JWPress Systems

JWPress copper press system provides both an economical and reliable method of piping. Applications include industrial, commercial and residential applications.
JWPress systems make secure connections much faster than solder connection system, depending on the press tool system that you are using.
Compared to large diameter solder fittings, time savings are substantial, saving labor time and helping to keep projects on track.
JWPress provides durable consistent quality press joints, providing water and air tight sealing for recommended applications. JWPress is designed to be used in systems where ½” through 4” pipe sizes will provide adequate system coverage.

Professional installation mechanics who have the opportunity to try various press systems are choosing JWPress for its superior engineering, and higher pressure holding capability. Our engineering team has developed a system that provides easy to use products, fast and reliable to install. All JWPress fittings have a built in leak detection system to make finding un-pressed fittings simple and easy.

Application

Listed below are common applications approved by Jungwoo for JWPress fitting system.

Types of Service	System Operating Conditions			2-1/2"~ 4"	1/2"~ 2"
	Comments	Pressure	Temperature	EPDM + SS Grip Ring	EPDM
Fluids/Water					
Hot and Cold Potable Water		200 psi	32°F to 250°F	√	√
Rainwater/ Gray Water		200 psi	Note 1	√	√
Fire Sprinkler		175 psi	Note 1		√
Chiled Water	Ethylene Glycol/ Propylene Glycol	200 psi	Note 1	√	√
Hydronic Heating	Ethylene Glycol/ Propylene Glycol	200 psi	Note 1	√	√
Cooling Water	UP to 50% Ethylene Glycol or Propylene Glycol solution	200 psi	Note 1	√	√
Low-Pressure Steam		Up to 15 psi	248°F	√	√
Fuel, Oil and Lubricant					
Heating Fuel Oil		125 psi	Note 1		
Diesel Fuel	Compliant with NFPA30 and 30A	125 psi	-40°F to 180°F		
Ethanol	Pure Grain Alcohol	200 psi		√	√
Liquid Propane	Compliant with CSA LC4	125 psi	-40°F to 180°F		
Liquid Butane	Compliant with CSA LC4	125 psi	-40°F to 180°F		
Lube Oil	Petoleum Based	200 psi	Note 1		
Gases					
Compressed Air	Less than 25mg/m^3 oil content	200 psi	Note 1	√	√
Compressed Air	More than 25mg/m^3 oil content	200 psi	Note 1		
Natural Gas	Compliant with CSA LC4	125 psi	-40°F to 180°F		
Oxygen - O_2 (non medical)	keep oil and fat free/ non-liquid O_2	140 psi	Up to 140°F	√	√
Nitrogen - N_2			Note 1	√	√
Carbon Dioxide - CO_2	Dry		Note 1		√
Argon	Welding Use		Ambient	√	√
Hydrogen - H_2		125 psi	0°F to 250°F	√	√
Vacuum	Maximum vacuum of 29.2 inches of mercury	29.2 In. Hg.	Note 1	√	√

* Consult the JWPress Technical Support Department for information on applications not listed and applications outside the temperature and pressure ranges listed above.

* Note 1: System pressure and temperature ranges depend on sealing element.

JWPress INSTALLATION GUIDE

Tube Selection :

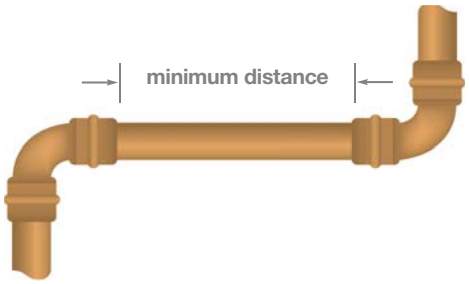
JWPress is compatible with ½"to 1¼" soft copper tubing, and ½" to 4" hard copper tubing in types M, L and K, Tubing for use with JWPress fittings should be compliant with ASTM B88 standard, and additionally should be free of incising marking which may be a potential source of leakage.

Handling of Press Fittings :

JWPress fittings are packaged in polybags, to keep them clean and free from debris. While it unlikely to be needed, the polybag also serves to keep fittings and o-ring seals paired in the event that one were to be dislodged in transit. JWPress, and all press manufacturers recommend a thorough visual inspection of the fittings prior to installation. Fittings should be handled with care and opened just prior to use, to ensure their cleanliness. Fittings which are mishandled could become deformed or mis-shapened.

Distances Between Joints :

Mechanical joint pressing causes some engineered degree of deformity to the tubing. To prevent leaks, minimal distances between press joints are set forth in the accompanying table.

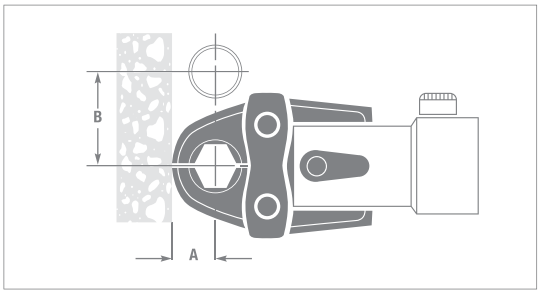


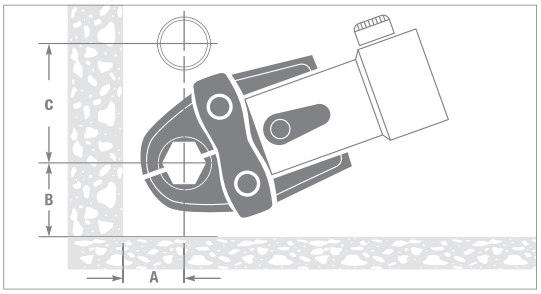
Minimum Distance between JWPress Connection 1/2" to 4"		
Tube Dia.	Minimum Distance	
Nominal inch	inch	mm
1/2	1/2	13
3/4	1/2	13
1	1/2	13
1 1/4	1/2	13
1 1/2	5/8	16
2	3/4	20
2 1/2	3/4	20
3	3/4	20
4	3/4	20

Pressing Space Limitation :

Press tool and jaw sets can be difficult to get into some tighter spaces. In these instances JWPress recommends that when possible, preassembly be done away from these space restrictions, and then installed to minimize potential for bad alignment of the pressing tools and jaws. For most press joints, use of the press tools and jaws will not pose spatial issues. The following guidelines are recommended for standard installations.

Small Diameter Pressing with Standard Jaw Clearance Requirements :

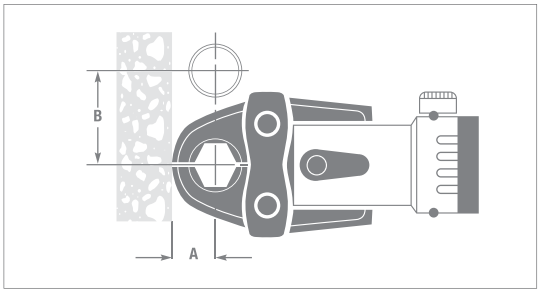


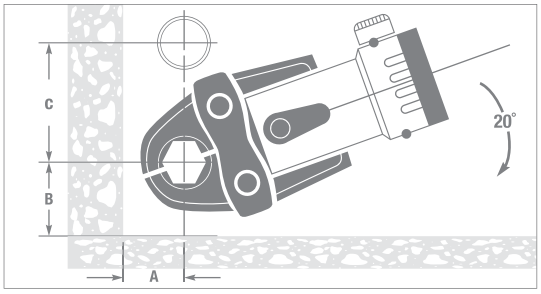


Tube Diameter	A minimum		B minimum	
	inch	mm	inch	mm
½”	¾	19	1⅝	41
¾”	⅞	22	2⅛	54
1”	1	26	2½	64
1¼”	1⅛	29	2⅞	73
1½”	1¾	45	3½	89
2”	2	51	4⅜	111

Tube Diameter	A minimum		B minimum		C minimum	
	inch	mm	inch	mm	inch	mm
½”	⅞	23	1⅜	35	2½	64
¾”	1	26	1½	38	2½	64
1”	1⅛	29	1¾	45	3	76
1¼”	1¼	32	2¼	57	3⅛	80
1½”	1⅞	48	1½	64	3¾	95
2”	2⅛	54	3⅛	80	5	127

Pressing with Compacts Jaws Clearance Requirements :

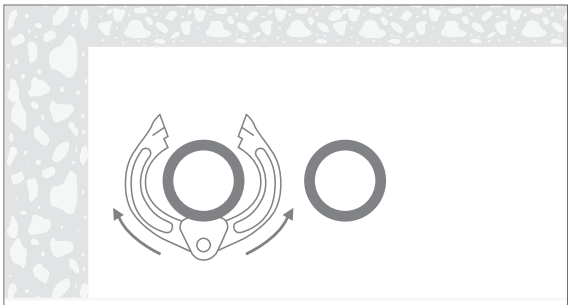




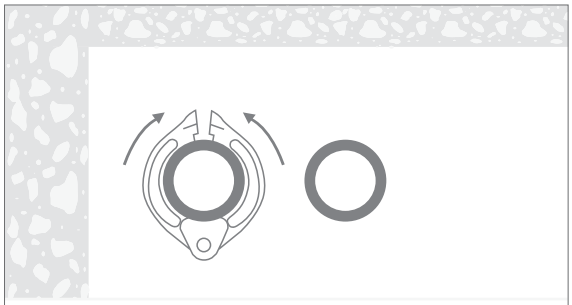
Tube Diameter	A minimum		B minimum	
	inch	mm	inch	mm
½”	¾	19	2	51
¾”	⅞	22	2⅜	60
1”	⅞	26	2⅝	67
1¼”	1⅛	28	3⅛	85

Tube Diameter	A minimum		B minimum		C minimum	
	inch	mm	inch	mm	inch	mm
½”	⅞	23	1⅜	35	2½	64
¾”	1	26	1½	38	2¾	70
1”	1⅛	29	1⅝	41	3	76
1¼”	1⅝	39	2⅛	53	3⅜	85

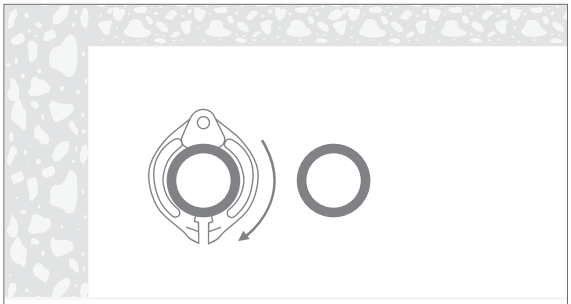
Large Diameter Pressing Requirements With Standard Press Ring :



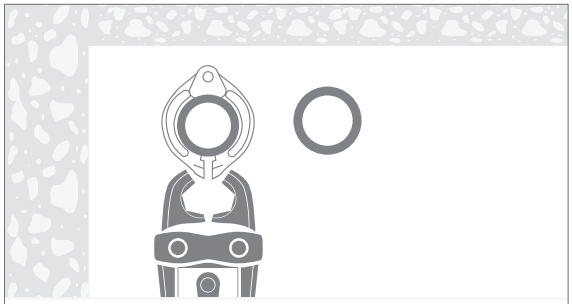
① Wrap the actuator ring around the press fitting with the opening facing away from you.



② Close the actuator tight around the fitting.

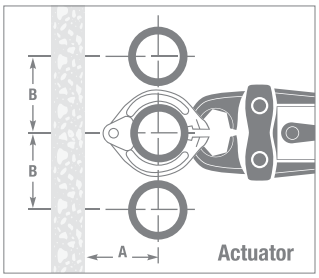


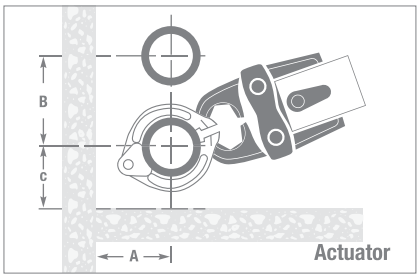
③ Rotate the actuator ring until the press jaw receptacle is facing toward you.

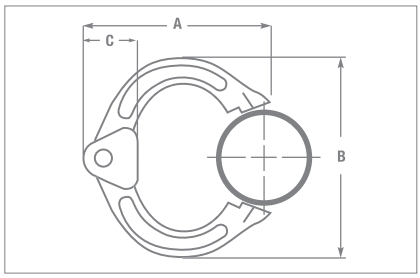


④ Properly insert press jaws and begin the press fitting procedure.

Procedure for laying the copper press ring around the JWPress fitting with minimum space requirements :







Tube Diameter	A in. (mm)	B in. (mm)
2½”	4⅛ (105)	6 (152)
3”	4⅜ (111)	7 (178)
4”	5 (127)	8 (203)

Tube Diameter	A in. (mm)	B in. (mm)	C in. (mm)
2½”	4⅛ (105)	6 (152)	4½ (114)
3”	4⅜ (111)	7 (178)	4⅞ (124)
4”	5 (127)	8 (203)	5¾ (146)

Tube Diameter	A in. (mm)	B in. (mm)	C in. (mm)
2½”	$6^{3/16}$(157)	$6^{15/16}$(176)	$2^{7/16}$(62)
3”	$7^{7/16}$(189)	$8^{13/16}$(224)	$2^{7/16}$(62)
4”	$8^{1/16}$(205)	$10^{7/16}$(265)	$2^{7/16}$(62)

Clearance Requirements for JWPress Rings :

Ensure that the space required for system pressing tools are available if JWPress fittings will be executed immediately upstream and downstream from ceiling penetrations.

Transition Connections, Threads and Flanges :

JWPress threaded transition fittings mate directly with off the shelf 1/2” to 4” NPT threaded fittings. As with any copper based plumbing system, transitions should be non ferrous materials. When using JWPress flanges, bolt the flange to the valve or flanged fitting to be installed in line, and tighten to reduce any play in the copper press transition. Following this procedure will help to ensure the best possible joint when pressing.

Welding, Soldering or Brazing :

Minimum clearance requirement when pressing connections near an existing brazed connection is two pipe diameters.

To ensure proper sealing of both the soldered and press connections, a minimum spacing between connections must be maintained.

Ensure there is no residual solder or other foreign debris on the tubing to be inserted into the JWPress fitting.

Tube Dia.	Minimum Distance	
Nominal inch	inch	mm
1/2	1/4	7
3/4	1/4	7
1	7/16	11
1 1/4	7/16	11
1 1/2	5/8	16
2	3/4	19
2 1/2	1/4	7
3	1/4	7
4	1/4	7

Soldering or Brazing Near an Existing Press Fitting :

To ensure proper sealing of the soldered/brazed joint and the press connection, a minimum distance between connections must be maintained.

When soldering or brazing near a JWPress connection, the installer must remain at least two tube diameters away from the connection to prevent damage to the sealing element.

The installer should take precautions to keep the JWPress connection cool.

Included: Wrapping the connection with a cold wet rag.

Fabrication solder connections prior to installing the press fitting.

Applying “Spray Type” spot freezing.

Tube Dia.	Minimum Distance	
Nominal inch	inch	mm
1/2	1 1/2	39
3/4	2 1/4	58
1	3	77
1 1/4	3 3/4	96
1 1/2	4 1/2	115
2	6	153
2 1/2	7 1/2	191
3	9	229
4	12	305

JWPress INSTALLATION GUIDE

General Installation Requirements :

The JWPress system must be installed with due consideration to the following industry requirements, as regards: Expansion, Freezing, Corrosion Protection, Underground Installation, Pressure Testing, and Hangers and Supports.

Expansion :

Thermal expansion in installed systems generates stresses in pipes and applicance connectors. Compensation must be allowed for expansion and contraction that may occur within the piping system. Expansion joints or mechanical expansion compensators may be used to alleviate these stresses.

Piping Exposed to Freezing :

In JWPress system, the o-ring seal, made from a specially formulated EPDM, can be installed in temperatures down to 0˚F. Lower temperatures may cause stiffness and would increase the change of o-ring cutting if tube were improperly deburred. Systems exposed to freezing temperatures must be protected and should be installed only in accordance with local building code requirements for the protection of such piping systems.

Corrosion Protection :

JWPress fittings exposed to corrosive action, such as soil conditions or moisture, must be protected in an approved manner in accordance with 2009 UMC Chapter 13 section 1312.1.3, NFPA 54 section 404.8, 2009 UPC Chapter 6 section 609.3.1, NACE Standard RP0169-2002 section 5 and in a manner satisfactory to the local code official.

Underground Installations :

JWPress fitting systems with copper tubing are approved for underground installations. However, any installations must meet all state and local codes, including those for underground.

Proper authorization must be obtained prior to installation from the local authority having jurisdiction.

Pressure Testing :

The pressure testing of installed pipe is to be completed in accordance with local codes. For JWPress, in the absence of local codes, test according to NFPA 54 or NFPA 58.

Tube Hangers and Supports :

Tube supports perform two functions. The first function is to provide support for the piping system.

The second function is to guide the pipe or tube during thermal expansion and contraction. Industry standard practices and guidelines shall be used for piping layout and support. JWPress connections utilize normal guidelines for support.

Hangers and supports must conform to the local code requirements, hangers and supports must conform to ANSI/MSS SP 59 and SP 69, pipe hangers and suppprts, materials, design and manufacture.

Supports, hangers and anchors are to be installed in a manner that does not interfere with the free expansion and contraction of the piping.

All parts of the support equipment need to be designed and installed to not disengage due to movement of the supported piping. Sliding hangers must be positioned so that they cannot unintentionally become rigid hangers when the system is in use.