Installation, Operation and Maintenance Manual

Model W-415-NF, W-525, W-525-NF, W-525P

⚠ WARNING

Read this Manual BEFORE using this equipment.

Failure to read and follow all safety and use information can result in death, serious personal injury, property damage, or damage to the equipment.

Keep this Manual for future reference.

⚠ WARNING

Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

⚠ IMPORTANT

If you are unsure about installing your WATTS water filter, contact a WATTS representative or consult a professional plumber.

⚠ CAUTION

Test the water periodically to verify that the system is performing satisfactory.
Discard small parts remaining after the installation.

NOTICE

Failure to install the system correctly voids the warranty. Handle all components of the system with care. Do not drop, drag or turn components upside down.
Be sure the floor under the water filter system is clean, level and strong enough to support the unit.

Watts, 13700 HWY 90 West San Antonio, TX 78245

WQA Certified to NSF/ANSI standard 58, and NSF/ANSI standard 372 for lead free compliance.

WATTS®

Thank you for choosing the Watts Reverse Osmosis Drinking Water System. With proper care your water filtration system will produce high quality drinking water for many years.

Read carefully and follow the instruction in this manual before proceeding with the actual installation. Pay particular attention to all warnings, cautions and notes. Failure to do so could result in personal injury or damage to the equipment or other property. System and installation need to comply with state and local laws and regulations.

Check List:

1) Reverse Osmosis Unit.
2) Water storage tank, 3 gallon volume (2.5 gallon @40psi).
3) Installation kit: tank ball valve, drain saddle clamp (¼" & 3/8"), feed water valve, faucet assembly.
4) Manual.

Recommended Tools Lists

* Variable speed drill
* 1/8" and 1/4" drill bits
* 7/16" drill bit 1/2" and 9/16" open-end wrenches (or adjustable)
* Phillips screwdriver
* Utility knife

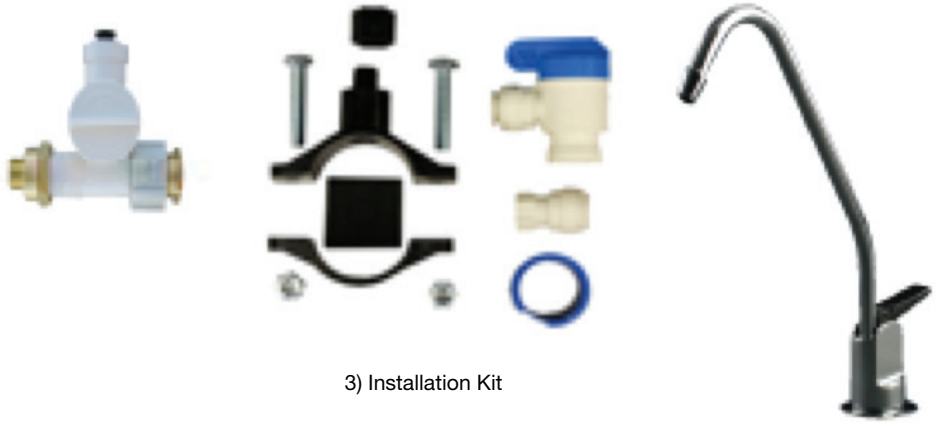
This reverse osmosis system contains a replaceable component critical to the efficiency of the system.

Replacement of the reverse osmosis component should be with one of identical specifications, as defined by the manufacturer, to ensure the same efficiency and contaminant reduction performance. The product water shall be tested periodically to verify that the system is performing satisfactorily.

Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

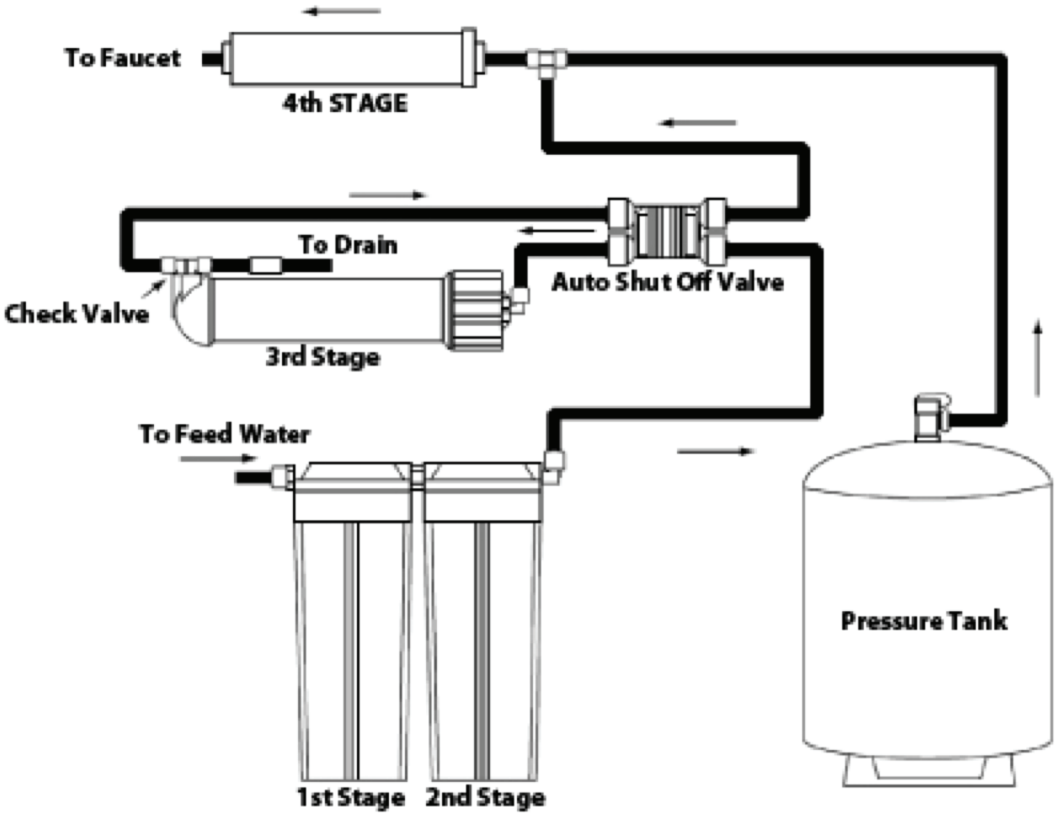
1) Reverse Osmosis Unit (525P Shown)

2) Water Storage Tank 3 Gallon



3) Installation Kit

W-415-NF Filtration Process



Specifications:

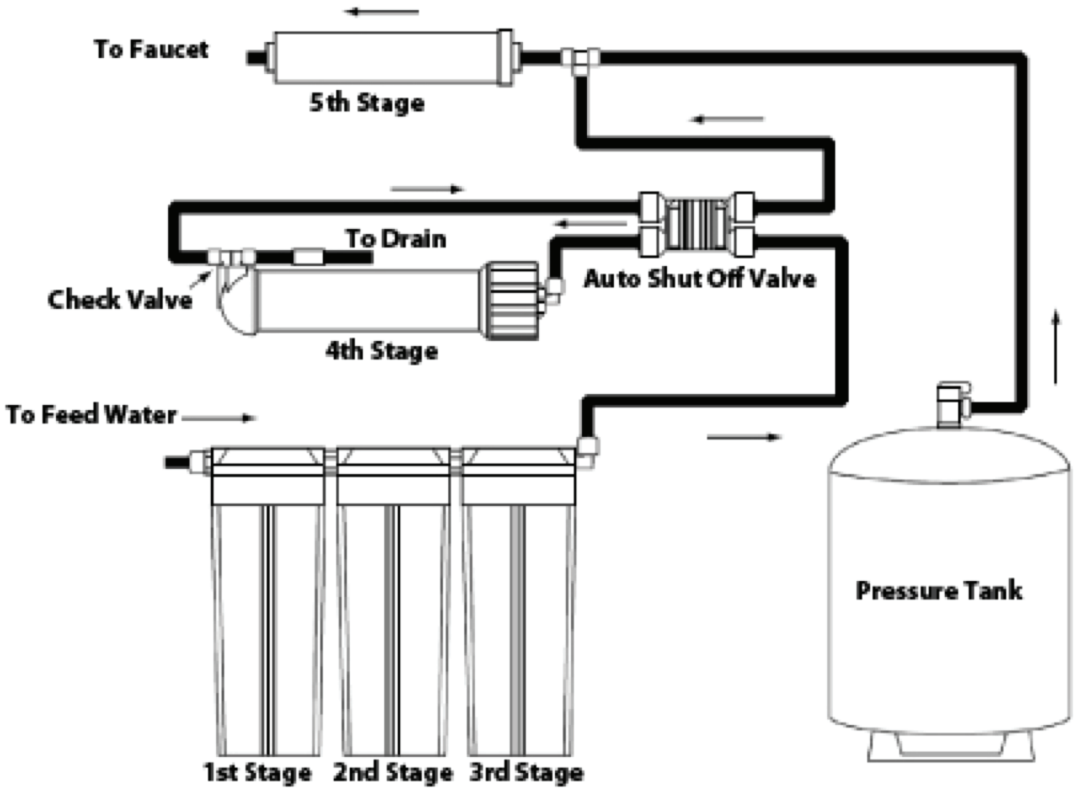
1st stage: Sediment filter, 5 micron, 10"
2nd stage: Carbon block filter, 5 micron, 10"
3rd stage: TFC membrane, 50GPD @ 60PSI
4th stage: Inline carbon filter
Auto shut off valve
Operating pressure: 40-100 PSI
Operating temperature: 40-100°F

Please contact your local dealer at:

Replacement Parts

WATTS ITEM#	DESCRIPTIONS	SERVICE LIFE
FPMB5-978	Sediment filter, 5 micron, 10"	6-12 months
F101009	Carbon block filter, 5 micron, 10"	6-12 months
W-1812-50	TFC membrane, 50GPD @ 60 PSI	24-36 months
FI-CBA010J.38	Inline carbon filter	12-18 months

W-525 and W-525-NF Filtration Process



Specifications:

1st stage: Sediment filter, 5 micron, 10"
2nd stage: Carbon Block filter, 5 micron, 10"
3rd stage: Carbon Block filter, 5 micron, 10"
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5th stage: Inline carbon filter
Auto shut off valve
Operating pressure: 40-100 PSI
Operating temperature: 40-100°F

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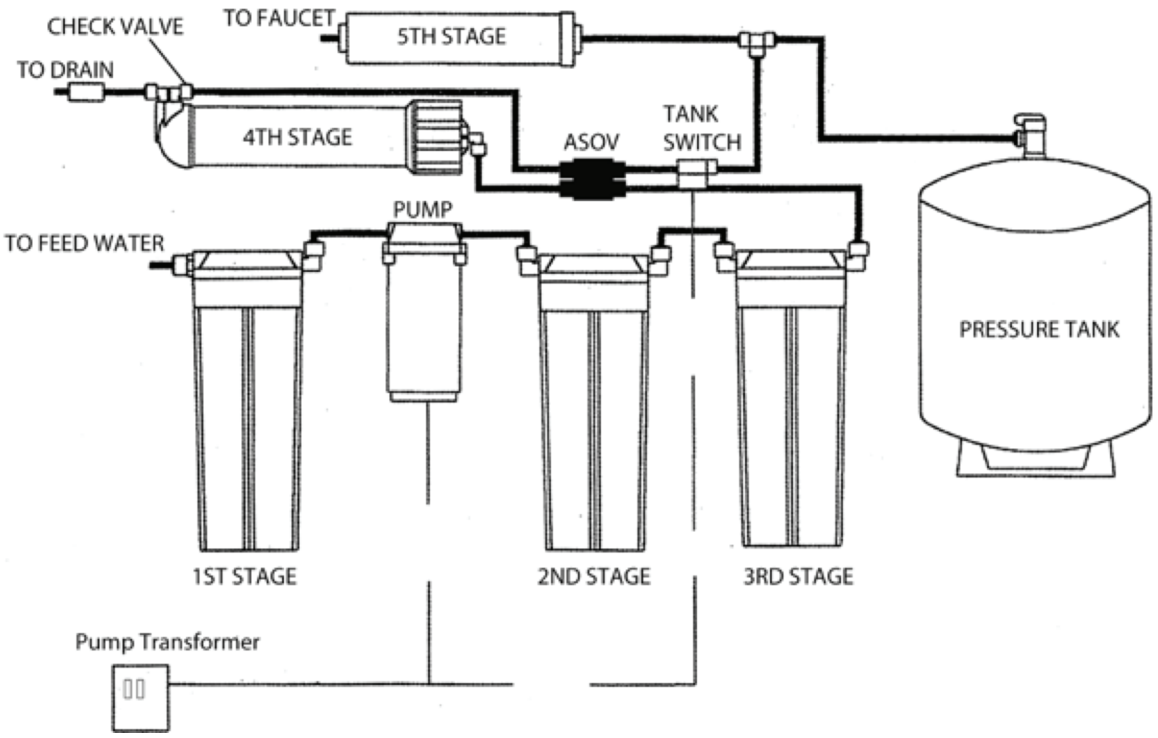
FI-CBA010J.38	Inline carbon filter	12-18 months

W-525P RO Filtration Process



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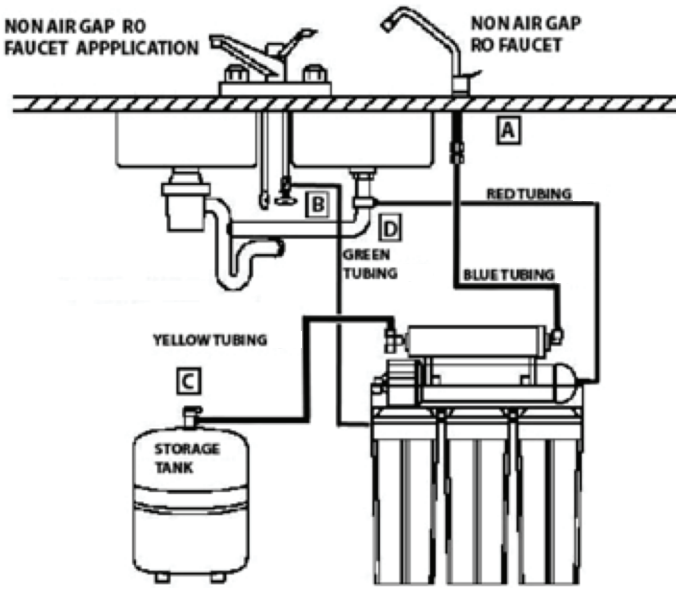
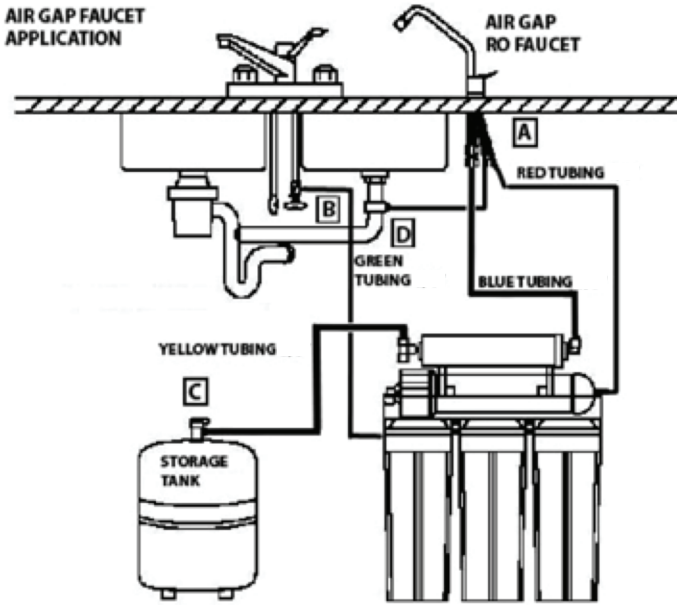
Installation Quick Look

Please follow 4 color tubing diagram to complete installation Please follow 4 color tubing diagram to complete installation



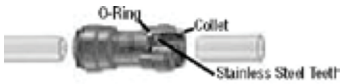


CAUTION: When cutting supplied tubes, predeter-mine the length by measuring the distance between the components to be connected.
No tools are needed to connect 4 colored tubes.

HOW TO MAKE A CONNECTION

1. CUT THE TUBE SQUARE

Cut the tube square. It is essential that the outside diam-eter be free from score marks and that burrs and sharp edges be removed before inserting into fitting. For soft thin walled plastic tubing we recommend the use of a tube insert.



2. INSERT TUBE

Fitting grips before it seals. Ensure tube is pushed into the tube stop.

3. PUSH UP TO TUBE STOP

Push the tube into the fitting, to the tube stop. The collet (gripper) has stainless steel teeth which hold the tube firmly in position while the o-ring provides a permanent leak proof seal.

4. PULL TO CHECK SECURE

Pull on the tube to check that it is secure. It is a good practice to test the system prior to leaving site and/or before use.

Disconnecting PUSH COLLET AND REMOVE TUBE To disconnect, ensure the system is depressurized before removing the tube. Push in collet squarely against face of fitting. With the collet held in this position, the tube can be removed. The fitting can then be re-used.

Installation needs to comply with State and local plumbing regulations.

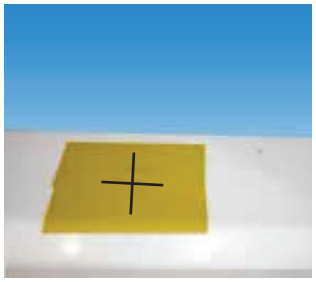
	Connections	Item No.	Color of Tubing	Description
A	RO Faucet	FU-WDF-905-CP	Blue	Pure water to the Faucet
B	Feed Water Valve	F560080	Green	Feed Water to RO System
C	Tank Ball Valve	PPSV501222W	Yellow	Pure Water to Storage Tank
D	Drain Saddle	SC500B14 or WE-CU138B-Q	Red	Discharge Water to Drain

Drill a Hole for the Faucet in a Porcelain Sink

NOTICE

Most sinks are pre drilled with 1 ½" or 1 ¼" diameter hole that you can use for your RO faucet. (If you are already using it for a sprayer or soap dispenser, see step 1)

Porcelain sinks are extremely hard and can crack or chip easily.
Use extreme caution when drilling. Watts accepts no responsibility for damage resulting from the installation of faucet. Diamond tip bit recommended.



1) Determine desired location for the RO faucet on your sink and place a piece of masking tape over where the hole is to be drilled. Mark the center of the hole on the tape.

2) Using a variable speed drill set on the slowest speed, drill a 1/8" pilot hole through both porcelain and metal casing of sink at the marked center of the desired location. Use lubricating oil or liquid soap to keep the drill bit cool (If drill bit gets hot it may cause the porcelain to crack or chip).

3) Using a 1 ¼" hole saw, proceed to drill the large hole. Keep drill speed on the slowest speed and use lubricating oil or liquid soap to keep the hole saw cool during cutting.

4) Make sure the surroundings of the sink are cooled before mounting the faucet to the sink after drilling and remove all sharp edges.

PUNCH A HOLE FOR THE FAUCET IN A STAINLESS STEEL SINK

NOTICE

If mounting faucet to a Stainless Steel Sink you will need a ½" & 1 ¼" hole punch.
The faucet opening should be centered between the back splash and the edge of the sink, ideally on the same side as the vertical drain pipe.
Drill a ¼" pilot hole. Use a ½" hole punch and an adjustable wrench to punch the hole in the sink. Change to the 1 ¼" hole punch to enlarge the hole.
The faucet can now be installed.

5) Drill a ¼" pilot hole. Use a ½" hole punch and an adjustable wrench to punch the hole in the sink. Change to the 1 ¼" hole punch to enlarge the hole.

The faucet can now be installed.

Typical RO Faucet Installation

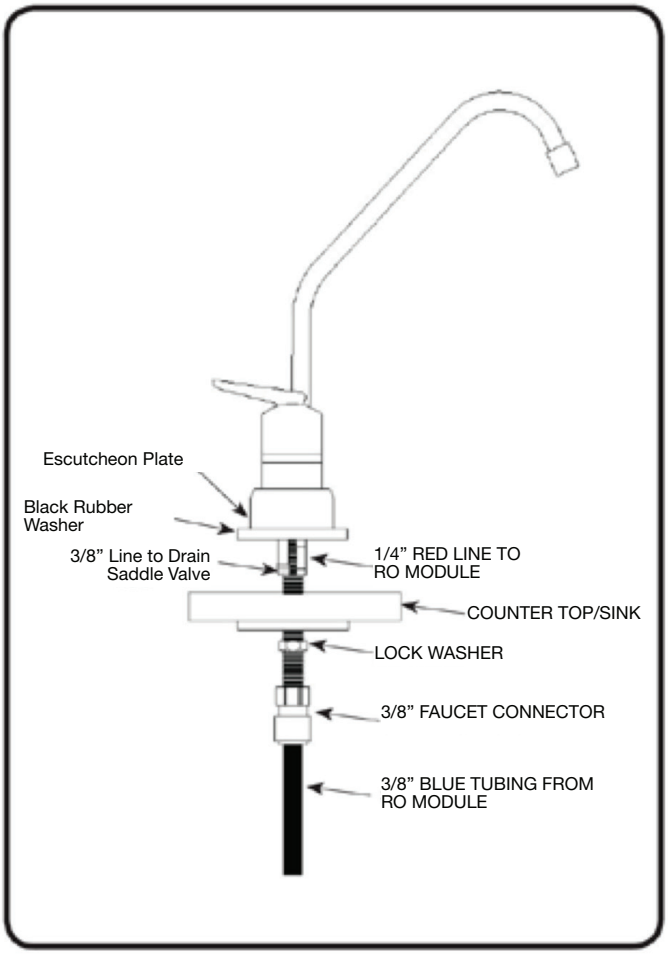
Drinking Feed Tube Connection

Non Air Gap Faucet

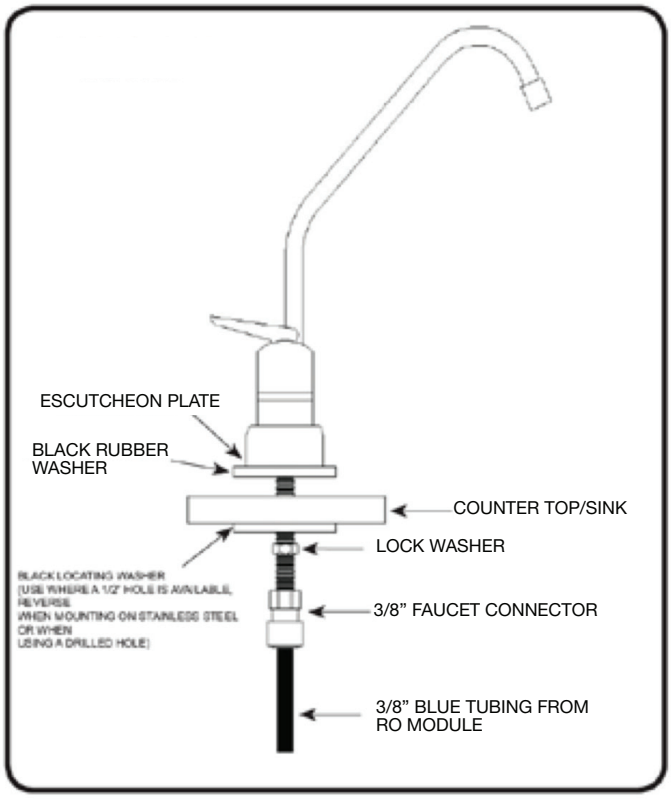
Locate the 3/8" threaded quick connect fitting in the parts bag. After the faucet has been mounted, thread the fitting on the to faucet stem. Connect the 3/8" blue feed tube to the 3/8" quick connect fit-ting on the faucet stem. The final polishing filter is clipped on to the top of the RO membrane housing. Attached to the polishing filter is a 3/8" quick connect elbow fitting. Attach the open end of the 3/8" blue tubing from the RO faucet to the 3/8" quick connect elbow on the polishing filter.

With Non Air-Gap faucets this will be the only tube connected to the RO faucet.

Air Gap Faucet Installation



Non Air Gap Faucet Installation



Air Gap Faucet

Follow the drinking feed tube connection instruc-tions above. Con-nect the ¼" drain tube from the RO module up to the ¼" fitting on the RO faucet. The 3/8" drain tube from the RO faucet will connect to the 3/8" drain saddle.

Feed Water Valve Installation

Caution: Water supply line to the system must be from the cold water supply line only.

Hot water will severely damage your system.

Configuration for 3/8"
(with brass fittings)
*Insert white washer

Hot Supply

Cold Supply

Configuration for 1/2"
(without brass fittings)

⚠ WARNING

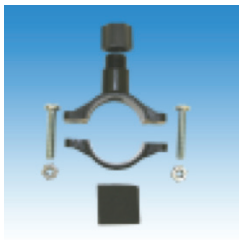
Do not use Teflon tape with the Adapt-a-Valve.

1) Turn off the cold water supply to the faucet by turning the angle stop valve completely off.

2) Attach the adapt-a-valve as illustrated in the three photos above, choosing the configuration that fits your plumbing.

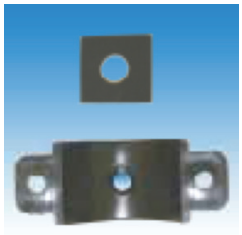
Drain Saddle Installation

Use the ¼" Drain Saddle with non air-gap faucet and 3/8" with air-gap faucet.



⚠ CAUTION

If you have a garbage disposal, do not install the drain saddle near it. Installation of the drain saddle must be either above the garbage disposal, or if a second sink drain is available, install it above the cross bar on the second drain. Installation of the drain saddle near a garbage disposal may cause the drain line to plug.



1) Gather the pieces of the drain saddle

- 1 Black compression nut
- 2 Screws
- 2 Nuts for screws
- 1 Semicircle bracket with opening
- 1 Foam gasket
- 1 Semicircle bracket

2) The small square black foam gasket with a circle cut out of the middle must be applied to the inside of the drain saddle. Remove sticky tape backing and stick to the drain saddle as shown.

3) The drain saddle must be mounted at least 1 ½" above the nut of the P-trap or cross bar from the garbage disposal to insure proper drainage. Assemble the drain saddle around the drain pipe at the best available location. Using Phillips screw driver tighten screws evenly and securely on both sides of the drain saddle. Keep the plastic compression nut off at this time.

⚠ CAUTION

Do not over tighten the screws. It may crack the drain saddle.

STEP 3:
Mounting the Tank Ball Valve

Note: Do not tamper with the air valve on low side of storage tank. It has been preset at 5-7 psi by the manufacturers.

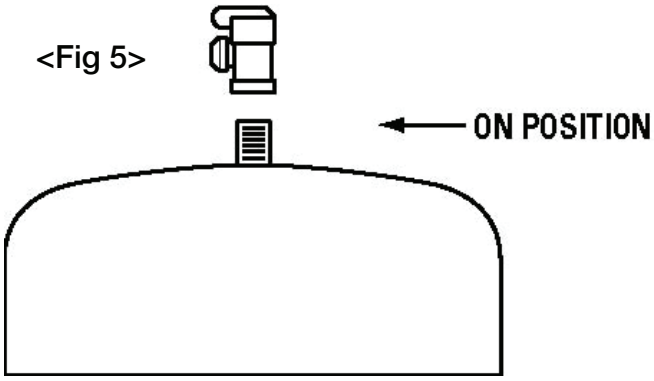
1) With the provided teflon tape wrap 3-4 turns in a clockwise direction around the male threaded connection on the top of the storage tank,

2) Connect the ball valve to the thread. Make sure it is tight but not over tight. **See <Fig. 5>.**

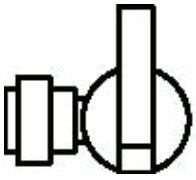
3) Connect the yellow tubing from to the tank ball valve. Push the tubing in all the way to make sure it is properly seated.

4) Turn the tank ball valve off.

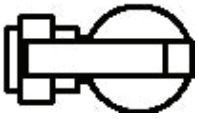
<Fig 5>



TOP VIEW OF TANK BALL VALVE
(PPSV501222W)



OFF POSITION



ON POSITION

STEP 4:
Mounting the Drain Clamp

The drain saddle and part number to (SC500B14) will fit most standard drain pipe ¼". It should be installed above the trap and on the vertical tailpiece. See **<Fig. 6>**

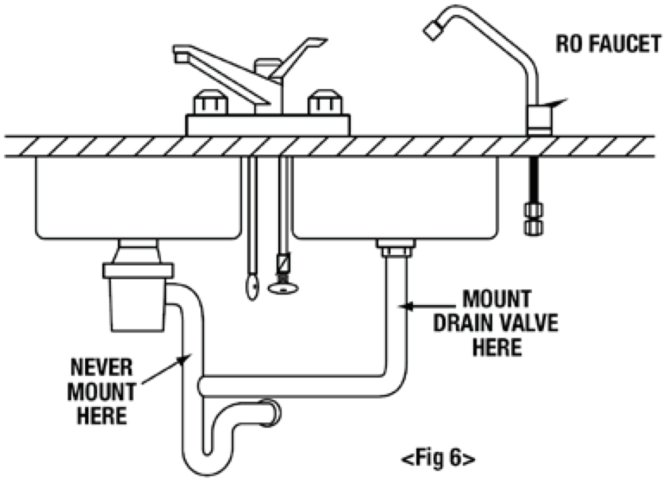
1) Position the drain saddle in desired location, mark spot through thread outlet, remove saddle.

2) Drill ¼" (6.3mm) hole into the drain pipe above the water line of trap.

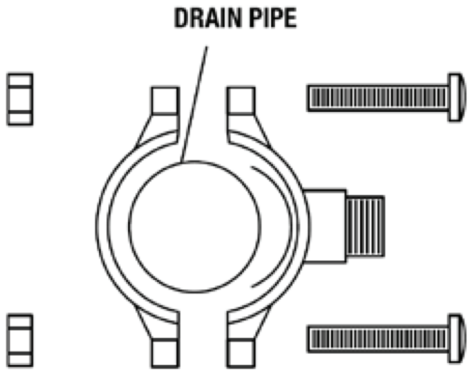
3) Align the hole drilled in the drain pipe with the drain saddle using a drill bit or other narrow straight object and tighten clamp.

4) Make sure to align drain saddle to drilled hole. Attach drain saddle to drain pipe and tighten the two screws evenly. See **<Fig. 7>**.

5) Connect black tubing to drain clamp.



<Fig 6>



<Fig 7>

START UP INSTRUCTION

1) Turn on the incoming cold water at the angle stop valve. Open the valve knob on the water feed Adapt-a-Valve by turning the knob counter clockwise. Check the system for leaks and tighten any fittings as necessary. (Check frequently over the next 24 hours to ensure no leaks are present).

NOTE

If you have connected your RO system to a refrigerator / ice maker, make sure the ice maker is off (do not allow water to flow to the ice maker) until flushing (Step 5) is complete and the tank has been allowed to fill completely. Connection from the RO to the ice maker system should have an in-line valve installed before the ice maker so it can easily be closed to prevent water flowing to the ice maker during start up and periodic maintenance. Your RO tank must be allowed to fill up fully in order for the ice maker system to work properly.

2) Open the RO faucet and leave it open until water begins to trickle out (it will come out slowly).

3) Close the RO faucet allowing the storage tank to fill with water. It may take 4 to 6 hours to fill the tank completely depending on the production capability of the membrane, local water temperature and water pressure.

NOTE

During the fill period you may hear water trickling due to the Reverse Osmosis Process.

4) After the Tank has filled, open the RO Faucet to flush the tank completely. You will know that the tank is empty when the flow rate from the RO faucet is down to a trickle. Repeat this step two more times. The fourth tank can be used for drinking. This flushing process should take about 24 hours to complete.

NOTE

The flushing process should take about a day to complete.
Flushing of the tank 3 times is only necessary during the initial startup and after replacing the membrane.

NOTE

1) Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

2) This reverse osmosis system contains a replaceable component critical to the efficiency of the system. Replacement of the reverse osmosis component should be with one of identical specifications, as defined by the manufacturer, to assure the same efficiency and contaminant reduction performance.

⚠ WARNING

Do not use this RO system appliance to purify non-drinkable sources of water that are unsafe or with water of unknown quality.

⚠ WARNING

Never use hot water or freeze unit.

⚠ WARNING

Incorrect installation will VOID the warranty.

Cleaning Procedures

1) Shut off the source water supply to the RO system.

2) Open the RO faucet and depressurize the RO system and storage tank.

3) Remove pre-filter cartridges, post-filter cartridges, and RO membrane. Discard or prepare for cleaning. If the RO membrane element is to be reused, disinfectant solution should be introduced into the permeate tube outlet sufficient to remove biofilm in this vulnerable area, before reinserting the membrane into the housing. Use ¼ teaspoon (1ml) of unscented 5.25% sodium hypochlorite liquid household bleach.

4) Wash the internal housing areas with warm soapy water using a clean brush (do not scratch the surface of the housings). Be sure to clean o-ring grooves thoroughly. Remove the existing o-ring. Discard o-ring or prepare for cleaning.

5) Rinse off all housing pieces with clean water to remove soap.

6) Replace o-rings, and lubricate with a water soluable lubricant. KY Jelly® or other non petroleum water based lubricants may be used..

7) Pour about ¼ teaspoon (1ml) of unscented 5.25% sodium hypochlorite liquid household bleach into each of the clean housings and replace housings on the RO system.

8) Disconnect RO storage tank from the system.

9) RO storage tank cleaning procedure:

Recommended items:

- Tank sanitizer feeder or small filter housing with fittings and tubing
- Disinfectant solution
- Pressure gauge and air pump

a) The tank should be empty. Check the air pre-charge pressure with an accurate gauge (low pressure type 0-12 lbs.). The average tank pressure should be 5-7psi (when the tank is empty).

b) Fill the tank sanitizer feeder with the recommended disinfectant dosage, and connect the feeder to the water supply and RO storage tank.

c) Turn on water supply and force water and disinfectant solution into the RO storage tank. The storage tank should feel heavy when filled.

d) The disinfectant solution should remain in the tank a minimum of 10 minutes. If the tank has not been sanitized in over a year, leave the solution in for 20 to 30 minutes. Turn off the water supply valve and the RO storage tank valve. Disconnect the sanitizer feeder, and connect the RO storage tank to the RO unit (the tank ball valve should remain closed).

10) Open the feed water valve and open the RO faucet until water flows freely from the spout. Close the RO faucet. Hold the disinfectant solution in the RO system, including the tubing and faucet, for a minimum of 10 minutes. Open the tank ball valve.

11) Shut off the feed water valve and open the RO faucet. Let water run out until the flow stops at the RO faucet.

12) Open the feed water valve. Let water flow freely from the faucet for three minutes. Shut off the water at the source water supply with RO faucet open.

13) When the flow of water has stopped at the RO faucet, remove the filter housing sumps and membrane housing from the RO system. Replace the filters and membrane according to the service life.

14) Replace the housings on the RO system. Open the source water valve and allow the water to flow from the faucet.

- Because some of the disinfectant may still be in the system, the system should be flushed prior to using the water human consumption.
- A maintenance record should be kept for the RO system, including information about the replacement parts, when service was performed, and by whom.

Preventive Maintenance

These recommendations are intended for maximize efficiency of RO water production by your system.

1) **Filter maintenance**

   a) It is OK to store filters shrink wrapped on the shelf for several years.

   b) To store the sealed, unopened filter, we recommend that it be kept in an air tight container. This prolongs the shelf life of the carbon filter and avoids having the filter absorb any possible odor from the air.

2) **Membrane maintenance**

   a) The dry packed membrane usually has a two-year shelf life. To prolong the shelf life, we recommend keeping unopened dry membrane in a refrigerator.

   b) Once the membrane is in use, we recommend running the RO system every day for at least 10-15 minutes (about 1 gallon or 4 liters of drinking water). This helps to maintain the membrane performance.

   c) If the RO system is not used for over a week, drain the storage tank first. Then fill the tank and drain it twice. Your RO system is now ready to use again.

   d) This reverse osmosis system contains a replaceable component critical to the efficiency of the system. Replacement of the reverse osmosis component should be with one of identical specifications, as defined by the manufacturer, to ensure the same efficiency and contaminant reduction performance.

NOTE

If it is too tight to open the housing you may try unplugging the fitting between red tubing and the system in order to reduce the air and water pressure inside the housing.

3) **Filter and membrane change procedures:**

   a) Shut off the water supply.

   b) Turn off the tank ball valve by turning it 90 degrees.

   c) Open RO faucet to the continuous flow position to relieve pressure.

   d) Slide in the housing wrench. Use one hand to hold the system and the other hand to turn the wrench clockwise to open the housing.

   e) After opening the housing, remove the used filter and put the new filter into the housing. Make sure the o-ring is back in place and turn the housing counter-clockwise to close.

   f) Repeat previous step to change second filter.

   g) Turn on the water supply and make sure there are no leaks.

   h) Let the water drip from the faucet for about 10 minutes. If the water flow is less than 1 cup (8 oz. or 240 ml) per minute, it may be a signal to change the membrane.

   i) Membrane change procedures:

   - Unscrew the membrane housing cap.
   - Slide out the used membrane and discard.
   - Insert the new membrane into the housing. The end with the two o-rings should go in first; to prevent leaks be sure it is fully seated in the bottom of the housing.
   - Screw the cap back onto the membrane housing, making sure o-ring is still in place.
   - It may take 10-20 minutes for the new membrane to run at normal flow.

If the water flow is OK, then turn on the tank ball valve. After 1 minute, turn off the RO faucet and complete the filter change procedures.

WATTS
13700 HWY 90 West
San Antonio, TX 78245

MODELS: W-415-NF, W-525, W-525-NF, W-525P

GENERAL USE CONDITIONS:

1. System to be used with municipal or well water sources treated and tested on regular basis to insure bacteriological safe quality.

DO NOT use with water that is micro biologically unsafe or unknown quality without adequate disinfection before and after the system.

2. Operating Temperature:	Maximum: 100°F (40.5°C)	Minimum: 40°F (4.4°C)
3. Operating Water Pressure:	Maximum: 100 psi (7.0kg/cm2)	Minimum: 40 psi (2.8kg/cm2)
4. pH	2 to 11	

5. Maximum iron present in incoming feed water supply must be less than 0.2 ppm.
6. Hardness of more than 10 grains per gallon (170 ppm) may reduce membrane life expectancy.
7. Recommend TDS (Total Dissolved Solids) not to exceed 1800 ppm.

While testing was performed under standard laboratory conditions, actual performance may vary.

This system has been tested according to NSF/ANSI 58 for reduction of the substances listed below, and is certified NSF/ANSI 372 for lead free compliance. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system as specified in NSF/ANSI 58. This system has been tested for the treatment of water containing pentavalent arsenic (also known as As (V), As (+5), or arsenate) at concentrations of 0.30 mg/L or less. This system reduces pentavalent arsenic, but may not remove other forms of arsenic. This system is to be used on water supplies containing a detectable free chlorine residual at the system inlet or on water supplies that have been demonstrated to contain only pentavalent arsenic. Treatment with chloramine (combined chlorine) is not sufficient to ensure complete conversion of trivalent arsenic to pentavalent arsenic. Please see the Arsenic Facts section of the Performance Data Sheet for further information.

Depending on water chemistry, water temperature, and water pressure Watts RO Systems production and performance will vary.

	Avg. In.	Avg. Eff. (mg/L)	% Reduction (mg/L)	pH	Pressure	Max Eff. mg/L	Inf. challenge concentration mg/L	Max Allowable concentration mg/L
Arsenic (Pentavalent)	0.3	0.001	99.6%		50psi	0.004	0.30±10%	0.010 mg/L
Barium Reduction	10	0.12	98.8%	7.24	50psi	0.23	10.0±10%	2.0
Cadmium Reduction	0.03	0.0003	98.8%	7.49	50psi	0.0008	0.03±10%	0005
Chromium (Hexavalent)	0.29	0.003	99.1%	7.24	50psi	0.007	0.03±10%	0.1
Chromium (Trivalent)	0.29	0.001	99.7%	7.24	50psi	0.001	0.03±10%	0.1
Copper Reduction	2.9	0.03	99.0%	7.64	50psi	0.05	3.0±10%	1.3
Cysts	784000/ml	.5/ml	99.99%		50psi	29	minimum 50,000/mL	99.95
Fluoride Reduction	8.4	0.2	97.7%	7.49	50psi	0.3	8.0±10%	1.5
Lead Reduction	0.15	0.001	99.3%	7.49	50psi	0.001	0.15±10%	0.010
Radium 226/228	25pCi/L	5pCi/L	80.0%	7.24	50psi	5pCi/L	25pCiL±10%	5pCiL
Selenium	0.10	0.002	98.1%		50psi	0.002	0.10±10%	0.05
TDS	790	29	94.5%	7.80	50psi	47	750±40mg/L	187
Turbidity	11 NTU	0.1 NTU	98.9%		50psi	0.4 NTU	11±1 NTU	0.5 NTU
	Recovery - 13.09%		**Daily Production Rate - 14.33 GPD**				**Efficiency - 7.44%**	

Efficiency rating means the percentage of the influent water to the system that is available to the user as reverse osmosis treated water under operating conditions that approximate typical daily usage. Recovery rating means the percentage of the influent water to the membrane portion of the system that is available to the user as reverse osmosis treated water when the system is operated without a storage tank or when the storage tank is bypassed. There is an average of 4 gallons of reject water for every 1 gallon of product water produced. Watts 210-677-8400 or Fax 210-677-8402. REFER TO OWNER'S INSTALLATION/SERVICE MANUAL FOR FURTHER MAINTENANCE REQUIREMENTS AND WARRANTY INFORMATION.

Replacement Parts

Model: 415

WATTS ITEM#	DESCRIPTIONS	SERVICE LIFE
FPMB5-978	Sediment filter, 5 micron, 10”	6-12 months
F109009	Carbon block filter, 5 micron, 10”	6-12 months
W-1812-50	TFC membrane, 50GPD @ 60 PSI	24-36 months
FI-CBA010J.38	Inline carbon filter	12-18 months

Model: 525 & 525P

WATTS ITEM#	DESCRIPTIONS	SERVICE LIFE
FPMB5-978	Sediment filter, 5 micron, 10”	6-12 months
F109009	Carbon block filter, 5 micron, 10”	6-12 months
F109009	Carbon block filter, 5 micron, 10”	6-12 months
W-1812-50	TFC membrane, 50GPD @ 60 PSI	24-36 months
FI-CBA010J.38	Inline carbon filter	12-18 months

ARSENIC FACT SHEET

Arsenic (As) is a naturally occurring contaminant found in many ground waters. Arsenic in water has no color, taste or odor. It must be measured by an arsenic test kit or lab test.

Public water utilities must have their water tested for arsenic. You can obtain the results from your water utility contained with in your consumer confidence report. If you have your own well, you will need to have the water evaluated. The local health department or the state environmental health agency can provide a list of test kits or certified labs.

There are two forms of arsenic: pentavalent arsenic (also called As (V), As (+5)) and trivalent arsenic (also called As (III), As (+3)). In well water, arsenic may be pentavalent, trivalent, or a combination of both. Although both forms of arsenic are potentially hazardous to your health, trivalent arsenic is considered more harmful than pentavalent arsenic.

RO systems are very effective at removing pentavalent arsenic. A free chlorine residual will rapidly convert trivalent arsenic to pentavalent arsenic. Other water treatment chemicals such as ozone and potassium permanganate will also change trivalent arsenic to pentavalent arsenic. A combined chlorine residual (also called chloramine) where it does convert trivalent arsenic to pentavalent arsenic, may not convert all the trivalent arsenic in to pentavalent arsenic. If you get your water from a public water utility, contact the utility to find out if free chlorine or combined chlorine is used in the water system.

This Watts Water Quality reverse osmosis system is designed to remove up to 98% of pentavalent arsenic. It will not convert trivalent arsenic to pentavalent arsenic. Under laboratory standard testing conditions, this system reduced 0.30 mg/L (ppm) pentavalent arsenic to under 0.010 mg/L (ppm) (the USEPA standard for drinking water). Actual performance of the system may vary depending on specific water quality conditions at the consumer’s installation. In addition to the independent laboratory standard testing conditions Watts has conducted additional field testing on our reverse osmosis units to determine trivalent arsenic reduction capabilities. Based upon Watts field testing, it has been determined that the RO units are capable of reducing up to 67% of trivalent arsenic from the drinking water.

TROUBLE SHOOTING
Note: turn off the system before servicing

PROBLEM	CAUSE	SOLUTIONS
Milky colored water	Air in system	Air in the system is a normal occurrence with initial startup of the RO system. This milky look will disappear during normal use within 1 to 2 weeks.
Noise from faucet	Air gap faucet Location of drain saddle Restriction in drain line	Will disappear after system shuts down Relocate the drain to above water trap. Blockage sometimes caused by debris from garbage disposal or dishwasher
Small amount of water from storage tank	System just starting up Air pressure in storage tank is low	Normally it takes 2-3 hours to fill tank. Low water pressure and/or temperatures can reduce production rate. Add pressure to storage tank. The pressure should be 8-10 psi when the tank is empty
Slow production	Low water pressure Crimps in tubing Clogged pre-filters Fouled membrane	Add a booster pump Make sure tubing is straight Replace pre-filters Replace membrane
Water taste or smell offensive	Post carbon is depleted Fouled membrane Sanitizer not flushed out	Replace post carbon Replace membrane Drain storage tank and Refill it overnight
No drain water	Clogged flow restrictor	Replace flow restrictor
Leaks	Fittings are not tightened Twisted O-ring Misalignment of hole in drain saddle	Tighten fittings as necessary Replace a o-ring Realign drain saddle

Limited Warranty

This Reverse Osmosis System is warranted against defects in material and workmanship for a period of one year from the date of installation, not to exceed 1 year from the date of manufacture. Expendable items such as filter cartridges and membranes are not covered by this warranty.

How to obtain Warranty Service: Contact the dealer that you purchased the system from. Watts will work in conjunction with our dealer to repair or replace at our discretion any unit that is determined to be defective. No returns will be accepted with out the proper return authorization number.

What this warranty does not cover: This warranty does not cover defects resulting from improper installation, from abuse, misuse, misapplication, improper maintenance, neglect, alteration, accidents, casualties, fire, flood, freezing, environmental factors, water pressure spikes or other such acts of God.

Return shipping charges are not included in this warranty and are the responsibility of the end user.

This warranty will be void if defects occur due to failure to observe the following conditions:

1. The Reverse Osmosis System must be hooked up to a potable municipal or well cold water supply.
2. The hardness of the water should not exceed 10 grains per gallon, or 170 ppm.
3. Maximum incoming iron must be less than 0.2 ppm.
4. The pH of the water must not be lower than 2 or higher than 11
5. The incoming water pressure must be between 40 and 100 pounds per square inch.
6. Incoming water to the RO cannot exceed 105 degrees F (40 degrees C.)
7. Incoming TDS/Total Dissolved Solids not to exceed 1000 ppm.
8. Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

This warranty does not cover any equipment that is relocated from the site of its original installation.

This warranty does not cover any equipment that is installed or used outside the United States of America and Canada.

LIMITATIONS AND EXCLUSIONS:

WATTS WILL NOT BE RESPONSIBLE FOR ANY IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. WATTS WILL NOT BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING WATER DAMAGE, TRAVEL EXPENSE, TELEPHONE CHARGES, LOSS OF REVENUE, LOSS OF TIME, INCONVENIENCE, LOSS OF USE OF THE EQUIPMENT, AND DAMAGE CAUSED BY THIS EQUIPMENT AND ITS FAILURE TO FUNCTION PROPERLY. THIS WARRANTY SETS FORTH ALL OF WATTS RESPONSIBILITIES REGARDING THIS EQUIPMENT.

OTHER CONDITIONS:

If Watts chooses to replace the equipment, it may be replace with reconditioned equipment. Parts used in repairing or replacing the equipment will be warranted for 90 days from the date the equipment is returned to you or for the remainder of the original warranty period, whichever is longer. This warranty is not assignable or transferable.

LIMITED WARRANTY: Certain Watts products come with a limited warranty from Watts. Other products may have no warranty or are covered by the original manufacturer's warranty only. For specific product warranty information, please visit www.watts.com or the published literature that comes with your product. Any remedies stated in such warranties are exclusive and are the only remedies for breach of warranty. EXCEPT FOR THE APPLICABLE PRODUCT WARRANTY, IF ANY, WATTS MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED. TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, WATTS HEREBY SPECIFICALLY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND IN NO EVENT SHALL WATTS BE LIABLE, IN CONTRACT, TORT, STRICT LIABILITY OR UNDER ANY OTHER LEGAL THEORY, FOR INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR PROPERTY DAMAGE, REGARDLESS OF WHETHER IT WAS INFORMED ABOUT THE POSSIBILITY OF SUCH DAMAGES.

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USA: T: (978) 689-6066 • F: (978) 975-8350 • Watts.com
Canada: T: (888) 208-8927 • F: (905) 481-2316 • Watts.ca
Latin America: T: (52) 55-4122-0138 • Watts.com

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