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Uponor ProPEX[®] LF Brass Copper Press Adapters and Valves Installation Guide



Uponor ProPEX® LF Brass Copper Press Adapters and Valves Installation Guide
is published by

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Overview

Uponor ProPEX® Copper Press Adapters and Valves provide a fast, simple, and reliable method for joining copper pipe or copper fittings without the need for dangerous hot work. This solution eliminates the purchase, preparation, and use of materials and equipment for soldering, thus lowering costs, reducing labor time, and providing a cleaner, more efficient installation process.

Installing the products is simple. All that is needed is the expansion tool for the ProPEX side and the press tool for the press side. The adapters and valves are available in lead-free (LF) brass in ½" to 3" sizes and are ideal for use in hot and cold potable water and hydronic heating and cooling applications.

Design Features

The ProPEX LF Brass Copper Press Adapters offer unique design features that benefit the installer in two ways. First, the O-ring placement within the adapter allows easy verification the O-ring is in place prior to pressing the joint. Second, the adapters are designed to leak when the connection is not pressed, ensuring easy identification of un-pressed joints at pressure test.

The ProPEX LF Brass Copper Press Transition Ball Valves are full port and feature a stainless-steel ball and stem for long-lasting, high-flow performance. The valves are compatible with a maximum of 50% propylene glycol, and stem extension kits are available to accommodate insulation thicknesses up to 2".

Quality Assurance

The ProPEX LF Brass Copper Press Adapters are designed, manufactured, and listed to meet ASTM F1960 requirements for the ProPEX side and ASME B16.51 for the press side as well as conform to current industry standards and regulations.

The ProPEX LF Brass Copper Press Transition Ball Valves are certified to NSF 359 for approval in all PEX water distribution applications.

Material Specification

All ProPEX LF Brass Copper Press Adapters and Valves are designed and manufactured to strict specifications for use with ASTM B88 Type K, L, or M copper pipe and ASME B16.51 copper press fittings. The adapters are manufactured from copper alloys and feature EPDM O-ring seals. They are designed for an operating temperature range of 0°F (-17.8°C) to 200°F (93.3°C) for use in hot and cold potable water and hydronic heating and cooling applications.

Note: The Plastics Pipe Institute (PPI) issues the following **hydrostatic** temperature and pressure ratings for PEX piping systems: 200°F (93.3°C) at 80 psi, 180°F (82.2°C) at 100 psi and 73.4°F (23°C) at 160 psi. Maximum **operating** temperatures for PEX domestic hot water (DHW) and DHW recirculation systems is 140°F (60°C) at 80 psi.

Material Compatibility

Ensure the adapters and valves never come into contact with household cleaning products, paints, greases, flux, mineral oils, adhesives, ammonia, nitrates, or other solvent-based materials that may be used during or after installation. Additionally, never paint the exterior surface of the adapters or valves, and follow AWWA C904 guidelines when flushing pipes during plumbing system startup.

Installation

Use a press tool together with a set of jaws or press rings to install the product. Jaws and press rings are available for each size adapter or valve, and using only the correct size jaws and press rings will ensure a proper connection.

The adapters and valves are designed to work with either 110V or cordless press tools to suit any installation. Contact your local Uponor representative for information about suitable press tool manufacturers.

Keep the adapters and valves in their original packaging until ready to install. This ensures the products remain clean, the O-rings are protected from damage and onsite debris, and the O-ring lubricant does not dry out. Be sure to keep unused products in their original packaging with any openings sealed to maintain cleanliness.

Minimum Spacing Requirements

Install adapters and valves with the following minimum spacing between other press fittings to prevent distortion of the pipe (see **Table 1**). Failure to provide this distance may result in an improper seal.

Equipment Service Considerations

Like with any power tools, press tools, jaws, and press rings require regular servicing. Failure to follow the press tool manufacturer’s recommendations may void warranty provisions and the tool’s ability to produce press joints with continued efficiency.

Note: It is the tool user’s responsibility to correctly maintain and calibrate all tools per manufacturer’s recommendations. For press tool use and care information, refer to the press tool manufacturer’s instructions.

Fitting Size	Minimum Spacing
1/2"	0"
3/4"	0"
1"	0"
1 1/4"	1/2"
1 1/2"	3/4"
2"	3/4"
2 1/2"	3/4"
3"	3/4"

Table 1: Minimum spacing requirements

Prepress

Select the correct size pipe and adapter or valve. Ensure all are clean, in good condition, and free from damage and imperfections. Carefully remove tape, labels, or foreign matter. Ensure the pipe or fitting is round, clean, and free of burrs and surface imperfections.

Pipe Preparation

- 1. Square cut the pipe. Use a rotary pipe cutter whenever possible.
- 2. Deburr internal and external pipe ends using a fine-tooth file.

Note: You may use commercially available deburring tools to ensure a smooth interior and exterior at the pipe end.

- 3. Clean the pipe end of debris to avoid damage to the O-ring upon pipe insertion.
- 4. Inspect the adapter to ensure the O-ring is undamaged and seated correctly within the O-ring groove. The O-ring should be free of cuts, gouges, or missing material at the surface. If the O-ring is damaged or missing, do not use the adapter. If the O-ring is undamaged but is partially out of the groove, gently move the O-ring back into the groove. If the O-ring does not seat in the groove, do not use the adapter.
- 5. Insert the pipe fully into the adapter or valve until it meets the stop. With the adapter or valve in place, mark the pipe's outside diameter at the edge of the adapter or valve. You can also use a tape measure. Ensure the insertion depth is clearly marked to attain the proper insertion depth. Refer to **Table 2** for required insertion depth dimensions.

Pipe Size	Insertion Depth
1/2"	3/4"
3/4"	15/16"
1"	15/16"
1 1/4"	1 1/16"
1 1/2"	1 1/2"
2"	1 5/8"
2 1/2"	1 11/16"
3"	1 7/8"

Table 2: Insertion depth dimensions

½" to 2" Installation

1. Assemble the joint by inserting the pipe into the adapter or valve until it meets the pipe stop. Note that you can use clean water to ease the assembly process. Wetting the pipe and/or the adapter/valve will ease the pipe-insertion process. Be sure to check the pipe insertion depth using the reference mark on the pipe's outside diameter. (See **Step 5** in the previous Prepress section on **Page 3**.)



IMPORTANT! Only press the adapter/valve when the pipe is fully inserted into the adapter/valve.

2. Using the correct size press jaws in the press tool, place the jaws over the bead on the adapter/valve. Ensure the press tool and jaws remain perpendicular to the pipe's centerline.
3. Press the tool's trigger or actuation button to begin the press cycle. The cycle is complete when the jaw fully encloses the mouth of the adapter/valve. Once the cycle is complete, release the jaws from around the adapter/valve. Refer to the press tool manufacturer's instructions for further details.
4. After the connection is complete, inspect the pressed joint to ensure the pipe has remained fully inserted during the pressing process.
5. Pressure test the system to ensure a proper connection. If a leak is found, re-press the connection.

Note: Uponor ProPEX Copper Press Adapters are designed to leak air or water when improperly pressed to help installers identify improperly pressed connections.

2½" and 3" Installation

1. Assemble the joint by inserting the pipe into the adapter/valve until it meets the pipe stop. Note that you can use clean water to ease the assembly process. Wetting the pipe and/or the adapter/valve will ease the pipe-insertion process. Be sure to check the pipe insertion depth using the reference mark on the pipe's outside diameter. (See **Step 5** in the previous Prepress section on **Page 3**.)



IMPORTANT! Only press the adapter/valve when the pipe is fully inserted into the adapter/valve.

2. Select the appropriate size press ring. Open the press jaws and position them over the adapter/valve. Align the groove in the press ring. Revolve the press ring around the adapter/valve to the desired position.
3. Attach the appropriate press adapter to the press tool and close the breach bolt. Attach the adapter ring to the press ring by depressing the jaw levers and inserting the claws as far as possible into the grooves of the press ring. Do not press the joint until the press adapter is correctly connected to the press ring.
4. Press the tool's trigger or actuation button and complete the pressing process. Refer to the press tool manufacturer's instructions for further details.
5. After the connection is complete, inspect the pressed joint to ensure the pipe has remained fully inserted during the pressing process.

6. Pressure test the system to ensure a proper connection. If a leak is found, re-press the connection.

Note: Uponor ProPEX Copper Press Adapters are designed to leak air or water when improperly pressed to help installers identify improperly pressed connections.

Jaw Compatibility for ½" to 2" Adapters and Valves

Milwaukee® M12™ Compact Jaws	RIDGID®/Viega® Compact Jaws	NIBCO® Compact Jaws
½" 49-16-2450	½" 16958	Not available
¾" 49-16-2451	¾" 16963	Not available
1" 49-16-2452	1" 16978	Not available
1¼" 49-16-2453	1¼" 31228	Not available

Milwaukee M18™ Standard Jaws	RIDGID/Viega Standard Jaws	NIBCO Standard Jaws¹
½" 49-16-2650	½" 76652	½" PC-10S
¾" 49-16-2651	¾" 76657	¾" PC-11S
1" 49-16-2652	1" 76662	1" PC-12S
1¼" 49-16-2653	1¼" 76667	1¼" PC-13S
1½" 49-16-2654	1½" 76672	1½" PC-14S
2" 49-16-2655	2" 76677	2" PC-15S

¹Testing proved only the 2" NIBCO fitting required to complete press cycles to complete the connection.

Jaw Compatibility for 2½" to 3" Adapters and Valves

Milwaukee M18 Standard Jaws	RIDGID/Viega Standard Jaws
2½" 49-16-2656	2½" 20453
3" 49-16-2657	3" 20548
Ring jaw 49-16-2659	Actuator 21878

Note: The 2½" to 3" press adapter connections feature a tag that breaks to indicate a completed connection. This tag can be removed after completing the connection.



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