

Specifications - Uni-Flange® Series 1300

Series 1300 Uni-Flange® Restraint Device for PVC Pipe used with Mechanical Joint / *Push-on Fittings

A fast, economical method of restraining water main fittings, valves and hydrants used in PVC piping systems, the Uni-Flange® Series 1300 offers guaranteed joint restraint, in every soil condition, every time. It eliminates the need for expensive, time consuming concrete thrust blocks.

The Series 1300 is a split design, incorporating a series of serrations on the inside surface. When the side clamping bolts are tightened, the serrations lock the device onto the pipe surface, providing total axial thrust restraint.

Features:

- Full contact and support of the pipe wall
- Ideal companion for push-on fittings (4" – 12")
- * Rated at full working pressure rating of any class of PVC pipe, minimum 2:1 safety factor
- Does not replace the follower gland - mechanical joint retains full deflection capabilities
- Can be installed outside of the trench, prior to pipe laying
- 4" through 16" "C" Style units can be used on ductile iron pipe, see page U-32 for installation and pressure qualifications

Series 1300 Restrainer -

Ductile Iron 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

T-Bolts / Studs -

High Strength, Low Alloy Steel

ANSI / AWWA C111 / A21.11

Optional: Type 304 Stainless Steel.

Sample Applications



Series 1300 Restraining push-on fitting



Series 1300 Restraining MJ Fitting

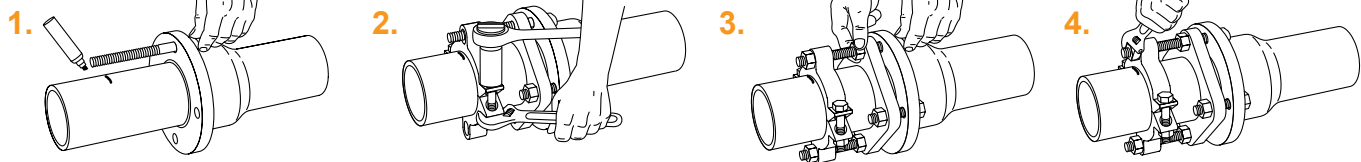


Series 1300 Restraining MJ End Cap

FM Approved
1300C Approved
4", 6", 8" and 10"

2"-12"

Installation Instructions



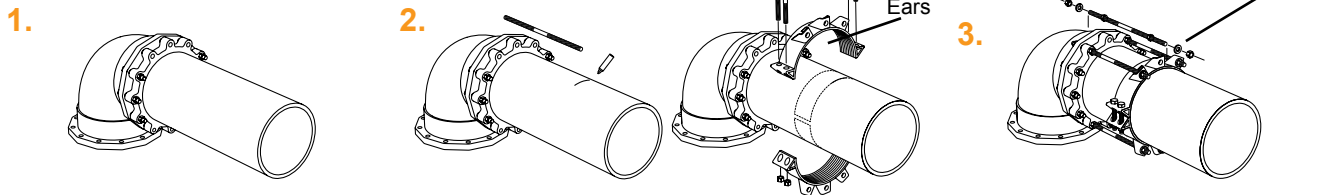
1. Insert pipe into the mechanical joint bell. Insert one of the extra long T-Bolts provided with the Series 1300 through one of the flange holes, mark a line on the pipe approximately 1 inch back from the end of the bolt.

2. Assemble the MJ gland, gasket and bolts to AWWA standards. Assemble Series 1300 clamping ring onto the pipe, even with line. (Make sure restrainer ears line up with bolt hole in MJ gland as shown.) Tighten clamping bolts evenly to recommended torque.

3. Insert the extra long T-Bolts/rods provided with the Series 1300 and install one nut each between the gland and clamping ring as shown.

4. Tighten nuts against MJ gland to AWWA standards. Snug retaining nuts behind restrainer ears. **Do not over-tighten retaining nuts.**

14"-42"



1. Assemble the mechanical joint, installing gasket, gland and T-Bolts to AWWA standards. Leave out T-Bolts corresponding to "ears" on 1300 Restrainer.

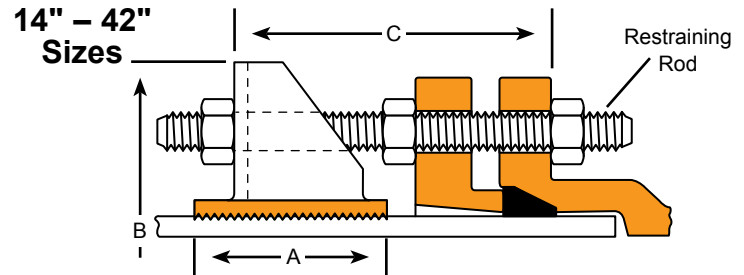
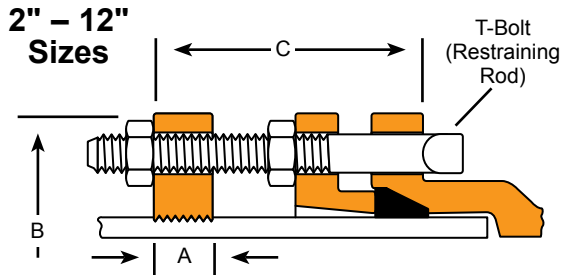
2. Use one of the rods (provided) as a guide to position 1300. Leave sufficient threads on the rod ends to fully engage nuts. Tighten clamping bolts to torque recommended on restrainer label, ensuring the gap between pads on both sides remains even. Stated torque values are the minimum requirement.

3. Connect 1300 to fitting by inserting studs through restrainer ear, gland and fitting bolt hole. Install one nut behind fitting bell, one against the gland and one behind restrainer ear (against washer which is provided).

*The safety factor is derated on 10" and 12" push-on joints that do not accommodate all of the 1300 T-Bolts. Consult the Ford Meter Box website for the most current installation instructions.

Uni-Flange® Series 1300 Pipe Restraint

**** Restraint Device for PVC Pipe used with Mechanical Joint / *Push-on Fittings**



NOM. PIPE SIZE	PVC PIPE WITH STEEL PIPE O.D. STYLE 1300-S		A	B APPROX.	C MAX.	RESTRAINT BOLTS / RODS		CLAMPING BOLTS		APPROX. WT. LBS.
	O.D.	CATALOG NUMBER				NO.	SIZE	NO.	SIZE	
2"	2.38	UFR1300-S-2-I	1-1/8"	6-1/4"	4"	2	5/8"x5"	2	5/8"x3-1/2"	6.3
2-1/2"	2.88	UFR1300-S-25-I	1-1/8"	6-7/8"	4"	2	5/8"x5"	2	5/8"x3-1/2"	7.4
3"	3.50	UFR1300-S-3-I	1-1/8"	7-11/16"	4"	2	5/8"x5"	2	5/8"x3-1/2"	7.4
4"	4.50	UFR1300-S-4-I	1-1/8"	9-1/8"	6"	2	3/4"x7"	2	5/8"x3-1/2"	8.5
6"	6.63	UFR1300-S-6-I	1-1/8"	11-1/8"	6"	2	3/4"x7"	2	5/8"x3-1/2"	10.0
8"	8.63	UFR1300-S-8-I	1-1/4"	14-5/8"	6"	2	3/4"x7"	2	3/4"x4"	15.5
10"	10.75	UFR1300-S-10-I	1-3/8"	16-5/8"	6"	4	3/4"x7"	2	7/8"x5"	26.5
12"	12.75	UFR1300-S-12-I	1-3/8"	19-1/4"	6"	4	3/4"x7"	2	7/8"x5"	28.5
14"	14.00	UFR1300-S-14-U	4"	22-1/2"	15"	6	3/4"x17"	4	7/8"x7"	72.5
16"	16.00	UFR1300-S-16-U	4"	24-9/16"	15"	6	3/4"x17"	4	7/8"x7"	77.0
18"	18.00	UFR1300-S-18-U	5"	26-11/16"	15"	8	3/4"x17"	4	1"x7"	109.0
20"	20.00	UFR1300-S-20-U	5"	29-3/16"	22"	8	3/4"x24"	6	1-1/8"x9"	144.0
24"	24.00	UFR1300-S-24-U	5"	33-7/8"	22"	12	3/4"x24"	6	1-1/8"x9"	220.0
30"	30.00	UFR1300-S-30-U	10"	40-9/10"	22"	12	1"x24"	6	1-1/8"x9"	325.0
36"	36.00	UFR1300-S-36-U	10"	48"	22"	12	1"x24"	6	1-1/8"x9"	360.0

NOM. PIPE SIZE	PVC PIPE WITH DUCTILE IRON PIPE O.D. STYLE 1300-C-I			CLAMPING BOLTS		** PVC PIPE WITH DUCTILE IRON PIPE O.D. STYLE 1300-C-U			CLAMPING BOLTS		A	B APPROX.	C MAX.	RESTRAINT BOLTS / RODS		APPROX. WT. LBS.
	O.D.	CATALOG NUMBER	No.	SIZE	O.D.	CATALOG NUMBER	No.	SIZE	No.	SIZE						
														No.	SIZE	
4"	4.80	UFR1300-C-4-I	2	5/8"x3-1/2"	4.80	UFR1300-C-4-U	2	5/8"x3-1/2"	1-1/8"	9-1/8"	6"	2	3/4"x7"	8.5		
6"	6.90	UFR1300-C-6-I	2	5/8"x3-1/2"	6.90	UFR1300-C-6-U	2	5/8"x3-1/2"	1-1/8"	11-1/8"	6"	2	3/4"x7"	10.0		
8"	9.05	UFR1300-C-8-I	2	3/4"x4"	9.05	UFR1300-C-8-U	2	3/4"x4"	1-1/4"	14-5/8"	6"	2	3/4"x7"	15.5		
10"	11.10	UFR1300-C-10-I	2	7/8"x5"	11.10	UFR1300-C-10-U	2	7/8"x5"	1-3/8"	16-5/8"	6"	4	3/4"x7"	26.5		
12"	13.20	UFR1300-C-12-I	2	7/8"x5"	13.20	UFR1300-C-12-U	2	7/8"x5"	1-3/8"	19-1/4"	6"	4	3/4"x7"	28.5		
14"	15.30	UFR1300-C-14-I	4	7/8"x7"	15.30	UFR1300-C-14-U	4	7/8"x5"	4"	22-1/2"	15"	6	3/4"x17"	72.5		
16"	17.40	UFR1300-C-16-I	4	7/8"x7"	17.40	UFR1300-C-16-U	4	7/8"x5"	4"	24-9/16"	15"	6	3/4"x17"	77.0		
18"	19.50	UFR1300-C-18-I	4	1"x7"	19.50	UFR1300-C-18-U	4	1"x7"	5"	26-11/16"	15"	8	3/4"x17"	109.0		
20"	21.60	UFR1300-C-20-I	4	1-1/8"x9"	21.60	UFR1300-C-20-U	4	1-1/8"x5-1/2"	5"	29-3/16"	22"	8	3/4"x24"	144.0		
24"	25.80	UFR1300-C-24-I	4	1-1/8"x9"	25.80	UFR1300-C-24-U	4	1-1/8"x5-1/2"	5"	33-7/8"	22"	12	3/4"x24"	220.0		
30"	32.00	UFR1300-C-30-I	6	1-1/8"x6"	32.00	UFR1300-C-30-U	6	1-1/8"x9"	10"	40-9/10"	22"	12	1"x24"	325.0		
36"	38.30	UFR1300-C-36-I	6	1-1/8"x6"	38.30	UFR1300-C-36-U	6	1-1/8"x9"	10"	48"	22"	12	1"x24"	360.0		
42"	44.50	UFR1300-C-42-I	8	1-1/8"x6"	44.50	N/A	N/A	N/A	10-3/4"	57-9/16"	22"	16	1-1/4"x24"	487.0		

I = Import Casting U = Domestic Casting or Fabrication

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 U-32 for installation and pressure qualifications.

All dimensions in inches unless otherwise stated.

Suggested Specification - Series 1300

Restraint devices for PVC pipe shall incorporate a series of serrations on the inside diameter to provide positive restraint, exact fit, and full contact and support of the pipe wall. Restraint devices shall be manufactured of high strength ductile iron, ASTM A536, Grade 65-45-12 or ASTM A36 structural steel. Bolts and connecting hardware shall be of high strength low alloy material in accordance with ANSI / AWWA C111/A21.11.

All restraint devices for PVC pipe shall have a water working pressure rating equivalent to the full rated pressure of the PVC pipe on which they are installed, with a minimum 2:1 safety factor in any nominal pipe size. Notarized certification from the manufacturer of the restraint device shall be provided with submittals. Restraint devices for Mechanical Joint or Push-on fittings shall be Uni-Flange® 1300 or approved equal.

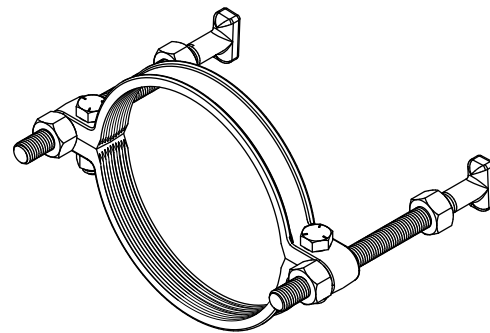
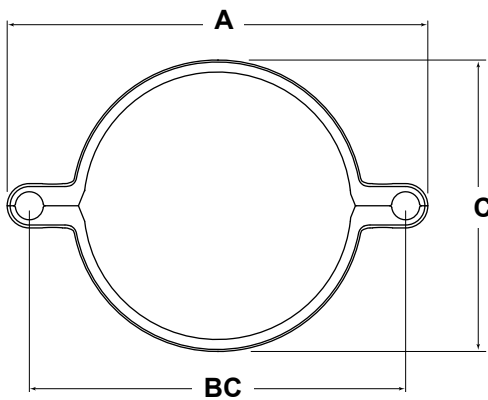
*The safety factor is derated on push-on joints that do not accommodate all of the 1300 T-Bolts.

Uni-Flange® Series 1300-P Pipe Restraint

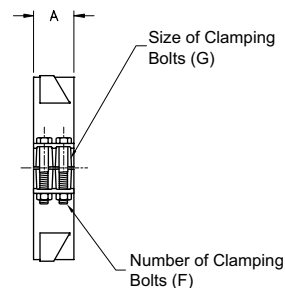
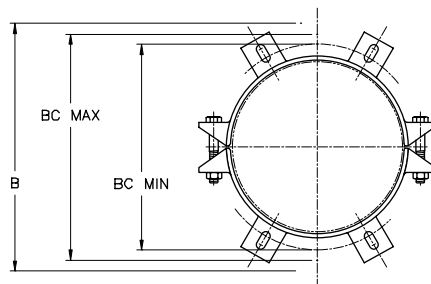
Restraint Device for Sewer Pipe

Features:

- Specially designed for ASTM 3034 type PSM sewer pipe
- Optimized clamping bolt/tie rod location minimizes pipe wall stress, ideal for thin wall pipe
- Rods are high strength, low alloy steel per ANSI/AWWA C111/A21.11
- High-quality ductile iron construction per ASTM A536 4" – 12"
- Carbon steel per ASTM A36 15" – 27"
- Epoxy e-coat for superior corrosion resistance
- 50 PSI working pressure rating 2:1 safety factor



NOM. PIPE SIZE	SEWER PIPE STYLE 1300-P		A	BC	C	RESTRAINT BOLTS / RODS		CLAMPING BOLTS		APPROX. WT. LBS.
	O.D.	CATALOG NUMBER				No.	SIZE	No.	SIZE	
4"	4.22	UFR1300-P-4-I	8-57/64"	7-1/2"	4-59/64"	2	3/4"x7"	2	5/8"	5.5
6"	6.20	UFR1300-P-6-I	10-57/64"	9-1/2"	6-63/64"	2	3/4"x7"	2	5/8"	5.9
8"	8.40	UFR1300-P-8-I	13-9/64"	11-3/4"	9-3/32"	2	3/4"x7"	2	5/8"	6.3
10"	10.50	UFR1300-P-10-I	15-23/64"	14"	11-29/64"	2	3/4"x7"	2	5/8"	8.3
12"	12.50	UFR1300-P-12-I	18"	16-1/4"	13-29/64"	2	3/4"x7"	2	5/8"	9.5



NOM. PIPE SIZE	SEWER PIPE STYLE 1300-P		A	B APPROX.	RESTRAINT BOLTS / RODS		CLAMPING BOLTS		BC MIN.	BC MAX.	APPROX. WT. LBS.
	O.D.	CATALOG NUMBER			No.	SIZE	No.	SIZE			
15"	15.30	UFR1300-P-15-U	4"	22-1/2"	4	3/4"x17"	4	7/8"x7"	18.50	20.50	50.0
18"	18.70	UFR1300-P-18-U	4"	26-3/16"	4	3/4"x17"	4	7/8"x7"	21.88	23.88	62.0
21"	22.05	UFR1300-P-21-U	4"	28-13/16"	4	3/4"x24"	4	7/8"x7"	24.56	26.56	68.5
24"	24.80	UFR1300-P-24-U	4"	32-3/16"	4	3/4"x24"	4	7/8"x7"	27.94	29.94	76.5
27"	27.95	UFR1300-P-27-U	4"	35-3/8"	4	3/4"x24"	4	7/8"x7"	31.09	33.09	85.0

Contact factory for larger sizes. Exact pipe OD is required.