

# APOLLOXPRESS™

Your Single Source Solution for Press Technology



## Installation and Specification Manual

December 2012

APOLLOXPRESS™ fittings are a heat-free method for joining copper tube and provide a clean, easy to use joining method designed to save time and money on installations. Installing a joint with APOLLOXPRESS is simple, requiring no extra materials beyond the APOLLOXPRESS fitting and the pressing tool. Purchase, preparation, and use of materials and equipment for soldering are eliminated. This lowers costs, reduces labor time, and allows a cleaner, more efficient installation process. APOLLOXPRESS is your single source solution for press technology.

APOLLOXPRESS fittings provide secure reliable joints in sizes from ½” through 4”. APOLLOXPRESS is ideal for use on hot and cold water services, closed loop heating, and chilled water installations.

APOLLOXPRESS fittings are guaranteed for 1 year against manufacturing defects. When the plumbing system is constructed entirely with APOLLOXPRESS fittings, and copper tubing is specified, coverage is extended to a 50-year guarantee. Contact an Elkhart Products Corporation representative for details. All guarantees are subject to the use of approved pressing tools, jaws, pressing rings, and the application of good installation practices as outlined in this installation manual.

### Design Features

APOLLOXPRESS fittings offer two unique design features which benefit the installer. First, the o-ring placement within the fitting allows the installer to easily verify the o-ring is in place prior to pressing the joint. Second, APOLLOXPRESS fittings are designed to leak in the un-pressed condition. This feature provides a sure method to identify un-pressed joints at plumbing system startup.

### Quality Systems

APOLLOXPRESS fittings are designed and manufactured with the highest quality possible and conform to current industry standards and regulations. To ensure our products continue to remain the highest quality, we constantly scrutinize, monitor and evaluate our manufacturing processes using continuous improvement methods.

### Material Specification

All APOLLOXPRESS products are designed and manufactured to strict specifications and quality systems. APOLLOXPRESS fittings are manufactured from copper or copper alloys and utilize EPDM o-ring seals. APOLLOXPRESS fittings are designed for use with ASTM B88 Type K, L or M water tube in the ½” through 4” size range.

All APOLLOXPRESS fittings are designed to operate at temperatures from 0° to 250°F at a maximum working pressure of 200 psi.

### Material Compatibility

APOLLOXPRESS fittings must not come into contact with household cleaning products, paints, greases, flux, mineral oils, adhesives, ammonia, nitrates, or other solvent base materials that may be used during or after installation. The exterior surface of APOLLOXPRESS fittings should not be painted. Use of proprietary chemicals to flush pipes during plumbing system startup should be reviewed with an Elkhart Products Corporation representative.



**CAUTION:** The minimum distance between an APOLLOXPRESS fitting and a soldered or brazed fitting must not be less than three times the diameter of the tube being pressed. Heat travels along the tube, annealing the tube and fitting, and degrades the o-ring’s ability to maintain a leak free seal. There is no known repair for a heat damaged APOLLOXPRESS fitting except complete replacement of the fitting and tube. The use of heat dams or other cooling methods to protect APOLLOXPRESS fitting joints is recommended and may reduce recommended minimum safe distance to prevent overheating. The exact distance to be used is up to the installer. Heat damage voids the APOLLOXPRESS fitting warranty.



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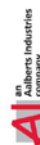
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## Installation

Installing an APOLLOXPRESS fitting relies on using a pressing tool together with a set of jaws or pressing rings of the appropriate size. Sets of jaws or pressing rings are available for each size fitting and only the correct size jaws or pressing rings will ensure that a sound joint is made.

Pressing tools are available with two power options to suit most on-site installation situations: 110V and cordless. APOLLOXPRESS fittings are designed to work with either type of pressing tool.

Elkhart Products Corporation supplies tool options to suit a range of budgets and applications. Other manufacturer's tools may also be suitable for use with APOLLOXPRESS fittings. Contact an Elkhart Products Corporation representative to confirm suitability.

APOLLOXPRESS fittings should remain in their packaging until immediately prior to installation. This ensures the fitting remains clean, the o-ring is protected from damage and on-site debris, and the o-ring lubricant does not dry out. Unused fittings should be kept in the original packaging with any openings sealed to ensure fitting cleanliness is maintained.

APOLLOXPRESS fittings from ½" to 4" should be installed with the following minimum spacing between the fittings to prevent distortion of the pipe (refer to chart below). Failure to provide this distance may result in an improper seal.

Fitting Size	Minimum Spacing	Fitting Size	Minimum Spacing	Fitting Size	Minimum Spacing
½"	0"	1 ¼"	½"	2 ½"	¾"
¾"	0"	1 ½"	¾"	3"	¾"
1"	0"	2"	¾"	4"	¾"

## Equipment Service Considerations

Like any other power tools, pressing tools, jaws and pressing rings require regular servicing. Failure to follow the pressing tool manufacturer's recommendations may violate guarantee or warranty provisions and the tool's ability to produce press joints with continued efficiency. It is the tool user's responsibility to correctly maintain and calibrate all tools per manufacturer's recommendations. For detailed information on the use and care of pressing tools, refer to the manufacturer's instructions.

## Preliminaries

Select the correct size tube and APOLLOXPRESS fitting for the job. Ensure that both are clean, in good condition and free from damage and imperfections. Carefully remove tape, labels, or foreign matter. Check that the tube is round, clean, free of burrs and surface imperfections.



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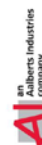
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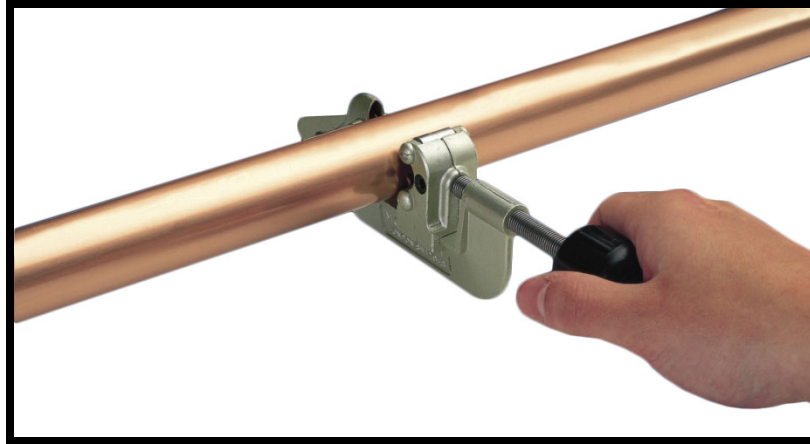


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## Preparation



1. Cut the tube square. Use a rotary tube cutter whenever possible. If a hacksaw is used to cut the tube, then file the tube end exterior and interior using a fine tooth file. Care should be taken to remove and smooth all burrs.



2. Remove burrs at the tube ends before insertion into a fitting. Internal and external tube ends should be deburred using a fine tooth file. The tube end should then be wiped clean of all debris to avoid damage to the o-ring upon tube insertion.



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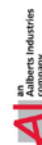
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3. Commercially available deburring tools may be used to ensure a smooth interior and exterior at the tube end. Elkhart Products Corporation markets deburring tools particularly well suited to performing this operation.
4. Inspect the APOLLOXPRESS fitting to ensure the o-ring is undamaged and seated correctly within the o-ring groove. O-rings should be free of cuts, gouges or missing material at the surface. If the o-ring is damaged or missing, do not use the fitting. If the o-ring is undamaged and is partially out of the groove, then gently move the o-ring back into the groove. If the o-ring does not seat in the groove, do not use the fitting. Replacement o-rings and lubricant are available from EPC. Please contact your local EPC representative.



5. Insert the tube fully into the fitting until it meets the tube stop. With the fitting in place, clearly mark the tube outside diameter at the edge of the fitting. As an alternated, an APOLLOXPRESS depth gauge may be used to properly locate the insertion depth. A tape measure may also be used. Regardless, the insertion depth must be clearly marked to ensure that proper insertion is attained. See the following table for required insertion depth dimensions.

Nominal Pipe Size	Insertion Depth (in)
½"	13/16" (0.81")
¾"	7/8" (0.88")
1"	15/16" (0.94")

Nominal Pipe Size	Insertion Depth (in)
1¼"	1 1/32" (1.03")
1½"	1 5/16" (1.31")
2"	1 ½" (1.50")

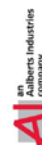


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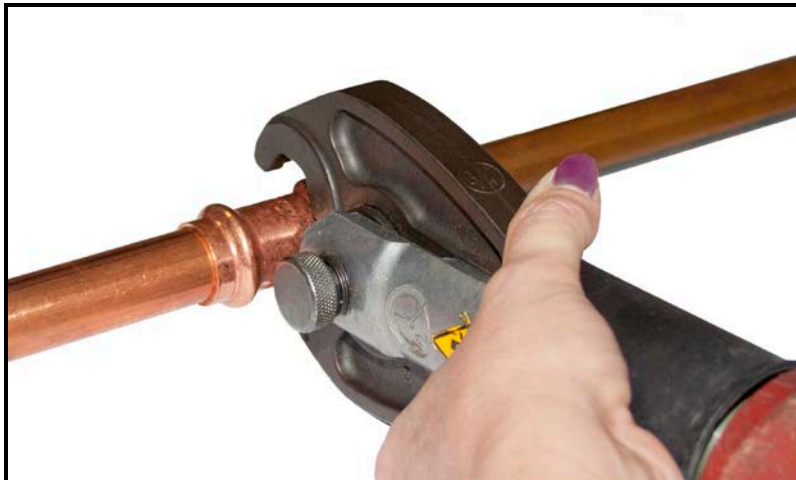
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Typical APOLLOXPRESS Fitting Installation for ½" Through 2" Sizes



1. Assemble the joint, inserting the tube into the fitting until it meets the tube stop. Check the tube insertion depth using the reference mark on the tube outside diameter. See step 4 in the preparation process. The pressing operation should only be undertaken with the tube fully inserted into the APOLLOXPRESS fitting. **Note:** Clean water may be used to ease the assembly process. Wetting the tube and/or the fitting will ease the tube insertion process.



2. With the correct size pressing jaw inserted into the pressing tool, place the jaw over the bead on the fitting. Great care should be taken to ensure the pressing tool and jaws are maintained at a 90° angle to the tube centerline.



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3. Depress the pressing tool trigger or actuation button to begin the pressing cycle. The cycle is complete when the jaw fully encloses the mouth of the fitting. The jaw should then be released from around the fitting. Please refer to the manufacturer's instructions for more detail. Inspect the pressed joint to ensure the tube has remained fully inserted during the pressing operation.

## Typical APOLLOXPRESS Fitting Installation for 2½" Through 4" Sizes



1. Assemble the joint, inserting the tube into the fitting until it meets the tube stop. Check the tube insertion depth using the reference mark on the tube outside diameter. See step 4 in the preparation process. The pressing operation should only be undertaken with the tube fully inserted into the APOLLOXPRESS fitting. **Note:** Clean water may be used to ease the assembly process. Wetting the tube and/or the fitting will ease the tube insertion process.



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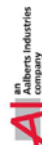
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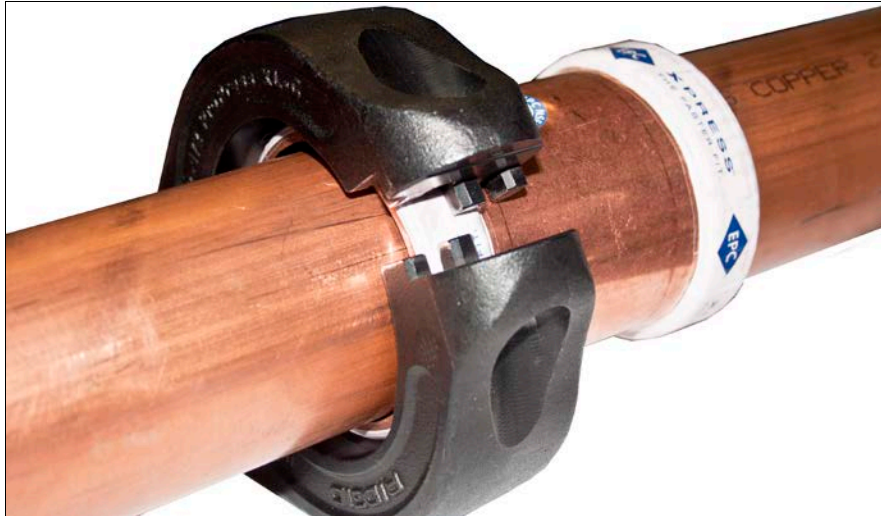
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2. Select the appropriate size pressing ring. Open the pressing ring jaws and position it over the fitting. Align the groove in the pressing ring. Revolve the pressing ring around the fitting to the desired position.



3. Attach the appropriate adapter to the press tool and close the breach bolt. Attach the adapter ring to the pressing ring by depressing the jaw levers and inserting the claws as far as possible into the grooves of the pressing ring. Do not press the joint until the adapter is correctly connected to the pressing ring.



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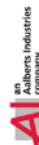
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4. Press the trigger or the actuation button on the pressing tool and complete the pressing operation. Please refer to the tool manufacturer's instructions for more detail. Inspect the pressed joint to ensure the tube has remained fully inserted during the pressing operation.

**Note:** The photographs used in the manual depict only one of many pressing tools and pressing rings available for use. Please consult the tool manufacturer's instructions to ensure a complete understanding of the pressing tool operating procedures.



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