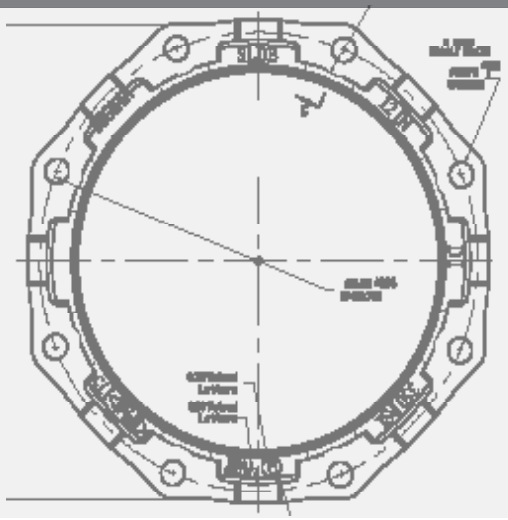
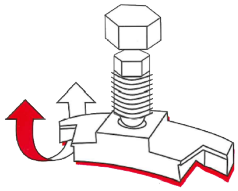
SIGMA™

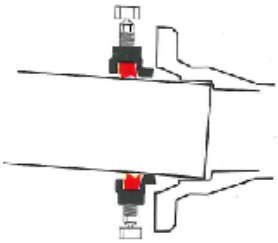
Quality – Service – Commitment – Delivered.

ONE-LOK™ Series SLDE for Ductile Iron Pipe





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

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.

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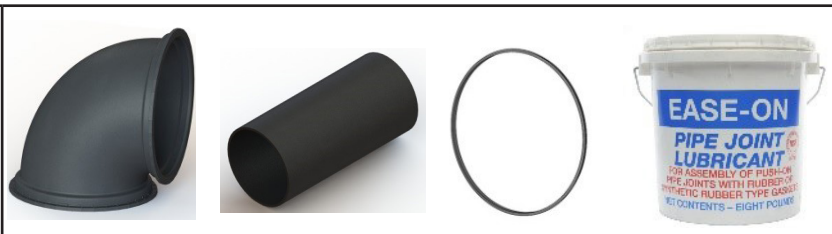
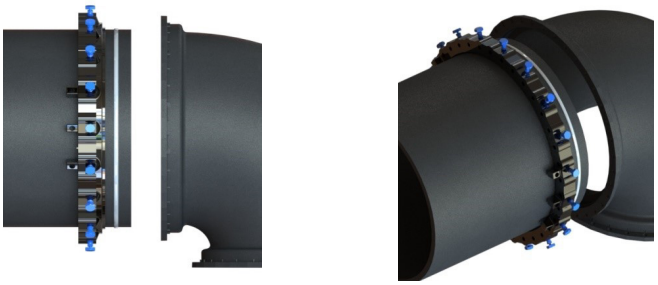
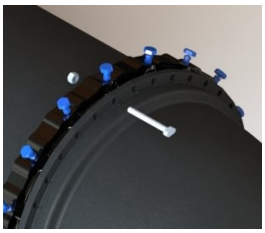
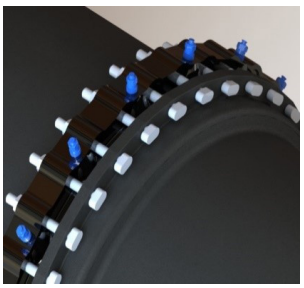
One Lok SLDE Wedge Action Restraint

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.	

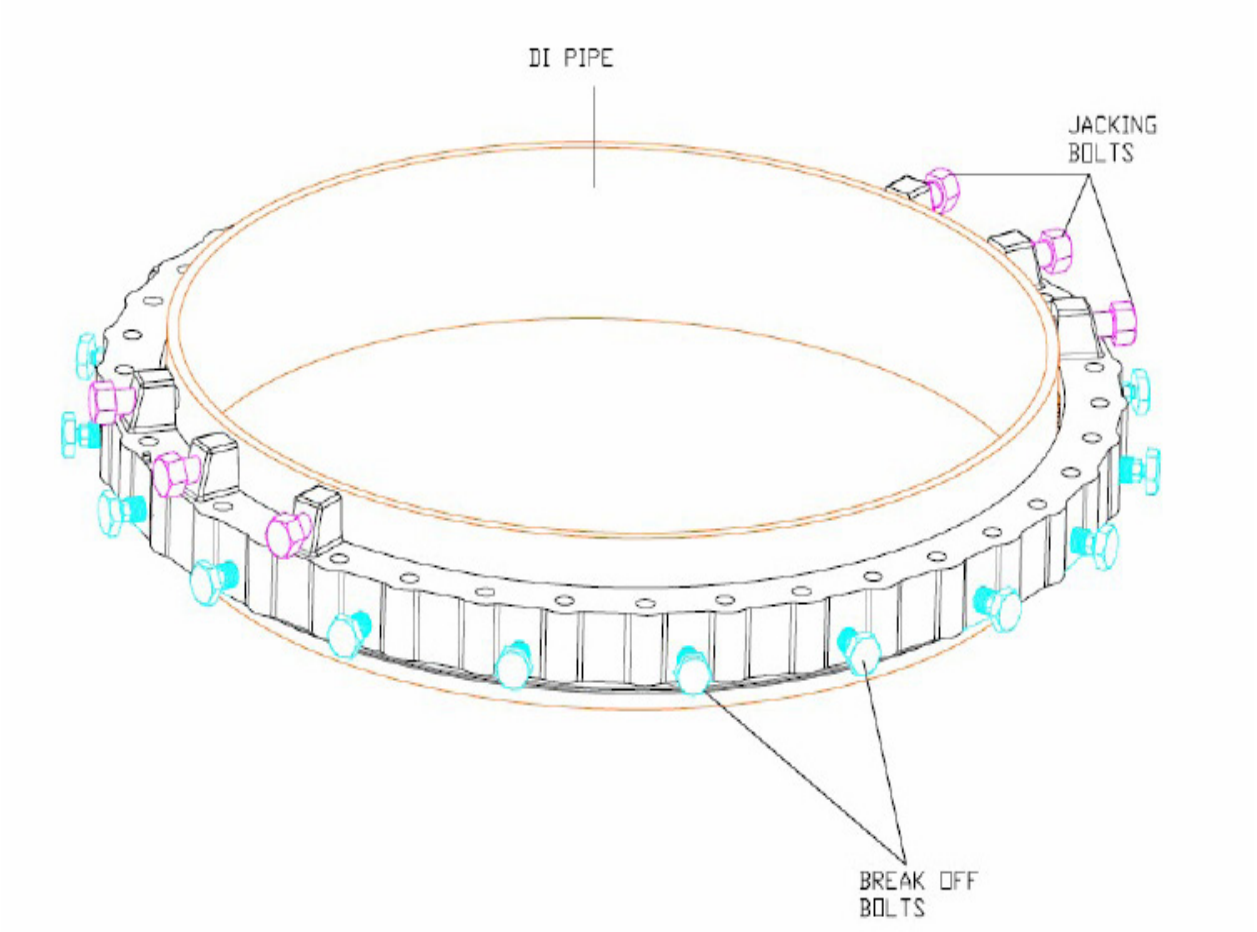
Installation Instructions for Wedge Action Restraint with PVC Pipe & Mechanical Joint Fitting (Continued)

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.	 
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.	 
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”	 

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

SLDE 42, 48, 54, 60 & 64" ONE-LOK™ Wedge Action Restraint for Ductile Iron Pipe "Re-Rounding" Feature

Sigma proudly announces an additional feature in the largest size of Restraints that has been developed in the industry for water works application. This feature has been designed and implemented to help the industry to re-round the pipe without using any external equipment during the installation of the joints using Ductile Iron pipes which is prone to have the OD out of round. By using this feature the installer/contractor will be able to bring the out of round pipe to a near round which will enable the spigot end of the pipe to fit into the MJ Bell of a fitting or bell. This feature contains 6 lugs with threads to accommodate hex bolts and they are located opposite to each other as shown below.



Instructions for using this feature:

1. Measure the OD of the pipe and identify the minimum & maximum diameter.
2. Insert the SLDE onto the pipe with the lugs positioned on the maximum diameter side.
3. Using the bolts provided in the lugs tighten them in alternating method till the diameter averages out and the pipe can be inserted on to the bell.
4. Once the pipe is inserted on to the bell the bolts can be backed off.
5. Please exercise caution that these bolts are normal Hex bolts and are painted BLACK to distinguish between the break off bolts which are painted BLUE.
6. These bolts can be either removed from the gland or left as these will be only used for re-rounding the pipe and not to be used during the installation of the SLDE.
7. Recommended installation instructions provided in the installation tag to be followed for installing the SLDE.