



PP-R/PP-RCT BALL VALVES

How to use your RWV PP-R/PP-RCT ball valve. (Installation, Operation and Maintenance Instructions).

INDEX

- GENERAL INFORMATION
- CHOICE OF THE VALVE
- PRESSURE AND TEMPERATURE RATINGS
- VALVE INSTALLATION
- USE AND MAINTENANCE



RED-WHITE VALVE CORP. 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, even if not explicitly mentioned in these installation instructions.

GENERAL INFORMATION

RWV ball valves are produced in a wide range of ratings and connections. Instructions apply to the RWV valve models 1500AB, 1501AB, 1501PAB, 1515AB, 1516AB, 1516PAB. See the RWV technical sheets for further information. Please contact RWV for models not listed above.

CHOICE OF THE VALVE

We recommend using valves made of a material suitable for the specific application. Details of the materials used for each model are listed in the specific valve technical sheet. Please refer to your local water authority for compatibility with the materials contained in this products. RWV cannot be held responsible for failures caused by the quality of the water in combination with an unsuitable material chosen for the valve. Those models are IAPMO Z1157, NSF-14 and NSF/ANSI 61 & 372 certified and approved for use with drinking water.

PRESSURE AND TEMPERATURE RATINGS

<i>Model</i>	<i>Non-shock pressure at temp. range</i>
1500AB, 1501AB, 1501PAB, 1515AB, 1516AB, 1516PAB	300psi (2068 kPa) max 185°F (85°C)

The operative conditions given in the tech sheets are intended for non-shock operating conditions: water hammer, impacts, stress loads, corrosive or erosive external environmental elements and the transport of fluids with abrasive properties should be avoided.

VALVE INSTALLATION

Prior to installation, verify the valve is suitable for the pressures, temperatures, operating fluids and environment in which it will be installed. It is the responsibility of the installer and/or of the facility designer to ensure that the application does not exceed the limits of pressure and temperature of the valve and is carried out in accordance with local current laws and regulations.

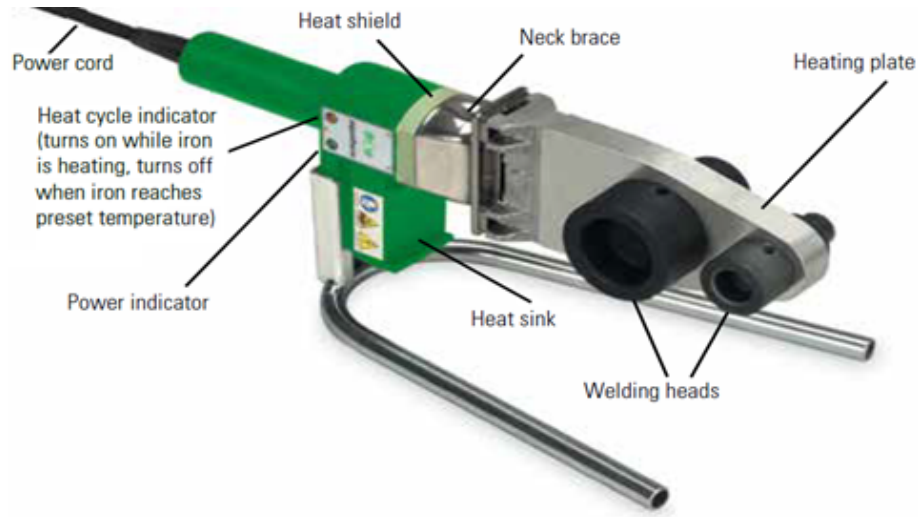
All models referred to in the above table can be installed in any position (vertical, horizontal, inclined), with flow going in both directions. The position chosen for the installation should allow for accessibility to the valve during operation, inspection and maintenance.

Do not subject the valve to any torsion, bending or tension. We recommend the use of pipe brackets/support. Pipe brackets/support should be installed at a distance suitable to properly support the valve. Do not overload the valve with any unexpected additional stresses

Heat Fusion connections (Socket)

Products are made from PP-R or PP-RCT material and are engineered to be heat fused with a pipe of the same PP-R or PP-RCT material. Do not use a different pipe material. For a proper heat fusion connection, the two surfaces to be fused together need to be heated to a melting temperature, pressed together, and allowed to cool under pressure. This process allows the PP-R or PP-RCT chains to reform as one, by joining the two pieces together without the need for glues, solders, gaskets, or other foreign materials. A final pressure test will help verify the integrity of the connections, and drastically reduce the risk of failure due to improper installation. Your own care and attention to detail will yield impressive results, whereas sloppy workmanship will yield poor results. These instructions will cover the basic techniques for heat fusing the pipe.

1. Cutting the pipe: you may use any method which will not damage the pipe. Cuts should be as square as possible (never more than 5° off) and without jagged edges. Check for longitudinal cracks on the pipe wall after each cut. Pipe ends should be void of any burrs and not protrude inside the bore or obstruct any part of the flow.
2. Prepare Welding heads: Socket fusions are made using welding heads. Welding heads are specifically sized to match the pipe and valves for a perfect fit. Different welding head sets are required for each pipe size. Only use heads from an approved tool manufacturer. The welding heads can be interchangeably attached to a welding iron, which provides the heat for the fusions:
 - a. Set the welding heads;
 - b. Plug in the iron to pre-heat (this will take approx. 5-10 minutes);
 - c. Check the temperature using a digital thermometer and test the inside of the welding heads (at close range if using an infrared thermometer). The temperature for the socket fusion should always be around 260 °C +/- 10 °C (500 °F +/- 18 °F). If the iron does not reach 260 °C (500 °F) or exceeds it, the thermometer may be faulty. Use a contact thermometer if you are unsure.
3. Marking the pipe: The correct welding depth helps to ensure a proper heat fusion connection. Make a mark on the tube at the "Welding Depth" measurement shown on the table "Socket Fusion Heating and Cooling Times".
4. Socket fusion: You must use the properly sized welding head for a proper fusion. The "heating time" begin when the pipe and the valve are fully inserted into the welding head:
 - a. Clean the pipe (if needed), open the valve and insert the pipe and valve into the iron. Pushing both sides at the same time helps to hold the iron steady;
 - b. Stop the pipe when you hit the mark ("Welding depth"). Over-insertion will cause a restriction in the pipe and lower its performance;
 - c. Stop the valve when you reach the stopline. Tapered heads will offer little resistance until just before the stop;
 - d. Observe the "heating time". A bead will form and become shiny as the fusion nears readiness;
 - e. Remove valve and pipe from the welding heads. Use a clamped stand or an extra hand to hold the iron in place;
 - f. Immediately insert the pipe into the socket of the valve and quickly push until it comes to a full stop within the "welding time";
 - g. You will have 5 to 15 seconds to make any adjustments to the alignment, depending on the pipe size;
 - h. Align the pipe and observe the "cooling time". You will need to provide full support for at least 1/4 of the cooling time.



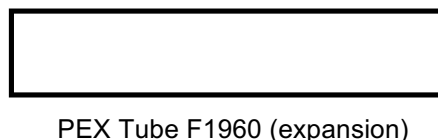
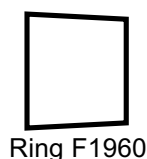
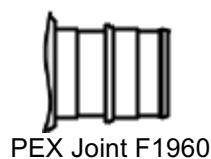
Welding irons

Socket Fusion Heating and Cooling Times for PP-R or PP-RCT							
Dimension		Welding depth		Heating time [sec]		Welding time	Cooling time
OD [mm]	ND [inch]	[mm]	[inch]	Above 5°C (41°F)	below 5°C (41°F)	[sec]	[min]
Ø20	1/2"	14.5	0.57"	5	8	4	2
Ø25	3/4"	16.0	0.63"	7	11	4	2
Ø32	1"	18.1	0.71"	8	12	6	4
Ø40	1"1/4	20.5	0.81"	12	18	6	4
Ø50	1"1/2	23.5	0.92"	18	27	6	4
Ø63	2"	27.4	1.08"	24	36	8	6
Ø75	2"1/2	31.0	1.22"	30	45	8	8
Ø90	3"	35.5	1.39"	40	60	8	8

PEX F1960 connections

RWV PEX connections are manufactured in accordance with ASTM1960 standard, ASTM1807 standard and REHAU EVERLOC+® patented system. For more information, please refer to RWV valve technical sheets. To ensure proper installation of a valve with F1960 PEX ASTM1960 standards the 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 of the end barbs. An appropriate 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 to be 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.



USE AND MAINTENANCE

Valves need to be operated on a regular basis (at least 6 times a year) with a complete open/close cycle. Beyond routine periodic cycling no additional maintenance is required.

Valves must be replaced in case of leakages and/or damages. Wear proper protection gear when performing any maintenance. Depressurize the line before taking any action.

The valves have been designed and manufactured to be exclusively used as shut-off valves, therefore they shall be used in the fully open or fully closed position only. They must be operated only by acting on the lever (straight lever or wing lever) provided by RWV without any other additional device.

RWV declines any direct or indirect responsibility in case of improper use, tampering, modification or dismantling of the valves. The improper use, tampering and/or modification on any part of the valve, voids the warranty and liability for any failure or damage as well as any applicable Certification.

RED-WHITE VALVE CORP.

20600 Regency Lane
Lake Forest, CA 92630
redwhitevalvecorp.com
Tel 800.222.RWVC(7982)
Fax 949.859.7200