



9960AB Thermostatic Balancing Valves

How to use your Thermostatic Balancing Valve 9960AB (Installation, Operation and Maintenance Instructions).

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RED-WHITE VALVE CORP. (RWV) assumes no responsibility for any damages or injuries resulting from non-compliance with installation instructions or standard good practice when installing, operating or maintaining the valves and components included into its Thermostatic Balancing Valve, even if not explicitly mentioned in these installation instructions.

GENERAL INFORMATION

- The Thermostatic Balancing Valves 9960AB can be provided in a wide range of connection types and configurations. Upon receipt of the shipment, ensure you have received the proper valves to be installed.
- If any component is damaged or missing, please contact RWV.
- O-rings used in Thermostatic Balancing Valves 9960AB are made of EPDM Perox. Do not introduce chemicals in the system without verifying compatibility with the EPDM Perox material. Failure to follow these instructions could cause damage to the O-rings and could result in property damage.

INSTALLATION

To ensure the best performance of each Thermostatic Balancing Valve 9960AB the following guidelines should be followed:

- We recommend that you use a shut off valve before and after the thermostatic balancing valve. The 9960AB design provides two union ends.
- Make sure that all the valves requiring it are installed in the correct direction of flow (the flow must match the arrow marked on the valve bodies where applicable). This is particularly critical for valves that feature an integrated check valve.
- Fluid in the system should be kept as clean as possible. It is recommended to install a strainer upstream. All RWV strainers series 380AB/387AB feature a 20- mesh stainless steel screen and a port on the cap of the strainer, that can be used to install a drain valve. RWV recommends cleaning the strainers using the blow out at least once every year. They may need to be cleaned more frequently if there is an increase in pressure drop. To access the strainer screen, remove the cap from the valve body. Clean out the screen and reinstall it into the valve body. Replace the strainer gasket with a new RWV-supplied component if damage is present.
- Thermostatic balancing valves 9960AB are designed to be installed at the end of each domestic hot water supply just prior to the return line.

O-RINGS INSTALLATION OR REPLACEMENT

- The O-rings in the union-type connections should be lubricated with silicon oil (use of mineral oils MUST be avoided as they damage EPDM rubber).
- Lubrication prevents the O-ring from pinching or tearing. O-rings should not be twisted, forced, or rolled over any sharp corner or edge (including threading).
- Before installing the O-ring please verify the installation groove is free from foreign particles (for example metal chips or dirt). Those could damage the O-ring causing leakages and reducing its life.
- Never over-tight the union-type connections. Close them hand-tight, then apply an additional quarter turn.

VALVES INSTALLATION

Threaded connections

All Thermostatic Balancing Valve 9960AB threaded connections are NPT. Please ensure threads are not damaged during transportation and installation.

- To install the valve only pipe sealant should be used. The use of tape may lead to overtightening and cracks in the FNPT components. Before installing the valve thoroughly deburr and/or ream the pipe to remove any materials protruding into the flow path.
- When tightening the valves to the pipe use two wrenches, one to secure the hex pad nearest the joint and the other to screw the threaded end.
- Verify that the shutoff valves are oriented so the handles are accessible and can be operated fully without obstruction.
- When installing a tailpiece slide the union nut over the pipe before mounting it, as after the installation the tailpiece will prevent the union nut from being properly placed.
- If reorientation is needed after final installation, loosen the union nut to rotate the section so as to not disturb the tightened components and possibly cause a leaking connection.

Sweat connections

RWV sweat connections are designed to be soft soldered.

- Valves contain polymer materials such as O-rings and PTFE seals, those can be damaged by excessive heat therefore use of heat sinks (for example a wet towel around the valve) is required. The flame must be directed away from the center of the valve body.
- If a valve features a ball valve, please solder it to the line in closed position. After the installation wait for the valve to cool to room temperature before operating it.
- Make sure that the cut on the pipe is as square as possible and no burrs or rough edges are present. Clean both the valve socket and pipe end with a suitable tool until they are made bright.
- Coat both the valve socket and pipe with non-corrosive solder flux. In cold weather this should be done with the parts at ambient temperature. After applying the coat, slide the pipe to the shoulder of the socket then rotate a few times to ensure flux properly covers the connection. It's then possible to do the soldering. This must be performed with state-of-the-art methods.
- When soldering a union tailpiece, remove it from the valve before the installation. This will avoid damage to the O-ring. Slide the union nut over the pipe before soldering the tailpiece, as after the installation the tailpiece will prevent the union nut from being properly placed.

EzPress connections

RWV EzPress connections are designed to be used with “K”, “L” & “M” grades of pipe/tubing. If in doubt on which jaw to use contact RWV.

- To ensure proper operation, a minimum distance of 5 pipe diameters is required between any solder connections and an EzPress joint. Extreme care should be taken to ensure that any heat applied to nearby fittings does not reach the EzPress joint. It's preferable to perform all solder connections first, allowing the pipe to cool completely before installing any EzPress joint. A minimum of 2 pipe diameters spacing is recommended between any two press joints to ensure proper sealing of the copper pipe.
- Make sure that the cut on the pipe is as square as possible. Completely deburr both the inside and outside of the pipe, taking care to remove any raised chips or debris. If installing on existing pipe, it may be necessary to lightly sand the pipe ends to remove any scale or buildup.
- Ensure the valve ends are free from any foreign material or debris. Special care should be taken to also ensure that the o-ring in the valve end is seated correctly.
- While using a twisting motion, slide the valve onto the pipe. Do not use any lubricant or sealant.
- It may be necessary to mark the insertion depth of the pipe to ensure that the joint doesn't move prior to the crimping process. RWV female EzPress connections have internal stops to limit the insertion depth of the pipe.
- Crimp using the appropriate crimping tool, follow the tool manufacturer's instructions for proper calibration and use. Take care to ensure that the tool is in proper working condition and that the crimping jaws are clean and free from damage or defects.
- When installing an EzPress tailpiece, slide the union nut over the pipe before mounting it, as after the installation the tailpiece will prevent the union nut from being properly placed.

PEX F1960 connections

RWV PEX connections for Thermostatic Balancing Valves 9960AB are designed according ASTM1960. To ensure proper installation following guidelines should be followed.

- Ensure that the tubing is cut square and is free from burrs and/or debris. The tubing should be seated completely on the valve and firmly engage all the end barbs. An appropriately sized ring should be installed using a properly sized/adjusted tool.
- Make sure that the cut on the pipe is as square as possible (never more than 5° off) and without jagged edges. Check for longitudinal cracks on the pipe wall after each cut.
- To properly make the connection:
 - (a) Insert the ring onto PEX tube.
 - (b) If installing a tailpiece, mount the union nut over the tailpiece before connecting it to the pipe. After the installation the tailpiece will prevent the union nut from being properly placed.
 - (c) Insert the expander tool into the PEX tube and activate it.
 - (d) Carefully expand the PEX tubing and ring.
 - (e) Insert expanded ring/tubing onto PEX valve.

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