Pipe Restrainers series 1100

1100C Bell Restrainers for AWWA C900 PVC Pipe
and 1100S Bell Joint for IPS PVC Pipe

Series 1100C for C900/C905 PVC Pipe

SUBMITTAL INFORMATION

PROJECT NAME:

ENGINEER:

CONTRACTOR:

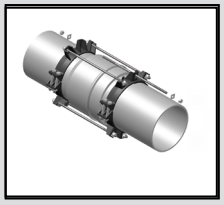
SPEC. SECTION:

FM APPROVED

AWWA MEMBER

TÜVRheinland® Certified to ISO 9001:2015

FEATURES & ADVANTAGES



1100C on pipe bell

- 360° contact, no pipe distortion or point loading
- Restrainers work with Push-On Pipe Bells.
- All restrainers are manufactured to exact tolerances.
- Rated pressures carry a 2:1 safety factor.
- Can be installed outside the trench, to ease installation
- Clamping Bolts: SAE J429 Grade 5
- Series 1100C is approved by Factory Mutual Research in sizes 4"-6" for use on C900 PVC DR18, for 150 PSI.
- Available in sizes 4"-48"

MATERIAL SPECIFICATIONS:

- Restrainer Castings: Ductile Iron per ASTM A536, Grade 65-45-12

PIPE RESTRAINER OPTIONS (Please check one):

☐ SERIES 1100C
(Bell Restrainers for AWWA C900 PVC Pipe)

☐ SERIES 1100S
(Bell Restrainers for IPS PVC Pipe - NOT available in domestic.)

RESTRAINER CASTINGS FINISH OPTIONS (Please check one):

☑ Standard: alkyd enamel coating

☐ Optional: Starbond™ TGIC polyester powder coating applied by an electrostatic spray process

☐ Optional: Other (specify) _____

COUNTRY OF ORIGIN OPTION (Please check one):

☑ Import

☐ Domestic - AIS Compliant (Available in sizes 4" to 36")
(Series 1100S is NOT available in domestic.)

HARDWARE OPTIONS (Please check one):

☑ **STANDARD**:
- Clamp Bolt: SAE J429 Grade 5
- Clamp Nut: SAE J995 Grade 5 or ASTM A563 Grade "A" or "B"
- Restraint Bolt/Rod/Nut: High strength low alloy steel per ANSI/AWWA C111/A21.11
- Washer: carbon steel per ASTM F844

☐ **OPTIONAL SS ALLOY 304**:
- Clamp Bolt: SS alloy 304 per ASTM A193 Grade B8, Class 2
- Clamp Nut: SS alloy 304 per ASTM A194 Grade 8, S1
- Restraint Bolt/Rod: SS alloy 304 per ASTM F593 CW
- Restraint Nut: SS alloy 304 per ASTM F594 CW
- Washer: SS alloy 304

☐ **OPTIONAL SS ALLOY 316**:
- Clamp Bolt: SS alloy 316 per ASTM A193 Grade B8M, Class 2
- Clamp Nut: SS alloy 316 per ASTM A194 Grade 8M, S1
- Restraint Bolt/Rod: SS alloy 316 per ASTM F593 CW
- Restraint Nut: SS alloy 316 per ASTM A194 Grade 8M
- Washer: SS alloy 316

☐ **OPTIONAL STAR BLUE**:
- Clamp Bolt: Fluoropolymer Star Blue coated SAE J429 Grade 5
- Clamp Nut: Fluoropolymer Star Blue coated SAE J995 Grade 2 or ASTM A563 Grade "A" or "B"
- Restraint Bolt/Rod/Nut: Fluoropolymer Star Blue coated high strength low alloy steel per ANSI/AWWA C111/A21.11
- Washer: Fluoropolymer Star Blue coated carbon steel per ASTM F844

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Pipe Restrainers series 1100

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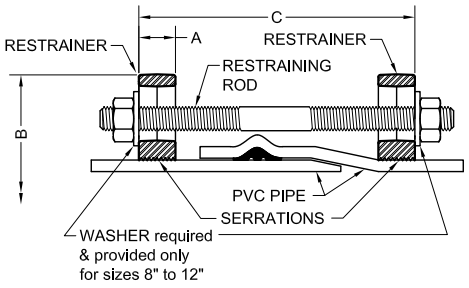
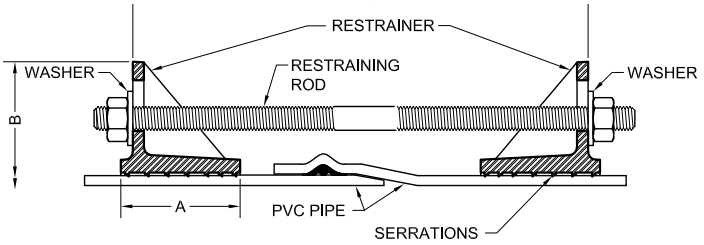
TECHNICAL INFORMATION



4"-12" Sizes



14"-48" Sizes

PIPE RESTRAINERS 1100 SPECIFICATIONS*

Please check sizes:	NOM. SIZE	PVC PIPE WITH DUCTILE IRON PIPE O.D. STYLE 1100C	PVC PIPE WITH STEEL PIPE O.D. STYLE 1100S	A	B APPROX.	C MAX.	RESTRAINT BOLTS/ RODS		CLAMPING BOLTS		APPROX WT. (LBS)
		O.D.	O.D.				QTY	SIZE	QTY	SIZE	
☐	4	4.80	4.50	1.12	9.29	12.00	2	3/4 x17	4	5/8 x 3 1/2	16
☐	6	6.90	6.63	1.15	11.13	13.00	2	3/4 x 17	4	5/8 x 3 1/2	20
☐	8	9.05	8.63	1.47	14.76	15.00	2	3/4 x 17	4	3/4 x 4	32
☐	10	11.10	10.75	1.38	16.82	16.00	4	3/4 x 24	4	7/8 x 5	52
☐	12	13.20	12.75	1.42	19.46	18.00	4	3/4 x 24	4	7/8 x 5	56
☐	14	15.30	N/A	4.00	22.68	24.00	4	3/4 x 30	8	7/8 x 7	116
☐	16	17.40	N/A	3.75	24.65	28.00	6	3/4 x 30	8	7/8 x 6 1/2	122
☐	18	19.50	N/A	4.25	26.65	28.00	8	3/4 x 30	8	7/8 x 6 1/2	154
☐	20	21.60	N/A	5.00	28.88	28.00	8	3/4 x 36	8	1 1/8 x 8 1/2	210
☐	24	25.80	N/A	5.00	33.98	34.00	12	3/4 x 36	8	1 1/8 x 8 1/2	279
☐	30	32.00	N/A	7.00	42.48	38.00	12	1 x 48	12	1 1/8 x 6	526
☐	36	38.30	N/A	9.00	49.10	38.00	12	1 x 48	12	1 1/8 x 6	614
☐	42	44.50	N/A	11.00	57.20	46.00	12	1 1/4 x 54	12	1 1/2 x 10	1352
☐	48	50.80	N/A	11.00	64.07	46.00	12	1 1/4 x 54	12	1 1/2 x 10	1479

**All dimensions in inches except where indicated.*

Standardized Pressure Ratings**

NOM. SIZE (IN.)	AWWA C900 (CIOD)									AWWA C909 PVCO			ASTMD2241* (IPS OD)		
										IPEX PVCO	JM EAGLE PVCO				
	DR14	DR17	DR18	DR21	DR25	DR27.5	DR32.5	DR41	DR51	PC235	PC235	PC165	SDR 17	SDR 21	SDR 26
4	200	-	150	-	100	-	-	-	-	-	-	-	250	200	160
6	200	-	150	-	100	-	-	-	-	-	-	-	250	200	160
8	200	-	150	-	100	-	-	-	-	-	-	-	250	200	160
10	200	-	150	-	100	-	-	-	-	-	-	-	250	200	160
12	200	-	150	-	100	-	-	-	-	-	-	-	250	200	160
14	305	250	235	200	165	-	-	-	-	235	-	-	-	-	-
16	305	250	235	200	165	-	-	-	-	200	-	165	-	-	-
18	-	250	235	200	165	-	-	-	-	200	-	-	-	-	-
20	-	-	235	200	165	-	-	-	-	-	-	-	-	-	-
24	-	-	235	200	165	-	-	-	-	-	-	-	-	-	-
30	-	-	235	200	165	150	125	100	80	-	-	-	-	-	-
36	-	-	235	200	165	150	125	100	80	-	-	-	-	-	-
42	-	-	-	200	165	150	125	100	80	-	-	-	-	-	-
48	-	-	-	-	165	150	125	100	80	-	-	-	-	-	-

** Transition Push-On Gasket Required*

***For ordinary water works with transient surges only. Ratings are for PVC pipes with SERIES 1100 Restrainer.*

REV.26.01

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