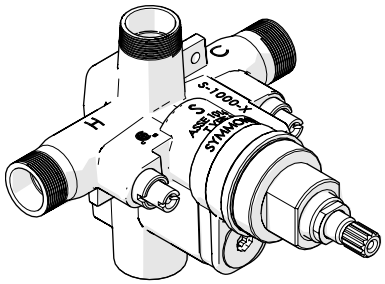
INSTALLATION GUIDELINES
PRESSURE BALANCE VALVE

SYMMONS for WATERWORKS

VIAWORKS 1/2” PRESSURE BALANCE VALVE



STYLES	
GUPB02	GU02PB†

REQUIRED PLUMBING DETAILS:

- For use with SHOWERHEADS rated at 1.0 gpm [3.8 L/min] or higher.

IMPORTANT:

- To ensure this VALVE is installed properly, you must read and follow these guidelines.
- The owner/user of this VALVE must keep this information for future reference.
- This VALVE and associated TRIM **(SOLD SEPARATELY)** must be installed by a professional licensed contractor and must be onsite prior to rough-in. This allows the installer to visualize the installation.
- This VALVE is sold partially assembled but shown fully disassembled for illustrative and service purposes only. Inspect the VALVE to ensure you have all the parts required for proper installation.
- This VALVE is equipped with an adjustable LIMIT STOP SCREW. The LIMIT STOP DEVICE is used to limit the principal handle from being turned to undesired hot water discharge temperatures. FAILURE to adjust the LIMIT STOP SCREW properly increases the chances for serious injury.
- Be sure your installation conforms to all federal, state, and local codes. In the State of Massachusetts, all installations must comply with the rules and regulations set forth within 248 CMR.
- Supply fittings are designed in accordance with pressure and temperature ratings specified in ASME A112.18.1/B125.
- If this VALVE will remain unused for an extended period of time (over 3 months), then the water to the VALVE should be shut off (via service stops or system control valve) and the VALVE should be opened to allow the water in the VALVE to evaporate. This is to keep the CARTRIDGE from being exposed to stagnant or hard water, and prevent the PISTON inside the CARTRIDGE from sticking once the VALVE is in use again.
- **WINTERIZE:** If this VALVE will remain unused during the winter months, then the water to the VALVE should be shut off (via service stops or system control valve) and the CARTRIDGE should be removed and replaced with the FLUSH CAP.
- If further assistance is required, please contact Product Support at 1-800-927-2120 Monday through Friday, 8 am – 6 pm EST.

VALVE FUNCTION:

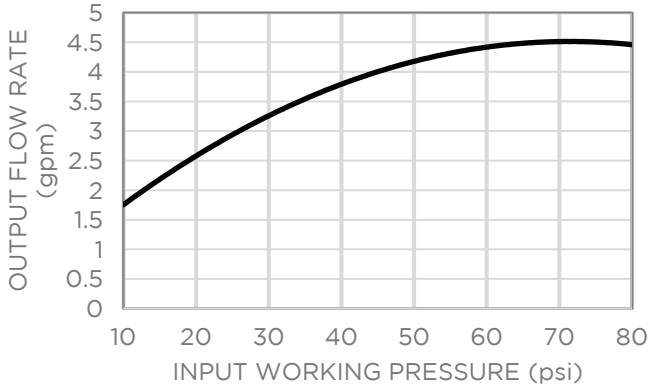
- The principal handle of the VALVE controls on/off and temperature. The handle rotates counter-clockwise through the cold, the warm, then the hot positions.
- The diverter option of the VALVE gives the user an added control feature. The VALVE has a diverter handle below the principal handle. This is used to divert flow from the tub (or other fitting like a handshower) to the showerhead, which is done by moving the diverter handle to the left for the tub flow and to the right for the shower flow.
- ALL VALVES AND TRIMS SOLD SEPARATELY.

TECHNICAL DETAILS:

DETAIL	SPECIFICATION	
INLET CONNECTION	1/2” MALE NPT† / 1/2” COPPER SWEAT	
OUTLET CONNECTION	TOP OUTLET	1/2” MALE NPT† / 1/2” COPPER SWEAT
	BOTTOM OUTLET	1/2” FEMALE NPT†
ROUGH-IN DEPTH	VARIES BY TRIM*	
UNRESTRICTED MAX FLOW RATE	4.33 gpm [16.4 L/ min] @ 60psi [4.0 bar]	
WATER PRESSURE	85psi [6.0 bar] **MAX**, 20psi [1.5 bar] **MIN**, 45psi [3.0 bar] **(RECOMMENDED)**	

† **Style No.** and **GU02PB** is provided with **BSPP** ADAPTERS. ADAPTERS are packaged separately and assembly is required. Replacement ADAPTERS can be ordered separately:

- Universal 1/2” NPT Female x 1/2” Male BSPP Adapter
  Style No. UNUK03
- Universal 1/2” Male NPT x 1/2” Female BSPP Adapter
  Style No. UNUK02



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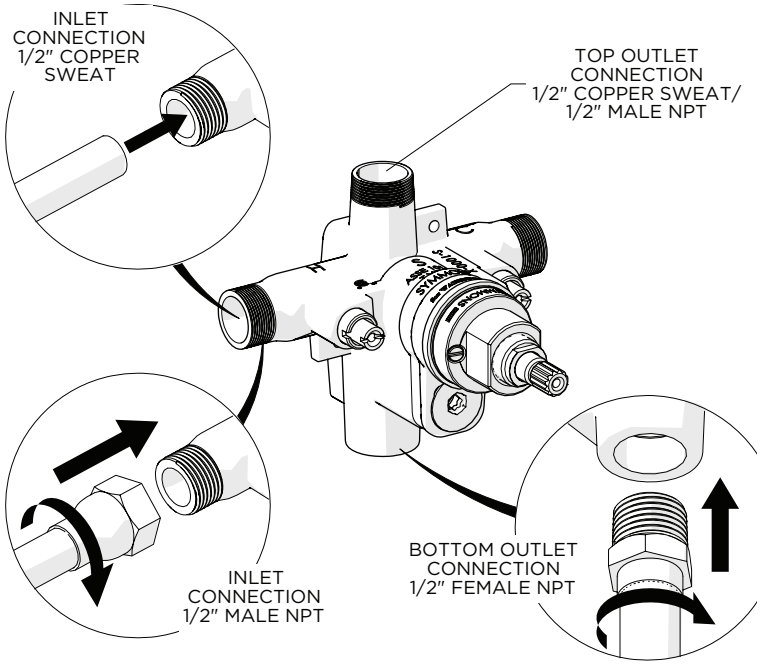
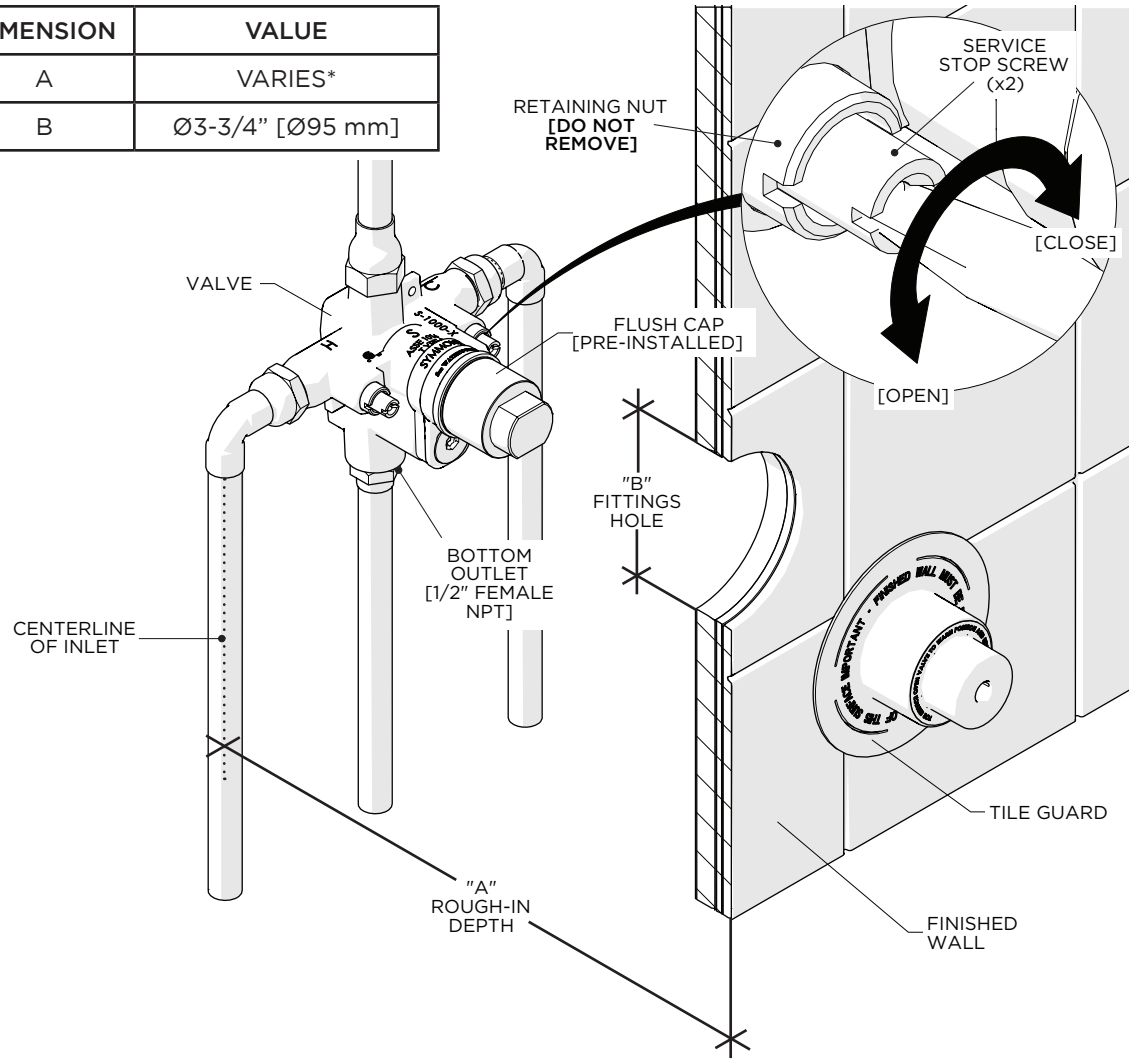
PRESSURE BALANCE VALVE

SYMMONS for WATERWORKS

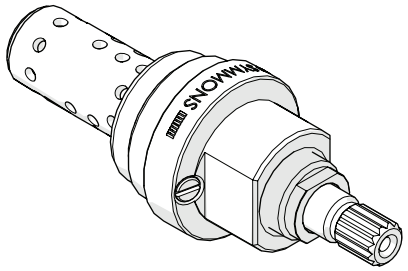
ROUGH-IN AND VALVE PREPARATION: GUPB02 SHOWN



DIMENSION	VALUE
A	VARIES*
B	Ø3-3/4" [Ø95 mm]



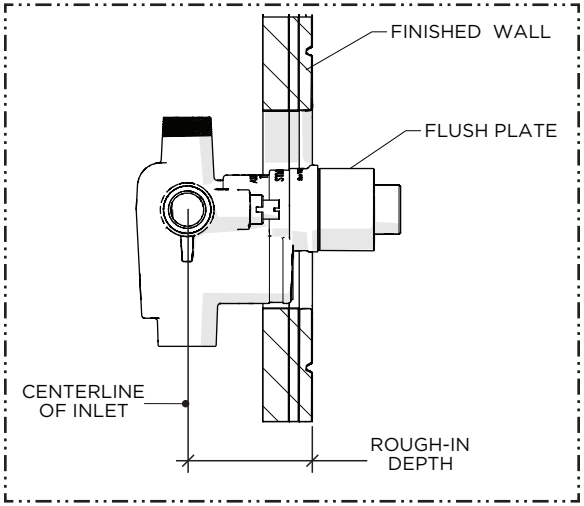
- Check incoming water pressure.
- The rough-in depth is measured from the centerline of the inlets to the surface of the finished wall. Refer to the Installation Guidelines of the specific TRIM being used for related information.
- **CAUTION** should be taken when heating the VALVE for sweat connections. To avoid damaging internal components, do **NOT** expose the VALVE to heat for longer than 2 minutes when making sweat connections.
- This VALVE is shipped with a pre-installed FLUSH CAP and is ready for flushing the lines. The supply lines MUST BE flushed before installing the CARTRIDGE.
- Ensure the FLUSH CAP is re-torqued to **41 Nm [30 ft-lb]** after making sweat connections.
- Failure to flush the lines will permanently damage the CARTRIDGE and **VOID** the warranty. Repeat the flushing process as needed prior to final TRIM installation.
- This VALVE includes integrated SERVICE STOPS.
- Make sure the TILE GUARD is in place prior to finished wall installation to ensure future access for servicing.



IMPORTANT: The CARTRIDGE is packaged separately and provided with the VALVE. **SET ASIDE UNTIL FINAL TRIM INSTALLATION.**

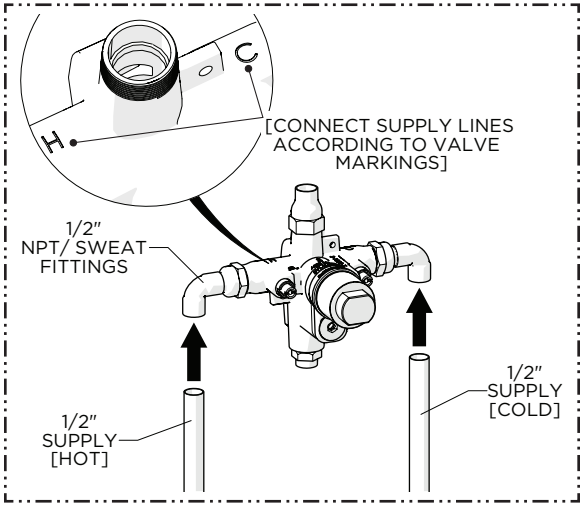
INSTALLATION GUIDELINES
PRESSURE BALANCE VALVE

SYMMONS for WATERWORKS



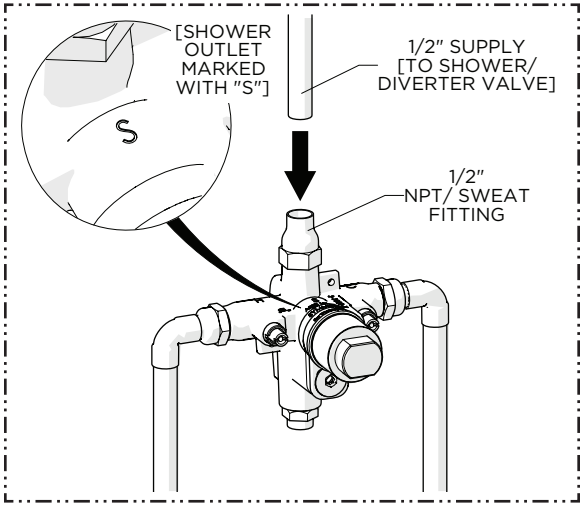
1. See the Installation Guidelines of the specific TRIM **(sold separately)** being used for the MAX and MIN rough-in depth dimensions.

   NOTE: The rough-in depth is measured from the centerline of the inlets to the surface of the finished wall.



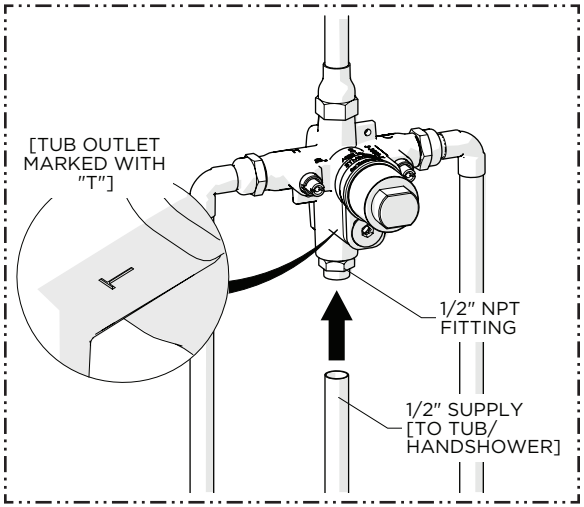
2. Run 1/2" supply lines to the proper height and depth of the VALVE inlets making sure they are piped according to the VALVE markings and all piping and fittings are properly secured.

   NOTE: The inlet connections can either be 1/2" NPT or 1/2" copper sweat and BSPP ADAPTERS are provided for International Installations.



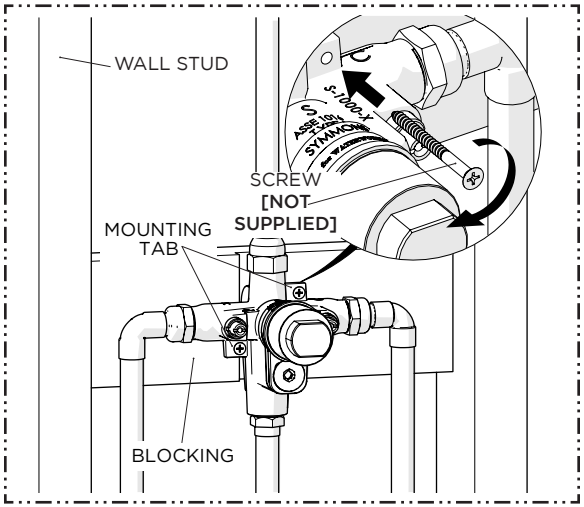
3. Run a 1/2" supply line from the top outlet to the showerhead **(sold separately)** making sure to secure all piping and fittings.

   NOTE: The shower outlet connection can either be 1/2" NPT or 1/2" copper sweat and a BSPP ADAPTER is provided for International Installations.

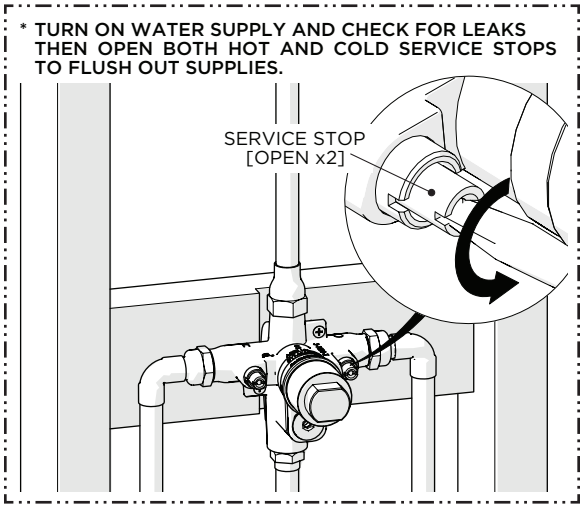


4. Run a 1/2" supply line from the bottom outlet to the tub spout or handshower **(sold separately)** making sure to secure all piping and fittings.

   NOTE: The tub outlet connection is 1/2" NPT and a BSPP ADAPTER is provided for International Installations.



5. If necessary, add blocking behind to secure the VALVE using the built in MOUNTING TABS.

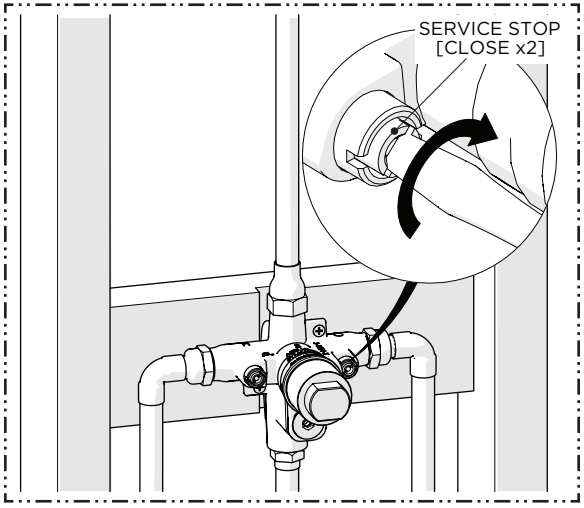


6. Turn on the water supplies then open the hot and cold SERVICE STOPS to flush out the lines and check for leaks.

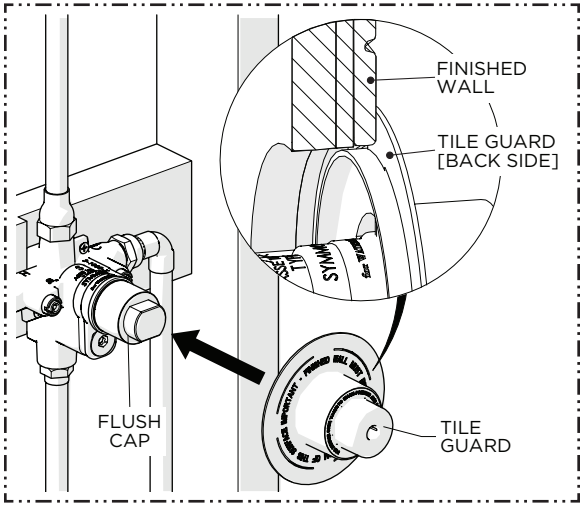
   CAUTION: FAILURE TO FLUSH THE SUPPLY LINES WILL PERMANENTLY DAMAGE THE CARTRIDGE AND VOID THE WARRANTY!

INSTALLATION GUIDELINES
PRESSURE BALANCE VALVE

SYMMONS for WATERWORKS

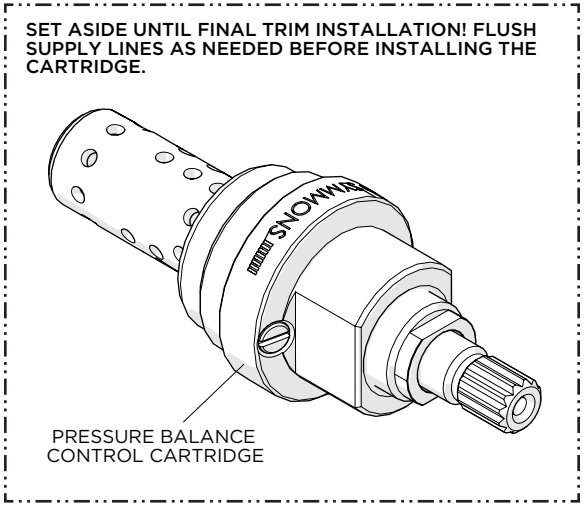


7. After the supply lines have been fully flushed, turn off the water and close both SERVICE STOPS.



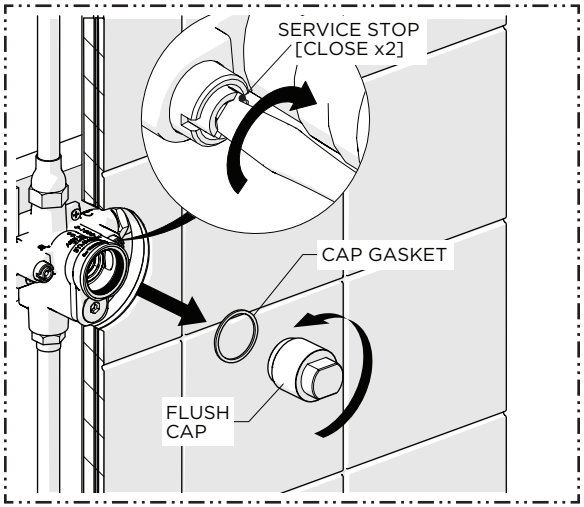
8. Firmly push the TILE GUARD onto the FLUSH CAP. The finished wall must be flush with the back side of the TILE GUARD FLANGE and should **NOT** be removed until final trim installation.

   NOTE: The TILE GUARD will ensure the exact opening to allow access for future servicing is created.



IMPORTANT:

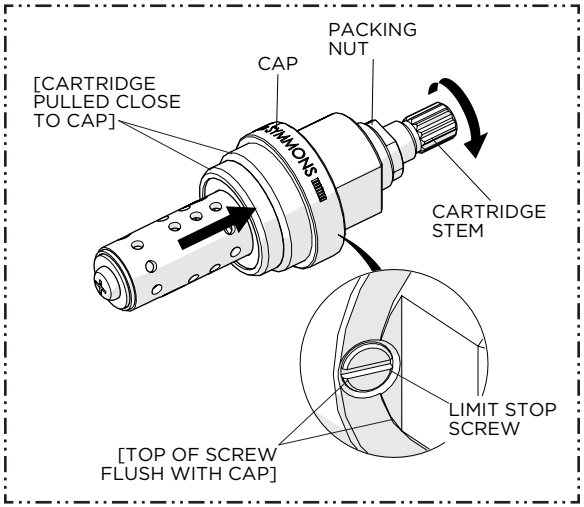
9. **SET ASIDE THE CARTRIDGE UNTIL FINAL TRIM INSTALLATION MAKING SURE TO REPEAT THE FLUSHING PROCESS AS NEEDED BEFORE INSTALLING THE CARTRIDGE.**



CARTRIDGE INSTALLATION STEPS 10 - 14:

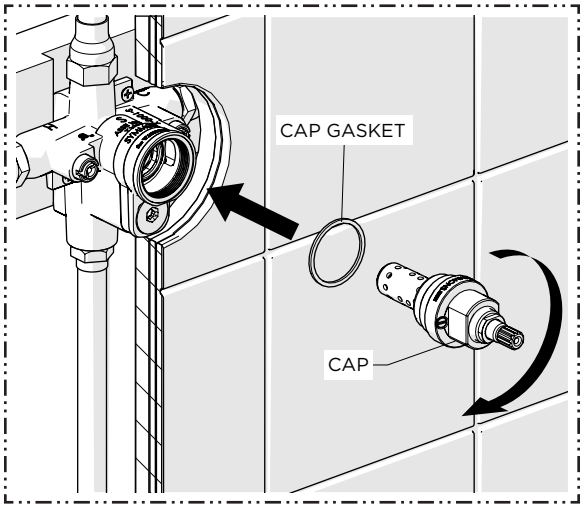
10. Once the trim is ready to install and the supply lines have been thoroughly flushed, close both hot and cold SERVICE STOPS and remove the FLUSH CAP.

    NOTE: Do **NOT** discard the CAP GASKET.



11. To avoid distortion of the CARTRIDGE STEM, leave the LIMIT STOP SCREW, PACKING and PACKING NUT in place then rotate the CARTRIDGE STEM counter-clockwise and to draw it close to the CAP.

    NOTE: The LIMIT STOP SCREW is pre-set to the full hot position. The top of the SCREW should be flush with the CAP.



12. Insert the CARTRIDGE into the VALVE then thread and securely tighten the CAP into the VALVE making sure to include the CAP GASKET.

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PRESSURE BALANCE VALVE

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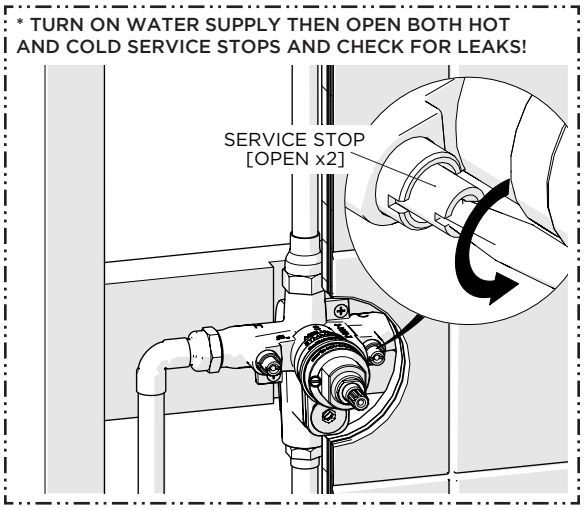
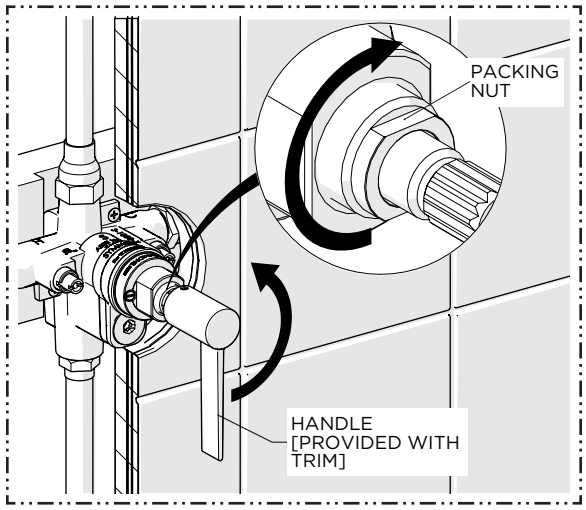
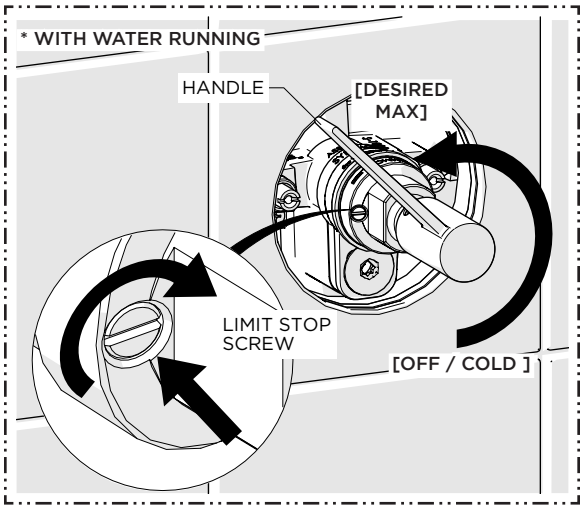


13. Open both hot and cold SERVICE STOPS and check the VALVE and all connections for leaks.

    NOTE: The VALVE will not operate unless BOTH hot and cold supplies are turned on.

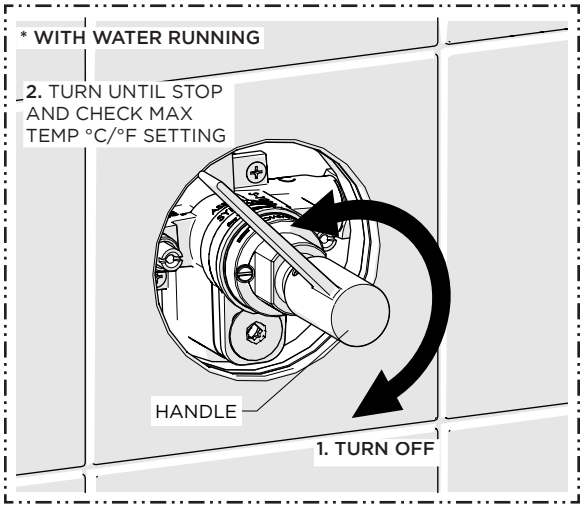


14. Using the HANDLE provided with the TRIM, operate the VALVE and, if necessary, tighten the PACKING NUT to set the desired frictional resistance when turning the HANDLE.



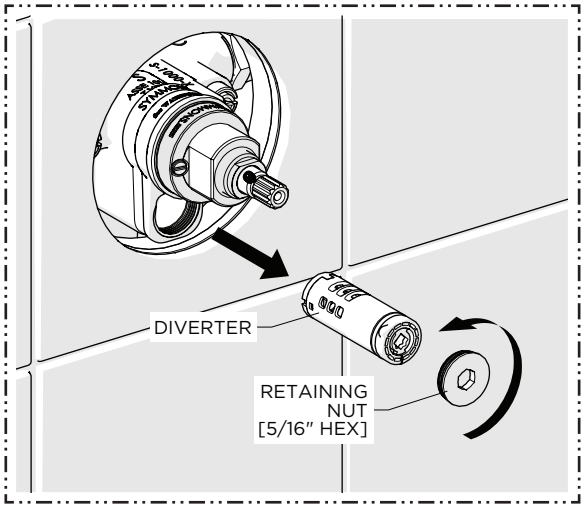
TEMPERATURE CALIBRATION STEPS 15 - 16:

15. Using the HANDLE provided with the TRIM, slowly turn the CARTRIDGE STEM to adjust the temperature to the MAXIMUM desired bathing temperature, verified with a thermometer, then turn the LIMIT STOP SCREW clockwise until it seats.



16. Turn the VALVE off then back on until snug to verify that the LIMIT STOP SCREW functions properly and the maximum temperature does **NOT** exceed the temperature that was previously set.

IF THE MAXIMUM BATHING TEMPERATURE IS NOT CORRECT, REPEAT THE CALIBRATION PROCEDURES. FAILURE TO ADJUST THE LIMIT STOP SCREW MAY RESULT IN SERIOUS SCALDING.



SERVICING DIVERTER CARTRIDGE:

17. Unthread the RETAINING NUT then pull the DIVERTER out of the VALVE.

    NOTE: Do **NOT** damage the back surface of the VALVE if removing the rear seal of the DIVERTER. Verify all surfaces are clean and, if necessary, clean the surfaces with a nylon or soft bristle brush only.

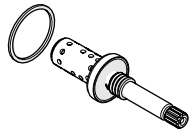
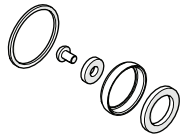
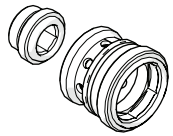
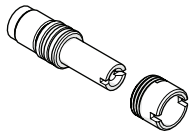
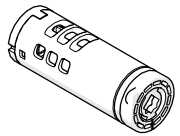
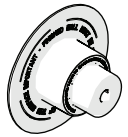
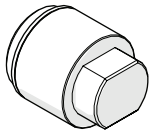
TROUBLESHOOTING AND SERVICING
PRESSURE BALANCE VALVE

SYMMONS for WATERWORKS

TROUBLESHOOTING:

- VALVE will not flow water.
  - Cause: Hot and cold water not turned on or SERVICE STOPS not opened.
  - Solution: Be sure both supplies are turned on and SERVICE STOPS are open. The VALVE will not operate unless both hot and cold water inlets have pressure.
- VALVE leaks when shut-off.
  - Cause: Hot and cold water WASHERS are worn or foreign matter (e.g., solder, chips, etc.) is between the WASHER and SEAT surfaces.
  - Solution: Replace hot and cold washers and inspect top surface on hot and cold seats for damage.
- Temperature out of VALVE reduces gradually during use.
  - Cause: Supply system is running out of hot water.
  - Solution: Reduce maximum flow rate out of VALVE or showerhead. This will allow longer period of use before reduction of hot water supply.
- Water volume from VALVE is inconsistent during operation, VALVE delivers an insufficient quantity of hot and cold water, or temperature fluctuates without moving PRINCIPAL HANDLE.
  - Cause: CONTROL PISTON housed in the CARTRIDGE is blocked from free movement by foreign matter.
  - Solution: With VALVE open halfway, remove the principal handle and tap the CARTRIDGE STEM with a plastic hammer.
  - If problem is not solved remove the CARTRIDGE then tap the handle end of the CARTRIDGE against a solid object to free the piston and rinse the CARTRIDGE. If the PISTON comes free, shake it and feel for resistance. The PISTON should move freely in the CARTRIDGE and 'click' when it is shaken. Soaking in house-hold vinegar will help free debris build up.
- Hot water is delivered when VALVE is initially opened then turns colder as the principal handle is rotated counterclockwise.
  - Cause: The VALVE is piped incorrectly with the supply lines being reversed.
  - Solution: If an access panel is available, reconnect the supply lines appropriately. If an access panel is not available, the REVERSE SEAT KIT must be installed.

SERVICE PARTS:

	STYLE	DESCRIPTION
	106219	CARTRIDGE RETAINING KIT
	106220	CARTRIDGE
	106221	VALVE SEAL KIT
	106222	VALVE SEAT KIT
	106223	SERVICE STOP KIT
	106224	DIVERTER CARTRIDGE
	106225	TILE GUARD
	106227	FLUSH CAP
	106228	REVERSE SEAT KIT
	106226	SEAT REMOVAL TOOL