



UNION BELL RESTRAINTS



FEATURES AND ADVANTAJES

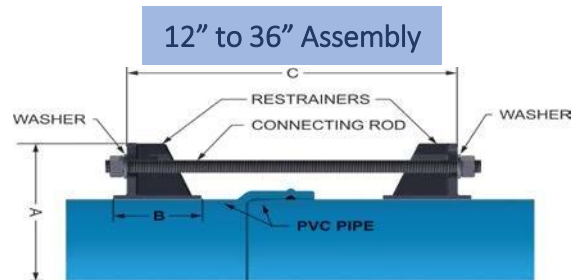
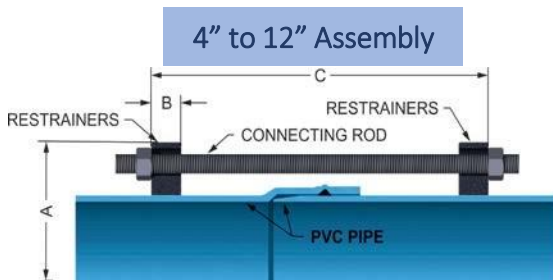
- For:
 - Restraint of 4" to 36" DIOD AWWAC900/905 PVC Pipe to Pipe Bell to Spigot Applications (Black Clamps)
 - Restraint of 4" to 12" IPS PVC Pipe to Pipe Bell to Spigot Applications (Grey Clamps)
- Available in sizes 4" → 36" (IPS PVC pipe restraints available in 4" – 12" only)
- Restraints rated at the listed pressure on the PVC pipe with a 2:1 safety factor.
- Full 360° contact, no pipe distortion or point loading.
- To ease installation, restraints and pipe can be assembled outside the trench.
- **Connecting rods, hex nuts, T-head bolts** consist of low alloy high strength steel and comply with applicable requirements of ANSI/AWWA C111/A21.11.
- **Clamping bolts** are SAE Grade 5 and comply to applicable requirements of ANSI/AWWA C111/A21.11.
- For easy identification, IPS pipe diameter clamps are GREY and DI pipe diameter clamps are BLACK.

SAMPLE SPECIFICATIONS

For use on water or wastewater piping systems subject to hydrostatic pressure and tested in accordance with ASTM D2774 or AWWA C600. All sizes of clamps are made of high strength grade 65-45-12 ductile iron in accordance with the requirements and specifications of ASTM A536. Restraint clamps internal serrations are machined to exact tolerances. Restrainers approved per applicable requirements of ASTM F1674, current revisions apply. Standard restraint is provided with an alkyd resin baking enamel coating.

The 3000PP kit includes:

1. Two each 3000C restrainers.
2. Hex head bolts and hex nuts for restrainer assembly.
3. Threaded restrainer connecting rods with hex nuts and flat washers where applicable.



NOM SIZE	Series 3000PP for PVC Pipe with Ductile Pipe O.D.		Series 3000PP for PVC Pipe with IPS Pipe O.D.		*A	*B	*C máx.	Restraint Rods Connecting		Quantity, Sizing and Torque for Clamp Assembly Bolts			WT Lbs.
	∅ Pipe	Part #	∅ Pipe	Part #				Qty.	Qty.	Size	Qty.	Size	
4	4.80	462422	4.50	462477	9.12	1.12	12.0	2	3/4 X 17	4	5/8 X 3.5	100	15
6	6.90	462439	6.63	462484	11.12	1.12	13.0	2	3/4 X 17	4	5/8 X 3.5	100	19
8	9.05	462446	8.63	462491	14.74	1.25	15.0	2	3/4 X 17	4	3/4 X 5	150	31
10	11.10	462453	10.75	462507	16.81	1.38	16.0	4	3/4 X 24	4	7/8 X 5	150	51
12	13.20	462460	12.75	462514	19.45	1.38	18.0	4	3/4 X 24	4	7/8 X 5	150	55
14	15.30	488033	N/A	N/A	22.54	4.00	24.0	6	3/4 X 30	8	7/8 X 6.5	150	138
16	17.40	488040	N/A	N/A	24.66	4.00	28.0	6	3/4 X 30	8	7/8 X 6.5	150	148
18	19.50	488057	N/A	N/A	26.64	5.06	28.0	8	3/4 X 30	8	1 X 8	175	207
20	21.60	488064	N/A	N/A	28.76	5.06	34.0	8	3/4 X 36	8	1-1/8 X 8.5	200	265
24	25.80	488071	N/A	N/A	33.98	5.20	34.0	12	3/4 X 36	8	1-1/8 X 8.5	225	407
30	32.00	498599	N/A	N/A	40.90	10.0	34.0	12	1 X 40	16	1-1/8 X 8.5	250	605
36	38.30	498605	N/A	N/A	48.00	10.0	34.0	12	1 X 40	16	1-1/8 X 8.5	250	670



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INSTALLATION INSTRUCTIONS for sizes 4"-36" (Series 3000PP)

Figure 1.

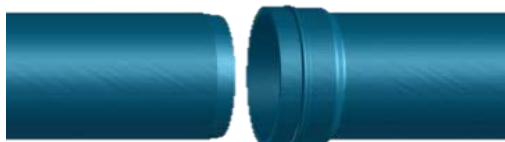


Figure 2.

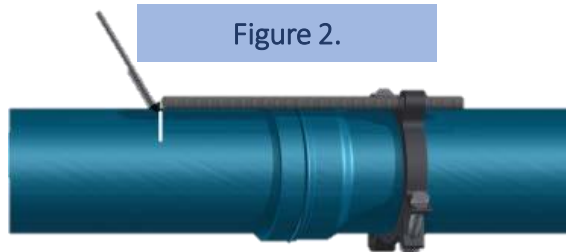


Figure 3.



Figure 4.

**Step 01**

Assemble pipe per Figure 1 making sure the spigot end of the pipe is fully seated in the bell end of the pipe.

Step 02

Assemble first restrainer on the bell end of the pipe joint and using one of the connecting rods (included) as a guide, mark the location for the spigot restrainer per Figure 2.

Step 03

Assemble the spigot restrainer leaving sufficient threads on each end of the connecting rod to fully install washer (where provided) and fully engage nut per Figure 3. Tighten the restrainer clamp assembly bolts on each side evenly to the recommended torque maintaining even gaps between the clamp pads.

Step 04

Connect both restrainers per Figure 4 utilizing the threaded restrainer connecting rods provided. Place a flat washer (where provided) over onto connecting rods and against the restrainer ear. Install hex nuts on the connecting rods and hand tighten all hex nuts to hand tight plus 1/2 turn. Do not over tighten connecting rod retaining hex nuts thus forcing the spigot further into the joint.

Suggested hex head bolt and nut *torque recommendations for assembly of the 3000C restrainers is as provided.

NOTE: For best results use the lower end of the recommended torque range for DR 41 and DR 51 PVC pipe

*4" – 6" – 100 ft. lbs. / 8" – 12" – 150 ft. lbs. / 14" – 16" – 150 – 200 ft. lbs.

18" - 175 – 225 – ft. lbs. / 20" – 200 – 250 ft. lbs. / 24" – 225 – 275 ft. lbs. / 30" – 36" - 250 – 300 ft. lbs.