.40" (86 mm)	3.40" (86 mm)	3.40" (86 mm)	3.70" (94 mm)	3.70" (94 mm)	3.30" (85 mm)	3.30" (85 mm)
H	5.80" (147 mm)	5.80" (147 mm)	5.80" (147 mm)	6.20" (157 mm)	6.20" (157 mm)	5.79" (147 mm)	6.50" (165 mm)
J	7.40" (188 mm)	7.40" (188 mm)	7.40" (188 mm)	7.50" (190 mm)	7.50" (190 mm)	7.48" (190 mm)	11.70" (297 mm)
K	3.00" (75 mm)	3.00" (75 mm)	3.00" (75 mm)	2.95" (75 mm)	2.95" (75 mm)	3.54" (90 mm)	3.94" (100 mm)
M	10.50" (267 mm)	10.50" (267 mm)	10.50" (267 mm)	15.10" (382.5 mm)	15.10" (382.5 mm)	11.93" (303 mm)	12.60" (320 mm)
N	2.40" (60 mm)	2.40" (60 mm)	2.40" (60 mm)	2.95" (75 mm)	2.95" (75 mm)	3.94" (100 mm)	5.12" (130 mm)
P	35.30" (897 mm)	39.10" (992 mm)	42.10" (1069 mm)	44.80" (1138 mm)	44.80" (1138 mm)	47.44" (1205 mm)	52.36" (1330 mm)
Q	6.50" (165 mm)	6.50" (165 mm)	6.90" (175 mm)	7.87" (200 mm)	7.87" (200 mm)	3.34" (85 mm)	8.85" (225 mm)
R	32.60" (830 mm)	32.60" (830 mm)	40.40" (1025 mm)	43.50" (1117 mm)	43.50" (1117 mm)	44.68" (1135 mm)	49.05" (1246 mm)
S	1.80" (45 mm)	2.40" (60 mm)	2.10" (53 mm)	3.90" (99 mm)	3.90" (99 mm)	5.28" (134 mm)	4.60" (118 mm)
T	15.60" (397 mm)	9.80" (250 mm)	13.10" (333 mm)	17.10" (435 mm)	17.10" (435 mm)	14.17" (360 mm)	14.17" (360 mm)
U	3.60" (92 mm)	3.60" (92 mm)	3.40" (86 mm)	5.30" (134 mm)	5.30" (134 mm)	3.46" (88 mm)	3.46" (88 mm)
V	13.00" (330 mm)	13.00" (330 mm)	14.80" (375 mm)	16.80" (427.5 mm)	16.80" (427.5 mm)	17.13" (435 mm)	15.75" (400 mm)/ 11.80" (300 mm)
W	—	—	16.50" (420 mm)	20.47" (520 mm)	20.47" (520 mm)	21.14" (537 mm)	28.34" (720 mm)
X	4.30" (109 mm)	4.30" (109 mm)	6.90" (175 mm)	8.10" (205.5 mm)	8.10" (205.5 mm)	7.80" (198 mm)	9.40" (238 mm)
Y	16.30" (415 mm)	16.30" (415 mm)	20.50" (521.5 mm)	20.50" (521.5 mm)	20.50" (521.5 mm)	25.08" (637 mm)	26.80" (680 mm)
Z	—	—	40.50" (1030 mm)	43.90" (1115 mm)	43.90" (1115 mm)	45.66" (1160 mm)	49.21" (1250 mm)

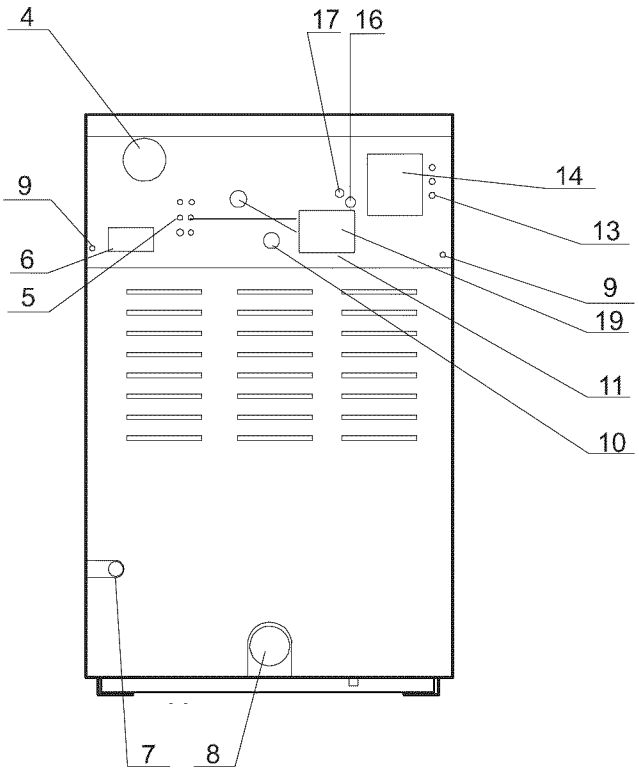
Torque Specifications

Recommended Torque Values for Steel Bolts	
Bolt Size	**Torque**
M6	8 ft. lbs. (10 Nm)
M8	20 ft. lbs. (25 Nm)
M10	35 ft. lbs. (45 Nm)
M12	60 ft. lbs. (80 Nm)
M16	150 ft. lbs. (200 Nm)

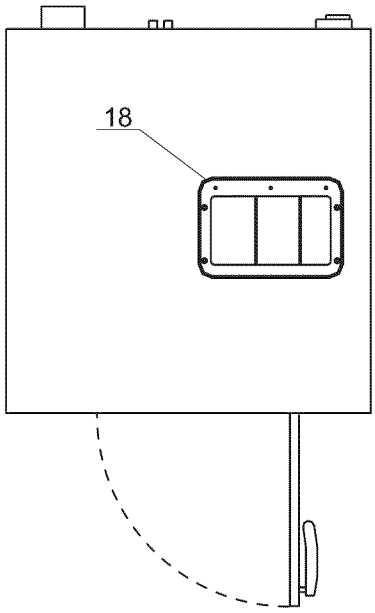
Component Locations



Front View



Back View



Top View

1. *Control panel*
2. *Door handle*
3. *Service panel*
4. *Air relieve*
5. *Liquid soap hose passing*
6. *Serial plate*
7. *Steam connection*
8. *Drain connection*
9. *Earth connection*
10. *Hot water connection*
11. *Cold soft water connection*
12. *Payment device or emergency stop*
13. *Fuses*
14. *Incoming supply connector*
15. *Coin vault (coin models only)*
16. *Passing electrical cable of machine*
17. *Passing electrical liquid soap signals*
18. *Soap dispenser*
19. *Liquid soap relay board box*

Technical Specifications

	MFR18 (17 kg)	MFR25 (10 kg)	MFR30 (13 kg)	MFR40 (18 kg)
Dimensions and Weights				
Washer dimensions (width x depth x height)	26.00x28.00x41.10" (660x710x1045 mm)	26.00x34.00x44.90" (660x865x1140 mm)	29.50x32.30x48.20" (750x820x1225 mm)	33.70x35.20x51.80" (855x895x1315 mm)
Net weight	309 lb. (140 kg.)	408 lb. (185 kg.)	430 lb. (195 kg.)	618 lb. (280 kg.)
Package dimensions	27.60x28.70x46.50" (box) (700x730x1180 mm)	27.60x38.98x51.38" (box) (700x990x1305 mm)	31.90x38.19x54.92" (box) (810x970x1395 mm)	36.80x37.60x60.24" (box) (935x955x1530 mm)
Gross weight	320 lb. (145 kg.)	430 lb. (195 kg.)	452 lb. (205 kg.)	640 lb. (290 kg.)
Transportation volume	21.20 cu.ft. (0.6 m^3)	31.80 cu.ft. (0.9 m^3)	38.85 cu.ft. (1.1 m^3)	48.40 cu.ft. (1.37 m^3)
Electrical Requirements				
Supply voltage (50/60 Hz)	120V 1-phase*		208-240V 1-phase 208-240V 3-phase	
Supply deviations	±10%, with max 1% of the frequency		±10%, with max 1% of the frequency	
Fuse/Breaker Type	Slow (curve D)			
GFCI**	Class B			
Nominal motor output	600 W	600 W	0.75 kW	1.50 kW
Current (steady speed)	5A	9A	4.5A	5A
Supply protection device	10A	10A	15A	15A
Drum RPM				
Wash	48 RPM	48 RPM	45 RPM	44 RPM
Spin maximum	580 RMP	580 RPM	525 RPM	505 RPM
G-factor maximum	100			
Water Supply Requirements				
Average water usage	17 gal (65 l)	24 gal (90 l)	30 gal (115 l)	43 gal (160 l)
Average hot water usage	4 gal (15 l)	6 gal (23 l)	8 gal (30 l)	11 gal (42 l)
Allowable water pressure	14.5–116 psi (100–800 KPa)			
Recommended pressure	43–73 psi (300–500 KPa)			
Water inlet	BSP 3/4"			
Maximum water temperature	194°F (90°C)			
Drain System				
Type	Gravity Feed			
Drain diameter	3" (76 mm)			
Flow rate	38.3 GPM (145 l/min.)			
Liquid Soap				
Liquid soap signals	8 for PN Models/3 for PD Models (see electrical schematic)			
Soap dispenser	3 compartments: prewash, wash, and last rinse			
Environmental Requirements				
Operating temperature	33.8 to 95 °F (1 to 35°C)			
Relative humidity	10 to 95 % without condensation			
Elevation above sea level	Up to 3280 ft. (1,000 m)			
Storage temperature	–13 to 131°F (–25 to 55°C)			
Floor Requirements				
Maximum static load	370 lb. (1.7 kN)	474 lb. (12.1 kN)	577 lb. (2.6 kN)	675 lb. (3.1 kN)
Maximum dynamic load	801 lb. (3.6 kN)	1020 lb. (4.5 kN)	1450 lb. (6.5 kN)	1994 lb. (8.9 kN)
Dynamic frequency	9.67 Hz	9.67 Hz	8.75 Hz	8.42 Hz
Noise				
Noise output	66 dB(A)	66 dB(A)	66 dB(A)	66 dB(A)

* 2 phases of a 3-phase power supply may be used. See "Electrical Requirements".
** Consult an electrician to ensure proper GFCI connection.

Technical Specifications (cont.)

	MFR50 (22 kg)	MFR60 (27 kg)	MFR80 (35 kg)
Dimensions and Weights			
Washer dimensions (width x depth x height)	33.66x38.98x51.77" (855x990x1315 mm)	34.25x44.88x54.33" (870x1140x1380 mm)	43.70x44.88x57.50" (1110x1140x1460 mm)
Net weight	618 lb. (280 kg.)	904 lb. (410 kg.)	1566 lb. (710 kg.)
Package dimensions	36.80x41.30x60.24" (box) (935x1050x1530 mm)	37.40x48.03x61.81" (crate) (950x1220x1570 mm)	45.30x47.20x64.20" (crate) (1150x1200x1630 mm)
Gross weight	662 lb. (300 kg.)	1037 lb. (470 kg.)	1632 lb. (740 kg.)
Transportation volume	52.97 cu.ft. (1.5 m^3)	64.26 cu.ft. (1.82 m^3)	79.4 cu.ft. (2.25 m^3)
Electrical Requirements			
Supply Voltage (50/60 Hz)	208-240V 1-phase 208-240V 3-phase		
Supply deviations	±10%, with max 1% of the frequency		
Fuse/Breaker Type	Slow (curve D)		
GFCI**	Class B		
Nominal motor output	1.5 kW	2.2 kW	3 kW
Current (steady speed)	5.5A	7A	9A
Supply protection device	15A	20A	20A
Drum RPM			
Wash	44 RPM	42 RPM	38 RPM
Spin maximum	480 RPM	490 RPM	510 RPM
G-factor maximum	90	100	133
Water Supply Requirements			
Average water usage	50.5 gal (191 l)	61 gal (231 l)	75 gal (284 l)
Average hot water usage	13 gal (49 l)	16 gal (61 l)	20 gal (76 l)
Allowable water pressure	14.5–116 psi (100–800 KPa)		
Recommended pressure	43–73 psi (300–500 KPa)		
Water inlet	BSP 3/4"		
Maximum water temperature	194°F (90°C)		
Drain System			
Type	Gravity Feed		
Drain diameter	3" (76 mm)		2x3" (76 mm)
Flow rate	38.3 GPM (145 l/min.)		38.3 GPM (145 l/min.) per drain
Liquid Soap			
Liquid soap signals	8 (see electrical schematic)		
Soap dispenser	3 compartments: prewash, wash, and last rinse		
Environmental Requirements			
Operating temperature	33.8 to 95 °F (1 to 35°C)		
Relative humidity	10 to 95 % without condensation		
Elevation above sea level	Up to 3280 ft. (1,000 m)		
Storage temperature	–13 to 131°F (–25 to 55°C)		
Floor Requirements			
Maximum static load	698 lb. (3.2 kN)	985 lb. (4.5 kN)	1598 lb. (7.2 kN)
Maximum dynamic load	2165 lb. (9.6 kN)	2996 lb (13.3 kN)	4863 lb. (21.6 kN)
Dynamic frequency	8 Hz	8.17 Hz	8.5 Hz
Noise			
Noise output	66 dB(A)	66 dB(A)	66 dB(A)

* 2 phases of a 3-phase power supply may be used. See "Electrical Requirements".
** Consult an electrician to ensure proper GFCI connection.

W10223825B

07/12
Printed in U.S.A.