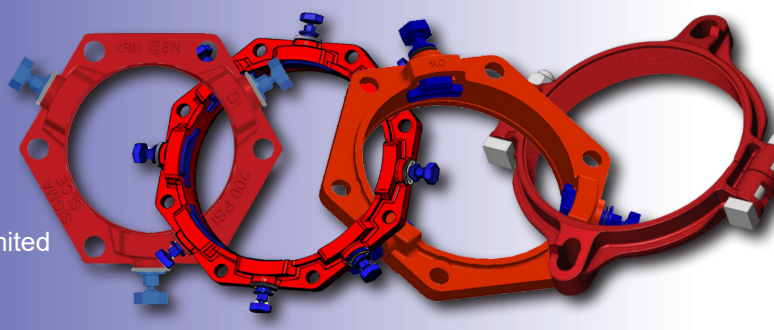
SIGMA®

Quality – Service – Commitment – Delivered.

ONE-LOK™ & PV-LOK™ Series SLCE/ SLCS/PWP-C/PWM-C Pipe Restraint for AWWA C909 PVC Pipe



Description

The ONE-LOK™ Pipe Restraint Systems can successfully be used for the restraint of Molecular Oriented PVC Pipes manufactured in accordance with AWWA C909. Rated pressure of the restraint is limited to the rated pressure of the PVC pipe

Product Sizes Available

SLCS: 4”-12”

PWP-C/SLCE/PWM-C: 4” - 30”

Features

- Use the SIGMA ONE-LOK Series SLCS/ SLCE restraint for AWWA C909 pipe at mechanical or push-on joint ductile iron fittings.
- The assembled joint shall maintain the maximum flexibility and deflection of all nominal pipe sizes after burial.
- Use the SIGMA Series PV-LOK restraint for AWWA C909 pipe at mechanical or pipe bell and spigot joints.

Sample Specification for C909 Restraint

- 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.
- 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.
- Dimensions shall be compatible with standardized mechanical joints conforming to the requirements AWWA C111/ANSI A21.11 and AWWA C153/ ANSI 21.53 (latest revision).
- Breakaway tops shall be incorporated in the design of the actuating bolt 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 235psi minimum and provide no less than a safety factor of 2:1. Restraint shall be FM approved in applicable sizes. Restraining device shall be SIGMA ONE-LOK™ or approved equal.

Materials

- Clamping ring is manufactured of high strength ductile iron in accordance with ASTM A536, grade 65-45-12
- Side clamping bolt and hex nuts are high strength steel in accordance with ASTM A449 and zinc plated to B633, Type III Sc.1 for corrosion resistance.
- Extra long T-head bolts and nuts are high strength, low alloy steel in accordance with AWWA/ ANSI C111/A21.11. Restraining rods and heavy hex nuts are of high strength, low alloy steel in accordance with AWWA/ ANSI C111/A21.11. T-head bolts and restraining rods provide minimum 45,000 psi yield and 60,000 psi tensile strength.

UL LISTED

FM APPROVED

700 Goldman Drive, Cream Ridge, NJ, 08514 | 800.999.2550 | Contact your regional sales office https://www.sigmaco.com/regional-teams

Technical Details

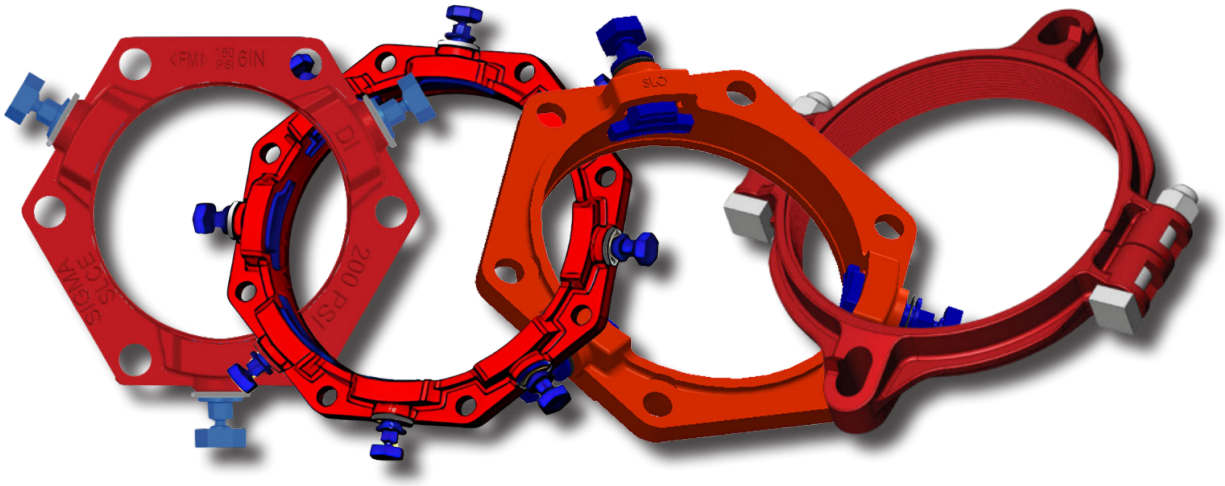
ONE-LOK™ & PV-LOK™ Series SLCE/SLCS/ PWP-C/PWM-C Pipe Restraint for AWWA C909 PVC Pipe

SIGMA®
Quality – Service – Commitment – Delivered.

Pressure Rating Chart:

Nominal Pipe Size	One Lok		PV-LOK		Pressure Rating	
	SLCE	SLCS	PWM-C	PWP-C	165 psi	235 psi
4	SLCE4	SLCS4	PWM-C4	PWP-C4	165	235
6	SLCE6	SLCS6	PWM-C6	PWP-C6	165	235
8	SLCE8	SLCS8	PWM-C8	PWP-C8	165	235
10	SLCE10	SLCS10	PWM-C10	PWP-C10	165	235
12	SLCE12	SLCS12	PWM-C12	PWP-C12	165	235
14	SLCE14	---	PWM-C14	PWP-C14	165	235
16	SLCE16	---	PWM-C16	PWP-C16	165	235
18	SLCE18	---	PWM-C18	PWP-C18	165	235
20	SLCE20	---	PWM-C20	PWP-C20	165	235
24	SLCE24	---	PWM-C24	PWP-C24	165	235
30	SLCE30	---	PWM-C30	PWP-C30	165	235

For higher pressure rating please contact SIGMA.



700 Goldman Drive, Cream Ridge, NJ, 08514 | 800.999.2550 | Contact your regional sales office https://www.sigmaco.com/regional-teams

Installation Instructions
PV-LOK™ PWM on C909 Pipe

SIGMA®
Quality – Service – Commitment – Delivered.

1. Install plain-end PVC pipe into the mechanical joint bell. Insert one of the extra-long T-bolts provided with Series PWM through one of the bolt holes, marking a reference line on the pipe approximately 1 to 2 inches from the end of the bolt.
2. Assemble the MJ gland, gasket and bolts to AWWA standards. Assemble PWM clamping ring on the pipe at the reference line. Tighten the side clamping bolts to recommended torque. The protrusions on the restrainer ears must face the fitting to insure proper direction of the angled serrations. Line up the ears with the corresponding MJ bolt holes.
3. Insert the extra-long T-bolts and install one nut each between the gland and the clamping ring. Tighten the nuts against the MJ gland to AWWA standards to complete the gasketed assembly.

Caution: Overtighting T-bolts may compromise the integrity of joint.

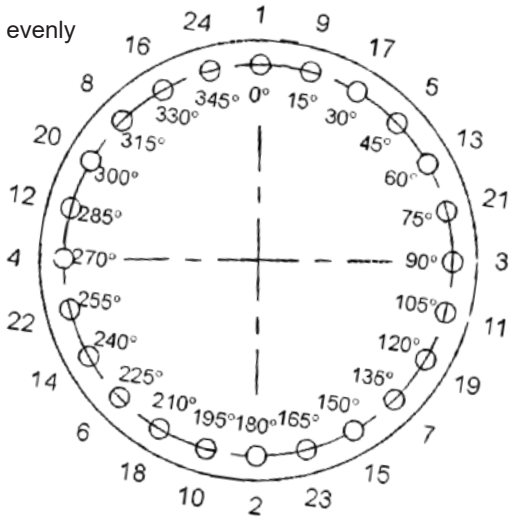
4. Snug the retaining nuts behind the restrainer ears (against the flat surface). Do not over-tighten retaining nuts, approximately one turn with a wrench.

Installation Instructions
PV-LOK™ PWP on C909 Pipe

1. Assemble plain-end PVC pipe into bell according to pipe manufacturer's recommendations.
2. Assemble the Series PWP clamping rings on the spigot pipe (approx. 2 inches behind the insertion mark on the pipe) and immediately behind the pipe bell end, making sure the protrusions on the restrainer ears face toward each other to insure proper direction of the angled serrations. Tighten the side clamping bolts to recommended torque.
3. Insert the restrainer rods provided and snug the retaining nuts against the restrainer ears (against the flat surface). Do not overtighten retaining nuts, approximately one turn with a wrench.

Installation Instructions
ONE-LOK™ SLCE/SLCS on C909 Pipe

1. Clean the fitting socket & pipe end. Lubricate mechanical joint gasket & pipe
2. Install the ONE-LOK SLCE 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.
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 required joint deflection as required, keeping the wedge restraint centered on the pipe prior to tightening 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" and 36", 120–150 ft-lbs for 42", 48", 54" and 60" 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 of 45-55 ft-lbs for 3", 50-60 ft-lbs for 4"-12", 55-65 ft-lbs for 14"-24", 65-75 ft-lbs for 30"-48", 105-115 ft-lbs for 54" and 60".



700 Goldman Drive, Cream Ridge, NJ, 08514 | 800.999.2550 | Contact your regional sales office https://www.sigmaco.com/regional-teams