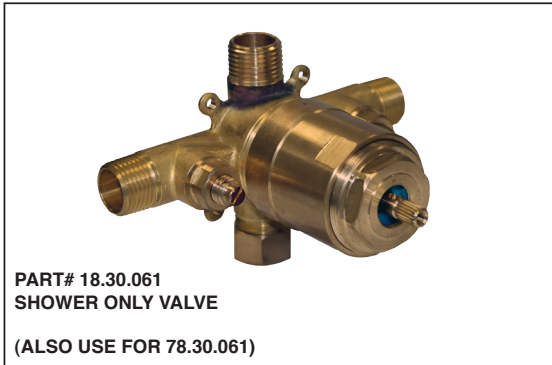


Pressure Balancing Valve Shower or Tub/Shower Installation Instructions

SIGMA
Designer Faucetry



This valve is precision engineered to provide satisfactory performance provided it is installed and operated in accordance with recommendations contained in these instructions. Please be sure to familiarize yourself with these instructions.

NOTICE: These instructions do not represent step-by-step directions. They are a product supplement only to be used by a qualified and licensed plumber. We recommend all plumbing fixtures be installed by a professional.

SPECIFICATIONS

Minimum operating pressure	20 psi
Maximum operating pressure	125 psi
Max hot water inlet temp.	190°F
Hot and cold water inlets	1/2" NPT male
Shower and tub outlet	1/2" NPT male
Flow capacity	5 GPM / 60 psi

PRIOR TO STARTING:

1. FLUSH lines of debris prior to starting. Debris may clog cartridge.
2. The mud guard represents a typical hole size required to access the integral service stops and the removable cartridge. The rough valve comes PRE-ASSEMBLED and FACTORY READY TO INSTALL.
3. Be alert that the valve body is not installed upside down. See markings on BACK of valve.
4. The screwdriver service stops should always be in the full-open position with the valve in use. They are not to be used to restrict flow of either hot or cold inlets. THE HOT AND COLD WATER MUST BE FULLY OPERATIONAL AT THE VALVE INLETS OR THE UNIT WILL NOT FUNCTION PROPERLY DURING TESTING OR EVEN FLUSHING.
5. When soldering the valve body, it is NOT necessary to remove the cartridge assembly.
6. Shower valve (Part # 18.30.061 or Part # 78.30.061) may be used for shower only or tub only. The unused port must be capped by plumber during installation.
7. Make sure to flush or raise grouting on a tiled wall surface to prevent seepage behind plate.

ROUGH-IN OF VALVE

1. Rough valve body into wall, connecting piping to 1/2" Female copper sockets or 1/2" Male I.P. nipples. **NOTE "UP AND DOWN" MARKINGS ON BACK OF VALVE.**
2. The depth of rough-in should account for thickness of wall materials to be used, combining thickness of wall board and finished wall materials. It is **CRITICAL TO PLACE MUD GUARD FLUSH WITH FINISHED WALL.** FIG. 1
3. Anchor installation to bracing between studs. (Ears on the valve body can be used by removing the plastic guard OR by anchoring the connection piping.)
4. Valve should be pressurized and tested for leaks at the connections. DO NOT close wall until valve is tested.
5. Mud guard should be left attached to the valve until the finished wall material is installed.
6. Use only propane or butane gas when soldering. Do not use oxygen / acetylene as extreme heat may damage internal components. Do not solder within 4 inches of valve port. Open stop valves when soldering inlets.
7. **FOR TUB/SHOWER INSTALLATIONS:** 36" must be allowed between valve and showerhead to prevent stacking. If PEX is utilized, the supply line must be oversized to 3/4" for full flow capacity.

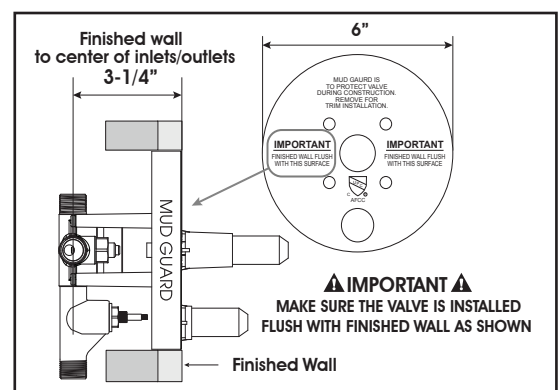


FIG. 1

⚠ SETTING HOT LIMIT STOP ⚠

IT IS THE RESPONSIBILITY OF THE INSTALLER TO SET THE MAXIMUM OUTPUT TEMPERATURE OF THE VALVE AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION IN ACCORDANCE WITH ASSE/ANSI 1016-2005 4.2.2 REQUIREMENTS.

1. To properly set the limit ring in accordance with local code requirements, you must use a thermometer or calibrated sensing device to accurately measure the outlet water temperature.
2. Turn off the water using both screw driver service stops.
3. Expose the top of the cartridge by removing the top hex cap from the valve body. FIG. 2
4. Remove the temperature ring by placing the blade of a knife into the groove and prying it off. FIG. 3. It is not necessary to remove the inner hex nut.
5. Locate the stop tab on the bottom of the ring. The further it is re-oriented in a counter-clock wise direction, the shorter the travel allowed (and thus, the lower the temperature output possible). It is suggested to allow approximately 8 splines of movement. However, local codes vary and water supply temperatures vary as well.
6. **IMPORTANT!! BEFORE RE-ORIENTING THE RING, BE SURE THE STEM IS IN THE FULL OFF POSITION.**
7. Re-install top hex cap using a wrench. Open both service stops and confirm the maximum hot water temperature.

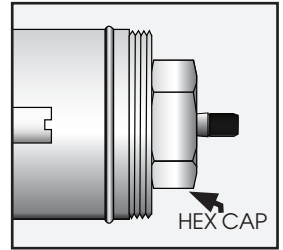


FIG. 2

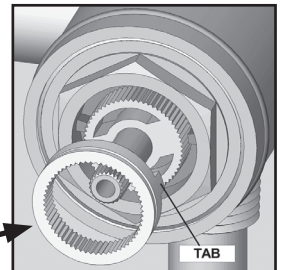


FIG. 3

INSTALLING TRIM

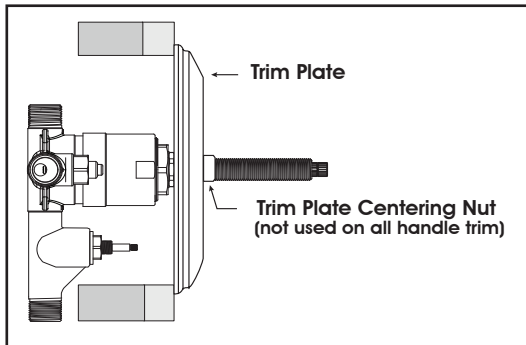


FIG. 4a

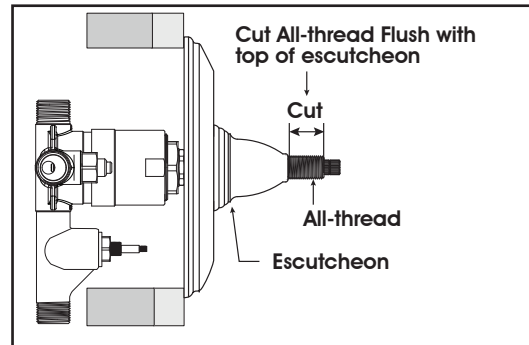


FIG. 4b

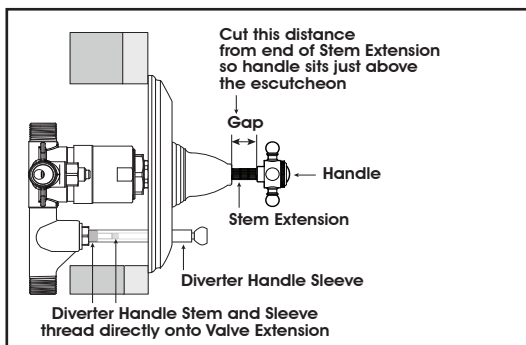
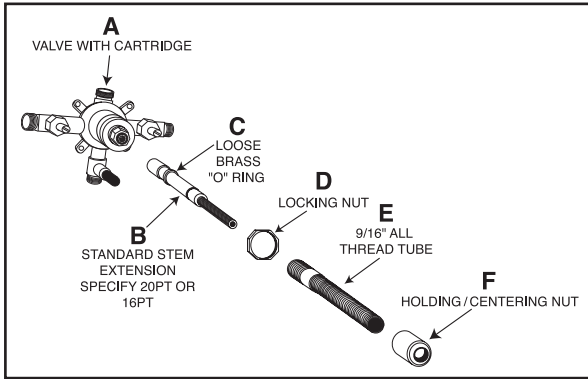


FIG. 4c

REPLACEMENT PARTS:

18.30.893	Cartridge
18.30.894	Diverter Cartridge
18.30.891	16 pt. stem extension
18.30.892	20 pt. stem extension
18.30.890	All thread

1. Install extended stem and all thread onto cartridge stem. Fully seat stem onto cartridge by tightly securing all thread nipple and locking nut onto valve. Install plate and centering nut. FIG 4a.
2. Screw on escutcheon to all thread and mark nipple where excess thread needs to be cut off, allowing stem to extend. FIG 4b.
3. Place handle on stem and measure excess between escutcheon and handle base. Remove handle and cut excess from end of stem using cut marks provided. FIG 4c.
4. **FOR TUB/SHOWER TRIM:** Thread on trim pieces provided. Threads are fine; treat gently.



HANDLE TENSION ADJUSTMENT

SIGMA offers many handles of varying sizes and weights. Each design allows the installer to set the torque (tension) on each valve that uses the standard assembly B through F as shown. Part C is a loose brass O-ring that is compressed inside Part E by tightening or loosening Part D.

REVERSING CARTRIDGE FOR BACK-TO-BACK INSTALLATIONS ONLY

When a valve is installed with reversed supply connections (Typically in a Back-to-Back situation), the cartridge can be reversed to allow normal operation. FIG. 5

1. Expose top of valve.
2. Loosen and remove hex cap above cartridge with wrench.
3. Remove cartridge from valve cavity.
4. Look into cavity to see upper and lower locating holes for cartridge pin on the floor of the cavity.
5. Re-insert cartridge, aligning the pin with lower locating hole (Partially cutaway by discharge opening).
6. Press cartridge in firmly to assure that pin has been properly inserted.
7. Secure cartridge by tightly re-assembling the cap using wrench.
8. Re-assemble trim.

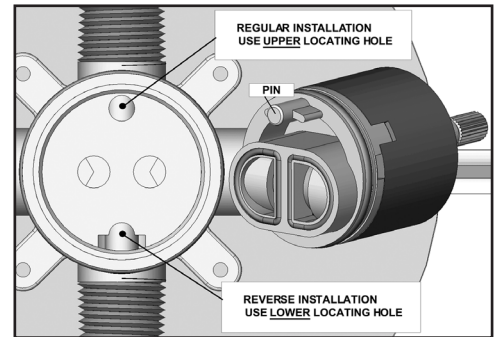


FIG. 5

Trouble Shooting - Pressure Balancing Valve

Malfunction	Cause	Remedy
Shower control opening through hot.	Hot and cold water supplies have been connected in reverse.	Rotate cartridge as described in "Back to Back Installation"
Tub filler or shower head drips after shutting off valve.	Water remains in the piping column to the shower head (this is normal) Failure to close cartridge before setting temperature ring causing a partially opened cartridge. Seal on the inlet of the cartridge is faulty.	Allow approx. 3-5 min. to drain column.* Reset the temperature ring as described on Figure 3. Check the seal for cuts or damage and replace if necessary.
Shower insufficiently hot.	Adjustable handle position stop incorrectly set.	- Reset handle position. - Check hot water source temperature setting.
No flow of hot or cold water.	Either the hot or the cold side is not fully pressurized. Debris caught inside the inlets of the cartridge. Valve could be too deep in the wall.	Be sure service stops are both wide open and system is fully pressurized. Reset cartridge and flush out any debris from the inlets. Install stem extension kit.
Trim parts do not operate valve correctly.	Stem and all thread not installed to proper lengths.	Remove excess length from stem and all thread, or call customer service.
Trim plate will not install flush to wall.	Valve body was installed beyond finish wall.	Re-install valve to proper depth or call dealer for custom trim plate.

***NOTE: At no time try to stop dripping by applying extreme force when closing the valve!**

Maintenance

The cartridge is designed for minimum maintenance in normal domestic use. If a malfunction occurs then this will probably necessitate a complete replacement. The cartridge contains no internally serviceable parts! Contact your installer or dealer.

To Clean trim, simply wipe gently with a damp cloth. Many household cleaners contain mild abrasives or chemicals and should never be used for cleaning decorative faucets.

Valve meets requirements of the following organizations: CSA B-125, ANSI A112.18.1M and ASSE 1016

Product/Finish Warranty: American Faucet & Coatings Corporation warrants that products are free from defects in materials and workmanship for five (5) years from date of invoice. In addition, our Finish Warranty provides limited LIFETIME coverage for Chrome & PVD finishes, five (5) years for Omega powder coated finishes & Polished Gold. Living finishes are warranted for workmanship only. If any material proves to be defective after inspection by our company, it will be repaired or replaced at our discretion at no charge. However, no claims for labor, shipping costs, or consequential damages will be accepted.

What we will do: We will restore any product whose finish proves to be defective back to its original finish at no charge during the appropriate warranty period stated above. Proof of purchase must be provided. After the warranty period, American Faucet and Coatings Corporation will refinish any of its faucets at the prevailing appropriate charge.

What you must do: The faucets must be properly installed according to our instructions and specifications & are for residential use only. The faucets cannot be altered in any way. You must maintain and clean the faucets in accordance with the instructions provided with the product. You must use the faucet(s) for residential use only.

How to obtain service: Send your name, address, and telephone number along with a statement describing the nature of the problem and your paid sales slip or other proof of purchase to:

**American Faucet & Coatings Corporation
3280 Corporate View
Vista, CA 92081**

We will then contact you and take appropriate action. Do not send us any part(s) of your faucet(s) or its various connecting hoses unless we have contacted you and have sent you an approved RGA form. All transportation charges for returned goods must be paid by the customer.

What is not covered: This warranty does not cover the crystal/glass, or porcelain products of any faucet or the drain assembly or aerator on other than the Chrome or PVD finishes. This warranty also does not cover damage caused by accident, alterations, misuse, abuse, normal wear and tear, lime deposits, direct exposure to salty air or corrosive materials, or the color change that takes place with the passage of time, or use in any manner contrary to American Faucet and Coatings Corporation's printed instructions. In the case of in-the-wall installations American Faucet and Coatings Corp. will assume no liability if there is no access. **In no event will we be liable for labor of any kind, incidental or consequential damages.** This warranty is extended in lieu of all other expressed or implied warranties, whether oral or written. **Many installation compounds are harmful to brass and metal finishes. The use of any lead-based or acidic curing adhesive, silicone, mastic, or plumber's putty on or near our finished products will void the finish warranty. Use only sealants which are neutral curing and are not reactive with metal and brass finishes.** American Faucet & Coatings Corporation reserves the right to change, modify or alter its products as deemed necessary. This warranty supersedes any other American Faucet & Coatings Corporation warranties, whether oral or written.

Unless otherwise contrary to state law governing the purchase, American Faucet and Coatings Corporation's liability will not exceed the wholesale price for the American Faucet and Coatings Corporation product considered defective. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow exclusion of incidental or consequential damages, so the above limitation may not apply to you.

LIFETIME WARRANTY ON 1/4 TURN CERAMIC DISC CARTRIDGE

Should the ceramic disc cartridge in your faucet ever fail, American Faucet & Coatings Corporation will replace the failed part free of charge to the original purchaser of the product. Your cost will be a \$9.95 handling and mailing charge. Labor not included. When ordering replacements, denote for widespread or centerset lavatory, roman tub, or other. Include age of faucet. (This does not include thermostatic, pressure balance, or diverter cartridges.)

**CONSUMER WARNING
CALIFORNIA PROPOSITION 65 WARNING**

Among other chemicals known to cause harm, this faucet contains lead, a chemical known to the State of California to cause birth defects or other reproductive harm.

All faucets and products made of leaded brass alloys, even those that comply with U.S. Environmental Protection Agency regulations, contribute small amounts of lead to water that is allowed to stand in contact with the brass. This faucet complies with all E.P.A. regulations regarding the amount of lead used in plumbing brass and solder. The amount of lead contributed by any faucet is highest when the faucet is new. The following steps will reduce potential for exposure to lead from faucets and other parts of the plumbing system:

- Always run the water for a few seconds prior to use for drinking or cooking.
- Use only cold water for drinking or cooking.
- If you wish to flush the entire plumbing system of water that has been standing in the pipes or other fittings, run the cold water until the temperature of the water drops, indicating water coming from the outside main.
- If you are concerned about lead in your water, have your water tested.

American Faucet & Coatings Corporation