



Central Carolina Soil Consulting, PLLC

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Wake Forest, NC 27587
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October 24, 2019

Andrew Currin
Harnett County Environmental Health Department
307 W Cornelius Harnett Blvd
Lillington, NC 27546

RE: Wastewater Daily Flow Calculation Certification

Mason Point Lot 62 – 99 Rawls Meadow Lane
Fuquay-Varina, Harnett County, North Carolina
Project #: 2031

Mr. Currin:

Central Carolina Soil Consulting (CCSC) in conjunction with Bateman Civil Survey Company have reviewed plumbing receipt from Thornton's Plumbing Inc. Based on our review of the fixtures listed, all fixtures were installed as proposed except for the master shower, it changed from a Moen T182ep 1.75 gpm to a Moen L2352 with a 2.5gpm flow rate and the Kitchen sink faucet changed from a Moen 7430 1.5gpm to a 7864srs 1.5gpm. The overall flow reduction changed from 39% to 37%. We have attached a revised fixture spreadsheet and specifications for the new fixtures listed above.

With respect to increased effluent strength, we do not believe that the effluent strength will increase with the addition of a bedroom. The fixtures that are currently installed in the home are standard low flow fixtures that are installed in all of the homes built by KB Homes. These fixtures are used in houses all over the country and have been used for several decades. The additional bedroom will increase the volume of effluent, but will not change the strength of the effluent and should be consistent with levels required for residential waste in 15A NCAC 18A .1970 b, table 8.

We have reviewed the design and installation of the system located at 99 Rawls Meadow Lane and are satisfied that the tanks and drainfield are installed per the permit and are capable of handling the additional bedroom without modification.

Attached is a revised flow reduction packet with specification sheets for the new fixtures and updated calculations. If the home owner wants to increase the flow rate of any fixture they will need to get approval from Harnett County Environmental Health and the designing Engineer.

Should you have any questions or comments please contact Matt Burdette at 919-422-2827 or Tom Speight with Bateman Civil Survey Company – 2524 Reliance Ave. Apex NC 27539 – (919) 577-1080

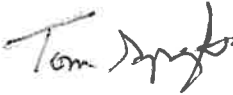
Sincerely,

CENTRAL CAROLINA SOIL CONSULTING PLLC



Matt Burdette
Environmental Specialist

BATEMAN CIVIL SURVEY COMPANY



Tom Speight, P.E.
(seal)



Attachments

Lot 62 Mason Pointe As-Built						
	Item		Gal/min. or flush	Number of Fixures	Base Flow From 1982	Percent Water Savings
Bath 2	Tub/Shower Trim	Moen T183ep	1.75 gal/minute	1	5.5 gal/minute	68%
	Lavatory Faucet	Moen 4925	1.5 gal/minute	1	3.0 gal/minute	50%
Master Bath	Shower Trim	Moen L2352	2.5 gal/minute	1	5.5 gal/minute	54%
	Lavatory Faucet	Moen 4925	1.5 gal/minute	2	3.0 gal/minute	50%
Kitchen	Kitchen Sink Faucet	Moen 7594srs	1.5 gal/minute	1	3.0 gal/minute	50%
	Dishwasher	WDF330PAHS	*3.5 gal/load (Energy Star)	1	10.0 gal/load	65%
Bedroom Bath 5	Tub/Shower Trim	Moen T183ep	1.75 gal/minute	1	5.5 gal/minute	68%
	Lavatory Faucet	Moen 4925	1.5 gal/minute	1	3.0 gal/minute	50%
Toilets	2, Master, 5	Gerber 21-912	1.28 gal /flush	4	3.5 gal/minute	63%

FIXTURES	TOILET	FAUCET	SHOWER	LEAK	BATH	OTHER	DISHWASHER	LAUNDRY	TOTALS
PERCENT OF HOUSE HOLD WATER USE	24%	20%	20%	12%	3%	3%	2%	16%	100%
GALLONS PER DAY (600 BASE)	144	120	120	72	18	18	12	96	600
PERCENT OF SAVINGS FROM WATER SAVING FIXURES	63%	50%	63%	0%	0%	0%	0%	0.0%	37%
ADJUSTED FLOW (GALLONS)	53	60	44	72	18	18	12	96	373



Buy it for looks. Buy it for life.®

*There is more than 1 version of this model.
Page down to identify the version you have.*

DESCRIPTION

- Chrome plated metal construction with various finishes identified by suffix
- Pressure balancing cycle valve design with an adjustable temperature limit stop
- 1/2" CC connections
- Includes showerhead, arm and flange

OPERATION

- Lever style handle
- Handle operates counterclockwise through a 270° arc with off at 6 o'clock and maximum hot at the 9 o'clock position. Shut off in clockwise direction
- Adjustable temperature limit stop to control maximum hot water temperature
- Pressure balancing mechanism maintains selected discharge temperature to ± 3°

FLOW

- Showerhead is limited to 2.5 gpm (9.5 L/min) Max
- EP suffix models are limited to 1.75gpm (6.6 L/min) Max

CARTRIDGE

- 1222 cartridge design
- Nonmetallic/nonferrous and stainless steel materials
- Accommodates back to back installations

STANDARDS

- Third party certified to meet ASSE 1016, ASME A112.18.1/CSA B125.1 and all applicable requirements referenced therein
- EP suffix models are third party certified to Watersense®
- **ADA** for lever handle

WARRANTY

- Lifetime limited warranty against leaks, drips and finish defects to the original consumer purchaser
- 5 year warranty if used in commercial installations

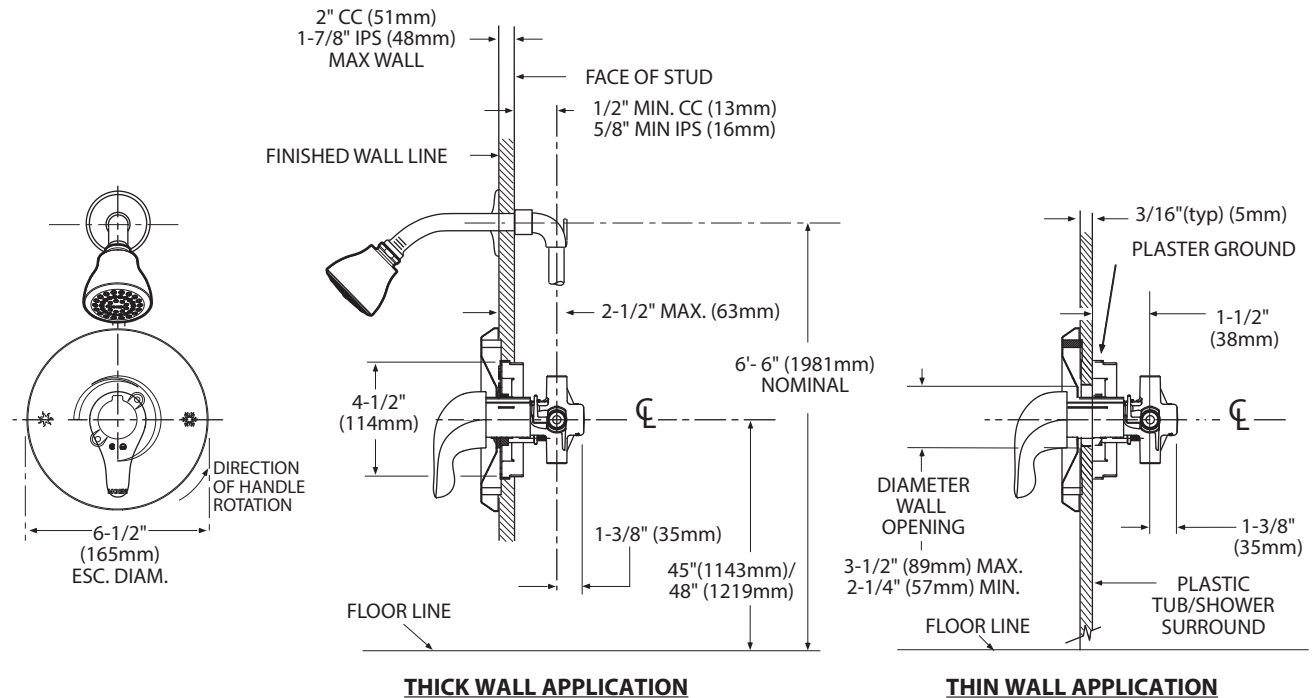
Specifications



**CHATEAU® POSI-TEMP®
Single-Handle Shower Valve**

**Model: L2352
L2352EP**

Model: L2362 (with 1/4 Turn Stops)



CRITICAL DIMENSIONS

(DO NOT SCALE)

FOR MORE INFORMATION CALL: 1-800-BUY-MOEN

www.moen.com



Buy it for looks. Buy it for life.®

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- **ADA**  for lever handle

WARRANTY

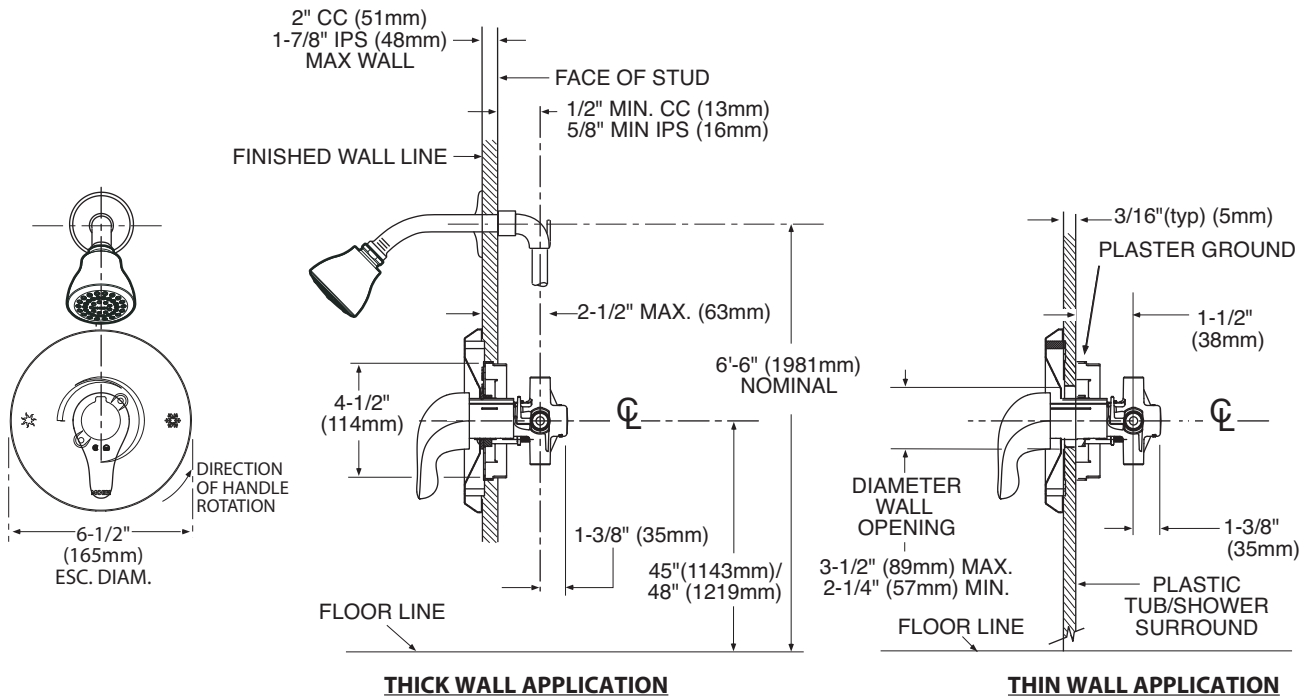
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CHATEAU® POSI-TEMP® Single-Handle Shower Valve

Model: L2352 series

Model: L2362 (with 1/4 Turn Stops)



CRITICAL DIMENSIONS

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www.moen.com

*There is more than one version of this model.
Page down to identify the version you have.*

FAUCET DESCRIPTION

- Reflex™ pulldown system offers smooth operation, easy movement and secure docking
- Metal construction with various finishes identified by suffix
- Duralock™ quick connect system
- Pullout spray with 68" braided hose
- Flexible supply lines with 3/8" compression fittings
- High arc spout provides height and reach to fill or clean large pots while pull out wand provides the maneuverability for cleaning or rinsing
- 360° rotating spout
- Power Boost™ Spray Technology

OPERATION

- Lever style handle
- Temperature controlled by 100° arc of handle travel
- Operates with less than 5 lbs. of force
- Operates in stream or spray mode in the pullout or retracted position


FLOW

- Flow is limited to 1.5 gpm (5.7 L/min) at 60 psi

CARTRIDGE

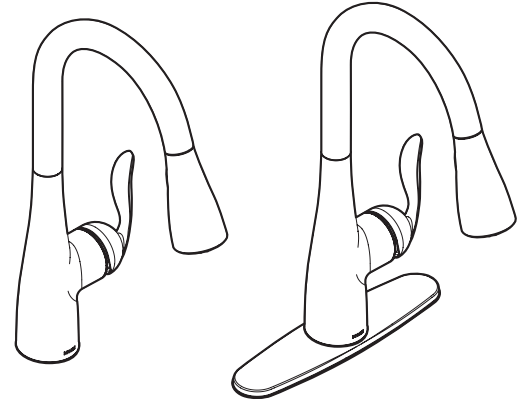
- 1255™ Duralast™ cartridge for Single-Handle Faucets

STANDARDS

- Third party certified to IAPMO Green, ASME A112.18.1/CSA B125.1 and all applicable requirements referenced therein
- Certified to NSF 61/9 & 372
- Meets CalGreen and Georgia SB370 requirements
- Complies with California Proposition 65 and with the Federal Safe Drinking Water Act
- The backflow protection system in the device consists of two independently operating check valves, a primary and a secondary which prevent backflow
- ADA  for lever handle

WARRANTY

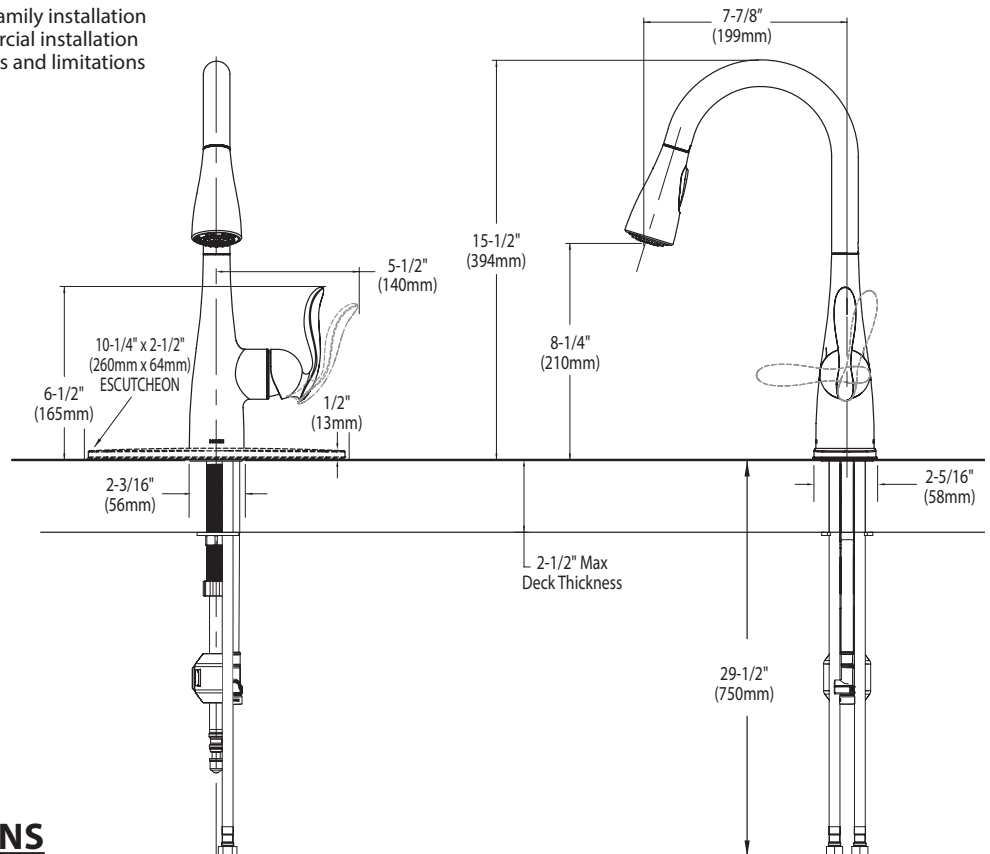
- Lifetime limited warranty against leaks, drips and finish defects to the original homeowner
 - 10 year limited warranty when used in a multifamily installation
 - 5 year limited warranty when used in a commercial installation
- Visit www.moen.com/support for complete details and limitations



ARBOR™
Single Handle High Arc
Pulldown Kitchen Faucet

Models: 7594 series

NOTE: THIS FAUCET IS DESIGNED TO BE INSTALLED THROUGH 1 OR 3 HOLES, 1-1/2" (38mm) MIN. DIA.



CRITICAL DIMENSIONS

(DO NOT SCALE)

TO ORDER PARTS CALL: 1-800-BUY-MOEN

www.moen.com

FAUCET DESCRIPTION

- Reflex™ pulldown system offers smooth operation, easy movement and secure docking
- Metal construction with various finishes identified by suffix
- Quick connect system
- Pullout spray with 68" braided hose
- Flexible supply lines with 3/8" compression fittings
- High arc spout provides height and reach to fill or clean large pots while pull out wand provides the maneuverability for cleaning or rinsing
- 360° rotating spout
- Power clean spray

OPERATION

- Lever style handle
- Temperature controlled by 100° arc of handle travel
- Operates with less than 5 lbs. of force
- Operates in stream or spray mode in the pullout or retracted position
- When filling a vessel outside the sink, the pause feature conveniently stops the flow of water as the wand passes over the counter top


FLOW

- Flow is limited to 1.5 gpm (5.7 L/min) at 60 psi

CARTRIDGE

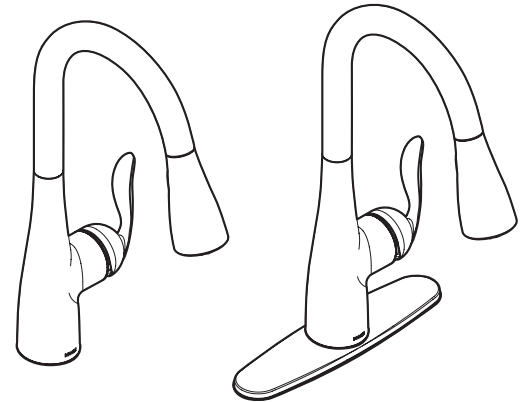
- 1255™ Duralast™ cartridge for Single-Handle Faucets

STANDARDS

- Third party certified to IAPMO Green, ASME A112.18.1/CSA B125.1 and all applicable requirements referenced therein
- Certified to NSF 61/9 & 372
- Meets CalGreen and Georgia SB370 requirements
- Complies with California Proposition 65 and with the Federal Safe Drinking Water Act
- The backflow protection system in the device consists of two independently operating check valves, a primary and a secondary which prevent backflow
- ADA  for lever handle

WARRANTY

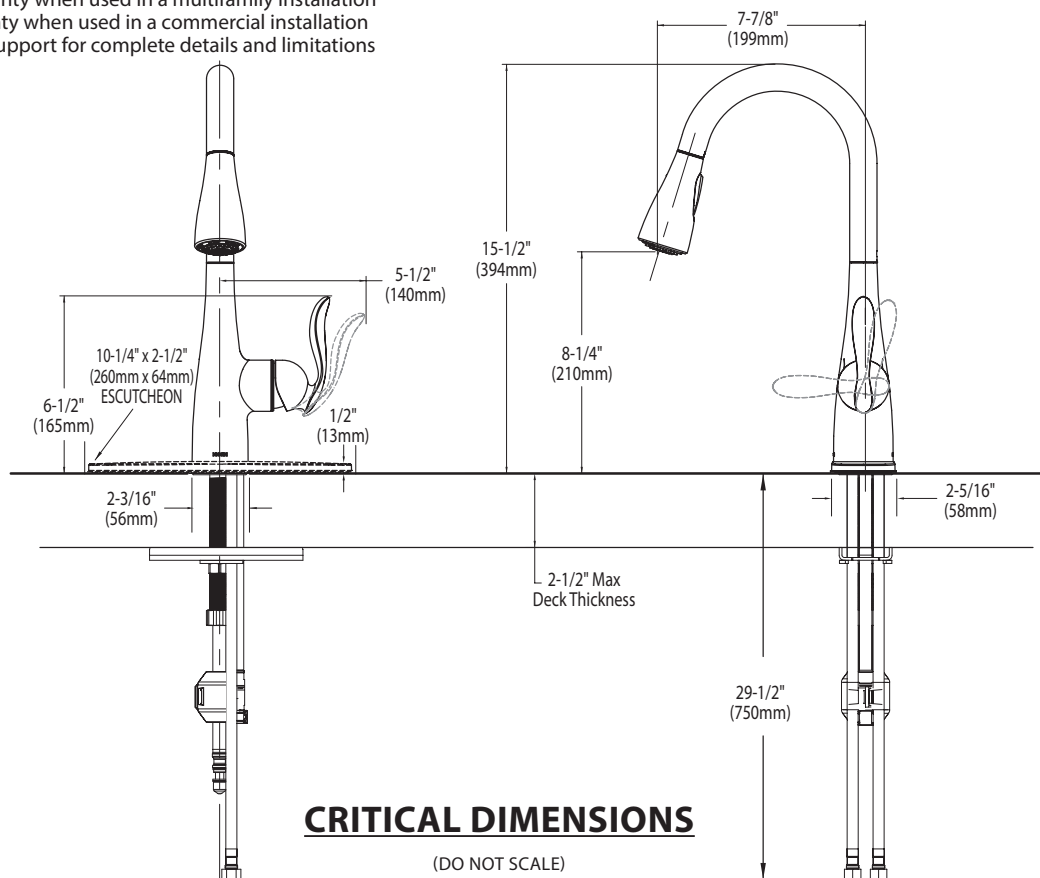
- Lifetime limited warranty against leaks, drips and finish defects to the original homeowner
 - 10 year limited warranty when used in a multifamily installation
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ARBOR™
Single Handle High Arc
Pulldown Kitchen Faucet

Models: 7594 series

NOTE: THIS FAUCET IS DESIGNED TO BE INSTALLED THROUGH 1 OR 3 HOLES, 1-1/2" (38mm) MIN. DIA.



TO ORDER PARTS CALL: 1-800-BUY-MOEN

www.moen.com



Undercounter Dishwasher

PRODUCT MODEL NUMBERS

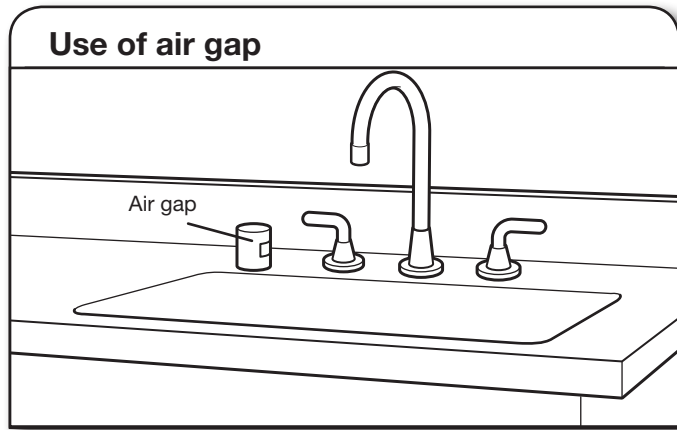
WDF110PAB
WDF111PAB
WDF120PAF
WDF121PAF
WDF130PAH
WDF131PAH

WDF320PAD
WDF330PAH
WDF331PAH
WDF520PAD
WDF540PAD
WDF545PAF

WDT710PAH
WDT720PAD
WDT730PAH
WDT735PAG
WDT735PAH

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.
- 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

You Must Have:

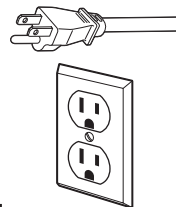
- 120-volt, 60 Hz, AC-only, 15- or 20-amp, fused electrical supply
- Copper wire only
- A maximum of 2 field wiring supply conductors (12 AWG largest size) plus 1 grounding conductor are permitted in the terminal box.

We Recommend:

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

If Connecting Dishwasher with a Power Cord:

- Use a 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.



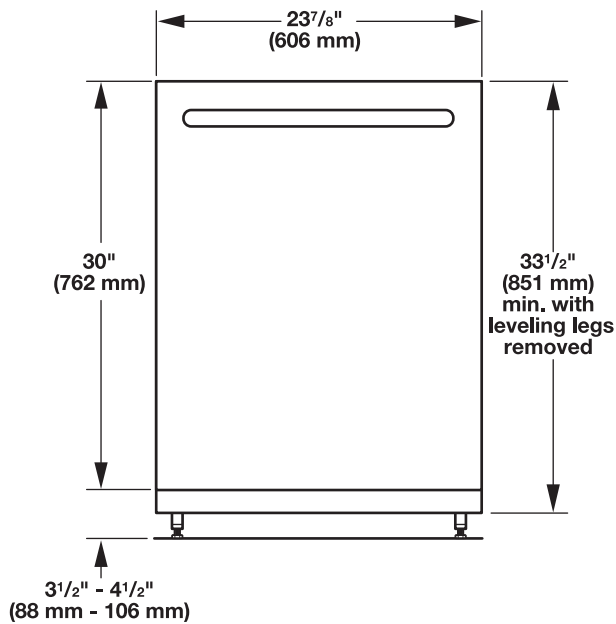
If Connecting Dishwasher with Direct Wiring:

- Use flexible, armored, or nonmetallic sheathed copper wire with grounding wire that meets the wiring requirements for your home and local codes and ordinances.

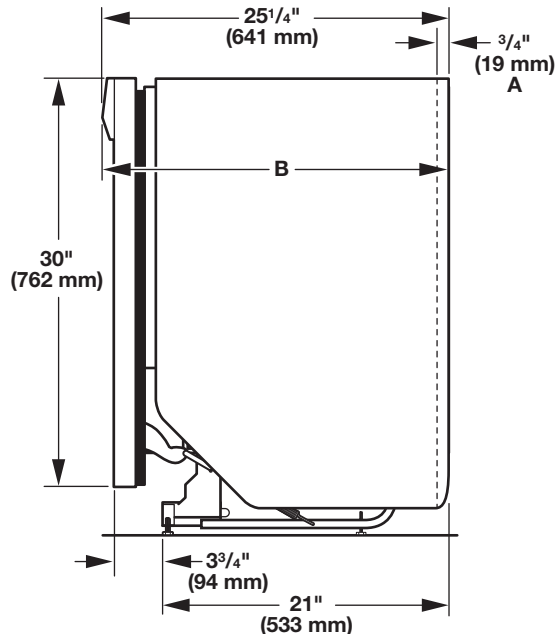


- Use a UL Listed/CSA Approved metallic strain relief.

PRODUCT AND CABINET OPENING DIMENSIONS

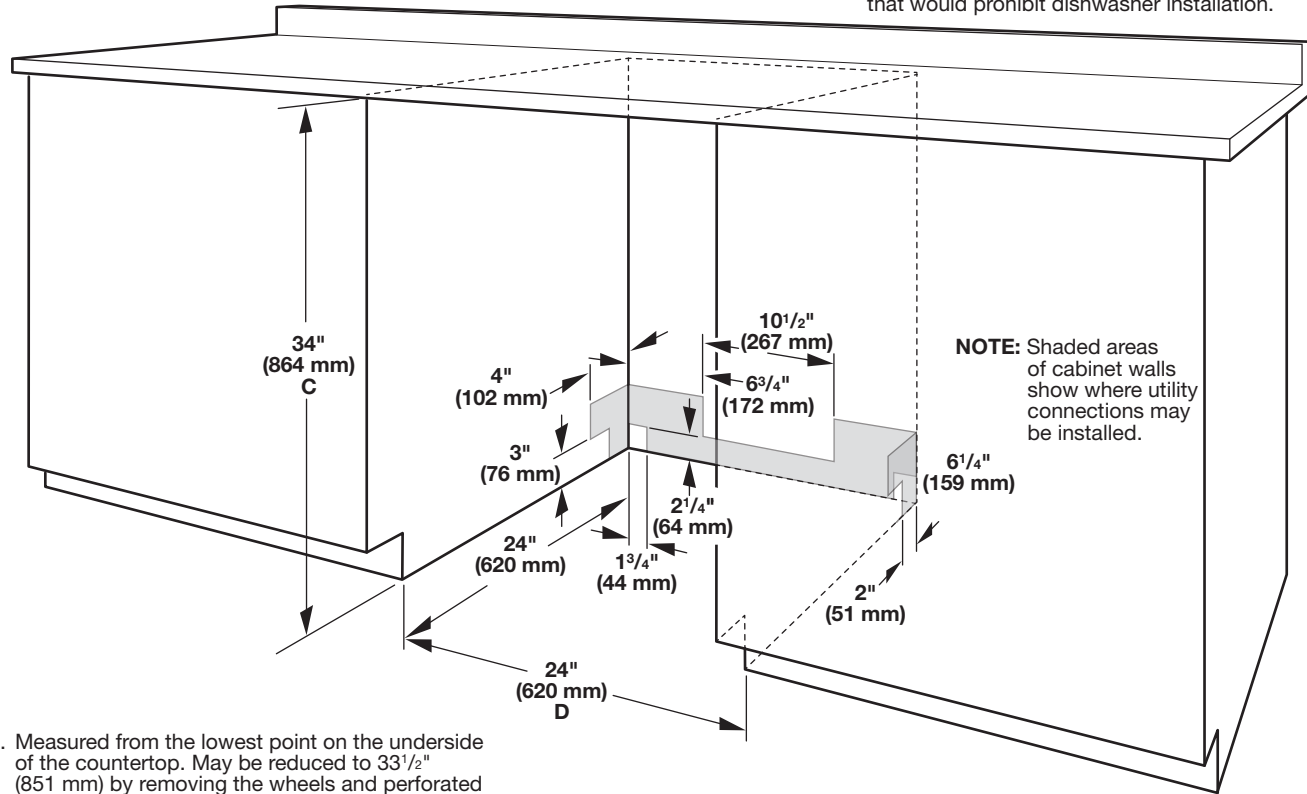


For 4" (100 mm) toe kick, height of cabinet opening is 34¹/₂" (863 mm).



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

- C. Measured from the lowest point on the underside of the countertop. May be reduced to 33¹/₂" (851 mm) by removing the wheels and perforated area of insulation (blanket) on dishwasher.
- D. Minimum, measured from narrowest point of opening.