



# Pipe Restrainers series 1000G2

1000G2C Restrainers for AWWA CI OD C900/C909 PVC/PVCO Pipe with MJ or Ductile Iron Push-On Fittings (Formerly Series 9000)



Series 1000G2C for C900 PVC Pipe/C909 PVCO Pipe

### SUBMITTAL INFORMATION

PROJECT NAME:

ENGINEER:

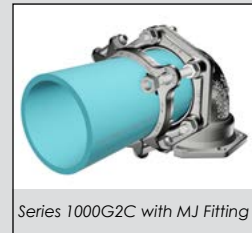
CONTRACTOR:

SPEC. SECTION:



### FEATURES & ADVANTAGES

- 360° contact, no pipe distortion or point loading and supports the wall of the pipe
- Made of Ductile Iron - ASTM Grade A536, Grade 65-45-12
- Restrainers work with Mechanical Joint or Ductile Iron Push-On Fittings.
- For use on 4" - 12" C900 PVC and C909 PVCO Pipe.
- The safety factor is twice (2:1) the maximum pressure rating listed on next page.
- Can be installed outside the trench, to ease installation
- Maintains full deflection on Mechanical Joint and Ductile Iron Push-On Fittings
- T-Bolts/Hex Nuts: low alloy steel per ANSI/AWWA C111/A21.11
- Clamping Bolts: SAE J429 Grade 5
- Series 1000G2 is approved by Factory Mutual Research in sizes 4" - 12" for use on C900 DR18 pipe for 150 PSI.
- Standard color is Graphite Black (RAL 9011).
- Originally introduced as the 9000, this improved design (Gen 2) provides increased performance and is rated to the new, higher pressure classes in latest editions of AWWA C900 and C909.



Series 1000G2C with MJ Fitting

### MATERIAL SPECIFICATIONS:

- RESTRAINER CASTINGS: Ductile Iron per ASTM A536, Grade 65-45-12

### PIPE RESTRAINER:

SERIES 1000G2C  
(For AWWA C900/C905 PVC Pipe and MJ or Push-On Fittings)

### RESTRAINER CASTINGS FINISH OPTIONS (Please check one):

- Standard: alkyd enamel coating
- Starbond™ Coming Soon!
- Optional: Other (specify) \_\_\_\_\_

### COUNTRY OF ORIGIN:

Import only

### HARDWARE OPTIONS (Please check one):

#### STANDARD:

- Clamp Bolt: SAE J429 Grade 5
- Clamp Nut: SAE J995 Grade 2 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 F594 CW
- 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

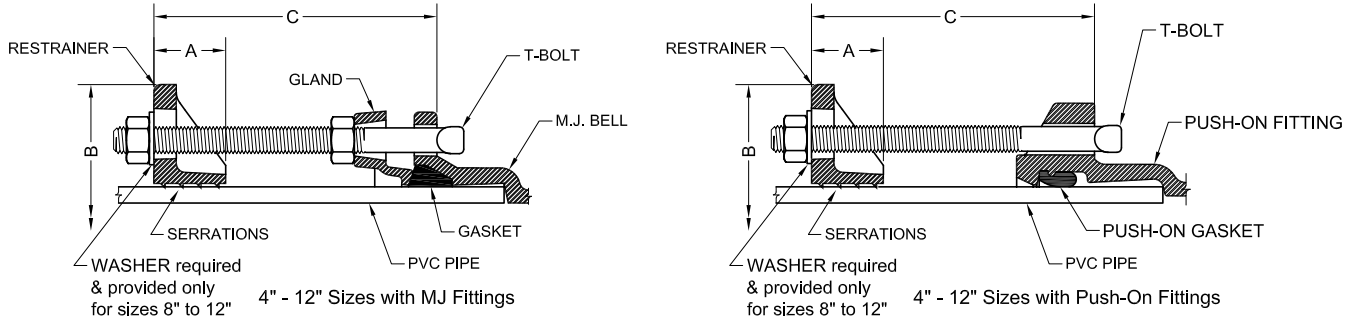
STAR® PIPE PRODUCTS



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## TECHNICAL INFORMATION



STAR® PIPE PRODUCTS

### PIPE RESTRAINERS 1000G2C SPECIFICATIONS\*

NOM. SIZE	PVC/PVCO PIPE WITH DUCTILE IRON PIPE O.D. STYLE 1000G2C	A	B APPROX.	C MAX.	RESTRAINT BOLTS (T-BOLTS)		CLAMPING BOLTS		APPROX. WT. (LBS)
					QTY	SIZE	QTY	SIZE	
4	4.80	1.44	9.32	6.00	2	3/4 x 7	2	5/8 x 3 1/2	7.24
6	6.90	1.50	11.26	6.00	2	3/4 x 7	2	5/8 x 3 1/2	8.10
8	9.05	2.00	14.76	8.00	2	3/4 x 9	2	3/4 x 4	14.92
10	11.10	2.38	17.26	8.00	4	3/4 x 9	2	7/8 x 5	26.49
12	13.20	2.38	20.00	8.00	4	3/4 x 9	2	7/8 x 5	30.67

Please check sizes:

\* All dimensions in inches except where indicated.

Table A - Pressure Rating (PSI) For PVC Pipe To Ductile Iron MJ Fitting Connections\*

NOM. SIZE (IN.)	AWWA C900 (CIOD)									AWWA C909 PVCO		
										IPEX PVCO	JM EAGLE PVCO	
	DR14	DR17	DR18	DR21	DR25	DR27.5	DR32.5	DR41	DR51	PC235	PC235	PC165
4	305	250	235	200	165	-	-	-	-	235	-	-
6	305	250	235	200	165	-	-	-	-	235	235	-
8	305	250	235	200	165	-	-	-	-	235	235	-
10	305	250	235	200	165	-	-	-	-	235	235	-
12	305	250	235	200	165	-	-	-	-	235	235	-

\*For ordinary water works with transient surges only. Ratings are for PVC pipes with SERIES 1000G2 Restraint.

Table B - Pressure Rating (PSI) For PVC Pipe To Ductile Iron Push-On Fitting Connections\*

NOM. SIZE (IN.)	AWWA C900 (CIOD)									AWWA C909 PVCO		
										IPEX PVCO	JM EAGLE PVCO	
	DR14	DR17	DR18	DR21	DR25	DR27.5	DR32.5	DR41	DR51	PC235	PC235	PC165
4	305	250	235	200	165	-	-	-	-	235	-	-
6	305	250	235	200	165	-	-	-	-	235	235	-
8	305	250	235	200	165	-	-	-	-	235	235	-
10	150	125	115	100	80	-	-	-	-	100	100	-
12	150	125	115	100	80	-	-	-	-	100	100	-

\*For ordinary water works with transient surges only. Ratings are for PVC pipes with SERIES 1000G2 Restraint.