ASC Engineered Solutions

SCI® Press – Stainless Steel Fittings

Material Specifications

Body

304 Stainless Steel Alloy conforming to ASTM A312

Grip Ring

Stainless Steel grip ring manufactured Type 410

Sealing Elements

FKM: 14°F to 284°F
(Operating Temperature Range)
EPDM: -20°F to 250°F
(Operating Temperature Range) NOT FOR USE IN PETROLEUM APPLICATIONS.
Lubrication: Silicone Grease

Approvals & Certifications

EPDM/FKM: IAPMO Z1117, NSF/ANSI 61, NSF/ANSI 372

The SCI® Press Stainless Steel System includes couplings, elbows, tees, adapters, reducers, caps, unions, and flanges for mechanical stainless steel piping systems.

They provide an economical and reliable piping connection that can be used for commercial, industrial, and residential markets; providing an alternative to the conventional methods of welding and threading.

SCI Press Stainless Steel Fittings are intended for use with ASTM A312 stainless steel piping, Sched 5, 10, and 40, in sizes ½" to 2". Color-coded insertion depth indicator lines provide quick visual reference for EPDM (green) and FKM (white) sealing elements.

After visual confirmation of each connection, a system pressure test may be performed in accordance with local code requirements.

The SCI Press Stainless Steel System is compatible with common pressing tools and jaws.

The SCI Press Stainless Steel fitting sealing elements feature leak-if-not-pressed technology to help identify unpressed joints during the testing phase, rather than costly leaks after the system is in operation. All fittings are covered by a 15-year limited warranty.

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PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ Approved
Address:	☐ Approved as noted
Contractor:	☐ Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

Applications

Type of Service	EPDM	FKM
Hot and cold potable water: Max Pressure: 200 psi/Temp Range: -20° to 250°	X	
Hot and cold potable water: Max Pressure: 200 psi/Temp Range: 14° to 284°, with temp spikes up to 356°		X
Rainwater/Graywater: Max Pressure: 200 psi/Temp Range: 0° to 250° psi/Temp Range: 0° to 250°	X	X
Rainwater/Graywater: Max Pressure: 200 psi/Temp Range: 14° to 284°, with temp spikes up to 356°		X
Chilled Water: ≤50% Ethylene / Propylene glycol Max Pressure: 200 psi/Temp Range: 0° to 250°	X	
Chilled Water: ≤50% Ethylene / Propylene glycol Max Pressure: 200 psi/Temp Range: 14° to 284°, with temp spikes up to 356°		X
Hydronic Heating Water ≤50% Ethylene / Propylene glycol Max Pressure: 200 psi/Temp Range: 0° to 250°	X	
Hydronic Heating Water ≤50% Ethylene / Propylene glycol Max Pressure: 200 psi/Temp Range: 14° to 284°, with temp spikes up to 356°		X
Treated Water Fully desalinated, deionized, demineralized, distilled (open system): Max Pressure: 200 psi/Temp Range: 32° to 250°	X	X
Paraffin Wax: Max Pressure: 200 psi/Temp Range: Max 100°		X
Methyl Ethyl Ketone 200 psi/Temp Range: Max 100°	X	
Isopropyl Alcohol: 200 psi/Temp Range: Ambient	X	X
Nitric Acid Concentration ≤10% 200 psi/Temp Range: Ambient	X	X
Steam (Low Pressure): 15 psi/Temp Range: Max 250°		X
Steam (Residential): 5 psi/Temp Range: Max 227°	X	X
Ethanol (Pure grain alcohol): 200 psi/ Temp Range: Ambient	X	
Mineral Oil: 200 psi/ Temp Range: Ambient		X
Lube Oil (Petroleum based): 200 psi/ Temp Range: Max 150°		X
Heating Fuel Oil: 125 psi/ Temp Range: Max 100°		X
Diesel Fuel: 125 psi/ Temp Range: Max 100°		X
Kerosene: 125 psi/ Temp Range: Max 68°		X
Compressed Air (Oil Concentration ≤25 mg/m3): 200 psi/ Temp Range: Max 140°	X	X
Compressed Air (Oil Concentration >25 mg/m3): 200 psi/ Temp Range: Max 140°		X
Nitrogen - N^2: 200 psi/ Temp Range: Max 140°	X	X
Carbon Dioxide - CO^2 (Dry): 200 psi/ Temp Range: Max 140°	X	X
Argon - Ar:200 psi/ Temp Range: Max 140°	X	X
Ammonia (Anhydrous): 200 psi/ Temp Range: Max 120°	X	
Ammonia (Ammonia environment): 200 psi/ Temp Range: Max 120°	X	X
Oxygen - O^2 (Non-medical. Keep free of oil and grease): 140 psi/ Temp Range: Max 140°	X	
Hydrogen - H^2: 125 psi/ Temp Range: Max 140°	X	X
Acetylene (Test pressure 350 psi) 20 psi/ Temp Range: Ambient	X	X
Vacuum (Minimum absolute pressure): 750um Hg/ Temp Range: Max 160°	X	X
Vacuum (Maximum absolute pressure): 29.2" Hg/ Temp Range: Max 160°	X	X

SCI Press – Stainless Steel 90° Elbow
☐ Fig. SP890

SP890 SS P X P 90 ELL

Inlet 1	Inlet 2	L	A
In.	In.	In./mm	In./mm
½	½	2.597 65.500	1.024 26.500
¾	¾	3.012 76.500	1.181 30.000
1	1	3.563 90.500	1.358 34.500
1¼	1¼	4.469 113.500	1.799 45.500
1½	1½	4.783 121.500	1.850 47.000
2	2	5.591 142.000	1.929 49.000

SCI Press – Stainless Steel 90° Street Elbow
☐ Fig. SP899

SP899 SS P X FTG STREET 90 ELLL

Inlet 1	Inlet 2	L	L1	A
in	in	in/mm	in/mm	in/mm
½	½	2.579 65.500	2.874 73.00	1.555 39.500
¾	¾	3.012 76.500	3.268 83.000	1.8311 46.500
1	1	3.563 90.500	3.585 98.000	2.205 56.000
1¼	1¼	4.469 113.500	4.606 117.00	2.933 67.800
1½	1½	4.783 121.500	5.118 130.000	2.933 74.500
2	2	5.591 142.00	6.083 154.500	3.661 93.000

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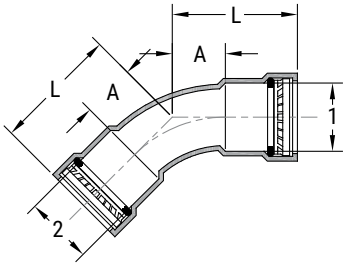
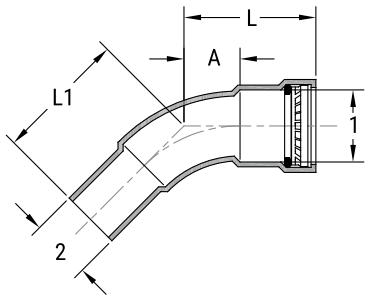
SCI Press – Stainless Steel 45° Elbow
☐ Fig. SP845



SP845 SS P X P 45 ELL

Inlet 1	Inlet 2	L	A
in	in	in/mm	in/mm
½	½	1.890 48.00	0.866 22.000
¾	¾	2.185 55.500	1.004 25.500
1	1	2.520 64.000	1.161 29.500
1¼	1¼	3.228 82.000	1.429 36.700
1½	1½	3.406 86.500	1.555 39.500
2	2	3.799 96.500	1.870 47.500

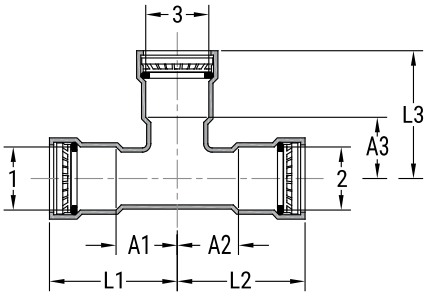
SCI Press – Stainless Steel 45° Street Elbow
☐ Fig. SP849



SP849 SS P X FTG STREET 45 ELL

Inlet 1	Inlet 2	L	L1	A
in	in	in/mm	in/mm	in/mm
½	½	1.890 48.000	2.165 55.000	0.866 22.000
¾	¾	2.185 55.500	2.421 61.500	1.004 26.500
1	1	2.520 64.000	3.071 78.000	1.161 29.500
1¼	1¼	3.228 82.000	3.425 87.000	1.429 36.300
1½	1½	3.406 186.500	3.740 95.000	1.555 39.500
2	2	3.799 96.500	3.937 100.00	1.870 47.500

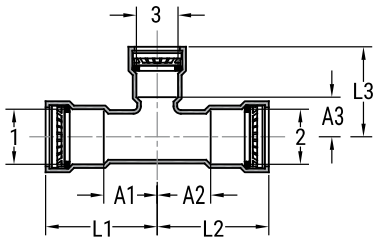
SCI Press – Stainless Steel Tee
☐ Fig. SP820



SP820 SS P x P x P Tee

Inlet 1	Inlet 2	Inlet 3	L1	L2	L3	A1	A2	A3
in	in	in	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm
½	½	½	1.910 48.501	1.910 48.501	1.910 48.501	0.886 22.504	0.886 22.504	0.889 2.25806
¾	¾	¾	2.205 55.994	2.205 55.994	2.205 56.007	1.024 26.010	1.024 26.010	1.025 26.035
1	1	1	2.540 64.503	2.540 64.503	2.539 64.491	1.181 29.997	1.181 29.997	1.179 2.99466
1¼	1¼	1¼	3.288 83.502	3.288 83.502	3.287 83.490	1.488 37.795	1.488 37.795	1.487 3.77698
1½	1½	1½	3.465 87.998	3.465 87.998	3.465 88.011	1.614 40.996	1.614 40.996	1.615 4.1021
2	2	2	3.859 98.006	3.859 98.006	3.859 97.993	1.929 48.997	1.929 48.997	1.929 48.997

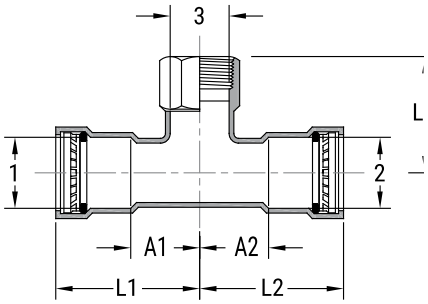
SCI Press – Stainless Steel Reducing Tee
☐ Fig. SP820R



SP820R SS P x P x P Tee

Inlet 1	Inlet 2	Inlet 3	L1	L2	L3	A1	A2	A3
in	in	in	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm
¾	¾	½	2.205 55.994	2.205 55.994	2.008 51.003	1.024 26.010	1.024 26.010	0.828 2.10312
1	1	½	2.540 64.503	2.540 64.503	2.165 54.991	1.181 29.997	1.181 29.997	1.145 2.9083
1	1	¾	2.540 64.503	2.540 64.503	2.362 59.995	0.748 18.999	0.748 18.999	1.182 3.00228
1¼	1¼	½	3.288 83.502	3.288 83.502	2.343 59.512	1.488 37.795	1.488 37.795	0.543 1.37922
1¼	1¼	¾	3.288 83.502	3.288 83.502	2.539 64.491	1.488 37.795	1.488 37.795	0.739 1.87706
1¼	1¼	1	3.288 83.502	3.288 83.502	2.717 62.001	1.488 37.795	1.488 37.795	0.917 2.32918
1½	1½	½	3.465 87.998	3.465 87.998	2.441 40.996	1.614 40.996	1.614 40.996	0.591 1.50114
1½	1½	¾	3.465 87.998	3.465 87.998	2.638 67.005	1.614 40.996	1.614 40.996	0.788 2.00152
1½	1½	1	3.465 87.998	3.465 87.998	2.815 71.501	1.614 40.996	1.614 40.996	0.965 2.4511
2	2	½	3.859 98.006	3.859 98.006	2.736 69.494	1.929 48.997	1.929 48.997	0.806 2.04724
2	2	¾	3.859 98.006	3.859 98.006	2.933 74.498	1.929 48.997	1.929 48.997	1.003 2.54762
2	2	1	3.859 98.006	3.859 98.006	3.110 78.994	1.929 48.997	1.929 48.997	1.18 29.972
2	2	1½	3.859 98.006	3.859 98.006	3.760 95.504	1.929 48.997	1.929 48.997	1.83 4.6482

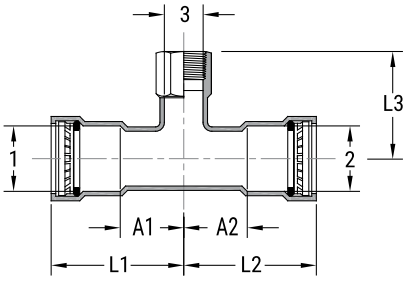
SCI Press – Stainless Steel Female Thread Adapter Tee
☐ Fig. SP828



SP828 SS P X P X FT ADAPTER TEE

Inlet 1	Inlet 2	Inlet 3	L1	L2	L3	A1	A2
in	in	in	in/mm	in/mm	in/mm	in/mm	in/mm
¾	¾	¾	2.205 55.994	2.205 55.994	1.850 46.990	1.024 26.010	1.024 26.010

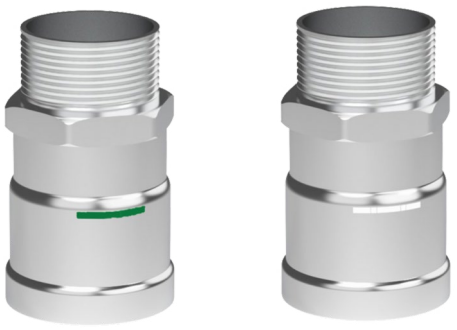
SCI Press – Stainless Steel Female Reducing Adapter Tee
☐ Fig. SP828R

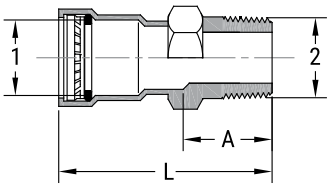


SP828R SS P X P X FT RED ADAPTER TEE

Inlet 1	Inlet 2	Inlet 3	L1	L2	L3	A1	A2
in	in	in	in/mm	in/mm	in/mm	in/mm	in/mm
¾	¾	½	2.205 55.994	2.205 55.994	1.850 46.990	1.024 26.010	1.024 26.010
1	1	½	2.540 64.503	2.540 64.503	2.008 51.003	1.181 29.997	1.181 29.997
1	1	¾	2.540 64.503	2.540 64.503	2.008 51.003	1.181 29.997	1.181 29.997
1½	1½	½	3.465 87.998	3.465 87.998	2.283 57.988	1.614 40.996	1.614 40.996
1½	1½	¾	3.465 87.998	3.465 87.998	2.283 57.988	1.614 40.996	1.614 40.996
1½	1½	1	3.465 87.998	3.465 87.998	2.441 62.001	1.614 40.996	1.614 40.996
2	2	½	3.859 98.006	3.859 98.006	2.579 65.507	1.929 48.997	1.929 48.997
2	2	¾	3.859 98.006	3.859 98.006	2.579 65.507	1.929 48.997	1.929 48.997
2	2	1	3.859 98.006	3.859 98.006	2.736 69.494	1.929 48.997	1.929 48.997

SCI Press – Stainless Steel MPT Male Adapter
☐ Fig. SP807

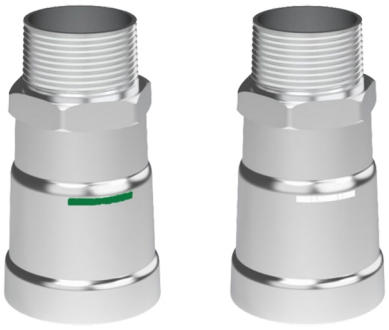


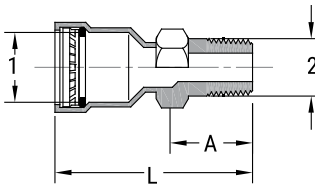


SP807 SS P x MT ADAPTER CPLG

Inlet 1	Inlet 2	L	A
in	in	in/mm	in/mm
½	½	2.677 68.000	1.654 42.000
¾	¾	2.874 73.000	1.693 43.00
1	1	3.091 78.500	1.732 44.000
1¼	1¼	3.858 98.500	2.059 52.300
1½	1½	4.094 104.000	2.255 57.000
2	2	4.331 110.000	2.402 61.00

SCI Press – Stainless Steel MPT Male Reducing Adapter
☐ Fig. SP807R





SP807R SS P X MT RED ADPT CPLG

Inlet 1	Inlet 2	L	A
in	in	in/mm	in/mm
¾	½	2.835 72.000	1.654 42.000

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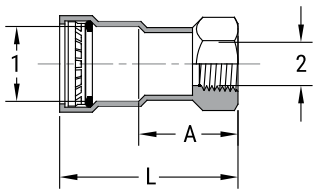
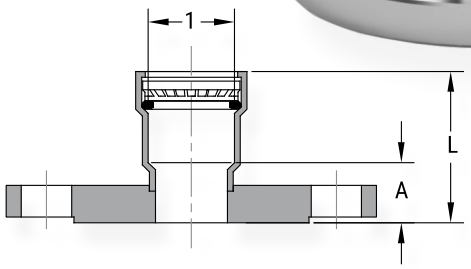
SCI Press – Stainless Steel FPT Female Adapter
☐ Fig. SP808



SP808 SS P X FT ADAPTER CPLG

Inlet 1	Inlet 2	L	A
in	in	in/mm	in/mm
½	½	2.520 64.000	1.495 38.000
¾	¾	2.717 69.000	1.535 39.000
1	1	3.051 77.500	1.693 43.000
1¼	1¼	3.720 94.500	1.921 48.800
1½	1½	3.898 99.000	2.047 52.000
2	2	4.154 105.500	2.224 56.500

SCI Press – Stainless Steel Flange Adapter
☐ Fig. SP816



SP816 FLNG ADPTR, 4-BOLT

Inlet 1	L	A
in	in/mm	in/mm
½	2.252 57.200	1.232 31.292
¾	2.606 66.200	1.426 36.228
1	2.961 75.200	1.604 40.656
1¼	2.882 73.200	1.082 27.480
1½	3.024 22.000	1.174 29.810
2	3.189 81.000	1.259 31.978

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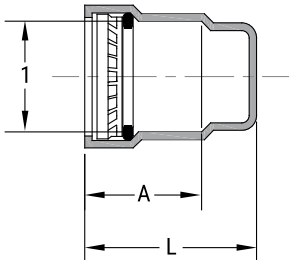
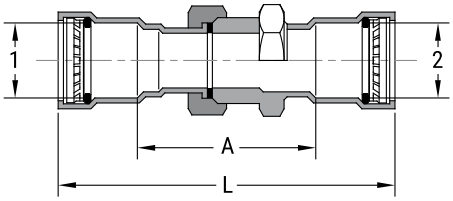
SCI Press – Stainless Steel End Cap
☐ Fig. SP800



SCI Press – Stainless Steel Union
☐ Fig. SP855



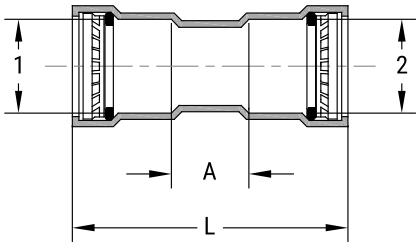
SP800 SS P END CAP

Inlet 1	L	A
in	in/mm	in/mm
½	1.811 46.000	1.614 40.996
¾	2.008 51.000	1.831 46.504
1	2.185 55.500	2.008 51.004
1¼	2.835 72.000	2.658 67.504
1½	2.913 74.000	2.618 66.507
2	3.012 76.500	2.717 69.007

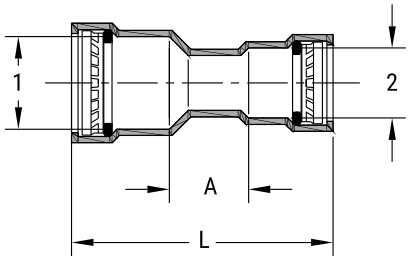
SP855 SS P X P UNION

Inlet 1	Inlet 2	L	A
in	in	in/mm	in/mm
½	½	1.890 48.000	0.866 26.000
¾	¾	2.185 55.500	1.004 25.500
1	1	2.520 64.000	1.161 29.500
1¼	1¼	3.228 82.000	1.429 36.300
1½	1½	3.406 86.500	1.555 39.500
2	2	3.799 96.500	1.929 49.000

SCI Press – Stainless Steel Coupling with Stop
☐ **Fig. SP804**



SCI Press – Stainless Steel Reducing Coupling
☐ **Fig. SP804R**



SP804 SS P X P COUPLING

Inlet 1	Inlet 2	L	A
in	in	in/mm	in/mm
½	½	2.835 72.000	0.787 20.000
¾	¾	3.228 82.000	0.866 22.000
1	1	3.583 91.000	0.866 22.000
1¼	1¼	4.724 120.000	1.126 28.600
1½	1½	4.882 124.000	1.181 30.000
2	2	5.118 130.000	1.260 32.000

SP804R SS P X P RED COUPLING

Inlet 1	Inlet 2	L	A
in	in	in/mm	in/mm
¾	½	3.031 77.000	0.984 25.000
1	¾	3.484 88.500	1.122 28.500
1¼	1	4.193 106.500	1.476 37.500
1½	1	4.429 112.500	1.713 43.500
2	1½	5.279 134.000	1.575 40.000

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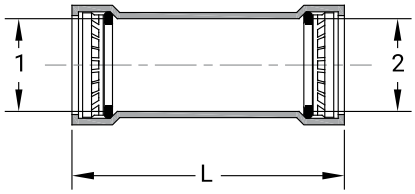
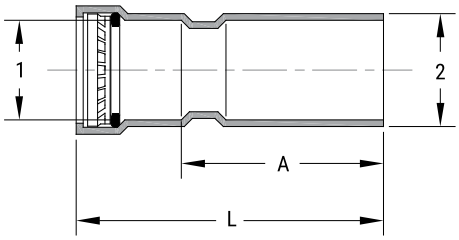
SCI Press – Stainless Steel Coupling No Stop
☐ Fig. SP805



SCI Press – Stainless Steel Bushing Reducer
☐ Fig. SP809R



SP805 SS P X P NO STOP CPLG

Inlet 1	Inlet 2	L
in	in	in/mm
½	½	2.835 72.000
¾	¾	3.228 82.000
1	1	3.583 91.00
1¼	1¼	4.724 120.000
1½	1½	4.882 124.000
2	2	5.118 130.000

SP809R SS P x FTG RED ADAPTER CPLG

Inlet 1	Inlet 2	L	L2
in	in	in/mm	in/mm
½	¾	3.012 76.500	1.988 50.500
½	1	3.386 86.000	2.362 60.000
¾	1	3.445 87.500	2.264 57.500
1	1¼	4.094 104.000	2.735 69.500
¾	1½	4.449 113.000	3.268 83.000
1	1½	4.272 108.500	2.913 74.000
1¼	1½	4.724 120.000	2.925 74.300
1	2	4.724 120.000	3.366 85.500
1½	2	5.157 131.000	3.307s 84.00

ASC Engineered Solutions

SCI Press – Stainless Steel Systems ½" to 2".

WARNING

Read and understand all instructions before use.

Ensure system is drained and depressurized before installation or service.

Use appropriate personal protective equipment.

Failure to follow these instructions could result in serious personal injury and/or property damage.

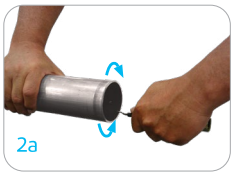
1 Cut stainless steel pipe at right angles to desired length.

2 Remove all burrs from inside and outside of tubing to prevent cutting sealing element. The surface of the stainless steel must be free of any form of damage to ensure a proper seal.

1

3 Check seal for correct fit. Do not apply additional oils or lubricants. Use only SCI Press EPDM or FKM sealing element.

4 Mark proper insertion depth as indicated by the SCI Press Insertion Depth Chart. Improper insertion depth may result in an improper seal.


2a

2b

3

4

SCI Press Insertion Depth

Size	½	¾	1	1¼	1½	2
Depth	1	1 3/16	1 3/8	1 3/4	1 7/8	1 15/16

5

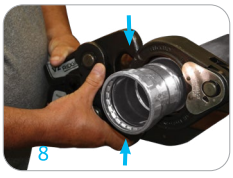
5 While turning slightly, slide press fitting onto tubing until the tube end contacts the stop in the fitting. A properly inserted fitting lines up with the insertion depth line.

6

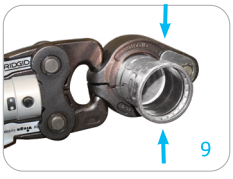
6 SCI Press fitting connections (½" - 2") must be performed with press rings. Use of incorrect rings and / or actuator will result in an improper connection. Refer to specific tool manufacturer's instructions.

7

7 Open the jaw and place at right angles on the fitting. Visually check insertion depth using mark on tubing. Both groove halves of the jaw must be engaged with the fitting.


8

8 With actuator inserted into the tool, open the actuator a shown and connect actuator to the ring.


9

9 Place actuator onto ring and start pressing process. Hold the trigger until the actuator has engaged the ring. Refer to specific tool manufacturer's instructions. After visual confirmation of each connection, a system pressure test may be performed in accordance with local code requirements.

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