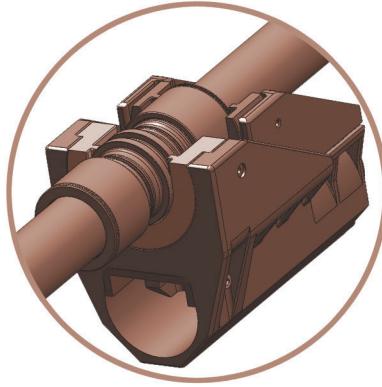
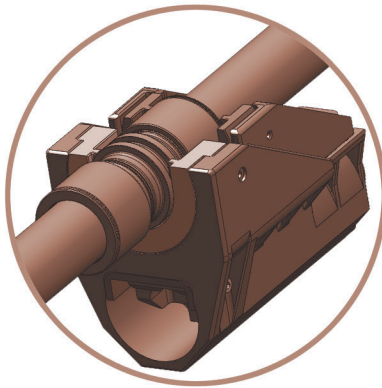


PIPE SOLUTIONS

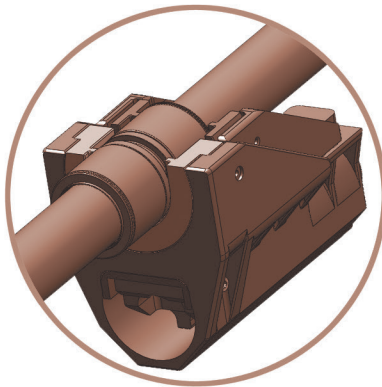
PATENTED WELD EQUIVALENT Pipe Solutions™



PERMANENT
Cold Weld Alternative



ASSEMBLED
Within Minutes



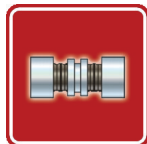
ASME B31.1
ASME B31.3



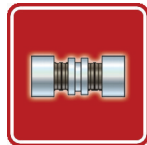


Page 3 - About Lokring™ Pipe Fittings
 Page 4 - Elastic Strain Preload Technology
 Page 5 - Pressure and Temperature Ratings
 Page 7 - Pipe Schedules
 Page 23 - Other Products Offered

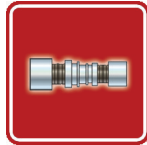
Page 24 - Hydraulic Pumps
 Page 25 - Installation Tools
 Page 25 - Tooling Dimensions
 Page 26 - Installation Instructions
 Page 27 - Warranty Information



Coupling
Pg. 8



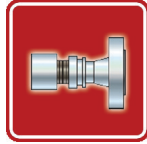
Repair/Slip Coupling
Pg. 9



Reducing Coupling
Pg. 10



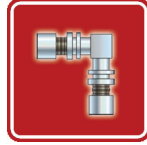
Cap
Pg. 11



Flange
Pg. 11, 12



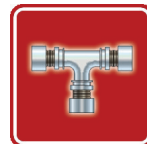
90° Elbow (Long Radius)
Pg. 12



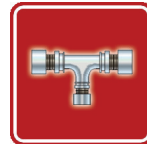
90° Elbow (Short Radius)
Pg. 13



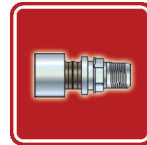
45° Elbow
Pg. 13



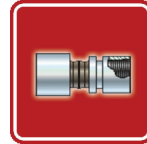
Tee
Pg. 14



Branch Tee
Pg. 15, 16



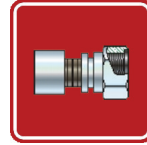
Male NPT Adapter
Pg. 17



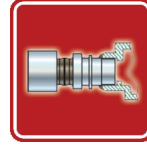
Female NPT Adapter
Pg. 18



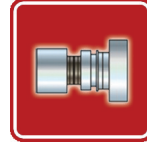
Male 37° Flare Adapter
Pg. 19



Female SAE Adapter
Pg. 20



Socket Weld Adapter
Pg. 21



SAE Flange Adapter
Pg. 22



Lokring Pipe Fittings

Lokring pipe fittings are qualified to the requirements of the ASME B31 pressure piping codes for pressure and fatigue design, as well as materials of construction. Extensive mechanical and environmental testing has demonstrated the mechanical and sealing integrity of the Lokring connection in a wide range of applications. Lokring fittings typically are used where fire-safe conditions must be maintained.

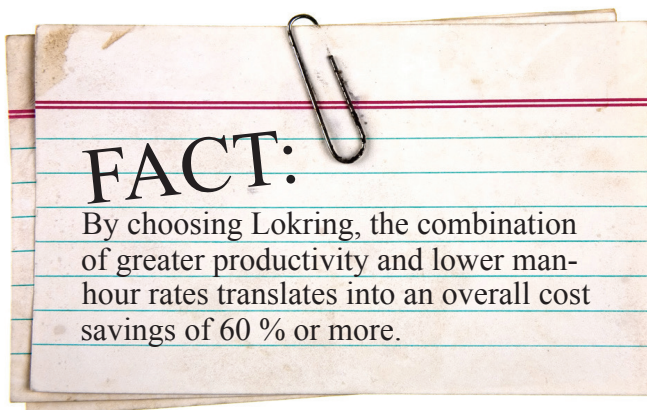
***NO WELDS,
NO THREADS, NO LEAKS!***

By eliminating the welding process, many overhead costs relating to safety, personnel, equipment and supplies, inspection, rework, and monitoring can be eliminated or substantially reduced.

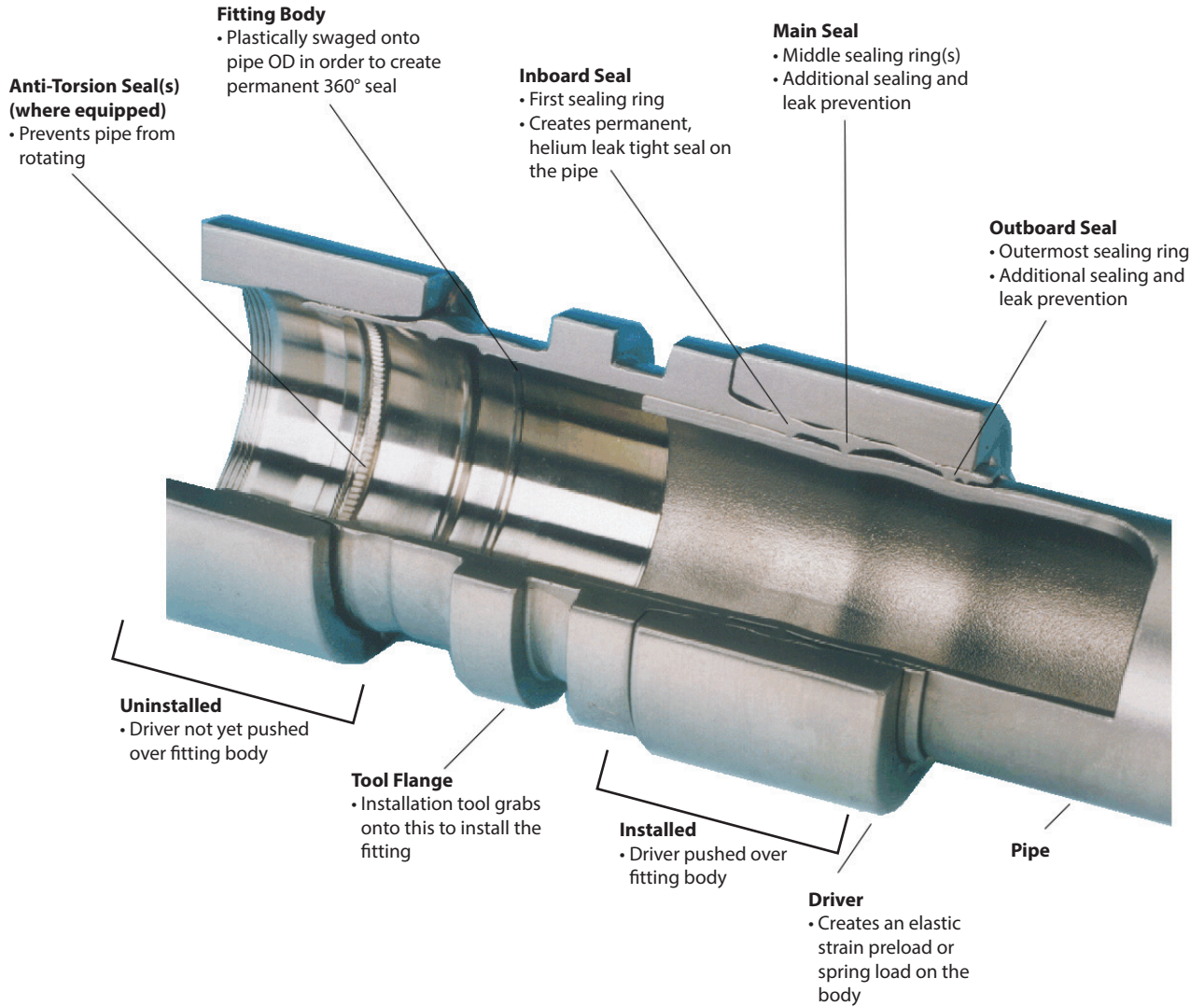
Some examples of reduced costs are:

- Obtain fire permit for hot work
- Erect scaffolding and provide ventilation
- “Sniff” area, gas free, and weather protect
- Blank flanges and nozzles
- Establish fire watch
- Build fire box or tarps
- Drain, flush, and dry lines
- Cranes, welders, grinders, and small tools
- Weld consumables (purge gas and filler rod)
- Workers’ compensation, insurance, and benefits
- Weld X-ray or other NDT
- Rework of damaged or misaligned spools
- System soak, flush, or passivation; HAZMAT disposal
- Maintain and monitor flanges for leakage

In addition, scarce ASME-certified welders are freed up for large-bore pipe or pressure vessel welding.



ELASTIC STRAIN PRELOAD (ESP®) TECHNOLOGY



The leak-free seal is the result of Lokring ESP installation where the axial movement of the Lokring driver over the body swages the body onto the pipe's surface. This compresses the pipe wall first elastically and then plastically.

The pipe wall resists this swaging action, generating high unit compressive loads at the contact points between narrow sealing lands inside the fitting body and the pipe surface.

These contact stresses are sufficiently high to plastically yield the pipe surface under the sealing lands, forming a 360° circumferential, permanent, metal-to-metal seal between the pipe and fitting body.

The driver, which experiences a small increase in diameter (elastic strain) during installation, exerts an elastic, radial preload on the metallic seals for the life of the connection, which is called Elastic Strain Preload (ESP).

**PRESSURE AND TEMPERATURE RATINGS
CARBON STEEL PIPE FITTINGS**

Lokring Carbon Steel Pipe Fittings	Lokring Size	Pipe NPS in.	ASME B31.1 Pipe Schedules			ASME B31.3 Pipe Schedules		
			40	80	160	40	80	160
			Pressure Rating, psi (bar)					
Carbon Steel Pipe Product	P04	1/4	4890 (337)	6610 (456)	A	6250 (431)	8810 (607)	A
	P06	3/8	4040 (279)	5600 (386)	A	5390 (372)	7470 (515)	A
	P08	1/2	3890 (268)	5250 (362)	4810 (332)	5190 (358)	7000 (483)	6410 (442)
	P12	3/4	3230 (223)	4400 (303)	4240 (292)	4300 (296)	5870 (405)	5650 (390)
	P16	1	3030 (209)	3975 (274)	3650 (252)	4050 (279)	5300 (365)	4870 (336)
	P20	1 1/4	2480 (171)	3350 (231)	A	3310 (228)	4460 (308)	A
	P24	1 1/2	2200 (152)	2930 (202)	A	2930 (202)	3900 (269)	A
	P32	2	1790 (123)	2420 (167)	A	2390 (165)	3230 (223)	A
	P40	2 1/2	2300 (159)	2550 (176)	A	2670 (184)	2970 (205)	A
	P48	3	1700 (117)	2260 (156)	A	2270 (157)	2470 (170)	A
	P64	4	1980 (137)	2640 (182)	A	2310 (159)	3070 (212)	A

A. Not tested.

TEMPERATURE RATING:

Piping systems containing the piping assemblies listed may establish design pressures up to and including the ambient maximum design pressure given for temperatures from -20 to 400 °F (-28 to 204 °C) for ASME B31.1 and B31.3. For temperatures above 400 °F (204°C) the maximum design pressure given shall be multiplied by the temperature de-rating factor listed below.

NOTES:

1. Fitting material micro alloyed carbon steel (MAS-3000) in accordance with ASTM A675 or A513.
2. Lokring carbon steel pipe fittings are designed with an internal stop facilitating corrosion allowances.
3. See Lokring Specification FS-3000 for details on pressure and temperature ratings.
4. See Lokring "Corrosive Service Guidelines" for specific service details.
5. See "Lokring Fitting Applications Guide" for additional design and service details.

MATCHING PIPE:

- Carbon steel pipe to ASTM A106 and A53
- ERW carbon steel pipe to ASTM A53E and A587
- Seamless carbon steel pipe to ASTM A106 and A53S
- Pipe shall be of high quality, fully annealed construction with maximum Rockwell B scale hardness of 90.

Temperature °F (°C)	Temperature De-rating Factor B31.1	Temperature De-rating Factor B31.3
400 (204)	1.00	1.00
500 (260)	0.95	0.95
600 (316)	0.87	0.87
650 (343)	0.75	0.75

Lokring offers *Carbon Steel Repair Couplings* which are of a "slip-over" design in order to facilitate repair work. They consist of a stainless steel body with carbon steel drive rings. Their pressure ratings are the same as those of Lokring stainless steel pipe fittings, and have a temperature rating of the carbon steel pipe fittings.

Pressure ratings are for Lokring proprietary joint design assembled on designated pipe. Lokring Technology, LLC also manufactures nonproprietary joint connections to design standards (e.g. SAE, NPS, 37 Flare, etc.) which are to be considered by the piping design engineer for rating the system.

The Lokring design technology is compatible with the OD and wall thickness tolerance for carbon steel as outlined in BS EN 10216-2:2002 Section 8.7.4.1.

Ordering Information:

Other fittings not listed in this catalog and special shapes may be available. Contact your authorized Lokring distributor for more information. See www.lokring.com for a complete listing of distributors.

All dimensions are for reference only and are subject to change. CAD files are available in most configurations upon request.

**PRESSURE AND TEMPERATURE RATINGS
STAINLESS STEEL PIPE FITTINGS**

LOKRING PIPE SOLUTIONS™

Lokring Stainless Steel Pipe Fittings	Lokring Size	Pipe NPS in.	ASME B31.1 Pipe Schedules			ASME B31.3 Pipe Schedules		
			10	40	80	10	40	80
			Pressure Rating, psi (bar)					
Stainless Steel Pipe Product	P04	1/4	3781 (261)	5300 (365)	6000 (414)	4529 (312)	6300 (434)	8000 (552)
	P06	3/8	3400 (234)	4900 (338)	5750 (396)	3600 (248)	5200 (359)	6100 (429)
	P08	1/2	4030 (278)	4760 (328)	4760 (328)	4290 (296)	5060 (349)	5060 (349)
	P12	3/4	3170 (219)	4210 (290)	4930 (340)	3380 (233)	4470 (308)	5250 (362)
	P16	1	3340 (230)	3680 (254)	3990 (275)	3550 (245)	3920 (270)	4240 (292)
	P20	1 1/4	2450 (169)	2700 (186)	2980 (205)	2675 (184)	2910 (201)	3170 (219)
	P24	1 1/2	2260 (156)	2440 (168)	2440 (168)	2410 (166)	2600 (179)	2600 (179)
	P32	2	1500 (103)	2200 (152)	2500 (172)	1600 (110)	2300 (159)	2700 (186)
	P48	3	920 (63)	1700 (117)	1350 (93)	1150 (79)	2100 (145)	1705 (118)

TEMPERATURE RATING:

Piping systems containing the piping assemblies listed may establish design pressures up to and including the ambient maximum design pressure given for temperatures from -20 to 100 °F (-28 to 38 °C) for ASME B31.1 and B31.3. For temperatures above 200 °F (93 °C) the maximum design pressure given shall be multiplied by the temperature de-rating factor listed below.

NOTES:

1. Fitting material 316L stainless steel in accordance with ASTM A276 or ASTM A479.
2. Lokring stainless steel pipe fittings are of a "slip-over" design facilitating zero-clearance pipe repair.
3. See Lokring Specification FS40 for details on Pressure and Temperature Ratings.
4. See Lokring "Corrosive Service Guidelines" for specific service details.
5. See "Lokring Fitting Applications Guide" for additional design and service details.

MATCHING PIPE:

- 304/304L and 316/316L stainless steel pipe to ASTM A312
- Carbon steel pipe to ASTM A106 and A53
- Seam welded (ERW) carbon steel pipe to ASTM A53E and A587. Seamless carbon steel pipe to ASTM A106 and A53S
- Pipe shall be of high quality, fully annealed construction with maximum Rockwell B scale hardness of 90.

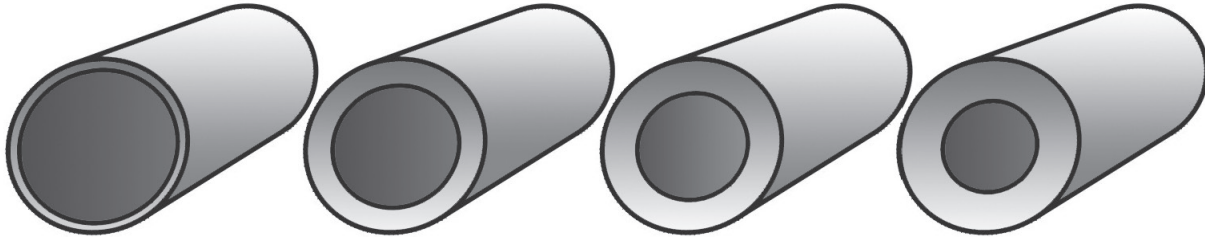
Temperature °F (°C)	Temperature De-rating Factor B31.1	Temperature De-rating Factor B31.3
200 (93)	1.00	1.00
300 (148)	0.98	1.00
400 (204)	0.96	0.97
500 (260)	0.96	0.90
600 (315)	0.90	0.85
650 (343)	0.89	0.84
700 (371)	0.87	0.82
750 (398)	0.86	0.81
800 (426)	0.85	0.80

Ordering Information:

Other fittings not listed in this catalog and special shapes may be available. Contact your authorized Lokring distributor for more information. See www.lokring.com for a complete listing of distributors. All dimensions are for reference only and are subject to change. CAD files are available in most configurations upon request.

PIPE SCHEDULES

Nominal Pipe Size (NPS) 1 in. (25 mm)



Schedule 10
(Light Wall)

Schedule 40
(Standard)

Schedule 80
(Extra Strong)

Schedule 160

Outside Diameter, in. (mm)

1.315 (33.4)	1.315 (33.4)	1.315 (33.4)	1.315 (33.4)
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Inside Diameter, in. (mm)

1.097 (27.864)	1.049 (26.65)	0.957 (24.31)	0.815 (20.7)
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Wall Thickness, in. (mm)

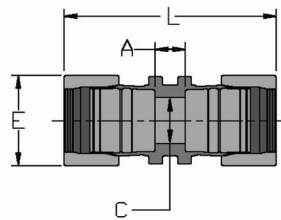
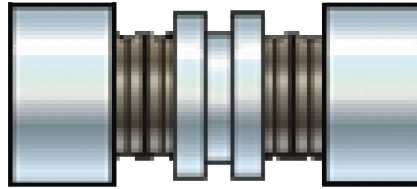
0.109 (27.69)	1.333 (3.4)	0.179 (4.6)	0.250 (6.35)
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$$\text{Wall Thickness} = \frac{\text{Outside Diameter} - \text{Inside Diameter}}{2}$$

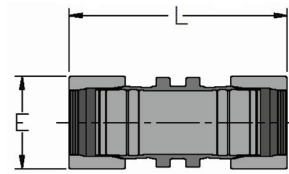
Pipe Schedules

Nominal Pipe Size in.	Outside Diameter in.	Nominal Wall Thickness, in.			
		Schedule 10	Schedule 40	Schedule 80	Schedule 160
1/4	0.540	0.065	0.088	0.119	—
3/8	0.675	0.065	0.091	0.126	—
1/2	0.840	0.083	0.109	0.147	0.188
3/4	1.050	0.083	0.113	0.154	0.219
1	1.315	0.109	0.133	0.179	0.250
1 1/4	1.660	0.109	0.140	0.191	0.250
1 1/2	1.900	0.109	0.145	0.200	0.281
2	2.375	0.109	0.154	0.218	0.344
2 1/2	2.875	—	0.203	0.276	0.375
3	3.5	0.120	0.216	0.300	0.438
4	4.5	0.120	0.237	0.337	0.674

Coupling



Carbon Steel Fittings
(With center stop)



Stainless Steel Fittings
(Without center stop)

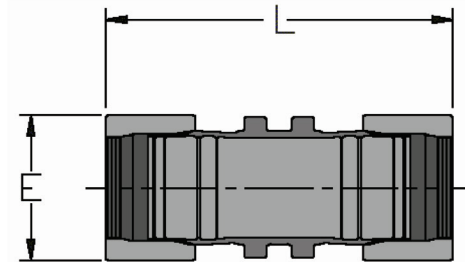
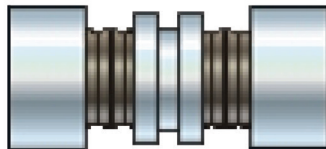
Pipe Size NPS in.	Ordering Information			Dimensions, in.				Loktool®
	Fitting Material	Shape	Fitting Size PXX	Part Length (Uninstalled) L	E	Take-Out A	C	Installation Tool Kit
1/4	CS	-CPL-	P04	2.88	1.05	0.40	0.38	IT20/IT45
	SS	-CPL-		2.88	1.05	—	—	
3/8	CS	-CPL-	P06	3.20	1.24	0.45	0.50	IT30/IT45
	SS	-CPL-		3.20	1.24	—	—	
1/2	CS	-CPL-	P08	3.33	1.46	0.47	0.63	IT30/IT45
	SS	-CPL-		3.45	1.46	—	—	
3/4	CS	-CPL-	P12	3.71	1.60	0.47	0.81	IT30/IT45
	SS	-CPL-		3.88	1.63	—	—	
1	CS	-CPL-	P16	4.55	1.95	0.60	1.03	IT45/IT60
	SS	-CPL-		4.39	1.96	—	—	
1 1/4	CS	-CPL-	P20	5.02	2.29	0.59	1.38	IT60
	SS	-CPL-		5.02	2.36	—	—	
1 1/2	CS	-CPL-	P24	5.44	2.61	0.66	1.59	IT60
	SS	-CPL-		5.60	2.58	—	—	
2	CS	-CPL-	P32	6.54	3.25	0.71	2.05	IT60
	SS	-CPL-		6.14	3.10	—	—	
2 1/2	CS	-CPL-	P40	8.79	3.80	1.33	2.42	IT100
3	CS	-CPL-	P48	9.43	4.34	0.85	2.94	IT100/IT140
	SS	-CPL-		9.43	4.50	—	—	
4	CS	-CPL-	P64	10.88	5.15	—	—	IT140

All dimensions are for reference only and are subject to change.
Consult your authorized Lokring distributor for details and other options.



Lokring fittings meet all the criteria of a welded connection, except that no heat is required to make the connection.

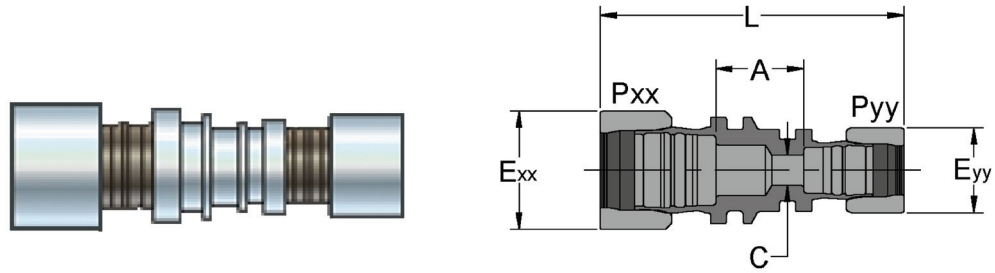
Repair/Slip Coupling



Pipe Size NPS in.	Ordering Information			Dimensions, in.		Loktool
	Fitting Material	Shape	Fitting Size PXX	Part Length (Uninstalled) L	E	Installation Tool Kit
1/4	CS	-RCPL-	P04	2.88	1.05	IT20/IT45
3/8	CS	-RCPL-	P06	3.20	1.24	IT30/IT45
1/2	CS	-RCPL-	P08	3.33	1.46	IT30/IT45
3/4	CS	-RCPL-	P12	3.71	1.60	IT30/IT45
1	CS	-RCPL-	P16	4.55	1.95	IT45/IT60
1 1/4	CS	-RCPL-	P20	5.02	2.29	IT60
1 1/2	CS	-RCPL-	P24	5.44	2.61	IT60
2	CS	-RCPL-	P32	6.54	3.25	IT60
3	CS	-RCPL-	P48	9.43	4.34	IT100/IT140

All dimensions are for reference only and are subject to change. Consult your authorized Lokring distributor for details and other options. Lokring carbon steel repair couplings are "slip-over" couplings made without an internal stop in order to facilitate zero-clearance pipe repair work. They consist of a stainless steel body with carbon steel drivers, their pressure ratings are the same as those of Lokring stainless steel pipe fittings, and their temperature ratings are those of the carbon steel fittings.

Reducing Coupling

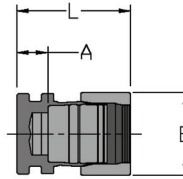
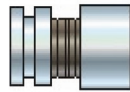


LOKRING PIPE SOLUTIONS™

Pipe Size NPS in.	Ordering Information			Dimensions, in.					Loktool
	Fitting Material	Shape	Fitting Size PXX-PYY	Part Length (Unin- stalled) L	E _{xx}	E _{yy}	Take- Out A	ID C	Installation Tool Kit
1/2 to 1/4	CS	-RED-	P08-P04	3.75	1.46	1.05	1.09	0.38	IT20/IT30/IT45
	SS			—	—	—	—	—	
1/2 to 3/8	CS	-RED-	P08-P06	3.92	1.46	1.24	1.12	0.49	IT30/IT45
	SS			3.99	1.46	1.24	0.67	0.49	
3/4 to 1/2	CS	-RED-	P12-P08	4.29	1.60	1.46	1.25	0.63	IT30/IT45
	SS			4.49	1.63	1.46	0.83	0.64	
1 to 1/2	CS	-RED-	P16-P08	4.90	1.95	1.46	1.50	0.63	IT30/IT45/IT60
	SS			4.93	1.96	1.46	1.02	0.64	
1 to 3/4	CS	-RED-	P16-P12	5.10	1.95	1.60	1.50	0.81	IT30/IT45/IT60
	SS			5.03	1.96	1.63	0.90	0.82	
1 1/4 to 3/4	CS	-RED-	P20-P12	5.24	2.29	1.60	1.41	0.87	IT30/IT45/IT60
	SS			—	—	—	—	—	
1 1/4 to 1	CS	-RED-	P20-P16	5.92	2.29	1.95	1.73	1.03	IT45/IT60
	SS			5.78	2.36	1.96	1.04	1.07	
1 1/2 to 1/2	CS	-RED-	P24-P08	5.94	2.61	1.46	2.12	0.63	IT30/IT45/IT60
	SS			—	—	—	—	—	
1 1/2 to 3/4	CS	-RED-	P24-P12	6.01	2.61	1.60	2.00	0.81	IT30/IT45/IT60
	SS			6.59	2.58	1.63	1.85	0.82	
1 1/2 to 1	CS	-RED-	P24-P16	6.24	2.61	1.95	1.88	1.03	IT45/IT60
	SS			6.70	2.58	1.96	1.70	1.07	
1 1/2 to 1 1/4	CS	-RED-	P24-P20	6.29	2.61	2.29	1.68	1.38	IT60
	SS			6.22	2.58	2.36	1.88	1.44	
2 to 1/2	CS	-RED-	P32-P08	6.84	3.25	1.46	2.50	0.63	IT30/IT45/IT60
	SS			—	—	—	—	—	
2 to 3/4	CS	-RED-	P32-P12	6.78	3.25	1.60	2.25	0.81	IT30/IT45/IT60
	SS			—	—	—	—	—	
2 to 1	CS	-RED-	P32-P16	7.15	3.25	1.95	2.25	1.03	IT45/IT60
	SS			7.28	3.10	1.96	2.07	1.05	
2 to 1 1/4	CS	-RED-	P32-P20	7.36	3.25	2.29	2.23	1.38	IT60
	SS			7.38	3.10	2.36	1.77	1.44	
2 to 1 1/2	CS	-RED-	P32-P24	7.31	3.25	2.61	2.01	1.59	IT60
	SS			7.11	3.10	2.58	1.24	1.65	
3 to 1/2	CS	-RED-	P48-P08	10.91	4.34	1.46	5.20	0.63	IT30/IT45/IT100/ IT140
	SS			—	—	—	—	—	
3 to 1	CS	-RED-	P48-P16	11.68	4.34	1.95	5.42	0.96	IT45/IT60/IT100/ IT140
	SS			11.28	4.50	1.96	4.50	1.05	
3 to 1 1/2	CS	-RED-	P48-P24	12.05	4.34	2.61	5.37	1.51	IT60/IT100
	SS			—	—	—	—	—	
3 to 2	CS	-RED-	P48-P32	12.59	4.34	3.25	5.39	1.94	IT60/IT100/IT140
	SS			12.39	4.50	3.10	4.61	2.07	

All dimensions are for reference only and are subject to change.
Consult your authorized Lokring distributor for details and other options.

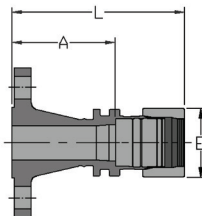
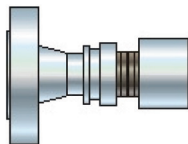
Cap



Pipe Size NPS in.	Ordering Information			Dimensions, in.			Loktool
	Fitting Material	Shape	Fitting Size PXX	Part Length (Uninstalled) L	E	Take-Out A	Installation Tool Kit
1/2	CS	-CAP-	P08	1.96	1.46	0.53	IT30/IT45
	SS			2.57	1.46	0.85	
3/4	CS	-CAP-	P12	2.16	1.60	0.55	IT30/IT45
	SS			2.85	1.63	0.91	
1	CS	-CAP-	P16	2.70	1.95	0.73	IT45/IT60
	SS			3.24	1.96	1.04	
1 1/4	CS	-CAP-	P20	4.47	2.29	2.25	IT60
	SS			3.65	2.36	1.11	
1 1/2	CS	-CAP-	P24	3.21	2.61	0.82	IT60
	SS			4.02	2.58	1.22	
2	CS	-CAP-	P32	5.25	3.25	2.34	IT60
	SS			4.36	3.10	1.29	
3	CS	-CAP-	P48	7.34	4.34	3.05	IT100/IT140
	SS			7.34	4.50	2.63	

All dimensions are for reference only and are subject to change. Consult your authorized Lokring distributor for details and other options.

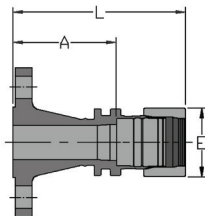
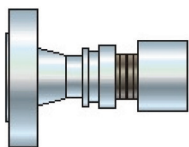
ASME Flange Adapter Class 150



Pipe Size NPS in.	Ordering Information			Dimensions, in.			Loktool
	Fitting Material	Shape	Fitting Size PXX	Part Length (Uninstalled) L	E	Take-Out A	Installation Tool Kit
1/2	CS	-FLNG150-	P08	3.96	1.46	2.53	IT30/IT45
	SS			3.95	1.46	2.23	
3/4	CS	-FLNG150-	P12	4.33	1.60	2.72	IT30/IT45
	SS			4.37	1.63	2.44	
1	CS	-FLNG150-	P16	4.93	1.95	2.96	IT45/IT60
	SS			4.76	1.96	2.57	
1 1/4	CS	-FLNG150-	P20	5.22	2.29	3.00	IT60
	SS			5.16	2.36	2.67	
1 1/2	CS	-FLNG150-	P24	5.64	2.61	3.26	IT60
	SS			5.67	2.58	2.87	
2	CS	-FLNG150-	P32	6.25	3.25	3.34	IT60
	SS			6.03	3.10	2.98	
3	CS	-FLNG150-	P48	8.09	4.34	3.80	IT100/IT140
	SS			8.40	4.50	3.68	
4	CS	-FLNG150-	P64	9.52	5.15	4.06	IT140

Note: Class 150 dimensions shown. All dimensions are for reference only and are subject to change. Lokring flange fittings in flange class 300, 600, 900, and 1500 are also available. Replace **150** in **Ordering Information Shape** with desired class to specify part. Consult your authorized Lokring distributor for details and other options.

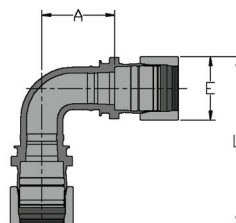
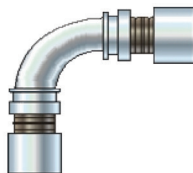
ASME Flange Adapter Class 300



Pipe Size NPS in.	Ordering Information			Dimensions, in.			Loktool Installation Tool Kit
	Fitting Material	Shape	Fitting Size PXX	Part Length (Uninstalled) L	E	Take-Out A	
1/2	CS	-FLNG300-	P08	4.14	1.46	2.71	IT30/IT45
	SS			4.13	1.46	2.41	
3/4	CS	-FLNG300-	P12	4.60	1.60	2.98	IT30/IT45
	SS			4.57	1.63	2.63	
1	CS	-FLNG300-	P16	5.19	1.95	3.21	IT45/IT60
	SS			5.01	1.96	2.82	
1 1/4	CS	-FLNG300-	P20	5.53	2.29	3.31	IT60
	SS			5.53	2.36	2.98	
1 1/2	CS	-FLNG300-	P24	5.90	2.61	3.50	IT60
	SS			5.92	2.58	2.95	
2	CS	-FLNG300-	P32	6.50	3.25	3.59	IT60
	SS			6.53	3.25	3.25	
3	CS	-FLNG300-	P48	8.46	4.34	4.17	IT100/IT140
	SS			8.40	4.50	3.66	
4	CS	-FLNG300-	P64	9.90	5.15	4.44	IT140

Note: Class 300 dimensions shown. All dimensions are for reference only and are subject to change. Lokring flange fittings in ASME class 150, 600, 900, and 1500 are also available. Replace **300** in **Ordering Information Shape** with desired class to specify part. Consult your authorized Lokring distributor for details and other options.

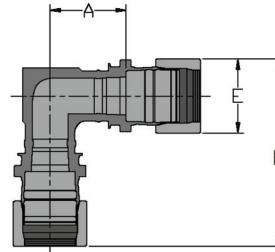
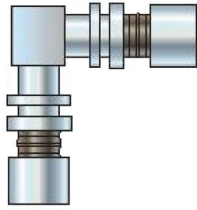
90° Elbow Long radius



Pipe Size NPS in.	Ordering Information			Dimensions, in.			Loktool Installation Tool Kit
	Fitting Material	Shape	Fitting Size PXX	Part Length (Uninstalled) L	E	Take-Out A	
1/2	CS	-EL90-	P08	4.31	1.46	2.15	IT30/IT45
	SS			4.31	1.46	2.15	
3/4	CS	-EL90-	P12	4.20	1.60	1.79	IT30/IT45
	SS			4.63	1.63	1.88	
1	CS	-EL90-	P16	5.22	1.95	2.27	IT45/IT60
	SS			5.05	1.96	1.88	
1 1/4	CS	-EL90-	P20	5.99	2.29	2.63	IT60
	SS			6.02	2.36	2.30	
1 1/2	CS	-EL90-	P24	6.76	2.61	3.07	IT60
	SS			6.77	2.58	2.68	
2	CS	-EL90-	P32	8.38	3.25	3.84	IT60
	SS			8.10	3.10	3.48	
3	CS	-EL90-	P48	12.01	4.34	5.55	IT100/IT140
	SS			12.09	4.50	5.13	
4	CS	-EL90-	P64	15.28	5.15	7.06	IT140

All dimensions are for reference only and are subject to change. Consult your authorized Lokring distributor for details and other options.

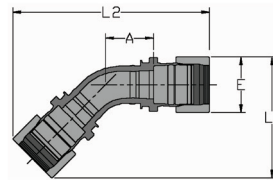
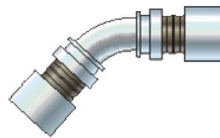
90° Elbow
Short radius



Pipe Size NPS in.	Ordering Information			Dimensions, in.			Loktool
	Fitting Material	Shape	Fitting Size PXX	Part Length (Uninstalled) L	E	Take-Out A	Installation Tool Kit
1/4	CS	-EL90SR-	P04	—	—	—	IT20/IT45
	SS			3.11	1.05	1.15	
3/8	CS	-EL90SR-	P06	—	—	—	IT30/IT45
	SS			3.37	1.24	1.15	
1/2	CS	-EL90SR-	P08	3.78	1.46	1.62	IT30/IT45
	SS			3.78	1.46	1.62	
3/4	CS	-EL90SR-	P12	3.96	1.60	1.54	IT30/IT45
	SS			3.96	1.60	1.54	

All dimensions are for reference only and are subject to change. Consult your authorized Lokring distributor for details and other options.

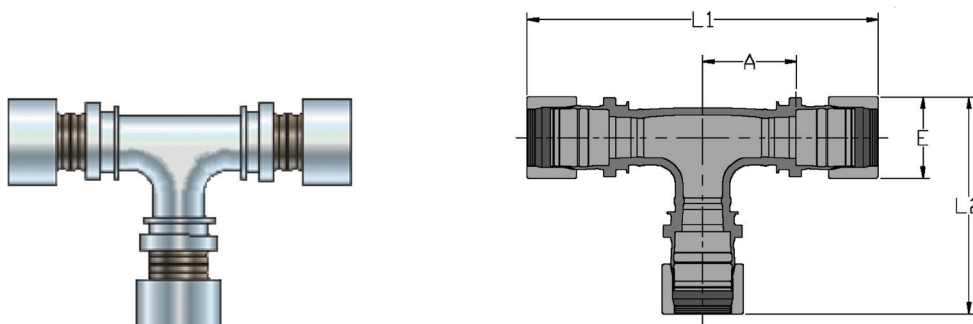
45° Elbow



Pipe Size NPS in.	Ordering Information			Dimensions, in.				Loktool
	Fitting Material	Shape	Fitting Size PXX	Part Length (Uninstalled) L1	Part Length (Uninstalled) L2	E	Take-Out A	Installation Tool Kit
1/4	CS	-EL45-	P04	—	—	—	—	IT20
	SS			2.62	4.55	1.05	1.02	
3/8	CS	-EL45-	P06	—	—	—	—	IT30/IT45
	SS			2.85	4.77	1.24	0.95	
1/2	CS	-EL45-	P08	3.15	5.13	1.46	1.28	IT30/IT45
	SS			3.14	5.11	1.46	0.98	
3/4	CS	-EL45-	P12	3.49	5.72	1.60	1.41	IT30/IT45
	SS			3.54	5.80	1.63	0.82	
1	CS	-EL45-	P16	4.23	6.84	1.95	1.61	IT45/IT60
	SS			4.10	6.57	1.96	1.25	
1-1/4	CS	-EL45-	P20	4.73	7.56	2.29	1.75	IT60
	SS			4.80	7.58	2.36	1.42	
1-1/2	CS	-EL45-	P24	5.28	8.31	2.61	1.94	IT60
	SS			5.26	8.33	2.58	1.56	
2	CS	-EL45-	P32	6.39	9.89	3.25	2.21	IT60
	SS			6.08	9.41	3.10	1.86	
3	CS	-EL45-	P48	8.82	14.14	4.34	3.20	IT100/IT140
	SS			8.97	14.06	4.50	2.63	

All dimensions are for reference only and are subject to change. Consult your authorized Lokring distributor for details and other options.

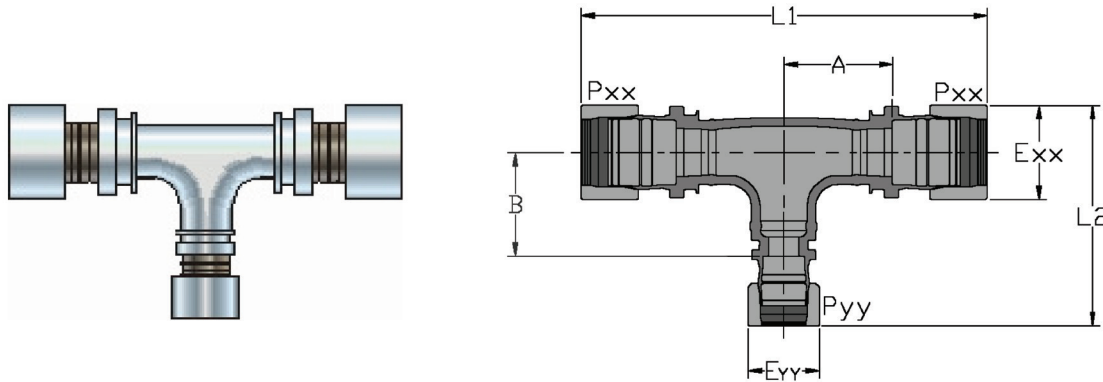
Tee



Pipe Size NPS in.	Ordering Information			Dimensions, in.				Loktool
	Fitting Material	Shape	Fitting Size PXX	Part Length (Uninstalled) L1	Part Length (Uninstalled) L2	E	Take-Out A	Installation Tool Kit
1/4	CS	-TEE-	P04	—	—	—	—	IT20
	SS			5.07	3.06	1.05	1.10	
3/8	CS	-TEE-	P06	—	—	—	—	IT30/IT45
	SS			5.39	3.32	1.24	1.10	
1/2	CS	-TEE-	P08	6.17	3.81	1.46	1.65	IT30/IT45
	SS			5.69	3.58	1.46	1.13	
3/4	CS	-TEE-	P12	6.80	4.20	1.60	1.78	IT30/IT45
	SS			6.41	4.02	1.63	1.26	
1	CS	-TEE-	P16	8.48	5.22	1.95	2.27	IT45/IT60
	SS			8.15	5.05	1.96	1.88	
1 1/4	CS	-TEE-	P20	9.69	5.99	2.29	2.63	IT60
	SS			9.69	6.02	2.36	2.30	
1 1/2	CS	-TEE-	P24	10.91	6.76	2.61	3.07	IT60
	SS			10.96	6.77	2.58	2.68	
2	CS	-TEE-	P32	12.51	7.88	3.25	3.34	IT60
	SS			12.10	7.60	3.10	2.98	
3	CS	-TEE-	P48	17.43	10.88	4.34	4.43	IT100/IT140
	SS			17.43	10.96	4.50	4.00	
4	CS	-TEE-	P64	21.28	13.40	5.15	5.18	IT140

All dimensions are for reference only and are subject to change.
Consult your authorized Lokring distributor for details and other options.

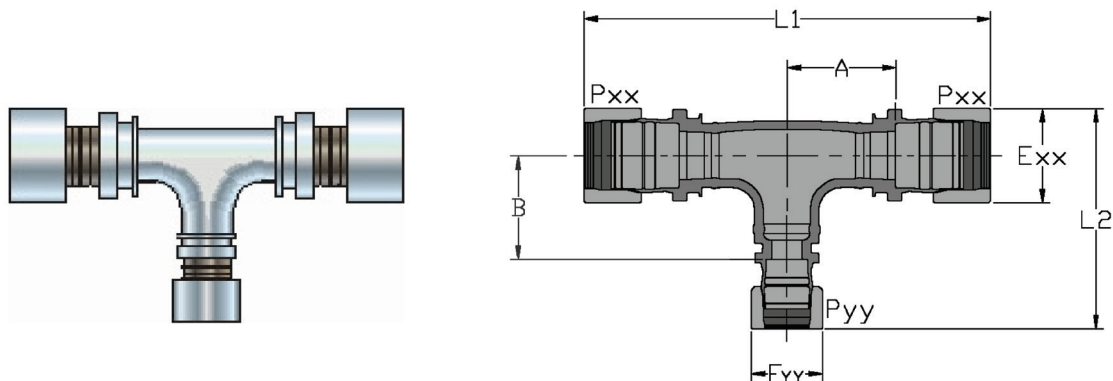
Reducing Branch Tee



Pipe Size NPS in.	Ordering Information			Dimensions, in.						Loktool
	Fitting Material	Shape	Fitting Size PXX-PYY	Part Length (Uninstalled) L1	Part Length (Uninstalled) L2	Exx	Eyy	Take-Out A	Take-Out B	Installation Tool Kit
1/2 to 1/4	CS	-RTEE-	P08-P04	—	—	—	—	—	—	IT20/IT30/IT45
	SS			5.69	3.34	1.46	1.05	1.13	1.17	
1/2 to 3/8	CS	-RTEE-	P08-P06	—	—	—	—	—	—	IT30/IT45
	SS			5.69	3.43	1.46	1.24	1.13	1.10	
3/4 to 1/4	CS	-RTEE-	P12-P04	—	—	—	—	—	—	IT20/IT30/IT45
	SS			6.41	3.53	1.63	1.05	1.26	1.28	
3/4 to 1/2	CS	-RTEE-	P12-P08	6.32	4.25	1.60	1.46	1.54	2.01	IT30/IT45
	SS			6.41	3.83	1.63	1.46	1.26	1.33	
1 to 1/4	CS	-RTEE-	P16-P04	—	—	—	—	—	—	IT20/IT45/IT60
	SS			8.15	5.06	1.96	1.05	1.88	2.64	
1 to 1/2	CS	-RTEE-	P16-P08	8.49	4.55	1.95	1.46	2.27	2.15	IT30/IT45/IT60
	SS			8.15	4.83	1.96	1.46	1.88	2.13	
1 to 3/4	CS	-RTEE-	P16-P12	8.49	4.75	1.95	1.60	2.27	2.16	IT30/IT45/IT60
	SS			8.15	4.94	1.96	1.63	1.88	2.02	
1 1/4 to 3/4	CS	-RTEE-	P20-P12	9.70	5.80	2.29	1.60	2.63	3.04	IT30/IT45/IT60
1 1/4 to 1	CS	-RTEE-	P20-P16	9.70	5.84	2.29	1.95	2.63	2.72	IT45/IT60
	SS			9.69	5.87	2.36	1.96	2.30	2.50	
1 1/2 to 1/2	CS	-RTEE-	P24-P08	10.91	5.63	2.61	1.46	3.07	2.90	IT30/IT45/IT60
	SS			10.96	5.90	2.58	1.46	2.68	2.88	
1 1/2 to 3/4	CS	-RTEE-	P24-P12	10.91	5.83	2.61	1.60	3.07	2.91	IT30/IT45/IT60
	SS			10.96	6.00	2.58	1.63	2.68	2.77	
1 1/2 to 1	CS	-RTEE-	P24-P16	10.91	6.30	2.61	1.95	3.07	3.02	IT45/IT60
	SS			10.96	6.12	2.58	1.96	2.68	2.63	
1 1/2 to 1 1/4	CS	-RTEE-	P24-P20	10.91	6.72	2.61	2.29	3.07	3.20	IT60
	SS			10.96	6.53	2.58	2.36	2.68	2.70	

All dimensions are for reference only and are subject to change.
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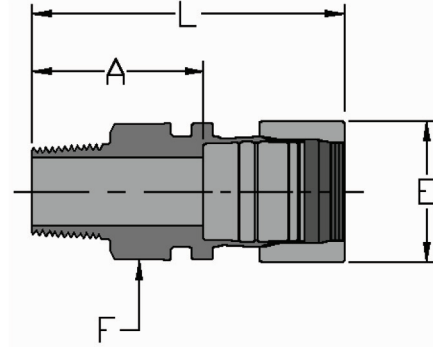
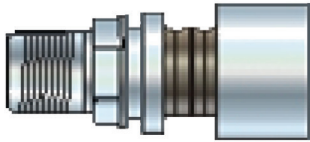
Reducing Branch Tee (Continued)



Pipe Size NPS in.	Ordering Information			Dimensions, in.						Loktool
	Fitting Material	Shape	Fitting Size PXX- PYY	Part Length (Unin- stalled) L1	Part Length (Unin- stalled) L2	Exx	Eyy	Take- Out A	Take- Out B	Installation Tool Kit
2 to 1/2	CS	-RTEE-	P32-P08	12.51	5.70	3.25	1.46	3.34	2.65	IT30/IT45/IT60
	SS			12.10	5.90	3.10	1.46	2.98	2.63	
2 to 3/4	CS	-RTEE-	P32-P12	12.51	5.90	3.25	1.60	3.34	2.66	IT30/IT45/IT60
	SS			12.10	6.01	3.10	1.63	2.98	2.52	
2 to 1	CS	-RTEE-	P32-P16	12.51	6.37	3.25	1.95	3.34	2.77	IT45/IT60
	SS			12.10	6.12	3.10	1.96	2.98	2.38	
2 to 1 1/4	CS	-RTEE-	P32-P20	12.51	7.17	3.25	2.29	3.34	3.33	IT60
	SS			—	—	—	—	—	—	
2 to 1 1/2	CS	-RTEE-	P32-P24	12.51	7.21	3.25	2.61	3.34	3.20	IT60
	SS			12.10	7.61	3.10	2.58	2.98	3.26	
3 to 1/2	CS	-RTEE-	P48-P08	—	—	—	—	—	—	IT30/IT45/IT100/ IT140
	SS			17.43	7.23	4.50	1.46	4.00	3.26	
3 to 3/4	CS	-RTEE-	P48-P12	17.28	7.18	4.34	1.60	4.35	3.39	IT30/IT45/IT100/ IT140
	SS			17.43	7.34	4.50	1.63	4.00	3.15	
3 to 1	CS	-RTEE-	P48-P16	17.28	7.64	4.34	1.95	4.35	3.50	IT45/IT60/IT100/ IT140
	SS			17.43	7.45	4.50	1.96	4.00	3.00	
3 to 1 1/4	CS	-RTEE-	P48-P20	17.43	8.21	4.34	2.29	4.35	3.83	IT60/IT100/IT140
	SS			—	—	—	—	—	—	
3 to 1 1/2	CS	-RTEE-	P48-P24	17.28	8.32	4.34	2.61	4.35	3.75	IT60/IT100/IT140
	SS			17.43	8.36	4.50	2.58	4.00	3.31	
3 to 2	CS	-RTEE-	P48-P32	17.28	8.86	4.34	3.25	4.35	3.78	IT60/IT100/IT140
	SS			17.43	8.80	4.50	3.10	4.00	3.48	

All dimensions are for reference only and are subject to change.
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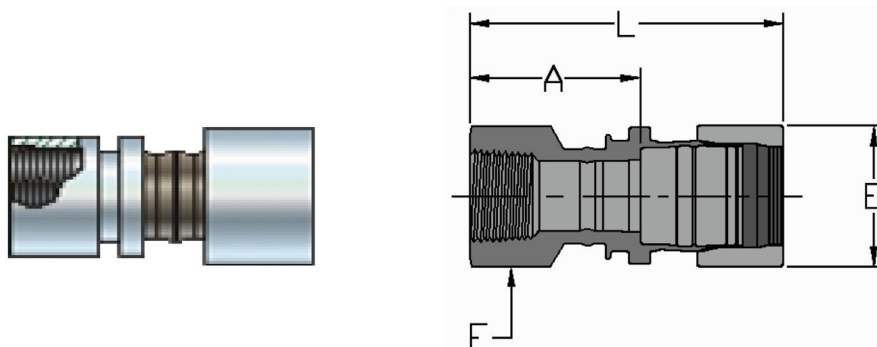
Male Adapter (NPT)



Pipe Size NPS in.	Ordering Information			Dimensions, in.					Loktool
	Fitting Material	Shape	Fitting Size PXX- YYMPT	Part Length (Uninstalled) L	E	Take- Out A	Across Wrench Flats F	Thread	Installation Tool Kit
1/4	CS	-ADPT-	P04-1/4 MPT	2.71	1.05	1.47	0.88	1/4-18	IT20/IT45
	SS			2.89	1.05	1.45	0.63		
3/8	CS	-ADPT-	P06-3/8 MPT	—	—	—	—	3/8-18	IT30/IT45
	SS			3.17	1.24	1.58	0.75		
1/2	CS	-ADPT-	P08-1/2 MPT	3.12	1.46	1.69	1.13	1/2-14	IT30/IT45
	SS			3.18	1.46	1.46	0.94		
3/4	CS	-ADPT-	P12-3/4 MPT	3.45	1.60	1.83	1.38	3/4-14	IT30/IT45
	SS			3.89	1.63	1.95	1.12		
1	CS	-ADPT-	P16-1 MPT	4.34	1.95	2.36	1.63	1-11.5	IT45/IT60
	SS			4.46	1.96	2.26	1.37		
1 1/4	CS	-ADPT-	P20-1 1/4 MPT	4.92	2.29	2.70	1.69	1-1/4-11.5	IT60
	SS			4.91	2.36	2.37	1.75		
1 1/2	CS	-ADPT-	P24-1 1/2 MPT	4.83	2.61	2.45	2.13	1-1/2-11.5	IT60
	SS			5.33	2.58	2.53	2.00		
2	CS	-ADPT-	P32-2 MPT	5.43	3.25	2.51	2.50	2-11.5	IT60
	SS			5.69	3.10	2.62	2.38		
3	CS	-ADPT-	P48-3 MPT	7.58	4.34	3.29	3.50	3-8	IT100/IT140
	SS			—	—	—	—		

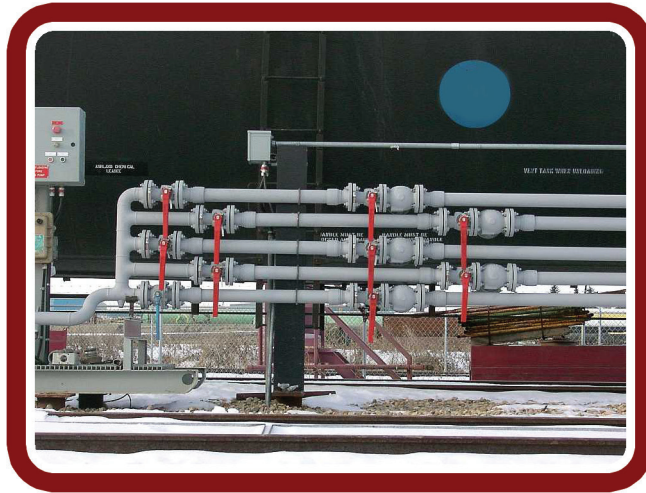
All dimensions are for reference only and are subject to change.
Consult your authorized Lokring distributor for details and other options.

Female Adapter (NPT)



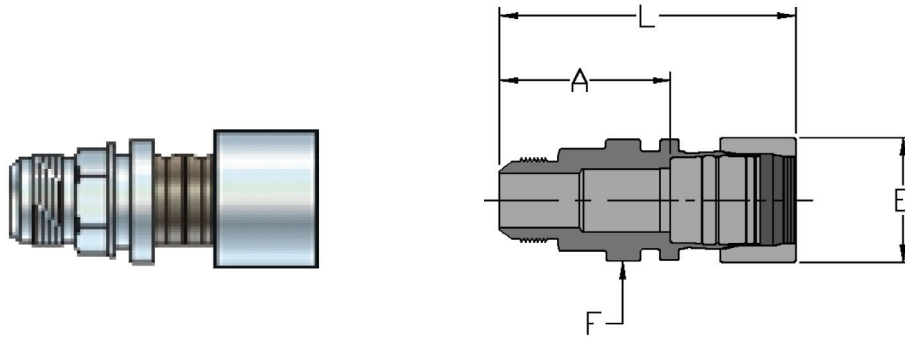
Pipe Size NPS in.	Ordering Information			Dimensions, in.					Loktool
	Fitting Material	Shape	Fitting Size PXX-YYFPT	Part Length (Uninstalled) L	E	Take- Out A	Across Wrench Flats F	Thread	Installation Tool Kit
1/4	CS	-ADPT-	P04-1/4 FPT	—	—	—	—	1/4-18	IT20/IT45
	SS			2.20	1.05	0.60	0.69		
3/8	CS	-ADPT-	P06-3/8 FPT	2.35	1.24	0.98	1.13	3/8-18	IT30/IT45
	SS			2.50	1.24	0.90	0.94		
1/2	CS	-ADPT-	P08-1/2 FPT	2.41	1.46	0.98	1.13	1/2-14	IT30/IT45
	SS			2.51	1.46	0.78	1.13		
3/4	CS	-ADPT-	P12-3/4 FPT	3.59	1.60	1.97	1.31	3/4-14	IT30/IT45
	SS			2.74	1.63	0.80	1.31		
1	CS	-ADPT-	P16-1 FPT	4.35	1.95	2.38	1.69	1-11.5	IT45/IT60
	SS			3.11	1.96	0.91	1.50		
1 1/4	CS	-ADPT-	P20-1 1/4 FPT	3.96	2.29	1.75	N/A	1-1/4-11.5	IT60
	SS			3.48	2.36	0.93	1.88		
1 1/2	CS	-ADPT-	P24-1 1/2 FPT	4.20	2.61	1.81	N/A	1-1/2-11.5	IT60
	SS			3.73	2.58	0.93	2.06		
2	CS	-ADPT-	P32-2 FPT	4.81	3.25	1.89	N/A	2-11.5	IT60
	SS			—	—	—	—		

All dimensions are for reference only and are subject to change.
Consult your authorized Lokring distributor for details and other options.



Carbon steel 3 in. installation at fuel fill station.

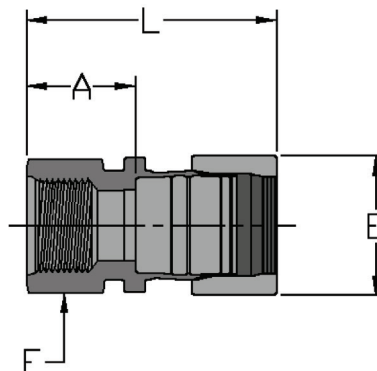
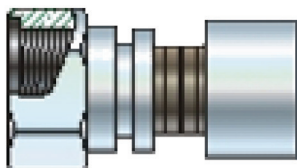
Male Adapter (37° Flare Straight Thread)^A



Pipe Size NPS in.	Ordering Information			Dimensions, in.					Loktool
	Fitting Material	Shape	Fitting Size PXX-37FYY	Part Length (Uninstalled) L	E	Take- Out A	Across Wrench Flats F	Thread	Installation Tool Kit
1/2	CS	-ADPT-	P08-37F08	3.27	1.46	1.84	0.81	3/4-16 UNF	IT20/IT45
	SS			3.08	1.46	1.36	1.13		
3/4	CS	-ADPT-	P12-37F12	3.95	1.60	2.33	1.13	1 1/16-12 UNF	IT30/IT45
	SS			3.54	1.63	1.60	1.13		
1	CS	-ADPT-	P16-37F16	4.61	1.95	2.63	1.38	1 5/16-12 UNF	IT45/IT60
	SS			3.84	1.96	1.64	1.38		
1 1/4	CS	-ADPT-	P20-37F20	4.94	2.29	2.72	1.68	1 5/8-12 UNF	IT60
	SS			4.23	2.36	1.68	1.68		
1 1/2	CS	-ADPT-	P24-37F24	5.72	2.61	3.32	2.00	1 7/8-12 UNF	IT60
	SS			5.34	2.58	2.54	2.00		
2	CS	-ADPT-	P32-37F32	6.50	3.25	3.58	2.63	2 1/2-12 UNF	IT60
	SS			6.52	3.25	3.25	2.63		

All dimensions are for reference only and are subject to change.
Consult your authorized Lokring distributor for details and other options.
A. Threaded end conforms to SAE J514 (37° flare).

Female Adapter (SAE Straight Thread)^A



Pipe Size NPS in.	Ordering Information			Dimensions, in.					Loktool
	Fitting Material	Shape	Fitting Size PXX-YYSAE	Part Length (Uninstalled) L	E	Take-Out A	Across Wrench Flats F	Thread	Installation Tool Kit
1/2	CS	-ADPT-	P08-0.50SAE	2.43	1.46	1.00	1.06	3/4 - 16 UNF	IT30/IT45
	SS			2.54	1.46	0.82	1.06		
3/4	CS	-ADPT-	P12-0.75SAE	3.00	1.60	1.38	1.44	1 1/16-12 UNF	IT30/IT45
	SS			3.12	1.63	1.18	1.44		
1	CS	-ADPT-	P16-1.00SAE	3.48	1.95	1.50	1.63	1 5/16-12 UNF	IT45/IT60
	SS			3.40	1.96	1.20	1.63		
1 1/4	CS	-ADPT-	P20-1.25SAE	3.72	2.29	1.50	2.00	1 5/8-12 UNF	IT60
	SS			3.72	2.36	1.17	2.00		
1/2	CS	-ADPT-	P24-1.50SAE	4.02	2.61	1.63	2.25	1 7/8-12 UNF	IT60
	SS			4.17	2.58	1.37	2.25		
2	CS	-ADPT-	P32-2.00SAE	5.93	3.25	3.00	3.00	2 1/2-12 UNF	IT60
	SS			5.71	3.10	2.64	3.00		

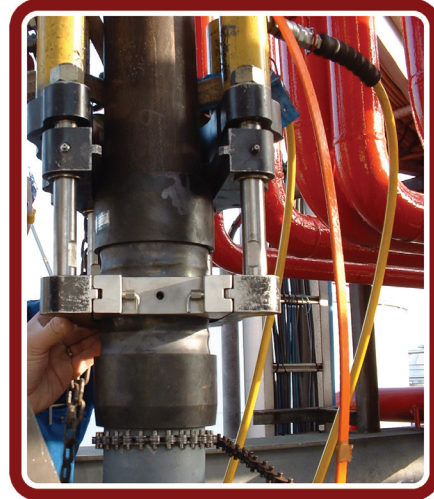
All dimensions are for reference only and are subject to change.
Consult your authorized Lokring distributor for details and other options.
A. Threaded end conforms to SAE J1926/1 (O-ring straight thread adapter).



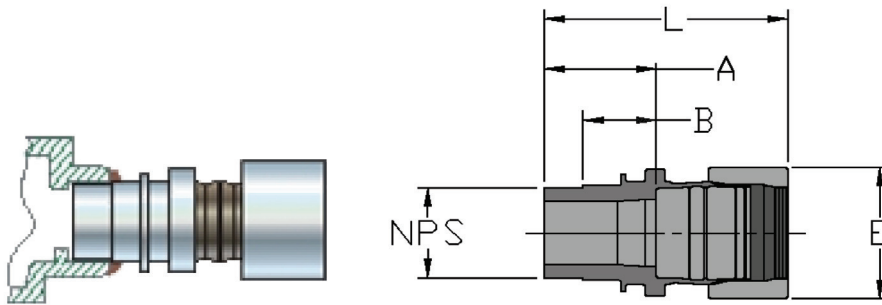
Lokring fittings are used in many offshore oil applications.

The quality of a Lokring connection has been recognized by the California Air Resources Board (CARB). CARB, through their equipment and process pre-certification program has granted Lokring pre-certification status through executive order.

The California Air Resources Board through their evaluation program has given Lokring equivalent to WELDED status.



Socket Weld Adapter



Pipe Size NPS in.	Ordering Information			Dimensions, in.				Loktool
	Fitting Material	Shape	Fitting Size PXX-YYNPS	Part Length (Uninstalled) L	E	Take- Out A	Take- Out B	Installation Tool Kit
3/8	CS	-ADPT-	P06-3/8 NPS	2.71	1.24	1.34	1.00	IT30/IT45
	SS			2.94	1.24	1.34	1.00	
1/2	CS	-ADPT-	P08-1/2 NPS	2.83	1.46	1.40	1.00	IT30/IT45
	SS			3.12	1.46	1.40	1.00	
3/4	CS	-ADPT-	P12-3/4 NPS	3.08	1.60	1.46	1.00	IT30/IT45
	SS			3.40	1.63	1.46	1.00	
1	CS	-ADPT-	P16-1 NPS	3.50	1.95	1.52	1.00	IT45/IT60
	SS			3.72	1.96	1.52	1.00	
1 1/4	CS	-ADPT-	P20-1 1/4 NPS	3.81	2.29	1.59	1.00	IT60
	SS			4.14	2.36	1.59	1.00	
1 1/2	CS	-ADPT-	P24-1 1/2 NPS	4.04	2.61	1.65	1.00	IT60
	SS			4.45	2.58	1.65	1.00	
2	CS	-ADPT-	P32-2 NPS	4.62	3.25	1.70	1.00	IT60
	SS			4.74	3.10	1.67	1.02	

All dimensions are for reference only and are subject to change. Consult your authorized Lokring distributor for details and other options.

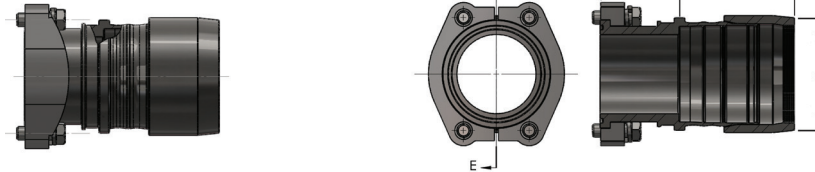
SAE61 Solid Flange Adapter



Pipe Size NPS in.	Ordering Information			Dimensions, in.			Loktool Installation Tool Kit
	Fitting Material	Shape	Fitting Size PXX	Part Length (Uninstalled) L	E	Take- Out A	
1/2	CS	- SAE61SLD -	P08	3.14	1.46	1.72	IT30/IT45
	SS			3.13			
3/4	CS	- SAE61SLD -	P12	3.33	1.60	1.72	IT30/IT45
	SS			3.38			
1	CS	- SAE61SLD -	P16	4.12	1.95	2.14	IT45/IT60
	SS			3.82			
1 1/4	CS	- SAE61SLD -	P20	4.42	2.29	2.19	IT60
	SS			4.41			
1 1/2	CS	- SAE61SLD -	P24	5.08	2.61	2.68	IT60
	SS			4.98			
2	CS	- SAE61SLD -	P32	5.75	3.25	2.84	IT60
	SS			5.55			
3	CS	- SAE61SLD -	P48	7.66	4.34	3.37	IT100/IT140
	SS			8.09			

All dimensions are for reference only and are subject to change.
 Non Lokring end conforms to SAE J518 code 61 solid (tapped holes). Kit packaged separately.
 Consult your authorized Lokring distributor for details and other available options.

SAE61 Split Flange Adapter



Pipe Size NPS in.	Ordering Information			Dimensions, in.			Loktool Installation Tool Kit
	Fitting Material	Shape	Fitting Size PXX	Part Length (Uninstalled) L	E	Take- Out A	
1/2	CS	- SAE61KIT -	P08	3.71	1.46	2.28	IT30/IT45
	SS			3.77			
3/4	CS	- SAE61KIT -	P12	3.73	1.60	2.11	IT30/IT45
	SS			3.78			
1	CS	- SAE61KIT -	P16	4.23	1.95	2.25	IT45/IT60
	SS			4.02			
1 1/4	CS	- SAE61KIT -	P20	4.62	2.29	2.41	IT60
	SS			4.62			
1 1/2	CS	- SAE61KIT -	P24	4.94	2.61	2.54	IT60
	SS			4.89			
2	CS	- SAE61KIT -	P32	5.40	3.25	2.48	IT60
3	CS	- SAE61KIT -	P48	7.19	4.34	2.91	IT100/IT140

All dimensions are for reference only and are subject to change.
 Non Lokring end conforms to SAE J518 code 61 split (tapped holes). Kit packaged separately.
 Consult your authorized Lokring distributor for details and other available options.

OTHER PRODUCTS OFFERED



In addition to the fittings listed in this catalog, Lokring offers, as standard, additional stainless steel (SS) pipe fittings including:

- Metric fittings
- SAE fittings
- Double containment couplings
- Pipe to tube, tube to pipe adapters
- Male and female pipe thread connectors
- Socket weld connectors
- Tube and pipe stub connectors
- Ferrule type tube fitting connectors
- ASME flange connectors
- CIP connectors
- 45° tees
- Unions, union threads, union tails

Specials may exist and can be created to your specifications. Contact your authorized Lokring distributor for details.



- Brass medical gas fittings for ASTM B88 (drawn) and B819 copper tube
- Bulkhead penetrators for pipe and tube
- Carbon steel (MAS-3000) pipe fittings
- Marine 90/10 copper nickel (CN-200) pipe fittings
- Marine 70/30 copper nickel (CN-700) pipe and tube fittings
- Marine 70/30 copper nickel (CN-3300) tube fittings
- Marine stainless steel (SS-3300) pipe fittings
- Marine stainless steel (SS-3300) tube fittings
- Railroad carbon steel (RR) pipe fittings
- Stainless steel (SS40) pipe fittings
- 4130 alloy steel (LTCS-333) pipe fittings

ADDITIONAL FITTING LINES

- Lokring tools come in several sizes to accommodate fittings of different sizes.
- To install a Lokring fitting, a Loktool tool head with inserts, multipurpose gage, hydraulic pump, and hydraulic hose are needed.

Tools, inserts and gages come packaged either as:

- Individual tool kits designed for installing one size of fittings only (ITK Series)

OR

- Multiple purpose tool kits designed for installing multiple size fittings with one tool (MTK Series).

Contact your authorized Lokring distributor for ordering details.



HYDRAULIC PUMPS

- All Loktool system components (installation tool, hose, pump, hydraulic couplers) are rated at 10,000 psi (689 bar) max operating pressure.
- Any pumps or hoses can be used with any Lokring installation tools.

Fast, Simple, Portable Installation – 1/4 to 4 in. Pipe Connections fully made in minutes!!



• **Manual Pump (Kit Part Number 9080050):** Manually operated, designed for low-volume installations (or emergency repairs) where there is limited or no access to electricity or compressed air, or for atmospheres which need to be fire-safe.



• **Manual Hand Pump (Part Number 8080032):** Manually operated, designed for low-volume installations where space is critical. No electricity or compressed air is needed.



• **Pneumatic Pump (Kit Part Number 9080189):** Foot-operated, lightweight, pneumatic pump operates off shop air (80 psi [5.6 bar] minimum). Fast and suitable for installation of Lokring fittings in atmospheres which need to be fire-safe.



• **Electric Pump (Kit Part Number 9080184):** 120 V(ac) foot-operated, high-speed pump, best selection for high volume installations of larger size fittings.



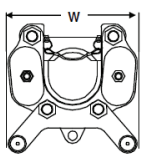
• **Hydraulic Hose Assembly (Part Number 9080111):** 15 ft. hose for all fitting sizes, pumps, and tool heads. Two or more hoses can be connected together to form longer lengths.

HOW TO SELECT TOOLING

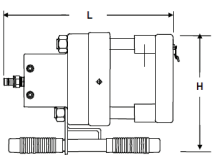
Tool Selection for Carbon and Stainless Steel Pipe Fittings											
Tool	Fitting Size, in.										
	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
IT20											
IT30											
IT45											
IT50											
IT60											
IT100											
IT140											

The shaded cells show which size tool can install which size fitting. Specify the fitting size and material along with which tool size is desired in order to receive the proper setup for installing Lokring fittings. Tool rentals available through your authorized Lokring distributor.

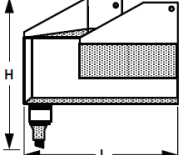
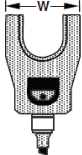
TOOLING DIMENSIONS



IT100 Tool



IT20 / IT30 / IT40 / IT50 / IT60 TOOLS



Carbon and Stainless Steel Pipe Fittings							
Dimensions, in.							
Pipe Size (Fitting Size)	Pipe OD	Loktool Size	Tool Width W	Tool Length L	Tool Height H	Minimum Spacing Center to Center N	Minimum Spacing Center to Center, with fittings adjacent to each other N1
1/4 NPS (P04)	0.540	IT20	2.36	5.00	4.95	1.58	1.83
3/8 NPS (P06)	0.675	IT30	2.66	6.45	5.72	1.80	2.08
3/8 NPS (P06)	0.675	IT45	3.91	6.38	6.66	2.43	2.70
3/8 NPS (P06)	0.675	IT50	4.21	7.29	7.08	2.58	2.85
1/2 NPS (P08)	0.840	IT30	2.66	6.45	5.72	1.88	2.19
1/2 NPS (P08)	0.840	IT45	3.91	6.38	6.66	2.51	2.81
1/2 NPS (P08)	0.840	IT50	4.21	7.29	7.08	2.66	2.96
3/4 NPS (P12)	1.050	IT30	2.66	6.45	5.72	1.99	2.27
3/4 NPS (P12)	1.050	IT45	3.91	6.38	6.66	2.61	2.90
3/4 NPS (P12)	1.050	IT50	4.21	7.29	7.08	2.76	3.05
1 NPS (P16)	1.315	IT45	3.91	6.38	6.66	2.75	3.06
1 NPS (P16)	1.315	IT50	4.21	7.29	7.08	2.90	3.21
1 NPS (P16)	1.315	IT60	5.01	8.59	7.59	3.30	3.61
1 1/4 NPS (P20)	1.660	IT50	4.21	7.29	7.08	3.07	3.41
1 1/4 NPS (P20)	1.660	IT60	5.01	8.59	7.59	3.47	3.81
1 1/2 NPS (P24) ^A	1.900	IT50	4.21	7.29	7.08	3.19	3.52
1 1/2 NPS (P24)	1.900	IT60	5.01	8.59	7.59	3.59	3.94
2 NPS (P32)	2.375	IT60	5.01	8.59	7.59	3.83	4.26
2 1/2 NPS (P40) ^B	2.875	IT100	10.18	16.00	12.75	6.67	7.12
3 NPS (P48)	3.500	IT100	10.18	16.00	12.75	6.98	7.47
4 NPS (P64) ^B	4.500	IT140	11.70	15.00	10.66	9.00	9.50

L and H dimensions include quick-connect.

A. Stainless steel SS fittings only.

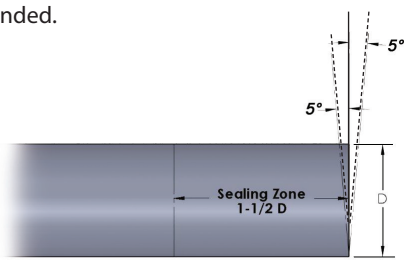
B. Carbon steel CS fittings only.

INSTALLATION INSTRUCTIONS

INSTALLATION PROCEDURE

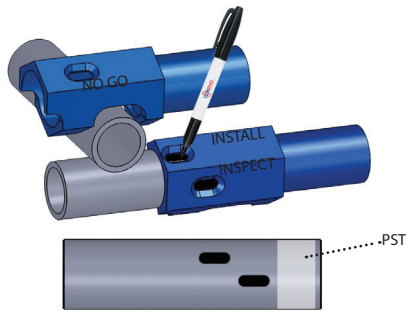
Note: Refer to Lokring procedure LP-105 for detailed installation instructions.

STEP 1: Cut pipe/tube to within 5° of square. Sand the Sealing Zone with 120 grit aluminum oxide abrasive cloth in circumferential direction to clean surface and remove longitudinal scratches, flat spots, paint, lacquer or other mill finishes, corrosion, grease, sand, and grit. If deep scratches, pits or other surface incongruities persist; use of 60 grit aluminum oxide abrasive cloth followed by 120 grit cloth is recommended.



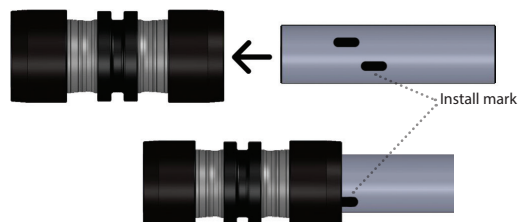
STEP 2: Using Multipurpose Gage, verify that pipe OD is correctly sized, and mark pipe ends as shown. (Not oversized or undersized to ASTM pipe specifications)

Special Note: A thin coat of Loctite® 567™ PST thread sealant with PTFE may be applied as an aid to seal where pipe surface is poor, and is suggested in applications where the pipe wall thickness to OD ratio is less than 0.07. The sealant should be applied from the end of the pipe up to the first inspection mark.

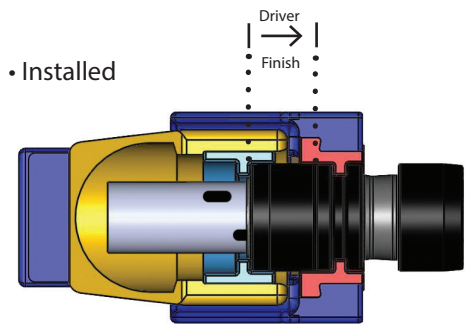
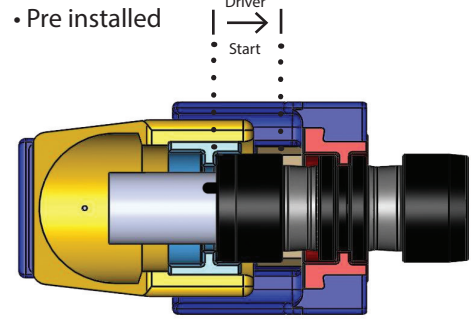


STEP 3: Select and assemble required Loktool. Inspect and cycle tool to assure proper function.

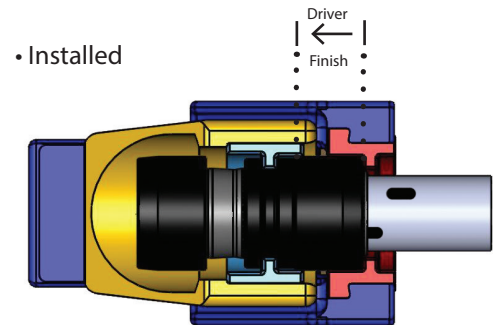
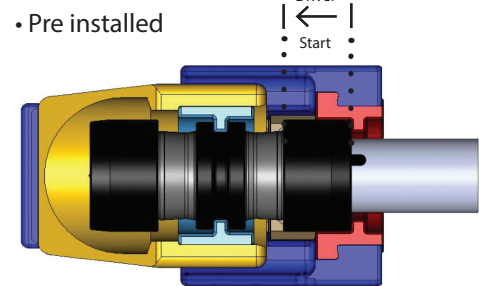
STEP 4: Position fitting on "INSTALL" mark, fully engage and actuate tool.



Forward Install



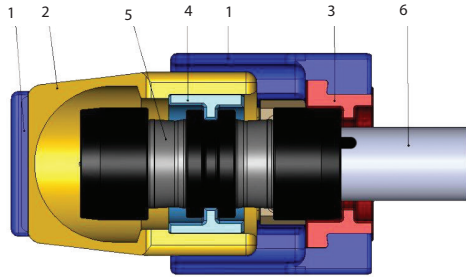
Reverse Install



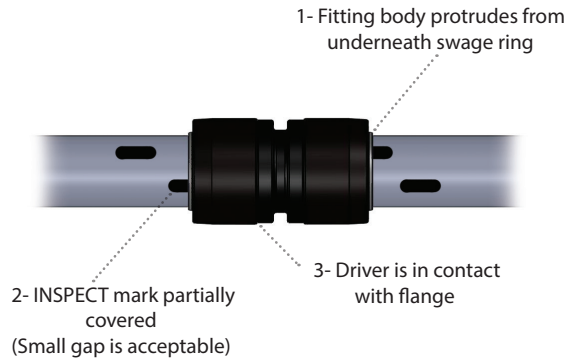
Tool colors used for indication purposes only.

Item	Part	Description ^A	Part Number
1	Loktool Body	IT45-BDY-MACH	3080035
2	Loktool Jaw	IT45-JAW-CST-MACH	3080036
3	Body Insert	BI45-MAS/SS4-P16-FR	7080146
4	Jaw Insert	JI45-MAS/SS4-P16-FR	7080147
5	Coupling	MAS-3000-CPL-P16	9040069
6	Pipe	1" NPS PIPE	N/A

A. Descriptions listed are specific to IT45 tool only. Contact your authorized distributor for information on other tools.



STEP 5: Carry out visual checks below to verify successful installation.



Other parts not listed in this catalog may be available. As well, some parts listed here may be subject to availability at time of order. Consult your authorized Lokring distributor for details.

To Order

Contact your Lokring distributor for more information. See www.lokring.com for a complete listing of distributors

Dimensions

All dimensions are reference only and subject to change.

CAD Templates

CAD files AutoCAD-DWG, AutoCAD-DXF and Intergraph PDS are available in 2D and 3D for most configurations. Contact your authorized Lokring distributor for details or see www.lokring.com.

Warranty Information

Lokring and its authorized distributors warrant to the purchaser of Lokring components from them that these components shall be free from defects in material and workmanship under normal use and service for the life of the product.

The purchaser's remedies shall be limited to replacement of any Lokring components that fail through a defect in material or workmanship.

IN NO EVENT SHALL LOKRING, OR ITS AUTHORIZED DISTRIBUTORS, BE LIABLE FOR ANY OTHER DAMAGES (WHETHER DIRECT, INDIRECT, FORESEEABLE, CONSEQUENTIAL, OR INCIDENTAL) SUFFERED BY THE PURCHASER OR ANYONE ELSE ARISING OUT OF THE USE OF LOKRING PRODUCTS. THIS EXPRESS WARRANTY DISCLAIMS ALL OTHER WARRANTIES, GUARANTEES, AND REPRESENTATIONS, EXPRESS OR IMPLIED.

Safe Selection

System design and system safety are the ultimate responsibilities of the end-user. Consideration to system function, compatibility, product ratings, as well as other factors, must be given to ensure proper product selection and function. All information in this catalog has been compiled with regard to accuracy; however, the most up-to-date information should be verified before use of the product. Lokring reserves the right to change product dimensions, ratings, or other information.

A FITTING END TO YOUR PIPING CONCERNS™



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