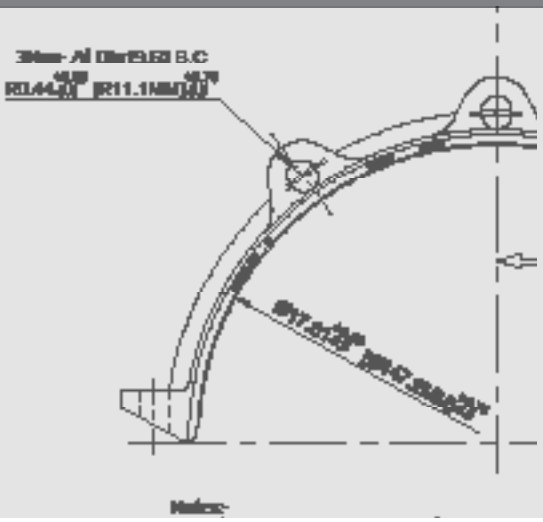
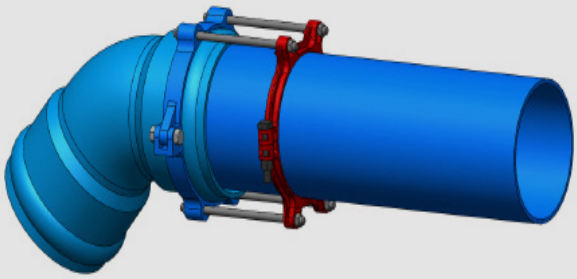
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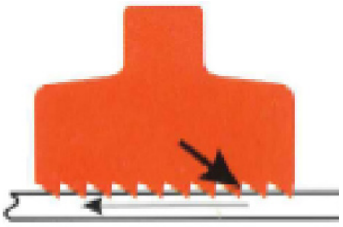
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PV-LOK™ Series PWPF for PVC Fitting Restraint (CIOD)









Cross Section of PV-LOK illustrates directional grip of serrations to maximize restraint of PVC pipe.

UNI-B-13-94

FM APPROVED

Features & Advantages:

The PV-LOK™ Series PWPF restrainer incorporates a series of machined serrations that effectively engage PVC pipe walls, to provide positive joint security and full support of the pipe. The directional gripping action maximizes restraint during increased line pressures such as those resulting from surges and water hammers. The Series PWPF incorporates a PV-LOK clamping ring, restraining rods, and two piece beveled back up ring for the PVC fitting to provide the necessary joint restraint.

Sample Specification:

Restraint devices for joining plain end PVC pipe to gasketed PVC pressure fittings shall consist of a split clamping ring that incorporates a series of machined serrations (not “as cast”), providing positive restraint, exact fit and full support of the pipe wall. Restraining rods and nuts shall connect the restrained pipe end to a two-piece, beveled backup ring that seats comfortably behind the PVC gasketed fitting bell. In applicable sizes, the interlocking ear or two piece design on the back-up ring shall provide tongue-and-groove seating to eliminate flexing under increased pressure and surges. In applicable sizes, the multi-part back-up ring shall utilize side clamping bolts to assemble behind the fitting bell. Devices shall carry a minimum 2:1 safety factor and meet or exceed the recognized testing standards for restrained joints on PVC pressure pipe and offer factory certification and independent test results. Restraint devices for joining PVC pipe to PVC gasketed pressure fittings shall be SIGMA PV-LOK™ Series PWPF or approved equal.

Material:

- Serrated Clamping Ring and beveled backup ring: ASTM A536 65-45-12 ductile iron.
- Side Clamping Bolts and Hex Nuts: ASTM A449 high strength steel, zinc-plated.
- Restraining Rods and Hex Nuts: High strength low alloy steel (AWWA/ANSI C111/A21.11) 45,000 psi yield / 60,000 psi tensile.

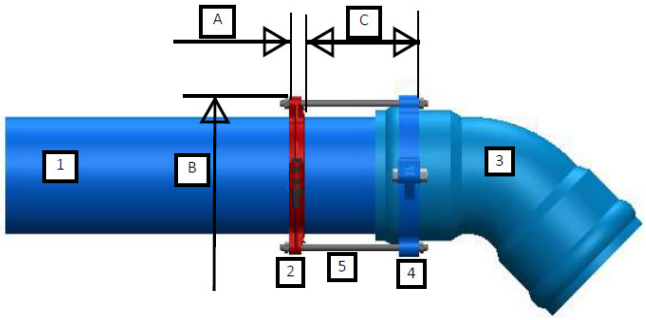
SIGMA Corporation

700 Goldman Drive
Cream Ridge, NJ 08514

800 999 2550 p
609 758 1163 f
crmcsr@sigmaco.com

www.sigmaco.com

PV-LOK™ Series PWPF for PVC Fitting Restraint (CIOD)



1. Plain End PVC Pipe
2. PV-LOK Restrainer Clamp
3. PVC Fitting
4. PWPF Beveled Back-up Ring
5. Restraining Rod

Dimensions in Inches, Weights in Pounds:

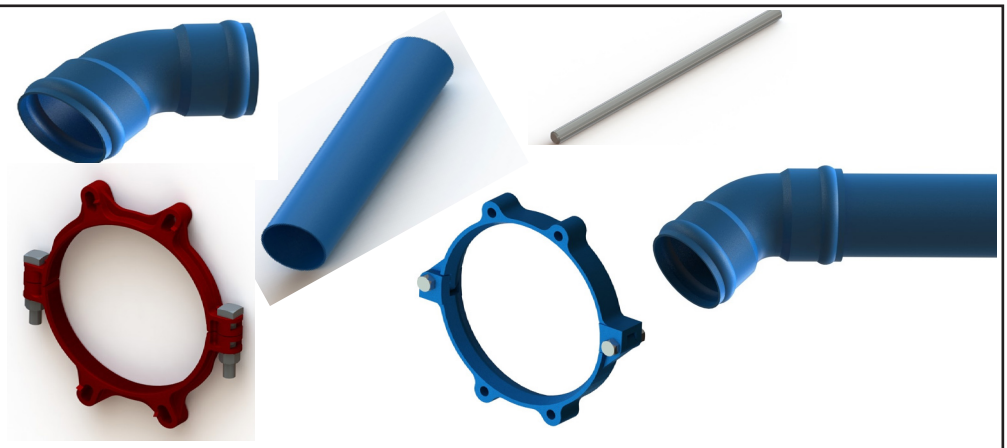
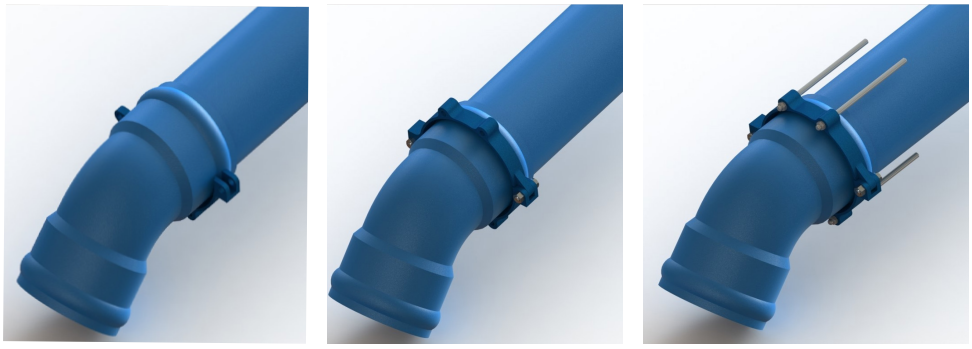
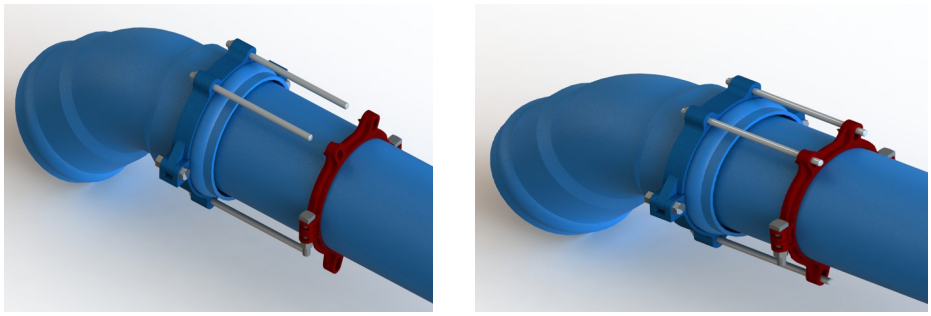
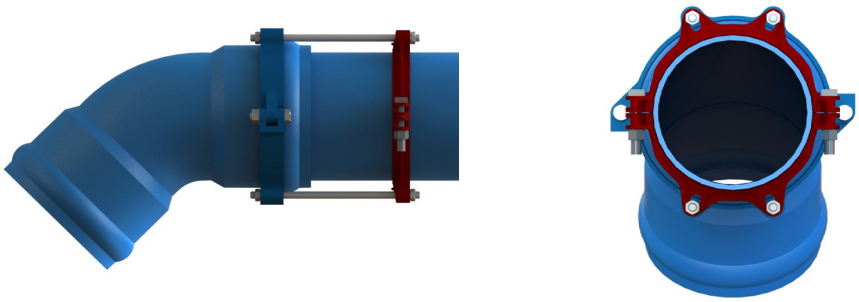
Size	Part #	PVC Pipe OD	DIMENSIONS			BACK UP RING					SERRATED RING					HARDWARE					
			A	B	C	Part #	QTY	Clamping Bolt Size	QTY	Clamping Bolt Torque	Part #	QTY	Clamping Bolt Size	QTY	Clamping Bolt Torque	Restraining Rod Size	QTY	NUT SIZE	QTY	"Washer (D x L x W X T)"	QTY
4	PWPF-C4	4.80	1.25	9.13	10.0	PWPF-C4R	1	NA	NA	NA	PW-C4	1	5/8 x 3 3/8	2	85 ft-lbs	3/4 x 12	2	3/4	4	NA	NA
6	PWPF-C6	6.90	1.25	11.75	10.0	PWPF-C6R	1	NA	NA	NA	PW-C6	1	5/8 x 3 3/8	2	85 ft-lbs	3/4 x 12	2	3/4	4	NA	NA
8	PWPF-C8	9.05	1.75	12.81	10.0	PWPF-C8R	1	NA	NA	NA	PW-C8	1	3/4 x 3 7/8	2	100 ft-lbs	3/4 x 12	2	3/4	4	NA	NA
10	PWPF-C10	11.10	1.75	16.88	15.0	PWPF-C10R	1	3/4 x 3 1/4	2	125 ft-lbs	PW-C10	1	7/8 x 4 3/8	2	125 ft-lbs	3/4 x 17	4	3/4	8	NA	NA
12	PWPF-C12	13.20	1.75	19.12	15.0	PWPF-C12R	1	3/4 x 3 1/4	2	125 ft-lbs	PW-C12	1	7/8 x 4 3/8	2	125 ft-lbs	3/4 x 17	4	3/4	8	NA	NA
14	PWPF-C14	15.30	3.50	21.1	22.0	PWPF-C14R	1	3/4 x 4 1/2	4	130 ft-lbs	PW-C14	1	7/8 x 6 1/4	4	130 ft-lbs	3/4 x 24	6	3/4	12	7/8 x 2 x 2 x 1/4	12
16	PWPF-C16	17.40	3.50	23.58	22.0	PWPF-C16R	1	3/4 x 4 1/2	4	130 ft-lbs	PW-C16	1	7/8 x 6 1/4	4	130 ft-lbs	3/4 x 24	6	3/4	12	7/8 x 2 x 2 x 1/4	12
18	PWPF-C18	19.50	4.25	25.8	22.0	PWPF-C18R	1	3/4 x 5 1/2	4	130 ft-lbs	PW-C18	1	1 x 6 1/4	4	130 ft-lbs	3/4 x 24	8	3/4	16	7/8 x 2 x 2 x 1/4	16
20	PWPF-C20	21.60	5.00	29.06	30.0	PWPF-C20R	1	1 1/4 x 8 1/2	4	130 ft-lbs	PW-C20	1	1 1/4 x 6 1/2	4	130 ft-lbs	3/4 x 36	8	3/4	16	7/8 x 2 x 2 x 1/4	16
24	PWPF-C24	25.80	5.00	34.64	30.0	PWPF-C24R	1	1 1/4 x 8 1/2	4	130 ft-lbs	PW-C24	1	1 1/4 x 6 1/2	4	130 ft-lbs	3/4 x 36	10	3/4	20	7/8 x 2 x 2 x 1/4	20
30	PWPF-C30	32.00	5.50	41.8	36.0	PWPF-C30R	1	1 1/4 x 8 1/2	4	130 ft-lbs	PW-C30	1	1 1/4 x 8 1/2	4	130 ft-lbs	1 x 40	10	1	20	1 1/8 x 2 1/2 x 2 1/2 x 5/16	20
36	PWPF-C36	38.30	5.50	49.04	36.0	PWPF-C36R	1	1 1/4 x 8 1/2	4	130 ft-lbs	PW-C36	1	1 1/4 x 8 1/2	4	130 ft-lbs	1 x 40	12	1	24	1 1/8 x 2 1/2 x 2 1/2 x 5/16	24
42	PWPF-C42	44.50	6.26	57.18	44.0	PWPF-C42R	1	1 1/2 x 9	6	175 ft-lbs	PW-C42	1	1 1/2 x 9	4	175 ft-lbs	1 1/4 x 48	16	1 1 /4	32	1 3/8 x 3 x 3 x 3/8	32
48	PWPF-C48	50.80	6.26	63.48	44.0	PWPF-C48R	1	1 1/2 x 9	4	175 ft-lbs	PW-C48	1	1 1/2 x 9	4	175 ft-lbs	1 1/4 x 48	16	1 1 /4	32	1 3/8 x 3 x 3 x 3/8	32

Note: PV-LOK products are rated with a working pressure equal to that of the PVC pipe to which they are applied.

Pressure Rating:

Nominal Pipe Size	Part #	Pressure Rating													
		C900									ASTM D2241				
		DR14	DR17	DR18	DR21	DR25	DR27.5	DR32.5	DR41	DR51	SDR17	SDR21	SDR26	SDR32.5	SDR41
4	PWPF-C4	-	-	-	-	-	-	-	-	-	250	200	160	125	100
6	PWPF-C6	305	250	235	200	165	150	-	-	-	250	200	160	125	100
8	PWPF-C8	305	250	235	200	165	150	-	-	-	250	200	160	125	100
10	PWPF-C10	305	250	235	200	165	150	-	-	-	250	200	160	125	100
12	PWPF-C12	305	250	235	200	165	150	-	-	-	250	200	160	125	100
14	PWPF-C14	305	250	235	200	165	150	-	-	-	250	200	160	125	100
16	PWPF-C16	-	250	235	200	165	150	125	100	-	-	-	-	-	-
18	PWPF-C18	-	250	235	200	165	150	125	100	-	-	-	-	-	-
20	PWPF-C20	-	250	235	200	165	150	125	100	80	-	-	-	-	-
24	PWPF-C24	-	250	235	200	165	150	125	100	80	-	-	-	-	-
30	PWPF-C30	-	250	235	200	165	150	125	100	80	-	-	-	-	-
36	PWPF-C36	-	250	235	200	165	150	125	100	80	-	-	-	-	-
42	PWPF-C42	-	250	235	200	165	150	125	100	80	-	-	-	-	-
48	PWPF-C48	-	-	-	200	165	150	125	100	80	-	-	-	-	-

Installation instructions PWPF-C

1. Assemble the plain end PVC pipe and PVC fitting according to manufacturer's installation instructions.	
2.Install the beveled back up ring (non-serrated, two piece interlocking ring) set behind the gasketed bell of the PVC fitting, allowing the ring to seat evenly against the fitting bell. Direction of the ring to be installed to be noted from the arrows in the sticker.	
3. Insert the restrainer rods through the retainer ear back toward the pipe and mark a reference line approximately 2 inches from the rod end, maintaining the "C" dimension. Install the serrated clamping ring (PV-LOK) at this mark, making sure the protrusions on the restrainer ears face toward the fitting bell to the fitting bell to ensure proper direction of the angled serrations (Please read the arrows in the sticker).Tighten the clamping bolts to recommended torque.	
4. Insert the restrainer rods provided and snug the retaining nuts behind the ears on both the clamping ring (against the flat surface) and back-up ring. Do not over-tighten retaining nuts, approximately one turn with a wrench.	

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

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- 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
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- PROTECTO 401® Ceramic Epoxy Lining Available

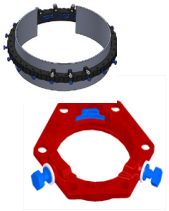
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- 4-48” ONE-LOK T-SLDE Tandem Wedge Restraint for High Pressure Ductile Iron Pipe
- 3-36” ONE-LOK D-SLCE Domestic Wedge Restraint for PVC Pipe
- 3-12” ONE-LOK SLC Wedge Restraint for PVC Pipe (Import)
- 3-60” ONE-LOK SLCE Wedge Restraint for PVC Pipe (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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- 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
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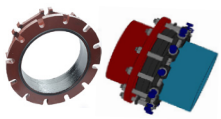
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