



Central Carolina Soil Consulting, PLLC

1900 South Main Street, Suite 110
Wake Forest, NC 27587
919-569-6704/fax 919-569-6703

July 11, 2019

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

RE: Wastewater Daily Flow Calculations

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

Dear Harnett County Staff:

Central Carolina Soil Consulting (CCSC) in conjunction with Bateman Civil Survey Company are proposing wastewater daily flow calculations for a single-family home located at Lot 62 Mason Point Subdivision pursuant to session law 2014-120 and 2013-413. The proposed home will have **5** bedrooms and under the current flow calculations provided in the state rules would have a daily flow of **600** gallons per day. That would be based on 120 gallons per bedroom.

Household flow rates from the 15 NCAC 18A section of the state rules relied on fixture flow rates from 1982, and calculated the flows for common fixtures to established average flows for the purpose of calculating household daily flows and septic system based on those flows. The data for the historic fixture flows was taken from the EPA 2002 Onsite Wastewater Treatment Systems Manual.

The attached spreadsheet contains the flow reducing fixtures for Lot 62 Mason Point Subdivision. The table includes flow rates for the flow reducing fixtures as well as flow rates from the state rules and the percentage of water savings. On average the proposed fixtures provide a 39% savings.

We are requesting a reduction of 20% for the use of low flow fixtures. This will provide an adjusted daily flow of 96 gallons per bedroom per day and a total flow of **480** gallons per day for the proposed 4-bedroom house.

Should you have any questions or comments please contact Matt Burdette at 919-422-2827.

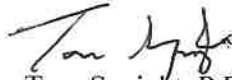
Sincerely,

CENTRAL CAROLINA SOIL CONSULTING PLLC

BATEMAN CIVIL SURVEY COMPANY



Matt Burdette
Environmental Specialist



Tom Speight, P.E.
(seal)



Attachments

Lot 62 Mason Pointe						
	Item		Gal/min. or flush	Number of Fixures	Base Flow From 1982	Percent Water Savings
Bedroom 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 T182ep	1.75 gal/minute	1	5.5 gal/minute	68%
	Lavatory Faucet	Moen 4925	1.5 gal/minute	2	3.0 gal/minute	50%
Kitchen	Kitchen Sink Faucet	Moen 7430	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	3	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%	68%	0%	0%	0%	0%	0.0%	39%
ADJUSTED FLOW (GALLONS)	53	60	38	72	18	18	12	96	367



Buy it for looks. Buy it for life.®

Specifications

DESCRIPTION

- Metal construction with various finishes identified by suffix
- 1/2" IPS connections
- Includes metal pop-up type waste assembly

OPERATION

- Lever style handles with hot and cold color indicators
- Hot side counterclockwise to open (clockwise to close)
- Cold side clockwise to open (counterclockwise to close)

FLOW


- Flow is limited to 1.5 gpm max (5.7L/min) at 60 psi, for products made before October 2008 flow is limited to 2.2 gpm max (8.3 L/min)

CARTRIDGE

- 1224 cartridge design
- Nonmetallic and stainless steel material

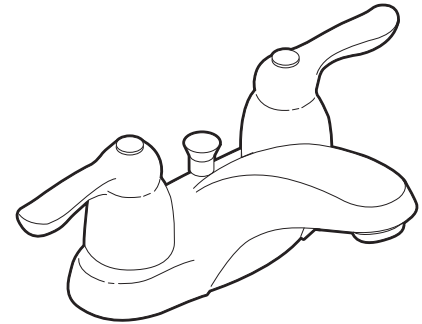
STANDARDS

- Third party certified to WaterSense,® CSA B125.1, ASME A112.18.1, ANSI A117.1 and all applicable requirements referenced therein.
- Certified to ANSI/NSF 61/9
- Contains no more than 0.25% weighted average lead content
- Complies with California Proposition 65 and with the Federal Safe Drinking Water Act

- **ADA**  for lever handles

WARRANTY

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



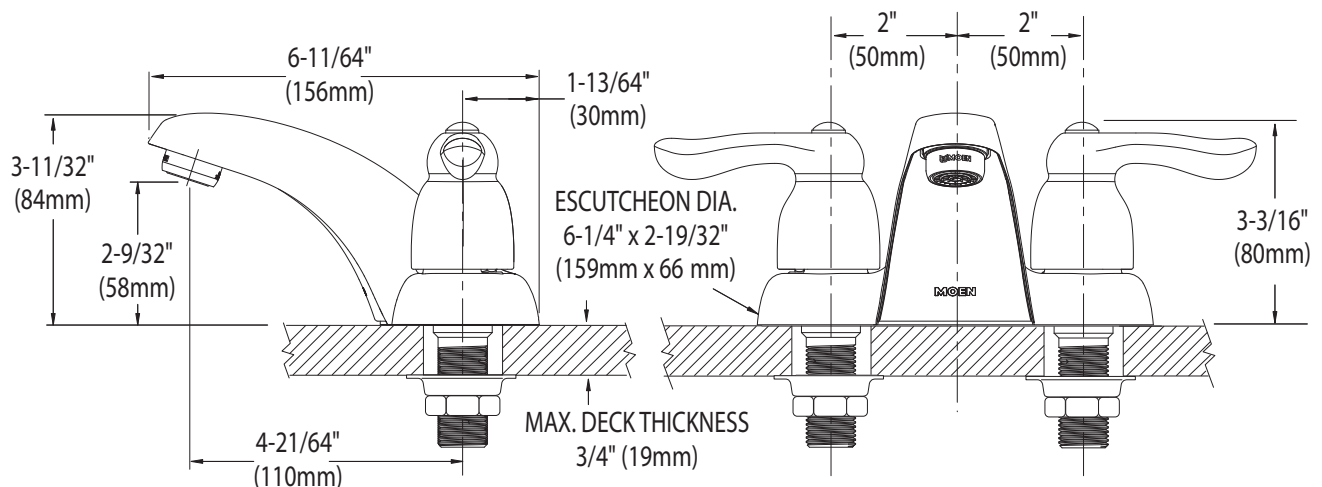
CHATEAU® Two-Handle Lavatory Faucet

Models: 4925 series

**With 50/50 Waste Assembly
Bulk Pack (12 per Carton)**

Model: 64925 series

NOTE: DESIGNED TO BE INSTALLED THROUGH
3 - 1" MIN. DIA. HOLES 2" ON CENTER



CRITICAL DIMENSIONS

(DO NOT SCALE)



Buy it for looks. Buy it for life.®

Specifications

FAUCET DESCRIPTION

- Metal construction with various finishes identified by suffix
- Flexible supplies with 3/8" compression fittings
- Includes Protégé side spray with Hydrolock® quick connect system

OPERATION

- Lever style handle
- Temperature controlled by 180° arc of handle travel
- Will operate with less than 5lbs. of force

FLOW

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

CARTRIDGE

- 1255™ Duralast™ cartridge

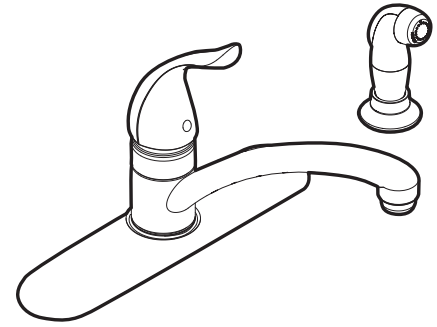
STANDARDS

- Third party certified to IAPMO Green, ASME A112.18.1/CSA B125.1 and all applicable requirements referenced therein including NSF 61/9
- Meets Calgreen and Georgia SB370 requirements
- Contains no more than 0.25% weighted average lead content
- Complies with California Proposition 65 and with the Federal Safe Drinking Water Act

- **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

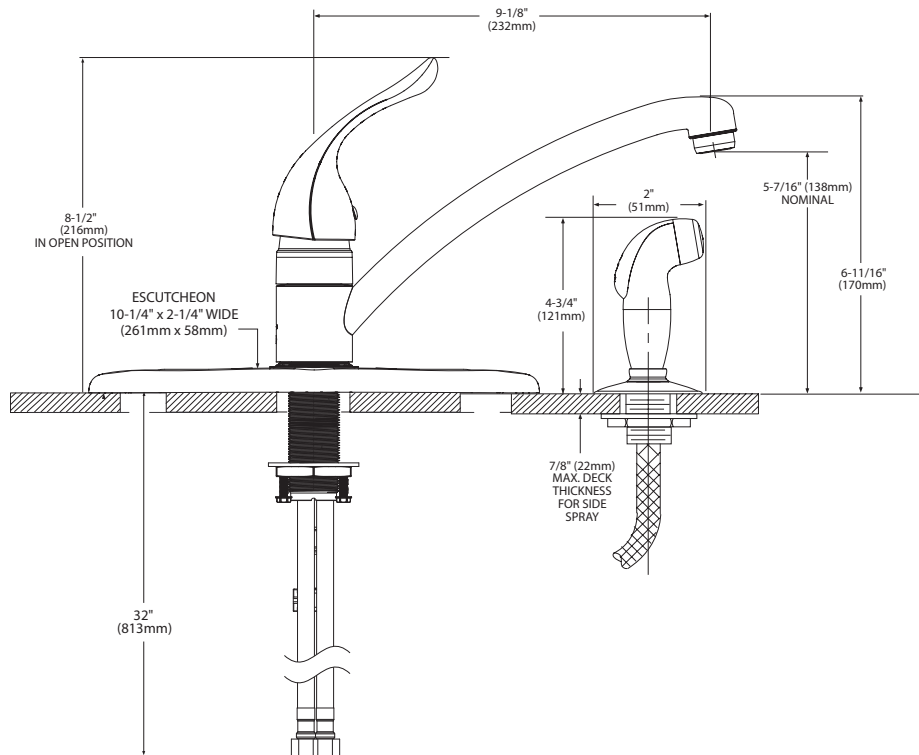


CHATEAU® Single-Handle Kitchen Faucet

Models: 7430 series with spray
7425 series less spray

Bulk Model: 67430 series with spray
67425 series less spray
(bulk packed 12 per carton)

NOTE: DESIGNED TO INSTALL THROUGH
4 HOLES 1-1/4" (32mm) MIN. DIA. AND 4" (102mm)
ON CENTER.



CRITICAL DIMENSIONS

(DO NOT SCALE)

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

www.moen.com

Rev. 6/13

Hydrolock® is a registered trademark of COOPER STANDARD AUTOMOTIVE INC.



Buy it for looks. Buy it for life.®

Specifications

FAUCET DESCRIPTION

- Metal construction with various finishes identified by suffix
- 1/2" IPS connections will accept standard ball nose connection for 3/8" tubing
- Includes Protégé side spray with Hydrolock® quick connect system

OPERATION

- Lever style handle
- Temperature controlled by 180° arc of handle travel
- Will operate with less than 5lbs. of force


FLOW

- Aerator is limited to 2.0 gpm (7.6 L/min) at 60 psi

CARTRIDGE

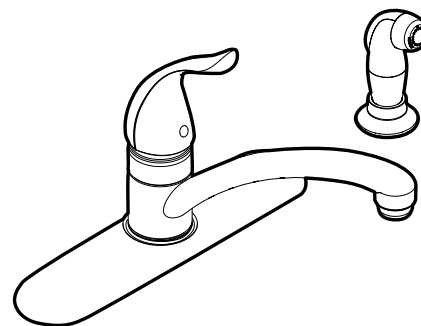
- 1225 cartridge design
- Nonmetallic/nonferrous and stainless steel material

STANDARDS

- Third party certified to CSA B125.1, ASME A112.18.1, ICC A117.1 and all applicable requirements referenced therein including NSF 61/9
- Contains no more than 0.25% weighted average lead content
- Complies with California Proposition 65 and with the Federal Safe Drinking Water Act
- **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



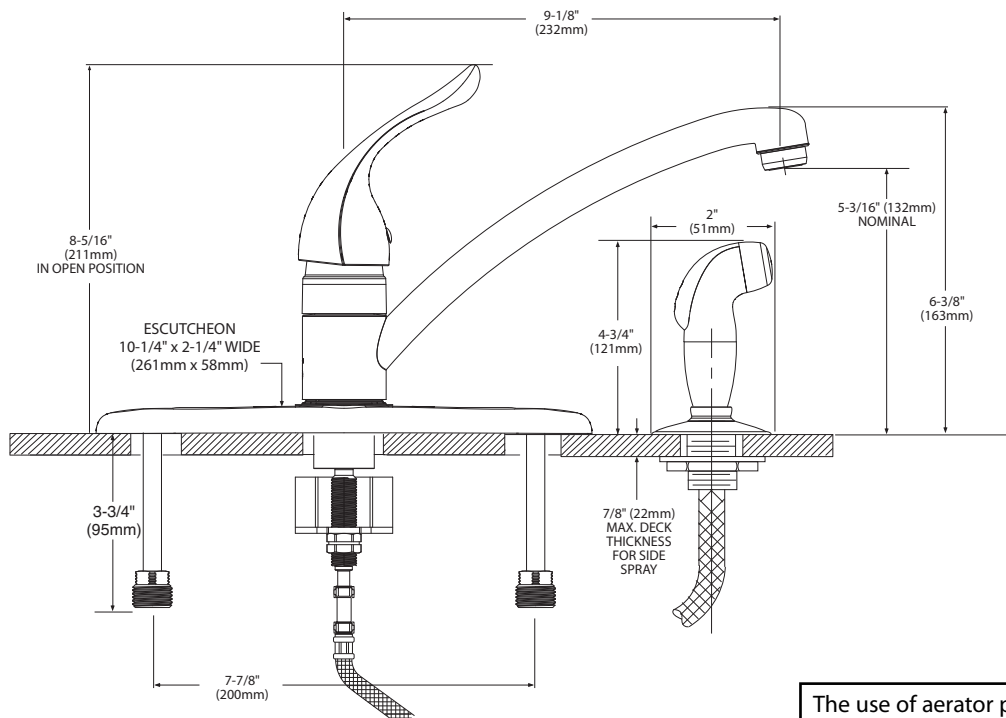
CHATEAU®

Single-Handle Kitchen Faucet

Models: 7430 series with spray
7425 series less spray

Bulk Model: 67430 series with spray
67425 series less spray
(bulk packed 12 per carton)

NOTE: DESIGNED TO INSTALL THROUGH
4 HOLES 1-1/4" (32mm) MIN. DIA. AND 4" (102mm)
ON CENTER.



CRITICAL DIMENSIONS

(DO NOT SCALE)

The use of aerator part 116711 reduces flow to a maximum of 1.5 gpm (5.7L/min.)



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

- Metal construction with various finishes identified by suffix
- Includes non-metallic showerhead, arm, flange and non-metallic diverter tub spout

OPERATION

- 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) at 80 psi
- EP suffix models are limited to 1.75 gpm (6.6 L/min) at 80 psi
- NH suffix models contain no showerhead

CARTRIDGE

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

STANDARDS

- Third party certified to meet 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

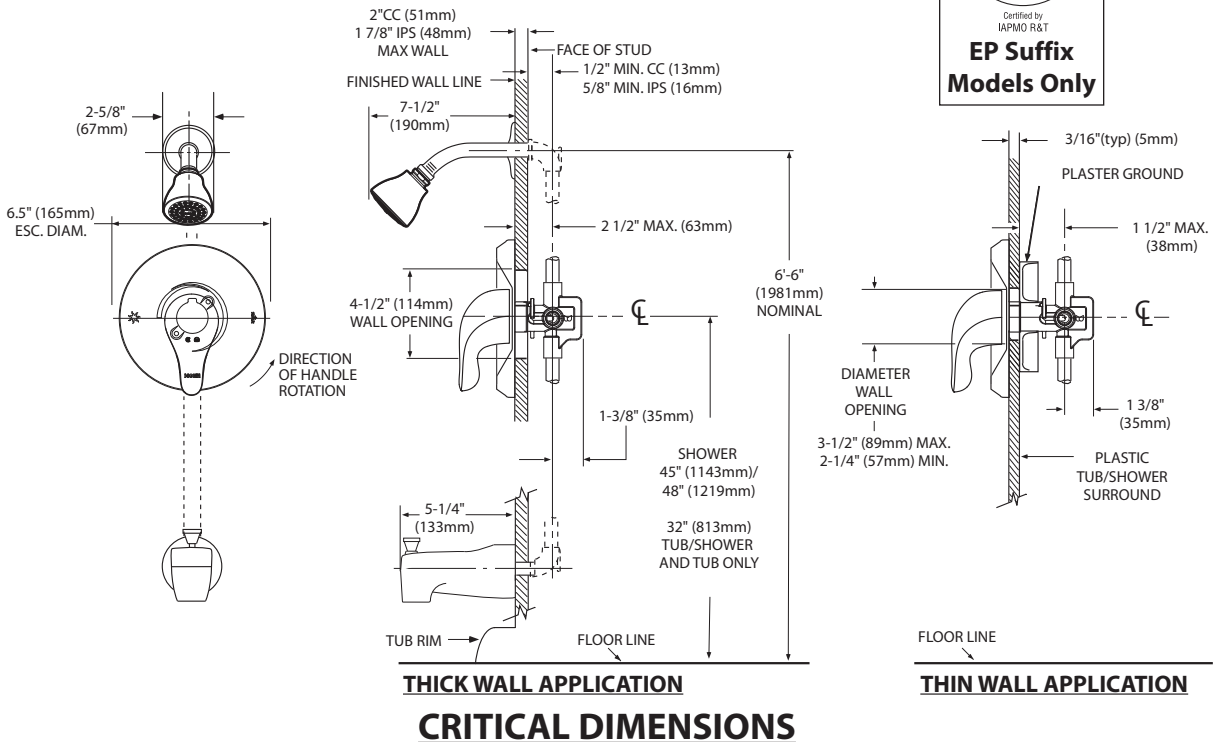
Specifications



**CHATEAU® POSI-TEMP®
Single-Handle Tub/Shower Trim Kit**

- Models:** TL181 series - valve trim only
(Bulk Packed 12 per carton)
TL182 series - shower trim only
(Bulk Packed 12 per carton)
TL183 series - tub/shower trim
(Bulk Packed 12 per carton)

- Valves:** 62300 series
2500 series





Buy it for looks. Buy it for life.®

Specifications

DESCRIPTION

- Metal construction with various finishes identified by suffix
- Includes non-metallic showerhead, arm, flange and non-metallic diverter tub spout

OPERATION

- 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) at 80 psi
- EP suffix models are limited to 1.75 gpm (6.6 L/min) at 80 psi
- NH suffix models contain no showerhead

CARTRIDGE

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

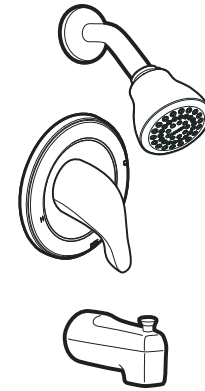
STANDARDS

- Third party certified to meet 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

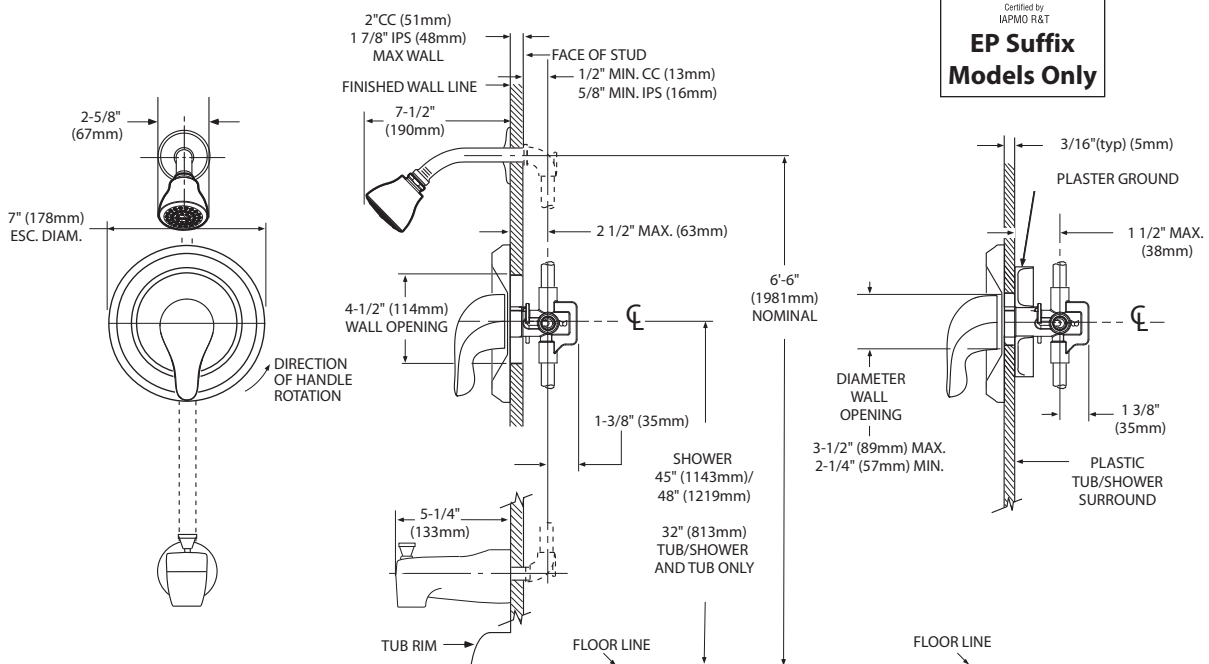
- Lifetime limited warranty against leaks, drips and finish defects to the original consumer purchaser
- 5 year warranty if used in commercial installations



CHATEAU® POSI-TEMP® Single-Handle Tub/Shower Trim Kit

- Models:** TL181 series - valve trim only
(Bulk Packed 12 per carton)
TL182 series - shower trim only
(Bulk Packed 12 per carton)
TL183 series - tub/shower trim
(Bulk Packed 12 per carton)

- Valves:** 62300 series
2500 series



CRITICAL DIMENSIONS

(DO NOT SCALE)



VITREOUS CHINA

TOILET
21-912

LAVATORIES

TOILETS

BIDETS / URINALS

CAST IRON

MAXWELL® 1.28 Elongated Toilet

12" Rough-in

Features:

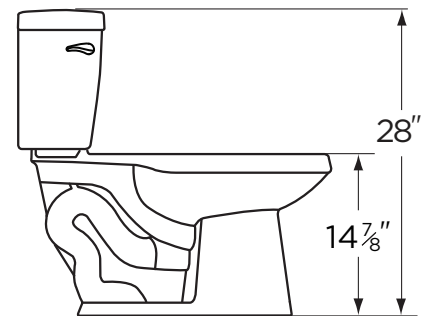
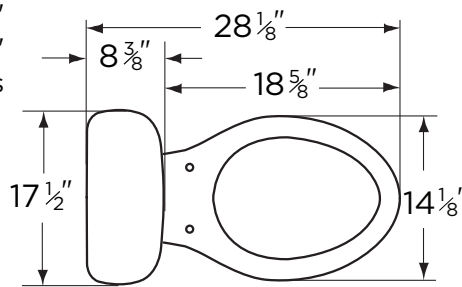
- 1.28 gpf/4.8 Lpf high efficiency two-piece toilet
- Elongated bowl
- Dual-fed siphon jet
- Pilot fill valve
- 3" flush valve
- 2" glazed trapway
- Color matched front tank lever (white only)
- Optional insulated non-sweating tank
- Optional right-handed trip lever
- Available in White, Bone and Biscuit
- 2 bolt caps



Dimensions:

- Height28"
- Width 17 1/2"
- Depth 28 1/8"
- Rough-in.....12"
- Water Surface from Rim5 7/8"
- Trapway 2"
- Water Surface 10 7/8" x 7 1/2"
- Water Seal2 3/8"
- Shipping Weight 79.5 lbs

Specifications: Bowl—#21-962 Elongated Bowl Tank—#28-990
Seat not included



THIS FIXTURE QUALIFIES ACCORDING TO ASME TEST PROCEDURES AS A HIGH EFFICIENCY WATER CLOSET WITH AN AVERAGE CONSUMPTION OF 1.28 gpf (4.8 Lpf) OR LESS.

HIGH EFFICIENCY TOILET
HET

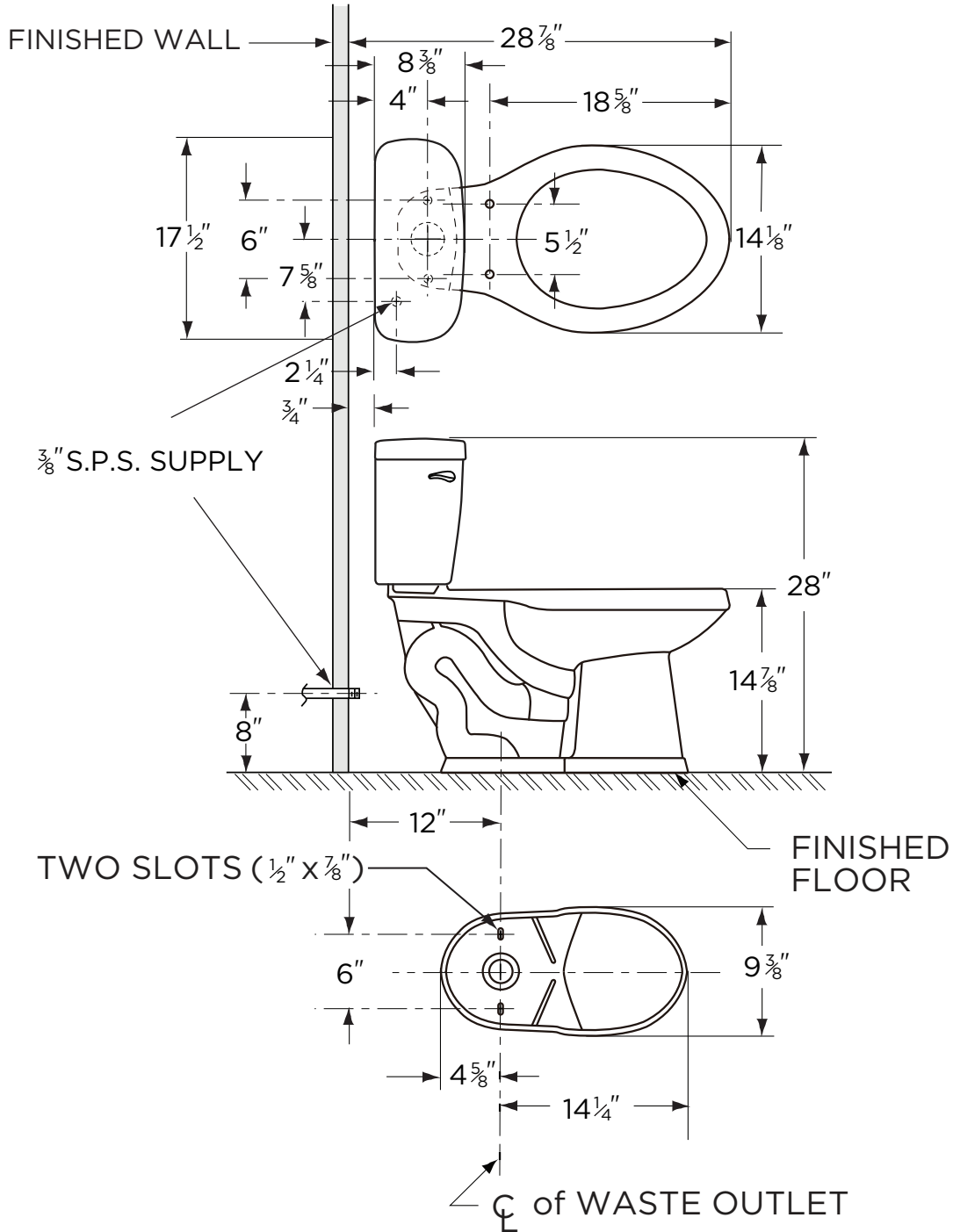
www.gerberonline.com

Job Name	
Date	
Model Specified	
Quantity	
Customer	
Contractor	
Architect/engineer	



1.28 gpf (4.8 Lpf) MAXWELL® 1.28 TOILET

21-912
Elongated, 12" Rough-in
(Bowl 21-962 with Tank 28-990)



NOTES:
All dimensions are in inches.
Illustrations may not be drawn to scale.

IMPORTANT:
Dimensions of fixtures are nominal and may vary within the range of tolerances established by ASME Standard A 112.19.2.

THIS FIXTURE QUALIFIES ACCORDING TO ASME TEST PROCEDURES AS A HIGH EFFICIENCY WATER CLOSET WITH AN AVERAGE CONSUMPTION OF 1.28 gpf (4.8 Lpf) OR LESS.