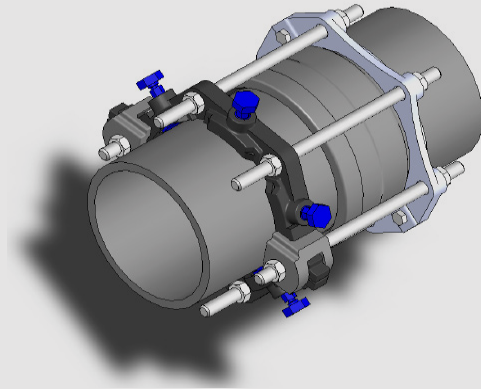
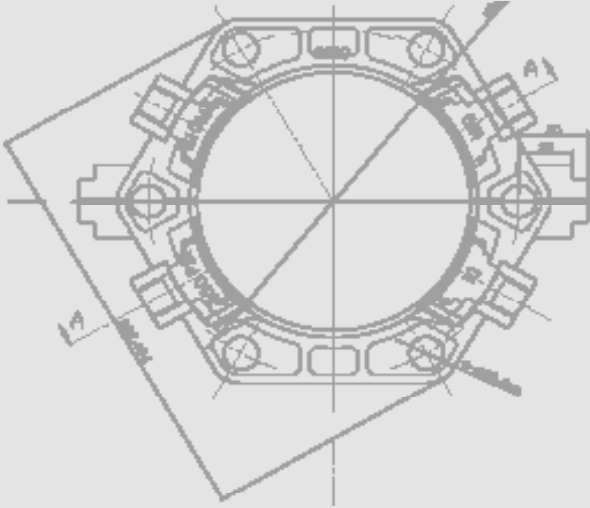


ONE-LOK™ Series SSLDH Split Gland Bell Harness for DIP



Features & Advantages:

1) SIGMA Model SSLDH is a restrained joint harness assembly for existing ductile iron pushon pipe bells. A split One-Lok wedge-action restraining gland is used to secure the ductile iron pipe spigot and connects with all-thread restraining rods and nuts to a two-piece back-up ring that seats against the ductile iron pipe bell. Model SSLDH allows for easy assembly since both the restraining gland and back-up ring can be rotated to provide easy and proper alignment of the restraining rods. The SSLDH restrainer set is ideal for upgrades or tie-ins to existing ductile iron pipe systems as the two-piece wedge gland and back-up ring provide today's restrained joint technology to pipelines that were not properly restrained during their initial installation.

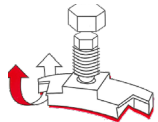
2) The SIGMA ONE-LOK Series SSLDH is a mechanical joint restraining gland that implements a series of individually activated wedges into the mechanical joint follower gland. When the wedge segment is engaged by the actuating bolt, the primary contact edges of each wedge segment lock onto the pipe wall.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

3) ONE-LOK SSLDH 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.

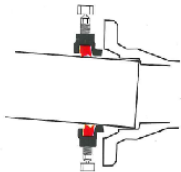
4) ONE-LOK SSLDH wedge actuating bolt provides the installer with a visual torque indicator. The breakaway top ensures proper engagement of the wedge segment at the time of installation. Unlike other actuating bolts, the ONE-LOK SLDEH is manufactured with a proprietary quality control system that ensures 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.



ONE-LOK™ SSLD series split gland design includes c-clamp with extra long T-bolts for added safety.



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
4-12"	SSLDH3-SSLDH12	5 deg
14-16"	SSLDH14-SSLDH16	2 deg
18-24"	SSLDH18-SSLDH24	1.5 deg
30-42"	SSLDH30-SSLDH42	1 deg

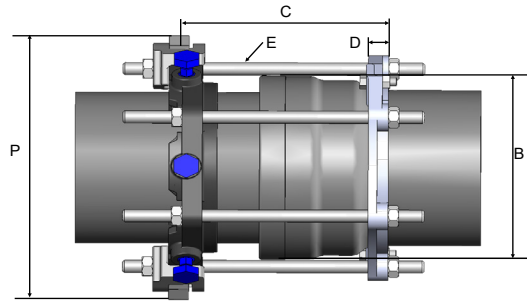
ONE-LOK™ Series SSLDH Split Gland Bell Harness for DIP

Sample Specification:

Existing ductile iron push-on pipe bell joints shall be restrained using a split wedge-action restraining gland on the ductile iron pipe spigot and connected to a two-piece back-up ring located against the pipe bell using all-thread restraining rods and nuts. The wedge-action restraining gland, wedge segments, break-off top actuating bolts and two-piece back-up ring shall be manufactured of high strength ductile iron in accordance with ASTM A536, Grade 65-45-12. Wedge inserts shall be heat treated to 370 BHN minimum. Restraining all-thread rods and nuts shall be manufactured of high strength, low alloy steel in accordance with AWWA/ANSI A21.11/C111. 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 torque of the breakaway top. The pressure rating capacity of the restraining harness must be equal to the water working pressure rating of the ductile iron pipe joints upon which they are installed. Restrained joint harness shall be SIGMA Corporation Model SSLDH or approved equal.

Material:

- 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

Size	Item #	Pressure Rating	Max. Pipe Bell OD (B in)	Dim C	Dim P (Casting Clearance)	Dim D	POB Harness Accessories (E)									Weight of SG+One-Lok SSLD+Rod (lb)
							# of One-Lok SSLD	# Split Gland (SG)	# Bolts & Nut for SG	Size of Clamping Bolt and Nut	# Restraint Rods	Restraint Rod Size x Length	# of Nuts (Size)	Size of Washers	# of Washers	
4	SSLDH4	350	6.62	14	10.24	0.75	1	1	2	1/2-13UNC x 1.50	4	3/4 x 17	8	NA	22.5	
6	SSLDH6	350	8.62	14	12.34	0.88	1	1	2	1/2-13UNC x 1.50	6	3/4 x 17	12	NA	32.5	
8	SSLDH8	350	10.88	14	14.32	1.00	1	1	2	1/2-13UNC x 1.50	6	3/4 x 17	12	NA	39.9	
10	SSLDH10	300	13.12	20	16.54	1.00	1	1	2	1/2-13UNC x 1.50	8	3/4 x 24	16	NA	55	
12	SSLDH12	300	15.38	20	18.80	1.50	1	1	2	3/4-10UNC x 3.00	8	3/4 x 24	16	NA	78.7	
14	SSLDH14	300	17.88	22	21.20	3.00	1	1	4	7/8-9UNC x 6.25	6	3/4 x 24	12	2 x 2 x 1/4	6	109.8
16	SSLDH16	300	20.12	22	23.74	3.50	1	1	4	7/8-9UNC x 6.25	6	3/4 x 24	12	2 x 2 x 1/4	6	161.5
18	SSLDH18	250	22.38	22	25.84	4.25	1	1	4	1.00-8UNC x 6.25	8	3/4 x 24	16	2 x 2 x 1/4	8	182.1
20	SSLDH20	250	24.62	22	29.06	5.00	1	1	4	1.25-9UNC x 6.25	8	3/4 x 24	16	2 x 2 x 1/4	8	221
24	SSLDH24	250	29.12	26	34.64	3.00	1	1	4	1.00-8UNC x 5.00	10	3/4 x 30	20	2 x 2 x 1/4	10	284
30	SSLDH30	250	35.75	26	41.80	3.00	1	1	4	1.00-8UNC x 5.00	10	1 x 30	20	2.5 x 2.5 x 5/16	10	482
36	SSLDH36	250	42.62	26	49.04	3.00	1	1	4	1.00-8UNC x 5.00	12	1 x 30	24	2.5 x 2.5 x 5/16	12	600
42	SSLDH42	200	49.37"	30	55.6"	4.10	1	1	4	1 1/4-7 UNC x 6	12	1 1/4 x 48	24	3 x 3 x 3/8	12	941

Notes

- All dimensions are in inches and weights in lb
- Weight may vary by +/- 1%

INSTALLATION INSTRUCTIONS – ONE-LOK™ SERIES SSLDH SPLIT BELL HARNESS FOR DUCTILE IRON PIPE

1. Install the split back-up gland behind the ductile iron pipe bell by tightening the clamping bolts to the recommended torque specification.
2. Remove the side brackets and bolts from the split One-Lok wedge action restraining gland. Install the two halves on the spigot end of the pipe with the lip facing the pipe bell and using the brackets & bolts, install the threaded restraining rods aligned to the matching bolt holes in the split back-up gland. Insert the remaining threaded restraining rods, placing one nut behind the split wedge restrainer gland and one nut behind the split back-up gland. Washers are provided and required for use on sizes 14”-36” behind the split back-up gland.
3. Pull the wedge-action restraining gland on the spigot pipe away from the pipe bell until the back-up gland seats evenly against the pipe bell slope. Alternately, hand-tighten the break-off top actuating bolts until contact is made between each wedge segment and the ductile iron pipe wall.
4. Alternately tighten the break-off top bolts in a STAR pattern until the heads fracture, locking the wedge-action restraining gland against the pipe wall. Snug both retaining nuts to ensure a sound assembly.

Size	Item #	Torque (ft-lb) for Split Gland Side Clamping Bolt
4	SSLDH4	65
6	SSLDH6	65
8	SSLDH8	65
10	SSLDH10	65
12	SSLDH12	65
14	SSLDH14	130
16	SSLDH16	130
18	SSLDH18	130
20	SSLDH20	130
24	SSLDH24	130
30	SSLDH30	130
36	SSLDH36	130
42	SSLDH42	130

LOCATIONS

Northeast Region

Cream Ridge, New Jersey (HQ)

700 Goldman Drive
Cream Ridge, NJ 08514
Phone (800) 999-2550
crmcsr@sigmaco.com

REPCO

51 Rue Gingras
Warwick, QC J0A 1M0
Phone (888) 744-6262
jbourcher@repco.ca

Concord Supply

2353 Bowman Street
Innisfil, Ontario L9S 3V6
Phone (877) 436-3800
tanya@concordsupply.ca

Midwest Region

Sauk Village, Illinois

21699 Torrence Avenue
Sauk Village, IL 60411
Phone (888) 999-0420
chicrs@sigmaco.com

Denver, Colorado

22700 I-76 Frontage Rd
Brighton, CO 80603
Phone (888) 999-0420
dbrugger@sigmaco.com

Southeast Region

Alexander City, Alabama

1500 Highway 22 W
Alexander City, AL 35010
Phone (800) 824-4513
alxcsr@sigmaco.com

Southwest Region

Houston, Texas

5000 Askins Lane
Houston, TX 77093
Phone (800) 999-0109
htncsr@sigmaco.com

Western Region

Ontario, California

4652 E. Guasti Road
Ontario, CA 91761
Phone (800) 688-6230
ontcsr@sigmaco.com

Auburn, Washington (Branch)

902 W Main Street
Auburn, WA 98001
Phone (800) 688-6230
ontcsr@sigmaco.com

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AWWA Ductile Iron Fittings



- 2-64" C153 Ductile Iron Mechanical Joint Fittings
- 2-48" C110 Ductile Iron Mechanical Joint Fittings
- 2-64" C110 Ductile Iron Flanged Fittings
- 3-24" C153 Ductile Iron Push-On Fittings
- 4-24" C110 Ductile Iron Push-On Fittings
- 3-36" Ductile Iron Mechanical Joint Connector
- C116 Fusion Bonded Epoxy Lining Available
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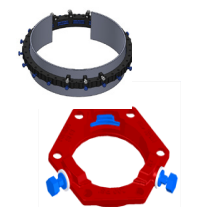
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Mechanical Joint Accessories



- Prepackaged and Loose Mechanical Joint Accessories
- SIGMASEAL™ Improved Mechanical Joint Gasket
- Snap-On Multi-Purpose Gasket for Ductile Iron or PVC Pressure Pipes
- OMNI-SLEEVE™ Improved Wall Penetration Sleeve
- Specialty Bolts and Nuts for Mechanical Joint Assemblies

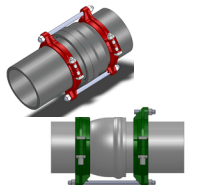
ONE-LOK™ Wedge Action Restraints



- 3-48" ONE-LOK D-SLDE Domestic Wedge Restraint for Ductile Iron Pipe
- 3-64" ONE-LOK SLDE Wedge Restraint for Ductile Iron Pipe (Import)
- 4-48" ONE-LOK T-SLDE Tandem Wedge Restraint for High Pressure Ductile Iron Pipe
- 3-36" ONE-LOK D-SLCE Domestic Wedge Restraint for PVC Pipe
- 3-12" ONE-LOK SLC Wedge Restraint for PVC Pipe (Import)
- 3-60" ONE-LOK SLCE Wedge Restraint for PVC Pipe (Import)
- 3-42" ONE-LOK SLDEH Wedge Harness Restraint for Ductile Iron Pipe
- 4-12" /16" /20" ONE-LOK SLDM Wedge Restraint for Oversized Cast Iron Pipe
- 4-48" ONE-LOK SSLD Split Wedge Restraint for Installed Ductile Iron Pipe & Fitting
- 4-36" ONE-LOK SSLDH Split Wedge Harness Restraint for Installed Ductile Iron Pipe
- 4-12" ONE-LOK SLCEH Wedge Harness Restraint for AWWA C900 PVC Pipe

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PV-LOK™ Serration Lock Restraints



- 4-48" PV-LOK PWM Serrated Restraint for Ductile Iron Fitting & AWWA C900/905 PVC Pipe
- 4-48" PV-LOK PWP Serrated Bell Joint Restraint for AWWA C900/905 PVC Pipe
- 4-12" PV-LOK D-PWP Domestic Serrated Bell Joint Restraint for AWWA C900 PVC Pipe
- 4-12" PV-LOK PVPF Restraint for AWWA C900/905 PVC Pipe & PVC Fitting
- 4-12" PV-LOK PWH Serrated Harness Restraint for AWWA C900 PVC Pipe
- 2-12" PV-LOK PVM Serrated Restraint for Ductile Iron & IPS OD PVC pipe
- 2-12" PV-LOK PVP Serrated Bell Joint Restraint for IPS OD PVC Pipe
- 2-8" PV-LOK PVPF Serrated Restraint for IPS OD PVC Pipe & PVC Fitting
- 4-12" PV-LOK PWP Serrated Bell Joint Restraint for Ductile Iron Pipe

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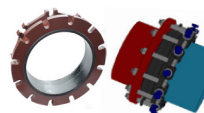
- 3-64" High Hub Threaded Flanges
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- 3-36" SIGMAFLANGE Flange Adapter Sleeve for PVC and Ductile Iron Pipe
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