

# Series 1900

Restraint Harness for C900 and C909 PVC

US Patent # 9163760 B2

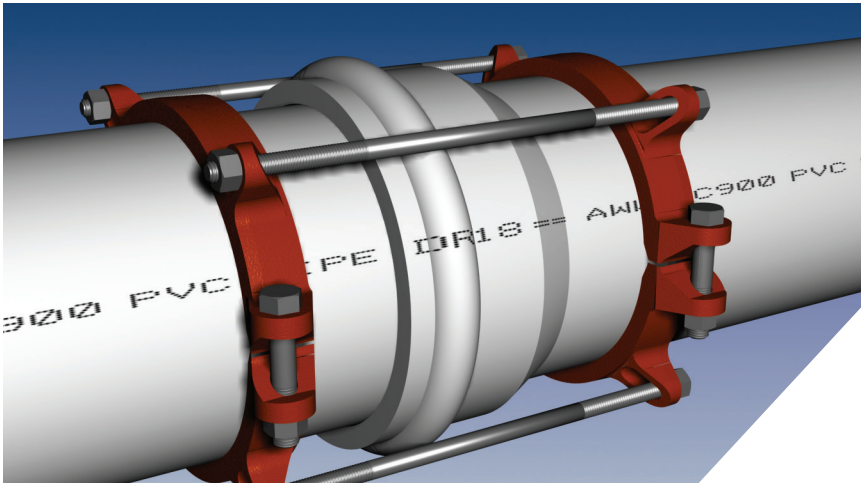


Image depicts Series 1900 on 10 inch AWWA C900 PVC pipe.

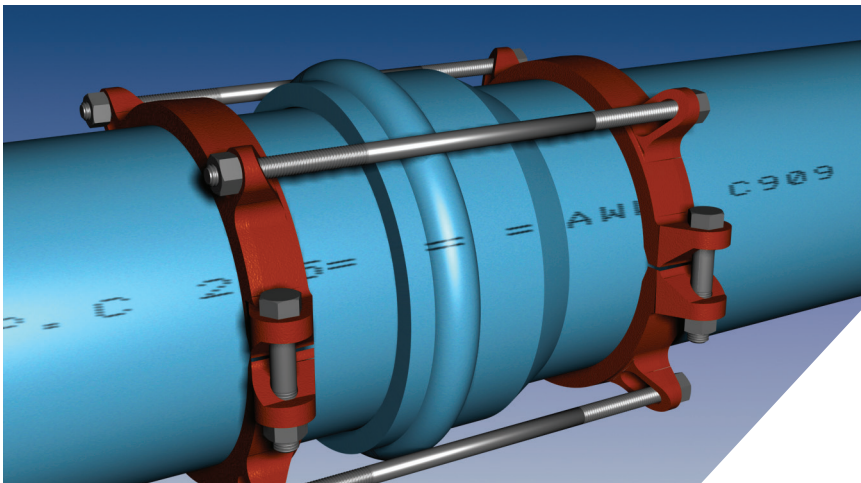
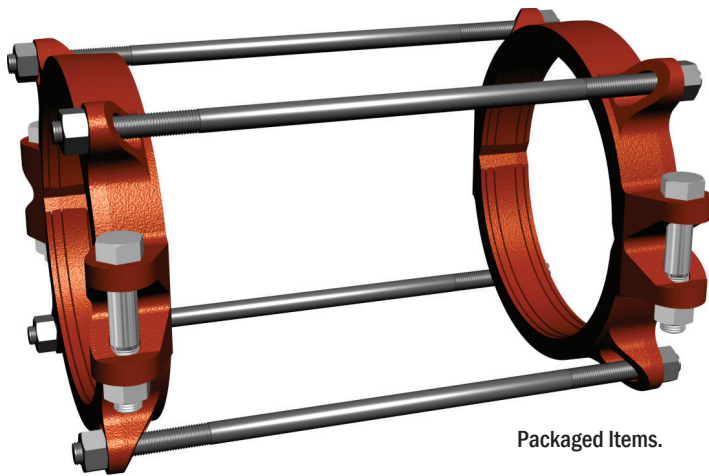


Image depicts Series 1900 on 10 inch AWWA C909 PVC pipe.



Packaged Items.



## Features and Applications:

- For use on AWWA C900 and C909 PVC
- Sizes 4 inch through 12 inch
- Rated to the Full Pressure of the Pipe
- Minimum 2 to 1 Safety Factor
- Split Serrated Restraint Rings for ease of installation
- **MEGA-BOND®** Restraint Coating System
- Constructed of ASTM A536 ductile iron

For use on water and wastewater pipelines subject to hydrostatic pressure and tested in accordance with either AWWA C600 or ASTM D2774.

## Sample Specification

Restraint for AWWA C900 and C909 PVC Pipe shall consist of the following: The restraint shall be manufactured of ductile iron conforming to ASTM A536. The restraint devices shall be coated with MEGA-BOND. (For complete specifications on MEGA-BOND visit [www.ebaa.com](http://www.ebaa.com).) The combination of the restraint(s) and fasteners shall have a pressure rating as shown in the submittal reference tables within this brochure. The restraint shall have a two to one safety factor.

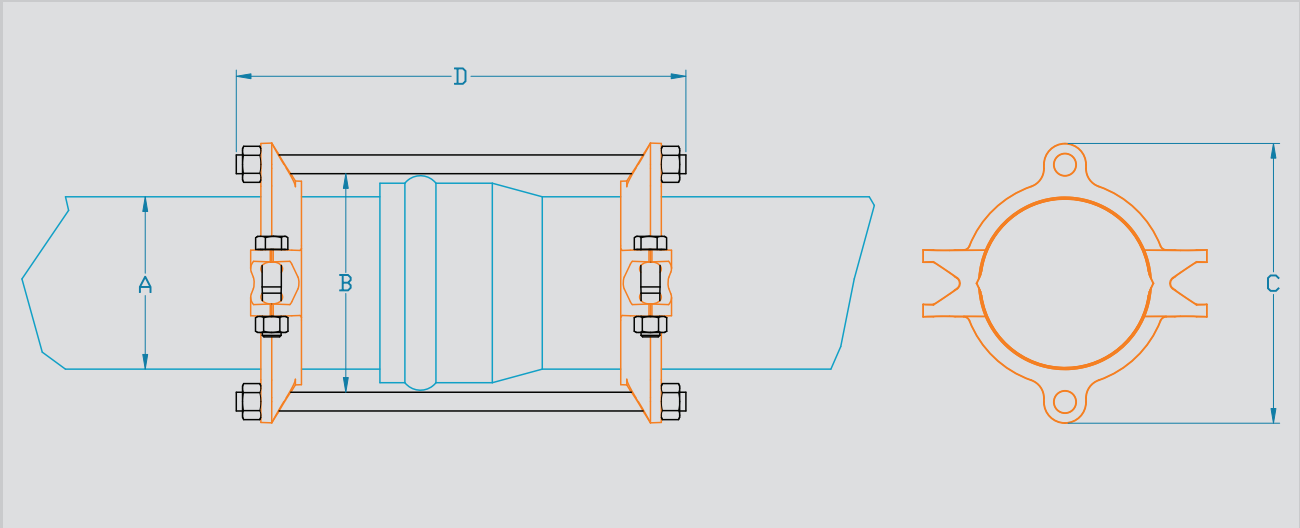
## Restraint Harness:

A split serrated ring shall be used to grip the plain-end of the pipe. A split serrated ring shall also be used to grip the barrel of the pipe behind the bell, and a sufficient number of bolts shall be used to connect the restraint rings. The combination shall be the Series 1900.

All Series manufactured by EBAA Iron, Inc., or approved equal.

# Series 1900 Submittal Reference Drawing

EBAE IRON

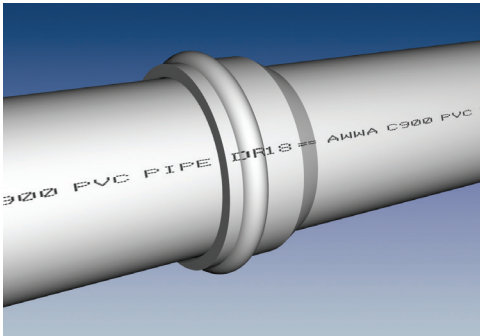


MADE IN USA

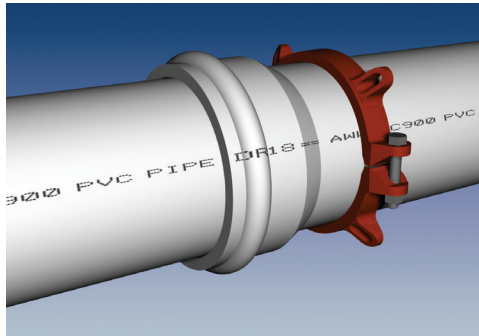
Nominal Pipe Size	Series Number	Approximate Shipping Weight	Pressure Rating*			A	B	C	D	Thrust Bolt (Number-Size)
			DR14 PSI	DR18 PSI	DR25 PSI	Pipe O.D.	Maximum Bell O.D. Cleared	Max. Restraint O.D. (Casing Clearance)	Overall Length	
4	1904	21.52	305	235	165	4.80	6.625	9.20	13	2 - 3/4 x 13
6	1906	27.14	305	235	165	6.90	8.625	11.20	18	2 - 3/4 x 18
8	1908	39.66	305	235	165	9.05	12.12	14.70	18	4 - 3/4 x 18
10	1910	71.82	305	235	165	11.10	14.07	16.61	22	4 - 3/4 x 22
12	1912	82.62	305	235	165	13.20	16.79	19.33	22	4 - 3/4 x 22

NOTE: Dimensions are in inches (± 1%) and are subject to change without notice.  
\* Please refer to the FM APPROVAL GUIDE for FM pressure ratings for this product.

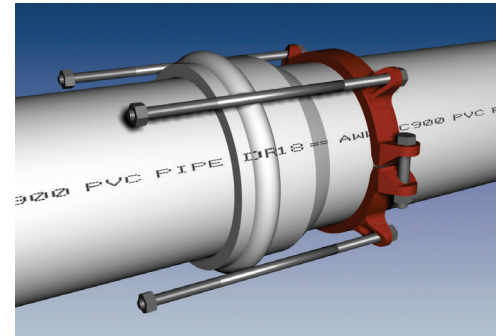
## Installation Instructions



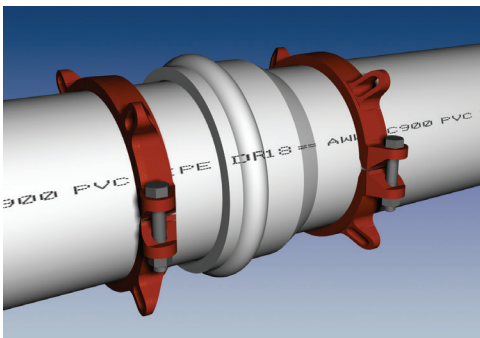
1. The Series 1900 is designed for restraining push-on PVC pipe bells. It has a split, serrated restraint ring on the spigot and a split serrated ring behind the bell.
2. Assemble the push-on joint per the pipe manufacturer's instructions.



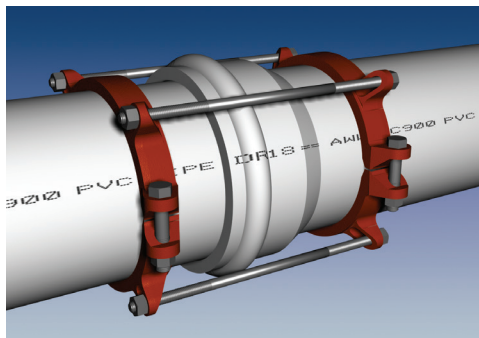
3. Install both halves of the serrated ring around the pipe behind the bell, tapping each half into place. Make sure that the complete ID of the ring is touching the pipe before installing the side bolts. Install the side bolts and tighten evenly to 120 ft-lbs. of torque. (70 ft-lbs on 4 inch and 6 inch)



4. Remove the side bolts from the second serrated restraint ring. Use the Thrust Bolts to determine the proper location of the restraint ring on the spigot. Allow enough room on the thrust bolt to fully engage the nuts.



5. Install both halves of the restraint ring at the proper location, tapping each half into place. Make sure that the complete ID of the ring is touching the pipe before installing the side bolts. Tighten the side bolts evenly to 120 ft-lbs. (70 ft-lbs on 4" and 6")



6. Place nuts on the thrust bolts and hand tighten until they are snug. Allow enough room on the thrust bolts to fully engage the nuts. Do not tighten these bolts enough to force the spigot further into the bell of the joint.



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### EBAE IRON Sales, Inc.

P.O. Box 857, Eastland, TX 76448

Tel: (254) 629-1731

Fax: (254) 629-8931

(800) 433-1716 en Estados Unidos y Canadá

contact@ebaa.com

www.ebaa.com