SPF Anvil®
Figures C9-CL and C9-SL Rigid Couplings

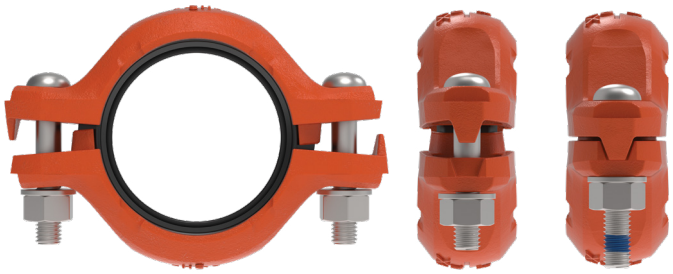

Fig. C9-CL

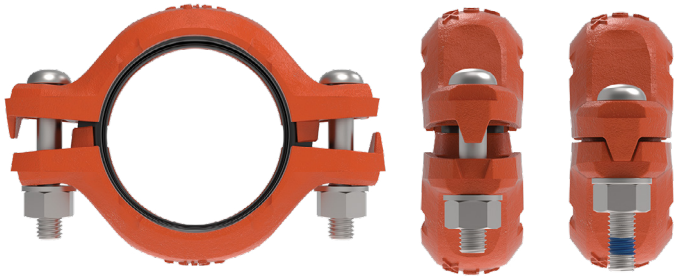

Fig. C9-SL

PRODUCT OVERVIEW

APPLICATION

- Rigid Coupling features patented ASC Sabertooth™ installation technology enabling rapid visual and tactile proper assembly confirmation and protection from over-tightening.
- CenterLOK™ and SlideLOK® patented gasket options available as needed.
- Figure C9-CL (CenterLOK™) and C9-SL (SlideLOK®) Rigid Couplings:
  - Feature visual and tactile verification of properly completed installation.
  - Are designed to be used with roll, cut or swage grooved steel pipe and grooved light wall pipe in accordance with AWWA C606, as well as SPF Anvil® and Gruvlok® grooved-end fittings, and valves.
  - Allow for pressures between full vacuum and 400 psi on roll or cut grooved carbon steel standard wall pipe .
  - Provide a rigid connection enabling pipe hanging practices per ASME B31 Pipe Codes.

SIZES

- 1-¼ inch through 6 inch

MAXIMUM WORKING PRESSURE

- From full vacuum (29.9 in Hg/760 mm Hg) up to 400 psi/ 31 bar (pipe material, size and wall thickness dependent)

OPERATING TEMPERATURES

- -40°F to 150°F (Service Temperature Range) (-40°C to 66°C)

CenterLOK Pressure Responsive Gasket

SlideLOK Pressure Responsive Gasket

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

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MATERIALS

HOUSING MATERIAL

- Ductile iron conforming to ASTM A536, Grade 65-45-12

HOUSING COATING: (Select)

☐ Orange Rust-inhibiting Paint

☐ Hot-dipped Zinc Galvanized conforming to ASTM A123

GASKET TYPE

☐ CenterLOK™ Gasket

☐ SlideLOK® Pressure Responsive Gasket

GASKET / SEAL MATERIAL

- Properties as designated in accordance with ASTM D2000

☐ Pre-Lubricated Grade "E" EPDM, Type A Gasket

- Violet color code
- -40°F to 150°F (Service Temperature Range) (-40°C to 66°C)
- Recommended for wet and dry (oil free air) pipe fire protection sprinkler systems. For dry pipe systems and freezer applications, Gruvlok® Xtreme Lubricant is required.

HARDWARE

Bolts

- SAE J429, Grade 5, Zinc Electroplated (standard)

Nuts

- Heavy Hex Nut, ASTM A563 Grade A, with Zn/Al flake coating

Speed Plate

- ANSI/ASME spec B18.22.1, Coating conforming to ASTM A123

HARDWARE KITS

☐ 304 Stainless Steel (available in sizes up to ½")

Kit includes:

- (2) Bolts per ASTM A193, Grade B8

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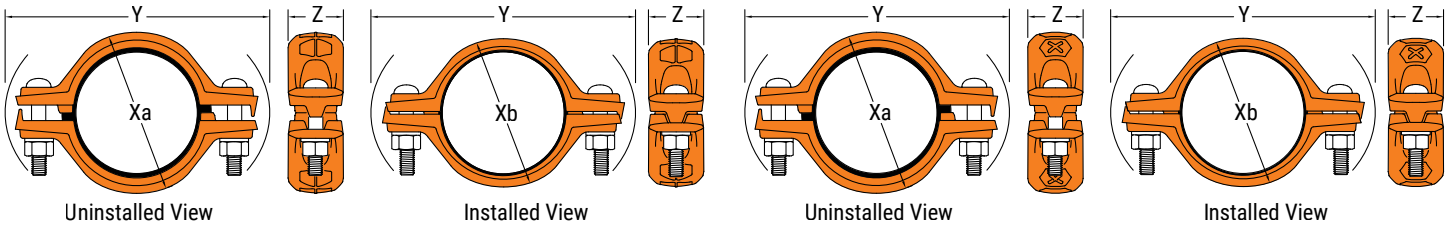

Fig. C9-CL

Fig. C9-SL

• Heavy Hex Nuts per ASTM A194, Grade

C9SL/CL Fire			Max. End Load	Max Pipe End Separation CL	Max Pipe End Separation SL	Coupling Dimensions				Coupling Bolts		Approx Wt. Ea.
Nominal Size	O.D.	Max. Working Pressure on Sch 40				Xa	Xb	Y	Z	Qty.	Size	
1 ¼	1.66	400	866	0.14	0.26	3.05	2.8	5.33	1.69	2	⅜ x 2 ¼	1.62
1 ½	1.9	400	1134	0.14	0.26	3.29	3.04	5.58	1.75	2	⅜ x 2 ¼	1.77
2	2.375	400	1772	0.13	0.26	3.73	3.47	6.13	1.75	2	½ x 3	2.34
2 ½	2.875	400	2597	0.13	0.26	4.36	4.04	6.62	1.75	2	½ x 3	2.60
3	3.5	400	3848	0.13	0.26	4.99	4.67	7.23	1.75	2	½ x 3	2.81
4	4.5	400	6362	0.15	0.31	5.95	5.71	8.59	1.95	2	½ x 3	3.82
5	5.563	400	9722	0.15	0.31	7.24	6.9	9.84	1.98	2	⅝ x 4 ¼	6
6	6.625	400	13789	0.15	0.31	8.29	8.08	11	1.98	2	⅝ x 4 ¼	7.02

Note:

Range of Pipe End Separation values are for system layout reference only. Actual installation spacing may vary based on pipe condition.

*When ordering, refer to product as XXX.

▲ – Maximum Working Pressure Rating is for Schedule 40 pipe.

For use in Dry Pipe Systems: The CenterLOK and SlideLOK pressure responsive gaskets are featured with four sealing surfaces to increase protection in low temperature applications. Once the CenterLOK or SlideLOK gasket is installed, the performance of the gasket is equivalent to the Gruvlok Flush Gap Gasket. Note: The Flush Gap Gasket is not interchangeable with the CenterLOK or SlideLOK gasket.

WARNING: For dry pipe systems and freezer applications lubrication of the gasket is required, Gruvlok Xtreme Lubricant is required.

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SPF Anvil®
Figures C9-CL and C9-SL Rigid Couplings

PERFORMANCE / DIMENSIONS

Manufacturer	Groove	Pipe	Size (in.)	Pressure Rating			
				cULus		FM	
				PSI/bar		PSI/bar	
C9-CL	Roll	Sch. 10	1¼, 1½, 2, 2½, 3, 4, 5, 6	400	2757	400	2755
C9-CL	Roll, Cut	Sch. 30, Sch. 40	1¼, 1½, 2, 2½, 3, 4, 5, 6	400	2757	400	2755
C9-CL	Roll	Bull Moose Tube Eddy-Flow	1¼, 1½, 2, 2½, 3, 4	300	2068	300	2065
C9-CL	Roll	Bull Moose Tube Eddy-Thread 40	1-1/4, 1-1/2, 2	300	2068	300	2065
C9-CL	Roll	Wheatland Tube Mega-Flow	1¼, 1½, 2, 2½, 3, 4, 5, 6	300	2068	300	2065
C9-CL	Roll	Wheatland Tube Mega-Thread	1¼, 1½, 2	300	2068	300	2065
C9-CL	Roll	Nucor Hydroflow	1¼, 1½, 2, 2½, 3, 4	300	2068	300	2065
C9-SL	Roll	Sch. 10	1¼, 1½, 2, 2½, 3, 4, 5, 6	400	2757	400	2755
C9-SL	Roll, Cut	Sch. 30, Sch. 40	1¼, 1½, 2, 2½, 3, 4, 5, 6	400	2757	400	2755
C9-SL	Roll	Bull Moose Tube Eddy-Flow	1¼, 1½, 2, 2½, 3, 4	300	2068	300	2065
C9-SL	Roll	Bull Moose Tube Eddy-Thread 40	1¼, 1½, 2	300	2068	300	2065
C9-SL	Roll	Wheatland Tube Mega-Flow	1¼, 1½, 2, 2½, 3, 4, 5, 6	300	2068	300	2065
C9-SL	Roll	Wheatland Tube Mega-Thread	1¼, 1½, 2	300	2068	300	2065
C9-SL	Roll	Nucor Hydroflow	1¼, 1½, 2, 2½, 3, 4	300	2068	300	2065

Note:

For the latest cULus pressure ratings, FM pressure ratings, and pipe approvals, please visit asc-es.com or contact your local ASC Engineered Solutions Representative.

* Schedule 40/30 pipe to ASTM A795/A53/ASME B36.10 in accordance with NFPA-13.

* Schedule 10 pipe to ASTM A135/A795/A53 in accordance with NFPA-13.

SPF Anvil®
Figures C9-CL and C9-SL Rigid Couplings

CERTIFICATIONS / LISTINGS

c UL us LISTED

FM APPROVED

ADDITIONAL RESOURCES

- Technical Data Sheet: Working Pressure Ratings
- Technical Data Sheet: Gasket Styles
- Pipe Fitter's Handbook
- Gasket Information: ASC Gasket Compatibility Chart

SAFETY

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.

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Building connections that last™

SPF Anvil®
Figures C9-CL and C9-SL Rigid Couplings

INSTALLATION

READY FOR INSTALLATION – RIGHT OUT OF THE BOX

Do not disassemble the SPF Anvil Figure C9-CL / C9-SL coupling – it is ready for installation. The bolts and gasket do not need to be removed.

PIPE PREPARATION

Pipe ends are to be rolled or cut grooved according to ASC Engineered Solutions™ specifications. Not for use on "EG" rolled or cut grooved pipe ends. The pipe end must be smooth and free from metal burrs, sharp edges or projections.

METHOD 1 ASSEMBLY – SPF ANVIL® FIGURE C9-CL WITH CENTERLOK™ GASKET

The SPF Figure C9-CL coupling gasket features an integrated center rib that serves as a positive stop during installation. As the coupling is slid onto the pipe or fitting, the rib prevents it from over-traveling, automatically positioning it at the correct depth. This design eliminates the need for manual alignment of the coupling keys with the pipe grooves.

INSTALLATION STEPS

1. POSITION THE COUPLING

Slide the Fig. C9-CL coupling onto the pipe or fitting until the center rib contacts the pipe end. The coupling will naturally stop in the correct position with the keys aligned to the groove.

2. JOIN THE MATING PIPE OR FITTING

Bring the second pipe or fitting into place and slide it onto the opposite side of the center rib, ensuring it seats fully against the rib. Both pipe ends should be firmly butted against the center stop.

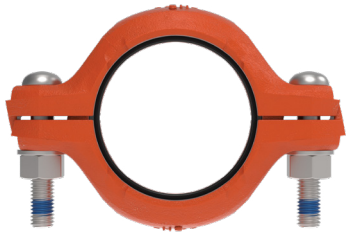
3. TIGHTEN THE BOLTS

Begin tightening the nuts alternately and evenly. Maintain uniform gaps between the bolt pads on both sides of the coupling as you tighten.

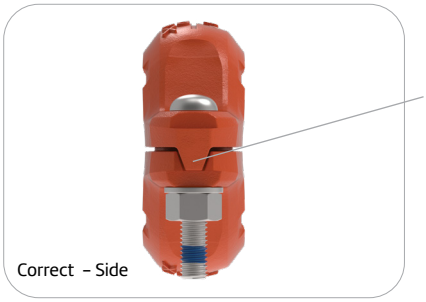
Notice: Uneven tightening can pinch or displace the gasket. Once fully tightened, the gasket should not be visible between the coupling segments. Refer to the Maximum Bolt Torque Chart below for proper torque values on page 7.

SPF Anvil®
Figures C9-CL and C9-SL Rigid Couplings

INSTALLATION



Correct - Front 4



Correct - Side

4. CONFIRM PROPER INSTALLATION – VISUAL INDICATORS

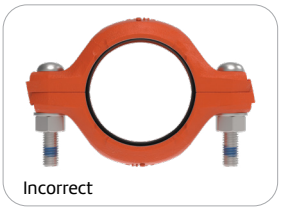
Inspect the molded alignment indicators located on both sides of the coupling. When the coupling is properlyinstalled, the male and female ends of the indicator will form a straight line across the seam—on both sides.

Also verify:

- Coupling keys are fully engaged in both pipe grooves
- Bolt pad gaps are parallel and evenly spaced on both sides

Final Check: If either indicator is misaligned or bolt pad gaps are uneven, recheck pipe positioning and re-tighten as needed. The coupling must be visually aligned on both sides before being placed into service.

Proper alignment and installation can be confirmed by touch or sight here.



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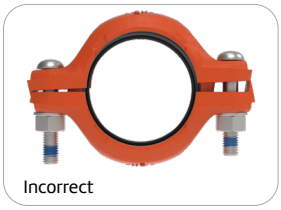

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FOR DRY PIPE AND FREEZER APPLICATIONS:

Ensure the gasket is suitable for the intended application by referring to the ASC Gasket Compatibility Chart. Apply a light coating of Gruvlok® Lubricant to exposed gasket surfaces.

MAXIMUM BOLT TORQUE

Maximum Bolt Torque

Bolt Size (In.)	Wrench Size (In.)	Ft-Lbs
1/2	7/8	120
5/8	1 1/16	235
3/4	1 1/2	425

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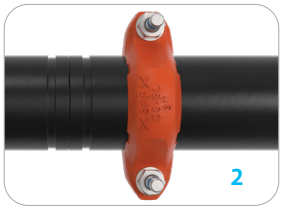
SPF Anvil®
Figures C9-CL and C9-SL Rigid Couplings

INSTALLATION

METHOD 2 ASSEMBLY – SPF ANVIL® FIGURE C9-SL WITH SLIDELOK™ GASKET

1. Slide the Figure C9-SL coupling completely over the grooved pipe end. This will allow a clear and un-obstructed view of the pipe for correct alignment.



2. Align the mating pipe end. Align the two adjoining pipes together.

3. Slide the coupling back over the grooves so that the coupling keys are located over the respective grooves on both pipe ends.

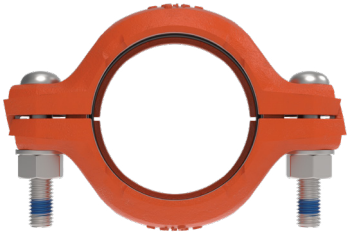
4. Begin tightening the nuts alternately and evenly. Maintain uniform gaps between the bolt pads on both sides of the coupling as you tighten.

Notice: Uneven tightening can pinch or displace the gasket. Once fully tightened, the gasket should not be visible between the coupling segments. Refer to the Maximum Bolt Torque Chart below for proper torque values on page 7.

SPF Anvil®
Figures C9-CL and C9-SL Rigid Couplings

INSTALLATION (Continued)

METHOD 2 ASSEMBLY – SPF ANVIL® FIGURE C9-SL WITH SLIDELOK™ GASKET



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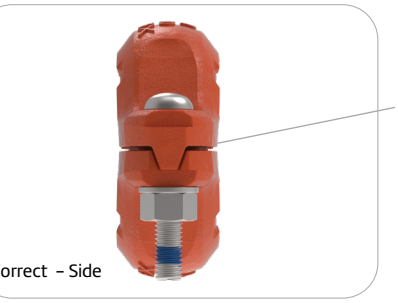

Correct - Side

5. CONFIRM PROPER INSTALLATION – VISUAL INDICATORS

Inspect the molded alignment indicators located on both sides of the coupling. When the coupling is properlyinstalled, the male and female ends of the indicator will form a straight line across the seam—on both sides.

Also verify:

- Coupling keys are fully engaged in both pipe grooves
- Bolt pad gaps are parallel and evenly spaced on both sides

Final Check: If either indicator is misaligned or bolt pad gaps are uneven, recheck pipe positioning and re-tighten as needed.
The coupling must be visually aligned on both sides before being placed into service.

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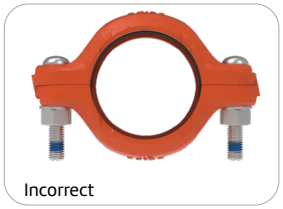

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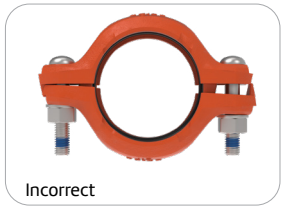

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