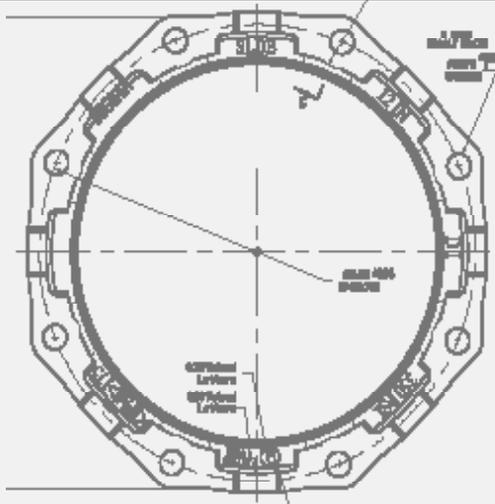


ONE-LOK™ Series SLDE for Ductile Iron Pipe



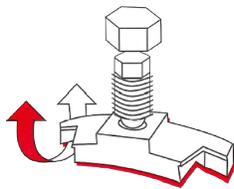
Features & Advantages:

1) The SIGMA ONE-LOK Series SLDE is a mechanical joint restraining gland that implements a series of individually activated wedges into the mechanical joint follower gland. When the wedge segment is engaged by the actuating bolt, the primary contact edges of each wedge segment lock onto the pipe wall. This action causes the primary contact edges to grip the pipe and effectively restrain all classifications of ductile iron pipe.

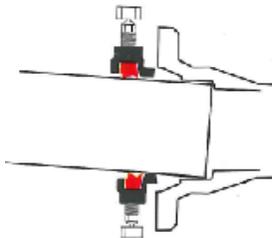
2) ONE-LOK SLDE's precision contoured wedges provide proper contact and support of the ductile iron pipe wall. Each wedge is manufactured with an elongated contour that evenly matches the outside circumference of each nominal diameter of ductile iron pipe. This elongated contour also eliminates the concern of damage to both the pipe wall and the interior cement mortar lining caused by point loading, even on the thinner pressure classes of ductile iron pipe.

3) ONE-LOK SLDE's wedge actuating bolt provides the installer with a visual torque indicator. The breakaway top ensures proper engagement of the wedge segment at the time of installation. Unlike other actuating bolts, the ONE-LOK SLDE is manufactured with a proprietary quality control system that ensures the breakaway tops will activate at the correct torque. The breakaway top is sized to match the same dimensions of the bolts and nuts used to assemble the mechanical joint fitting and follower gland, eliminating the need for special installation tools. Once engaged, the actuating bolt leaves a residual hex-head shank, allowing post-installation disassembly of the restrained joint, if necessary.

4) ONE-LOK SLDE's unique wedge segment and actuating bolt design allows the two components to interface using a cam action principle, allowing the wedge segments to rock and increase their grip on the pipe wall as thrust on the assembled joint increases. This also allows improved resistance to subsidence, seismic forces, and other movement within the maximum deflection limitations of the mechanical joint under applicable AWWA standards.



ONE-LOK's unique cam action allows the restraining wedges to "rock," gripping the pipe wall more securely as thrust force increases.



ONE-LOK's cam action also accommodates deflection of the joint during installation, and also allows for subsidence, seismic or other forces after installation, up to the maximum allowed deflection.

Deflection Chart

Nominal Size	Item #	Deflection
3-12"	SLDE3-SLDE12	5 deg
14-16"	SLDE14-SLDE16	2 deg
18-30"	SLDE18-SLDE30	1.5 deg
36-64"	SLDE36-SLDE64	1 deg

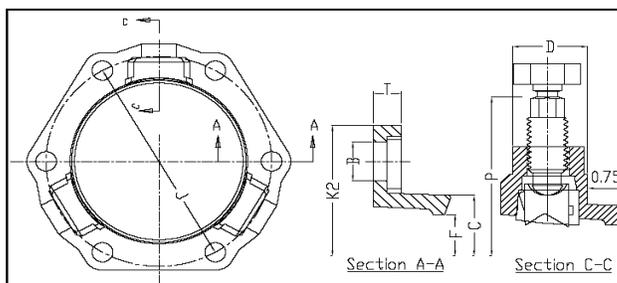
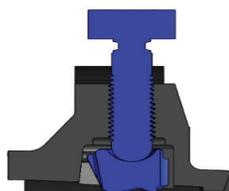
ONE-LOK™ Series SLDE for Ductile Iron Pipe

Sample Specification:

Restraint for standard mechanical joint fittings shall be incorporated in the design of the follower gland and shall utilize multiple wedge segments that act against the pipe, increasing their resistance as the line pressure increases. The assembled joint shall maintain the maximum flexibility and deflection of all nominal pipe sizes after burial. Restraining gland, wedge segments, and actuating bolts shall be manufactured of high strength ductile iron conforming to the requirements of ASTM A536, Grade 65-45-12. Wedge segments shall be heat treated to a hardness of 370 BHN minimum. Dimensions shall be compatible with standardized mechanical joints conforming to the requirements AWWA C111/ANSI A21.11 and AWWA C153/ANSI 21.53 through 24" (latest revision). Breakaway tops shall be incorporated in the design of the actuating bolts to visually ensure proper torque. The manufacturing of the actuating bolt must incorporate a quality control procedure that is deemed acceptable by the specifier and positively assures precise and consistent operating torque of the breakaway top. The mechanical joint restraining devices shall have a working pressure rating of 350psi (for sizes 3-16") and 250 psi (for sizes 18-64") minimum and provide no less than a safety factor of 2:1. Restraint shall be UL Listed and FM approved in applicable sizes. Restraining device shall be SIGMA ONE-LOK™ or approved equal.

Materials:

- Gland body, brackets, wedge segments & actuating bolts: ASTM A536 65-45-12 ductile iron.
- Wedge segments are heat treated to a minimum hardness of 370BHN
- T-head bolts & nuts: High strength, low alloy steel meeting AWWA/ANSI C111/A21.11 with minimum 65,000psi tensile strength and 45,000psi yield strength.



Dimensions in Inches, Weights in Pounds

Nom Pipe Size	Item #	Wgt	DI Pipe OD	Steel Pipe OD	Dimensions								Bolts and Inserts			Pressure Rating	T-bolts			Gasket	
					C	F	D	T	P*	B	J	K2	No	Size	Torque		No	Size	Torque	No	Item #
3	SLDE3	5.50	3.96	---	4.84	4.16	1.58	0.55	9.40	0.750	6.19	7.69	2	7/8	75 - 90	350	4	5/8 x 3.0	45 - 60	1	TG-3
4	SLDE4	6.50	4.80	4.50	5.92	5.00	1.58	0.55	10.24	0.875	7.50	9.12	2	7/8	75 - 90	350	4	3/4 x 3.5	75 - 90	1	MG-4
6	SLDE6	10.00	6.90	6.625	8.02	7.10	1.58	0.60	12.34	0.875	9.50	11.12	3	7/8	75 - 90	350	6	3/4 x 3.5	75 - 90	1	MG-6
8	SLDE8	14.50	9.05	8.625	10.17	9.25	1.63	0.75	14.32	0.875	11.75	13.37	4	7/8	75 - 90	350	6	3/4 x 4.0	75 - 90	1	MG-8
10	SLDE10	23.00	11.10	10.75	12.22	11.30	1.58	0.85	16.54	0.875	14.00	15.62	6	7/8	75 - 90	350	8	3/4 x 4.0	75 - 90	1	MG-10
12	SLDE12	29.00	13.20	12.75	14.32	13.40	1.58	0.85	18.80	0.875	16.25	17.88	8	7/8	75 - 90	350	8	3/4 x 4.0	75 - 90	1	MG-12
14	SLDE14	39.60	15.30	---	16.40	15.55	1.58	1.125	21.20	0.875	18.75	20.25	10	7/8	75 - 90	350	10	3/4 x 4.5	75 - 90	1	MG-14
16	SLDE16	49.67	17.40	---	18.50	17.54	1.77	1.21	23.74	0.875	21.00	22.50	12	7/8	75 - 90	350	12	3/4 x 4.5	75 - 90	1	MG-16
18	SLDE18	60.33	19.50	---	20.60	19.64	1.77	1.25	25.84	0.875	23.25	24.75	12	7/8	75 - 90	250	12	3/4 x 4.5	75 - 90	1	MG-18
20	SLDE20	69.00	21.60	---	22.70	21.74	1.87	1.25	27.94	0.875	25.50	27.00	14	7/8	75 - 90	250	14	3/4 x 5.0	75 - 90	1	MG-20
24	SLDE24	103.67	25.80	---	26.88	25.95	1.92	1.47	32.14	0.875	30.00	31.50	16	7/8	75 - 90	250	16	3/4 x 5.0	75 - 90	1	MG-24
30	SLDE30	158.67	32.00	---	33.29	32.17	2.13	1.65	39.30	1.125	36.88	39.12	20	1.00	115-125	250	20	1 x 6.5	100-120	1	MGS-30
36	SLDE36	234.50	38.30	---	39.59	38.47	3.15	1.75	46.07	1.125	43.75	46.00	24	1.00	115-125	250	24	1 x 6.5	100-120	1	MGS-36
42	SLDE42	344.00	44.50	---	45.79	44.67	3.56	2.25	53.25	1.38	50.62	53.38	28	1 1/4	115-125	250	28	1 1/4 x 8.0	120-150	1	MGS-42
48	SLDE48	456.00	50.80	---	52.09	50.97	3.81	2.25	59.55	1.38	57.5	60.26	32	1 1/4	115-125	250	32	1 1/4 x 8.0	120-150	1	MGS-48
54	SLDE54	1045.00	57.56	---	58.85	57.73	6.00	4.50	70.43	1.375	63.20	67.50	18	1 1/2	400 +/- 5	250	36	1 1/4 x 11.0	120-150	1	MGS-54
60	SLDE60	1136.00	61.61	---	62.90	61.78	6.00	4.50	74.52	1.375	67.72	72.00	18	1 1/2	400 +/- 5	250	36	1 1/4 x 11.0	120-150	1	MGS-60
64	SLDE64	1258.00	65.67	---	66.96	65.84	6.00	4.50	78.68	1.375	71.86	76.00	19	1 1/2	400 +/- 5	250	38	1 1/4 x 11.0	120-150	1	MGS-64

ONE-LOK SLDE was previously referred to as model SLD

P* Dim shows OD after head is broken/removed.
 Sizes 3"-12" is approved for thinnest class of DI pipe.

** Product is provided with SIGMASEAL™ improved mechanical joint gasket.*

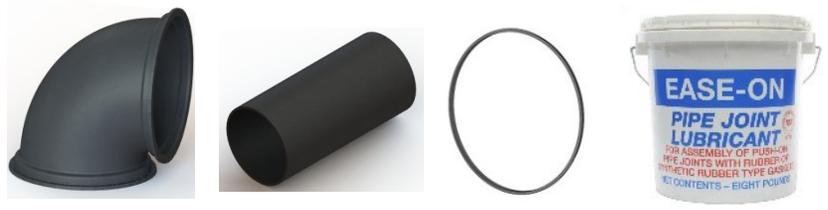
Sizes 3" - 14" are UL listed for 350 psi on DI Pipe
 Sizes 16" are UL listed for 300 psi on DI Pipe
 Sizes 18" - 30" are UL listed for 250 psi on DI Pipe
 Sizes 36" are UL listed for 200 psi on DI Pipe
 Sizes 42" and 48" are pressure rated at 250 psi on DI Pipe
 Sizes 54", 60" and 64" are pressure rated at 250 psi on DI Pipe
 Sizes 4" - 12" are FM approved for 175 psi on DI pipe.



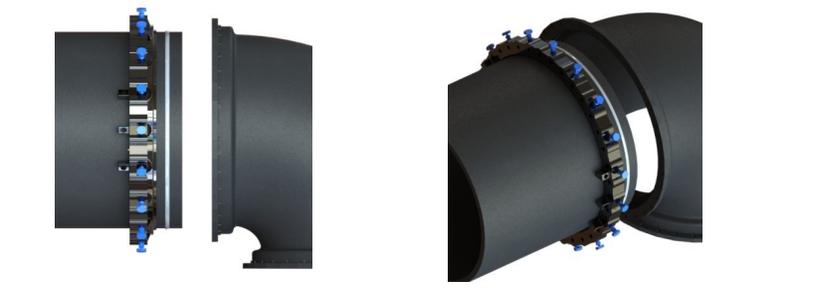
One Lok SLDE Wedge Action Restraint



1. Clean the fitting socket & pipe end. Lubricate mechanical joint gasket & pipe end with soapy water or approved lubricant meeting AWWA C111/A21.11. (A transition gasket is required if using on steel OD pipe)



2. Insert the One Lok SLDE Wedge Restraint on the pipe with the lip extension facing the pipe end followed by the gasket, tapered side toward end of the pipe.



3. Insert the gasket along with the pipe into the fitting socket and seat the gasket firmly and evenly into the gasket cavity, keeping the joint straight.

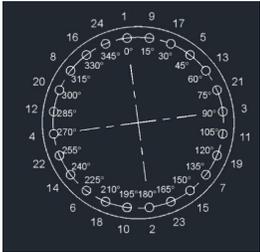
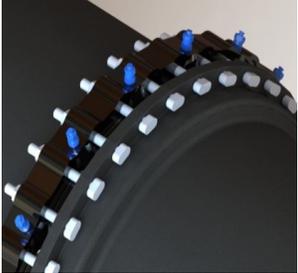


4. Push the One-Lok gland toward the fitting and center it around the pipe with the lip evenly against the gasket.



ONE-LOK™ Series SLDE for Ductile Iron Pipe

Installation Instructions for Wedge Action Restraint with PVC Pipe & Mechanical Joint Fitting (Continued)

<p>5. Insert the T-bolts with the T-head on the fitting side and nut on the restraint side, and hand tighten the nuts. Make the joint deflection as required keeping the wedge restraint centered on the pipe before torquing the T-Bolts.</p>		
<p>6. Tighten the nuts in an alternate method (STAR PATTERN) to the recommended torque of 45-60 ft-lbs for 3", 75-90 ft-lbs for 4" – 24", 100-120 ft-lbs for 30",36", 120 – 150 ft-lbs for 42",48", 54", 60" & 64" sizes, use of a torque indicating wrench is recommended to confirm the applied torque.</p>		
<p>7. Hand tighten each actuating bolt in a clockwise direction until contact is made between each wedge insert and the pipe OD. Continue tightening the actuating bolts in an alternate method (STAR PATTERN) until all the break-off tops have been removed. Never tighten actuating bolt more than 180 degrees before moving to the next bolt. Recommended Torque for actuating bolt – 75-90 ft-lbs for 3" – 24", 115 – 125 ft-lbs for 30",36",42",48", 400 +/- 5 ft-lbs for 54",60",64"</p>		

SIGMA SEAL GASKET (MGS) is recommended for One-Lok sizes 30",36",42",48",54",60",64"