

Specifications - Uni-Flange® Series 1390

Series 1390 Uni-Flange® Restraint Device for PVC Pipe Bell Joints

The Uni-Flange® Series 1390 offers fast, economical, guaranteed restraint of PVC Pipe bell and spigot joints in new or existing installations in any soil condition. The Series 1390 eliminates the need for concrete thrust blocks and offers an alternative to "factory restrained joint" metallic pipes.

The Series 1390 consists of two Series 1300 split restraint devices. One is installed on the pipe spigot and the other behind the pipe bell. The two are connected to each other with double ended rods (provided).

Features:

- Provides restraint for new, or existing, in-ground piping systems
- 360° contact and support of the pipe wall
- "Pad-to-Pad" feature... cannot be overtightened
- Visual Safety Feature... easy to verify correct installation
- Rated at full working pressure rating of any class of PVC Pipe, minimum 2:1 safety factor
- Meets Uni-B-13-94
- 4" through 16" "C" Style units can be used on ductile iron pipe. See page 23 for installation and pressure qualifications.

Note: 1390 restraining rods will span 2"-12" FC1 style flexible couplings (Section M) when positioned to avoid the coupling bolts. Please contact the factory for other coupling applications.

Two Uni-Flange® Series 1300-C Restraint Devices - Ductile Iron per ASTM A536, Grade 65-45-12, or ASTM A36 Structural Steel

Color Code:

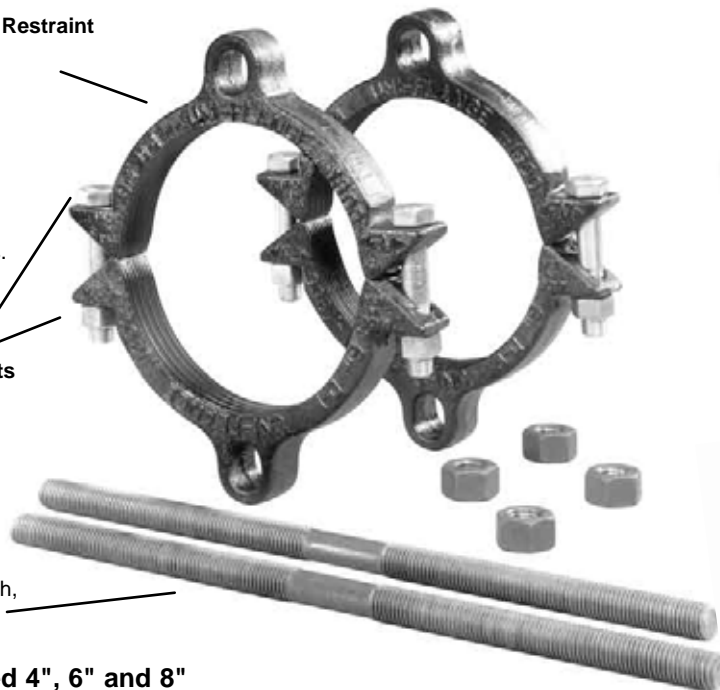
Black for PVC with ductile iron pipe O.D.

Gray for PVC with steel pipe O.D.
Contact factory for coating options.

Side Clamping Bolts and Nuts

Threaded Rods - High strength, low alloy steel ANSI / AWWA C111/A21.11.

1390 C <FM> Approved 4", 6" and 8"



2" - 12"
Series 1390 Installed



14" - 36"
Series 1390 Installed

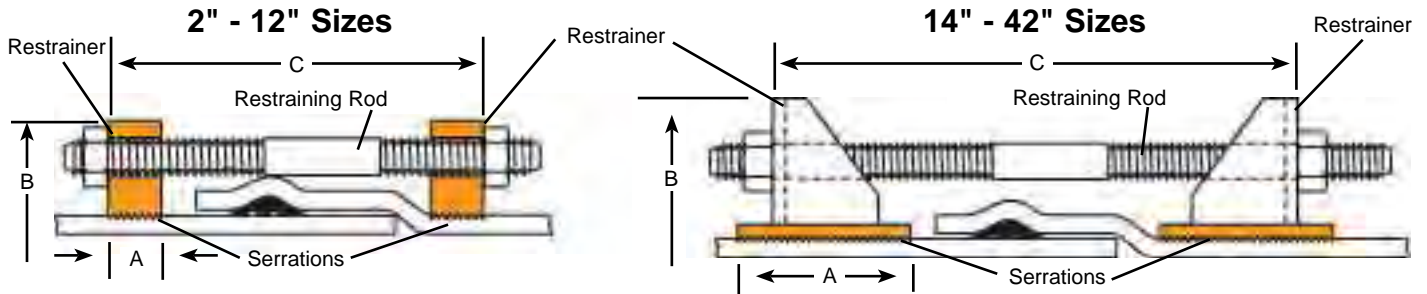
Suggested Specification - Series 1390

Restraint Devices for bell and spigot joints of PVC Pipe shall consist of split restraint rings, one installed on the spigot, connected to one installed on the pipe barrel behind the bell. The restraint devices shall incorporate a series of serrations on the inside diameter to provide positive restraint, exact fit, 360° contact and support of the pipe wall. Restraint Devices shall be of ductile iron, ASTM A536, Grade 65-45-12 or ASTM A36 structural steel, and connecting rods shall be of high strength, low alloy material in accordance with ANSI / AWWA C111/A21.11.

All Restraint Devices shall have a water working pressure rating equivalent to the full rated pressure of the PVC Pipe they are installed on, with a minimum 2:1 safety factor in any nominal pipe size. In addition, they shall meet or exceed the requirements of Uni-B-13-94, **Recommended Performance Specification For Joint Restraint Devices For Use With Polyvinyl Chloride (PVC) Pipe**. Notarized certification from the manufacturer of the restraint device shall be provided with submittals. Restraint Devices for bell and spigot joints of PVC pipe shall be Uni-Flange® 1390 or approved equal.

Uni-Flange® Series 1390 Pipe Restraint

* Restraint Device for PVC Pipe Bell Joints



Nom. Pipe Size	PVC PIPE WITH STEEL PIPE O.D. STYLE 1390-S		*PVC PIPE WITH DUCTILE IRON PIPE O.D. STYLE 1390-C		A	B APPROX.	C MAX.	RESTRAINT BOLTS / RODS		CLAMPING BOLTS		APPROX. Wt. LBS.
	O.D.	CATALOG NUMBER	O.D.	CATALOG NUMBER				No.	SIZE	No.	SIZE	
2"	2.375	UFR1390-S-2-I	N/A	-	1-1/8"	6-1/4"	10"	2	5/8"x11"	4	5/8"x3-1/2"	11.5
2-1/2"	2.875	UFR1390-S-25-I	N/A	-	1-1/8"	6-7/8"	10"	2	5/8"x11"	4	5/8"x3-1/2"	12.8
3"	3.500	UFR1390-S-3-I	N/A	-	1-1/8"	7-11/16"	10"	2	5/8"x11"	4	5/8"x3-1/2"	13.5
4"	4.500	UFR1390-S-4-I	4.80	UFR1390-C-4-(IorU)	1-1/8"	9-1/8"	12"	2	3/4"x17"	4	5/8"x3-1/2"	17.0
6"	6.625	UFR1390-S-6-I	6.90	UFR1390-C-6-(IorU)	1-1/8"	11-1/8"	13"	2	3/4"x17"	4	5/8"x3-1/2"	18.5
8"	8.625	UFR1390-S-8-I	9.05	UFR1390-C-8-(IorU)	1-1/4"	14-5/8"	15"	2	3/4"x17"	4	3/4"x4"	29.0
10"	10.750	UFR1390-S-10-I	11.10	UFR1390-C-10-(IorU)	1-3/8"	16-5/8"	16"	4	3/4"x24"	4	7/8"x5"	53.0
12"	12.750	UFR1390-S-12-I	13.20	UFR1390-C-12-(IorU)	1-3/8"	19-1/4"	18"	4	3/4"x24"	4	7/8"x5"	56.5
14"	14.000	UFR1390-S-14-U	15.30	UFR1390-C-14-(IorU)	4"	22-1/2"	24"	6	3/4"x30"	8	7/8"x7"	136.0
16"	16.000	UFR1390-S-16-U	17.40	UFR1390-C-16-(IorU)	4"	24-9/16"	28"	6	3/4"x30"	8	7/8"x7"	147.0
18"	18.000	UFR1390-S-18-U	19.50	UFR1390-C-18-(IorU)	5"	26-11/16"	28"	8	3/4"x30"	8	1"x7"	206.0
20"	20.000	UFR1390-S-20-U	21.60	UFR1390-C-20-(IorU)	5"	29-3/16"	34"	8	3/4"x36"	◆ 8/12	1-1/8"x9"	263.0
24"	24.000	UFR1390-S-24-U	25.80	UFR1390-C-24-(IorU)	5"	33-7/8"	34"	12	3/4"x36"	◆ 8/12	1-1/8"x9"	406.0
30"	30.000	UFR1390-S-30-U	32.00	UFR1390-C-30-(IorU)	10"	40-9/10"	38"	12	1"x40"	◆ 12/16	1-1/8"x9"	601.0
36"	36.000	UFR1390-S-36-U	38.30	UFR1390-C-36-(IorU)	10"	48"	38"	12	1"x40"	◆ 12/16	1-1/8"x9"	672.0
42"	-	-	44.50	UFR1390-C-42-I	10-3/4"	57-9/16"	46"	16	1-1/4"x52"	16	1-1/8"x6"	1240.0

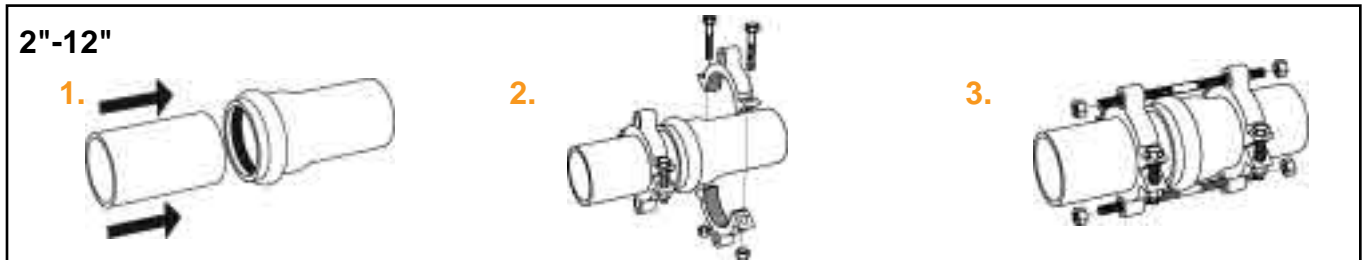
I = Import Casting U = Domestic Casting

Note: 14" - 42" are non-returnable and may be subject to a cancellation fee.

* 4" through 16" "C" Style Units can be used on ductile iron pipe. See page 23 for installation and pressure qualifications.

◆ Contact factory for details.

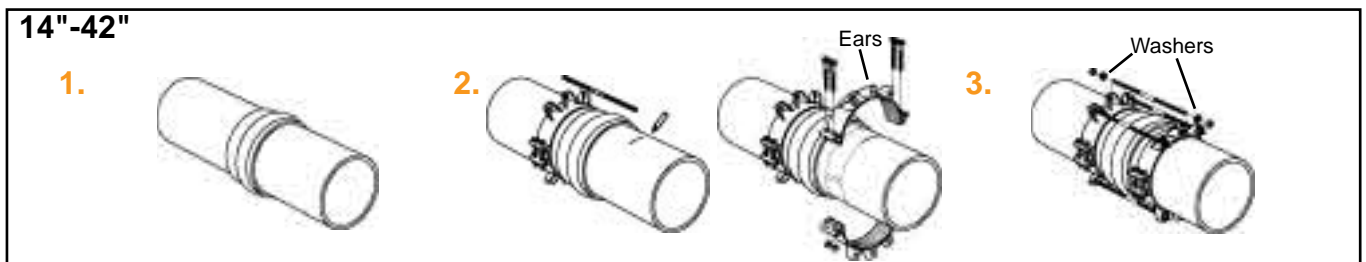
Installation Instructions



1. Assemble spigot pipe end to bell, using standard procedure.

2. Assemble Series 1390 clamping rings onto spigot pipe and just behind bell end as shown (use restraining rods as a guide to position restrainers) and tighten bolts evenly to recommended torque.

3. Insert threaded rods and nuts as shown and tighten nuts behind restrainers. **Do not over-tighten retaining nuts.** (Hand tight - then one full turn.)



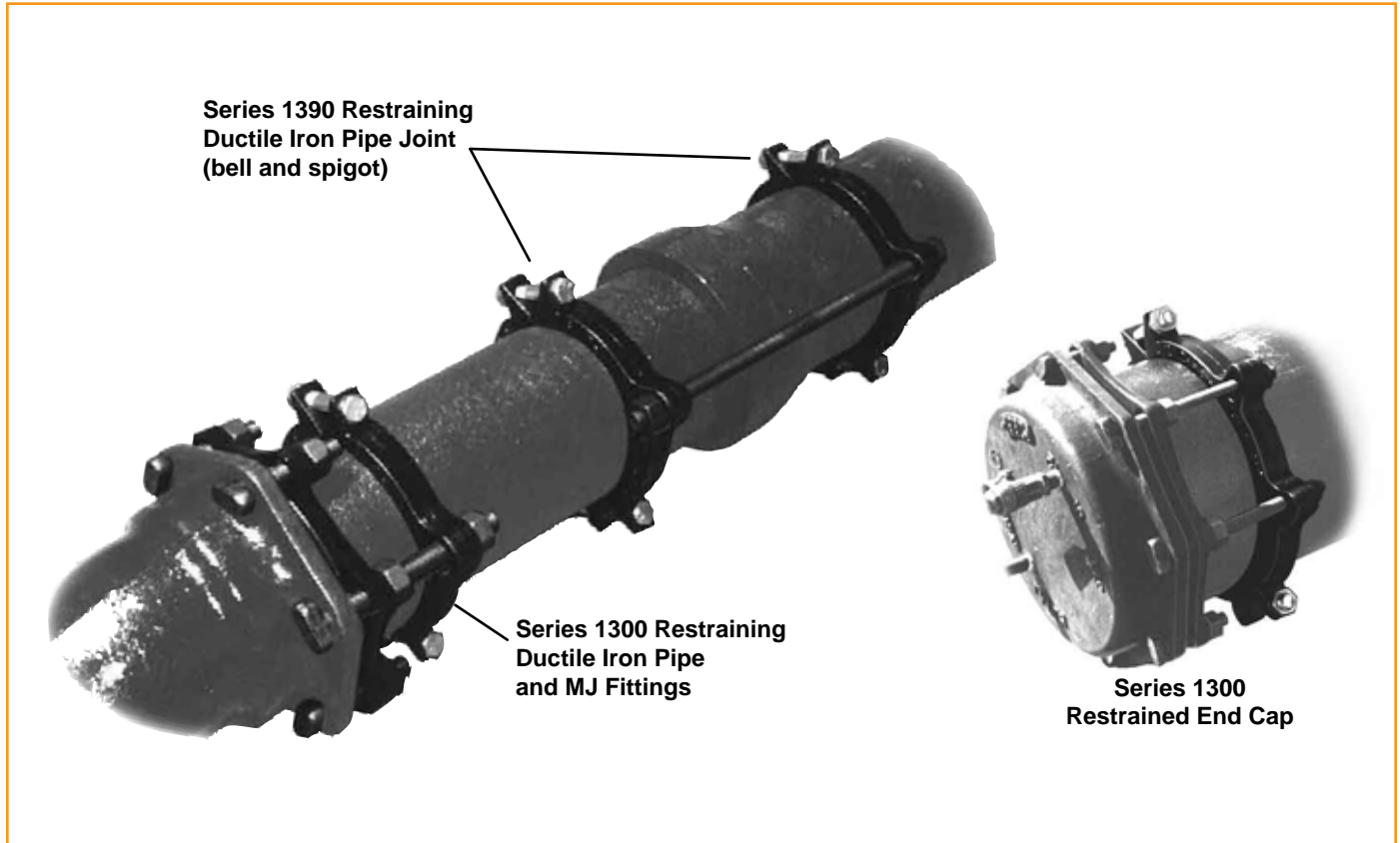
1. Assemble pipe bell.

2. Assemble one restrainer on spigot end of pipe and one directly behind pipe bell. Use one of the rods (provided) as a guide to position serrated restrainers. Leave sufficient threads on the ends of the rod ends to fully engage nuts. Tighten all clamping bolts to torque recommended on restrainer label. Stated torque values are the minimum requirement. Apply torque to each side, ensuring the gaps between the pads on both sides remain even.

3. Connect the two restrainers using rods provided. Place a washer (these are provided) behind restrainer "ears." Tighten all nuts. **Do not over-tighten retaining nuts.** (Hand tight - then one full turn.)

Uni-Flange® Series 1300, 1390 And Casing Spacers For Use On Ductile Iron Pipe

Both the 1300 and 1390 offer full circumferential contact and support of the pipe wall. This is recommended by many pipe manufacturers and is **especially important when thinner walled pipes are used, such as AWWA C-151, Class 50 or the "Pressure Class" Ductile Iron Pipe.** There are no set screws or wedges that may distort / point load the pipe or damage the cement mortar lining. (In fact, the Series 1300 / 1390 combination is very similar to certain "factory restrained joint pipe" with easier installation, faster availability, and a lower overall cost.)



Pressure Ratings, Ductile Iron Applications

Series 1300-C and 1390-C for Ductile Iron Pipe			
*NOMINAL PIPE SIZE	PIPE STANDARD	TYPE AND SIZE	*PRESSURE RATING (PSI)
4" - 16"	ANSI / A21.51 AWWA C-151	Ductile 4" - 8"	250
		Ductile 10" - 12"	200
		Ductile 14"	150
		Ductile 16"	100

Note: Not recommended for use on machined end pipe or fittings.

* For higher pressure requirements or larger size bell and spigot restraint, see Series 1450. Installation requires maximum torque values stated in installation instructions.

To Order: See 4" - 16" 1300-C, 1390-C and Casing Spacer product listings within this catalog.