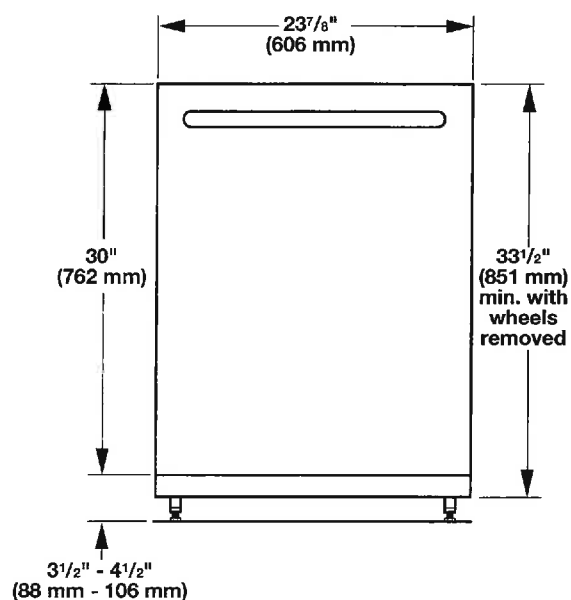
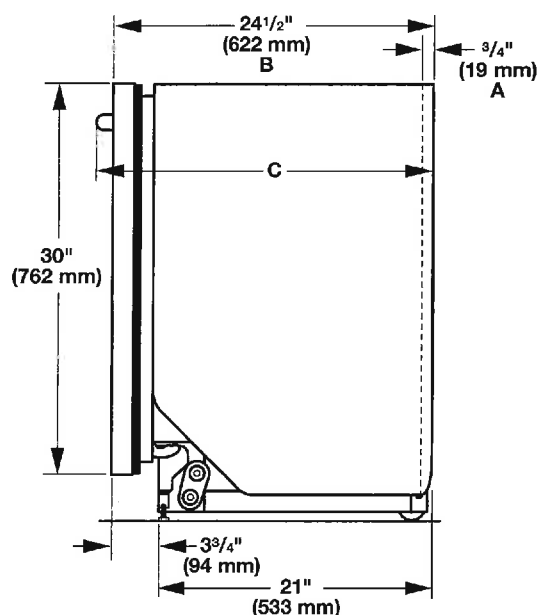


Product and Cabinet Opening Dimensions



For 4" (100 mm) toe kick, height of cabinet opening is $34\frac{1}{2}"$ (863 mm).

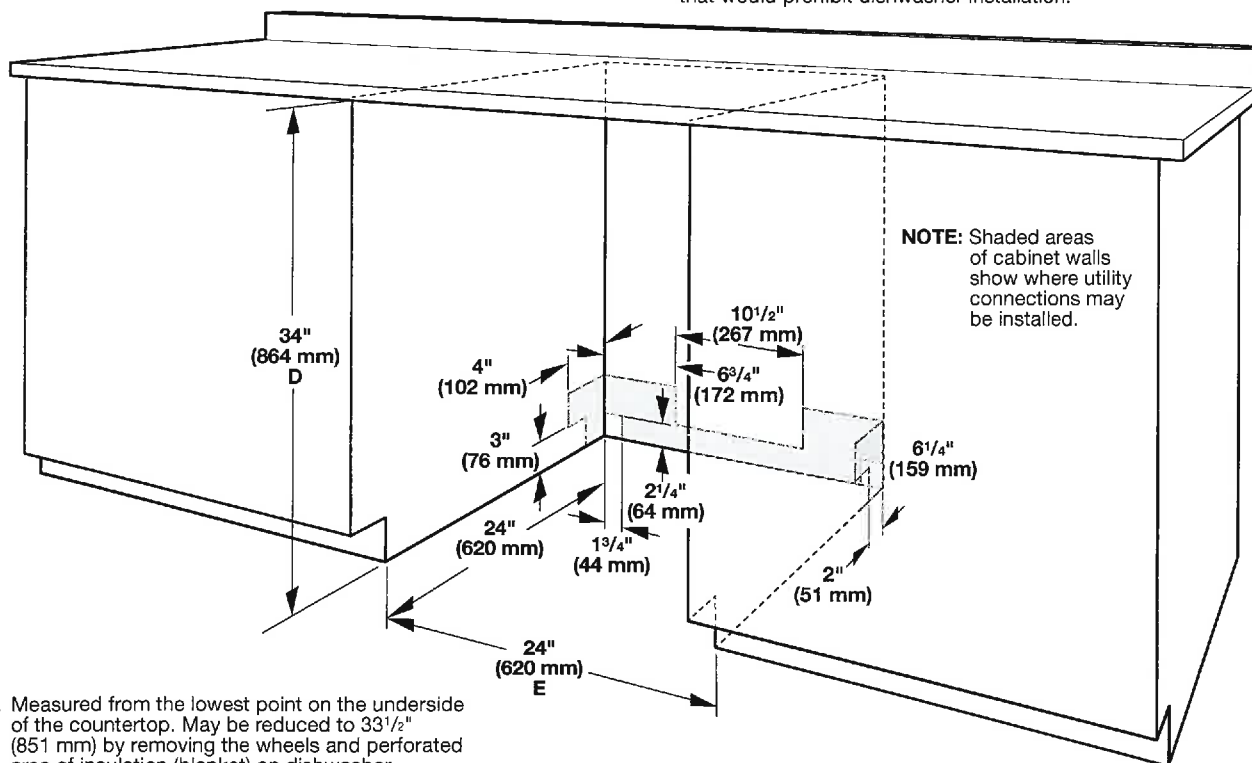


A. Insulation may be compressed (not used on all models).

B. For panel-ready models, dishwasher depth is 24" (610 mm), not including the $\frac{3}{4}"$ (19 mm) custom door panel.

C. Door handles may protrude forward of the face of the dishwasher, varies by model.

Check that all surfaces have no protrusions that would prohibit dishwasher installation.



NOTE: Shaded areas of cabinet walls show where utility connections may be installed.

D. Measured from the lowest point on the underside of the countertop. May be reduced to $33\frac{1}{2}"$ (851 mm) by removing the wheels and perforated area of insulation (blanket) on dishwasher.

E. Minimum, measured from narrowest point of opening

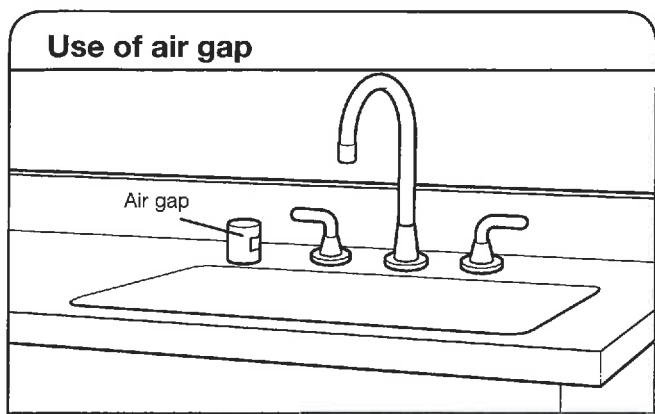
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DRAIN REQUIREMENTS

- A new drain hose is supplied with your dishwasher. If drain hose is not long enough, use a new drain hose with a maximum length of 12 ft (3.7 m) that meets all current AHAM/IAPMO test standards, is resistant to heat and detergent, and fits the 1" (25 mm) drain connector of the dishwasher. See the "Tools and Parts" section at the front of the guide for part details and orders.

NOTE: Do not connect multiple drain hoses together.

- Make sure to connect drain hose to waste tee or disposer inlet above drain trap in house plumbing and 20" (508 mm) minimum above the floor. It is recommended that the drain hose either be looped up and securely fastened to the underside of the counter or be connected to an air gap.
- Make sure to use an air gap if the drain hose is connected to house plumbing lower than 20" (508 mm) above subfloor or floor.



- If required, the air gap should be installed in accordance with the air gap installation instructions. When you are connecting the air gap, a rubber hose (not provided) will be needed to connect to the waste tee or disposer inlet.
- Use 1/2" minimum I.D. drain line fittings.

WATER SUPPLY REQUIREMENTS

- This dishwasher has a water heating feature and also requires a connection to a hot water supply line.
- A hot water line with 20 to 120 psi (138 to 862 kPa) water pressure can be verified by a licensed plumber.
- 120°F (49°C) water at dishwasher
- 3/8" O.D. copper tubing with compression fitting or flexible braided water supply line. See the "Tools and Parts" section at the front of the guide for part details and orders.

NOTE: 1/2" minimum plastic tubing is not recommended.

- A 90° elbow with 3/4" hose connection with rubber washer. See the "Tools and Parts" section at the front of the guide for part details and orders.
- Do not solder within 6" (152 mm) of the water inlet valve.
- If installed in new construction, make sure the house water supply lines have been flushed prior to connecting the dishwasher to remove any debris that may exist in the supply line.

NOTE: If replacing an existing dishwasher, it is recommended to install a new water line (see the "Tools and Parts" section at the front of the guide for part details) and drain hose (supplied) with the new dishwasher.

ELECTRICAL REQUIREMENTS

Be sure that the electrical connection and wire size are adequate and in conformance with the National Electrical Code, ANSI/NFPA 70 - latest edition, and all local codes and ordinances.

A copy of the above code standards can be obtained from:

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169-7471

You Must Have:

- 120-volt, 60 Hz, AC-only, 15- or 20-amp, fused electrical supply
- Copper wire only
- A maximum of 2 field wiring supply conductors (12 AWG largest size) plus 1 grounding conductor are permitted in the terminal box.

We Recommend:

- A time-delay fuse or circuit breaker
- A separate circuit

If Connecting Dishwasher with a Power Cord:

- Use UL Listed power cord kit marked for use with dishwasher. See the "Tools and Parts" section at the front of the guide for part details and orders.
- Plug into a grounded 3 prong outlet. Outlet must meet all local codes and ordinances.



If Connecting Dishwasher with Direct Wiring:

- Use flexible, armored, or nonmetallic sheathed copper wire with grounding wire that meets the wiring requirements for your home and local codes and ordinances.
- Use a UL Listed/CSA Approved metallic strain relief. See the "Tools and Parts" section at the front of the guide for part details and orders.



KitchenAid® 30" (76.2 cm) Slide-in Gas Range

PRODUCT MODEL NUMBERS

KSGB900E

KSGG700E

GAS SUPPLY REQUIREMENTS

Gas supply line:

- Provide a gas supply line of $\frac{3}{4}$ " (1.9 cm) rigid pipe to the range location. A smaller size pipe on longer runs may result in insufficient gas supply. With LP gas, piping or tubing size can be $\frac{1}{2}$ " (1.3 cm) minimum. Usually, LP gas suppliers determine the size and materials used in the system.

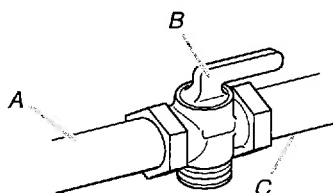
NOTE: Pipe-joint compounds that resist the action of LP gas must be used. Do not use TEFLON® tape.

Flexible metal appliance connector:

- If local codes permit, a new CSA design-certified, 4 to 5 ft (122 to 152.4 cm) long, $\frac{1}{2}$ " (1.3 cm) or $\frac{3}{4}$ " (1.9 cm) I.D., flexible metal appliance connector may be used for connecting range to the gas supply line.



- A $\frac{1}{2}$ " (1.3 cm) male pipe thread is needed for connection to the female pipe threads of the inlet to the appliance pressure regulator.
- Do not kink or damage the flexible metal tubing when moving the range.
- Must include a shutoff valve:
The supply line must be equipped with a manual shutoff valve. This valve should be located in the same room but external to the range opening, such as an adjacent cabinet. It should be in a location that allows ease of opening and closing. Do not block access to shutoff valve. The valve is for turning on or shutting off gas to the range.



A. Gas supply line
B. Shutoff valve "open" position
C. To range

Gas Pressure Regulator

The gas pressure regulator supplied with this range must be used. The inlet pressure to the regulator should be as follows for proper operation:

Natural gas:

Minimum pressure: 5" WCP

Maximum pressure: 14" WCP

LP gas:

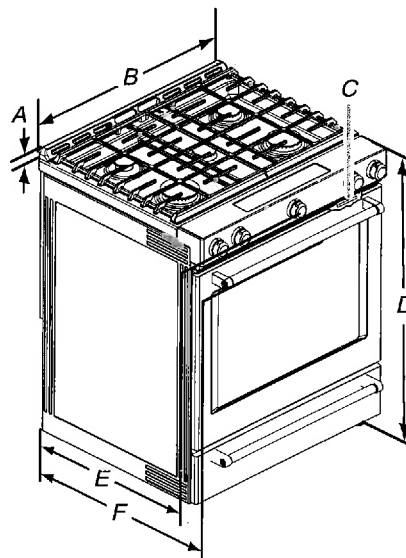
Minimum pressure: 11" WCP

Maximum pressure: 14" WCP

Contact local gas supplier if you are not sure about the inlet pressure.

PRODUCT DIMENSIONS

This manual covers several models. Your model may appear different from the models depicted. Dimensions given are maximum dimensions across all models.



A. $1\frac{3}{8}$ " (3.0 cm) height from cooktop to top of vent

B. $29\frac{7}{8}$ " (75.9 cm)

C. Model/serial number plate (located behind the oven door on the top right-hand side of the oven frame)

D. 36" (91.4 cm) height to top of cooktop edge with leveling legs screwed all the way in*

E. $28\frac{5}{8}$ " (71.9 cm) max. depth from front of console to back of range.

F. $28\frac{7}{8}$ " (73.3 cm) max. depth from handle to back of range.

IMPORTANT: Range must be level after installation. Follow the instructions in the "Level Range" section. Using the cooktop as a reference for leveling the range is not recommended.

*Range can be raised approximately 1" (2.5 cm) by adjusting the leveling legs.

Type of Gas

Natural gas:

- This range is factory set for use with Natural gas. See "Gas Conversions" section. The model/serial rating plate located behind the control panel has information on the types of gas that can be used. If the types of gas listed do not include the type of gas available, check with the local gas supplier.

LP gas conversion:

Conversion must be done by a qualified service technician.

No attempt shall be made to convert the appliance from the gas specified on the model/serial rating plate for use with a different gas without consulting the serving gas supplier. See "Gas Conversions" section.

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ELECTRICAL REQUIREMENTS

IMPORTANT: The range must be electrically grounded in accordance with local codes and ordinances, or in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70 or Canadian Electrical Code, CSA C22.1.

If codes permit and a separate ground wire is used, it is recommended that a qualified electrical installer determine that the ground path is adequate.

- A 120 volt, 60 Hz., AC only, 15-amp fused, electrical circuit is required. A time-delay fuse or circuit breaker is also recommended. It is recommended that a separate circuit serving only this range be provided.
- Electronic ignition systems operate within wide voltage limits, but proper grounding and polarity are necessary. Check that the outlet provides 120-volt power and is correctly grounded.

CABINET OPENING DIMENSIONS

Cabinet opening dimensions shown are for 25" (64.0 cm) countertop depth, 24" (61.0 cm) base cabinet depth and 36" (91.4 cm) countertop height.

IMPORTANT: If installing a range hood or microwave hood combination above the range, follow the range hood or microwave hood combination installation instructions for dimensional clearances above the cooktop surface.

Range may be installed next to combustible walls with zero clearance.

NOTE: When installed in a slide-in cutout, the front of oven door may protrude beyond the base cabinet.

A. 18" (45.7 cm) upper side cabinet to countertop

B. 13" (33 cm) max. upper cabinet depth

C. 30" (76.2 cm) min. opening width

D. For minimum clearance to top of cooktop, see NOTE*.

E. In U.S.A.: 30" (76.2 cm) min. opening width

In Canada: 31" (78.7 cm) min. opening width

F. 3" (7.6 cm) min. clearance from both sides of range to side wall or other combustible material.

G. The shaded area is recommended for installation of rigid gas pipe and grounded outlet.

H. 13 1/8" (33.3 cm)

I. 7 1/16" (19.5 cm)

J. 4 13/16" (12.2 cm)

K. 3 1/16" (9.4 cm) or measurement of N, whichever is greater

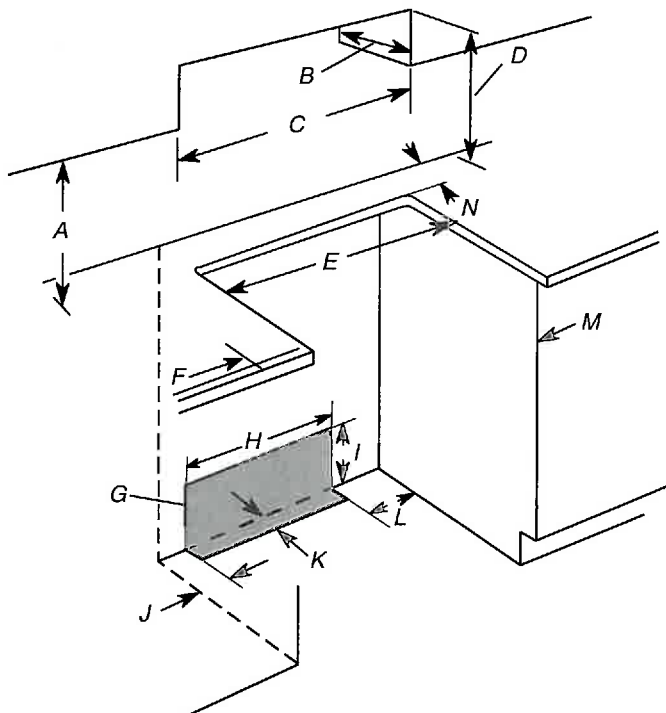
L. 12" (30.5 cm)

M. Cabinet door or hinges should not extend into the cutout.

N. Remaining counter depth should not exceed 2 1/4" (5.7 cm)

***NOTE:** 24" (61.0 cm) minimum when bottom of wood or metal cabinet is shielded by not less than 1/4" (0.64 cm) flame retardant millboard covered with not less than No. 28 MSG sheet steel, 0.015" (0.4 mm) stainless steel, 0.024" (0.6 mm) aluminum or 0.020" (0.5 mm) copper.

30" (76.2 cm) minimum clearance between the top of the cooking platform and the bottom of an uncovered wood or metal cabinet.



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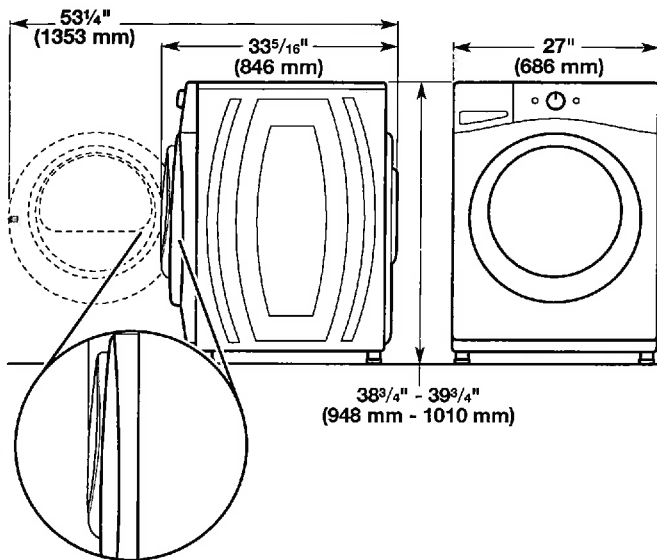


Front-Loading Washer

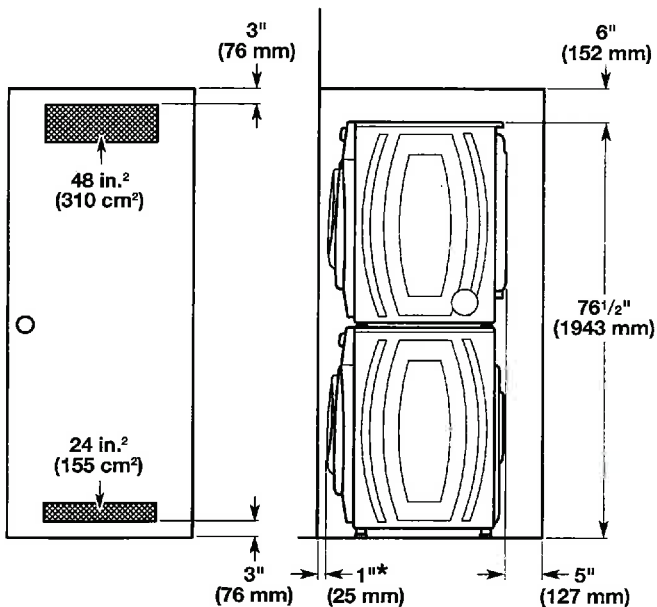
PRODUCT MODEL NUMBERS

WFW75HEF, WFW85HEF,
WFW90HEF, WFW92HEF

Washer Dimensions:



Recessed or closet installation -
stacked washer and dryer

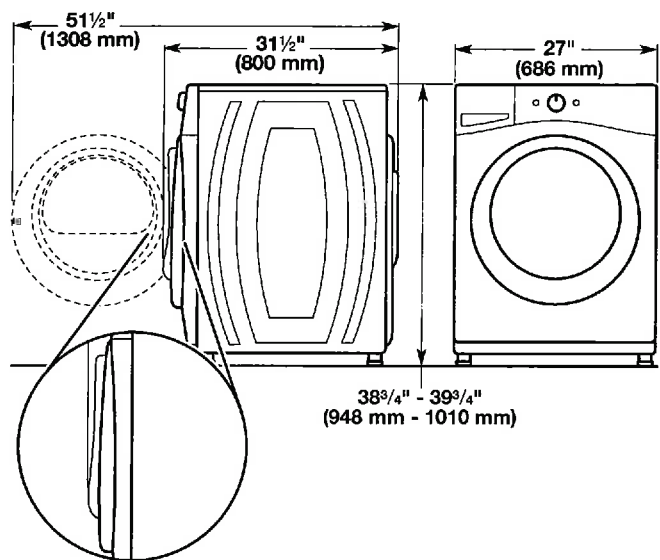


* Add spacing of 1" (25 mm) on all sides of washer/dryer.

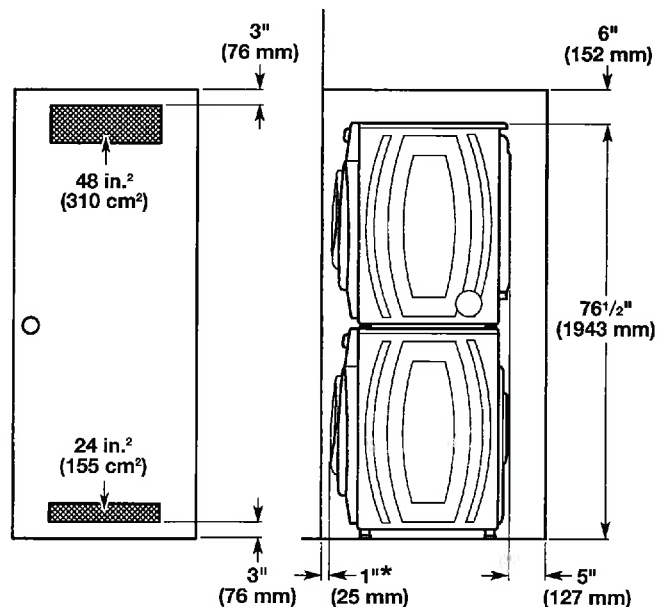
PRODUCT MODEL NUMBERS

WFW7590F, WFW9290F,

Washer Dimensions:



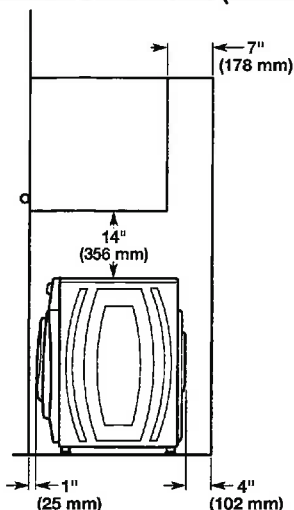
Recessed area or closet installation (washer only):



* Add spacing of 1" (25 mm) on all sides of washer.

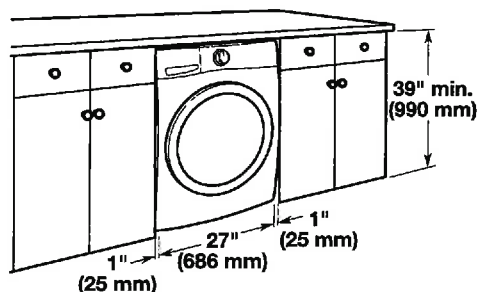
1461mm sf1

Custom cabinet installation (washer only):



** Recommended 4" (102 mm), minimum 1.5" (38 mm)

Undercounter installation - washer only:



All dimensions show recommended spacing allowed, except for closet door ventilation openings which are the minimum required.

For each arrangement, consider allowing more space for ease of installation and servicing, and spacing for companion appliances and clearances for walls, doors, and floor moldings.

Space must be large enough to allow door to fully open. Add spacing of 1" (25 mm) on all sides of washer to reduce noise transfer. If a closet door or louvered door is installed, top and bottom air openings in door are required.

ELECTRICAL REQUIREMENTS

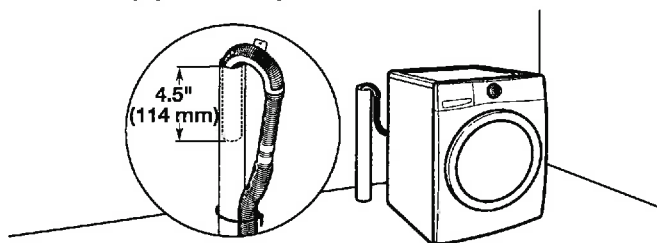
A 120 volt, 60 Hz., AC only, 15- or 20-amp, fused electrical supply is required. A time-delay fuse or circuit breaker is recommended. It is recommended that a separate circuit serving only this appliance be provided.

DRAIN SYSTEM

Drain system can be installed using a floor drain, wall standpipe, floor standpipe, or laundry tub. Select method you need.

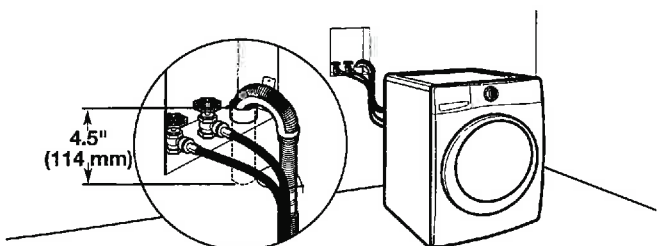
IMPORTANT: To avoid siphoning, only 4.5" (114 mm) of drain hose should be inside standpipe. Always secure drain hose with cable tie.

Floor standpipe drain system



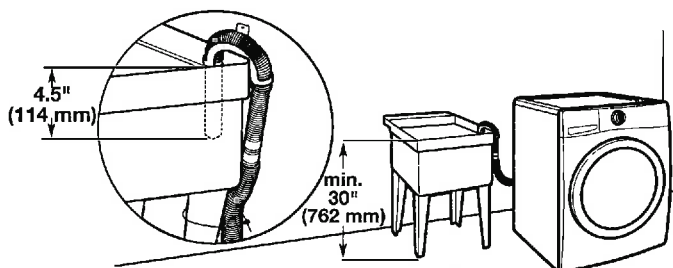
Minimum diameter for a standpipe drain: 2" (51 mm). Minimum carry-away capacity: 17 gal. (64 L) per minute. A 1/4" (6 mm) diameter to 1" (25 mm) diameter Standpipe Adapter Kit is available (Part Number 3363920). Top of standpipe must be at least 30" (762 mm) high; install no higher than 96" (2.44 m) from bottom of washer. If you have an overhead sewer and need to pump higher than 96" (2.44 m), a sump pump and associated hardware are needed. See "Alternate Parts".

Wall standpipe drain system



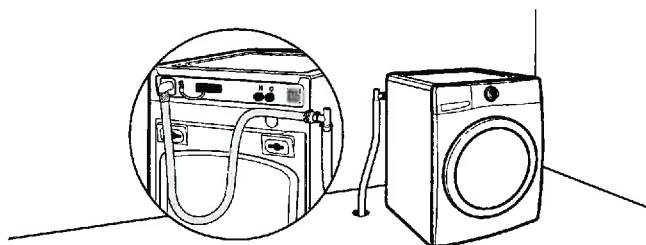
See requirements for floor standpipe drain system.

Laundry tub drain system



Minimum capacity: 20 gal. (76 L). Top of laundry tub must be at least 30" (762 mm) above floor; install no higher than 96" (2.44 m) from bottom of washer.

Floor drain system



Floor drain system requires a Siphon Break Kit (Part Number 285834), 2 Connector Kits (Part Number 285835), and an Extension Drain Hose (Part Number 285863) that may be purchased separately. See "Alternate Parts". Minimum siphon break height: 28" (710 mm) from bottom of washer. (Additional hoses may be needed.)

Bottom Mount Refrigerator

PRODUCT MODEL NUMBERS

KBFS20EC	KBFS25EC
KBFS22EC	KRFC300E
KRFF302E	KRFF305E

Electrical: A 115-volt, 60-Hz, AC-only, 15- or 20-amp fused, grounded electrical supply is required. It is recommended that a separate circuit serving only your refrigerator be provided. Use an outlet that cannot be turned off by a switch. Do not use an extension cord.

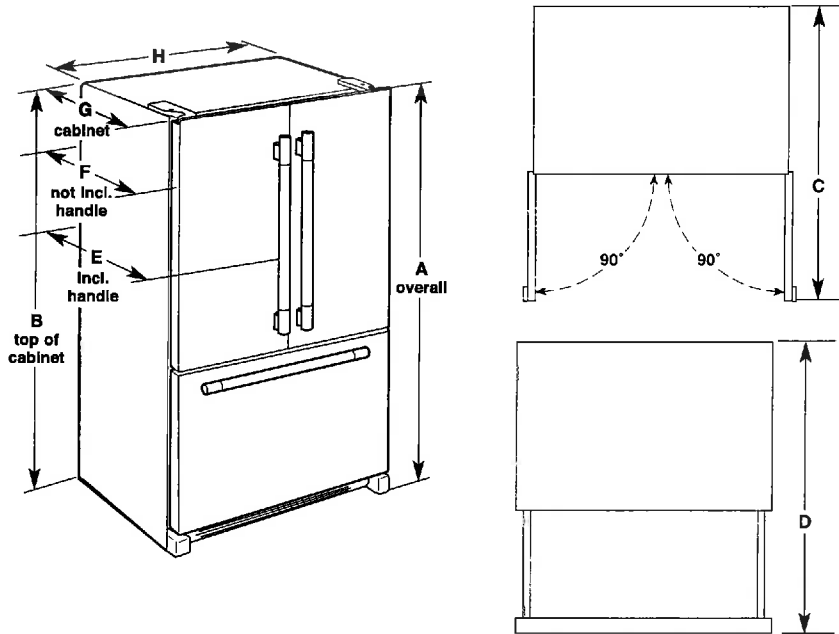
NOTE: Before performing any type of installation, cleaning, or removing a light bulb, turn the control (Thermostat, Refrigerator or Freezer Control depending on the model) to OFF and then disconnect the refrigerator from the electrical source. When you are finished, reconnect the refrigerator to the electrical source and reset the control (Thermostat, Refrigerator or Freezer Control depending on the model) to the desired setting. See "Using the Controls."

Water: A cold water supply with water pressure between 35 and 120 psi (241 and 827 kPa) is required to operate the ice maker and water dispenser. If you have questions about your water pressure, call a licensed, qualified plumber.

IMPORTANT: The pressure of the water coming out of a reverse osmosis system going to the water inlet valve of the refrigerator needs to be between 35 and 120 psi (241 and 827 kPa).

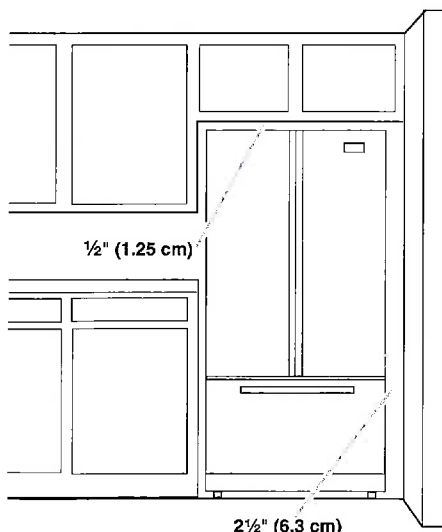
Reverse Osmosis Water Supply: If a reverse osmosis water filtration system is connected to your cold water supply, the water pressure to the reverse osmosis system needs to be a minimum of 40 to 60 psi (276 to 414 kPa).

PRODUCT DIMENSIONS



Model Number/Size	Height - Overall "A"	Height - Top of Cabinet "B"	Depth - Doors Open 90° "C"	Depth - Drawer Open "D"	Depth - With Handles "E"	Depth - Without Handles "F"	Depth - Cabinet Only "G"	Width - Cabinet "H"
KBFS20EC 20.0 cu. ft.	70 1/8" (178.1 cm)	68 1/8" (174.0 cm)	43" (109.2 cm)	44 1/2" (113 cm)	29 3/8" (74.6 cm)	28" (71.1 cm)	24 1/8" (61.3 cm)	35 5/8" (90.5 cm)
KBFS22EC (21.7 cu. ft.)	70 1/8" (178.1 cm)	68 1 3/8" (174.8 cm)	47 1/4" (119.5 cm)	52 1/8" (132.2 cm)	34 7/8" (87.5 cm)	31 5/8" (81.1 cm)	28 1/8" (71.4 cm)	32 5/8" (82.9 cm)
KBFS25EC (24.8 cu. ft.)	70 1/8" (178.1 cm)	68 1 3/8" (174.8 cm)	48 1/8" (122.1 cm)	53 1/8" (135 cm)	35 1/8" (90 cm)	32 1 9/16" (83.7 cm)	29 1/8" (74 cm)	35 5/8" (90.5 cm)
KRFC300E (20 cu. ft.)	70 1/8" (178.1 cm)	68 7/8" (174.9 cm)	43 3/8" (109.5 cm)	48 1/8" (122.2 cm)	30 1/2" (77.5 cm)	28" (71.1 cm)	24 1/8" (61.3 cm)	35 3/4" (90.8 cm)
KRFF302E (22.1 cu. ft.)	70 1/8" (178.1 cm)	68 7/8" (174.9 cm)	47 1/4" (122.2 cm)	52 1/8" (134.9 cm)	34 1/2" (90.2 cm)	32" (83.8 cm)	28 1/8" (74 cm)	32 7/8" (83.5 cm)
KRFF305E (25.2 cu. ft.)	70 1/8" (178.1 cm)	68 7/8" (174.9 cm)	48 1/8" (122.2 cm)	53 1/8" (134.9 cm)	35 1/2" (90.2 cm)	33" (83.8 cm)	29 1/8" (74 cm)	35 7/8" (91.1 cm)

LOCATION REQUIREMENTS



To ensure proper ventilation for your refrigerator, allow for a 1/2" (1.25 cm) space on each side and at the top. Allow for 1" (2.54 cm) of space behind the refrigerator. If your refrigerator has an ice maker, make sure you leave some extra space at the back for the water line connections.

If you are installing your refrigerator next to a fixed wall, leave 2 1/2" (6.3 cm) minimum on the hinge side (some models require more) to allow for the door to swing open.

NOTE: This refrigerator is intended for use in a location where the temperature ranges from a minimum of 55°F (13°C) to a maximum of 110°F (43°C). The preferred room temperature range for optimum performance, which reduces electricity usage and provides superior cooling, is between 60°F (15°C) and 90°F (32°C). It is recommended that you do not install the refrigerator near a heat source, such as an oven or radiator.

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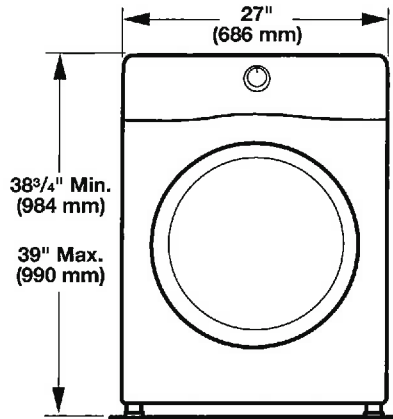
Electric Dryer

PRODUCT MODEL NUMBERS

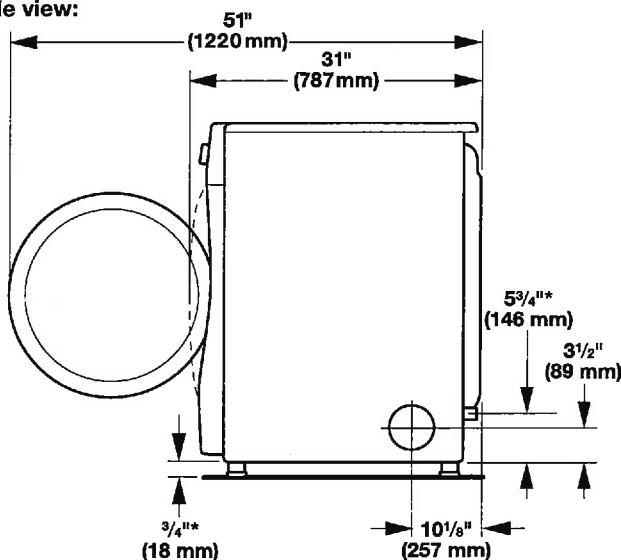
WED7505F, WED75HEF, WED7740F, WED77HEF, WED8540F,
WED85HEF, WED90HEF, WED92HEF

Dryer Dimensions

Front view:

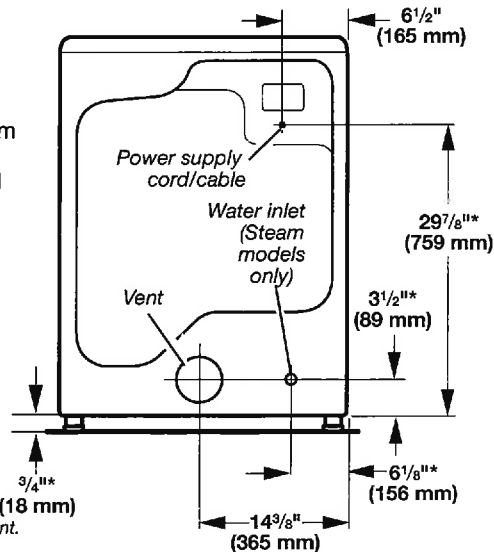


Side view:



Back view:

NOTE: Most installations require a minimum of 5" (127 mm) clearance behind dryer for exhaust vent with elbow. See "Venting Requirements."



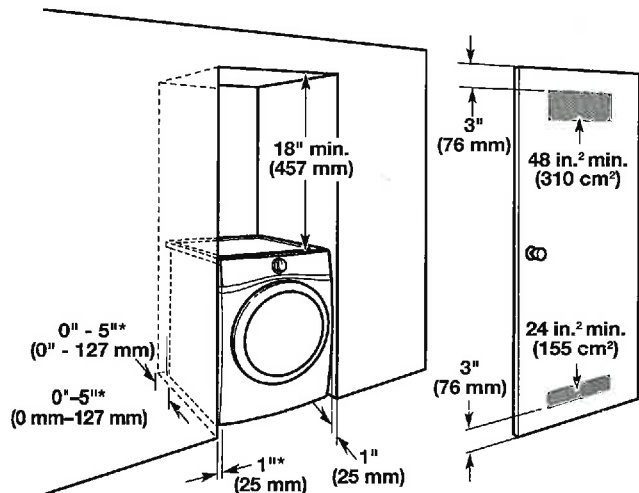
*Approx. measurement.

Installation spacing for recessed area or closet installation

All dimensions show recommended and minimum spacing allowed.

- Additional spacing should be considered for ease of installation and servicing.
- Additional clearances might be required for wall, door, floor moldings, and dryer venting.
- Additional spacing should be considered on all sides of the dryer to reduce noise transfer.
- For closet installation with a door, minimum ventilation openings in the top and bottom of the door are required. Louvered doors with equivalent ventilation openings are acceptable.
- Companion appliance spacing should also be considered.

Recommended installation clearances (dryer only):



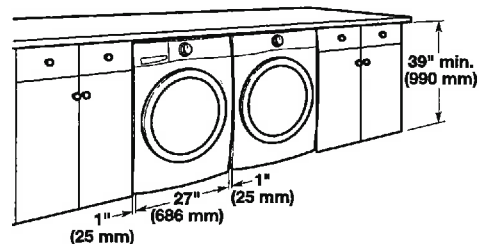
*0" (0 mm) spacing is allowed for straight-back venting only. For steam models only, inlet hose must not be kinked.

Minimum installation clearances (dryer only):

	Front	Sides	Rear	Top
Recessed	NA	0" (0 mm)	0" (0 mm)**	0" (0 mm)
Closet	NA	0" (0 mm)	0" (0 mm)**	0" (0 mm)
Under Counter	NA	1" (25 mm)	0" (0 mm)**	0" (0 mm)

**0" (0 mm) spacing is allowed for straight-back venting only.

Custom under counter installation:



W10868947A
10/2016

146 1mm 1571

ELECTRICAL REQUIREMENTS

To supply the required 3- or 4-wire, single phase, 120/240 volt, 60 Hz, AC only electrical supply (or 3- or 4-wire, 120/208 volt electrical supply, if specified on the serial/rating plate) on a separate 30-amp circuit, fused on both sides of the line. Connect to an individual branch circuit. Do not have a fuse in the neutral or grounding circuit. Do not use an extension cord.

VENTING REQUIREMENTS

Exhaust venting: Exhaust your dryer to the outside. 4" (102 mm) diameter vent is required. Rigid or flexible metal exhaust vent must be used. Do not use plastic or metal foil vent. Exhaust hood must be at least 12" (305 mm) from the ground or any object that may be in the path of the exhaust.

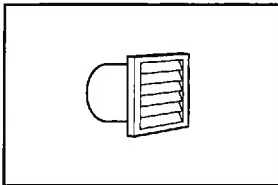
WARNING: To reduce the risk of fire, this dryer **MUST BE EXHAUSTED OUTDOORS.**

IMPORTANT: Observe all governing codes and ordinances. Dryer exhaust must not be connected into any gas vent, chimney, wall, ceiling, attic, crawlspace, or a concealed space of a building. Only rigid or flexible metal vent shall be used for exhausting.

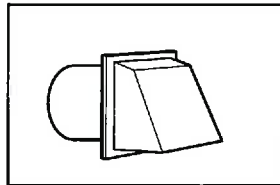
- Only a 4" (102 mm) heavy metal exhaust vent and clamps may be used.
- Do not use plastic or metal foil vent.

Exhaust hoods:

Recommended Styles:

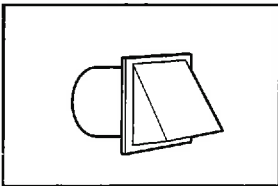


Louvered Hood



Box Hood

Acceptable Style:



Angled Hood

Determine vent path:

- Select route that will provide straightest and most direct path outdoors.
- Plan installation to use fewest number of elbows and turns.
- When using elbows or making turns, allow as much room as possible.
- Bend vent gradually to avoid kinking.
- Use as few 90° turns as possible.

Determine vent length and elbows needed for best drying performance:

- Use the following "Vent System Charts" to determine type of vent material and hood combinations acceptable to use.

NOTE: Do not use vent runs longer than those specified in "Vent System Charts."

Exhaust systems longer than those specified will:

- Shorten life of dryer.
- Reduce performance, resulting in longer drying times and increased energy usage.

Because Whirlpool Corporation policy includes a continuous commitment to improve our products, we reserve the right to change materials and specifications without notice.

The "Vent System Charts" provide venting requirements that will help achieve best drying performance.

Standard Vent System Chart

Number of 90° elbows	Type of vent	Angled hoods
0	Rigid metal	64 ft. (20 m)
1	Rigid metal	54 ft. (16.5 m)
2	Rigid metal	44 ft. (13.4 m)
3	Rigid metal	35 ft. (10.7 m)
4	Rigid metal	27 ft. (8.2 m)

Long Vent System Chart

Number of 90° elbows	Type of vent	Angled hoods
0	Rigid metal	160 ft. (48.8 m)
1	Rigid metal	150 ft. (45.7 m)
2	Rigid metal	140 ft. (42.7 m)
3	Rigid metal	130 ft. (39.6 m)
4	Rigid metal	120 ft. (36.6 m)

To determine if your model has a long vent system, refer to the type code located on the serial number plate in the inner door well. Example: An electric model would be **DALV** (Long Vent) – ELE – XXXXXXX-XXX.

NOTE: For long vent systems, use of box/louvered hoods will improve venting, regardless of length.

The dryer must be connected to the cold water faucet using new inlet hoses (not supplied). Do not use old hoses.

(46 inches)

Dimensions are for planning purposes only. For complete details, see Installation Instructions packed with product. Specifications subject to change without notice.