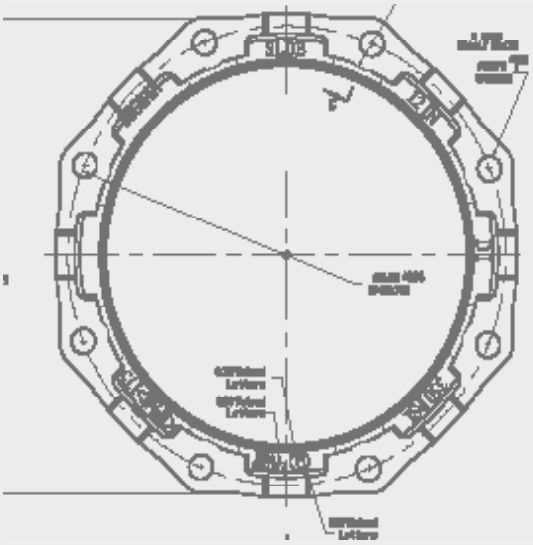
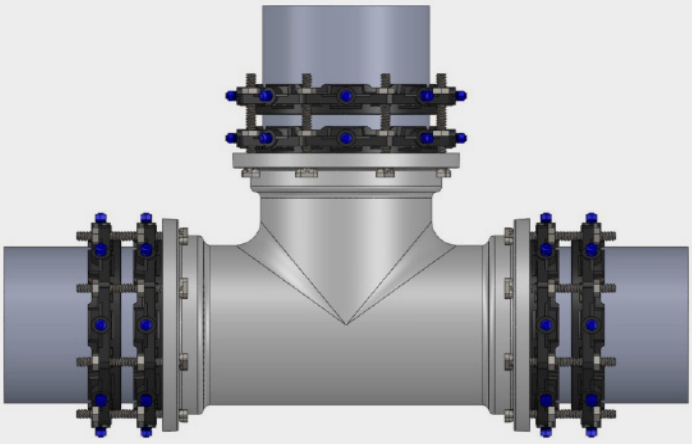
SIGMA™

Quality – Service – Commitment – Delivered.

ONE-LOK™ Tandem T-SLDE Restraint for High Pressure Ductile Iron Pipe





ONE-LOK Model T-SLDE

Tandem Wedge-Action Restraint for High Pressure Mechanical Joint Connections to Ductile Iron Pipes

Features & Advantages:

1) Available in sizes 4” through 48”for ductile iron pipe.

2) Provides high pressure ductile iron pipeline capacity.

3) Incorporates machined break-off top actuating bolts for precise and consistent fracture.

4) SigmaSeal™ mechanical joint gaskets provided with each nominal restraint assemblies to accommodate the pressure ratings and applicable safety factors.

5) Minimum 2:1 factor of safety on all nominal sizes.

6) Uses high strength, low alloy t-head bolts and threaded restraining rods with heavy hex nuts in accordance with AWWA/ANSI A21.11/C111 – latest revision.

SIGMA Corporation
700 Goldman Drive
Cream Ridge, NJ 08514
800 999 2550 p
609 758 1163 f
crm-sales@sigmaco.com
www.sigmaco.com

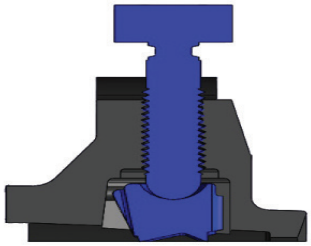
ONE-LOK™ Tandem T-SLDE Restraint for High Pressure Ductile Iron Pipe

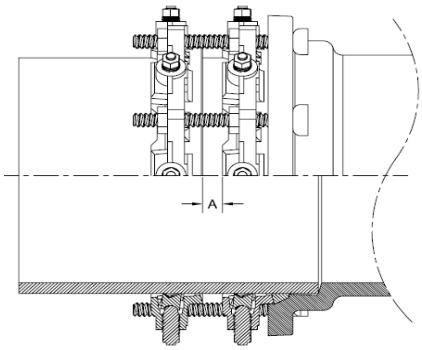
Sample Specification:

Proper restraint of high pressure ductile iron pipelines shall consist of two wedge-action restraining glands used to secure the ductile iron plain-end pipe to a mechanical joint fitting or appurtenance. The restraining glands, wedge segments and break-off top actuating bolts shall be manufactured in accordance with ASTM A536, grade 65-45-12. Wedge segments shall be heat-treated to a minimum hardness of 370 BHN. The restraining glands shall incorporate the required extra-long t-head bolts/ heavy hex nuts or threaded restraining rods/heavy hex nuts in accordance with AWWA/ANSI A21.11/C111. The restraining glands shall provide a minimum 2 to 1 factor of safety and be Sigma Tandem Series T-SLDE or approved equal.

Materials:

- Gland body, brackets, or restraining rods & nuts, 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

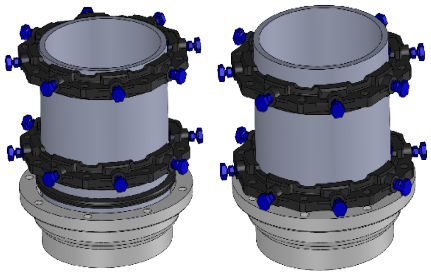
NOMINAL PIPE SIZE	PART #	WEIGHT/ LBS	PIPE OD	DIMENSION "A" (IN)	INSERTS	BREAK-OFF BOLTS		T-BOLTS & NUTS ***				Custom Washer		Pres-sure Rating
					NO	SIZE	TORQUE	SIZE (IN)	QTY	SIZE	QTY	SIZE	QTY	
4	T-SLDE 4	13	4.80	1.0	4	7/8	80 -90 ft-lbs	3/4 x 7	4	3/4"	8	---	---	700 PSI
6	T-SLDE6	20	6.90	1.0	6	7/8	80 -90 ft-lbs	3/4 x 7	6	3/4"	12	---	---	700 PSI
8	T-SLDE 8	29	9.05	1.0	8	7/8	80 -90 ft-lbs	3/4 x 7	6	3/4"	12	---	---	700 PSI
10	T-SLDE 10	46	11.10	1.0	12	7/8	80 -90 ft-lbs	3/4 x 7	8	3/4"	16	---	---	700 PSI
12	T-SLDE 12	58	13.20	1.0	16	7/8	80 -90 ft-lbs	3/4 x 7	8	3/4"	16	---	---	700 PSI
14	T-SLDE 14	79	15.30	1.0	20	7/8	80 -90 ft-lbs	3/4 x 7	10	3/4"	20	---	---	700 PSI
16	T-SLDE 16	99	17.40	1.0	24	7/8	80 -90 ft-lbs	3/4 x 9	12	3/4"	24	---	---	700 PSI
18	T-SLDE 18	121	19.50	1.0	24	7/8	80 -90 ft-lbs	3/4 x 9	12	3/4"	24	---	---	400 PSI
20	T-SLDE 20	138	21.60	1.0	28	7/8	80 -90 ft-lbs	3/4 x 9	14	3/4"	28	---	---	400 PSI
24**	T-SLDE 24	207	25.80	1.0	32	7/8	80 -90 ft-lbs	3/4" x 11"	16	3/4"	48	SW2	32	400 PSI
30**	T-SLDE 30	317	32.00	1.0	40	1	115-125 ft-lbs	1" x 13"	20	1"	60	SW25	40	350 PSI
36**	T-SLDE 36	469	38.30	1.0	48	1	115-125 ft-lbs	1" x 13"	24	1"	72	SW25	48	350 PSI
42**	T-SLDE 42	688	44.50	1.0	56	1 1/4	115-125 ft-lbs	1 1/4" x 15"	28	1 1/4"	84	SW125	56	350 PSI
48**	T-SLDE 48	912	50.80	1.0	64	1 1/4	115-125 ft-lbs	1 1/4" x 15"	32	1 1/4"	96	SW125	64	350 PSI

Sigma Seal gasket is provided for high pressure applications

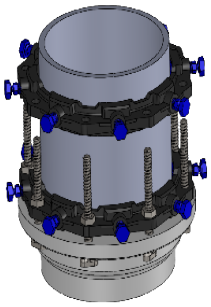
Threaded Rods are provided for Sizes 24" - 48" in place of T-Bolts

**** Custom Washers are required for Sizes 24" - 48" and needs to be either field cut or supplied with modification*

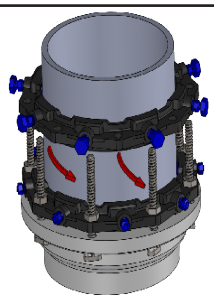
SIGMA One-Lok Series T-SLDE Tandem Restraint Installation Instructions:



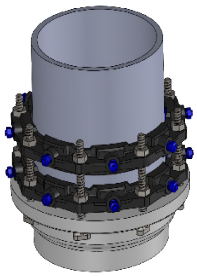
1.) Clean fitting socket and pipe end. Lubricate gasket and pipe end with soapy water or approved pipe lubricant meeting AWWA C111. Install both Sigma One-Lok Model SLDE wedge –action restraining glands onto the end of the plain-end pipe so that the frontal lips of both glands face the pipe end. Follow the glands with a SigmaSeal™ gasket. Insert the pipe end into the socket and press the SigmaSeal™ gasket firmly and evenly into the gasket recess in the mechanical joint fitting cavity, while maintaining a straight joint throughout the installation.



2.) Slide the wedge gland closest to the pipe end up against the gasket with the frontal lip and insert the extra-long t-head bolts or threaded restraining rods with heavy hex nuts. Hand-tighten the t-head bolts or restraining rods evenly and make any necessary deflection after joint assembly but prior to tightening the bolts. Tighten the bolts in an alternate manner (star pattern) around the gland to the recommended torque (3 inch 45-60 ft-lbs., 4-24 inch 75-90 ft-lbs., 30-36 inch 100-120 ft-lbs. and 42-48 inch 120-150 ft-lbs). Maintain an even distance between the restraint gland and fitting face throughout the tightening of the bolts or restraining rods. The use of a torque-indicating wrench is recommended, keeping in mind that 30-48 inch assemblies may require repeated repetitions to ensure proper torque.



3.) Hand-tighten the break-off top actuating bolts until contact is made between each wedge insert and the pipe wall. Continue tightening the break-off bolts in an alternate manner (star pattern) until all of the break-off tops have been fractured. Slide the 2nd wedge restraint gland up and rotate accordingly to allow the t-head bolts or restraining rods to pass through the corresponding bolt holes, keeping a 1” space (dimension A in technical chart) between the two wedge-action restraint glands.



4.) Install an additional heavy hex nut on the backside of the second gland, hand-tighten and then snug each nut ½-1 turn with a wrench. Hand-tighten each break-off top actuating bolt until contact is made between the wedge insert and the pipe wall. Continue tightening the break-off bolts in an alternate manner (star pattern) until all of the break-off tops have been fractured.

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
jboucher@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
chicsr@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

www.sigmaco.com
Terms and Conditions of Sales available at our website.

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
- PROTECTO 401® Ceramic Epoxy Lining Available

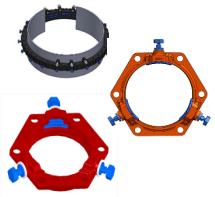
Visit our website for available special coatings. https://www.sigmaco.com/fittings

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

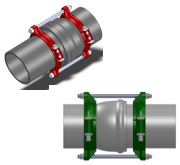
ONE-LOK™ Wedge Action Restraints



- 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
- 3-12” ONE-LOK Series SLO

Visit our website for available special coatings. https://www.sigmaco.com/restraints

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 PWPF 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

Visit our website for available special coatings. https://www.sigmaco.com/restraints

HDPE (Raven) Products



- Rotational Molded Meter Boxes & Pits
- Optional White Interior Available
- Light & Medium Duty Load Capacities
- Extensive Nationwide Inventory
- Rotational Molded Oil-Water Separators
- OEM Service Available

Municipal Construction Castings



- Manhole Rings and Covers
- Curb and Meter Boxes
- Frames and Grates
- Storm Inlets
- Valve Boxes, Risers, and Extensions

Products for the Ductile Iron Fabricator



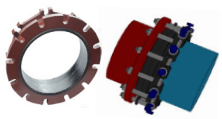
- 3-64” High Hub Threaded Flanges
- 3-48” Tapped High Hub Threaded Flanges
- 3-36” Extra Heavy 250lb Drilled Threaded Flanges
- 3-48” Threaded MJ Bell Adapters
- 3-48” MJ x PE Bell adapter
- 3-48” Anchor Flanges
- 3-16” Filler Flanges

Extended Range Products



- Flange-Pak™ Prepackaged Flange Accessory Sets
- Polyethylene Encasement for Ductile Iron Pipe
- Copper Tubing Products
- Tracer Wire & Detectable/Non-Detectable Marking Tape
- Pipe Joint Lubricant & Hydraulic Cement
- Socket Clamps and Tie Rod Accessories
- Boxlok Valve Box Alignment Device
- Cast Iron Companion Flanges

Flange Adapters



- 3-36” SIGMAFLANGE Flange Adapter Sleeve for PVC and Ductile Iron Pipe
- 2-12” ZIP FLANGE Set Screw Style Flange Adapter
- 3-36” SIGMAFLANGE Universal Joint for Flanged Fittings, Flanged Pipes & Valves

TRIM-TYTON and TYTON are registered trademarks of the United States Pipe and Foundry Company • PROTECTO 401 is a registered trademark of Induron, Inc.

© May 2024 SIGMA Corporation All rights reserved.