Heat Link®

PEX-a Potable Water Press System Installation Guide

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About Us

HeatLink is a multi-system supplier of potable water and radiant hydronic heating/cooling and snow melt systems that began as a family-owned business servicing a number of industries, including HVAC.

The company grew to meet the needs of builders, contractors, and architects, and began designing and installing radiant heating systems in 1985. Since then HeatLink has grown into an industry leading manufacturer of radiant heating, cooling, and potable water systems for residential and commercial applications throughout the world.

HeatLink's radiant heating systems create a comfortable and energy efficient environment for living, while our snow melt systems create safer public and private spaces that reduce liability for property owners, reduce maintenance, and ensure accessibility. Our well engineered plumbing systems provide peace of mind for property owners through extensive warranty protection, and enable quick and efficient installations for builders and contractors.

HeatLink has developed and manufactured many industry firsts, such as the "TwistSeal" tool-less manifold in 1996. The company began manufacturing PEX-a tubing in 1998, and now supplies the highest quality PEX-a systems to customers throughout North America, and parts of Europe and Asia.

HeatLink works with a network of experienced and successful partner agencies to meet the design, system installation, and training needs of the construction industry, designers, and architects.

HeatLink was built on a strong family work ethic and value system that remains the foundation for our continuing growth and industry leadership role.

Introduction

This installation guide is intended to assist plumbing contractors and building officials and includes general guidelines for the HeatLink® Potable Water Press System.

Please check our website to ensure you have the latest version of this guide.

Installations must follow all applicable local building and plumbing codes and regulations.

The HeatLink® Potable Water Press System features PureLink® Plus PEX-a tubing, high performance polymer (HPP) fittings and multiport tees, no lead fittings, and stainless steel press sleeve connection technology. The unique HeatLink® PEX-a process is based on a method developed during the 1970's and uses organic peroxide to chemically cross-link the polyethylene during the manufacturing process. The PEX-a process produces a higher degree and greater uniformity in crosslinking, resulting in product with significantly improved material properties with respect to temperature, pressure, strength and chemical resistance.

Press sleeve technology has been used for decades worldwide in plumbing applications and has been used extensively for pneumatic and hydraulic applications.

HeatLink's superior potable water system carries all necessary approvals for North American installations, and offers significant advantages and benefits when compared to copper, CPVC, and other PEX plumbing systems in use today.

HeatLink® Potable Water Press System Advantages

- Clean and non-toxic
- Flexible - easy installations
- Resists scaling and corrosion
- Fewer fittings
- Quiet - no water hammer noise
- Equalized pressure drops, minimize hot or cold surges
- Can easily be repaired if tubing is kinked
- Durable/long life
- Fast installations - no waiting to pressure test
- Labor costs are significantly reduced
- Light weight
- Discreet red/blue identification
- Chlorine resistance
- UV stabilized for up to 12 months exposure to sunlight
- Freeze and chemical resistance
- Low friction losses
- Domestic Hot Water continuous recirculation approved

PEX Tubing Ratings

Plastic Pipe Institute (PPI) PEX Tubing Ratings

PPI TR-3 presents the policies and procedures used to develop recommendations of long-term strength ratings for commercial thermoplastic piping materials or pipe.

The term hydrostatic design basis (HDB) refers to the categorized long-term hydrostatic strength in the circumferential or hoop direction, for a given set of end use conditions, as established by ASTM Test Method D 2837, "*Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials*."

The hydrostatic design stress (HDS) is derived from the HDB and is the recommended maximum hoop stress that can be applied continuously with a high degree of certainty that failure of the pipe will not occur.

Pressure ratings (PR) are calculated from the dimension ratio of the pipe (DR), the material's hydrostatic design basis (HDB), and the overall design factor (DF).

An HDB/HDS recommended rating has been shown, through both scientific procedures and historical experience, to be a useful indicator of the relative long-term strength of a thermoplastic material.

HDB and HDS recommended ratings issued by PPI are for conditions equivalent to those under which the test data were obtained, e.g., constant pressure, temperature and specific test environment.

Under some conditions, such as pressure cycling, higher temperature, more aggressive environment, or handling and installation quality, all of which may significantly reduce pipe durability, a more conservative design factor or design coefficient should be chosen.

PureLink® Plus PEX-a tubing is listed with a standard grade rating in PPI TR-4 as tested in accordance with PPI TR-3. PureLink Plus tubing carries the temperature and pressure ratings shown in the table below.

Temperature	PPI - Hydrostatic Design Basis	PPI - Hydrostatic Design Stress	Pressure Rating
73.4°F / 23°C	1,250 psi / 8620 kPa	630 psi / 4340 kPa	160 psi / 1100 kPa
180°F / 82.2°C	800 psi/ 5520 kPa	400 psi / 2760 kPa	100 psi / 690 kPa
200°F / 93.3°C	630 psi / 4340 kPa	315 psi / 2170 kPa	80 psi / 550 kPa

The use of PEX tubing in a potable hot-water plumbing system with an operating temperature above 140°F (60°C) or system pressure above 80 psig (550 kPaG) or highly aggressive water quality or any combination thereof can significantly reduce the service life of the tubing.

HeatLink requires following the guidelines described in Plastics Pipe Institute TN-53, *Guide to Chlorine Resistance Ratings of PEX Pipes and Tubing for Potable Water Applications* and HeatLink INFO 37, *Domestic Hot Water Recirculation Systems*.

Plenum Rating

PureLink Plus PEX-a tubing has been tested in accordance with CAN/ULC S102.2-2007/2010, Standard for Surface Burning Characteristics of Flooring, Floor Covering and Miscellaneous Materials and Assemblies and ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Materials.

CAN/ULC S102.2 - 2007/2010 (Canada)

Product	Size	Flame Spread (FS)	Smoke Development (SD)	Insulation Required	Spacing Requirements
PureLink® Plus	½"	< 25	< 50	No	Min. 8" (20 cm)
PureLink® Plus	½" - 2"	< 25	< 50	Yes*	None

*** Requires ½" thick fiberglass insulation**

ASTM E84 (United States)

Product	Size	Flame Spread	Smoke Development	Insulation Required*	Spacing Requirements
PureLink® Plus	½" & ¾"	< 25	< 50	No	Min. 18" (46 cm)
PureLink® Plus	½ - 2"	< 25	< 50	Yes*	None

*** Requires ½" thick fiberglass insulation**

Product Listings

It is the sole responsibility of the installer to verify that the product and installation meets local standards.

PureLink® Plus PEX-a tubing is approved for use with fittings that are compliant with ASTM F1807/F1960/F2080/F2098/F2159 standards. When using HeatLink tubing with fittings from other manufacturers, ensure to follow all applicable installation requirements and instructions, as well as local building codes to ensure proper connections are made.

Product Line	Standards	Listings
PureLink® Plus PEX-a tubing	ASTM F876/F877/F2023/F2657 ASTM E84 (with and without insulation) CSA B137.5 NSF/ANSI-61 and Annex G NSF/ANSI-14 NSF/ANSI-372 ULC S102.2 (with and without insulation)	cNSFus-pw NSF U.P. Code ICC-ES IAPMO UPC (½") PPI TR-4 CSA Potable NSF-fs (½" & ¾") ICC-PMG Warnock Hersey
HeatLink® stainless steel press sleeves	ASTM F877 CSA B137.5 NSF/ANSI-14	cNSFus-pw U.P. Code
HeatLink® F1807 no lead brass fittings	ASTM F1807/F877 CSA B137.5 NSF/ANSI-14 NSF/ANSI-61 and Annex G NSF/ANSI-372	IAPMO UPC cNSFus-pw-G
HeatLink® F1807 no lead brass ball valves	ASME A112.18.1/CSA B125.1 ASTM F1807/F877 CSA B137.5 NSF/ANSI-61 and Annex G NSF/ANSI-372	CSA IAPMO UPC
HeatLink® F2159 high performance polymer (HPP) fittings	ASTM F2159/F877 CSA B137.5 NSF/ANSI-14 NSF/ANSI-61 and Annex G NSF/ANSI-372	cNSFus-pw IAPMO UPC CSA
HeatLink® F2159 HPP Multiport Tees	ASTM F2159/F877 NSF/ANSI-14 NSF/ANSI-61 and Annex G NSF/ANSI-372	cNSFus-pw-G U.P. Code
HeatLink® F1807 copper fittings	ASTM B88 ASTM F1807 CSA B137.5 NSF/ANSI 61 NSF/ANSI 14	cNSFus-pw IAPMO UPC

Limitations

Limitations on PureLink® PEX Tubing

- **Do Not** expose to open flame.
- **Do Not** permanently expose to UV light.
- **Do Not** use glue, or any material that affects the basic properties of crosslinked polyethylene.
- **Do Not** use above ratings.
- **Do Not** install within 6" (15 cm) of any gas appliance vent piping, or within 12" (30 cm) of any recessed light fixtures. See exceptions on page 10.
- **Do Not** solder pipe connections within 16" (40 cm) of any PureLink® tubing in the same water line.
- **Do Not** allow to come into contact with spray foam. (Ensure PEX is sleeved, or use Pipe-in-Pipe tubing, and fittings are wrapped.)
- **Do Not** allow contact with low molecular weight petroleum products such as fuels or solvents or oil based paints.
- **Cannot Be** used for LP or Natural Gas.
- **Cannot Be** used for an electrical ground.
- **Do Not** allow contact with termiticides or pesticides.
- **Do Not** install below fluorescent lights, unless protected.
- **Do Not** install in contaminated soil.
- **Do Not** allow pests, insects, or rodents to come in contact with PEX tubing.
- **Do Not** install in contaminated environments.

Limitations on HPP Fittings & Multiport Tees

- **Do Not** expose to open flame.
- **Do Not** use above ratings.
- **Do Not** reuse fittings.
- **Do Not** expose to excessive stress due to PEX expansion/contraction or bending force.
- **Do not** solder pipe connections within 16" (40 cm) of any HPP fitting or multiport tee in the same water line.
- **Do Not** allow contact with solder flux, pipe dope, PVC glue, strong acids, strong bases, oil based paints, solvents, or spray foams. See also INFO 24 - Material Properties of Polysulfone (L2324). Use only Teflon Tape for threaded fittings.
- **Do Not** allow contact with termiticides or pesticides.
- **Do Not** install in contaminated environments.

Limitations on NL Brass Fittings and SS Sleeves

- **Do Not** install in corrosive environments (for more information consult the Copper Development Association or Nickel Institute).

Important Notice!

HeatLink products are intended for installation by a licensed plumbing contractor. It is the sole responsibility of the installer to verify that the product meets local codes and standards.

Like most plastic material, crosslinked polyethylene is subject to ultraviolet (UV) deterioration and must not be continuously exposed to direct or indirect sunlight, or fluorescent lights, beyond the stated limits. Storage outside is not recommended.

To ensure system integrity and warranty remain intact do not expose PEX or fittings to unknown/untested chemicals.

General Repair and Testing

Kinked Tubing Repair

One of the most important features of PureLink® PEX-a crosslinked tubing is its shape memory. As such, a kinked area can be repaired using the following procedure:

- Release system pressure.
- Straighten portion of tubing being repaired (do not squeeze with pliers).
- Using a heat gun, heat area to approximately 260°F (125°C), or until tubing appears clear. (**Do Not Use an Open Flame**.)
- Let the tubing cool undisturbed at room temperature.
- Repair is now complete.

Pressure Testing

- Once the plumbing rough-in is complete, it must be pressure tested. HeatLink® ½", ¾", 1", 1¼", 1½", and 2" plugs are available.
- An appropriate test kit must be connected to the system including a pressure gauge for monitoring.
- Test requirements specified in your local building and plumbing codes must always be followed.
- Cold water or air may be used for testing. (If allowed by local codes)
  Note: Be aware of how temperature can affect air tests. Rising air temperature increases pressure, falling air temperature decreases pressure.
- Test to at least 50 psi above operating pressure, up to 120 psi.
- HeatLink recommends a test duration of 24 hours.
- When using leak detection solutions, ensure they are approved for use with PEX and HPP fittings.

Tubing Repair

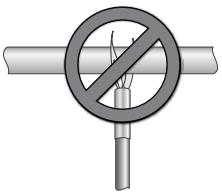
If tubing is damaged during installation it can be repaired using the appropriate sized coupling. Repairs in concrete require the fitting assembly to be appropriately wrapped to protect assembly from concrete; HPP couplings are recommended for concrete repairs.

Thawing Frozen Tubing

PureLink® PEX-a tubing can withstand freeze-thaw cycles better than most other products available for plumbing today. While not freeze proof, PureLink® tubing is resistant to freeze damage.

Should tubing become blocked due to freezing, HeatLink recommends thawing by using hot water, hot towels or gently heating with a heat gun.

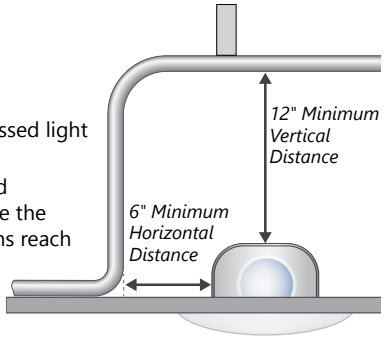
Do Not Use an Open Flame!



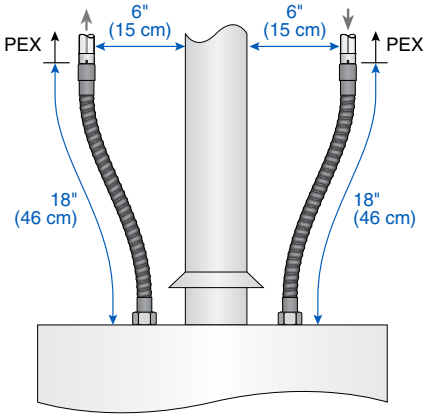
PureLink® Installation Guidelines

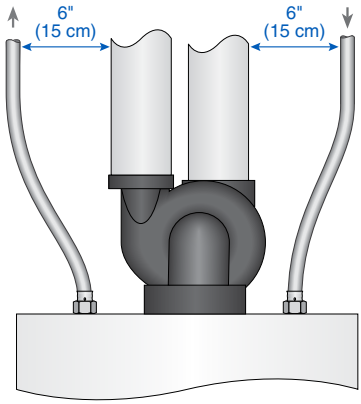
General Practices

- Install PureLink® PEX at least 12" vertically, or 6" horizontally away from heat sources such as recessed light fixtures, or gas appliance vent piping.
- For UL1598 approved Type IC thermally protected luminaires, clearance can be reduced to 1". Ensure the luminaire is fully enclosed so that no UV emissions reach the PEX.

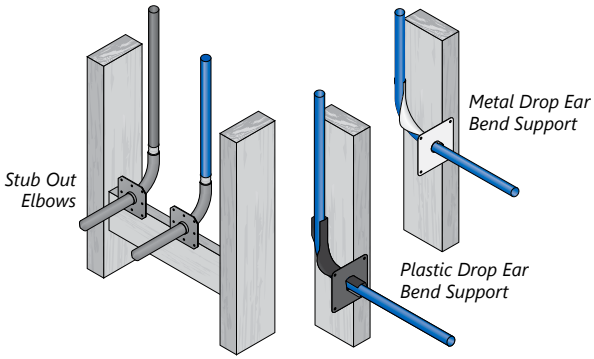


- PEX may be used to connect directly to Power Direct Vent Water Heaters, Electric Water Heaters, or Tankless Water Heaters. Tubing must be kept at least 6" away from the exhaust vent.
- For S636 plastic or Type B double wall vent piping that clearance can be reduced to 1". The vent piping should also be used for its stated purpose and the flue gas should be no more than the temperature limit stated on the vent pipe system.
- You must use 18" (46 cm) long copper connectors on gas fired atmospheric water heaters before transitioning to PureLink® on both inlet and outlet.

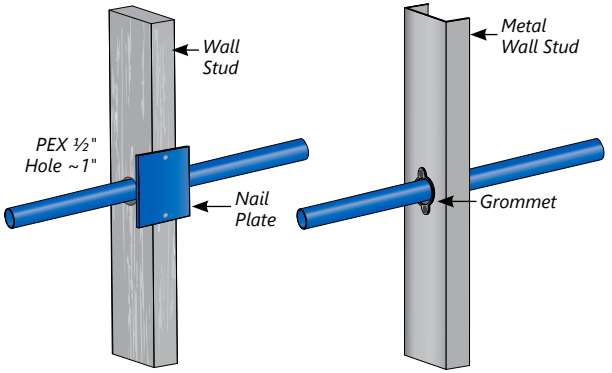




- When installing HPP threaded fittings use only Teflon tape - Do Not use other sealants. Do Not Overtighten!
- Use bend supports for 90° turns. Use drop ear bend supports or copper stub-outs for 90° turns when exiting walls.



- When installing PEX tubing through wall studs and floor joists be sure drill holes at least ½" (13 mm) larger than the PEX to ensure free movement of the tubing.
- Use protective sleeves or grommets when penetrating a hollow masonry wall or metal studs.
- Protect the tubing with a nail plate if it is within 2" (5 cm) of the edges of a stud, plate, or nailing surface.

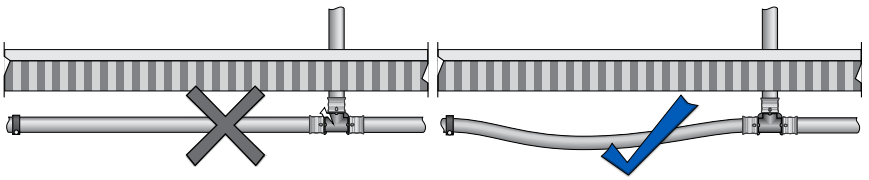


- Tubing bundles must be protected by heavy gauge protective sheathing at the area of abrasion.
- If PureLink® PEX is notched or cut, the damaged section must be cut out.
- HeatLink approves the burial of PureLink® Plus PEX-a tubing in concrete.
- HeatLink recommends continuous length tubing (no fittings) when installing PureLink® PEX tubing in or under a slab.
- When entering or exiting a concrete slab the PEX tubing should always be protected by a conduit elbow (86000 series) or a tubing sleeve.
- HeatLink NL fittings are suitable for direct, unprotected burial in clean, non corrosive environments. However, HeatLink Stainless Steel Sleeves must be wrapped with heat or cold shrink for burial.
- The use of hard binding wires or tape for tying PEX tubing to rebar or wire mesh in not allowable, only soft breakable wire ties or plastic tie-straps should be used.

Expansion and Contraction

(For further details see page 14)

- The design and installation of every piping system shall include means to accommodate its expansion and contraction caused by temperature changes, movement of the soil, building shrinkage or structural settlement.
- Small dimension expansion can generally be accommodated with slack and expansion loops. (For PEX sizes over 1" see page 14).

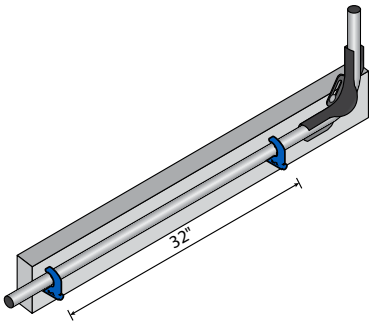


PEX Tubing Supports

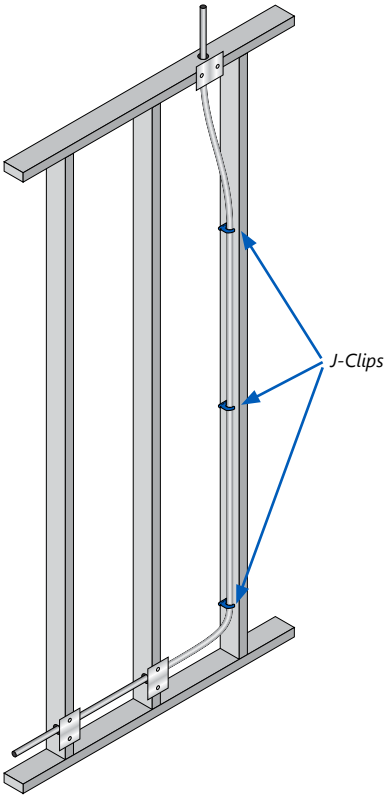
HeatLink PEX-a tubing can be supported using the same methods as metallic pipe. HeatLink recommends using copper tube size (CTS) hangers and supports designed for use with plastic pipe, e.g., plastic, coated, rubber, or foam lined, etc. Supports shall not compress, cut or abrade the tubing. Guides should be installed to allow the free movement of the tubing.

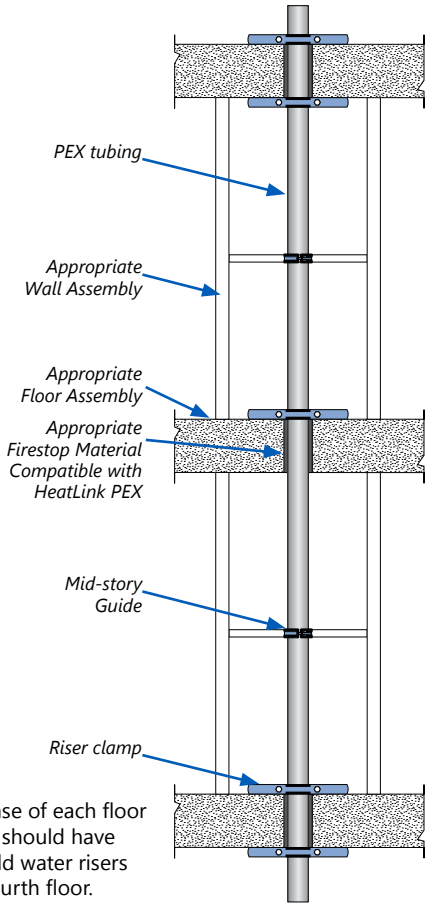
Pipe support manufacturers include, but are not limited to:

- Eaton B-Line
- HoldRite, Inc.
- Hydra-Zorb Corp.
- Pentair (Erico) CADDY
- Walraven, Inc.



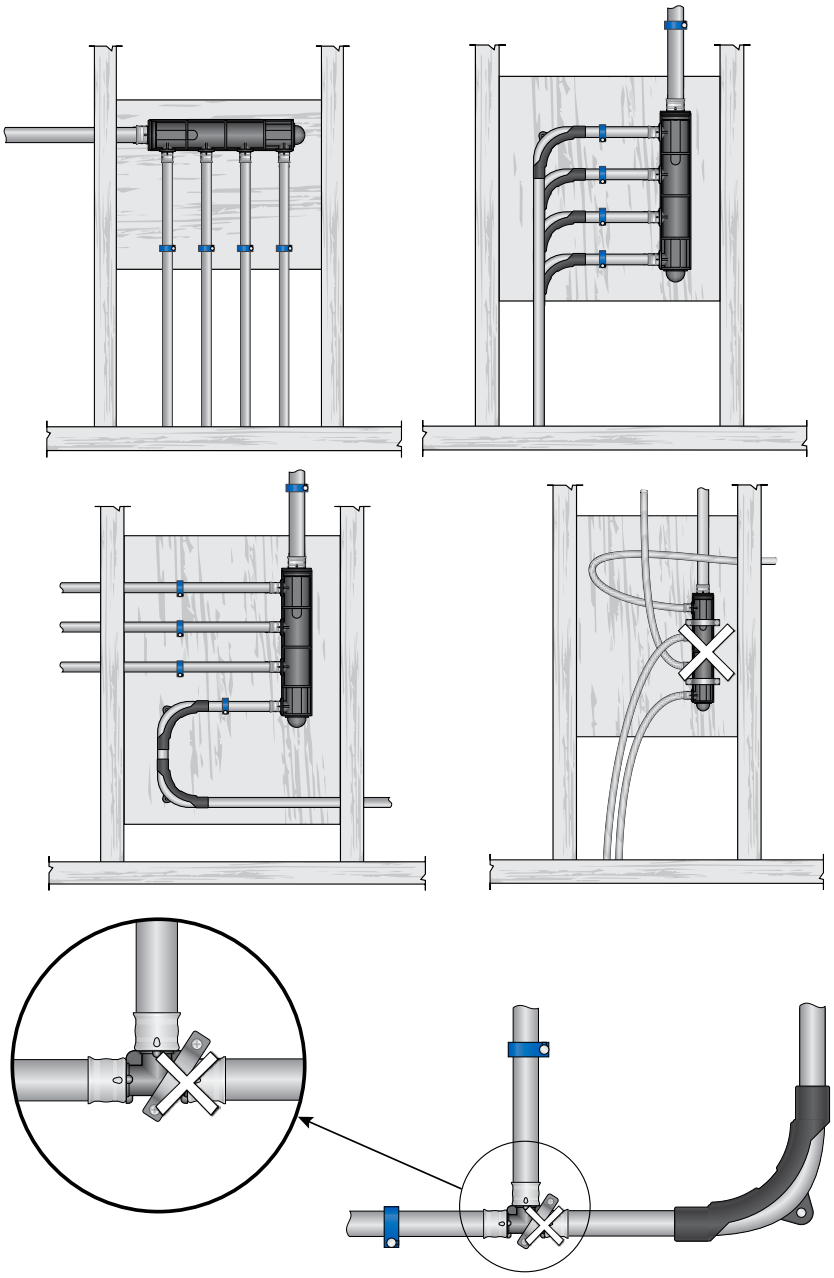
- Horizontal runs should be supported by guides every 32" (80 cm).
- Vertical runs should be supported by guides at every floor level and midpoint between.





- Vertical risers should be supported at the base of each floor and have mid-story guides. Hot water risers should have a support at the top of every other floor. Cold water risers should have a support at the top of every fourth floor.

○ To minimize stress on fittings, manifolds, and multiport tees, PEX should be supported as shown in the diagrams below.



Expansion & Contraction

PEX has a high rate of thermal expansion. The design and installation of every piping system shall include means to accommodate its expansion and contraction caused by temperature changes, movement of the soil, building shrinkage or structural settlement.

For systems using PEX 1" and smaller the tubing will generally flex enough to eliminate the need for expansion offsets so long as tubing is installed as per the guidelines in this manual.

However, for systems using PEX larger than 1", installation must allow for expansion and contraction using appropriate offsets.

Calculate the expansion offset (D) using the formula:

$D = C \times \sqrt{(Ø+0.125) \times \Delta L}$

C = 12 (PEX material specific constant)

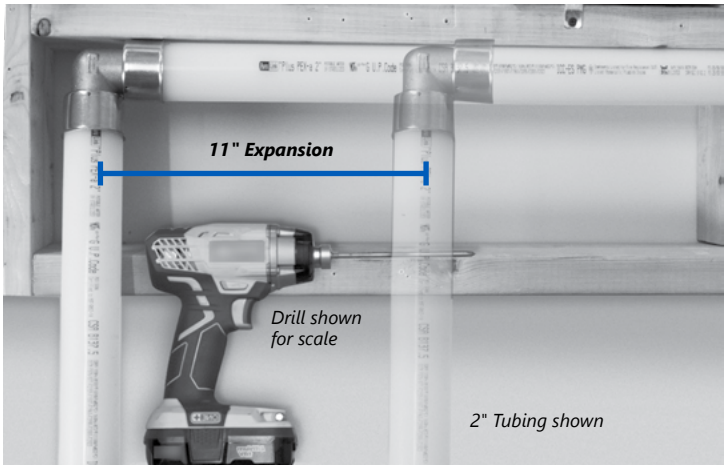
Ø = PEX outside diameter (nominal size + ⅛")

ΔL = Expansion of L (Length of Run)

$\Delta L = \alpha \times \Delta T \times L$

α = coefficient of expansion = 1.1"/10°F/100ft

ΔT = change in temperature of PEX



*On 100ft of 2" PEX with a temperature change of 100°F the expansion is **11 inches**. (Coefficient of expansion is the same for all PEX sizes)*

$\Delta L = \alpha \times \Delta T \times L$

$\Delta L = (1.1"/10°F/100ft) \times 100°F \times 100ft$

$\Delta L = 11"$

Without a proper offset (see page 15) this can easily damage fittings and the installation location.

*A **fixed point** does not allow the PEX to move (such as at a fire stop or tubing anchor).*

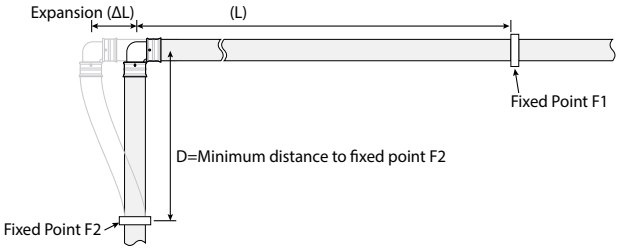
*A **guide** allows the PEX to slide during expansion and contraction.*

Corner Offset

Example 1: A 50ft straight run of 1¼" PEX is anchored at one end, and an elbow is installed at the other end. It is a DHW supply pipe with an operating temperature of 150°F, but was originally installed at 70°F, giving us a difference of 80°F, which equals 4.4" of expansion. In this case a corner offset is the best solution.

L is the PEX length from the fixed (anchor) point (F1) to the elbow.

D is the minimum distance, measured from the elbow, to fixed point F2.



Calculation for a 50 ft run of 1¼" PEX and temperature from 70°F to 150°F:
$D = 12 \times \sqrt{(1.25" + 0.125") \times (50\ ft \times 1.1"/10°F/100ft \times (150°F - 70°F)}$
$D = 12 \times \sqrt{1.375" \times (50\ ft \times 1.1"/10°F/100ft \times 80°F)}$
$D = 12 \times \sqrt{1.375" \times 4.4"}$
$D = 29.5"$

Quick Reference Table - Corner Offset

Length of D for 50ft of PEX

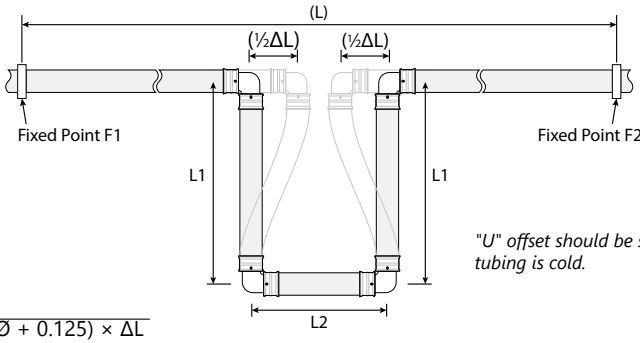
ΔT (°F)	PEX Size ½"	¾"	1"	1¼"	1½"	2"
20	9.9"	11.8"	13.3"	14.8"	16.0"	18.3"
40	14.1"	16.6"	18.9"	20.9"	22.7"	25.9"
60	17.2"	20.4"	23.1"	25.6"	27.8"	31.8"
80	19.9"	23.5"	26.7"	29.5"	32.1"	36.7"
100	22.2"	26.3"	29.8"	33.0"	35.9"	41.0"
120	24.4"	28.8"	32.7"	36.1"	39.3"	44.9"
140	26.3"	31.1"	35.3"	39.0"	42.4"	48.5"
160	28.1"	33.3"	37.8"	41.7"	45.4"	51.9"
180	29.8"	35.3"	40.0"	44.3"	48.1"	55.0"
200	31.5"	37.2"	42.2"	46.7"	50.7"	58.0"

Common ΔT Range

Expansion U Offset

Example 2: There is a 100ft straight run of 2" PEX tubing on a tray in a ceiling space for DHW. Again we need to allow for 100°F of temperature difference. In this case a U offset will work best.

The equation on the previous page also applies to an expansion "U", but the arm length (**D**) is divided into three sections.



"U" offset should be square when tubing is cold.

$D = C \times \sqrt{(Ø + 0.125) \times \Delta L}$

$D = 12 \times \sqrt{(2 + 0.125) \times 100ft \times 1.1"/10°F/100ft \times (160 - 60)}$

D = 58"

L1 = ⅖ × D

L2 = ⅕ × D

L1 = 23.2"

L2 = 11.6"

Quick Reference Table - "U" Offset

Length of L1 & L2 for 50ft of PEX

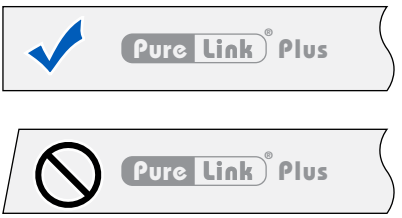
ΔT (°F)		PEX Size ½"	¾"	1"	1¼"	1½"	2"
20	L1	4.0"	4.7"	5.3"	5.9"	6.4"	7.3"
	L2	2.0"	2.4"	2.7"	3.0"	3.2"	3.7"
40	L1	5.6"	6.7"	7.6"	8.3"	9.1"	10.4"
	L2	2.8"	3.3"	3.8"	4.2"	4.5"	5.2"
60	L1	6.9"	8.2"	9.2"	10.2"	11.1"	12.7"
	L2	3.4"	4.1"	4.6"	5.1"	5.6"	6.4"
80	L1	8.0"	9.4"	10.7"	11.8"	12.8"	14.7"
	L2	4.0"	4.7"	5.3"	5.9"	6.4"	7.3"
100	L1	8.9"	10.5"	11.9"	13.2"	14.3"	16.4"
	L2	4.4"	5.3"	6.0"	6.6"	7.2"	8.2"
120	L1	9.7"	11.5"	13.1"	14.5"	15.7"	18.0"
	L2	4.9"	5.8"	6.5"	7.2"	7.9"	9.0"
140	L1	10.5"	12.5"	14.1"	15.6"	17.0"	19.4"
	L2	5.3"	6.2"	7.1"	7.8"	8.5"	9.7"
160	L1	11.3"	13.3"	15.1"	16.7"	18.2"	20.8"
	L2	5.6"	6.7"	7.6"	8.3"	9.1"	10.4"
180	L1	11.9"	14.1"	16.0"	17.7"	19.3"	22.0"
	L2	6.0"	7.1"	8.0"	8.9"	9.6"	11.0"
200	L1	12.6"	14.9"	16.9"	18.7"	20.3"	23.2"
	L2	6.3"	7.4"	8.4"	9.3"	10.1"	11.6"

Common ΔT Range

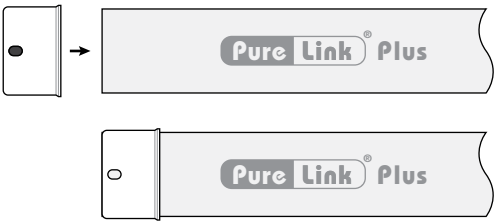
Pressing Instructions

1. Inspect all components for debris, obstructions, and/or damage prior to installation.

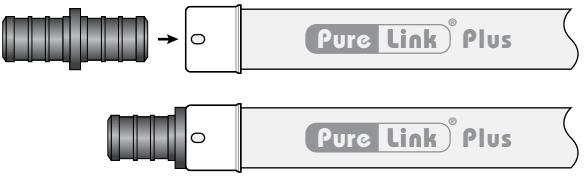
2. Cut the PEX tubing to length, ensuring a square cut - an irregular cut may result in a failed connection. *For larger diameter PEX an ABS cutter is recommended.*



3. Slide the stainless steel sleeve over the tubing until it is properly seated.



4. Push the tubing and sleeve onto the fitting or multiport tee until it bottoms out on the shoulder.



5. Use the sight hole in the sleeve to verify proper seating of PEX tubing.

6. Make press as per tool instructions (see table below).

Tool	Size	Page
Standard Press Tool	½", ¾"	19
	1"	21
	1¼", 1½"	22
Confined Space Press Tool	½", ¾"	25
3-in-1 Confined Space Press Tool	½", ¾", 1"	27
Slim-line Power Press Tool	½", ¾", 1", 1¼", 1½"	30
Pistol Grip Power Press Tool	½", ¾", 1", 1¼", 1½"	32
	2"	33

Press Tool Reference Guide

HeatLink has a variety of press tools designed for different situations, and requiring slightly different operation. Refer to the chart below, and to individual tool instructions on the following pages.

Tool Description	Part Number	Press Description	Calibration Check
½" Standard Press Tool	11305	Single Stage	As Necessary
¾" Standard Press Tool	11322	Single Stage	As Necessary
1" Standard Press Tool	11328	Single Stage	As Necessary
1¼" Standard Press Tool	11335	2 Position	As Necessary
1½" Standard Press Tool	11341	2 Position	As Necessary
½" Confined Space Press Tool	11433	Single Stage	As Necessary
¾" Confined Space Press Tool	11434	Single Stage	As Necessary
3-in-1 Confined Space Press Tool (½", ¾", 1")	11435	Multi Stage	Every Press
Slim-line Power Press Tool	11500	Auto	Auto
Pistol Grip Power Press Tool	11600	½" to 1 ½" – Auto 2" – 2 Position Auto	Auto

Press Descriptions

Single Stage Press: The jaws are placed in one position on the sleeve, and only one squeeze of the handles is needed to complete the press.

2 Position Press: The jaws are placed first in one position on the sleeve, and a press is completed with one squeeze of the handles; then the jaws are moved to a second position, and the second position press is completed with one squeeze of the handles.

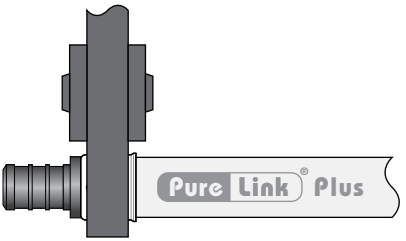
Multi-Stage Press: The jaws are placed in one position on the sleeve, and the press completed with multiple squeezes of the handles (see page 27 for details), **without moving the jaws.**

½" & ¾" Standard Press Tool Instructions

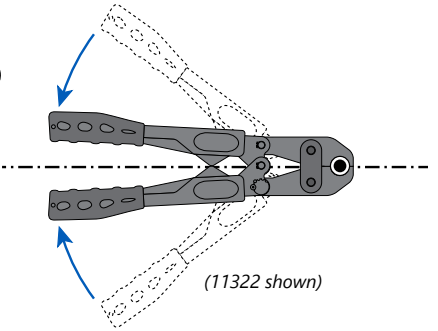
Single Stage Press; 11305 & 11322.

- *Regularly check tool jaws and sleeve for any abnormalities that could be an indication of a damaged tool.*
- *If the Stainless Steel Sleeve is damaged or pressed incorrectly, both the fitting and the sleeve must be replaced.*
- The stainless steel press sleeve **must** be completely pressed only one time. If pressed more than once it is necessary to cut out the fitting, and replace with new sleeves and fitting.
- Never reuse stainless steel press sleeves.

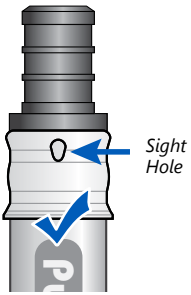
1. Open the tool jaws and center them over the stainless steel sleeve.

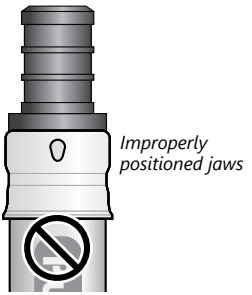


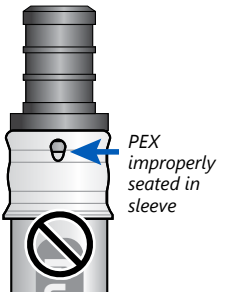
2. Close jaws completely to finalize the connection. The jaws can be removed over the pressed sleeve.



3. A properly positioned tool results in an accurate press: inspect the connection to ensure the tubing is still seated in the sleeve (only PEX is visible in the sight hole), and that the press has been properly formed onto the sleeve. An improperly positioned tool may result in a poor press and a damaged fitting.

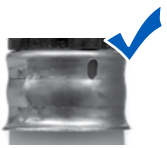




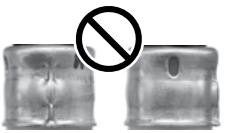


Example Presses

½"



¾"



Pinched sleeve; tool may be out of calibration or damaged.

½" & ¾" Standard Press Tool Calibration

All HeatLink Press Tools are precalibrated by the manufacturer, and do not normally require an initial calibration. However, all press tools wear with use, and it is recommended that press tools be recalibrated as necessary.

A calibration demonstration video is available for metal handle tools or for composite handle tools on the HeatLink website.

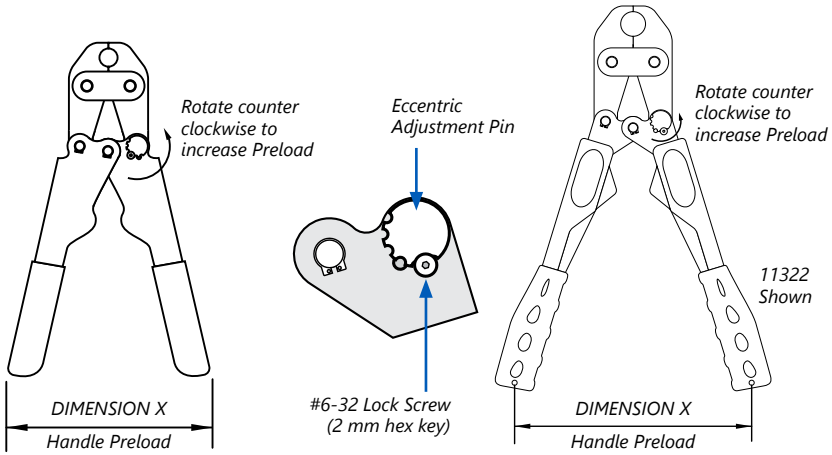
1. Close the tool handles until preload is reached (point at which the jaws butt together).
2. Measure Dimension X using reference dots on composite handle tools, or outside of handles on metal tools (as noted on diagrams below) and compare against measurements listed in the tables below and on the tool's adjustment sticker located on the handle (this sticker supersedes the information in this manual).
3. If necessary, adjust the preload setting by removing the #6-32 lock screw and push up the eccentric adjustment pin from the back to disengage from handle half-punch.
4. Rotate the adjustment pin counter-clockwise to increase the handle preload; rotate clockwise to decrease the handle preload.
5. Push down the adjustment pin and reinstall the #6-32 lock screw in the nearest best hole.
6. Lubricate all joints and pivot points.
7. Make 3 test presses, testing each with a Go/No-Go Gauge to ensure the tool is not damaged or worn. *Worn tools can often be refurbished with new pins and clips HL Part #: 11902.*
8. Recalibrate as needed.

Metal Handle Tools

Stk #	Size	Dimension X
11305	½"	7" ± ¼" (180 ± 5 mm)
11322	¾"	7" ± ¼" (180 ± 5 mm)

Composite Handle Tools

Stk #	Size	Dimension X
11305	½"	7-½" ± ¼" (190 ± 5 mm)
11322	¾"	8-½" ± ¼" (215 ± 5 mm)



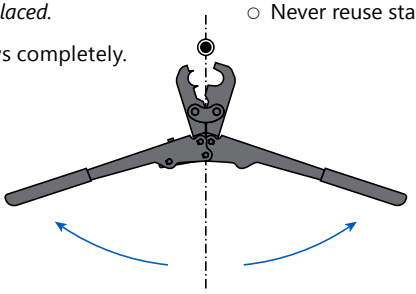
Warranty is null and void if the date coded adjustment sticker is removed from the tool.
Never exceed the specified handle distance or premature wear will result.
New tools may slightly exceed Dimension X until broken in by use.
Always wear eye protection when working with the HeatLink® press tool and fitting system.

1" Standard Press Tool Instructions

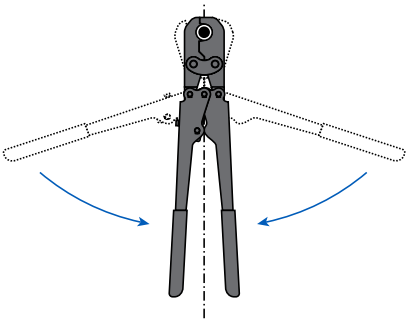
Single Stage Press; 11328.

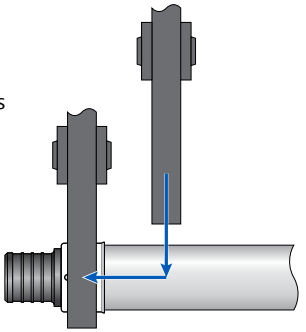
- *Regularly check tool jaws and sleeve for any abnormalities that could be an indication of a damaged tool.*
- *If the Stainless Steel Sleeve is damaged or pressed incorrectly, both the fitting and the sleeve must be replaced.*
- The stainless steel press sleeve **must** be completely pressed only one time. If pressed more than once it is necessary to cut out the fitting, and replace with new sleeves and fitting.
- Never reuse stainless steel press sleeves.

1. Open the tool jaws completely.



2. Place the jaws over the PEX and move the tool sideways to center the jaws over the stainless steel sleeve.

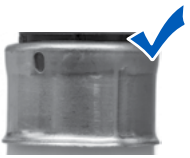




3. Close jaws completely to finalize the connection. The jaws can be removed over the pressed sleeve.

4. A properly positioned tool results in an accurate press: inspect the connection to ensure the tubing is still seated in the sleeve (only PEX is visible in the sight hole), and that the press has been properly formed onto the sleeve. An improperly positioned tool may result in a poor press and a damaged fitting.

Example Press

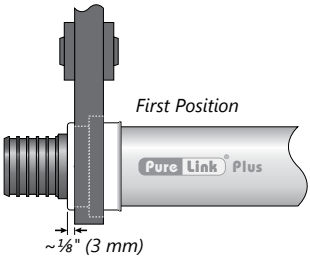


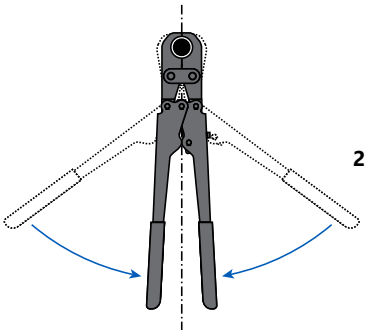
1¼" & 1½" Standard Press Tool Instructions

2 Position Press; 11335 & 11341.

- *Regularly check tool jaws and sleeve for any abnormalities that could be an indication of a damaged tool.*
- *If the Stainless Steel Sleeve is damaged or pressed incorrectly, both the fitting and the sleeve must be replaced.*
- The stainless steel press sleeve **must** be completely pressed only one time. If pressed more than once it is necessary to cut out the fitting, and replace with new sleeves and fitting.
- Never reuse stainless steel press sleeves.

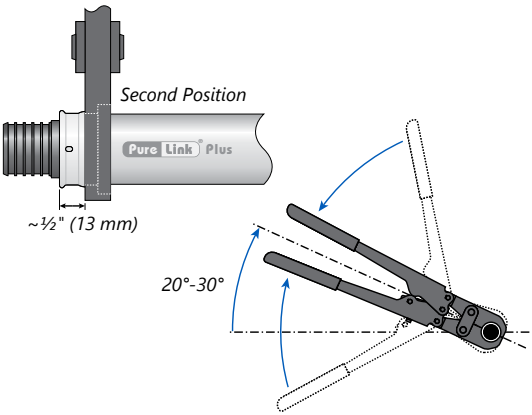
1. Open the tool jaws with the flat side of the tool facing the fitting, place the tool onto the sleeve ~⅛" (3 mm) away from the fitting end of the sleeve.



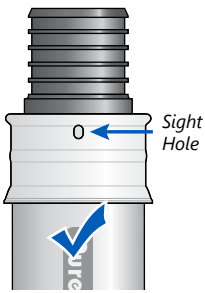


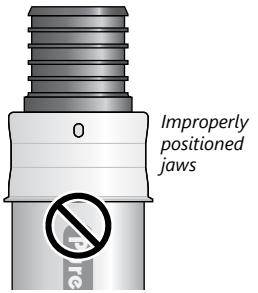
2. Close the jaws completely to make the first press.

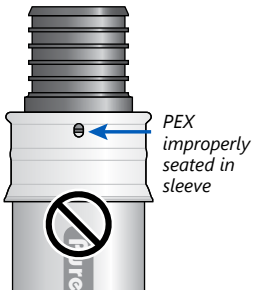
3. Move the tool to ~½" (13 mm) away from the fitting end of the sleeve, rotate the position of the jaws on the sleeve by 20-30°, and close the jaws completely to finalize the press connection. The jaws can be removed over the pressed sleeve.



4. A properly positioned tool results in an accurate press: inspect the connection to ensure the tubing is still seated in the sleeve (only PEX is visible in the sight hole), and that the press has been properly formed onto the sleeve. An improperly positioned tool may result in a poor press and a damaged fitting.

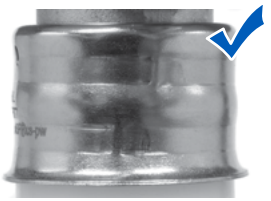






Example Presses

1¼"



1½"

1", 1¼", & 1½" Standard Press Tool Calibration

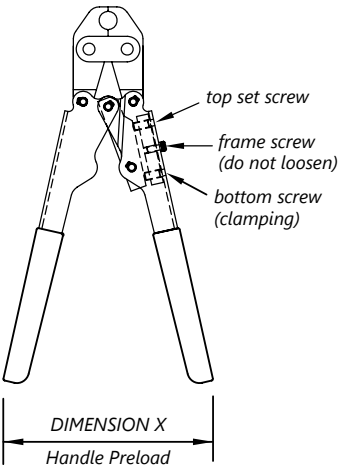
All HeatLink Press Tools are precalibrated by the manufacturer, and do not normally require an initial calibration. However, all press tools wear with use, and it is recommended that every press tool be recalibrated as necessary.

A calibration demonstration video is available on the HeatLink website.

1. Close the tool handles until preload is reached (point at which the jaws butt together).
2. Measure Dimension X (see diagram below) and compare against the measurements listed in the corresponding table below and on the tool's adjustment sticker, located on the handle (this sticker supersedes information in this manual).
3. To adjust the preload setting, loosen the bottom set screw slightly by turning counter clockwise. Tighten the top set screw by turning clockwise, or loosen by turning counter-clockwise, until the preload distance is within tolerance for Dimension X. Tighten the bottom set screw to clamp the setting.
4. Lubricate all joints and pivot points.
5. Make 3 test presses, testing each with a Go/No-Go Gauge, to ensure the tool is not damaged or worn. *Worn tools can often be refurbished with new pins and clips HL Part #: 11903.*
6. Recalibrate as needed.

Standard Press Tools

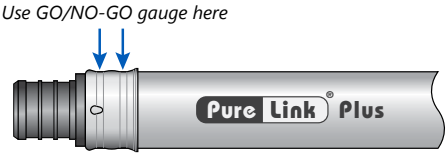
Stk #	Size	Dimension X
11328	1"	13" ± ¼" (330 ± 5 mm)
11335	1¼"	12-½" ± ¼" (320 ± 5 mm)
11341	1½"	12-¾" ± ¼" (325 ± 5 mm)



Warranty is null and void if the date coded adjustment sticker is removed from the tool.
Never exceed the specified handle distance or premature wear will result.
New tools may slightly exceed Dimension X until broken in by use.
Always wear eye protection when working with the HeatLink® press tool and fitting system.

Using the Go/No-Go Gauge for Standard Press Tools

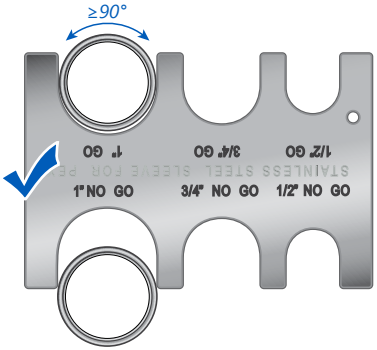
The Go/No-Go Gauge (#11328.1) should be used on a regular basis to help determine if presses made with any of the standard press tools are within HeatLink specifications.



Good Press

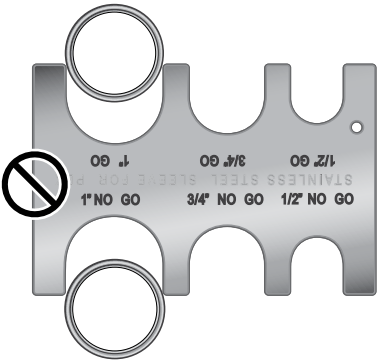
A press that **does** meet HeatLink specifications **will** fit into the appropriately sized slot on the GO side of the gauge; the GO Gauge should freely rotate around the press sleeve at least 90°, catching only on the high spot where the jaws met during pressing,

AND **will not** fit into the NO-GO side of the gauge.



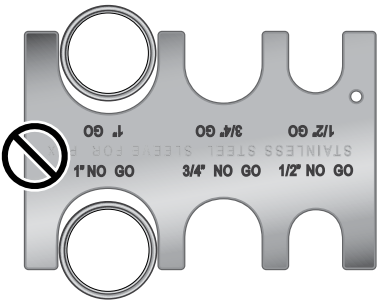
Bad Press

A press that **does not** meet HeatLink specifications **will not** fit into the GO side of the gauge; it will also not fit into the NO-GO side of the gauge at any point. (ie. the press may be too large),



OR the press **will** fit into the NO-GO side of the gauge; it will also fit into the GO side of the gauge (ie. the press may be too small).

An over-press can cause stress on the fitting. The tool may be out of calibration, but it may also indicate a worn or damaged tool. Worn or damaged tools must be replaced.

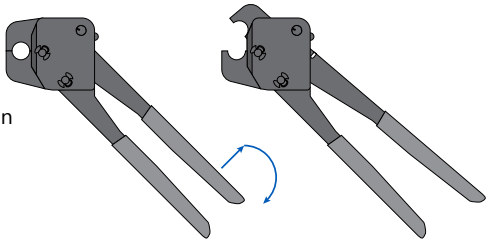


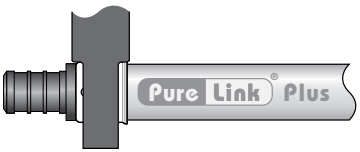
½" & ¾" Confined Space Press Tool Instructions

Single Stage Press; 11433 & 11434.

- *Regularly check tool jaws and sleeve for any abnormalities that could be an indication of a damaged tool.*
- *If the Stainless Steel Sleeve is damaged or pressed incorrectly, both the fitting and the sleeve must be replaced.*
- The stainless steel press sleeve **must** be completely pressed only one time. If pressed more than once it is necessary to cut out the fitting, and replace with new sleeves and fitting.
- Never reuse stainless steel press sleeves.

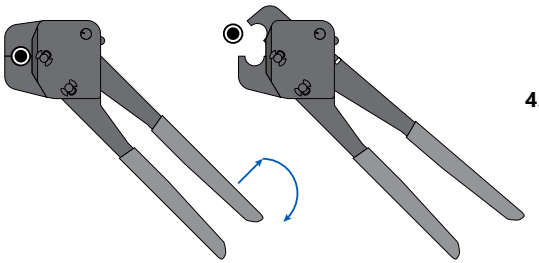
1. Pull back on the moving handle to open the jaws. Do not force the handles apart - this can damage the tool!

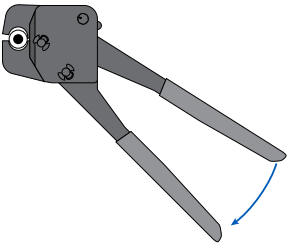




2. Position the jaws squarely around the sleeve, then slightly close the handles to firmly grasp the sleeve.

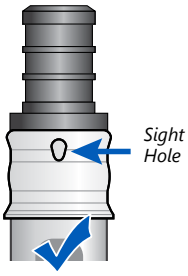
3. Squeeze the handles together to finalize the connection with one press.

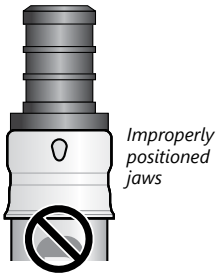


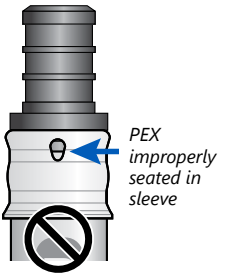


4. Pull Back on the moving handle and remove the tool from the sleeve.

5. A properly positioned tool results in an accurate press: inspect the connection to ensure the tubing is still seated in the sleeve (only PEX is visible in the sight hole), and that the press has been properly formed onto the sleeve. An improperly positioned tool may result in a poor press and a damaged fitting.

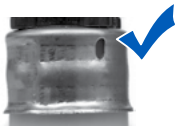






Example Presses

½"



¾"

Pinched sleeve; tool may be out of calibration or damaged.

Confined Space Press Tool Calibration

All HeatLink Press Tools are precalibrated by the manufacturer, and do not normally require an initial calibration. However, all press tools wear with use, increasing the press diameter. Use the Go Gauge (#11433.1) to determine if presses are within HeatLink specification. Press tools must be recalibrated as necessary.

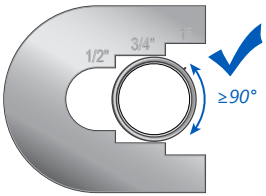
A calibration demonstration video is available on the HeatLink website.

The Go Gauge should freely rotate around the press sleeve at least 90°, catching only on the high spot where the jaws met during pressing.

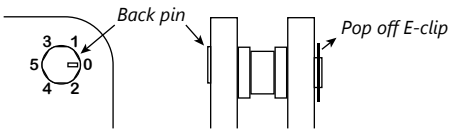
Any presses that do not pass must be removed and replaced, and may indicate the tool needs to be calibrated or replaced.

Worn tools can often be refurbished with new pins and clips, HL Part#: 11439. A rebuild demonstration video is available on the HeatLink website.

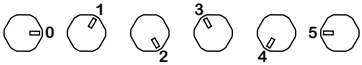
PEX Size	Pressed Sleeve Max. Diameter
½"	0.645" (16.38 mm)
¾"	0.890" (22.61 mm)



1. Remove the e-clip (for example, pop it off with a screwdriver).
2. Slide the back pin head out about ½".



3. Rotate the back pin until the line on the hex head points to the next highest number on the tool body.
4. Push the pin back in.
5. Refit the e-clip. HeatLink recommends using a new e-clip, HL Part#: 11438.



If the tool has already reached the maximum adjustment, or cannot be calibrated, it must be replaced.

Maintenance

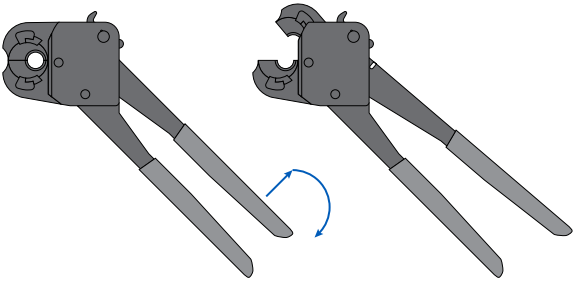
For easier, better presses and longer tool life, keep tool clean and rust-free inside and out. Lubricate all moving parts frequently. HeatLink provides a silicone lubricant safe for use with potable water systems.

3-in-1 Confined Space Press Tool Instructions

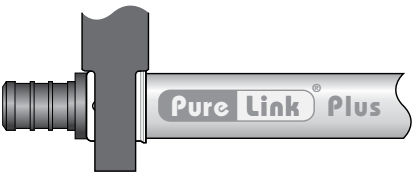
Multi Stage Press; 11435.

- *Regularly check tool jaws and sleeve for any abnormalities that could be an indication of a damaged tool.*
- *If the Stainless Steel Sleeve is damaged or pressed incorrectly, both the fitting and the sleeve must be replaced.*
- The stainless steel press sleeve **must** be completely pressed only one time. If pressed more than once it is necessary to cut out the fitting, and replace with new sleeves and fitting.
- Never reuse stainless steel press sleeves.

1. Pull back on the moving (top) handle to open the jaws. Do not force the handles apart - this can damage the tool!

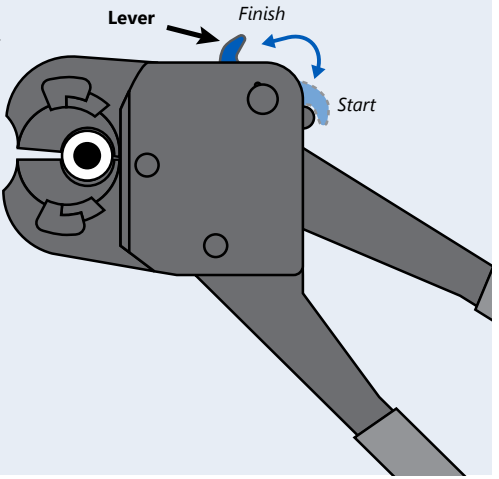


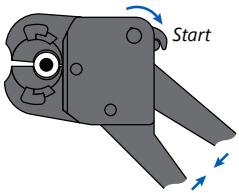
2. Position the jaws squarely around the sleeve, then allow the moving handle to return to the default position, which will close the jaws over the stainless steel sleeve (no pressure is applied by this process).



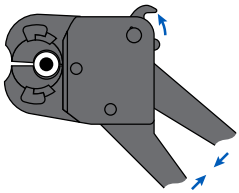
The 3-in-1 confined space tool features a cam lever that modulates the pressure applied to the press sleeve, allowing for a Multi Stage Press. Adjust the Cam Lever between Start and Finish for easier presses on large diameter PEX.

When the lever is in the Finish position, it will not be able to move any further.

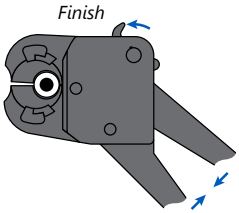




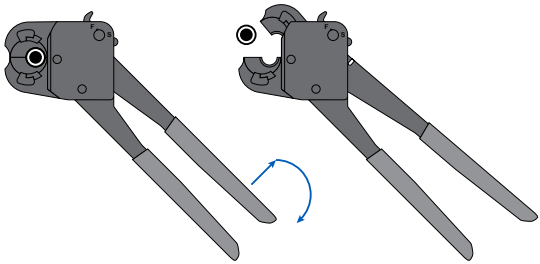
3. Move the cam lever to the Start and squeeze the handles together.



4. Relax your grip on the handles to allow the Lever to be moved to the next position - Large Diameter PEX may take 2-4 press stages to complete

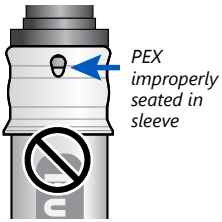


5. To complete a press, move the cam lever to the Finish position and **ensure that it will not move any further**. **Failure to do so may result in a press out of tolerance.**
Squeeze to finalize the press.



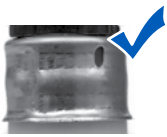
6. Pull back on the moving handle to open the jaws and remove the tool from the sleeve.

7. A properly positioned tool results in an accurate press: inspect the connection to ensure the tubing is still seated in the sleeve (only PEX is visible in the sight hole), and that a "W" press has been properly formed onto the sleeve. An improperly positioned tool may result in a poor press and a damaged fitting.

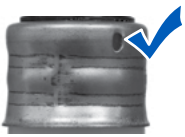


Example Presses

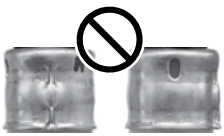
½"



¾"

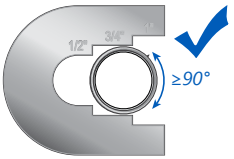


1"



Pinched sleeve; tool may be out of calibration or damaged.

8. Because this is a multi stage tool, **every** press must be inspected using the Go Gauge (#11433.1). The Gauge should freely rotate around the press sleeve at least 90°, catching only on the high spot where the jaws met during pressing. If a press does not pass, the sleeve and the fitting must be removed and replaced with new. This may indicate the tool or collars (see below) need to be replaced.



Use GO gauge here

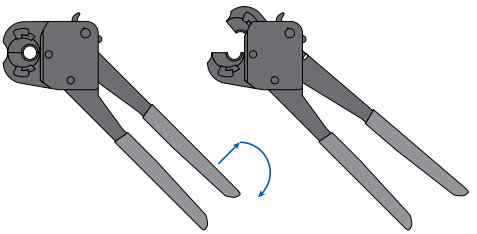
PEX Size	Pressed Sleeve Max. Diameter
½"	0.645" (16.38 mm)
¾"	0.890" (22.61 mm)
1"	1.135" (28.83 mm)

Replacement Collars for 11435 3-in-1 Press Tool

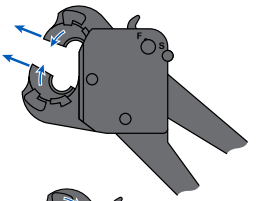
Each HeatLink® #11435 Confined Space Press Tool comes with 3 collar sets to press stainless sleeves for ½", ¾" and 1" PEX. HeatLink recommends that a set of collars always be kept in the tool jaws.

Changing Collars:

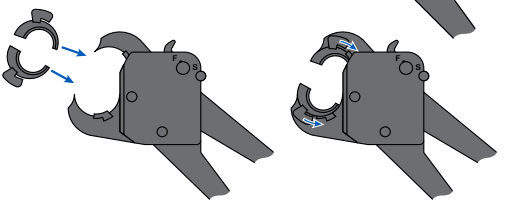
1. To change collars, pull back on the moving handle so the open jaws can be held open with one hand.



2. Rotate the top collar CCW and the bottom collar CW to unlock them. The collars can now be removed.



3. Insert the top collar and turn it CW to lock it in place. Insert the bottom collar and turn it CCW to lock in place. Release the handles.



Jaw Size	Collar Replacement Kit Part #
½"	11435.3
¾"	11435.4
1"	11435.5

Each collar half can only be installed in corresponding top or bottom jaw of the HeatLink Confined Space Press Tool.

Replacement collars are sold as pairs, and must be replaced as pairs to avoid uneven presses.

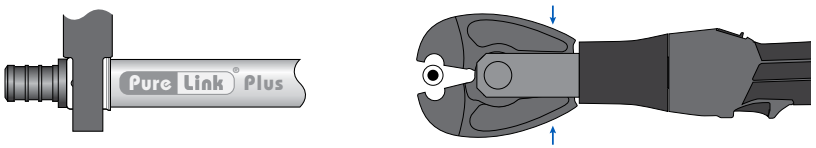
Slim-line Power Press Tool Instructions

Auto Press; 11500.

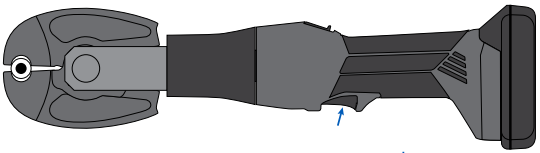
For complete power tool instructions, refer to the instruction booklet (L611500) that comes with the tool.

- ***Never press with empty jaws as this will damage the jaws.***
- *Regularly check tool jaws and sleeve for any abnormalities that could be an indication of a damaged tool.*
- *If the Stainless Steel Sleeve is damaged or pressed incorrectly, both the fitting and the sleeve must be replaced.*
- Never reuse stainless steel press sleeves.

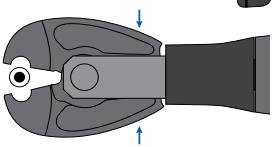
1. Open the jaws (squeeze at points indicated in diagram) and position squarely around the sleeve, then allow the jaws to firmly grasp the sleeve.



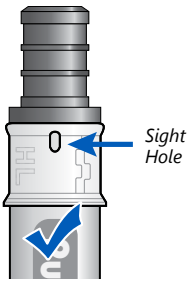
2. Squeeze the trigger until the press is complete.
Note: if the red LED flashes or there is an audible beep, consult "Tab. 1" of the tool instructions.

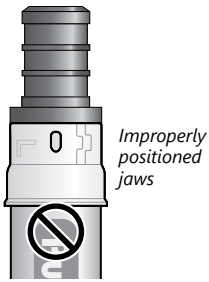


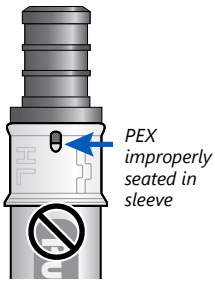
3. Open the jaws and remove the tool from the sleeve.



4. Inspect the connection to ensure the tubing is still properly seated (only PEX is visible in sleeve cut out), and the press has been properly formed onto the sleeve (see diagram for guideline). Tool jaws imprint "HL" on the sleeve. An improperly positioned tool may result in a poor press and a damaged fitting.







Example Presses

½"

¾"

Pinched sleeve; tool jaws must be replaced.

1"

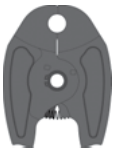
1¼"

1½"

11500 Series Jaws

HeatLink 11500 Series Jaws are compatible with the following third-party tools:

- Nibco PC-20M Mini
- Nibco PC-10M Mini
- Rothenberger Compact



#11505 - ½"

#11522 - ¾"

#11528 - 1"

#11535 - 1¼"

#11541 - 1½"

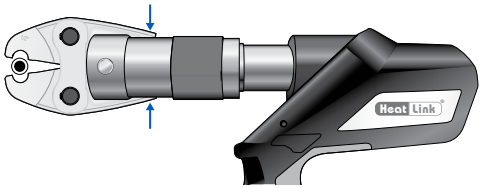
Power Press Tool with Pistol Grip Instructions

For complete power tool instructions, refer to the instruction booklet (L611600) that comes with the tool.

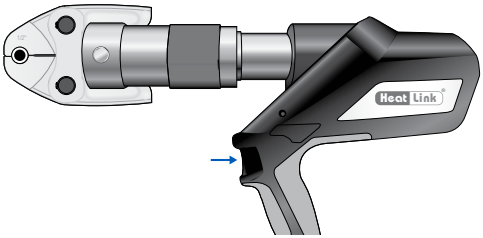
½" to 1 ½" Press Instructions; Auto Press

- ***Never press with empty jaws as this will damage the jaws.***
- *Regularly check tool jaws and sleeve for any abnormalities that could be an indication of a damaged tool.*
- *If the Stainless Steel Sleeve is damaged or pressed incorrectly, both the fitting and the sleeve must be replaced.*
- Never reuse stainless steel press sleeves.

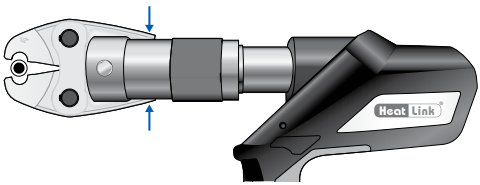
1. Open the jaws (squeeze at the points indicated in the diagram) and position squarely around the sleeve, then allow the jaws to firmly grasp the sleeve.



2. Squeeze the trigger until the press is complete.
Note: if the red LED flashes or there is an audible beep, consult "Tab. 1" of the tool instructions.



3. Open the jaws and remove the tool from the sleeve.

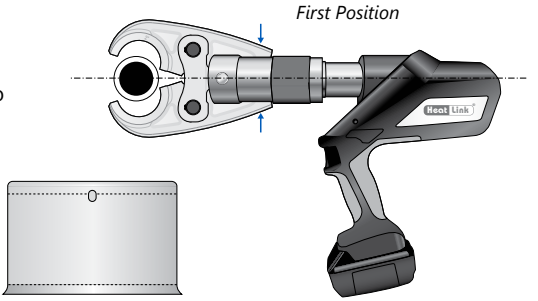


4. Inspect the connection to ensure the tubing is still properly seated (only PEX is visible in sleeve cut out), and the press has been properly formed onto the sleeve (see diagram for guideline). Tool jaws imprint "HL" on the sleeve. An improperly positioned tool may result in a poor press and a damaged fitting.

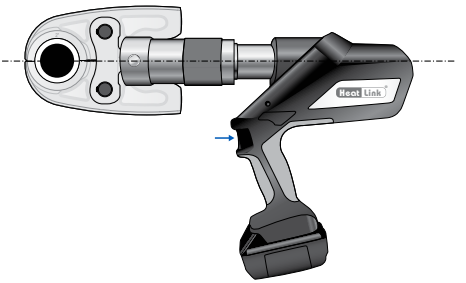
2" Press Instructions; 2 Position Auto Press

- ***Never press with empty jaws as this will damage the jaws.***
- *Regularly check tool jaws and sleeve for any abnormalities that could be an indication of a damaged tool.*
- *If the Stainless Steel Sleeve is damaged or pressed incorrectly, both the fitting and the sleeve must be replaced.*
- Never reuse stainless steel press sleeves.

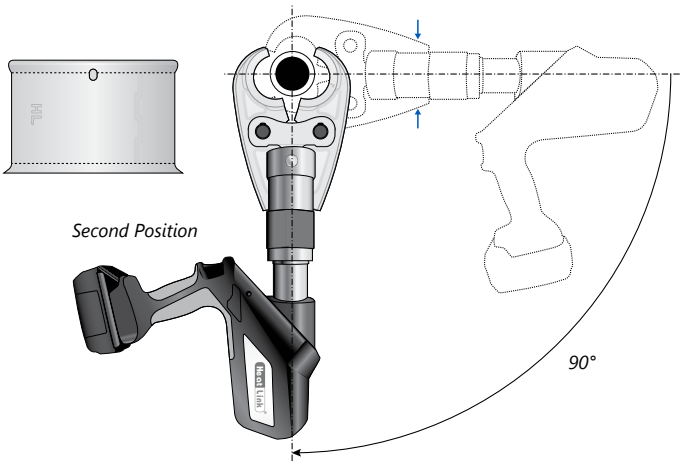
1. Open the jaws (squeeze at the points indicated in the diagram) and position squarely around the sleeve, then allow the jaws to firmly grasp the sleeve.



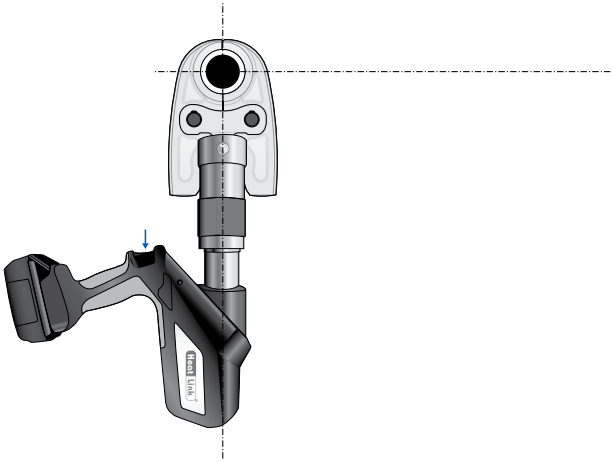
2. Squeeze the trigger until the press is complete.



3. Open the jaws and reposition them 90° from the first press.

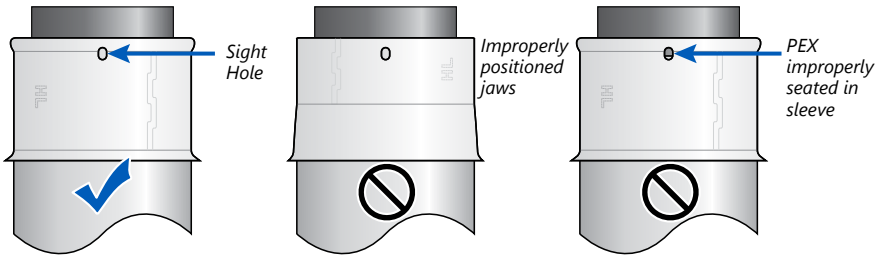


4. Squeeze the trigger until the second press is complete.



5. Open the jaws and remove the tool from the sleeve.

6. Inspect the connection to ensure the tubing is still properly seated (only PEX is visible in sleeve sight hole), and the press has been properly formed onto the sleeve (see diagram for guideline).
Tool jaws imprint "HL" on the sleeve.
An improperly positioned tool may result in a poor press and a damaged fitting.



Example Presses

½" ¾" 1" Pinched sleeve; tool jaws must be replaced.

1¼" 1½" 2"

11600 Series Jaws

HeatLink 11600 Series Jaws are compatible with the following third-party tools:

- Nibco PC-280
- Nibco PC-100
- Ridgid 320-E
- Ridgid RP330-B
- Ridgid CT-400
- Ridgid RP330-C
- Ridgid RP340
- Milwaukee 2673-20L
- REMS 571011
- REMS 577010
- REMS 572111
- REMS 571013
- REMS 571014
- Victaulic Vic-Press™ Tool - Style PFT510

Move the red-ring forward by pressing the small button on top. This shortens the piston travel distance, saving time and battery.

#11605 - ½" Jaws

#11622 - ¾" Jaws

#11628 - 1" Jaws

#11635 - 1¼" Jaws

#11641 - 1½" Jaws

#11654W - New Style 2" Jaws

HeatLink has made significant improvements to the 2" power press jaws.

We now require all 2" connections to be completed with the new style jaws in order for the connection to be eligible for warranty.

Please return all old style jaws to the wholesaler from which they were originally purchased, for a replacement at no charge to you.

See TB-054, 2" Jaws for Power Press Tool with Pistol Grip for more details.

#11654 - Old Style 2" Jaws

Common Installation Issues

Issue	Resolution
Stainless Steel Press Sleeves	
Tubing not seated all the way onto fitting	Cut out fitting, and replace with new sleeves and fitting.
Does not pass Go/No-Go	Cut out fitting, and replace with new sleeves and fitting.
Tubing not cut straight	Cut out fitting, and replace with new sleeves and fitting.
Press sleeve not pressed properly	Cut out fitting, and replace with new sleeves and fitting.
Press Failure	Cut out fitting, and replace with new sleeves and fitting.
Pinched Sleeve	The tool is out of calibration or the tool jaws are worn out or damaged and must be replaced.
Fittings	
Cracked	Cut out fitting, and replace with new sleeves and fitting.
Fitting Barbs are Damaged	Cut out fitting, and replace with new sleeves and fitting.
PEX Tubing	
Notched or Cut	Cut out section of tubing and use appropriately sized coupling. Repairs in concrete must be wrapped. HPP fittings are recommended for concrete repairs.
Kinked	Kinked tubing can be repaired using a heat gun. **See page 9 for details.**
Frozen	Can be thawed using hot water, hot towels, or gently heating with a heat gun. **Do Not Use Open Flame!**
Tools and Jaws	
Cracked Jaws	Power press tools are pressed with empty jaws. Replace the jaws.
Chipped Jaws	Tools being used for unintended applications. Replace the tool/jaws.

PEX Tubing Pressure Drop Graph

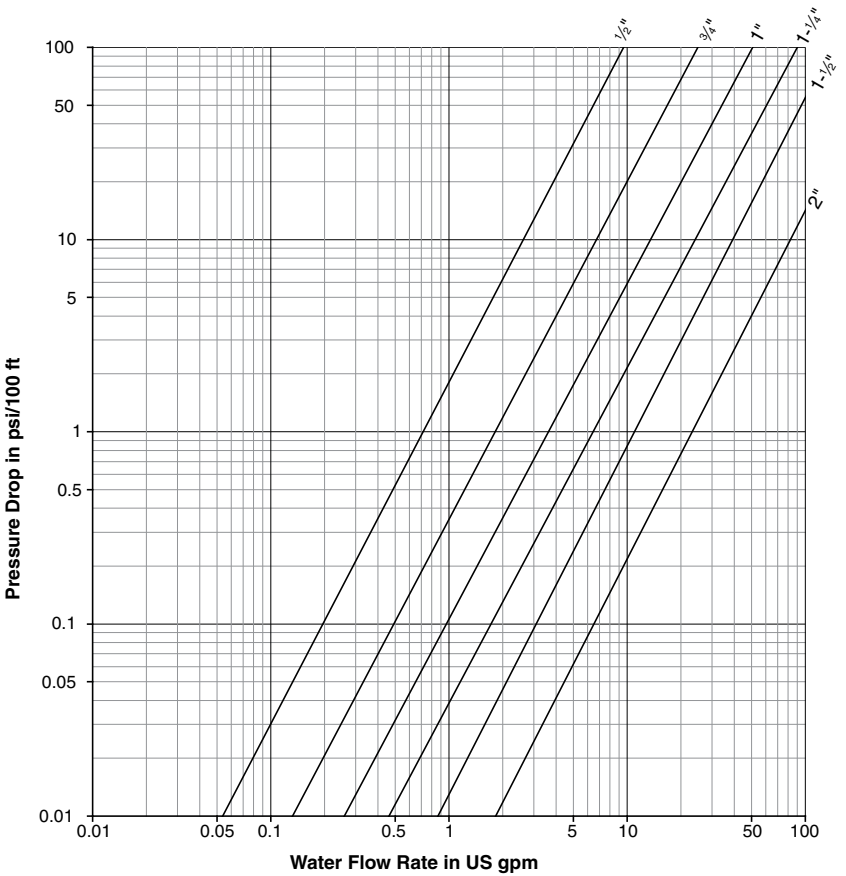
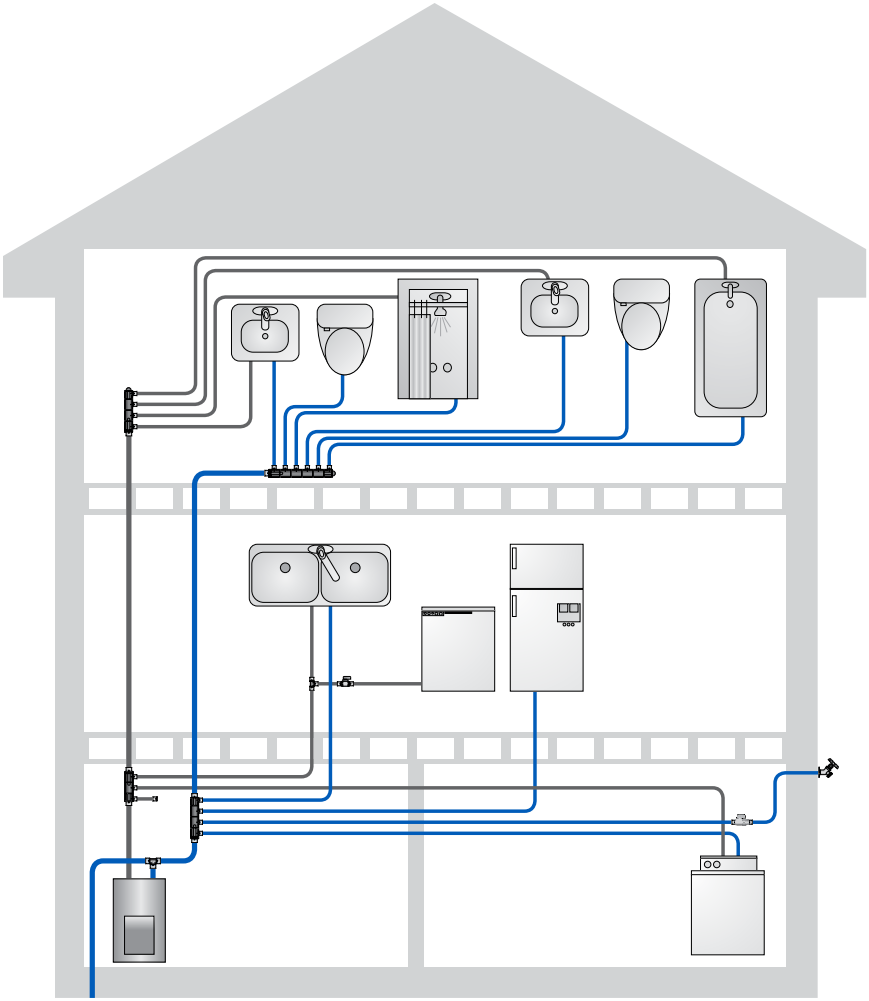


Chart settings at 120°F

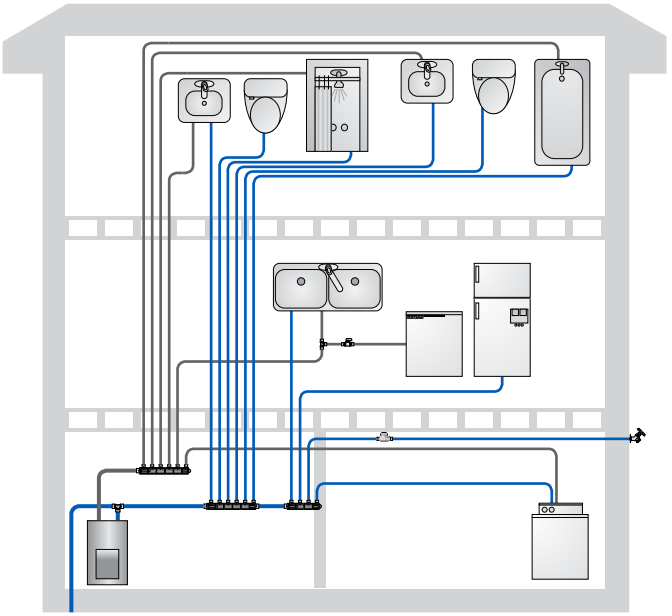
Piping Methods

Modified Home Run Piping Method (Recommended)

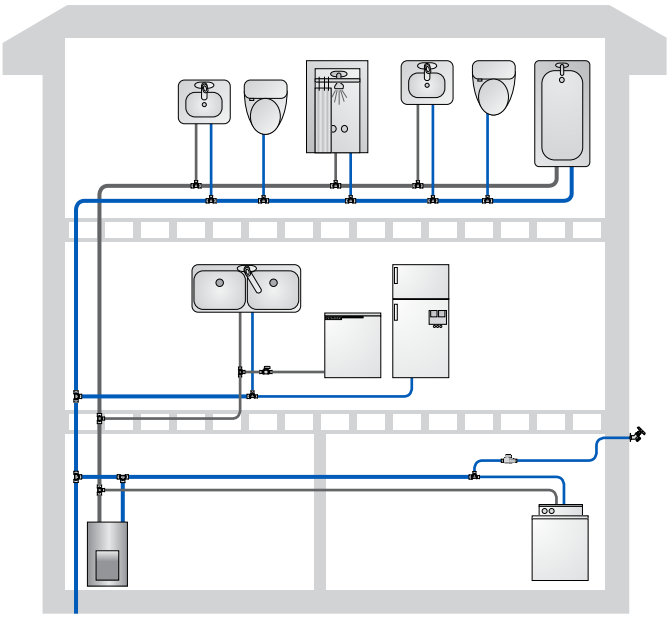


1. Remote headers require less than half of the connections of the branch method.
2. Less PEX tubing compared to home run method.

Home Run Piping Method



Branch and Tee Piping Method



Demand Load of Fixtures

Demand load of fixtures					
Fixture	Occupancy	Type of Supply Control	Fixture Units		
			Cold	Hot	Total
WC	Public	Flush valve	10.00		10.00
WC	Public	Flush tank	5.00		5.00
Urinal	Public	1" flush valve	10.00		10.00
Urinal	Public	¾" flush valve	5.00		5.00
Urinal	Public	Flush tank	3.00		3.00
Lavatory	Public	Faucet	1.50	1.50	2.00
Bath	Public	Faucet	3.00	3.00	4.00
Shower	Public	Mixing valve	3.00	3.00	4.00
Basin	Office	Faucet	2.25	2.25	3.00
Kitchen sink	Hotel, restaurant	Faucet	3.00	3.00	4.00
Drinking fountain	Office	⅜" valve	0.25		0.25
WC	Private	Flush valve	6.00		6.00
WC	Private	Flush tank	3.00		3.00
Basin	Private	Faucet	1.00	1.00	1.50
Bath	Private	Faucet	1.50	1.50	2.00
Shower	Private	Mixing valve	1.50	1.50	2.00
Kitchen sink	Private	Faucet	1.50	1.50	2.00
Laundry tray	Private	Faucet	2.25	2.25	3.00
Dishwasher	Private	Faucet		1.00	1.00
Washing machine 8lbs	Private	Automatic	1.50	1.50	2.00
Washing machine 8lbs	Public or general	Automatic	2.25	2.25	3.00
Washing machine 16lbs	Public or general	Automatic	3.00	3.00	4.00

Definition of Terms

Fixture Unit: The demand imposed by a number of fixtures used intermittently cannot be determined exactly, so each fixture is given a factor known as a fixture unit which corresponds to a demand in GPM. Note: for the purposes of this book the fixture unit is used only to determine the size of distribution pipe required; it is not necessary to know the corresponding GPM.

Note: *fixture unit information supplied from general code book info.*

Please check with your local codes to confirm.

Friction Losses

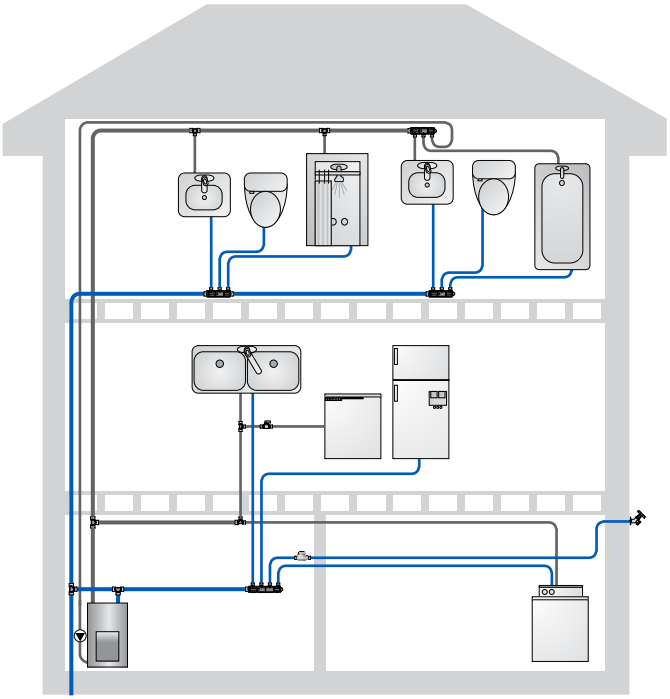
Type of Fitting	Equivalent Length of PEX					
HPP	**½"**	**¾"**	**1"**			
Coupling	6.7	4.8	4.5			
Elbow 90°	13.5	15.5	17.4			
Tee-Branch	15.3	17.0	17.0			
Tee - Run	6.0	6.6	6.0			
BRASS	**½"**	**¾"**	**1"**	**1¼"**	**1½"**	**2"**
Coupling	2.0	0.6	1.3	2	2	2
Elbow 90°	9.4	9.4	10.0	10	12	20
Tee - Branch	10.4	8.9	11.0	10	12	19
Tee - Run	2.4	1.9	2.3	2	2	2

PEX Tubing Water Volume

Dimension and Volume		
Size	**Volume (US gallons/ft)**	**Volume (L/m)**
½"	0.0092	0.114
¾"	0.0184	0.228
1"	0.0303	0.376
1¼"	0.0453	0.563
1½"	0.0631	0.785
2"	0.1083	1.344

Recirculation

PureLink® Plus PEX-a tubing is approved for continuous DHW recirculation. HeatLink recommends recirculation systems that utilize the minimum duty cycle to meet the demand requirements of the system.



The use of PEX tubing in a potable hot-water plumbing system with an operating temperature above 140°F (60°C) or system pressure above 80 psig (550 kPaG) or highly aggressive water quality or any combination thereof can significantly reduce the service life of the tubing.

HeatLink requires following the guidelines described in Plastics Pipe Institute TN-53, *Guide to Chlorine Resistance Ratings of PEX Pipes and Tubing for Potable Water Applications* and HeatLink INFO 37, *Domestic Hot Water Recirculation Systems*.

Press Tool Calibration Tracking Sheet

Tool Part #	Tool Description	Tool #	Date Calibrated	Calibrated By

Please check our website to ensure you have the latest version of this guide.

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