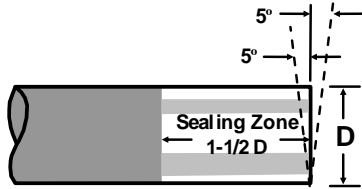


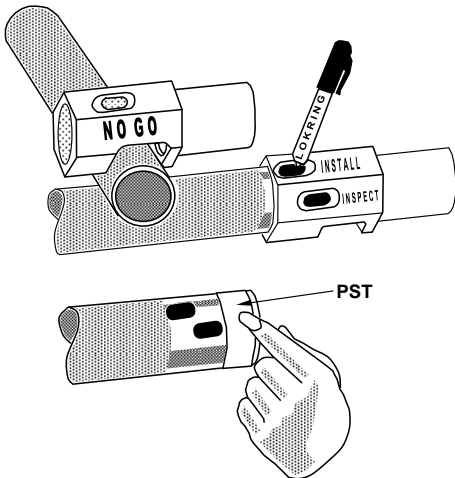
## INSTALLATION PROCEDURE

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

**STEP 1:** Cut pipe to within 5° square. Using 120 grit Aluminum oxide abrasive cloth, sand pipe sealing zone in circumferential direction to clean surface and remove scratches. If deep pits or scratches persist, use 60 grit, followed by 120 grit. See procedure LP-105 with specific questions regarding ERW pipe, and proper surface finish.



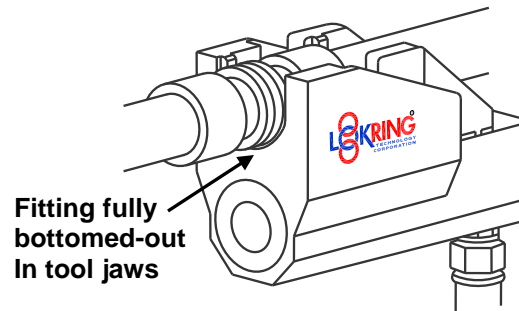
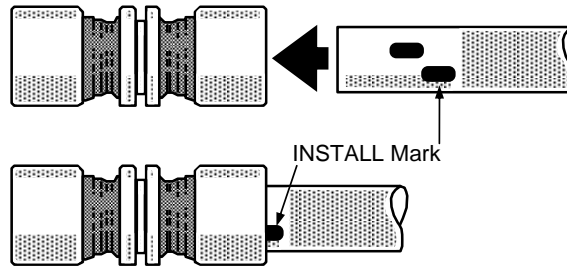
**Step 2:** Using Multipurpose Gage, verify that pipe OD is correctly sized, and mark pipe ends as shown.



**Special Note:** If LP-105 Lokring Installation Instructions Section on Pipe/Tube End Preparation is adhered to and found not to be effective in removing the Bad Pipe/tube Conditions, an anaerobic pipe/tube thread sealant such as Loctite 567 PST thread sealant may be applied to the pipe/tube surface within the Sealing Zone to enhance the seal. Refer to LP-105 for instructions on applying the PST sealant. The proper preparation of the outside diameter is the responsibility of the system designer or user.

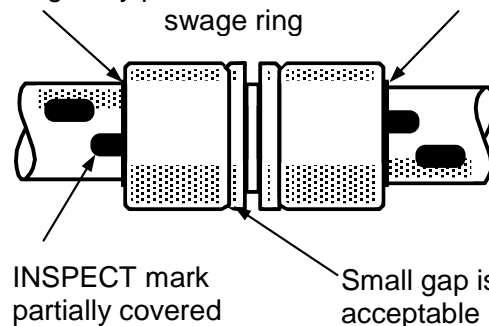
**STEP 3:** Select and assemble required LOKRING tool. Inspect and cycle tool to assure proper function.

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



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

Fitting body protrudes from underneath swage ring



# LOKRING INSTALLER'S Field Installation Guide

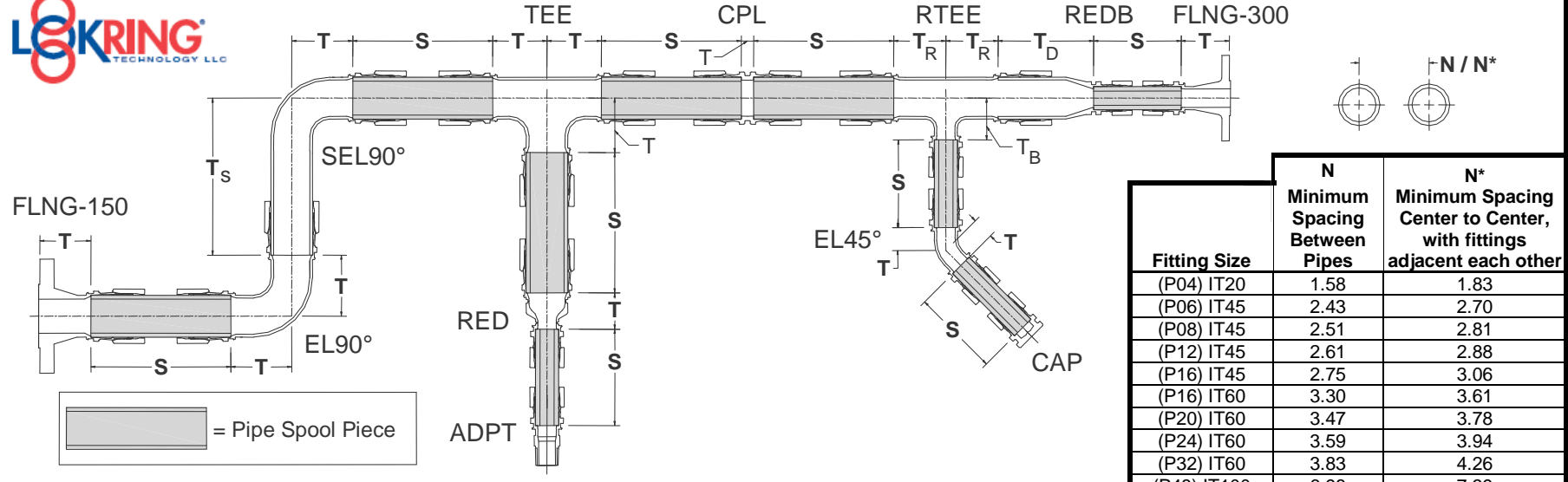
For Series MAS-3000  
Carbon Steel  
LOKRING™ Pipe Fittings



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8.03A 5 Step Tri-Fold Handout For MAS-3000  
Pipe Fittings (05-203-19).doc



Fitting Size	N Minimum Spacing Between Pipes	N* Minimum Spacing Center to Center, with fittings adjacent each other
(P04) IT20	1.58	1.83
(P06) IT45	2.43	2.70
(P08) IT45	2.51	2.81
(P12) IT45	2.61	2.88
(P16) IT45	2.75	3.06
(P16) IT60	3.30	3.61
(P20) IT60	3.47	3.78
(P24) IT60	3.59	3.94
(P32) IT60	3.83	4.26
(P48) IT100	6.98	7.39

LOKRING Fitting <sup>1</sup> (NPS)	LOKTOOL Head	"S" Min <sup>2</sup>	Fitting Take-Out "T" in 1/16" Increments							Reducing Fittings	RTEE T <sub>R</sub>	RTEE T <sub>B</sub>	RED T	
			FLNG 150#	TEE	EL90	EL90 (-LR)	CPL	EL45	FLNG 300#					
<b>MAS-3000-XXX-P04 (1/4" NPS)</b>	IT20	3-1/16"	N/A	N/A	N/A	N/A	3/8"	N/A	N/A	<b>3/4"x1/2" (P12xP08)</b>	1-5/8"	2"	1-5/16"	
<b>MAS-3000-XXX-P06 (3/8" NPS)</b>	IT45	3-3/8"	N/A	N/A	N/A	N/A	7/16"	N/A	N/A	<b>1"x1/2" (P16xP08)</b>	2-1/4"	2-1/8"	1-1/2"	
<b>MAS-3000-XXX-P08 (1/2" NPS)</b>	IT45	3-1/2"	2-1/2"	1-5/8"	1-5/8"	2-1/8"	1/2"	1-5/16"	2-11/16"	<b>1-1/4"x3/4" (P20xP12)</b>	2-5/8"	3-1/8"	1-1/2"	
<b>MAS-3000-XXX-P12 (3/4" NPS)</b>	IT45	3-15/16"	2-13/16"	1-7/8"	1-7/8"	2-1/4"	9/16"	1-1/2"	3"	<b>1-1/4"x1" (P20xP16)</b>	2-5/8"	2-3/4"	1-3/4"	
<b>MAS-3000-XXX-P16 (1" NPS)</b>	IT45	4-3/4"	2-15/16"	2-1/4"	N/A	2-1/4"	5/8"	1-5/8"	3-3/16"	<b>1-1/2"x1/2" (P24xP08)</b>	3-1/16"	2-7/8"	2-1/8"	
<b>MAS-3000-XXX-P16 (1" NPS)</b>	IT60	4-3/4"	2-15/16"	2-1/4"	N/A	2-1/4"	5/8"	1-5/8"	3-3/16"	<b>1-1/2"x3/4" (P24xP12)</b>	3-1/16"	3"	2-1/16"	
<b>MAS-3000-XXX-P20 (1-1/4" NPS)</b>	IT60	5-1/2"	3"	2-5/8"	N/A	2-5/8"	5/8"	1-3/4"	3-5/16"	<b>1-1/2"x1" (P24xP16)</b>	3-1/16"	3"	1-7/8"	
<b>MAS-3000-XXX-P24 (1-1/2" NPS)</b>	IT60	5-5/8"	3-1/4"	3-1/16"	N/A	3-1/16"	11/16"	1-15/16"	3-1/2"	<b>2"x1/2" (P32xP08)</b>	3-5/16"	2-5/8"	2-1/2"	
<b>MAS-3000-XXX-P32 (2" NPS)</b>	IT60	7-3/16"	3-5/16"	3-5/16"	N/A	3-13/16"	11/16"	2-3/16"	3-9/16"	<b>2"x 3/4" (P32xP12)</b>	3-5/16"	2-3/4"	2-5/16"	
<b>MAS-3000-XXX-P48 (3" NPS)</b>	IT100	9-13/16"	3-13/16"	4-7/16"	N/A	5-9/16"	7/8"	2-1/16"	4-3/16"	<b>2"x1" (P32xP16)</b>	3-5/16"	2-3/4"	2-1/4"	
1. Carbon steel pipe to ASTM-A106 and A53. Refer to LOKRING specification <b>FS-3000</b> for qualified pipe specifications and schedules. 2. Minimum cut spool length "S" listed is for reverse installation. Spool lengths may be decreased slightly if one fitting end can be pulled up prior to positioning the second end and the reverse position of the tool is used for the installation.											<b>2"x1-1/2" (P32xP24)</b>	3-5/16"	3-3/16"	2-5/16"
											<b>3"x1/2" (P48xP08)</b>	N/A	N/A	5-3/16"
											<b>3"x3/4" (P48xP12)</b>	4-7/16"	3-3/8"	5-1/4"
											<b>3"x1" (P48xP16)</b>	4-7/16"	3-3/8"	5-5/16"
											<b>3"x1-1/2" (P48xP24)</b>	4-7/16"	3-11/16"	5-3/8"
<b>3"x2" (P48xP32)</b>	4-7/16"	3-13/16"	5-3/8"											