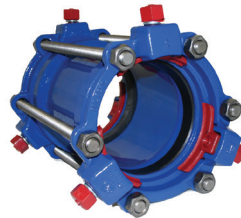
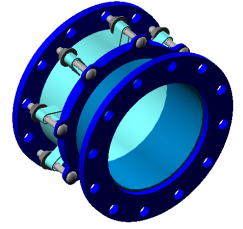




# Water & Industrial Products Catalog



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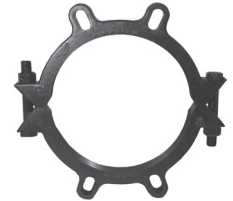
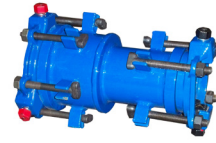
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# Joint Restraints

## What Are Joint Restraints?

Pipe fittings designed to prevent pipe ends and/or pipe fittings from coming apart. This may be done in several ways with different types of restraint technologies.



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# Cam-Lock™

## for Ductile Iron and Carbon Steel Pipe

COLOR CODED BLACK FOR DUCTILE IRON AND CARBON STEEL

Patents US 7484775, US 7748100, CA 2511782

# 111

### Description:

Cam-Locks are mechanical joint restraint glands with multiple and independent single-tooth, cam-action wedges designed to restrain a fitting on a piece of pipe.

### Application:

Restraining pipe ends in mechanical joints fittings. A mechanical joint joins pipes or fittings together by the use of lugs and bolts.

### Key Features:

- Fewer wedges for time-saving installations
- Breakaway nuts twist off at approximately 45-60 ft.-lbs., leaving cam engaged with pipe.
- Lower torque requirement to fully actuate bolts
- Multi-Seal MJ Gasket available in 4"-12" Steel
- Corrosion resistant
- Secondary hex shank for easy removal and reinstallation

### Materials Specifications (subject to change)

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth Ductile Iron, heat treated for Ductile Iron pipe applications

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel

FINISH: Gland is Flexi-Coat® Epoxy per ANSI/AWWA C211. Wedges and Actuating Bolts are E-coated Epoxy

### Kit Specifications

GASKET: Standard Mechanical Joint. ANSI/AWWA C213 SBR, Multi-Seal Gasket, or MJ Transition gasket for Steel ODs

T-BOLTS: High strength, low alloy, per ANSI/AWWA C111/A21.11. **Optional: 304 Stainless Steel, flouropolymer coated.**

**Pipe Applications:** Ductile Iron or Carbon Steel

**Sizes (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48

### Pressure Ratings:

350 PSI on sizes 3"-16" Ductile Iron

250 PSI on sizes 18"-48" Ductile Iron

250 PSI on sizes 3"-12" Carbon Steel (Sch. 20, 40, or 80)

**Deflection** 3° on 3", 5° on 4"-12", 2° on 14"-16", 1½° on 18"-24", 1° on 30"-48"

UL Listed in 3"-24" joining 3"-24" UL Listed Ductile Iron (D.I.) fittings to UL Listed Class 350 (3"-16") Class 250 (18" & 24"), or Class 200 (20") D.I. pipe.





# Cam-Lock™

for Ductile Iron and Carbon Steel Pipe

COLOR CODED BLACK FOR DUCTILE IRON AND CARBON STEEL

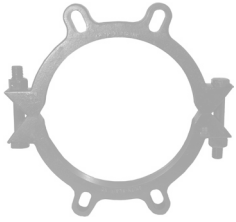
Patents US 7484775, US 7748100, CA 2511782

For MJ fittings on Ductile Iron Pipe and Carbon Steel (3"-12")

NOMINAL SIZE INCHES	PIPE O.D. INCHES	NO. OF WEDGES	WITH D.I. GASKETS, BOLTS, AND NUTS		WT. EACH LBS.	RESTRAINT ONLY		WT. EACH LBS.
			CATALOG NUMBER BOXED FOR DI PIPE SIZES	CATALOG NUMBER BOXED FOR STEEL PIPE SIZE		CATALOG NUMBER UN-BOXED	CATALOG NUMBER BOXED	
3	3.96	2	111-03960000-000	111-03960000-001	10.5	111-03960001-900	111-03960001-000	6.5
4	4.8	2	111-04800000-000	111-04800000-001	11.8	111-04800001-900	111-04800001-000	7.1
6	6.9	3	111-06900000-000	111-06900000-001	17.8	111-06900001-900	111-06900001-000	11.2
8	9.05	3	111-09050000-000	111-09050000-001	20.3	111-09050001-900	111-09050001-000	13.1
10	11.1	6	111-11100000-000	111-11100000-001	32.5	111-11100001-900	111-11100001-000	26
12	13.2	8	111-13200000-000	111-13200000-001	40.4	111-13200001-900	111-13200001-000	31.5
14	15.3	10	111-15300000-000		53.6	111-15300001-900		43.3
16	17.4	12	111-17400000-000		66.3	111-17400001-900		54.1
18	19.5	12	111-19500000-000		72.2	111-19500001-900		59.8
20	21.6	14	111-21600000-000		83.8	111-21600001-900		69.8
24	25.8	16	111-25800000-000		106.9	111-25800001-900		90.4
30	32	20	111-32000000-000		287.9			
36	38.3	24	111-38300000-000		366.3			
42	44.5	28	111-44500000-000		585.1			
48	50.8	32	111-50800000-000		679.5			

PRESSURE RATING (PSI) FOR 111 CAM-LOCKS™ ON CARBON STEEL	
Schedule 20, 40, 80	
Use Transition Gasket	
3"-12"	250 PSI

PRESSURE RATINGS (PSI) FOR 111 CAM-LOCKS™ ON DUCTILE IRON	
ANSI/AWWA - C151 DI OD	
4"-16"	350 PSI
18"-48"	250 PSI



# MJ-Lock™ (formerly Bell-Lock)

## Serrated Joint Restraints

FOR DUCTILE IRON PIPE AND PVC PIPE

# 115

### Description:

A serrated restraint used for MJ type fittings

### Application:

For restraining pipe MJ fittings.

### Key Features:

- Recessed shoulders allow for single wrench installation
- Compatible with standard mechanical joint and some push-on style fitting
- Maintains full pipe deflection
- 360° of pipe support provided
- Adaptable for new and/or existing pipeline applications
- Easily installs outside the trench
- Eliminates need for costly concrete thrust blocks

### Materials Specifications (subject to change)

RESTRAINER: 65-45-12 Ductile Iron (ASTM A536)

T-BOLTS & HEX NUTS: High strength, low alloy

CLAMPING BOLTS: SAE Grade 5, ASTM A449 Type 1, or approved equivalent

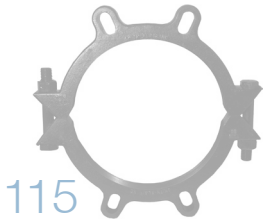
FINISH: Shop Coat

Pipe Applications: Ductile Iron, PVC

Sizes (in inches): 4, 6, 8, 10, 12, 14, 16, 18, 20, 24

Pressure Ratings: Rated at the pressure of the PVC pipe it is used on up to 250 PSI





# MJ-Lock™

## Serrated Joint Restraints

FOR DUCTILE IRON PIPE AND PVC PIPE

115

For MJ Fittings (One Restraint and T-Bolt)

NOMINAL SIZE INCHES	DUCTILE IRON SIZE PIPE			IPS SIZE PIPE		
	PIPE O.D. INCHES	CATALOG NUMBER BOXED	WT. EACH LBS.	PIPE O.D. INCHES	CATALOG NUMBER BOXED	WT. EACH LBS.
4	4.80	115-04800000-000	7.80	4.50	115-04500000-000	8.30
6	6.90	115-06900000-000	10.20	6.63	115-06630000-000	11.10
8	9.05	115-09050000-000	15.50	8.63	115-08630000-000	17.30
10	11.10	115-11100000-000	25.50	10.75	115-10750000-000	27.80
12	13.20	115-13200000-000	27.60	12.75	115-12750000-000	30.80
14*	15.30	115-15300000-000	63.10			
16*	17.40	115-17400000-000	8.50			
18*	19.50	115-19500000-000	90.00			
20*	21.60	115-21600000-000	100.60			
24*	25.80	115-25800000-000	132.90			

\*Bolts in sizes 14"-24" are all-thread instead of t-bolts. Suitable MJ-Lock applications for PVC are limited to SDR 26 or heavier wall pipe, as defined by ASTM D2241.

### Pressure Ratings for PVC

ANSI/AWWA C900 DI OD		ANSI/AWWA C905 CI OD		ASTM D2241 IPS/STEEL OD	
DR 14	200 PSI	DR 18	235 PSI	SDR 17	250 PSI
DR 18	150 PSI	DR 21	200 PSI	SDR 21	200 PSI
DR 25	100 PSI	DR 25	165 PSI	SDR 26	160 PSI
-	-	DR 32.5	125 PSI	-	-

Pressure ratings are for ordinary waterworks with transient surges only. MJ-Locks larger than 16" are not recommended for use on Ductile Iron pipe. Standard safety factor (SF) is 2:1. Suitable MJ-Lock applications for PVC are limited to SDR 26 or heavier wall pipe, as defined by ASTM D2241.

### Pressure Ratings for Ductile Iron

ANSI/AWWA C151 DI OD	
4"-6"	350 PSI
8"	300 PSI
10"	250 PSI
12"	200 PSI
14"	150 PSI
16"	100 PSI



# Cam-Lock™

## For PVC Pipe

COLOR CODED RED FOR PVC PIPE Patents US 7484775, US 7748100, CA 2511782

# 120

### Description:

Cam-Locks are mechanical joint restraint glands with multiple and independent single-tooth, cam-action wedges designed to restrain a fitting on a piece of pipe. Cam-Locks can be removed as necessary.

### Application:

Restraining pipe ends on mechanical joint fittings.

### Key Features:

- Fewer wedges for time saving installations
- Lower torque requirement to fully actuate bolts
- Multi-Seal MJ Gasket available in 4"-12". Fits IPS or DI sized pipe.
- Corrosion resistant
- Secondary hex shank for easy removal and reinstallation
- The 120 Cam-Locks have been tested without failure according to ASTM F 1674-05 on sizes 4"-12" DR 18 PC 150 pipe, conforming to the requirements of AWWA C900

### Materials Specifications (subject to change)

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth Ductile Iron

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel

FINISH: Gland is Flexi-Coat® Epoxy per AWWA C213. Wedges and Actuating Bolts are E-coated Epoxy

### Kit Specifications

Gasket: Standard Mechanical Joint per ANSI/AWWA C111/A21.11 SBR, Multi-Seal Gasket, or MJ transition gasket for Steel/IPS ODs

T-Bolts: High strength, low alloy. **Optional: 304 Stainless Steel, fluoropolymer coated.**

### Pipe Applications: PVC

**Sizes (In Inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36

**Pressure Ratings:** Rated at the pressure rating of PVC pipe it is used on.

**Deflection:** 3° on 3", 5° on 4"-12", 2° on 14"-16", 1 ½° on 18"-24", 1° on 30"-48"

UL Listed in AWWA C900 Class  
150 DR18 PVC pressure pipe  
4"-12".





# Cam-Lock™

For PVC Pipe

COLOR CODED RED FOR PVC PIPE Patents US 7484775, US 7748100, CA 2511782

## For MJ Fittings on PVC Pipe—with a Kit—Boxed

NOMINAL SIZE INCHES	PIPE O.D. INCHES	NO. OF WEDGES	WITH D.I. GASKET, NUTS, AND BOLTS		PIPE O.D. INCHES	WITH IPS GASKET, NUTS AND BOLTS	
			CATALOG NUMBER BOXED	WT. EACH LBS.		CATALOG NUMBER BOXED	WT. EACH LBS.
3	-	2	-	-	3.5	120-03500000-001	11
4	4.8	2	120-04800000-000	12.2	4.5	120-04800000-001	12.2
6	6.9	3	120-06900000-000	18.3	6.63	120-06900000-001	18.3
8	9.05	3	120-09050000-000	20.8	8.63	120-09050000-001	20.8
10	11.1	6	120-11100000-000	33.4	10.75	120-11100000-001	33.4
12	13.2	8	120-13200000-000	42	12.75	120-13200000-001	42
14*	15.3	10	120-15300000-000	55.4			
16*	17.4	12	120-17400000-000	68.4			
18*	19.5	12	120-19500000-000	74.8			
20*	21.6	14	120-21600000-000	86.9			
24*	25.8	16	120-25800000-000	109.8			
30*	32	20	120-32000000-000	291			
36*	38.3	24	120-38300000-000	370.1			

\*Note: 14"-36" only gaskets and hardware are boxed.

## For MJ Fittings on PVC Pipe—without a kit

NOMINAL SIZE INCHES	PIPE O.D. INCHES	NO. OF WEDGES	WITHOUT GASKET, NUTS AND BOLTS	
			CATALOG NUMBER UN-BOXED	WT. EACH LBS.
3	3.50	2	120-03500001-900	7.00
4	4.50-4.80	2	120-04800001-900	8.30
6	6.63-6.90	3	120-06900001-900	12.40
9	8.63-9.05	3	120-09050001-900	14.90
10	10.75-11.10	6	120-11100001-900	25.70
12	12.75-13.20	8	120-13200001-900	34.10
14	15.30	10	120-15300001-900	45.10
16	17.40	12	120-17400001-900	56.20
18	19.50	12	120-19500001-900	62.40
20	21.60	14	120-21600001-900	72.90
24	25.80	16	120-25800001-900	93.20

## For MJ Fittings on PVC Pipe—without a Kit—boxed

NOMINAL SIZE INCHES	PIPE O.D. INCHES	NO. OF WEDGES	WITHOUT GASKET, NUTS, AND BOLTS	
			CATALOG NUMBER BOXED	WT. EACH LBS.
3	3.50	2	120-03500001-000	7.00
4	4.50-4.80	2	120-04800001-000	8.30
6	6.63-6.90	3	120-06900001-000	12.40
8	8.63-9.05	3	120-09050001-000	14.90
10	10.75-11.10	6	120-11100001-000	25.70
12	12.75-13.20	8	120-13200001-000	34.10

Suitable Cam-Lock applications for PVC are limited to SDR 26 or heavier wall pipe, as defined by ASTM D224

## Skid Quantity and Weight

NOMINAL SIZE INCHES	SKID QUANTITY	APPROXIMATE WEIGHT
4	240	1650
6	144	1760
8	108	1778
10	72	1333
12	48	1650
14	48	2231
16	36	2089
18	24	1564
20	24	1936
24	12	1184
30	1	300
36	1	385

Applies to both boxed and un-boxed Cam-Lock Joint Restraints



# Bell-Lock™

## Serrated Joint Restraints

FOR PVC PIPE

# 136

### Description:

A serrated restraint used for AWWA C907 Style PVC pressure fittings

### Application:

For restraining PVC pipe to AWWA C907 style PVC pressure fittings.

### Key Features:

- Recessed shoulders allow for single wrench installation
- Maintains full pipe deflection
- 360° of pipe support provided - uncompromised restraint
- Adaptable for new and/or existing pipeline applications
- Easily installs outside the trench
- Eliminates need for costly concrete thrust blocks

### Materials Specifications (subject to change)

RESTRAINER: 65-45-12 Ductile Iron

T-BOLTS & HEX NUTS: High strength, low alloy

RODS: High strength, low alloy or alloy Steel meeting ASTM A193 GR B7

CLAMPING BOLTS: SAE Grade 5, ASTM A449 Type 1, or approved equivalent

FINISH: Shop Coat

Pipe Applications: PVC

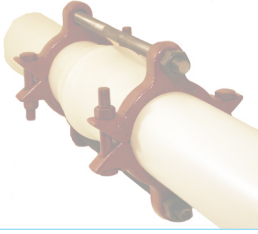
Sizes (in inches): 4, 6, 8

Pressure Ratings: 150 PSI

### For AWWA C907 PVC Pressure Fittings

NOMINAL SIZE INCHES	PIPE O.D. INCHES	DUCTILE IRON SIZE PIPE	
		CATALOG NUMBER BOXED	WT. EACH LBS.
4	4.80	136-04800000-000	15.60
6	6.90	136-06900000-000	20.30
8	9.05	136-09050000-000	31.00

Pressure ratings are for ordinary waterworks with transient surges only.



# Bell-Lock™

## Serrated Joint Restraints

FOR DUCTILE IRON PIPE AND PVC PIPE

# 165

### Description:

A serrated restraint used for restraining bell-and-spigot joints on PVC or Ductile Iron.

### Application:

Restraining (holding) bell-and-spigot joints.

### Key Features:

- Designs deliver almost 360° of engagement (grip)
- Recessed shoulders promote single wrench installations
- Maintains full pipe deflection
- Can adapt to new and/or existing pipeline applications
- Easily installs outside the trench

### Materials Specifications (subject to change)

GLAND: 65-45-12 Ductile Iron (ASTM A536)

RODS: High strength, low alloy or alloy Steel meeting ASTM A193 GRB7. *Optional: 304 Stainless Steel Hardware*

CLAMPING BOLTS: SAE Grade 5, ASTM A449 Type 1, or approved equivalent

FINISH: Shop Coat

### Pipe Applications: Ductile Iron and PVC

### Sizes:

DUCTILE IRON: 4, 6, 8, 10, 12, 14, 16

PVC (D.I.): 4, 6, 8, 10, 12, 14, 16, 18, 20, 24

PVC (IPS): 4, 6, 8, 10, 12

### Pressure Ratings on Ductile Iron:

ANSI/AWWA C151 DI OD

4"-6" 350 PSI

8" 300 PSI

10" 250 PSI

12" 200 PSI

14" 150 PSI

16" 100 PSI

### Pressure Ratings on PVC:

ANSI/AWWA C905 CI OD

DR 14 200 PSI

DR 18 235 PSI

DR 25 100 PSI

ANSI/AWWA C905 CI OD

DR 18 235 PSI

DR 21 200 PSI

DR 25 165 PSI

DR 32.5 125 PSI

ASTM D2241

SDR 17 250 PSI

SDR 21 200 PSI

SDR 26 160 PSI



165

# Bell-Lock™

## Serrated Joint Restraints

FOR DUCTILE IRON PIPE AND PVC PIPE

For Bell and Spigot Joints (Two restraints with rods)

NOMINAL SIZE INCHES	PIPE O.D. INCHES	DUCTILE IRON SIZE PIPE		PIPE O.D. INCHES	IPS SIZE PIPE	
		CATALOG NUMBER BOXED	WT. EACH LBS.		CATALOG NUMBER BOXED	WT. EACH LBS.
4	4.80	165-04800000-000	15.60	4.50	165-04500000-000	16.60
6	6.90	165-06900000-000	20.30	6.63	165-06630000-000	22.10
8	9.05	165-09050000-000	31.00	8.63	165-08630000-000	34.60
10	11.10	165-11100000-000	52.10	10.75	165-10750000-000	56.70
12	13.20	165-13200000-000	56.30	12.75	165-12750000-000	62.70
14*	15.30	165-15300000-000	123.00			
16*	17.40	165-17400000-000	133.70			
18*	19.50	165-19500000-000	175.60			
20*	21.60	165-21600000-000	201.30			
24*	25.80	165-25800000-000	265.80			

Suitable Bell-Lock applications for PVC are limited to SDR 26 or heavier wall pipe, and defined by ASTM D2 41. Pressure ratings are for ordinary waterworks with transient surges only. Bell-Locks larger than 16" are not recommended for use on Ductile Iron pipe. Standard safety factor (SF) is 2:1. SF is derated on 10" and 12" push-on type fittings which will not accommodate all of the restraining T-Bolts.



# Pipe-Lock™

## 470 Series Components Chart

### Gasket

NOMINAL PIPE SIZE INCHES	DUCTILE IRON		IPS		MULTI-SEAL	
	OD	CATALOG NUMBER	OD	CATALOG NUMBER	OD	CATALOG NUMBER
3	3.96	000-00038572-060	3.50	000-00038573-060	-	-
4	4.80	000-00036142-060	4.50	000-00038517-060	4.50-4.80	000-00036735-060
6	6.90	000-00036143-060	6.63	000-00038518-060	6.63-6.90	000-00036736-060
8	9.05	000-00036144-060	8.63	000-00038519-060	8.63-9.05	000-00036737-060
10	11.10	000-00036145-060	10.75	000-00038520-060	10.75-12.75	000-00036738-060
12	13.20	000-00036146-060	12.75	000-00038521-060	12.75-13.20	000-00036739-060
14	15.30	000-00038496-060				
16	17.40	000-00038497-060				
18	19.50	000-00038498-060				
20	21.60	000-00038499-060				
24	25.80	000-00038500-060				

### Studs for 7" Sleeve

NOMINAL PIPE SIZE INCHES	STUD CATALOG NUMBER	DESCRIPTION	NUT CATALOG NUMBER	DESCRIPTION
3	000-00090225-005	5/8" x 16" All-Thread Alloy	000-000100025-005	5/8" Hex Head Alloy
4-24	101-00090241-005	3/4" x 18" All-Thread Alloy Set Includes 1 Stud & 2 Nuts		

### Studs for 10" Sleeve

NOMINAL PIPE SIZE INCHES	STUD SET CATALOG NUMBER	DESCRIPTION
6-24	101-00090218-005	3/4" x 20" All-Thread Alloy. Set Includes 1 Stud & 2 Nuts.
30-36	101-00090840-005	1" x 24" All-Thread Alloy. Set includes 1 Stud & 2 Nuts.
42-48	101-00090842-005	1 1/4" x 24" All-Thread Alloy. Set includes 1 Stud & 2 Nuts.

### Number of Studs Required

NOMINAL PIPE SIZE INCHES	STUD QUANTITY
3	4
4	4
6	6
8	6
10	8
12	8
14	10
16	12
18	12
20	14
24	16
30	20
36	24
42	28
48	32

### Studs for 16" Sleeve

NOMINAL PIPE SIZE INCHES	STUD SET CATALOG NUMBER	DESCRIPTION
30-36	101-00090841-005	1" x 30" All-Thread Alloy. Set includes 1 Stud & 2 Nuts.
42-48	101-00090843-005	1 1/4" x 30" All-Thread Alloy. Set includes 1 Stud & 2 Nuts.





# Pipe-Lock™

## Fabricated Steel Restraint Coupling

FOR DUCTILE IRON OR STEEL PIPE

Patents US 7484775, US 7748100, CA 211782

# 471

### Description:

This is a fabricated Steel restraint coupling.

### Application:

Joins and restrains a plain-end Ductile Iron pipe to plain-end Ductile Iron pipe or plain-end Steel pipe to plain-end Steel pipe.

### Key Features:

- Mechanical restraint shall be an integral part of the follower gland utilizing multiple single tooth wedges
- Breakaway nut torque per wedge is 45 to 60 ft. lbs
- Longer sleeves available

### Materials Specifications (subject to change)

SLEEVE: ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FINISH: Flexi-Coat® Fusion-Bonded Epoxy

### Cam-Lock™ Specifications

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth, Ductile Iron, heat treated for Ductile Iron pipe applications

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel

FINISH: Gland is Flexi-Coat® Fusion-Bonded Epoxy, per AWWA C213; Wedges and actuating bolts are E-coated Epoxy

### Kit Specifications

GASKET: SBR Standard Mechanical Joint per ANSI/AWWA C111/A21.11 SBR, Multi-Seal gasket, or MJ transition gasket for Steel/IPS ODs. 30"-48" sizes supplied with Smith-Blair MJ gasket, all other sizes use standard MJ gaskets

STUDS/NUTS: High strength, low alloy, per AWWA C111; *Optional: 304 Stainless Steel or fluoropolymer-coated nuts.*

Pipe Applications: Ductile Iron, Carbon Steel

### Sizes (in inches):

3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48 (Ductile Iron)

3, 4, 6, 8, 10, 12 (Carbon Steel)

Working Pressure: *See chart on next page.*

Deflection: Maximum Total Deflection per Coupling: 3° degrees on 3", 4.5° degrees on 4"-12", 2° degrees on 14"-16", 1.5 degrees on 18"-24", 1° degree on 30"-48".





471

# Pipe-Lock™

## Fabricated Steel Restraint Coupling

FOR DUCTILE IRON OR STEEL PIPE

### Pipe Type and Pressure Rating (PSI)

NOM. SIZE	DUCTILE IRON	STEEL
3"	350	250
4"	350	250
6"	350	250
8"	350	250
10"	350	250
12"	350	250
14"	350	N/A
16"	350	N/A
20"	250	N/A
24"	250	N/A
30"	250	N/A
36"	250	N/A
42"	250	N/A
48"	250	N/A

### Pressure Ratings (PSI) for Cam-Locks™ on PVC Pipe

ANSI/AWWA C900 D.I. O.D.		ASTM D2241 IPS/STEEL O.D.	
DR 14	305	SDR 17	250
DR 18	235	SDR 21	200
DR 25	165	SDR 26	160

The pressure rating for a Pipe-Lock will be the smaller of the two pipes when coupling/restraining together pipes with different pressure ratings.

Example:

- If joining 8" DI to 8" Steel, the working pressure would be 250 PSI.

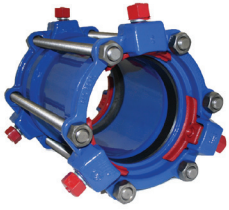
### Straight – Ductile Iron x Ductile Iron

NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES	CATALOG NUMBER	SLEEVE THK. X LGTH. IN.		STUDS			APPROX. SHIP WT. LBS.
			(A)	(B)	NO.	DIA. IN.	LGTH IN.	
3	3.96	471-00000396-203	0.25	7	4	0.63	16	29
4	4.80	471-00000480-203	0.25	7	4	0.75	18	35
6	6.90	471-00000690-203	0.25	7	6	0.75	18	52
6	6.90	471-00000690-303	0.25	10	6	0.75	20	60
8	9.05	471-00000905-203	0.25	7	6	0.75	18	61
8	9.05	471-00000905-303	0.25	10	6	0.75	20	70
10	11.10	471-00001110-203	0.25	7	8	0.75	18	90
10	11.10	471-00001110-303	0.25	10	8	0.75	20	102
12	13.20	471-00001320-203	0.25	7	8	0.75	18	110
12	13.20	471-00001320-303	0.25	10	8	0.75	20	122
14	15.30	471-00001530-203	0.25	7	10	0.75	18	139
14	15.30	471-00001530-303	0.25	10	10	0.75	20	154
16	17.40	471-00001740-203	0.25	7	12	0.75	18	168
16	17.40	471-00001740-303	0.25	10	12	0.75	20	186
18	19.50	471-00001950-203	0.25	7	12	0.75	18	184
18	19.50	471-00001950-303	0.25	10	12	0.75	20	203
20	21.60	471-00002160-203	0.25	7	14	0.75	18	212
20	21.60	471-00002160-303	0.25	10	14	0.75	20	233
24	25.80	471-00002580-203	0.25	10	16	0.75	18	266
24	25.80	471-00002580-303	0.375	10	16	0.75	20	291
30+	32.00	471-00003200-303	0.375	10	20	1.00	24	644
30+	32.00	471-00003200-503	0.375	16	20	1.00	30	787

A= Sleeve Thickness B=Sleeve Length  
+ Uses Smith-Blair MJ Gasket

NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES	CATALOG NUMBER	SLEEVE THK. X LGTH. IN.		STUDS			APPROX. SHIP WT. LBS.
			(A)	(B)	NO.	DIA. IN.	LGTH IN. ©	
36+	38.30	471-00003830-303	0.375	10	24	1.00	24	813
36+	38.30	471-00003830-503	0.375	16	24	1.00	30	986
42+	44.50	471-00004450-303	0.375	10	28	1.25	24	1263
42+	44.50	471-00004450-503	0.375	16	28	1.25	30	1464
48+	50.80	471-00005080-303	0.375	10	32	1.25	24	1465
48+	50.80	471-00005080-503	0.375	16	32	1.25	30	1694

A= Sleeve Thickness B=Sleeve Length  
 + Uses Smith-Blair MJ Gasket



# Pipe-Lock™

## Fabricated Steel Restraint Couplings

FOR PVC PIPE

Patents US 7484775, US 7745100, CA 2511782

# 472

**Description:** This is a fabricated Steel restraint coupling.

**Application:** Joins and restrains PVC pipe to PVC pipe.

**Key Features:**

- Mechanical restraint shall be an integral part of the follower gland, utilizing multiple single tooth wedges
- Comes as a complete unit
- Use with the Multi-Seal Gasket for more flexibility in nominal sizes 4"-12" — mixing IPS and D.I. O.D. PVC pipe.
- Breakaway nut torque per wedge is 45 to 60 ft. lbs
- Longer sleeves available

### Materials Specifications (subject to change)

SLEEVE: ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FINISH: Flexi-Coat® Fusion-Bonded Epoxy

### Cam-Lock™ Specifications

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth, Ductile Iron, heat treated for Ductile Iron pipe applications

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel or Cast Iron

FINISH: Gland is Flexi-Coat® Fusion-Bonded Epoxy, per AWWA C213; Wedges and actuating bolts are E-coated Epoxy

### Kit Specifications

GASKET: SBR Standard Mechanical Joint. Per ANSI/AWWA C111/A21.11 SBR, Multi-Seal Gasket, or MJ transition gasket for Steel/IPS ODs. **Optional Multi-Seal gasket available in 4"-12" sizes; 30" and 36" sizes supplied with Smith-Blair® MJ gasket.**

STUDS/NUTS: High strength, low alloy, per AWWA C111; **Optional: 304 Stainless Steel fluoropolymer-coated nuts.**

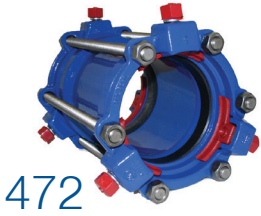
**Pipe Applications:** PVC

**Sizes (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36

**Working Pressure:** See *Pressure Chart on next page.*

**Deflection** Maximum Total Deflection per Coupling: 3° degrees on 3", 4.5° degrees on 4"-12", 2° degrees on 14"-16", 1.5 degrees on 18"-24", 1° degree on 30"-36".





# Pipe-Lock™

## Fabricated Steel Restraint Couplings

FOR PVC PIPE

Patents US 7484775, US 7745100, CA 2511782

472

### Pipe Type and Pressure Rating (PSI)

NOM. SIZE	PVC	DUCTILE IRON	STEEL
3"	Rated at the pressure rating of the PVC pipe on which it is installed. See PVC pressure rating chart.	350	250
4"		350	250
6"		350	250
8"		350	250
10"		350	250
12"		350	250
14"		350	N/A
16"		350	N/A
20"		250	N/A
24"		250	N/A
30"	150	250	N/A
36"	125	250	N/A
42"	N/A	250	N/A
48"	N/A	250	N/A

### Pressure Ratings (PSI) for Cam-Locks™ on PVC Pipe

ANSI/AWWA C900 D.I. OD		ANSI/AWWA C905 D.I. OD		ASTM D2241 IPS/ STEEL OD	
DR 14	305	DR 18	235	SDR 17	250
DR 18	235	DR 25	165*	SDR 21	200
DR 25	165			SDR 26	160

\*ANSI/AWWA C905 DI OD- 30":150 PSI. 36":125 PSI.

The pressure rating for a Pipe-Lock will be the smaller of the two pipes when coupling/restraining together pipes with different pressure ratings.

Examples:

- If joining 24" DI to 24" DR18 C905 PVC, the working pressure would be 235 PSI.
- If joining 8" DI to 8" Steel, the working pressure would be 250 PSI.
- If joining 36" DR25 C905 PVC to 48" DI, the working pressure would be 125 PSI.
- If joining 10" Steel to 10" SDR21 PVC pipe, the working pressure would be 200 PSI.

### Straight – PVC x PVC

NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES	CATALOG NUMBER	SLEEVE THK. X LGTH. IN.		STUDS			APPROX. SHIP WT. LBS.
			(A)	(B)	NO.	DIA. IN.	LGTH. IN.	
3	3.50	472-00000350-203	0.25	7	4	0.63	16	29
*4	*4.50-4.80 X *4.50-4.80	472-00000480-243	0.25	7	4	0.75	18	36
4	4.50	472-00000450-203	0.25	7	4	0.75	18	36
4	4.80	472-00000480-203	0.25	7	4	0.75	18	36
*6	*6.63-6.90 X * 6.63 X 6.90	472-00000690-243	0.25	7	4	0.75	18	52
*6	*6.63-6.90 X *6.63 X 6.90	472-00000690-343	0.25	10	6	0.75	20	61
6	6.63	472-00000663-203	0.25	7	6	0.75	18	52
6	6.63	472-00000663-303	0.25	10	6	0.75	20	61
6	6.90	472-00000690-203	0.25	7	6	0.75	18	52
6	6.90	472-00000690-303	0.25	10	6	0.75	20	61
*8	*8.63-9.05 x *8.63-9.05	472-00000905-243	0.25	7	6	0.75	18	62
*8	*8.63-9.05 x *8.63-9.05	472-00000905-343	0.25	10	6	0.75	20	71
8	8.63	472-00000863-203	0.25	7	6	0.75	18	62
8	8.63	472-00000863-303	0.25	10	6	0.75	20	71
8	9.05	472-00000905-203	0.25	7	6	0.75	18	62
8	9.05	472-00000905-303	0.25	10	6	0.75	20	71

A= Sleeve Thickness B=Sleeve Length

\*Uses Multi-Seal Gasket

Straight – PVC x PVC Continued

NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES	CATALOG NUMBER	SLEEVE THK. X LGTH. IN.		STUDS			APPROX. SHIP WT. LBS.
			(A)	(B)	NO.	DIA. IN.	LGTH. IN.	
*10	*10.75-11.10 x *10.75-11.10	472-00001110-243	0.25	7	8	0.75	18	92
*10	*10.75-11.10 x *10.75-11.10	472-00001110-343	0.25	10	8	0.75	20	103
10	10.75	472-00001075-203	0.25	7	8	0.75	18	92
10	10.75	472-00001075-303	0.25	10	8	0.75	20	103
10	11.10	472-00001110-203	0.25	7	8	0.75	18	92
10	11.10	472-00001110-303	0.25	10	8	0.75	20	103
*12	*12.75-13.20 x *12.75-13.20	472-00001320-243	0.25	7	8	0.75	18	114
*12	*12.75-13.20 x *12.75-13.20	472-00001320-343	0.25	10	8	0.75	20	125
12	12.75	472-00001275-203	0.25	7	8	0.75	18	114
12	12.75	472-00001275-303	0.25	10	8	0.75	20	125
12	13.20	472-00001320-203	0.25	7	8	0.75	18	114
12	13.20	472-00001320-303	0.25	10	8	0.75	20	125
14	15.30	472-00001530-203	0.25	7	10	0.75	18	142
14	15.30	472-00001530-303	0.25	10	10	0.75	20	157
16	17.40	472-00001740-203	0.25	7	12	0.75	18	172
16	17.40	472-00001740-303	0.25	10	12	0.75	20	190
18	19.50	472-00001950-203	0.25	7	12	0.75	18	190
18	19.50	472-00001950-303	0.25	10	12	0.75	20	208
20	21.60	472-00002160-203	0.25	7	14	0.75	18	218
20	21.60	472-00002160-303	0.25	10	14	0.75	20	240
24	25.80	472-00002580-203	0.25	7	16	0.75	18	272
24	25.80	472-00002580-303	0.25	10	16	0.75	20	297
30+	32.00	472-00003200-303	0.25	10	20	1.00	24	650
30+	32.00	472-00003200-503	0.25	16	20	1.00	30	793
36+	38.30	472-00003830-303	0.25	10	24	1.00	24	821
36+	38.30	472-00003830-503	0.25	16	24	1.00	30	993

A= Sleeve Thickness B=Sleeve Length

\*Uses Mult-Seal Gasket

+ Uses Smith-Blair MJ Gasket



# Pipe-Lock™

## Fabricated Steel Restraint Coupling

FOR PVC x DUCTILE IRON OR PVC x STEEL

Patents US 7484775, US 7748100, CA 2511782

# 473

**Description:** This is a fabricated Steel restraint coupling.

**Application:** Joins and restrains a straight transition plain-end PVC to plain-end Ductile Iron or plain-end PVC to plain-end Steel.

### Materials Specifications (subject to change)

SLEEVE: ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FINISH: Flexi-Coat® Fusion-Bonded Epoxy

### Key Features:

- Mechanical restraint shall be an integral part of the follower gland utilizing multiple single tooth wedges
- Comes as a complete unit
- Use with the Multi-Seal Gasket for more flexibility — mixing IPS and D.I. O.D. pipe
- Breakaway nut torque per wedge is 45 to 60 ft. lbs
- Longer sleeves available

### Cam-Lock™ Specifications

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth, Ductile Iron, heat treated for Ductile Iron pipe applications

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel or Cast Iron

FINISH: Gland is Flexi-Coat® Fusion-Bonded Epoxy, per AWWA C213; Wedges and actuating bolts are E-coated Epoxy

### Kit Specifications

GASKET: SBR Standard Mechanical Joint. ANSI/AWWA C111/A21.11 SBR or Multi-Seal Gasket

STUDS/NUTS: High strength, low alloy, per AWWA C111; *Optional: 304 Stainless Steel fluoropolymer-coated nuts*

**Pipe Applications:** PVC x Ductile Iron or PVC x Steel

### Sizes (in inches):

PVC: 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36

DUCTILE IRON: 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48

STEEL: 3, 4, 6, 8, 10, 12

**Working Pressure:** See Pressure Chart on next page.

**Deflection** Maximum Total Deflection per Coupling: 3° degrees on 3", 4.5° degrees on 4"-12", 2° degrees on 14"-16", 1.5 degrees on 18"-24", 1° degree on 30"-48".





473

# Pipe-Lock™

## Fabricated Steel Restraint Coupling

FOR PVC x DUCTILE IRON OR PVC x STEEL

Patents US 7484775, US 7748100, CA 2511782

### Pipe Type and Pressure Rating (PSI)

NOM. SIZE	PVC	DUCTILE IRON	STEEL	
3"	Rated at the pressure rating of the PVC pipe on which it is installed. See PVC pressure rating chart.	350	250	
4"		350	250	
6"		350	250	
8"		350	250	
10"		350	250	
12"		350	250	
14"		350	N/A	
16"		350	N/A	
20"		250	N/A	
24"		250	N/A	
30"		150	250	N/A
36"		125	250	N/A
42"	N/A	250	N/A	
48"	N/A	250	N/A	

### Pressure Ratings (PSI) for Cam-Locks™ on PVC Pipe

ANSI/AWWA C900 D.I. OD		ANSI/AWWA C905 D.I. OD		ASTM D2241 IPS/STEEL OD	
DR 14	305	DR 18	235	SDR 17	250
DR 18	235	DR 25	165*	SDR 21	200
DR 25	165			SDR 26	160

\*ANSI/AWWA C905 DI OD- 30":150 PSI. 36":125 PSI.

The pressure rating for a Pipe-Lock will be the smaller of the two pipes when coupling/restraining together pipes with different pressure ratings.

Examples:

- If joining 24" DI to 24" DR18 C905 PVC, the working pressure would be 235 PSI.
- If joining 8" DI to 8" Steel, the working pressure would be 250 PSI.
- If joining 36" DR25 C905 PVC to 48" DI, the working pressure would be 125 PSI.
- If joining 10" Steel to 10" SDR21 PVC pipe, the working pressure would be 200 PSI.

### Straight – PVC x Ductile Iron or PVC x Steel

NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES		CATALOG NUMBER	SLEEVE THK. X LGTH. IN.		STUDS			APPROX. SHIP WT. LBS.
	PVC	DI		A	B	NO.	DIA. IN.	LGTH. IN.	
3	3.50	3.96	473-03500396-203	0.25	7	4	0.63	16	29
4	*4.50-4.80	4.80	473-04800480-243	0.25	7	4	0.75	18	36
4	4.50	4.80	473-04500480-203	0.25	7	4	0.75	18	36
4	4.80	4.80	473-04800480-203	0.25	7	4	0.75	18	36
6	*6.63-6.90	6.90	473-06900690-243	0.25	7	6	0.75	18	52
6	*6.63-6.90	6.90	473-06900690-343	0.25	10	6	0.75	20	60
6	6.63	6.90	473-06630690-203	0.25	7	6	0.75	18	52
6	6.90	6.90	473-06900690-303	0.25	10	6	0.75	20	60
8	*8.63-9.05	9.05	473-09050905-243	0.25	7	6	0.75	18	61
8	*8.63-9.05	9.05	473-09050905-343	0.25	10	6	0.75	20	70
8	8.63	9.05	473-08630905-203	0.25	7	6	0.75	18	61
8	9.05	9.05	473-09050905-303	0.25	10	6	0.75	20	70
10	*10.75-11.10	11.10	473-11101110-243	0.25	7	8	0.75	18	90
10	*10.75-11.10	11.10	473-11101110-343	0.25	10	8	0.75	20	101
10	10.75	11.10	473-10751110-203	0.25	7	8	0.75	18	90
10	10.75	11.10	473-10751110-303	0.25	10	8	0.75	20	101
10	11.10	11.10	473-11101110-203	0.25	7	8	0.75	18	90
10	11.10	11.10	473-11101110-303	0.25	10	8	0.75	20	101
12	*12.75-13.20	13.20	473-13201320-243	0.25	7	8	0.75	18	111
12	*12.75-13.20	13.20	473-13201320-343	0.25	10	8	0.75	20	123
12	12.75	13.20	473-12751320-203	0.25	7	8	0.75	18	111

A= Sleeve Thickness B=Sleeve Length

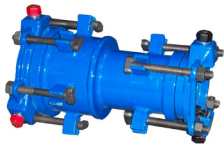
\* Uses Multi-Seal Gasket



Straight – PVC x Ductile Iron or PVC x Steel Continued

NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES		CATALOG NUMBER	SLEEVE THK. X LGTH. IN.		STUDS			APPROX. SHIP WT. LBS.
	PVC	DI		A	B	NO.	DIA. IN.	LGTH. IN	
12	12.75	13.20	473-12751320-303	0.25	10	8	0.75	20	123
12	13.20	13.20	473-13201320-203	0.25	7	8	0.75	18	111
12	13.20	13.20	473-13201320-303	0.25	10	8	0.75	20	123
14	15.30	15.30	473-15301530-203	0.25	7	10	0.75	18	141
14	15.30	15.30	473-15301530-303	0.25	10	10	0.75	20	156
16	17.40	17.40	473-17401740-203	0.25	7	12	0.75	18	170
16	17.40	17.40	473-17401740-303	0.25	10	12	0.75	20	188
18	19.50	19.50	473-19501950-203	0.25	7	12	0.75	18	187
18	19.50	19.50	473-19501950-303	0.25	10	12	0.75	20	206
20	21.60	21.60	473-21602160-203	0.25	7	14	0.75	18	215
20	21.60	21.60	473-21602160-303	0.25	10	14	0.75	20	236
24	25.80	25.80	473-25802580-203	0.25	7	16	0.75	18	269
24	25.80	25.80	473-25802580-303	0.25	10	16	0.75	20	294
30+	32.00	32.00	473-32003200-303	0.25	10	20	1.00	24	647
30+	32.00	32.00	473-32003200-503	0.25	16	20	1.00	30	790
36+	38.30	38.30	473-38303830-203	0.25	10	24	1.00	24	817
36+	38.30	38.30	473-38303830-503	0.25	16	24	1.00	30	989

A= Sleeve Thickness B=Sleeve Length  
 \* Uses Multi-Seal Gasket  
 + Uses Smith-Blair MJ Gasket



# Pipe-Lock™

## Fabricated Steel Couplings

### Ductile Iron, PVC and Steel Pipe REDUCING TRANSITION

Patents US 7484775, US 7748100, CA 2511782

474

475

476

**Description:** This is a fabricated Steel sleeve restraint coupling for reducing transitions

**Application:** A reducing coupling that joins and restrains any combination of plain-end Ductile Iron, Steel or PVC pipe.

#### Key Features:

- Rating based on larger of the 2 OD's: 3"-16" 350 PSI / 18"-48" 250 PSI
- Comes as a complete unit
- Mechanical restraint shall be an integral part of the follower gland utilizing multiple single tooth wedges
- Use with the Multi-Seal Gasket for more flexibility in nominal sizes 4"-12"
- Reducing transition style coupling
- Breakaway nut torque per wedge is 45 to 60 ft. lbs.
- Longer sleeves available

#### Materials Specifications (subject to change)

SLEEVE: ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI.

FINISH: Flexi-Coat® Fusion-Bonded Epoxy

#### Cam-Lock™ Specifications

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth, Ductile Iron, heat treated for Ductile Iron pipe applications

BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel or Cast Iron

FINISH: Gland is Flexi-Coat® Fusion-Bonded Epoxy, per AWWA C213; Wedges and actuating bolts are E-coated Epoxy

#### Kit Specifications

GASKET: SBR Standard Mechanical Joint, ANSI/AWWA C111/A21.11 SBR or Multi-Seal Gasket

STUDS/NUTS: High strength, low alloy, per AWWA C111; **Optional: 304 Stainless Steel or fluoropolymer-coated nuts.**

**Pipe Applications:** Ductile Iron, Steel, PVC

#### Sizes (in inches):

DUCTILE IRON: 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48

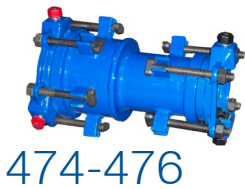
STEEL: 3, 4, 6, 8, 10, 12

PVC: 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 24, 30, 36

**Working Pressure:** See chart on next page.

**Deflection** Maximum Total Deflection per Coupling: 3° degrees on 3", 4.5° degrees on 4"-12", 2° degrees on 14"-16", 1.5 degrees on 18"-24", 1° degree on 30"-48".





# Pipe-Lock™

Fabricated Steel Couplings

Ductile Iron, PVC and Steel Pipe REDUCING TRANSITION

Patents US 7484775, US 7748100, CA 2511782

474-476

## Pipe Type and Pressure Rating (PSI)

NOM SIZE	PVC	DUCTILE IRON	STEEL	
3"	Rated at the pressure rating of the PVC pipe on which it is installed. See PVC pressure rating chart.	350	250	
4"		350	250	
6"		350	250	
8"		350	250	
10"		350	250	
12"		350	250	
14"		350	N/A	
16"		350	N/A	
20"		250	N/A	
24"		250	N/A	
30"		150	250	N/A
36"		125	250	N/A
42"	N/A	250	N/A	
48"	N/A	250	N/A	

## Pressure Ratings (PSI) for Cam-Locks™ on PVC Pipe

ANSI/AWWA C900 D.I. OD		ANSI/AWWA C905 D.I. OD		ASTM D2241 IPS/STEEL OD	
DR 14	305	DR 18	235	SDR 17	250
DR 18	235	DR 25	165*	SDR 21	200
DR 25	165			SDR 26	160

\*ANSI/AWWA C905 DI OD- 30":150 PSI. 36":125 PSI.

The pressure rating for a Pipe-Lock will be the smaller of the two pipes when coupling/restraining together pipes with different pressure ratings.

Examples:

- If joining 24" DI to 24" DR18 C905 PVC, the working pressure would be 235 PSI.
- If joining 8" DI to 8" Steel, the working pressure would be 250 PSI.
- If joining 36" DR25 C905 PVC to 48" DI, the working pressure would be 125 PSI.
- If joining 10" Steel to 10" SDR21 PVC pipe, the working pressure would be 200 PSI.



# Pipe-Lock™

## Sleeve Weldment

# 477

### Description:

This is a fabricated Steel sleeve for use with MJ gaskets and restraints.

### Application:

For connecting plain end D.I. and plain-end PVC and for use on steel pipe 3"-12".

### Dimensions (subject to change):

SLEEVE: ASTM A283 Gr. C or Carbon Steel having a minimum yield strength of 30,000 PSI.

FINISH: Flexi-Coat® Fusion-Bonded Epoxy

NOMINAL PIPE SIZE INCHES	CATALOG NUMBER	SLEEVE THK. X LGTH IN.		APPROX. SHIP WT. LBS.
		A	B	
3	477-00030003-200	0.25	7	8
4	477-00040004-200	0.25	7	12
6	477-00060006-200	0.25	7	16
6	477-00060006-300	0.25	10	21
8	477-00080008-200	0.25	7	21
8	477-00080008-300	0.25	10	27
10	477-00100010-200	0.25	7	25
10	477-00100010-300	0.25	10	33
12	477-00120012-200	0.25	7	29
12	477-00120012-300	0.25	10	38
14	477-00140014-200	0.25	7	34
14	477-00140014-300	0.25	10	44
16	477-00160016-200	0.25	7	38
16	477-00160016-300	0.25	10	50
18	477-00180018-200	0.25	7	42
18	477-00180018-300	0.25	10	56
20	477-00200020-200	0.25	7	47
20	477-00200020-300	0.25	10	62
24	477-00240024-200	0.25	7	55
24	477-00240024-300	0.25	10	73
30	477-00300030-200	0.25	10	90
30	477-00300030-300	0.25	16	133
36	477-00360036-200	0.25	10	107
36	477-00360036-300	0.25	16	159
42	477-00420042-200	0.25	10	124
42	477-00420042-300	0.25	16	184
48	477-00480048-200	0.25	10	141
48	477-00480048-300	0.25	16	210



# Flange-Lock™ Restrained FCA

## Ductile Iron and Steel

FOR CONNECTING AND RESTRAINING FLANGED FITTINGS TO PIPE

# 911

**Description:** For connecting and restraining plain end D.I. or Steel pipe.

**Application:** For connecting and restraining plain end D.I. or Steel pipe to flanged pipe fittings, valves, meters, or other flanged equipment.

### Key Features:

- Mechanical restraint shall be an integral part of the follower gland utilizing multiple single tooth wedges
- Reducing style available
- Breakaway nut torque per wedge is 45 to 60 ft. lbs.
- Longer adapters available

### Materials Specifications (subject to change)

SLEEVE: ASTM A36 A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FLANGE: \*AWWA C207 Class D, ANSI 150 lb. drilling. Flat face

FINISH: Flexi-Coat®, Fusion-Bonded epoxy

### Cam-Lock™ Specifications

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth, Ductile Iron, heat treated for Ductile Iron pipe applications

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel or Cast Iron

FINISH: Gland is Flexi-Coat® Fusion-Bonded Epoxy, per AWWA C213; Wedges and actuating bolts are E-coated Epoxy

### Kit Specifications

GASKET: SBR Standard Mechanical Joint. AWWA C111 and ANSI A21. 11 SBR or Multi-Seal Gasket

T-BOLTS: High strength, low alloy, per AWWA C111; **Optional: 304 Stainless Steel, fluoropolymer coated**

### Sizes (in inches):

DUCTILE IRON: 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48

CARBON STEEL: 3, 4, 6, 8, 10, 12

**Working Pressure:** 175 PSI 3-12"; 150 PSI 14" and above

**Deflection:** Assembled joints into each follower gland through 12" shall allow for five-degrees deflection two degrees 14"-24", 1.5 degrees 18"-24", one degree 30"-48"

NOTE: \*300 lb. flanges available for 300 PSI applications.

For other flanges, contact Smith-Blair for specific details and pricing. The pass-through feature may not be available with some flanges. 300 PSI rating is limited to series 911

on Ductile Iron pipe only though 16". All 18"-48" 911 on Ductile Iron pipe applications will be limited to 250 PSI. All 911 on Steel pipe 3"-12" will be limited to 250 PSI.

911



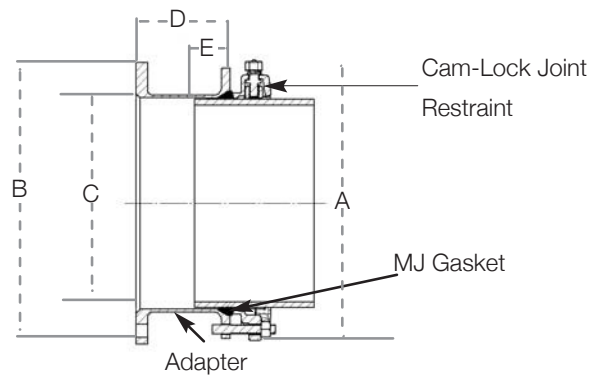
# Flange-Lock Restrained FCA

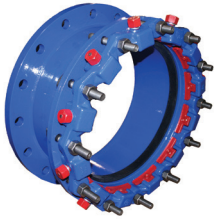
Ductile Iron and Steel

FOR CONNECTING AND RESTRAINING FLANGED FITTINGS TO PIPE

Patents US 7484775, US 7748100, CA 2511782

NOMINAL PIPE SIZE INCHES	O.D. RANGE INCHES	NOMINAL FLANGE RANGE INCHES	CATALOG NUMBER	WT. EACH LBS.	DIMENSIONS/INCHES					MAX. JOINT DEFLECTION (DEGREES)
					A	B	C	D	E	
3	3.96	3	911-03960300-000	25.00	9.82	7.50	4.62	7.88	3.00	3
4	4.80	4	911-04800400-000	35.00	10.67	9.00	5.00	7.88	3.00	5
6	6.90	6	911-06900600-000	49.00	11.19	11.00	7.03	7.88	3.00	5
8	9.05	8	911-09050800-000	62.00	13.29	13.50	9.25	7.88	3.00	5
10	11.10	10	911-11101000-000	85.00	16.97	16.00	11.25	7.88	3.00	5
12	13.20	12	911-13201200-000	112.00	19.07	19.00	13.38	7.88	3.00	5
14	15.30	14	911-15301400-000	134.00	21.18	21.00	15.50	8.13	3.00	2
16	17.40	16	911-17401600-000	163.00	23.28	23.50	17.59	8.13	3.00	2
18	19.50	18	911-19501800-000	176.00	25.98	25.00	19.69	8.13	3.00	1.5
20	21.60	20	911-21602000-000	206.00	28.08	27.50	21.78	8.13	3.00	1.5
24	25.80	24	911-25802400-000	264.00	32.28	32.00	26.00	8.13	3.00	1
30	32.00	30	911-32003000-000	563.00	39.42	38.75	32.20	11.50	3.00	1
36	38.30	36	911-38303600-000	749.00	46.29	46.00	38.50	13.50	3.00	1
42	44.50	42	911-44504200-000	1091.00	53.62	53.00	44.70	13.50	3.00	1
48	50.80	48	911-50804800-000	1272.00	60.50	59.50	51.00	13.50	3.00	1





# Flange-Lock™ Restrained FCA PVC Pipe

FOR CONNECTING AND RESTRAINING FLANGED FITTINGS TO PIPE

Patents US 7484775, US 7748100, CA 2511782

# 920

**Description:** A fabricated Steel Flanged Coupling Adapter with integral restraint.

## Application:

For connecting and restraining PVC pipe to flanged pipe, fittings, valves, meters, other flanged equipment

## Key Features:

- Mechanical restraint shall be an integral part of the follower gland utilizing multiple single tooth wedges
- Reducing style coupling available
- Multi-Seal Gasket for more flexibility in nominal sizes 4"-12"
- Breakaway nut torque per wedge is 45 to 60 ft. lbs.
- Longer sleeves available

## Materials Specifications (subject to change)

SLEEVE: ASTM A36 A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FLANGE: \*AWWA C207 Class D, ANSI 150 lb. drilling, flat face

FINISH: Flexi-Coat®, Fusion-Bonded Epoxy

## Cam-Lock™ Specifications

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth, Ductile Iron, heat treated for Ductile Iron pipe applications

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel or Ductile Iron

FINISH: Gland is Flexi-Coat® Fusion-Bonded Epoxy, per AWWA C213; Wedges and actuating bolts are

E-coated Epoxy

## Kit Specifications

GASKET: SBR Standard Mechanical Joint. AWWA C111 and ANSI A21. 11 SBR or Multi-Seal Gasket.

T-BOLTS: High Strength, low alloy, per AWWA C111; **Optional: 304 Stainless Steel, fluoropolymer coated**

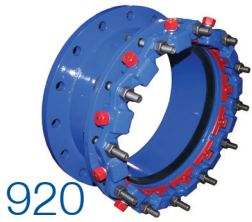
**Pipe Applications:** PVC Pipe

**Sizes (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48

**Working Pressure:** 3"-12" 175 PSI; 14"-30" 150 PSI

**Deflection:** Assembled joints into each follower gland through 12" shall allow for five-degree deflection two degrees 14"-24", 1.5 degrees 18"-24", one degree 30"-48".

NOTE: \*300 lb. flanges available for higher pressures. For other flanges, contact Smith-Blair for specific details and pricing. The pass-through feature may not be available with some flanges. All 911 on Steel pipe 3"-12" and all 920 on PVC applications through 24" will be limited to 250 PSI, 150 PSI on 30" and 125 PSI on 36".



# Flange-Lock Restrained FCA

## PVC Pipe

FOR CONNECTING AND RESTRAINING FLANGED FITTINGS TO PIPE

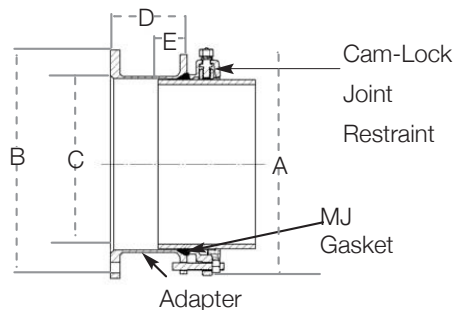
Patents US 7484775, US 7748100, CA 2511782

For PVC Pipe

NOMINAL PIPE SIZE INCHES	O.D. RANGE INCHES	NOMINAL FLANGE RANGE INCHES	CATALOG NUMBER	WEIGHT EACH LBS.	DIMENSIONS/INCHES					MAX. JOINT DEFLECTION (DEGREES)
					A	B	C	D	E	
10	10.75-11.10	10	920-11101000-100	86	13.29	13.50	9.25	7.88	3.00	5
10	10.75	10	920-10751000-000	86	16.97	16.00	11.25	7.88	3.00	5
10	11.10	10	920-11101000-000	86	16.97	16.00	11.25	7.88	3.00	5
12	12.75-13.20	12	920-13201200-100	113	19.07	19.00	13.38	7.88	3.00	5
12	12.75	12	920-12751200-000	113	19.07	19.00	13.38	7.88	3.00	5
12	13.20	12	920-13201200-000	113	19.07	19.00	13.38	7.88	3.00	5
14	15.30	14	920-15301400-000	136	21.18	21.00	15.50	7.88	3.00	2
16	17.40	16	920-17401600-000	165	23.28	23.50	17.59	7.88	3.00	2
18	19.50	18	920-19501800-000	178	25.98	25.00	19.69	7.88	3.00	1.5
20	21.60	20	920-21602000-000	209	28.08	27.50	21.78	7.88	3.00	1.5
24	25.80	24	920-25802400-000	268	32.28	32.00	26.00	7.88	3.00	1
30	32.00	30	920-32003000-000	566	39.42	38.75	32.20	11.13	3.00	1
36	38.30	36	920-38303600-000	752	46.29	46.00	38.50	11.13	3.00	1

For PVC Pipe

NOMINAL PIPE SIZE INCHES	O.D. RANGE INCHES	NOMINAL FLANGE RANGE INCHES	CATALOG NUMBER	WEIGHT EACH LBS.	DIMENSIONS/INCHES					MAX. JOINT DEFLECTION (DEGREES)
					A	B	C	D	E	
3	3.50	3	920-03500300-000	26.00	9.82	7.50	4.62	7.88	3.00	3
4	4.50-4.80	4	920-04800400-100	35.00	10.67	9.00	5.00	7.88	3.00	5
4	4.50	4	920-04500400-000	35.00	10.67	9.00	5.00	7.88	3.00	5
4	4.80	4	920-04800400-000	35.00	10.67	9.00	5.00	7.88	3.00	5
6	6.63-6.90	6	920-06900600-100	49.00	11.19	11.00	7.03	7.88	3.00	5
6	6.63	6	920-06630600-000	49.00	11.19	11.00	7.03	7.88	3.00	5
6	6.90	6	920-06900600-000	49.00	11.19	11.00	7.03	7.88	3.00	5
8	8.63-9.05	8	920-09050800-100	62.00	13.29	13.50	9.25	7.88	3.00	5
8	8.63	8	920-08630800-000	62.00	13.29	13.50	9.25	7.88	3.00	5
8	9.05	8	920-09050800-000	62.00	13.29	13.50	9.25	7.88	3.00	5







# Fabricated Steel

## Dismantling Joint

FOR FLANGED PIPE OR FLANGED FITTINGS

# 973

### Description:

A fabricated Steel dismantling joint with integral restraint

### Application:

For installing valves, meters, pipe and other flanged fittings

### Materials Specifications (subject to change):

FLANGED ADAPTER BODY: ASTM A53, ASTM A283 Gr. C or Carbon Steel

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth Ductile Iron, heat treated for Ductile Iron pipe applications

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel

FLANGE: Per AWWA C207

SPIGOT: ASTM A53, ASTM A512 or Carbon Steel having a minimum yield of 30,000 PSI

T-BOLTS: HSLA (High Strength Low Alloy). Per ANSI/AWWA C111

GASKET: Standard Mechanical Joint AWWA C111/ANSI A21.11 SBR

FINISH: Flexi-Coat®, Fusion-Bonded epoxy per AWWA

anges are available

upon request

**Pipe Applications:** Flanged pipe or fittings

### Sizes (in inches):

DUCTILE IRON: 3, 4, 6, 8, 10, 11, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48

STEEL: 3, 4, 6, 8, 10, 12

**Pressure Rating:** 150 PSI

NOMINAL SIZE INCHES	CATALOG NUMBER	WT. EACH LBS.
3	973-03000300-003	32
4	973-04000400-003	48
6	973-06000600-003	68
8	973-08000800-003	88
10	973-10001000-003	118
12	973-12001200-003	160
14	973-14001400-003	286
16	973-16001600-003	345
18	973-18001800-003	370
20	973-20002000-003	448
24	973-24002400-003	574
30	973-30003000-003	1038
36	973-36003600-003	1429
42	973-42004200-003	2043
48	973-48004800-003	2462



# Repair Clamps

## What Are Repair Clamps?

Clamping devices for the water and wastewater industry that permanently repair damaged pipe by providing 360° pressure on the damaged section to stop leakage.



Smith-Blair  
a xylem brand



# Full Circle<sup>®</sup> Repair Clamp

## Single Band, Low Pressure

# 221

### Description:

These clamps provide fast, economical means for repairing full circumferential breaks, holes, cracks and other types of damage.

### Application:

Works on Cast and Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, Fiberglass and other pipe types where pressure does not exceed 50 PSI.

### Key Features:

- Stainless Steel bands
- Working pressure up to 50 PSI
- Nominal temperature range -20°F to 180°F
- Removable lugs to allow installation in tight spaces
- May be used to join plain end pipe of the same diameter
- 360° gasket seal

### Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: Ductile Iron ASTM A536, 80-55-06

GASKET: Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and many other chemicals

Temperature Range: -20°F to 180°F. *Consult manufacturer for specific applications and other service temperatures*

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded into gasket

BOLTS: High strength, low alloy electrogalvanized steel with heavy, semi-finished hexagon nuts per ANSI

B.18.2.2 *Optional 304 Stainless bolts with fluoropolymer coated nuts*

FINISH: Flexi-Coat<sup>®</sup> Fusion Bonded Epoxy

**Pipe Applications:** Cast and Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, Fiberglass and other pipe types where pressure does not exceed 50 PSI

**Sizes (in inches):** 2, 2 ¼-2 ½, 3, 3-4, 4, 4-5, 6, 8, 8-10, 10, 10-12, 12, 12-14



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



221

# Full Circle<sup>®</sup> Repair Clamp

## Single Band, Low Pressure

STANDARD				WITH LOW ALLOY BOLTS & NUTS	WITH STAINLESS STEEL BOLTS & NUTS	METRIC			
NOMINAL SIZE INCHES	OD RANGE INCHES	WIDTH INCHES	WT. EACH LBS	CATALOG NUMBER	CATALOG NUMBER	NOMINAL SIZE MM	OD RANGE MM	WIDTH MM	WT EACH KG
2	2.35-2.63	5	6	221-00023805-000	221-00023805-001	50	60-67	127	2.7
2 1/4-2 1/2	2.70-3.00	5	6	221-00027505-000	221-00027505-001	65	69-76	127	2.7
3	2.97-3.25 3.46-3.70	5	6	221-00030005-000	221-00030005-001	65-80	75-83	127	2.8
		5	6	221-00035005-000	221-00035005-001		88-94	127	2.8
3-4	3.73-4.00 3.96-4.25	5	6	221-00037505-000	221-00037505-001	80-100	95-102	127	2.9
		5	6	221-00040005-000	221-00040005-001		101-108	127	2.9
4	4.45-4.73 4.74-5.14	5	7	221-00045005-000	221-00045005-001	100	113-120	127	3
		5	7	221-00048005-000	221-00048005-001		120-131	127	3.3
4-5	4.95-5.35 5.22-5.62	5	7	221-00050005-000	221-00050005-001	125	126-136	127	3.3
		5	7	221-00052505-000	221-00052505-001		133-143	127	3.4
6	5.95-6.35 6.56-6.96 6.84-7.24 7.05-7.45 7.45-7.85	5	8	221-00060005-000	221-00060005-001	125-150	151-161	127	3.4
		5	8	221-00066305-000	221-00066305-001		167-177	127	3.5
		5	8	221-00069005-000	221-00069005-001		174-184	127	3.5
		5	8	221-00071005-000	221-00071005-001		179-189	127	3.6
		5	8	221-00074505-000	221-00074505-001		189-199	127	3.6
8	7.95-8.35 8.54-8.94 8.99-9.39 9.27-9.67	5	8	221-00080005-000	221-00080005-001	200	202-212	127	3.6
		5	9	221-00086305-000	221-00086305-001		217-227	127	3.9
		5	9	221-00090505-000	221-00090505-001		226-239	127	3.9
		5	9	221-00094005-000	221-00094005-001		235-246	127	3.9
8-10	9.70-10.10 10.10-10.50	5	9	221-00100005-000	221-00100005-001	225	246-257	127	3.9
		5	9	221-00102005-000	221-00102005-001		247-267	127	4.3
10	10.64-11.04 11.04-11.44 11.34-11.74 11.75-12.15	5	10	221-00107505-000	221-00107505-001	250	270-280	127	4.3
		5	10	221-00111005-000	221-00111005-001		280-291	127	4.4
		5	10	221-00114005-000	221-00114005-001		288-298	127	4.4
		5	10	221-00117505-000	221-00117505-001		298-309	127	4.4
10-12	12.00-12.40	5	10	221-00120005-000	221-00120005-001	250-315	305-315	127	4.5
12	12.62-13.02 13.10-13.50 13.40-13.80	5	10	221-00127505-000	221-00127505-001	300	321-331	127	4.6
		5	10	221-00132005-000	221-00132005-001		333-343	127	4.7
		5	10	221-00134005-000	221-00134005-001		340-351	127	4.7
12-14	13.70-14.10 14.00-14.40	5	11	221-00137005-000	221-00137005-001	300-350	348-358	127	5.1
		5	11	221-00140005-000	221-00140005-001		356-366	127	5.3



# Full Circle<sup>®</sup> Repair Clamp

## Single Band

# 226

**Description:** These clamps provide fast, economical means for repairing full circumferential breaks, holes, cracks and other types of damage.

**Application:** Works on Cast Iron, Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, HDPE, Fiberglass and other pipe types.

### Key Features:

- Stainless Steel bands
- Removable lugs to allow installation in tight spaces
- May be used to join plain end pipe of the same diameter
- Standard widths through 30"
- 360° gasket seal
- Flexi-Coat<sup>®</sup> Epoxy Finish for corrosion resistance
- Range up to .40" in single band
- Drop-in bolts for easier installation



### Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: Ductile Iron ASTM A536, 80-55-06

GASKET: Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalis, most (aliphatic) hydrocarbons and many other chemicals

Temperature Range: -20°F to 180°F. *Consult manufacturer for specific applications and other service temperatures*

BRIDGE PLATE: Stainless Steel recessed flush and bonded into gasket

BOLTS: High strength, low alloy electrogalvanized steel with heavy, semi-finished hexagon nuts per ANSI B.18.2.2 *Optional 304 Stainless bolts with fluoropolymer coated nuts to reduce galling*

FINISH: Flexi-Coat<sup>®</sup> Fusion Bonded Epoxy

**NOTE:** Also available in metric sizes. HDPE applications will require clamps with spring washers

**Pipe Applications:** Cast Iron, Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, HDPE, Fiberglass and other pipe types

**Sizes (in inches):** 2, 2 ¼-2 ½, 3, 3-4, 4, 4-5, 6, 8, 8-10, 10, 10-12, 12, 12-14



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



226

# Full Circle<sup>®</sup> Repair Clamp

## Single Band

STANDARD				W/LOW ALLOY BOLTS & NUTS	W/STAINLESS STEEL BOLTS & NUTS	METRIC			
NOMINAL SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	NOMINAL SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG
2	2.35-2.63 2.35-2.63 2.35-2.63 2.35-2.63	7.5	9	226-00023807-000	226-00023807-001	50	60-66	190	4
		10	12	226-00023810-000	226-00023810-001		60-66	254	5.4
		12.5	15	226-00023812-000	226-00023812-001		60-66	317	6.7
		15	18	226-00023815-000	226-00023815-001		60-66	381	8.1
2 1/4-2 1/2	2.70-3.00 2.70-3.00 2.70-3.00 2.70-3.00	7.5	9	226-00027507-000	226-00027507-001	65	69-76	190	4
		10	12	226-00027510-000	226-00027510-001		69-76	254	5.4
		12.5	15	226-00027512-000	226-00027512-001		69-76	317	6.7
		15	18	226-00027515-000	226-00027515-001		69-76	381	8.1
3	2.97-3.25 2.97-3.25 2.97-3.25 2.97-3.25	7.5	9	226-00030007-000	226-00030007-001	65	76-82	190	4.3
		10	12	226-00030010-000	226-00030010-001		76-82	254	5.7
		12.5	15	226-00030012-000	226-00030012-001		76-82	317	6.9
		15	18	226-00030015-000	226-00030015-001		76-82	381	8.3
3	3.46-3.70 3.46-3.70 3.46-3.70 3.46-3.70	7.5	9	226-00035007-000	226-00035007-001	80	88-93	190	4.2
		10	13	226-00035010-000	226-00035010-001		88-93	254	5.8
		12.5	16	226-00035012-000	226-00035012-001		88-93	317	7.1
		15	18	226-00035015-000	226-00035015-001		88-93	381	8.5
3-4	3.73-4.00 3.73-4.00 3.73-4.00 3.73-4.00	7.5	9	226-00037507-000	226-00037507-001	80	95-101	190	4.2
		10	13	226-00037510-000	226-00037510-001		95-101	254	5.8
		12.5	16	226-00037512-000	226-00037512-001		95-101	317	7.1
		15	18	226-00037515-000	226-00037515-001		95-101	381	8.5
3-4	3.96-4.25 3.96-4.25 3.96-4.25 3.96-4.25	7.5	9	226-00040007-000	226-00040007-001	80-100	101-107	190	4.2
		10	13	226-00040010-000	226-00040010-001		101-107	254	5.8
		12.5	16	226-00040012-000	226-00040012-001		101-107	317	7.1
		15	18	226-00040015-000	226-00040015-001		101-107	381	8.5
4	4.45-4.73 4.45-4.73 4.45-4.73 4.45-4.73	7.5	10	226-00045007-000	226-00045007-001	100	114-120	190	4.4
		10	13	226-00045010-000	226-00045010-001		114-120	254	6
		12.5	16	226-00045012-000	226-00045012-001		114-120	317	7.3
		15	19	226-00045015-000	226-00045015-001		114-120	381	8.7
4	4.74-5.14 4.74-5.14 4.74-5.14 4.74-5.14 4.74-5.14 4.74-5.14 4.74-5.14	7.5	11	226-00048007-000	226-00048007-001	100	121-130	190	4.8
		10	15	226-00048010-000	226-00048010-001		121-130	254	6.7
		12.5	18	226-00048012-000	226-00048012-001		121-130	317	8.1
		15	21	226-00048015-000	226-00048015-001		121-130	381	9.6
		20	28	226-00048020-000	226-00048020-001		121-130	508	12.8
		25	35	226-00048025-000	226-00048025-001		121-130	635	16.1
		30	41	226-00048030-000	226-00048030-001		121-130	762	19
4-5	4.95-5.35 4.95-5.35 4.95-5.35 4.95-5.35 4.95-5.35 4.95-5.35 4.95-5.35	7.5	11	226-00050007-000	226-00050007-001	100	126-135	190	4.9
		10	14	226-00050010-000	226-00050010-001		126-135	254	6.5
		12.5	17	226-00050012-000	226-00050012-001		126-135	317	8
		15	21	226-00050015-000	226-00050015-001		126-135	381	9.7
		20	28	226-00050020-000	226-00050020-001		126-135	508	12.9
		25	35	226-00050025-000	226-00050025-001		126-135	635	16.2
		30	42	226-00050030-000	226-00050030-001		126-135	762	19.4

NOTE: Other sizes available upon request.

STANDARD				W/LOW ALLOY BOLTS & NUTS	W/STAINLESS STEEL BOLTS & NUTS	METRIC			
NOMINAL SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	NOMINAL SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG
4-5	5.22-5.62 5.22-5.62 5.22-5.62 5.22-5.62 5.22-5.62 5.22-5.62	7.5	11	226-00052507-000	226-00052507-001	125	133-142	190	4.9
		10	15	226-00052510-000	226-00052510-001		133-142	254	6.7
		12.5	18	226-00052512-000	226-00052512-001		133-142	317	8.2
		15	22	226-00052515-000	226-00052515-001		133-142	381	9.9
		20	29	226-00052520-000	226-00052520-001		133-142	508	13.2
		25	36	226-00052525-000	226-00052525-001		133-142	635	16.5
6	5.95-6.35 5.95-6.35 5.95-6.35 5.95-6.35 5.95-6.35 5.95-6.35 5.95-6.35	7.5	11	226-00060007-000	226-00060007-001	125	152-161	190	5
		10	15	226-00060010-000	226-00060010-001		152-161	254	7
		12.5	18	226-00060012-000	226-00060012-001		152-161	317	8.5
		15	22	226-00060015-000	226-00060015-001		152-161	381	10.2
		20	30	226-00060020-000	226-00060020-001		152-161	508	13.6
		25	37	226-00060025-000	226-00060025-001		152-161	635	16.9
		30	44	226-00060030-000	226-00060030-001		152-161	762	20.3
6	6.56-6.96 6.56-6.96 6.56-6.96 6.56-6.96 6.56-6.96 6.56-6.96 6.56-6.96	7.5	12	226-00066307-000	226-00066307-001	150	167-176	190	5.3
		10	16	226-00066310-000	226-00066310-001		167-176	254	7.2
		12.5	19	226-00066312-000	226-00066312-001		167-176	317	8.8
		15	23	226-00066315-000	226-00066315-001		167-176	381	10.4
		20	31	226-00066320-000	226-00066320-001		167-176	508	14.1
		25	38	226-00066325-000	226-00066325-001		167-176	635	17.6
		30	45	226-00066330-000	226-00066330-001		167-176	762	20.6
6	6.84-7.24 6.84-7.24 6.84-7.24 6.84-7.24 6.84-7.24 6.84-7.24 6.84-7.24	7.5	12	226-00069007-000	226-00069007-001	150	174-183	190	5.3
		10	16	226-00069010-000	226-00069010-001		174-183	254	7.2
		12.5	19	226-00069012-000	226-00069012-001		174-183	317	8.9
		15	23	226-00069015-000	226-00069015-001		174-183	381	10.5
		20	31	226-00069020-000	226-00069020-001		174-183	508	14
		25	39	226-00069025-000	226-00069025-001		174-183	635	17.5
		30	46	226-00069030-000	226-00069030-001		174-183	762	21
6	7.05-7.45 7.05-7.45 7.05-7.45 7.05-7.45 7.05-7.45 7.05-7.45 7.05-7.45	7.5	12	226-00071007-000	226-00071007-001	150	180-189	190	5.3
		10	16	226-00071010-000	226-00071010-001		180-189	254	7.2
		12.5	19	226-00071012-000	226-00071012-001		180-189	317	8.9
		15	23	226-00071015-000	226-00071015-001		180-189	381	10.5
		20	31	226-00071020-000	226-00071020-001		180-189	508	14.3
		25	39	226-00071025-000	226-00071025-001		180-189	635	17.5
		30	47	226-00071030-000	226-00071030-001		180-189	762	21.4
6	7.45-7.85 7.45-7.85 7.45-7.85 7.45-7.85 7.45-7.85 7.45-7.85 7.45-7.85	7.5	12	226-00074507-000	226-00074507-001	150	190-199	190	5.5
		10	16	226-00074510-000	226-00074510-001		190-199	254	7.3
		12.5	20	226-00074512-000	226-00074512-001		190-199	317	9.1
		15	24	226-00074515-000	226-00074515-001		190-199	381	10.9
		20	32	226-00074520-000	226-00074520-001		190-199	508	14.5
		25	40	226-00074525-000	226-00074525-001		190-199	635	18.2
		30	47	226-00074530-000	226-00074530-001		190-199	762	21.8
8	7.95-8.35 7.95-8.35 7.95-8.35 7.95-8.35 7.95-8.35 7.95-8.35 7.95-8.35	7.5	12	226-00080007-000	226-00080007-001	200	202-212	190	5.5
		10	16	226-00080010-000	226-00080010-001		202-212	254	7.3
		12.5	20	226-00080012-000	226-00080012-001		202-212	317	9.1
		15	24	226-00080015-000	226-00080015-001		202-212	381	10.9
		20	32	226-00080020-000	226-00080020-001		202-212	508	14.5
		25	41	226-00080025-000	226-00080025-001		202-212	635	18.2
		30	49	226-00080030-000	226-00080030-001		202-212	762	21.8

NOTE: Other sizes available upon request.

STANDARD				W/LOW ALLOY BOLTS & NUTS	W/STAINLESS STEEL BOLTS & NUTS	METRIC			
NOMINAL SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	NOMINAL SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG
8	8.54-8.94 8.54-8.94 8.54-8.94 8.54-8.94 8.54-8.94 8.54-8.94 8.54-8.94	7.5	13	226-00086307-000	226-00086307-001	200	217-277	190	6.1
		10	17	226-00086310-000	226-00086310-001		217-277	254	7.9
		12.5	21	226-00086312-000	226-00086312-001		217-277	317	9.6
		15	25	226-00086315-000	226-00086315-001		217-277	381	11.4
		20	34	226-00086320-000	226-00086320-001		217-277	508	15.5
		25	42	226-00086325-000	226-00086325-001		217-277	635	18.6
		30	50	226-00086330-000	226-00086330-001		217-277	762	23.2
8	8.99-9.39 8.99-9.39 8.99-9.39 8.99-9.39 8.99-9.39 8.99-9.39 8.99-9.39	7.5	13	226-00090507-000	226-00090507-001	200	229-238	190	6
		10	17	226-00090510-000	226-00090510-001		229-238	254	8
		12.5	21	226-00090512-000	226-00090512-001		229-238	317	9.8
		15	25	226-00090515-000	226-00090515-001		229-238	381	11.6
		20	35	226-00090520-000	226-00090520-001		229-238	508	15.9
		25	43	226-00090525-000	226-00090525-001		229-238	635	19.9
		30	50	226-00090530-000	226-00090530-001		229-238	762	22.8
8	9.27-9.67 9.27-9.67 9.27-9.67 9.27-9.67 9.27-9.67 9.27-9.67 9.27-9.67	7.5	13	226-00094007-000	226-00094007-001	200	236-245	190	6.1
		10	17	226-00094010-000	226-00094010-001		236-245	254	8
		12.5	22	226-00094012-000	226-00094012-001		236-245	317	9.9
		15	25	226-00094015-000	226-00094015-001		236-245	381	11.6
		20	35	226-00094020-000	226-00094020-001		236-245	508	16
		25	43	226-00094025-000	226-00094025-001		236-245	635	19.9
		30	52	226-00094030-000	226-00094030-001		236-245	762	23.9
8-10	9.70-10.10 9.70-10.10 9.70-10.10 9.70-10.10 9.70-10.10 9.70-10.10 9.70-10.10	7.5	14	226-00100007-000	226-00100007-001	225	247-256	190	6.2
		10	17	226-00100010-000	226-00100010-001		247-256	254	8
		12.5	22	226-00100012-000	226-00100012-001		247-256	317	10.2
		15	26	226-00100015-000	226-00100015-001		247-256	381	12.1
		20	35	226-00100020-000	226-00100020-001		247-256	508	16
		25	44	226-00100025-000	226-00100025-001		247-256	635	20
		30	52	226-00100030-000	226-00100030-001		247-256	762	24
10	10.64-11.04 10.64-11.04 10.64-11.04 10.64-11.04 10.64-11.04 10.64-11.04 10.64-11.04	7.5	14	226-00107507-000	226-00107507-001	250	271-280	190	6.4
		10	19	226-00107510-000	226-00107510-001		271-280	254	8.7
		12.5	23	226-00107512-000	226-00107512-001		271-280	317	10.6
		15	27	226-00107515-000	226-00107515-001		271-280	381	12.3
		20	36	226-00107520-000	226-00107520-001		271-280	508	16.5
		25	45	226-00107525-000	226-00107525-001		271-280	635	20.7
		30	54	226-00107530-000	226-00107530-001		271-280	762	24.9
10	11.04-11.44 11.04-11.44 11.04-11.44 11.04-11.44 11.04-11.44 11.04-11.44 11.04-11.44	7.5	14	226-00111007-000	226-00111007-001	250	281-290	190	6.4
		10	19	226-00111010-000	226-00111010-001		281-290	254	8.6
		12.5	23	226-00111012-000	226-00111012-001		281-290	317	10.5
		15	28	226-00111015-000	226-00111015-001		281-290	381	12.7
		20	37	226-00111020-000	226-00111020-001		281-290	508	16.8
		25	46	226-00111025-000	226-00111025-001		281-290	635	21.1
		30	55	226-00111030-000	226-00111030-001		281-290	762	25.3
10	11.34-11.74 11.34-11.74 11.34-11.74 11.34-11.74 11.34-11.74 11.34-11.74 11.34-11.74	7.5	15	226-00114007-000	226-00114007-001	250	289-298	190	6.8
		10	19	226-00114010-000	226-00114010-001		289-298	254	8.6
		12.5	24	226-00114012-000	226-00114012-001		289-298	317	10.8
		15	28	226-00114015-000	226-00114015-001		289-298	381	13
		20	38	226-00114020-000	226-00114020-001		289-298	508	17.3
		25	47	226-00114025-000	226-00114025-001		289-298	635	21.6
		30	56	226-00114030-000	226-00114030-001		289-298	762	25.9

NOTE: Other sizes available upon request.



STANDARD				W/LOW ALLOY BOLTS & NUTS	W/STAINLESS STEEL BOLTS & NUTS	METRIC			
NOMINAL SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	NOMINAL SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG
10	11.75-12.15 11.75-12.15 11.75-12.15 11.75-12.15 11.75-12.15 11.75-12.15 11.75-12.15	7.5	14	226-00117507-000	226-00117507-001	250	299-308	190	6.6
		10	20	226-00117510-000	226-00117510-001		299-308	254	9
		12.5	24	226-00117512-000	226-00117512-001		299-308	317	10.9
		15	28	226-00117515-000	226-00117515-001		299-308	381	12.8
		20	39	226-00117520-000	226-00117520-001		299-308	508	17.4
		25	48	226-00117525-000	226-00117525-001		299-308	635	21.9
		30	57	226-00117530-000	226-00117530-001		299-308	762	26.1
10-12	12.00-12.40 12.00-12.40 12.00-12.40 12.00-12.40 12.00-12.40 12.00-12.40 12.00-12.40	7.5	15	226-00120007-000	226-00120007-001	250-300	305-314	190	6.7
		10	20	226-00120010-000	226-00120010-001		305-314	254	9.1
		12.5	24	226-00120012-000	226-00120012-001		305-314	317	11.2
		15	29	226-00120015-000	226-00120015-001		305-314	381	13.4
		20	39	226-00120020-000	226-00120020-001		305-314	508	17.8
		25	49	226-00120025-000	226-00120025-001		305-314	635	22.3
		30	58	226-00120030-000	226-00120030-001		305-314	762	26.8
12	12.62-13.02 12.62-13.02 12.62-13.02 12.62-13.02 12.62-13.02 12.62-13.02 12.62-13.02	7.5	16	226-00127507-000	226-00127507-001	300	321-330	190	7.2
		10	20	226-00127510-000	226-00127510-001		321-330	254	9.3
		12.5	25	226-00127512-000	226-00127512-001		321-330	317	11.5
		15	29	226-00127515-000	226-00127515-001		321-330	381	13.3
		20	40	226-00127520-000	226-00127520-001		321-330	508	18.3
		25	50	226-00127525-000	226-00127525-001		321-330	635	22.9
		30	60	226-00127530-000	226-00127530-001		321-330	762	27.5
12	13.10-13.50 13.10-13.50 13.10-13.50 13.10-13.50 13.10-13.50 13.10-13.50 13.10-13.50	7.5	17	226-00132007-000	226-00132007-001	300	333-342	190	7.6
		10	21	226-00132010-000	226-00132010-001		333-342	254	9.5
		12.5	25	226-00132012-000	226-00132012-001		333-342	317	11.6
		15	29	226-00132015-000	226-00132015-001		333-342	381	13.4
		20	40	226-00132020-000	226-00132020-001		333-342	508	18.6
		25	51	226-00132025-000	226-00132025-001		333-342	635	23.2
		30	61	226-00132030-000	226-00132030-001		333-342	762	27.9
12	13.40-13.80 13.40-13.80 13.40-13.80 13.40-13.80 13.40-13.80 13.40-13.80 13.40-13.80	7.5	18	226-00134007-000	226-00134007-001	300	341-350	190	8.1
		10	21	226-00134010-000	226-00134010-001		341-350	254	9.8
		12.5	27	226-00134012-000	226-00134012-001		341-350	317	12.2
		15	32	226-00134015-000	226-00134015-001		341-350	381	14.6
		20	42	226-00134020-000	226-00134020-001		341-350	508	19.5
		25	53	226-00134025-000	226-00134025-001		341-350	635	24.4
		30	64	226-00134030-000	226-00134030-001		341-350	762	29.3
12-14	13.70-14.10 13.70-14.10 13.70-14.10 13.70-14.10 13.70-14.10 13.70-14.10 13.70-14.10	7.5	18	226-00137007-000	226-00137007-001	300-350	348-358	190	8.4
		10	22	226-00137010-000	226-00137010-001		348-358	254	10.3
		12.5	28	226-00137012-000	226-00137012-001		348-358	317	12.8
		15	34	226-00137015-000	226-00137015-001		348-358	381	15.4
		20	45	226-00137020-000	226-00137020-001		348-358	508	20.5
		25	56	226-00137025-000	226-00137025-001		348-358	635	25.7
		30	67	226-00137030-000	226-00137030-001		348-358	762	30.8
12-14	14.00-14.40 14.00-14.40 14.00-14.40 14.00-14.40 14.00-14.40 14.00-14.40 14.00-14.40	7.5	19	226-00140007-000	226-00140007-001	300-350	356-365	190	8.6
		10	23	226-00140010-000	226-00140010-001		356-365	254	10.6
		12.5	29	226-00140012-000	226-00140012-001		356-365	317	13.3
		15	35	226-00140015-000	226-00140015-001		356-365	381	16
		20	46	226-00140020-000	226-00140020-001		356-365	508	21.3
		25	58	226-00140025-000	226-00140025-001		356-365	635	26.6
		30	69	226-00140030-000	226-00140030-001		356-365	762	31.9

NOTE: Other sizes available upon request.

## Bolt Numbers

BAND WIDTH INCHES	NUMBER OF BOLTS	BOLT SIZES
7.5	3	5/8" x 6" or 16mm x 152mm and 5/8" x 6 7/8" Starter bolts on 4" nominal and smaller.
10	4	
12.5	5	
15	6	
20	8	
25	10	
30	12	



# Full Circle<sup>®</sup> Repair Clamp

## Double Band

# 227

**Description:** These clamps provide fast, economical means for repairing full circumferential breaks, holes, cracks and other types of damage.

**Application:** Works on Cast and Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, HDPE, Fiberglass and other pipe types.

### Key Features:

- Removable lugs to allow installation in tight spaces
- May be used to join plain end pipe of the same diameter
- Standard widths through 30" (221 standard is 5")
- 360° gasket seal
- Flexi-Coat<sup>®</sup> Epoxy Finish for corrosion resistance
- Range up to .80" in double band
- Drop-in bolts for easier installation



### Materials Specifications (subject to change)

Band: Stainless Steel Type 304

Lugs: Ductile Iron ASTM A536, 80-55-06

Gasket: Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and many other chemicals

Temperature Range: -20°F to 180°F. Consult manufacturer for specific applications and other service temperatures

Bridge Plate: 304 Stainless Steel recessed flush and bonded into gasket

Bolts: High strength, low alloy electrogalvanized steel with heavy, semi-finished hexagon nuts per ANSI B.

18.2.2 **Optional 304 Stainless bolts with fluoropolymer-coated nuts**

FINISH: Flexi-Coat<sup>®</sup> Fusion Bonded Epoxy

**NOTE:** Also available in metric sizes. HDPE applications will require clamps with spring washers

**Pipe Applications:** Cast Iron, Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, HDPE, Fiberglass and other pipe types

**Sizes (in inches):** 3, 4, 6, 8, 10, 12. Other sizes available upon request.

### Bolt Numbers:

BAND WIDTH INCHES	NUMBER OF BOLTS	BOLT SIZES
7.5	6	Drop-In lug 5/8"x6" or 16mmx152mm  Closed lug 5/8"x6 7/8" or 16mmx175mm
10	8	
12.5	10	
15	12	
20	16	
30	24	



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Full Circle<sup>®</sup> Repair Clamp

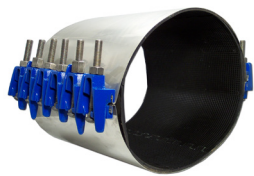
## Double Band

STANDARD				W/LOW ALLOY BOLTS & NUTS	W/STAINLESS STEEL BOLTS & NUTS	METRIC			
NOMINAL SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	NOMINAL SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG
3	3.49-4.29 3.49-4.29 3.49-4.29 3.49-4.29 3.49-4.29 3.49-4.29	7.5	18	227-00035007-000	227-00035007-001	80-100	89-108	190	8.2
		10	24	227-00035010-000	227-00035010-001		89-108	254	11
		12.5	30	227-00035012-000	227-00035012-001		89-108	317	13.8
		15	36	227-00035015-000	227-00035015-001		89-108	381	16.5
		20	48	227-00035020-000	227-00035020-001		89-108	508	22
		30	72	227-00035030-000	227-00035030-001		89-108	762	33
		4	4.44-5.24 4.44-5.24 4.44-5.24 4.44-5.24 4.44-5.24	7.5	19		227-00045007-000	227-00045007-001	100
10	25			227-00045010-000	227-00045010-001	113-133	254	11.6	
12.5	31			227-00045012-000	227-00045012-001	113-133	317	14.4	
15	37			227-00045015-000	227-00045015-001	113-133	381	16.8	
20	49			227-00045020-000	227-00045020-001	113-133	508	22.6	
30	74			227-00045030-000	227-00045030-001	113-133	762	33.9	
4	4.74-5.57 4.74-5.57 4.74-5.57 4.74-5.57 4.74-5.57	7.5	19	227-00048007-000	227-00048007-001	100-125	121-141	190	8.6
		10	25	227-00048010-000	227-00048010-001		121-141	254	11.5
		12.5	31	227-00048012-000	227-00048012-001		121-141	317	14.3
		15	37	227-00048015-000	227-00048015-001		121-141	381	17
		20	50	227-00048020-000	227-00048020-001		121-141	508	23
		30	75	227-00048030-000	227-00048030-001		121-141	762	34.4
6	6.62-7.42 6.62-7.42 6.62-7.42 6.62-7.42 6.62-7.42	7.5	20	227-00066307-000	227-00066307-001	150	169-188	190	9.2
		10	27	227-00066310-000	227-00066310-001		169-188	254	12.4
		12.5	33	227-00066312-000	227-00066312-001		169-188	317	15.3
		15	39	227-00066315-000	227-00066315-001		169-188	381	18
		20	53	227-00066320-000	227-00066320-001		169-188	508	24.3
		30	78	227-00066330-000	227-00066330-001		169-188	762	35.9
6	6.84-7.64 6.84-7.64 6.84-7.64 6.84-7.64 6.84-7.64	7.5	20	227-00069007-000	227-00069007-001	150	174-194	190	9.2
		10	27	227-00069010-000	227-00069010-001		174-194	254	12.4
		12.5	33	227-00069012-000	227-00069012-001		174-194	317	15.3
		15	39	227-00069015-000	227-00069015-001		174-194	381	18
		20	53	227-00069020-000	227-00069020-001		174-194	508	24.4
		30	79	227-00069030-000	227-00069030-001		174-194	762	36.1
8	8.62-9.42 8.62-9.42 8.62-9.42 8.62-9.42 8.62-9.42	7.5	22	227-00086307-000	227-00086307-001	200	219-239	190	10
		10	29	227-00086310-000	227-00086310-001		219-239	254	13.5
		12.5	35	227-00086312-000	227-00086312-001		219-239	317	16.4
		15	42	227-00086315-000	227-00086315-001		219-239	381	19.5
		20	56	227-00086320-000	227-00086320-001		219-239	508	25.9
		30	84	227-00086330-000	227-00086330-001		219-239	762	38.9

NOTE: Other sizes available upon request.

STANDARD				W/LOW ALLOY BOLTS & NUTS	W/STAINLESS STEEL BOLTS & NUTS	METRIC			
NOMINAL SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	NOMINAL SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG
8	8.99-9.79 8.99-9.79 8.99-9.79 8.99-9.79 8.99-9.79 8.99-9.79	7.5	21	227-00090507-000	227-00090507-001	200	229-248	190	10.1
		10	29	227-00090510-000	227-00090510-001		229-248	254	13.7
		12.5	36	227-00090512-000	227-00090512-001		229-248	317	16.8
		15	42	227-00090515-000	227-00090515-001		229-248	381	19.6
		20	59	227-00090520-000	227-00090520-001		229-248	508	27.1
		30	86	227-00090530-000	227-00090530-001		229-248	762	39.6
		10	10.75-11.55 10.75-11.55 10.75-11.55 10.75-11.55	10	31		227-00107510-000	227-00107510-001	250
15	47			227-00107515-000	227-00107515-001	273-293	381	21.8	
20	63			227-00107520-000	227-00107520-001	273-293	508	29.1	
30	94			227-00107530-000	227-00107530-001	273-293	762	43.6	
10	11.10-11.90 11.10-11.90 11.10-11.90 11.10-11.90	10	33	227-00111010-000	227-00111010-001	250	282-302	254	15.4
		15	47	227-00111015-000	227-00111015-001		282-302	381	21.9
		20	65	227-00111020-000	227-00111020-001		282-302	508	29.9
		30	97	227-00111030-000	227-00111030-001		282-302	762	44.9
10	11.04-12.24 11.04-12.24 11.04-12.24 11.04-12.24	10	33	227-00111010-050	227-00111010-051	250-300	280-311	254	15.4
		15	47	227-00111015-050	227-00111015-051		280-311	381	21.9
		20	65	227-00111020-050	227-00111020-051		280-311	508	30
		30	97	227-00111030-050	227-00111030-051		280-311	762	45
10	11.60-12.40 11.60-12.40 11.60-12.40 11.60-12.40	10	33	227-00116010-000	227-00116010-001	250-300	295-315	254	15.5
		15	47	227-00116015-000	227-00116015-001		295-315	381	22
		20	65	227-00116020-000	227-00116020-001		295-315	508	30.3
		30	98	227-00116020-000	227-00116020-001		295-315	762	45.2
12	12.75-13.55 12.75-13.55 12.75-13.55 12.75-13.55	10	33	227-00127510-000	227-00127510-001	300	324-344	254	15.2
		15	49	227-00127515-000	227-00127515-001		324-344	381	22.8
		20	65	227-00127520-000	227-00127520-001		324-344	508	29.9
		30	99	227-00127530-000	227-00127530-001		324-344	762	45.5
12	13.20-14.00 13.20-14.00 13.20-14.00 13.20-14.00	10	34	227-00132010-000	227-00132010-001	300-350	335-356	254	15.9
		15	49	227-00132015-000	227-00132015-001		335-356	381	23
		20	65	227-00132020-000	227-00132020-001		335-356	508	30.3
		30	99	227-00132030-000	227-00132030-001		335-356	762	46
12	13.14-14.34 13.14-14.34 13.14-14.34 13.14-14.34	10	34	227-00132010-050	227-00132010-051	300-350	334-364	254	15.9
		15	49	227-00132015-050	227-00132015-051		334-364	381	23
		20	65	227-00132020-050	227-00132020-051		334-364	508	30.3
		30	100	227-00132030-050	227-00132030-051		334-364	762	46
12	13.65-14.45 13.65-14.45 13.65-14.45 13.65-14.45	10	35	227-00136510-000	227-00136510-001	300-350	347-367	254	15.9
		15	50	227-00136515-000	227-00136515-001		347-367	381	23
		20	68	227-00136520-000	227-00136520-001		347-367	508	31.3
		30	102	227-00136530-000	227-00136530-001		347-367	762	46.9
12	13.65-14.85 13.65-14.85 13.65-14.85 13.65-14.85	10	34	227-00136510-050	227-00136510-051	300-350	347-377	254	15.9
		15	50	227-00136515-050	227-00136515-051		347-377	381	23
		20	65	227-00136520-050	227-00136520-051		347-377	508	30.3
		30	102	227-00136530-050	227-00136530-051		347-377	762	46

NOTE: Other sizes available upon request.



# Full Circle® Repair Clamp

## Double Band and Triple Band

(FOR LARGE DIAMETER PIPE)

# 228

**Description:** These clamps provide fast, economical means for repairing full circumferential breaks, holes, cracks, and other types of breaks.

**Application:** Works on Cast Iron, Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, Fiberglass and other pipe types.

### Key Features:

- Stainless Steel bands
- Removable lugs to allow installation in tight spaces
- 18-8 Type 304 Stainless Steel band for corrosion resistance
- 360° gasket seal
- Flexi-Coat® Epoxy Finish for corrosion resistance
- Drop-in bolts for easier installation



### Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: Ductile Iron ASTM A536, 80-55-06

GASKET: Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and many other chemicals

Temperature Range: -20°F to 180°F. *Consult manufacturer for specific applications and other service temperatures*

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded into gasket

BOLTS: High strength, low alloy electrogalvanized steel with heavy, semi-finished hexagon nuts per ANSI B.

18.2.2 **Optional 304 Stainless bolts with fluoropolymer coated nuts**

FINISH: Flexi-Coat® Fusion Bonded Epoxy

**NOTE:** Also available in metric sizes.

**Pipe Applications:** Cast Iron, Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, Fiberglass and other pipe types

**Sizes (in inches):** 14, 16, 18, 20, 24. Other sizes available upon request.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



228

# Full Circle<sup>®</sup> Repair Clamp

## Double Band and Triple Band

(FOR LARGE DIAMETER PIPE)

### Double Band

STANDARD			W/LOW ALLOY BOLTS & NUTS	W/STAINLESS STEEL BOLTS & NUTS	METRIC		
O.D. RANGES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	O.D. RANGE MM	WIDTH MM	WT. EACH KG
14.38-15.13	10	35	228-20143810-000	228-20143810-001	366-384	254	16.2
	15	53	228-20143815-000	228-20143815-001		381	24.3
	20	71	228-20143820-000	228-20143820-001		508	32.4
	30	106	228-20143830-000	228-20143830-001		762	48.6
15.07-15.82	10	38	228-20150710-000	228-20150710-001	383-402	254	17.5
	15	55	228-20150715-000	228-20150715-001		381	25.3
	20	71	228-20150720-000	228-20150720-001		508	32.7
	30	107	228-20150730-000	228-20150730-001		762	49
15.92-16.67	10	39	228-20159210-000	228-20159210-001	409-423	254	17.9
	15	56	228-20159215-000	228-20159215-001		381	25.5
	20	74	228-20159220-000	228-20159220-001		508	34
	30	149	228-20159230-000	228-20159230-001		762	51.1
16.56-17.31	10	39	228-20165610-000	228-20165610-001	421-440	254	18
	15	57	228-20165615-000	228-20165615-001		381	26.1
	20	76	228-20165620-000	228-20165620-001		508	35.1
	30	117	228-20165630-000	228-20165630-001		762	54
17.15-17.90	10	39	228-20171510-000	228-20171510-001	436-455	254	18.1
	15	57	228-20171515-000	228-20171515-001		381	26.3
	20	77	228-20171520-000	228-20171520-001		508	35.3
	30	118	228-20171530-000	228-20171530-001		762	54.5
17.82-18.57	10	40	228-20178210-000	228-20178210-001	453-472	254	18.4
	15	58	228-20178215-000	228-20178215-001		381	26.7
	20	77	228-20178220-000	228-20178220-001		508	35.6
	30	119	228-20178230-000	228-20178230-001		762	54.8
18.46-19.21	10	41	228-20184610-000	228-20184610-001	469-488	254	19
	15	59	228-20184615-000	228-20184615-001		381	27
	20	78	228-20184620-000	228-20184620-001		508	25.9
	30	120	228-20184630-000	228-20184630-001		762	55.2
19.23-19.98	10	47	228-20192310-000	228-20192310-001	488-507	254	21.5
	15	60	228-20192315-000	228-20192315-001		381	27.6
	20	80	228-20192320-000	228-20192320-001		508	36.8
	30	121	228-20192330-000	228-20192330-001		762	55.6
19.90-20.65	10	42	228-20199010-000	228-20199010-001	505-525	254	19.4
	15	60	228-20199015-000	228-20199015-001		381	27.7
	20	81	228-20199020-000	228-20199020-001		508	37
	30	121	228-20199030-000	228-20199030-001		762	55.8
20.70-21.45	10	44	228-20207010-000	228-20207010-001	526-545	254	20
	15	63	228-20207015-000	228-20207015-001		381	28.8
	20	83	228-20207020-000	228-20207020-001		508	38.4
	30	126	228-20207030-000	228-20207030-001		762	58

NOTE: Other sizes available upon request.

## Double Band Continued

STANDARD			W/LOW ALLOY BOLTS & NUTS	W/STAINLESS STEEL BOLTS & NUTS	METRIC		
O.D. RANGES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	O.D. RANGE MM	WIDTH MM	WT. EACH KG
21.52-22.27	10	45	228-20215210-000	228-20215210-001	547-566	254	20.8
	15	65	228-20215215-000	228-20215215-001		381	29.9
	20	87	228-20215220-000	228-20215220-001		508	39.8
	30	131	228-20215230-000	228-20215230-001		762	60.2
22.12-22.87	10	46	228-20221210-000	228-20221210-001	562-580	254	21.3
	15	67	228-20221215-000	228-20221215-001		381	30.7
	20	89	228-20221220-000	228-20221220-001		508	40.9
	30	135	228-20221230-000	228-20221230-001		762	61.9
22.90-23.65	10	48	228-20229010-000	228-20229010-001	582-600	254	22.1
	15	69	228-20229015-000	228-20229015-001		381	31.18
	20	92	228-20229020-000	228-20229020-001		508	42.3
	30	139	228-20229030-000	228-20229030-001		762	63.9

NOTE: Other sizes available upon request.

## Double Band Bolt Numbers

BAND WIDTH INCHES	NUMBER OF BOLTS	BOLT SIZES
10	8	Drop-in lug 5/8" x 6" and 5/8" x 6 7/8"
15	12	
20	16	
30	24	



## Triple Band

STANDARD			W/LOW ALLOY BOLTS & NUTS	W/STAINLESS STEEL BOLTS & NUTS	METRIC		
O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
23.28-24.38	10	73	228-30232810-000	228-30232810-001	592-619	254	33.32
	15	105	228-30232815-000	228-30232815-001		381	47.72
	20	127	228-30232820-000	228-30232820-001		508	57.79
	30	181	228-30232830-000	228-30232830-001		762	82.17
24.38-25.48	10	75	228-30243810-000	228-30243810-001	620-647	254	34.23
	15	108	228-30243815-000	228-30243815-001		381	49.12
	20	130	228-30243820-000	228-30243820-001		508	59.16
	30	185	228-30243830-000	228-30243830-001		762	84.08
25.70-26.80	10	77	228-30257010-000	228-30257010-001	653-680	254	35.14
	15	109	228-30257015-000	228-30257015-001		381	49.49
	20	132	228-30257020-000	228-30257020-001		508	60.06
	30	188	228-30257030-000	228-30257030-001		762	85.44
26.48-27.58	10	78	228-30264810-000	228-30264810-001	673-700	254	35.59
	15	112	228-30264815-000	228-30264815-001		381	50.85
	20	135	228-30264820-000	228-30264820-001		508	61.43
	30	191	228-30264830-000	228-30264830-001		762	86.8
27.65-28.75	10	81	228-30276510-000	228-30276510-001	703-730	254	36.96
	15	116	228-30276515-000	228-30276515-001		381	52.66
	20	140	228-30276520-000	228-30276520-001		508	63.7
	30	197	228-30276530-000	228-30276530-001		762	89.53
28.73-29.83	10	83	228-30287310-000	228-30287310-001	730-757	254	37.86
	15	118	228-30287315-000	228-30287315-001		381	53.57
	20	145	228-30287320-000	228-30287320-001		508	65.97
	30	201	228-30287330-000	228-30287330-001		762	91.34
29.62-30.72	10	85	228-30296210-000	228-30296210-001	753-780	254	38.77
	15	121	228-30296215-000	228-30296215-001		381	54.93
	20	147	228-30296220-000	228-30296220-001		508	66.87
	30	205	228-30296230-000	228-30296230-001		762	93.16

NOTE: Other sizes available upon request.

## Triple Band Bolt Numbers

BAND WIDTH INCHES	NUMBER OF BOLTS	BOLT SIZES
10	12	5/8" x 6" 5/8" x 6 7/8" Open and closed lugs
15	18	
20	24	
30	36	



# Full Circle<sup>®</sup> Collar Leak Clamp

## 229

### Description:

Designed as an easy way to fix a leaky solvent weld bell on PVC pipe by assembling parts outside the collar. This can be done without cutting or draining the pipe.

**Application:** For leaking plastic solvent weld belled end pipe joints

### Key Features:

- Removable lugs to allow installation in tight spaces
- 360° gasket seal
- Flexi-Coat<sup>®</sup> Epoxy Finish for corrosion resistance

### Materials Specifications (subject to change)

**BAND:** Stainless Steel Type 304

**LUGS:** Ductile Iron ASTM A536, 80-55-06

**GASKET:** Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalies, most (aliphatic) hydrocarbon and many other chemicals

**Temperature Range:** -20°F to 180°F. *Consult manufacturer for specific applications and other service temperatures*

**BRIDGE PLATE:** 304 Stainless Steel, recessed flush and bonded into the gasket

**BOLTS:** High strength, low alloy electrogalvanized steel with heavy, semi-finished hexagon nuts per ANSI B. 18.2.2 *Optional 304 Stainless bolts with fluoropolymer coating*

**Pipe Applications:** PVC joints and threaded Steel couplings

**Sizes (in inches):** 2, 2½, 3, 3½, 4, 5, 6, 8, 10, 12



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Full Circle<sup>®</sup> Collar Leak Clamp

STANDARD				CATALOG NUMBER	METRIC			
NOMINAL SIZE INCHES	O.D. INCHES	WIDTH INCHES	WT. EACH LBS.		NOMINAL SIZE MM	O.D. MM	WIDTH MM	WT. EACH KG.
2	2.38	7.5	9	229-00023807-000	50	60	190	4.1
2	2.38	12.5	15	229-00023812-000	50	60	318	6.8
2 1/2	2.88	7.5	10	229-00028807-000	65	70	190	4.5
2 1/2	2.88	12.5	17	229-00028812-000	65	70	318	7.7
3	3.50	7.5	10	229-00035007-000	80	89	190	4.5
3	3.50	12.5	17	229-00035012-000	80	89	318	7.7
3 1/2	4.00	7.5	10	229-00040007-000	90	102	190	4.5
3 1/2	4.00	12.5	17	229-00040012-000	90	102	318	7.7
4	4.50	7.5	10	229-00045007-000	100	115	190	4.5
4	4.50	12.5	17	229-00045012-000	100	115	318	7.7
5	5.56	7.5	12	229-00055607-000	125	141	190	5.4
5	5.56	12.5	20	229-00055612-000	125	141	318	9.1
6	6.63	7.5	12	229-00066307-000	150	168	190	5.4
6	6.63	12.5	20	229-00066312-000	150	168	318	9.1
8	8.63	7.5	14	229-00086307-000	200	219	190	6.4
8	8.63	12.5	23	229-00086312-000	200	219	318	10.6
10	10.75	7.5	15	229-00107507-000	250	273	190	6.8
10	10.75	12.5	25	229-00107512-000	250	273	318	11.4
12	12.75	7.5	16	229-00127507-000	300	324	190	7.3
12	12.75	12.5	27	229-00127512-000	300	324	318	12.1

## Bolt Numbers

BAND WIDTH INCHES	NUMBER OF BOLTS	BOLT SIZES
7.5	3	5/8"x6"
12.5	5	5/8"x6"

5/8" x 6 7/8" starter bolts on 4" nominal and smaller.



# Tapped Full Circle<sup>®</sup> Repair Clamp Single Band

# 238

## Description:

A tapped clamp to repair damaged pipe at broken or torn out service connections or branch lines.

**Application:** Service connection or branch line connections.

## Key Features:

- Stainless Steel outlet welded to band and features a choice of NPT, CC, AWWA or BSP threads
- Removable lugs allow installation in tight spaces
- Maximum support and reinforcement with 360° coverage
- Drop-in bolts in the joint to be opened help ease installation
- A wide variety of outlet sizes and thread types available to meet demand
- Lugs have a Fusion-Bonded Flexi-Coat<sup>®</sup> Epoxy Finish for great corrosion resistance
- One starter (longer) bolt minimum per clamp thru 4.5" O.D. size to help with installation
- Range up to .40"
- Pressure ratings up to 300 PSI

## Materials Specifications (subject to change)

**BAND:** Stainless Steel Type 304

**LUGS:** Ductile Iron ASTM A536, 80-55-06

**GASKET:** Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and many other chemicals

**Temperature Range:** -20°F to 180°F. Consult manufacturer for specific applications and other service temperatures

**BRIDGE PLATE:** 304 Stainless Steel recessed flush and bonded into gasket

**BOLTS:** High strength low alloy electrogalvanized steel with heavy semi-finished hexagon nuts. Per AN I B.

**18.2.2. *Optional 304 Stainless Steel bolts with fluoropolymer coated nuts to prevent galling***

**NOTE:** Also available in metric sizes. HDPE applications will require clamps with spring washers.

**Pipe Applications:** Cast Iron, Ductile Iron, Asbestos Cement, Steel, PVC, HDPE, and most other types of pipe

## Sizes (in inches):

- 3, 4, 6, 8, 10, 12 offered with ¾", 1" NPT or CC taps
- 4, 6, 8, 10, 12 offered with 1¼", 1½" or 2" NPT taps
- 4, 6, 8, 10, 12 offered with 2" CC taps



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Tapped Full Circle<sup>®</sup> Repair Clamp Single Band

With Stainless Steel Bolts

TAP SIZE	LAST 3 DIGITS FOR ALLOY BOLTS	LAST 3 DIGITS FOR STAINLESS STEEL BOLTS
3/4" NPT	-006	-106
1" NPT	-008	-108
1 1/4" NPT	-010	-110
1 1/2" NPT	-012	-112
2" NPT	-014	-114
3/4" CC	-007	-107
1" CC	-009	-109
1 1/4" CC	-011	-111
1 1/2" CC	-013	-113
2" CC	-015	-115

## 3/4" and 1" NPT Taps

NOMINAL SIZE INCHES	STANDARD			3/4" NPT 20MM	1" NPT 25MM	METRIC			
	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	NOMINAL SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
3	3.46-3.70	7.5	8.3	238-00035007-006	238-00035007-008	80	88-93	190	3.8
	3.46-3.70	12.5	12.8	238-00035012-006	238-00035012-008		88-93	317	5.8
3	3.73-4.00	7.5	8.3	238-00037507-006	238-00037507-008	80	95-101	190	3.8
	3.73-4.00	12.5	12.8	238-00037512-006	238-00037512-008		95-101	317	5.8
3	3.96-4.25	7.5	8.3	238-00040007-006	238-00040007-008	80-100	101-107	190	3.8
	3.96-4.25	12.5	12.8	238-00040012-006	238-00040012-008		101-107	317	5.8
4	4.45-4.73	7.5	8.3	238-00045007-006	238-00045007-008	100	114-120	190	3.8
	4.45-4.73	12.5	12.8	238-00045012-006	238-00045012-008		114-120	317	5.8
4	4.74-5.14	7.5	10.7	238-00048007-006	238-00048007-008	100	121-130	190	4.9
	4.74-5.14	12.5	18	238-00048012-006	238-00048012-008		121-130	317	8.3
6	6.56-6.96	7.5	11.1	238-00066307-006	238-00066307-008	150	167-176	190	5.4
	6.56-6.96	12.5	17.1	238-00066312-006	238-00066312-008		167-176	317	8.9
6	6.84-7.24	7.5	11.3	238-00069007-006	238-00069007-008	150	174-183	190	5.4
	6.84-7.24	12.5	19.3	238-00069012-006	238-00069012-008		174-183	317	8.9
8	8.54-8.94	7.5	13.2	238-00086307-006	238-00086307-008	200	217-227	190	6.1
	8.54-8.94	12.5	21.4	238-00086312-006	238-00086312-008		217-227	317	9.8
8	8.99-9.39	7.5	13.2	238-00090507-006	238-00090507-008	200	229-238	190	6.1
	8.99-9.39	12.5	21.4	238-00090512-006	238-00090512-008		229-238	317	9.8

Suitable anchorage must be provided. Excessive pipe movement could cause pipe to pull out. Other tap sizes available.

## 1 1/4", 1 1/2" and 2" NPT Taps

STANDARD				1 1/4" NPT 32 MM	1 1/2" NPT 40 MM	2" NPT 50 MM	METRIC			
NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
4	4.45-4.73	7.5	10	238-00045007-010	238-00045007-012	238-00045007-014	100	114-120	190	4.1
	4.45-4.73	10	13	238-00045010-010	238-00045010-012	238-00045010-014		114-120	254	5.9
	4.45-4.73	12.5	16	238-00045012-010	238-00045012-012	238-00045012-014		114-120	317	7.3
	4.45-4.73	15	19	238-00045015-010	238-00045015-012	238-00045015-014		114-120	381	8.6
4	4.74-5.14	7.5	11	238-00048007-010	238-00048007-012	238-00048007-014	100	121-130	190	5.0
	4.74-5.14	10	15	238-00048010-010	238-00048010-012	238-00048010-014		121-130	254	6.8
	4.74-5.14	12.5	18	238-00048012-010	238-00048012-012	238-00048012-014		121-130	317	8.2
	4.74-5.14	15	21	238-00048015-010	238-00048015-012	238-00048015-014		121-130	381	9.5
6	6.56-6.96	7.5	12	238-00066307-010	238-00066307-012	238-00066307-014	150	167-176	190	5.4
	6.56-6.96	10	16	238-00066310-010	238-00066310-012	238-00066310-014		167-176	254	7.3
	6.56-6.96	12.5	19	238-00066312-010	238-00066312-012	238-00066312-014		167-176	317	8.6
	6.56-6.96	15	23	238-00066315-010	238-00066315-012	238-00066315-014		167-176	381	11.8
6	6.84-7.24	7.5	12	238-00069007-010	238-00069007-012	238-00069007-014	150	174-183	190	5.4
	6.84-7.24	10	16	238-00069010-010	238-00069010-012	238-00069010-014		174-183	254	7.3
	6.84-7.24	12.5	19	238-00069012-010	238-00069012-012	238-00069012-014		174-183	317	8.6
	6.84-7.24	15	23	238-00069015-010	238-00069015-012	238-00069015-014		174-183	381	10.4
8	8.54-8.94	7.5	13	238-00086307-010	238-00086307-012	238-00086307-014	200	217-227	190	5.9
	8.54-8.94	10	17	238-00086310-010	238-00086310-012	238-00086310-014		217-227	254	7.7
	8.54-8.94	12.5	21	238-00086312-010	238-00086312-012	238-00086312-014		217-227	317	9.5
	8.54-8.94	15	25	238-00086315-010	238-00086315-012	238-00086315-014		217-227	381	11.30
8	8.99-9.39	7.5	13	238-00090507-010	238-00090507-012	238-00090507-014	200	229-238	190	5.9
	8.99-9.39	10	17	238-00090510-010	238-00090510-012	238-00090510-014		229-238	254	7.7
	8.99-9.39	12.5	21	238-00090512-010	238-00090512-012	238-00090512-014		229-238	317	9.5
	8.99-9.39	15	25	238-00090515-010	238-00090515-012	238-00090515-014		229-238	381	11.34
10	10.64-11.04	7.5	14	238-00107507-010	238-00107507-012	238-00107507-014	250	270-280	190	6.4
	10.64-11.04	10	19	238-00107510-010	238-00107510-012	238-00107510-014		270-280	254	8.6
	10.64-11.04	12.5	23	238-00107512-010	238-00107512-012	238-00107512-014		270-280	317	10.4
	10.64-11.04	15	27	238-00107515-010	238-00107515-012	238-00107515-014		270-280	381	12.2
10	11.04-11.44	7.5	14	238-00111007-010	238-00111007-012	238-00111007-014	250	280-291	190	6.4
	11.04-11.44	10	19	238-00111010-010	238-00111010-012	238-00111010-014		280-291	254	8.6
	11.04-11.44	12.5	23	238-00111012-010	238-00111012-012	238-00111012-014		280-291	317	10.4
	11.04-11.44	15	27	238-00111015-010	238-00111015-012	238-00111015-014		280-291	381	12.7
12	12.62-13.02	7.5	16	238-00127507-010	238-00127507-012	238-00127507-014	300	321-331	190	7.3
	12.62-13.02	10	20	238-00127510-010	238-00127510-012	238-00127510-014		321-331	254	9.1
	12.62-13.02	12.5	25	238-00127512-010	238-00127512-012	238-00127512-014		321-331	317	11.3
	12.62-13.02	15	29	238-00127515-010	238-00127515-012	238-00127515-014		321-331	381	13.15
12	13.10-13.50	7.5	16	238-00132007-010	238-00132007-012	238-00132007-014	300	333-343	190	7.7
	13.10-13.50	10	20	238-00132010-010	238-00132010-012	238-00132010-014		333-343	254	9.5
	13.10-13.50	12.5	25	238-00132012-010	238-00132012-012	238-00132012-014		333-343	317	11.3
	13.10-13.50	15	29	238-00132015-010	238-00132015-012	238-00132015-014		333-343	381	13.2

Maximum available clamp width is 35". Suitable anchorage must be provided. Excessive pipe movement could cause pipe to pull out. Other tap sizes available.

¾", 1" and 2" CC Taps

STANDARD				¾" CC 20 MM	1" CC 25 MM	2" CC 50 MM	METRIC			
NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
3	3.46-3.70	7.5	9	238-00035007-007	238-00035007-009	N/A N/A N/A N/A	80	88-93	190	4.0
	3.46-3.70	10	13	238-00035010-007	238-00035010-009			88-93	254	5.9
	3.46-3.70	12.5	16	238-00035012-007	238-00035012-009			88-93	317	7.3
	3.46-3.70	15	18	238-00035015-007	238-00035015-009			88-93	381	8.2
3	3.73-4.00	7.5	9	238-00037507-007	238-00037507-009	N/A N/A N/A N/A	80	95-101	190	4.0
	3.73-4.00	10	13	238-00037510-007	238-00037510-009			95-101	254	5.9
	3.73-4.00	12.5	16	238-00037512-007	238-00037512-009			95-101	317	7.3
	3.73-4.00	15	18	238-00037515-007	238-00037515-009			95-101	381	8.2
3	3.96-4.25	7.5	9	238-00040007-007	238-00040007-009	N/A N/A N/A N/A	80	101-107	190	4.0
	3.96-4.25	10	13	238-00040010-007	238-00040010-009			101-107	254	5.9
	3.96-4.25	12.5	16	238-00040012-007	238-00040012-009			101-107	317	7.3
	3.96-4.25	15	18	238-00040015-007	238-00040015-009			101-107	381	8.2
4	4.45-4.73	7.5	10	238-00045007-007	238-00045007-009	238-00045007-015	100	114-120	190	4.0
	4.45-4.73	10	13	238-00045010-007	238-00045010-009	238-00045010-015		114-120	254	5.9
	4.45-4.73	12.5	16	238-00045012-007	238-00045012-009	238-00045012-015		114-120	317	7.3
	4.45-4.73	15	19	238-00045015-007	238-00045015-009	238-00045015-015		114-120	381	8.2
4	4.74-5.14	7.5	10	238-00048007-007	238-00048007-009	238-00048007-015	100	121-130	190	5.0
	4.74-5.14	10	13	238-00048010-007	238-00048010-009	238-00048010-015		121-130	254	6.8
	4.74-5.14	12.5	16	238-00048012-007	238-00048012-009	238-00048012-015		121-130	317	8.2
	4.74-5.14	15	19	238-00048015-007	238-00048015-009	238-00048015-015		121-130	381	9.5
6	6.56-6.96	7.5	12	238-00066307-007	238-00066307-009	238-00066307-015	150	167-176	190	5.4
	6.56-6.96	10	16	238-00066310-007	238-00066310-009	238-00066310-015		167-176	254	7.3
	6.56-6.96	12.5	19	238-00066312-007	238-00066312-009	238-00066312-015		167-176	317	8.2
	6.56-6.96	15	23	238-00066315-007	238-00066315-009	238-00066315-015		167-176	381	10.4
6	6.84-7.24	7.5	12	238-00069007-007	238-00069007-009	238-00069007-015	150	174-183	190	5.4
	6.84-7.24	10	16	238-00069010-007	238-00069010-009	238-00069010-015		174-183	254	7.3
	6.84-7.24	12.5	19	238-00069012-007	238-00069012-009	238-00069012-015		174-183	317	8.2
	6.84-7.24	15	23	238-00069015-007	238-00069015-009	238-00069015-015		174-183	381	10.4
8	8.54-8.94	7.5	13	238-00086307-007	238-00086307-009	238-00086307-015	200	217-227	190	5.9
	8.54-8.94	10	17	238-00086310-007	238-00086310-009	238-00086310-015		217-227	254	7.7
	8.54-8.94	12.5	21	238-00086312-007	238-00086312-009	238-00086312-015		217-227	317	9.5
	8.54-8.94	15	25	238-00086315-007	238-00086315-009	238-00086315-015		217-227	381	11.3
8	8.99-9.39	7.5	13	238-00090507-007	238-00090507-009	238-00090507-015	200	229-238	190	5.9
	8.99-9.39	10	17	238-00090510-007	238-00090510-009	238-00090510-015		229-238	254	7.7
	8.99-9.39	12.5	21	238-00090512-007	238-00090512-009	238-00090512-015		229-238	317	9.5
	8.99-9.39	15	25	238-00090515-007	238-00090515-009	238-00090515-015		229-238	381	11.3
10	10.64-11.04	7.5	14	238-00107507-007	238-00107507-009	238-00107507-015	254	270-280	190	6.4
	10.64-11.04	10	19	238-00107510-007	238-00107510-009	238-00107510-015		270-280	254	8.2
	10.64-11.04	12.5	23	238-00107512-007	238-00107512-009	238-00107512-015		270-280	317	10.4
	10.64-11.04	15	27	238-00107515-007	238-00107515-009	238-00107515-015		270-280	381	12.3
10	11.04-11.44	7.5	14	238-00111007-007	238-00111007-009	238-00111007-015	254	280-291	190	6.4
	11.04-11.44	10	19	238-00111010-007	238-00111010-009	238-00111010-015		280-291	254	8.2
	11.04-11.44	12.5	23	238-00111012-007	238-00111012-009	238-00111012-015		280-291	317	10.4
	11.04-11.44	15	27	238-00111015-007	238-00111015-009	238-00111015-015		280-291	381	12.3
12	12.62-13.02	7.5	16	238-00127507-007	238-00127507-009	238-00127507-015	305	321-331	190	7.3
	12.62-13.02	10	20	238-00127510-007	238-00127510-009	238-00127510-015		321-331	254	9.1
	12.62-13.02	12.5	25	238-00127512-007	238-00127512-009	238-00127512-015		321-331	317	11.3
	12.62-13.02	15	29	238-00127515-007	238-00127515-009	238-00127515-015		321-331	381	13.2
12	13.10-13.50	7.5	16	238-00132007-007	238-00132007-009	238-00132007-015	305	333-343	190	7.7
	13.10-13.50	10	20	238-00132010-007	238-00132010-009	238-00132010-015		333-343	254	9.5
	13.10-13.50	12.5	25	238-00132012-007	238-00132012-009	238-00132012-015		333-343	317	11.3
	13.10-13.50	15	29	238-00132015-007	238-00132015-009	238-00132015-015		333-343	381	13.2



# Tapped Full Circle<sup>®</sup> Repair Clamp Double Band

# 239

## Description:

A tapped clamp to repair damaged pipe at broken or torn out service connections or branch lines.

**Application:** Service connection or branch line connections.

## Key Features:

- Stainless Steel outlet welded to band
- Select from outlets with NPT, CC or BSP (AWWA) threads
- Removable lugs allow installation in tight spaces
- Maximum support and reinforcement with 360° coverage
- Drop-in bolts in the joint to be opened help ease installation
- 18-8 Type 304 Stainless Steel band for corrosion resistance
- A wide variety of outlet sizes and thread types available to meet demand
- All closed lugs on the multi-band, except the joint, which is opened for installation
- Lugs have a Fusion-Bonded Flexi-Coat<sup>®</sup> Epoxy Finish for great corrosion resistance
- One starter (longer) bolt minimum per clamp thru 4.5" O.D. size to help with installation
- Widths up to 30"
- Pressure rating up to 175 PSI

## Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: Ductile Iron ASTM A536, 80-55-06

GASKET: Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and many other chemicals

Temperature Range: -20°F to 180°F. Consult manufacturer for specific applications and other service temperatures

BRIDGE PLATE: 302 Stainless Steel recessed flush and bonded into gasket

BOLTS: High strength, low alloy electrogalvanized steel with heavy semi-finished hexagon nuts. Per ANSI B.

18.2.2 **Optional 304 Stainless Steel bolts with fluoropolymer coated nuts to prevent galling**

**NOTE:** Also available in metric sizes. HDPE applications will require clamps with spring washers.

**Pipe Applications:** Cast Iron, Ductile Iron, Asbestos Cement, Steel, PVC, HDPE and most other types of pipe

## Sizes (in inches):

- 4, 6, 8, 10, 12 offered with ¾", 1 ¼", 1 ½" or 2" NPT Taps
- 4, 6, 8, 10, 12 offered with ¾", 1" or 2" taps.
- 4, 6, 8, 10, 12 offered with 1¼", 1½" or 2" NPT taps.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



239



# Tapped Full Circle<sup>®</sup> Repair Clamp Double Band

## Bolt Numbers

BAND WIDTH INCHES	# OF BOLTS	BOLT SIZES
7.5	6	Drop-in lug 5/8" x 6" Closed lug 5/8" x 6 7/8"
10	8	
12.5	10	
15	12	

## Stainless Steel Bolts

TAP SIZE	LAST 3 DIGITS FOR ALLOY BOLTS	LAST 3 DIGITS FOR STAINLESS STEEL BOLTS
3/4" NPT	-6	-106
1" NPT	-8	-108
1 1/4" NPT	-10	-110
1 1/2" NPT	-12	-112
2" NPT	-14	-114
3/4" CC	-7	-107
1" CC	-9	-109
1 1/4" CC	-11	-111
1 1/2" CC	-13	-113
2" CC	-15	-115

## 3/4" and 1" NPT Taps

NOMINAL SIZE INCHES	STANDARD			3/4" NPT 20 MM	1" NPT 25 MM	METRIC			
	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
4	4.44-5.24	7.5	19	239-00045007-006	239-00045007-008	100	113-133	190	8.6
	4.44-5.24	10	25	239-00045010-006	239-00045010-008		113-133	254	11.3
	4.44-5.24	12.5	31	239-00045012-006	239-00045012-008		113-133	317	14.0
	4.44-5.24	15	37	239-00045015-006	239-00045015-008		113-133	381	16.8
6	6.62-7.42	7.5	20	239-00066307-006	239-00066307-008	125	168-188	190	9.1
	6.62-7.42	10	27	239-00066310-006	239-00066310-008		168-188	254	12.2
	6.62-7.42	12.5	33	239-00066312-006	239-00066312-008		168-188	317	15.0
	6.62-7.42	15	39	239-00066315-006	239-00066315-008		168-188	381	17.7
6	6.84-7.64	7.5	20	239-00069007-006	239-00069007-008	150	174-194	190	9.1
	6.84-7.64	10	27	239-00069010-006	239-00069010-008		174-194	254	12.2
	6.84-7.64	12.5	33	239-00069012-006	239-00069012-008		174-194	317	15.0
	6.84-7.64	15	39	239-00069015-006	239-00069015-008		174-194	381	17.7
8	8.62-9.42	7.5	22	239-00086307-006	239-00086307-008	200	219-239	190	10.0
	8.62-9.42	10	30	239-00086310-006	239-00086310-008		219-239	254	13.6
	8.62-9.42	12.5	36	239-00086312-006	239-00086312-008		219-239	317	16.3
	8.62-9.42	15	43	239-00086315-006	239-00086315-008		219-239	381	19.5

¾" and 1" NPT Taps Continued

STANDARD				¾" NPT 20 MM	1" NPT 25 MM	METRIC			
NOMINAL SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
8	8.99-9.79	7.5	22	239-00090507-006	239-00090507-008	200	229-248	190	10.0
	8.99-9.79	10	30	239-00090510-006	239-00090510-008		229-248	254	13.6
	8.99-9.79	12.5	36	239-00090512-006	239-00090512-008		229-248	317	16.3
	8.99-9.79	15	43	239-00090515-006	239-00090515-008		229-248	381	19.5
10	10.75-11.55	10	31	239-00107510-006	239-00107510-008	250	273-293	254	14.1
	10.75-11.55	12.5	40	239-00107512-006	239-00107512-008		273-293	317	18.1
	10.75-11.55	15	48	239-00107515-006	239-00107515-008		273-293	381	21.8
10	11.10-11.90	10	34	239-00111010-006	239-00111010-008	250	282-302	254	15.4
	11.10-11.90	12.5	43	239-00111012-006	239-00111012-008		282-302	317	19.5
	11.10-11.90	15	48	239-00111015-006	239-00111015-008		282-302	381	21.8
12	12.75-13.55	10	34	239-00127510-006	239-00127510-008	300	324-344	254	15.4
	12.75-13.55	12.5	43	239-00127512-006	239-00127512-008		324-344	317	19.5
	12.75-13.55	15	50	239-00127515-006	239-00127515-008		324-344	381	22.7
12	13.20-14.00	10	34	239-00132010-006	239-00132010-008	300	335-355	254	15.4
	13.20-14.00	12.5	43	239-00132012-006	239-00132012-008		335-355	317	19.5
	13.20-14.00	15	50	239-00132015-006	239-00132015-008		335-355	381	22.7

1¼", 1½" and 2" NPT Taps

STANDARD				1 ¼" NPT 32 MM	1 ½" NPT 40 MM	2" NPT 50 MM	METRIC			
NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
4	4.44-5.24	7.5	19	239-00045007-010	239-00045007-012	239-00045007-014	100	113-133	190	8.6
	4.44-5.24	10	25	239-00045010-010	239-00045010-012	239-00045010-014		113-133	254	11.3
	4.44-5.24	12.5	31	239-00045012-010	239-00045012-012	239-00045012-014		113-133	317	14.0
	4.44-5.24	15	37	239-00045015-010	239-00045015-012	239-00045015-014		113-133	381	16.8
6	6.62-7.42	7.5	20	239-00066307-010	239-00066307-012	239-00066307-014	150	169-188	190	9.1
	6.62-7.42	10	27	239-00066310-010	239-00066310-012	239-00066310-014		169-188	254	12.2
	6.62-7.42	12.5	33	239-00066312-010	239-00066312-012	239-00066312-014		169-188	317	15.0
	6.62-7.42	15	39	239-00066315-010	239-00066315-012	239-00066315-014		169-188	381	17.7
6	6.84-7.64	7.5	20	239-00069007-010	239-00069007-012	239-00069007-014	150	174-194	190	9.1
	6.84-7.64	10	27	239-00069010-010	239-00069010-012	239-00069010-014		174-194	254	12.2
	6.84-7.64	12.5	33	239-00069012-010	239-00069012-012	239-00069012-014		174-194	317	15.0
	6.84-7.64	15	39	239-00069015-010	239-00069015-012	239-00069015-014		174-194	381	17.7
8	8.62-9.42	7.5	22	239-00086307-010	239-00086307-012	239-00086307-014	200	219-239	190	10.0
	8.62-9.42	10	30	239-00086310-010	239-00086310-012	239-00086310-014		219-239	254	13.6
	8.62-9.42	12.5	36	239-00086312-010	239-00086312-012	239-00086312-014		219-239	317	16.3
	8.62-9.42	15	43	239-00086315-010	239-00086315-012	239-00086315-014		219-239	381	19.5
8	8.99-9.79	7.5	22	239-00090507-010	239-00090507-012	239-00090507-014	200	229-248	190	10.0
	8.99-9.79	10	30	239-00090510-010	239-00090510-012	239-00090510-014		229-248	254	13.6
	8.99-9.79	12.5	36	239-00090512-010	239-00090512-012	239-00090512-014		229-248	317	16.3
	8.99-9.79	15	43	239-00090515-010	239-00090515-012	239-00090515-014		229-248	381	19.5
10	10.75-11.55	10	31	239-00107510-010	239-00107510-012	239-00107510-014	250	273-293	254	14.1
	10.75-11.55	12.5	40	239-00107512-010	239-00107512-012	239-00107512-014		273-293	317	18.1
	10.75-11.55	15	48	239-00107515-010	239-00107515-012	239-00107515-014		273-293	381	21.8
10	11.10-11.90	10	31	239-00111010-010	239-00111010-012	239-00111010-014	250	281-310	254	14.1
	11.10-11.90	12.5	40	239-00111012-010	239-00111012-012	239-00111012-014		281-310	317	18.1
	11.10-11.90	15	48	239-00111015-010	239-00111015-012	239-00111015-014		281-310	381	21.8
12	12.75-13.55	10	34	239-00127510-010	239-00127510-012	239-00127510-014	300	324-353	254	15.4
	12.75-13.55	12.5	43	239-00127512-010	239-00127512-012	239-00127512-014		324-353	317	19.5
	12.75-13.55	15	50	239-00127515-010	239-00127515-012	239-00127515-014		324-353	381	22.7
12	13.20-14.00	10	34	239-00132010-010	239-00132010-012	239-00132010-014	300	334-364	254	15.4
	13.20-14.00	12.5	43	239-00132012-010	239-00132012-012	239-00132012-014		334-364	317	19.5
	13.20-14.00	15	50	239-00132015-010	239-00132015-012	239-00132015-014		334-364	381	22.7

Maximum available clamp width is 30 inches. All sizes of Full Circle®s are available with tapped outlets. Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the clamp.

## 3/4", 1" and 2" CC Taps - Low Alloy Bolts and Nuts

STANDARD				3/4" CC 20 MM	1" CC 25 MM	2" CC 50 MM	METRIC			
NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
4	4.44-5.24	7.5	19	239-00045007-007	239-00045007-009	239-00045007-015	100	113-133	190	8.6
	4.44-5.24	10	25	239-00045010-007	239-00045010-009	239-00045010-015		113-133	254	11.3
	4.44-5.24	12.5	31	239-00045012-007	239-00045012-009	239-00045012-015		113-133	317	14.0
	4.44-5.24	15	37	239-00045015-007	239-00045015-009	239-00045015-015		113-133	381	16.8
6	6.62-7.42	7.5	20	239-00066307-007	239-00066307-009	239-00066307-015	150	169-188	190	9.1
	6.62-7.42	10	27	239-00066310-007	239-00066310-009	239-00066310-015		169-188	254	12.2
	6.62-7.42	12.5	33	239-00066312-007	239-00066312-009	239-00066312-015		169-188	317	15.0
	6.62-7.42	15	39	239-00066315-007	239-00066315-009	239-00066315-015		169-188	381	17.7
6	6.84-7.64	7.5	20	239-00069007-007	239-00069007-009	239-00069007-015	150	174-194	190	9.1
	6.84-7.64	10	27	239-00069010-007	239-00069010-009	239-00069010-015		174-194	254	12.2
	6.84-7.64	12.5	33	239-00069012-007	239-00069012-009	239-00069012-015		174-194	317	15.0
	6.84-7.64	15	39	239-00069015-007	239-00069015-009	239-00069015-015		174-194	381	17.7
8	8.62-9.42	7.5	22	239-00086307-007	239-00086307-009	239-00086307-015	200	219-239	190	10.0
	8.62-9.42	10	30	239-00086310-007	239-00086310-009	239-00086310-015		219-239	254	13.6
	8.62-9.42	12.5	36	239-00086312-007	239-00086312-009	239-00086312-015		219-239	317	16.3
	8.62-9.42	15	43	239-00086315-007	239-00086315-009	239-00086315-015		219-239	381	19.5
8	8.99-9.79	7.5	22	239-00090507-007	239-00090507-009	239-00090507-015	200	229-248	190	10.0
	8.99-9.79	10	30	239-00090510-007	239-00090510-009	239-00090510-015		229-248	254	13.6
	8.99-9.79	12.5	36	239-00090512-007	239-00090512-009	239-00090512-015		229-248	317	16.3
	8.99-9.79	15	43	239-00090515-007	239-00090515-009	239-00090515-015		229-248	381	19.5
10	10.75-11.55	10	31	239-00107510-007	239-00107510-009	239-00107510-015	250	273-293	254	14.1
	10.75-11.55	12.5	40	239-00107512-007	239-00107512-009	239-00107512-015		273-293	317	18.1
	10.75-11.55	15	48	239-00107515-007	239-00107515-009	239-00107515-015		273-293	381	21.8
10	11.10-11.90	10	31	239-00111010-007	239-00111010-009	239-00111010-015	250	281-310	254	14.1
	11.10-11.90	12.5	40	239-00111012-007	239-00111012-009	239-00111012-015		281-310	317	18.1
	11.10-11.90	15	48	239-00111015-007	239-00111015-009	239-00111015-015		281-310	381	21.8
12	12.75-13.55	10	34	239-00127510-007	239-00127510-009	239-00127510-015	300	324-353	254	15.4
	12.75-13.55	12.5	43	239-00127512-007	239-00127512-009	239-00127512-015		324-353	317	19.5
	12.75-13.55	15	50	239-00127515-007	239-00127515-009	239-00127515-015		324-353	381	22.7
12	13.20-14.00	10	34	239-00132010-007	239-00132010-009	239-00132010-015	300	334-364	254	15.4
	13.20-14.00	12.5	43	239-00132012-007	239-00132012-009	239-00132012-015		334-364	317	19.5
	13.20-14.00	15	50	239-00132015-007	239-00132015-009	239-00132015-015		334-364	381	22.7

Maximum available clamp width is 30 inches. Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the clamp. Other tap sizes are available.



# Full Circle® Redi-Clamp

# 244

**Description:** A repair clamp designed to repair pin holes, punctures or splits.

**Application:** Works on Steel, Copper, IPS-sized PVC and HDPE.

## Key Features:

- Built to a specific pipe O.D
- Smooth ¼" thick gasket material
- Drop-in bolts help ease installation
- Standard widths are 3", 6" and 12"
- Available in IPS and Copper tube sizes
- Lugs are epoxy coated for great corrosion resistance
- Provides 360° coverage, covering the full pipe surface
- Use 6" long or longer clamps to join pipe ends of like size
- 18-8 Type 304 Stainless Steel band for corrosion resistance
- Economical means of repairing pin hole leaks, punctures and splits in pipe

## Materials Specifications (subject to change)

**BAND:** Stainless Steel Type 304

**LUGS:** Ductile Iron ASTM A536

**GASKET:** Nitrile (Buna N) compounded to produce resist oil, natural gas, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and many chemical

**LUGS:** Ductile Iron ASTM A536 with Flexi-Coat® Epoxy Finish

**BOLTS:** Carbon Steel SAE J 429 electrogalvanized with di-chromate seal. **Optional: 304 Stainless Steel bolts with fluoropolymer coated nuts to prevent galling**

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel Copper, and IPS-sized PVC and HDPE

**Sizes (in inches):** 1/2", 3/4", 1", 1 ¼", 1 ½" and 2"



### **THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



244

# Full Circle<sup>®</sup> Redi-Clamp

STANDARD			CATALOG NUMBER		CARTON QTY.	METRIC		
NOMINAL PIPE SIZE AND PIPE O.D. INCHES	WIDTH INCHES	WT. EA. LBS.	ELECTRO-GALVANIZED BOLTS	STAINLESS STEEL BOLTS		NOMINAL PIPE SIZE AND PIPE O.D. MM	WIDTH MM	WT. EACH KG.
1/2" 0.63	3	0.7	244-00006303-000	244-00006303-001	16	15 mm	76	0.32
	6	1.4	244-00006306-000	244-00006306-001	10	16.00	152	0.64
1/2" 0.84	3	0.80	244-00008403-000	244-00008403-001	16	15 mm 21.30	76	0.36
	6	1.60	244-00008406-000	244-00008406-001	10		152	0.73
	*12	3.20	244-00008412-000	244-00008412-001	6		305	1.45
3/4" 0.88	3	0.8	244-00008803-000	244-00008803-001	16	20 mm	76	0.36
	6	1.6	244-00008806-000	244-00008806-001	10	22.35	152	0.73
3/4" 1.05	3	0.85	244-00010503-000	244-00010503-001	12	20 mm 26.70	76	0.39
	6	1.70	244-00010506-000	244-00010506-001	8		152	0.77
	*12	3.40	244-00010512-000	244-00010512-001	9		305	1.54
1" 1.13	3	0.87	244-00011303-000	244-00011303-001	12	25 mm	76	0.39
	6	1.70	244-00011306-000	244-00011306-001	8	28.70	152	0.77
1" 1.32	3	0.90	244-00013203-000	244-00013203-001	12	25 mm 33.53	76	0.41
	6	1.80	244-00013206-000	244-00013206-001	8		152	0.82
	*12	3.60	244-00013212-000	244-00013212-001	9		305	1.63
1 1/4" 1.38	3	0.90	244-00013803-000	244-00013803-001	12	32 mm	76	0.41
	6	1.80	244-00013806-000	244-00013806-001	6	35.05	152	0.82
1 1/4" 1.66	3	0.95	244-00016603-000	244-00016603-001	12	32 mm 42.20	76	0.43
	6	1.95	244-00016606-000	244-00016606-001	6		152	0.88
	*12	3.90	244-00016612-000	244-00016612-001	6		305	1.77
1 1/2" 1.63	3	0.95	244-00016303-000	244-00016303-001	12	40 mm	76	0.43
	6	1.95	244-00016306-000	244-00016306-001	6	41.40	152	0.88
1 1/2" 1.90	3	1.00	244-00019003-000	244-00019003-001	10	40 mm 48.30	76	0.45
	6	2.00	244-00019006-000	244-00019006-001	6		152	0.91
	*12	4.00	244-00019012-000	244-00019012-001	6		305	1.81
2" 2.13	3	1.30	244-00021303-000	244-00021303-001	8	50 mm	76	0.59
	6	2.60	244-00021306-000	244-00021306-001	4	54.10	152	1.18
2" 2.38	3	1.60	244-00023803-000	244-00023803-001	8	50 mm 60.45	76	0.73
	6	3.20	244-00023806-000	244-00023806-001	6		152	1.45
	*12	6.40	244-00023812-000	244-00023812-001	4		305	2.90



# Redi-Clamp®

# 245



**Description:** A repair clamp designed to repair pin holes, punctures or splits.

**Application:** Works on Steel, PVC, HDPE, and Copper tube.

## Key Features:

- Built to a specific pipe O.D
- Drop-in bolts help ease installation
- Standard widths are 3", 6", 9" and 12"
- Available in IPS, Copper tube, Ductile Iron and other sizes
- Lugs are epoxy coated for great corrosion resistance
- Provides 360° coverage, covering the full pipe surface
- 18-8 Type 304 Stainless Steel band for corrosion resistance
- Economical means of repairing pin hole leaks, punctures and splits in pipe

## Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: Ductile Iron ASTM A536

GASKET: Nitrile (Buna N) compounded to produce resist oil, natural gas, acids, alkalies, most (aliphatic) hydrocarbon, water and many chemicals

LUGS: Ductile Iron ASTM A536 with Flexi-Coat® Epoxy Finish

BOLTS: Carbon Steel SAE J 429 electrogalvanized with di-chromate seal. **Optional: 304 Stainless Steel bolts with fluoropolymer coated nuts to prevent galling**

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, PVC, HDPE, and Copper tube

**Sizes (in inches):** ½", ¾", 1", 1¼", 1½", 2", 2½", 3" and 3½"-4"



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



245

# Redi-Clamp®

STANDARD			CATALOG NUMBER		QTY. PER CTN.	METRIC		
NOMINAL PIPE SIZE AND PIPE O.D. INCHES	WIDTH INCHES	WT. EA. LBS.	ELECTRO-GALVANIZED BOLTS	STAINLESS STEEL BOLTS		NOMINAL PIPE SIZE AND PIPE O.D. MM	WIDTH MM	WT. EACH KG.
1/2" 0.84	3	0.6	245-00008403-000	245-00008403-001	24	15 mm 21.33	76	0.30
	6	1.3	245-00008406-000	245-00008406-001	12		152	0.60
3/4"	3	0.7	245-00010503-000	245-00010503-001	16	20 mm	76	0.30
1.05	6	1.4	245-00010506-000	245-00010506-001	10	26.67	152	0.60
1" 1.32	3	0.7	245-00013203-000	245-00013203-001	16	25 mm 33.52	76	0.30
	6	1.5	245-00013206-000	245-00013206-001	10		152	0.70
1 1/4"	3	0.8	245-00016603-000	245-00016603-001	12	32 mm	76	0.40
1.66	6	1.6	245-00016606-000	245-00016606-001	6	42.16	152	0.70
1 1/2" 1.90	3	0.9	245-00019003-000	245-00019003-001	12	40 mm 48.26	76	0.40
	6	1.9	245-00019006-000	245-00019006-001	8		152	0.90
2"	3	0.9	245-00020003-000	245-00020003-001	8	50 mm	76	0.40
2.00	6	1.9	245-00020006-000	245-00020006-001	4	50.80	152	0.90
2" 2.38	3	1.0	245-00023803-000	245-00023803-001	8	50 mm 60.45	76	0.50
	6	2.0	245-00023806-000	245-00023806-001	4		152	0.90
	9	3.0	245-00023809-000	245-00023809-001	4		229	1.40
	12	4.0	245-00023812-000	245-00023812-001	4		305	1.80
2 1/2" 2.88	3	1.0	245-00028803-000	245-00028803-001	8	65 mm 73.15	76	0.50
	6	2.1	245-00028806-000	245-00028806-001	3		152	1.00
	9	3.1	245-00028809-000	245-00028809-001	4		229	1.40
	12	4.1	245-00028812-000	245-00028812-001	4		305	1.90
3" 3.00	3	1.2	245-00030003-000	245-00030003-001	6	80 mm 76.20	76	0.50
	6	2.5	245-00030006-000	245-00030006-001	3		152	1.10
	9	3.7	245-00030009-000	245-00030009-001	4		229	1.70
	12	5.0	245-00030012-000	245-00030012-001	4		305	2.30
3" 3.50	3	1.3	245-00035003-000	245-00035003-001	6	80 mm 88.90	76	0.60
	6	2.6	245-00035006-000	245-00035006-001	4		152	1.20
	9	4.0	245-00035009-000	245-00035009-001	4		229	1.80
	12	5.2	245-00035012-000	245-00035012-001	4		305	2.40
3 1/2"-4" 4.00	3	1.3	245-00040003-000	245-00040003-001	4	90-100 mm 101.60	76	0.60
	6	2.7	245-00040006-000	245-00040006-001	4		152	1.20
	9	4.0	245-00040009-000	245-00040009-001	4		229	1.80
	12	5.4	245-00040012-000	245-00040012-001	4		305	2.40

STANDARD			CATALOG NUMBER		QTY. PER CTN.	METRIC		
NOMINAL PIPE SIZE AND PIPE O.D. INCHES	WIDTH INCHES	WT. EA. LBS.	ELECTRO-GALVANIZED BOLTS	STAINLESS STEEL BOLTS		NOMINAL PIPE SIZE AND PIPE O.D. MM	WIDTH MM	WT. EACH KG.
4" 4.25	3	1.4	245-00042503-000	245-00042503-001	4	100 mm 107.95	76	0.6
	6	2.8	245-00042506-000	245-00042506-001	3		152	1.3
4" 4.50	3	1.4	245-00045003-000	245-00045003-001	4	100 mm 114.30	76	0.6
	6	2.8	245-00045006-000	245-00045006-001	3		152	1.3
	9	4.2	245-00045009-000	245-00045009-001	3		229	1.9
	12	5.6	245-00045012-000	245-00045012-001	4		305	2.5
5" 5.00	3	1.5	245-00050003-000	245-00050003-001	6	125 mm 127.00	76	0.7
	6	3.0	245-00050006-000	245-00050006-001	3		152	1.4
	9	4.5	245-00050009-000	245-00050009-001	4		229	2.0
	12	6.0	245-00050012-000	245-00050012-001	4		305	2.7
5" 5.56	3	1.6	245-00055603-000	245-00055603-001	6	125 mm 141.22	76	0.7
	6	3.2	245-00055606-000	245-00055606-001	3		152	1.5
	9	4.8	245-00055609-000	245-00055609-001	4		229	2.2
	12	6.4	245-00055612-000	245-00055612-001	3		305	2.9
6" 6.00	3	1.8	245-00060003-000	245-00060003-001	6	150 mm 152.40	76	0.8
	6	3.6	245-00060006-000	245-00060006-001	3		152	1.6
	9	5.4	245-00060009-000	245-00060009-001	3		229	2.5
	12	7.2	245-00060012-000	245-00060012-001	3		305	3.3
6" 6.25	3	1.8	245-00062503-000	245-00062503-001	6	150 mm 158.75	76	0.8
6" 6.63	3	1.8	245-00066303-000	245-00066303-001	6	150 mm 168.4	76	0.8
	6	3.7	245-00066306-000	245-00066306-001	3		152	1.7
	9	5.5	245-00066309-000	245-00066309-001	2		229	2.5
	12	7.4	245-00066312-000	245-00066312-001	3		305	3.4
8" 8.00	3	2.1	245-00080003-000	245-00080003-001	4	200 mm 203.20	76	1.0
	6	4.2	245-00080006-000	245-00080006-001	2		152	1.9
	9	6.3	245-00080009-000	245-00080009-001	2		229	2.9
	12	8.4	245-00080012-000	245-00080012-001	2		305	3.8
8" 8.63	3	2.2	245-00086303-000	245-00086303-001	4	200 mm 219.20	76	1.0
	6	4.4	245-00086306-000	245-00086306-001	2		152	2.0
	9	6.6	245-00086309-000	245-00086309-001	2		229	3.0
	12	8.8	245-00086312-000	245-00086312-001	2		305	4.0
*10" 10.00	3	2.5	245-00100003-000	245-00100003-001	4	250 mm 254.00	76	1.1
	6	5.0	245-00100006-000	245-00100006-001	2		152	2.3
	9	7.5	245-00100009-000	245-00100009-001	2		229	3.4
	12	10.0	245-00100012-000	245-00100012-001	2		305	4.5
*10" 10.75	3	2.8	245-00107503-000	245-00107503-001	4	250 mm 273.05	76	1.3
	6	5.6	245-00107506-000	245-00107506-001	2		152	2.5
	9	8.4	245-00107509-000	245-00107509-001	2		229	3.8
	12	11.2	245-00107512-000	245-00107512-001	2		305	5.1
*12" 12.00	3	2.9	245-00120003-000	245-00120003-001	4	300 mm 304.80	76	1.3
	6	5.8	245-00120006-000	245-00120006-001	2		152	2.6
	9	8.7	245-00120009-000	245-00120009-001	2		229	3.9
	12	11.6	245-00120012-000	245-00120012-001	2		305	5.3
*12" 12.75	3	3.0	245-00127503-000	245-00127503-001	4	300 mm 323.85	76	1.4
	6	6.0	245-00127506-000	245-00127506-001	2		152	2.7
	9	9.0	245-00127509-000	245-00127509-001	2		229	4.1
	12	12.0	245-00127512-000	245-00127512-001	2		305	5.4





# Pipe Repair Clamp

## Multi-Band

# 246



**Description:** A repair clamp designed to repair pin holes, punctures or splits in rigid pipe, like Steel, plastic, or Copper tube.

**Application:** Steel and IPS-sized PVC

### Key Features:

- Built to a specific pipe O.D
- Drop-in bolts help ease installation
- Standard widths are 5" and 10"
- Lugs are epoxy coated for great corrosion resistance
- Provides 360° coverage, covering the full pipe surface
- 18-8 Type 304 Stainless Steel band for corrosion resistance
- Economical means of repairing pin hole leaks, punctures and splits in pipe

### Materials Specifications (subject to change)

**BAND:** Stainless Steel Type 304

**LUGS:** Ductile Iron ASTM A536; Flexi-Coat Fusion-Bonded Epoxy Finish

**GASKET:** Nitrile (Buna N) compounded to produce resist oil, natural gas, acids, alkalies, most (aliphatic) hydrocarbon, water and many chemicals

**NUTS/BOLTS:** High strength, low alloy Steel with heavy, semi-finished hexagon nuts per ANSI B. 18.2.2. Optional 304 Stainless bolts with fluoropolymer coated nuts to reduce galling

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel and IPS-sized PVC

**Sizes (in inches):** 10, 12, 14, 16, 18, 20, 22, 24, 30



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

246



# Pipe Repair Clamp

## Multi-Band

STANDARD				CATALOG NUMBER	QTY. PER. CTN.	METRIC			
NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES	WIDTH INCHES	WT. EA. LBS.			NOMINAL PIPE SIZE MM	PIPE O.D. MM	WIDTH MM	WT. EACH KG.
10"	10.00	5	12.0	246-00100005-000	2	250	254	127	5.4
		10	24.0	246-00100010-000	1			254	10.9
10"	10.25	5	12.2	246-00102505-000	2	250	268	127	5.5
		10	24.4	246-00102510-000	1			254	11.1
10"	10.75	5	14.1	246-00107505-000	2	250	273	127	6.4
		10	28.2	246-00107510-000	1			254	12.8
12"	12.00	5	15.1	246-00120005-000	2	300	305	127	6.9
		10	30.2	246-00120010-000	1			254	13.7
12"	12.25	5	15.1	246-00122505-000	2	300	311	127	6.9
		10	30.2	246-00122510-000	1			254	13.7
12"	12.75	5	15.1	246-00127505-000	2	300	324	127	6.9
		10	30.2	246-00127510-000	1			254	13.7
14"	14.00	5	15.7	246-00140005-000	2	350	350	127	7.1
		10	31.4	246-00140010-000	1			254	14.3
16"	16.00	5	16.6	246-00160005-000	1	400	400	127	7.5
		10	33.2	246-00160010-000	1			254	15.1
18"	18.00	5	18.1	246-00180005-000	1	450	450	127	8.2
		10	36.2	246-00180010-000	1			254	16.5
20"	20.00	5	19.3	246-00200005-000	1	500	500	127	8.8
		10	38.6	246-00200010-000	1			254	17.5
22"	22.00	5	20.4	246-00220005-000	1	550	550	127	9.2
		10	40.8	246-00220010-000	1			254	18.5
24"	24.00	5	21.8	246-00240005-000	1	600	600	127	9.9
		10	43.6	246-00240010-000	1			254	19.8
30"	30.00	5	22.8	246-00300005-000	1	750	750	127	10.4
		10	45.6	246-00300010-000	1			254	20.7



# Full Circle<sup>®</sup> Redi-Clamp<sup>®</sup>

All Stainless Steel

# 247



**Description:** A repair clamp designed to repair pin holes, punctures or splits in rigid pipe, like Steel, plastic, or Copper tube.

**Application:** Works on Steel, Copper, and IPS-sized PVC and HDPE.

## Key Features:

- Built to a specific pipe O.D
- Drop-in bolts help ease installation
- Standard widths are 3" and 6"
- Available in IPS and Copper tube sizes
- Provides 360° coverage, covering the full pipe surface
- Use 6" long or longer clamps to join pipe ends of like size
- 18-8 Type 304 Stainless Steel band for corrosion resistance
- Economical means of repairing pin hole leaks, punctures and splits in pipe

## Options (subject to change):

**BAND:** Stainless Steel Type 304

**LUGS:** ASTM A743 GRCF8 Stainless Steel (304 Equivalent)

**GASKET:** Nitrile (Buna N) compounded to produce resist oil, natural gas, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and many chemicals

**NUTS/BOLTS:** 304 Stainless Steel with fluoropolymer coated nuts to prevent galling

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, Copper, and IPS-sized PVC and HDPE

**Sizes (in inches):** 1/2, 3/4, 1, 1 1/4, 1 1/2, 2



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

247



# Full Circle<sup>®</sup> Redi-Clamp<sup>®</sup>

All Stainless Steel

STANDARD				CATALOG NUMBER	QTY. PER CTN.	METRIC			
NOMINAL PIPE SIZE INCHES	O.D. INCHES	WIDTH INCHES	WT. EACH LBS.			NOMINAL PIPE SIZE MM	O.D. MM	WIDTH MM	WT. EACH KG.
1/2"	0.63	3	.70	247-00006303-000	6	15	16.00	76	0.32
		6	1.40	247-00006306-000	6			152	0.64
1/2"	0.84	3	.80	247-00008403-000	6	15	21.30	76	0.36
		6	1.60	247-00008406-000	6			152	0.73
3/4"	0.88	3	.80	247-00008803-000	6	20	22.35	76	0.36
		6	1.60	247-00008806-000	6			152	0.73
3/4"	1.05	3	.85	247-00010503-000	6	20	26.70	76	0.39
		6	1.70	247-00010506-000	6			152	0.77
1"	1.13	3	.87	247-00011303-000	6	25	28.70	76	0.39
		6	1.70	247-00011306-000	6			152	0.77
1"	1.32	3	.90	247-00013203-000	6	25	33.53	76	0.41
		6	1.70	247-00013206-000	6			152	0.82
1 1/4"	1.38	3	.90	247-00013803-000	6	32	35.05	76	0.41
		6	1.80	247-00013806-000	6			152	0.82
1 1/4"	1.66	3	.95	247-00016603-000	6	32	42.20	76	0.43
		6	1.95	247-00016606-000	6			152	0.88
1 1/2"	1.63	3	.95	247-00016303-000	6	40	41.40	76	0.43
		6	1.95	247-00016306-000	6			152	0.88
1 1/2"	1.90	3	1.00	247-00019003-000	6	40	48.30	76	0.45
		6	2.00	247-00019006-000	6			152	0.91
2"	2.13	3	1.30	247-00021303-000	6	50	54.10	76	0.59
		6	2.60	247-00021306-000	6			152	1.18
2"	2.38	3	1.60	247-00023803-000	8	50	60.45	76	0.73
		6	3.20	247-00023806-000	4			152	1.45



# Redi-Clamp®

All Stainless Steel

# 248



**Description:** A repair clamp designed to repair pin holes, punctures or splits in rigid pipe, like Steel, plastic, or Copper tube.

**Application:** Works on Steel, PVC, HDPE, and Copper tube.

### Key Features:

- Built to a specific pipe O.D
- Drop-in bolts help ease installation
- Standard widths are 3", 6", 9" and 12"
- Available in IPS and Copper tube
- Provides 360° coverage, covering the full pipe surface
- Use 6" long or longer clamps to join pipe ends of like size
- 18-8 Type 304 Stainless Steel band for corrosion resistance
- Economical means of repairing pin hole leaks, punctures and splits in pipe

### Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: ASTM A743 GRFC8 Cast Stainless (304 equivalent)

GASKET: Nitrile (Buna N) compounded to produce resist oil, natural gas, acids, alkalis, most (aliphatic) hydrocarbon fluids, water and many chemicals

Temperature Range: -20°F to +180°F

NUTS/BOLTS: 304 Stainless Steel with fluoropolymer coated nuts to prevent galling

WORKING PRESSURE: Up to 150 PSI

**Pipe Applications:** Steel, PVC, HDPE, and Copper tube

**Sizes (in inches):** ½, ¾, 1, 1¼, 1½, 2



### **THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Redi-Clamp®

All Stainless Steel

248

STANDARD			CATALOG NUMBER	QTY. PER CTN.	METRIC		
NOMINAL PIPE SIZE AND PIPE O.D. INCHES	WIDTH INCHES	WT EA. LBS.			NOMINAL PIPE SIZE AND PIPE O.D. MM	WIDTH MM	WT. EACH KG.
1/2"	3	0.6	248-00008403-000	24	15 mm	76	0.3
0.84	6	1.3	248-00008406-000	12	21.30	152	0.6
3/4"	3	0.7	248-00010503-000	12	20 mm	76	0.3
1.05	6	1.4	248-00010506-000	9	26.70	152	0.6
1"	3	0.7	248-00013203-000	12	25 mm	76	0.3
1.32	6	1.5	248-00013206-000	9	33.40	152	0.7
1 1/4"	3	0.8	248-00016603-000	12	32 mm	76	0.4
1.66	6	1.6	248-00016606-000	6	42.20	152	0.7
1 1/2"	3	0.9	248-00019003-000	12	40 mm	76	0.4
1.90	6	1.9	248-00019006-000	6	48.30	152	0.9
2"	3	0.9	248-00020003-000	8	50 mm	76	0.4
2.00	6	1.9	248-00020006-000	4	50.80	152	0.9
2"	3	1.0	248-00023803-000	8	50 mm	76	0.5
	6	2.0	248-00023806-000	4		152	0.9
2.38	9	3.0	248-00023809-000	4	60.30	229	1.4
	12	4.0	248-00023812-000	4		305	1.8



# Full Circle<sup>®</sup> Repair Clamp

## All Stainless Steel, Cast Lugs, Single Band

# 256



**Description:** A single-band clamp designed to provide 360° pressure and complete leak repair

**Application:** For hot soil and other aggressive environments.

### Key Features:

- Designed with "hot" soils in mind
- Standard widths 7.5", 15" and 22.5"
- Removable lugs to allow installation in tight places
- Drop-in bolts in the joint to be opened to ease installation
- Maximum support and reinforcement provided by a 360° gasket seal
- The ultimate in corrosion resistant repair clamps - no welded parts
- Range up to .40" in the single band

### Materials Specifications (subject to change)

**BAND:** Stainless Steel Type 304

**LUGS:** CF8 austenitic Cast Stainless Steel (304 Equivalent)

**GASKET:** Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalis, most aliphatic hydrocarbon and other chemicals

**Temperature Range:** -20°F to +180°F

**BRIDGE PLATE:** 304 Stainless Steel recessed flush and bonded to gasket

**BOLTS:** 304 Stainless Steel bolts with rolled threads, fluoropolymer coated to prevent galling

**Working Pressure:** Up to 300 PSI

### Pipe Applications:

Cast Iron, Ductile Iron, Asbestos Cement, PVC, HDPE, Steel, Copper, Fiberglass and other types of pipes.  
(Use on HDPE requires spring washers)

**Sizes (in inches):** 2, 2¼-2½, 3, 4, 4-5, 6, 8, 10, 12



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



256

# Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Cast Lugs, Single Band

STANDARD				CATALOG NUMBER	METRIC			
NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.		NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
2	2.35-2.63	7.5	7	256-00023807-000	50	60-66	190	3.0
	2.35-2.63	15	13	256-00023815-000		60-66	381	6.0
2 1/4-2 1/2	2.70-3.00	7.5	7	256-00027507-000	65	69-76	190	3.0
	2.70-3.00	15	13	256-00027515-000		69-76	381	6.0
3	2.97-3.25	7.5	7	256-00030007-000	80	75-82	190	2.7
	2.97-3.25	15	14	256-00030015-000		75-82	381	6.5
3	3.46-3.70	7.5	8	256-00035007-000	80	88-93	190	3.7
	3.46-3.70	15	16	256-00035015-000		88-93	381	7.4
3-4	3.73-4.00	7.5	8	256-00037507-000	80-100	95-101	190	3.7
	3.73-4.00	15	16	256-00037515-000		95-101	381	7.5
4	3.96-4.25	7.5	8	256-00040007-000	100	101-107	190	3.7
	3.96-4.25	15	19	256-00040015-000		101-107	381	7.8
4	4.45-4.73	7.5	8	256-00045007-000	100	114-120	190	3.7
	4.45-4.73	15	17	256-00045015-000		114-120	381	8.0
4	4.74-5.14	7.5	9	256-00048007-000	100	121-130	190	4.0
	4.74-5.14	15	18	256-00048015-000		121-130	381	8.2
	4.74-5.14	22.5	27	256-00048022-000		121-130	572	12.3
4-5	4.95-5.35	7.5	9	256-00050007-000	125	126-135	190	4.0
	4.95-5.35	15	18	256-00050015-000		126-135	381	8.2
	4.95-5.35	22.5	27	256-00050022-000		126-135	572	12.3
4-5	5.22-5.62	7.5	9	256-00052507-000	125	133-142	190	4.0
	5.22-5.62	15	18	256-00052515-000		133-142	381	8.2
	5.22-5.62	22.5	27	256-00052522-000		133-142	572	12.3
6	6.56-6.96	7.5	9	256-00066307-000	150	167-176	190	4.2
	6.56-6.96	15	18	256-00066315-000		167-176	381	8.5
	6.56-6.96	22.5	28	256-00066322-000		167-176	572	12.7
6	6.84-7.24	7.5	10	256-00069007-000	150	174-183	190	4.6
	6.84-7.24	15	20	256-00069015-000		174-183	381	9.1
	6.84-7.24	22.5	30	256-00069022-000		174-183	572	13.7
	6.84-7.24	30	40	256-00069030-000		174-183	762	18.2
6	7.05-7.45	7.5	10	256-00071007-000	150	180-189	190	4.6
	7.05-7.45	15	20	256-00071015-000		180-189	381	9.1
	7.05-7.45	22.5	30	256-00071022-000		180-189	572	13.7
6	7.45-7.85	7.5	10	256-00074507-000	150	190-199	190	4.6
	7.45-7.85	15	20	256-00074515-000		190-199	381	9.1
	7.45-7.85	22.5	30	256-00074522-000		190-199	572	13.7
8	8.54-8.94	7.5	13	256-00086307-000	200	217-227	190	5.8
	8.54-8.94	15	25	256-00086315-000		217-227	381	11.3
	8.54-8.94	22.5	37	256-00086322-000		217-227	572	17.0
8	8.99-9.39	7.5	13	256-00090507-000	200	229-238	190	5.8
	8.99-9.39	15	25	256-00090515-000		229-238	381	11.3
	8.99-9.39	22.5	37	256-00090522-000		229-238	572	17.0
8	9.27-9.67	7.5	13	256-00094007-000	200	236-245	190	5.8
	9.27-9.67	15	25	256-00094015-000		236-245	381	11.3
	9.27-9.67	22.5	37	256-00094022-000		236-245	572	17.0



STANDARD				CATALOG NUMBER	METRIC			
NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.		NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
10	10.64-11.04	7.5	12	256-00107507-000	250	271-280	190	5.9
	10.64-11.04	15	25	256-00107515-000		271-280	381	11.7
	10.64-11.04	22.5	39	256-00107522-000		271-280	572	17.6
10	11.04-11.44	7.5	13	256-00111007-000	250	281-290	190	6.3
	11.04-11.44	15	27	256-00111015-000		281-290	381	12.6
	11.04-11.44	22.5	41	256-00111022-000		281-290	572	18.9
10	11.34-11.74	7.5	14	256-00114007-000	250	289-298	190	6.3
	11.34-11.74	15	27	256-00114015-000		289-298	381	12.6
	11.34-11.74	22.5	42	256-00114022-000		289-298	572	18.9
10	11.75-12.15	7.5	14	256-00117507-000	250	299-308	190	6.3
	11.75-12.15	15	27	256-00117515-000		299-308	381	18.9
	11.75-12.15	22.5	42	256-00117522-000		299-308	572	18.9
12	12.62-13.02	7.5	14	256-00127507-000	300	321-330	190	6.8
	12.62-13.02	15	29	256-00127515-000		321-330	381	13.5
	12.62-13.02	22.5	44	256-00127522-000		321-330	572	20.3
12	13.10-13.50	7.5	14	256-00132007-000	300	333-342	190	6.8
	13.10-13.50	15	29	256-00132015-000		333-342	381	13.5
	13.10-13.50	22.5	44	256-00132022-000		333-342	572	20.3
12	13.40-13.80	7.5	15	256-00134007-000	300	341-350	190	6.8
	13.40-13.80	15	30	256-00134015-000		341-350	381	13.5
	13.40-13.80	22.5	45	256-00134022-000		341-350	572	20.3
12	13.70-14.10	7.5	16	256-00137007-000	300	348-358	190	7.2
	13.70-14.10	15	32	256-00137015-000		348-358	381	14.4
	13.70-14.10	22.5	48	256-00137022-000		348-358	572	21.7
12	14.00-14.40	7.5	15	256-00140007-000	300	356-365	190	7.2
	14.00-14.40	15	31	256-00140015-000		356-365	381	14.4
	14.00-14.40	22.5	47	256-00140022-000		356-365	572	21.7



# Full Circle®

## All Stainless Steel Double Band

# 257



**Description:** A double-band cast clamp designed to provide 360° pressure and complete leak repair

**Application:** For hot soil and other corrosive environments.

### Key Features:

- Designed with "hot" soils in mind
- Standard widths 7.5", 15" and 22.5"
- Removable lugs to allow installation in tight places
- Drop-in bolts in the joint to be opened to ease installation
- Maximum support and reinforcement provided by a 360° gasket seal
- The ultimate in corrosion resistant repair clamps - no welded parts
- Range up to .80" in the double band

### Materials Specifications (subject to change)

**BAND:** Stainless Steel Type 304

**LUGS:** CF8 austenitic Cast Stainless Steel (304 Equivalent)

**GASKET:** Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalies, most aliphatic hydrocarbon and other chemicals

**Temperature Range:** -20° F to +180° F

**BRIDGE PLATE:** 304 Stainless Steel recessed flush and bonded to gasket

**BOLTS:** 304 Stainless Steel bolts with rolled threads, fluoropolymer coated to prevent galling

**Working Pressure:** Up to 200 PSI

**Pipe Applications:** Cast Iron, Ductile Iron, Asbestos Cement, PVC, HDPE, Steel, Copper, Fiberglass, and other types of pipe. (Use on HDPE requires spring washers)

**Sizes (in inches):** 4, 6, 8, 10, 12



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

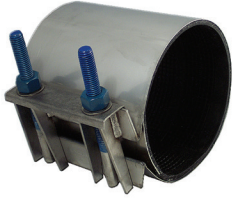


257

# Full Circle<sup>®</sup>

## All Stainless Steel Double Band

STANDARD				CATALOG NUMBER	METRIC			
NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.		NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
4	4.74-5.54	7.5	15	257-00048007-000	100	121-141	190	6.9
	4.74-5.54	15	29	257-00048015-000		121-141	381	13.7
	4.74-5.54	22.5	45	257-00048022-000		121-141	572	20.6
6	6.84-7.64	7.5	16	257-00069007-000	150	174-194	190	7.4
	6.84-7.64	15	32	257-00069015-000		174-194	381	14.7
	6.84-7.64	22.5	48	257-00069022-000		174-194	572	22.1
8	8.99-9.79	7.5	20	257-00090507-000	200	229-248	190	9.2
	8.99-9.79	15	40	257-00090515-000		229-248	381	18.3
	8.99-9.79	22.5	61	257-00090522-000		229-248	572	27.5
10	11.04-11.84	7.5	22	257-00111007-000	250	281-310	190	10.1
	11.04-11.84	15	44	257-00111015-000		281-310	381	20.2
	11.04-11.84	22.5	67	257-00111022-000		281-310	572	30.2
10	11.60-12.40	7.5	44	257-00116007-000	250	295-314	190	10.1
	11.60-12.40	15	44	257-00116015-000		295-314	381	20.2
	11.60-12.40	22.5	67	257-00116022-000		295-314	572	30.2
12	13.14-13.94	7.5	23	257-00132007-000	300	334-364	190	10.5
	13.14-13.94	15	46	257-00132015-000		334-364	381	21.1
	13.14-13.94	22.5	70	257-00132022-000		334-364	572	31.6
12	13.65-14.45	7.5	24	257-00136507-000	300	347-372	190	11.0
	13.65-14.45	15	48	257-00136515-000		347-372	381	22.0
	13.65-14.45	22.5	73	257-00136522-000		347-372	572	33.0



# Full Circle<sup>®</sup> Repair Clamp

## All Stainless Steel, Fabricated Lugs, Single Band

# 261



**Description:** A single-band clamp designed to provide 360° pressure and complete leak repair

**Application:** Works on Cast Iron, Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, HDPE, Fiberglass and other pipe types.

### Key Features:

- Designed with "hot" soils in mind
- Standard widths 7.5" through 30"
- Can be used to repair pipe or join pipe ends
- Can be manufactured to odd size pipe O.D.s
- All 304 Stainless Steel construction for corrosion resistance
- A 360° Gasket seal provides maximum support and reinforcement
- Keeper bar helps pull clamp around the pipe and closes the clamp during installation
- Range up to .40"
- Larger clamps have a greater range to help reduce inventory

### Materials Specifications (subject to change)

BAND: Stainless Steel (Type 304)

LUGS: Stainless Steel (Type 304)

KEEPER BARS: Stainless Steel (Type 304)

GASKET: Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalis, most aliphatic hydrocarbon and other chemicals.

Temperature Range: -20°F to +180°F

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded to gasket

STUD BOLTS: Type 304 Stainless Steel Epoxy coated

NUTS: fluoropolymer coated to prevent galling

**Also in metric sizes. HDPE applications require clamps with spring washers**

**Working Pressure:** Up to 150 PSI

### Pipe Applications:

Cast Iron, Ductile Iron, Asbestos Cement, PVC, HDPE, Steel, Copper, Fiberglass and other types of pipes

**Sizes (in inches):** 2, 2¼-2½, 3, 4, 4-5, 6, 8, 10, 12



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



261

# Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Fabricated Lugs, Single Band

STANDARD				CATALOG NUMBER	METRIC			
NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.		NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
2	2.35-2.63	7.5	5	261-00023807-000	50	60-67	190	2.1
	2.35-2.63	10	6	261-00023810-000		60-67	254	2.9
	2.35-2.63	12.5	8	261-00023812-000		60-67	317	3.5
	2.35-2.63	15	9	261-00023815-000		60-67	381	4.3
2 1/4-2 1/2	2.70-3.00	7.5	5	261-00027507-000	65	70-77	190	2.1
	2.70-3.00	10	6	261-00027510-000		70-77	254	2.9
	2.70-3.00	12.5	8	261-00027512-000		70-77	317	3.5
	2.70-3.00	15	9	261-00027515-000		70-77	381	4.3
3	2.97-3.25	7.5	5	261-00030007-000	65	76-83	190	2.2
	2.97-3.25	10	6	261-00030010-000		76-83	254	2.9
	2.97-3.25	12.5	8	261-00030012-000		76-83	317	3.6
	2.97-3.25	15	10	261-00030015-000		76-83	381	4.4
3	3.46-3.70	7.5	5	261-00035007-000	80	88-93	190	2.2
	3.46-3.70	10	7	261-00035010-000		88-93	254	3.0
	3.46-3.70	12.5	8	261-00035012-000		88-93	317	3.7
	3.46-3.70	15	10	261-00035015-000		88-93	381	4.5
3-4	3.73-4.00	7.5	4	261-00037507-000	80-100	95-101	190	2.3
	3.73-4.00	10	7	261-00037510-000		95-101	254	3.1
	3.73-4.00	12.5	9	261-00037512-000		95-101	317	3.9
	3.73-4.00	15	10	261-00037515-000		95-101	381	4.6
3-4	3.96-4.25	7.5	4	261-00040007-000	80-100	101-107	190	2.4
	3.96-4.25	10	7	261-00040010-000		101-107	254	3.1
	3.96-4.25	12.5	9	261-00040012-000		101-107	317	4.0
	3.96-4.25	15	10	261-00040015-000		101-107	381	4.7
4	4.45-4.73	7.5	6	261-00045007-000	100	114-124	190	2.5
	4.45-4.73	10	7	261-00045010-000		114-124	254	3.3
	4.45-4.73	12.5	9	261-00045012-000		114-124	317	4.2
	4.45-4.73	15	11	261-00045015-000		114-124	381	5.0
4	4.74-5.14	7.5	6	261-00048007-000	100	120-131	190	2.9
	4.74-5.14	10	8	261-00048010-000		120-131	254	3.8
	4.74-5.14	12.5	11	261-00048012-000		120-131	317	4.8
	4.74-5.14	15	13	261-00048015-000		120-131	381	5.7
	4.74-5.14	20	17	261-00048020-000		120-131	508	7.6
4-5	4.95-5.35	7.5	6	261-00050007-000	125	126-135	190	2.9
	4.95-5.35	10	8	261-00050010-000		126-135	254	3.8
	4.95-5.35	12.5	11	261-00050012-000		126-135	317	4.8
	4.95-5.35	15	13	261-00050015-000		126-135	381	5.7
	4.95-5.35	20	17	261-00050020-000		126-135	508	7.6
4-5	5.22-5.62	7.5	7	261-00052507-000	125	132-143	190	3.0
	5.22-5.62	10	9	261-00052510-000		132-143	254	4.0
	5.22-5.62	12.5	11	261-00052512-000		132-143	317	5.0
	5.22-5.62	15	14	261-00052515-000		132-143	381	6.0
	5.22-5.62	20	18	261-00052520-000		132-143	508	8.0

STANDARD				CATALOG NUMBER	METRIC			
NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.		NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
6	5.95-6.35	7.5	6	261-00060007-000	125	151-161	190	3.1
	5.95-6.35	10	9	261-00060010-000		151-161	254	4.2
	5.95-6.35	12.5	12	261-00060012-000		151-161	317	5.2
	5.95-6.35	15	13	261-00060015-000		151-161	381	6.3
	5.95-6.35	20	18	261-00060020-000		151-161	508	8.4
6	6.56-6.96	7.5	6	261-00066307-000	150	167-177	190	3.3
	6.56-6.96	10	10	261-00066310-000		167-177	254	4.4
	6.56-6.96	12.5	12	261-00066312-000		167-177	317	5.5
	6.56-6.96	15	15	261-00066315-000		167-177	381	6.6
	6.56-6.96	20	20	261-00066320-000		167-177	508	8.9
	6.56-6.96	25	24	261-00066325-000		167-177	635	11.1
	6.56-6.96	30	29	261-00066330-000		167-177	762	13.3
6	6.84-7.24	7.5	7	261-00069007-000	150	174-184	190	3.3
	6.84-7.24	10	10	261-00069010-000		174-184	254	4.4
	6.84-7.24	12.5	12	261-00069012-000		174-184	317	5.5
	6.84-7.24	15	15	261-00069015-000		174-184	381	6.6
	6.84-7.24	20	20	261-00069020-000		174-184	508	8.9
	6.84-7.24	25	24	261-00069025-000		174-184	635	11.1
	6.84-7.24	30	29	261-00069030-000		174-184	762	13.3
6	7.05-7.45	7.5	7	261-00071007-000	150	180-189	190	3.4
	7.05-7.45	10	10	261-00071010-000		180-189	254	4.5
	7.05-7.45	12.5	12	261-00071012-000		180-189	317	5.6
	7.05-7.45	15	15	261-00071015-000		180-189	381	6.7
	7.05-7.45	20	20	261-00071020-000		180-189	508	8.9
	7.05-7.45	25	25	261-00071025-000		180-189	635	11.2
	7.05-7.45	30	30	261-00071030-000		180-189	762	13.4
6	7.45-7.85	7.5	7	261-00074507-000	150	190-199	190	3.5
	7.45-7.85	10	10	261-00074510-000		190-199	254	4.7
	7.45-7.85	12.5	13	261-00074512-000		190-199	317	5.9
	7.45-7.85	15	16	261-00074515-000		190-199	381	7.1
	7.45-7.85	20	21	261-00074520-000		190-199	508	9.4
	7.45-7.85	25	25	261-00074525-000		190-199	635	11.8
	7.45-7.85	30	31	261-00074530-000		190-199	762	14.2
8	7.95-8.35	7.5	8	261-00080007-000	200	202-212	190	3.7
	7.95-8.35	10	11	261-00080010-000		202-212	254	5.0
	7.95-8.35	12.5	13	261-00080012-000		202-212	317	6.2
	7.95-8.35	15	16	261-00080015-000		202-212	381	7.5
	7.95-8.35	20	22	261-00080020-000		202-212	508	9.9
	7.95-8.35	25	27	261-00080025-000		202-212	635	12.4
	7.95-8.35	30	33	261-00080030-000		202-212	762	14.9
8	8.54-8.94	7.5	9	261-00086307-000	200	217-227	190	3.9
	8.54-8.94	10	11	261-00086310-000		217-227	254	5.1
	8.54-8.94	12.5	14	261-00086312-000		217-227	317	6.5
	8.54-8.94	15	17	261-00086315-000		217-227	381	7.7
	8.54-8.94	20	23	261-00086320-000		217-227	508	10.3
	8.54-8.94	25	28	261-00086325-000		217-227	635	12.9
	8.54-8.94	30	34	261-00086330-000		217-227	762	15.4

STANDARD				CATALOG NUMBER	METRIC			
NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.		NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
8	8.99-9.39	7.5	9	261-00090507-000	200	228-239	190	4.0
	8.99-9.39	10	12	261-00090510-000		228-239	254	5.3
	8.99-9.39	12.5	15	261-00090512-000		228-239	317	6.6
	8.99-9.39	15	17	261-00090515-000		228-239	381	7.9
	8.99-9.39	20	23	261-00090520-000		228-239	508	10.5
	8.99-9.39	25	29	261-00090525-000		228-239	635	13.2
	8.99-9.39	30	35	261-00090530-000		228-239	762	15.8
8	9.27-9.67	7.5	9	261-00094007-000	200	236-245	190	4.0
	9.27-9.67	10	12	261-00094010-000		236-245	254	5.3
	9.27-9.67	12.5	16	261-00094012-000		236-245	317	6.7
	9.27-9.67	15	18	261-00094015-000		236-245	381	8.0
	9.27-9.67	20	24	261-00094020-000		236-245	508	10.7
	9.27-9.67	25	29	261-00094025-000		236-245	635	13.2
	9.27-9.67	30	35	261-00094030-000		236-245	762	16.0
8-10	9.70-10.10	7.5	9	261-00100007-000	225	247-256	190	4.2
	9.70-10.10	10	12	261-00100010-000		247-256	254	5.6
	9.70-10.10	12.5	16	261-00100012-000		247-256	317	7.0
	9.70-10.10	15	19	261-00100015-000		247-256	381	8.4
	9.70-10.10	20	25	261-00100020-000		247-256	508	11.3
	9.70-10.10	25	31	261-00100025-000		247-256	635	14.1
	9.70-10.10	30	37	261-00100030-000		247-256	762	16.9
10	10.64-11.04	7.5	10	261-00107507-000	250	270-280	190	4.5
	10.64-11.04	10	13	261-00107510-000		270-280	254	6.0
	10.64-11.04	12.5	16	261-00107512-000		270-280	317	7.4
	10.64-11.04	15	19	261-00107515-000		270-280	381	8.9
	10.64-11.04	20	24	261-00107520-000		270-280	508	11.9
	10.64-11.04	25	33	261-00107525-000		270-280	635	14.8
	10.64-11.04	30	39	261-00107530-000		270-280	762	17.8
10	11.04-11.44	7.5	10	261-00111007-000	250	280-291	190	4.5
	11.04-11.44	10	13	261-00111010-000		280-291	254	6.0
	11.04-11.44	12.5	17	261-00111012-000		280-291	317	7.5
	11.04-11.44	15	20	261-00111015-000		280-291	381	9.0
	11.04-11.44	20	26	261-00111020-000		280-291	508	12.0
	11.04-11.44	25	33	261-00111025-000		280-291	635	15.0
	11.04-11.44	30	40	261-00111030-000		280-291	762	18.0
10	11.34-11.74	7.5	10	261-00114007-000	250	288-299	190	4.6
	11.34-11.74	10	14	261-00114010-000		288-299	254	6.2
	11.34-11.74	12.5	17	261-00114012-000		288-299	317	7.7
	11.34-11.74	15	20	261-00114015-000		288-299	381	9.3
	11.34-11.74	20	27	261-00114020-000		288-299	508	12.4
	11.34-11.74	25	35	261-00114025-000		288-299	635	15.7
	11.34-11.74	30	42	261-00114030-000		288-299	762	18.5
10	11.75-12.15	7.5	10	261-00117507-000	250	298-309	190	4.7
	11.75-12.15	10	14	261-00117510-000		298-309	254	6.3
	11.75-12.15	12.5	17	261-00117512-000		298-309	317	7.9
	11.75-12.15	15	21	261-00117515-000		298-309	381	9.4
	11.75-12.15	20	28	261-00117520-000		298-309	508	12.6
	11.75-12.15	25	35	261-00117525-000		298-309	635	15.7
	11.75-12.15	30	42	261-00117530-000		298-309	762	18.8

STANDARD				CATALOG NUMBER	METRIC			
NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.		NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
10-12	12.00-12.40	7.5	11	261-00120007-000	250-300	305-315	190	4.8
	12.00-12.40	10	14	261-00120010-000		305-315	254	6.4
	12.00-12.40	12.5	18	261-00120012-000		305-315	317	8.0
	12.00-12.40	15	21	261-00120015-000		305-315	381	9.5
	12.00-12.40	20	28	261-00120020-000		305-315	508	12.7
	12.00-12.40	25	35	261-00120025-000		305-315	635	15.9
	12.00-12.40	30	42	261-00120030-000		305-315	762	19.1
12	12.62-13.02	7.5	11	261-00127507-000	300	321-331	190	5.0
	12.62-13.02	10	15	261-00127510-000		321-331	254	6.7
	12.62-13.02	12.5	18	261-00127512-000		321-331	317	8.3
	12.62-13.02	15	22	261-00127515-000		321-331	381	10.0
	12.62-13.02	20	29	261-00127520-000		321-331	508	13.3
	12.62-13.02	25	37	261-00127525-000		321-331	635	16.6
	12.62-13.02	30	45	261-00127530-000		321-331	762	19.9
12	13.10-13.50	7.5	11	261-00132007-000	300	333-343	190	5.1
	13.10-13.50	10	15	261-00132010-000		333-343	254	6.8
	13.10-13.50	12.5	19	261-00132012-000		333-343	317	8.5
	13.10-13.50	15	22	261-00132015-000		333-343	381	10.2
	13.10-13.50	20	29	261-00132020-000		333-343	508	13.6
	13.10-13.50	25	37	261-00132025-000		333-343	635	17.0
	13.10-13.50	30	45	261-00132030-000		333-343	762	20.3
12	13.40-13.80	7.5	11	261-00134007-000	300	340-351	190	5.1
	13.40-13.80	10	15	261-00134010-000		340-351	254	6.9
	13.40-13.80	12.5	18	261-00134012-000		340-351	317	8.5
	13.40-13.80	15	23	261-00134015-000		340-351	381	10.3
	13.40-13.80	20	30	261-00134020-000		340-351	508	13.7
	13.40-13.80	25	38	261-00134025-000		340-351	635	17.1
	13.40-13.80	30	45	261-00134030-000		340-351	762	20.5



## Bolt Numbers

BAND WIDTH INCHES	NUMBER OF STUDS	STUD SIZES
7.5	2	5/8" X 7" or 16mm x 178mm
10	3	
12.5	3	
15	4	
20	5	
25	8	
30	10	



# Full Circle®

## All Stainless Steel, Fabricated Lugs, Double Band

# 262



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

**Description:** A double-band clamp designed to provide 360° pressure and complete leak repair

**Application:** Works on Cast Iron, Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, HDPE and Fiberglass.

### Key Features:

- Designed with "hot" soils in mind
- Standard widths 7.5" through 30"
- Can be used to repair pipe or join pipe ends
- Can be manufactured to odd size pipe O.D.s
- All 304 Stainless Steel construction for corrosion resistance
- A 360° Gasket seal provides maximum support and reinforcement
- Keeper bar helps pull clamp around the pipe and closes the clamp during installation
- Range up to .40"
- Larger clamps have a greater range to help reduce inventory

### Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: Stainless Steel Type 304)

KEEPER BARS: Stainless Steel Type 304)

GASKET: Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalis, most aliphatic hydrocarbon and other chemicals.

Temperature Range: -20°F to +180°F

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded to gasket

STUD BOLTS: Type 304 Stainless Steel Epoxy coated

NUTS: Fluoropolymer coated to prevent galling

**Also in metric sizes. HDPE applications require clamps with spring washers**

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Cast Iron, Asbestos Cement, PVC, HDPE, Steel, Copper, Fiberglass and other types of pipes

**Sizes (in inches):** 2, 2¼-2½, 3, 4, 4-5, 6, 8, 10, 12



# Full Circle®

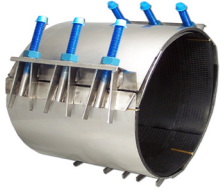
All Stainless Steel, Fabricated Lugs, Double Band

STANDARD				CATALOG NUMBER	METRIC			
NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.		NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
3	3.49-4.29	7.5	8	262-00035007-000	80	88-110	190	4.1
	3.49-4.29	10	12	262-00035010-000		88-110	254	5.4
	3.49-4.29	12.5	15	262-00035012-000		88-110	317	6.8
	3.49-4.29	15	18	262-00035015-000		88-110	381	8.2
	3.49-4.29	20	24	262-00035020-000		88-110	508	10.9
4	4.44-5.24	7.5	9	262-00045007-000	100	113-133	190	4.3
	4.44-5.24	10	13	262-00045010-000		113-133	254	5.7
	4.44-5.24	12.5	16	262-00045012-000		113-133	317	7.1
	4.44-5.24	15	19	262-00045015-000		113-133	381	8.5
	4.44-5.24	20	25	262-00045020-000		113-133	508	11.4
4	4.74-5.57	7.5	10	262-00048007-000	100	121-141	190	4.5
	4.74-5.57	10	13	262-00048010-000		121-141	254	5.9
	4.74-5.57	12.5	16	262-00048012-000		121-141	317	7.4
	4.74-5.57	15	20	262-00048015-000		121-141	381	8.9
	4.74-5.57	20	26	262-00048020-000		121-141	508	11.8
6	6.62-7.42	7.5	10	262-00066307-000	150	168-189	190	4.9
	6.62-7.42	10	14	262-00066310-000		168-189	254	6.5
	6.62-7.42	12.5	18	262-00066312-000		168-189	317	8.2
	6.62-7.42	15	22	262-00066315-000		168-189	381	9.8
	6.62-7.42	20	29	262-00066320-000		168-189	508	13.1
6	6.84-7.64	7.5	10	262-00069007-000	150	174-194	190	4.9
	6.84-7.64	10	15	262-00069010-000		174-194	254	6.6
	6.84-7.64	12.5	18	262-00069012-000		174-194	317	8.3
	6.84-7.64	15	22	262-00069015-000		174-194	381	9.9
	6.84-7.64	20	29	262-00069020-000		174-194	508	13.2
8	8.62-9.42	7.5	13	262-00086307-000	200	219-239	190	5.7
	8.62-9.42	10	17	262-00086310-000		219-239	254	7.6
	8.62-9.42	12.5	21	262-00086312-000		219-239	317	9.4
	8.62-9.42	15	25	262-00086315-000		219-239	381	11.3
	8.62-9.42	20	34	262-00086320-000		219-239	508	15.1
8	8.99-9.79	7.5	13	262-00090507-000	200	229-248	190	5.9
	8.99-9.79	10	16	262-00090510-000		229-248	254	7.9
	8.99-9.79	12.5	22	262-00090512-000		229-248	317	9.9
	8.99-9.79	15	26	262-00090515-000		229-248	381	11.8
	8.99-9.79	20	35	262-00090520-000		229-248	508	15.8
10	10.75-11.55	10	21	262-00107510-000	250	273-293	254	9.4
	10.75-11.55	15	31	262-00107515-000		273-293	381	14.1
	10.75-11.55	20	41	262-00107520-000		273-293	508	18.8
10	11.10-11.90	10	21	262-00111010-000	250	282-302	254	9.5
	11.10-11.90	15	31	262-00111015-000		282-302	381	14.2
	11.10-11.90	20	42	262-00111020-000		282-302	508	19.0

STANDARD				CATALOG NUMBER	METRIC			
NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.		NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
10	11.60-12.40	10	21	262-00116010-000	250	295-315	254	9.6
	11.60-12.40	15	32	262-00116015-000		295-315	381	14.4
	11.60-12.40	20	42	262-00116020-000		295-315	508	19.2
12	12.75-13.55	10	23	262-00127510-000	300	325-344	254	10.4
	12.75-13.55	15	35	262-00127515-000		325-344	381	15.7
	12.75-13.55	20	46	262-00127520-000		325-344	508	20.9
12	13.20-14.00	10	23	262-00132010-000	300	335-355	254	10.5
	13.20-14.00	15	35	262-00132015-000		335-355	381	15.8
	13.20-14.00	20	46	262-00132020-000		335-355	508	21.1
12	13.65-14.45	10	24	262-00136510-000	300	347-367	254	10.7
	13.65-14.45	15	35	262-00136515-000		347-367	381	16.0
	13.65-14.45	20	47	262-00136520-000		347-367	508	21.3
12	14.00-14.80	10	25	262-00140010-000	300	357-376	254	11.4
	14.00-14.80	15	38	262-00140015-000		357-376	381	17.1
	14.00-14.80	20	50	262-00140020-000		357-376	508	22.8

## Bolt Numbers

BAND WIDTH INCHES	NUMBER OF STUDS	STUD SIZES
7.5 10	4 6	5/8" X 7" or
12.5	6	
15 20	8 10	16mm x 178mm



# Full Circle<sup>®</sup> Repair Clamp

## All Stainless Steel, Fabricated Lugs, Multi Band

# 263



**Description:** A multi-band clamp designed to provide 360° seal and complete leak repair.

**Application:** Works on Cast and Ductile iron, Steel, Asbestos Cement, Copper, Aluminum, plastic and Fiberglass.

### Key Features:

- Designed with corrosive soil applications
- Standard widths 7.5" through 30"
- Can be used to repair pipe or join pipe ends
- Can be manufactured to odd size pipe O.D.'s
- All 304 Stainless Steel construction for corrosion resistance
- A 360° gasket seal provides maximum support and reinforcement
- Keeper bar helps pull clamp around the pipe and closes the clamp during installation
- Larger clamps have a greater range to help reduce inventory

### Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: Stainless Steel Type 304

KEEPER BARS: Stainless Steel Type 304

GASKET: Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalies, most aliphatic hydrocarbon and other chemicals

Temperature Range: -20°F to +180°F

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded to gasket

STUD BOLTS: Type 304 Stainless Steel Epoxy coated

NUTS: Fluoropolymer coated to prevent galling

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Cast & Ductile Iron, Asbestos Cement, PVC, Steel, Copper, Fiberglass, Aluminum and other types of pipes

**Sizes (in inches):** 2, 2¼-2½, 3, 4, 4-5, 6, 8, 10, 12, 14, 16, 18, 20, 24

*(Also available in metric sizes.)*

### Bolt Numbers

BAND WIDTH INCHES	NUMBER OF STUDS	STUD SIZES
10	9	5/8" x 7"
15	12	
20	15	
30	30	



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



263

# Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Fabricated Lugs, Multi Band

STANDARD			CATALOG NUMBER	METRIC		
O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.		O.D. RANGE MM	WIDTH MM	WT. EACH KG.
11.04-12.24	10	21	263-00111010-000	280-311	254	9.6
11.04-12.24	15	34	263-00111015-000	280-311	381	15.4
11.04-12.24	20	47	263-00111020-000	280-311	508	21.3
11.04-12.24	30	74	263-00111030-000	280-311	762	33.6
13.14-14.34	10	24	263-00132010-000	334-364	254	10.9
13.14-14.34	15	35	263-00132015-000	334-364	381	15.9
13.14-14.34	20	49	263-00132020-000	334-364	508	22.2
13.14-14.34	30	76	263-00132030-000	334-364	762	34.5
13.65-14.85	10	27	263-00136510-000	347-377	254	12.3
13.65-14.85	15	36	263-00136515-000	347-377	381	16.3
13.65-14.85	20	50	263-00136520-000	347-377	508	22.7
13.65-14.85	30	78	263-00136530-000	347-377	762	35.4
14.85-16.05	10	30	263-00148510-000	377-408	254	13.6
14.85-16.05	15	41	263-00148515-000	377-408	381	18.6
14.85-16.05	20	53	263-00148520-000	377-408	508	24.0
14.85-16.05	30	80	263-00148530-000	377-408	762	36.3
15.92-17.12	10	30	263-00159210-000	405-435	254	14.1
15.92-17.12	15	41	263-00159215-000	405-435	381	18.6
15.92-17.12	20	53	263-00159220-000	405-435	508	24.0
15.92-17.12	30	80	263-00159230-000	405-435	762	36.3
17.15-18.35	10	31	263-00171510-000	436-466	254	14.1
17.15-18.35	15	43	263-00171515-000	436-466	381	19.5
17.15-18.35	20	53	263-00171520-000	436-466	508	24.0
17.15-18.35	30	80	263-00171530-000	436-466	762	36.3
18.46-19.66	10	31	263-00184610-000	469-499	254	14.1
18.46-19.66	15	45	263-00184615-000	469-499	381	20.4
18.46-19.66	20	53	263-00184620-000	469-499	508	24.0
18.46-19.66	30	81	263-00184630-000	469-499	762	36.7
19.45-20.65	10	34	263-00194510-000	494-524	254	15.4
19.45-20.65	15	46	263-00194515-000	494-524	381	20.9
19.45-20.65	20	56	263-00194520-000	494-524	508	25.4
19.45-20.65	30	81	263-00194530-000	494-524	762	36.7
21.52-22.72	10	34	263-00215210-000	547-577	254	15.4
21.52-22.72	15	48	263-00215215-000	547-577	381	21.8
21.52-22.72	20	59	263-00215220-000	547-577	508	26.8
21.52-22.72	30	84	263-00215230-000	547-577	762	38.1
22.80-24.00	10	36	263-00228010-000	579-610	254	16.3
22.80-24.00	15	52	263-00228015-000	579-610	381	23.1
22.80-24.00	20	62	263-00228020-000	579-610	508	28.1
22.80-24.00	30	88	263-00228030-000	579-610	762	39.9
24.38-25.58	10	42	263-00243810-000	620-647	254	19.1
24.38-25.58	15	60	263-00243815-000	620-647	381	27.2
24.38-25.58	20	73	263-00243820-000	620-647	508	33.1
24.38-25.58	30	104	263-00243830-000	620-647	762	47.2

STANDARD			CATALOG NUMBER	METRIC		
O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.		O.D. RANGE MM	WIDTH MM	WT. EACH KG.
25.70-26.90	10	43	263-00257010-000	653-683	254	19.5
25.70-26.90	15	62	263-00257015-000	653-683	381	28.1
25.70-26.90	20	74	263-00257020-000	653-683	508	33.6
25.70-26.90	30	106	263-00257030-000	653-683	762	48.1



# Tapped Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Fabricated Lugs, Single Band

# 264



**Description:** A single band clamp designed to provide 360° pressure and complete leak repair

**Application:** For leaks at service outlets.

## Key Features:

- Standard widths 7.5" through 30"
- Can be used to repair pipe or join pipe ends
- Can be manufactured to odd size pipe O.D.s
- All 304 Stainless Steel construction for corrosion resistance
- A 360° Gasket seal provides maximum support and reinforcement
- A wide variety of outlet sizes and thread types available to meet demand
- Keeper bar helps pull clamp around the pipe and closes the clamp during installation
- Range up to .40"
- Larger clamps have a greater range to help reduce inventory

## Materials Specifications (subject to change)

BAND: 304 Stainless Steel

LUGS: 304 Stainless Steel

KEEPER BARS: 304 Stainless Steel

GASKET: Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and other chemicals.

Temperature Range: -20° F to +180° F

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded to gasket

STUD BOLTS: 304 Stainless Steel Epoxy coated

NUTS: fluoropolymer coated to prevent galling

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Cast & Ductile Iron, Asbestos Cement, PVC, HDPE\*, Steel, Copper, Fiberglass and other types of pipes

*\*HDPE applications will require clamps with spring washers.*

**Sizes (in inches):** 3, 4, 6, 8 (Also available in metric sizes ¾", 1", 1 ¼", and 2" NPT and CC tap sizes.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

## Bolt Numbers

BAND WIDTH INCHES	NUMBER OF STUDS	STUD SIZES
7.5	2	5/8" x 7"
10	3	
12.5	3	
15	5	





264

# Tapped Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Fabricated Lugs, Single Band

¾" and 1" NPT and CC Taps

STANDARD				¾" NPT 20 MM	¾" CC 20 MM	1" NPT 25 MM	1" CC 25 MM	METRIC			
NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
3	3.46-3.70	7.5	5	264-35007-006	264-35007-007	264-35007-008	264-35007-009	80	88-93	190	2.3
	3.46-3.70	10	7	264-35010-006	264-35010-007	264-35010-008	264-35010-009		88-93	254	3.2
	3.46-3.70	12.5	8	264-35012-006	264-35012-007	264-35012-008	264-35012-009		88-93	317	3.6
	3.46-3.70	15	10	264-35015-006	264-35015-007	264-35015-008	264-35015-009		88-93	381	4.5
3	3.73-4.00	7.5	5	264-37507-006	264-37507-007	264-37507-008	264-37507-009	80	95-101	190	2.3
	3.73-4.00	10	7	264-37510-006	264-37510-007	264-37510-008	264-37510-009		95-101	254	3.2
	3.73-4.00	12.5	9	264-37512-006	264-37512-007	264-37512-008	264-37512-009		95-101	317	4.1
	3.73-4.00	15	10	264-37515-006	264-37515-007	264-37515-008	264-37515-009		95-101	381	4.5
4	3.96-4.25	7.5	5	264-40007-006	264-40007-007	264-40007-008	264-40007-009	100	101-107	190	2.3
	3.96-4.25	10	7	264-40010-006	264-40010-007	264-40010-008	264-40010-009		101-107	254	3.2
	3.96-4.25	12.5	9	264-40012-006	264-40012-007	264-40012-008	264-40012-009		101-107	317	4.1
	3.96-4.25	15	10	264-40015-006	264-40015-007	264-40015-008	264-40015-009		101-107	381	4.5
4	4.45-4.73	7.5	6	264-45007-006	264-45007-007	264-45007-008	264-45007-009	100	114-124	190	2.7
	4.45-4.73	10	7	264-45010-006	264-45010-007	264-45010-008	264-45010-009		114-124	254	3.2
	4.45-4.73	12.5	9	264-45012-006	264-45012-007	264-45012-008	264-45012-009		114-124	317	4.1
	4.45-4.73	15	11	264-45015-006	264-45015-007	264-45015-008	264-45015-009		114-124	381	5.0
4	4.74-5.14	7.5	6	264-48007-006	264-48007-007	264-48007-008	264-48007-009	100	120-131	190	2.7
	4.74-5.14	10	8	264-48010-006	264-48010-007	264-48010-008	264-48010-009		120-131	254	3.6
	4.74-5.14	12.5	11	264-48012-006	264-48012-007	264-48012-008	264-48012-009		120-131	317	5.0
	4.74-5.14	15	13	264-48015-006	264-48015-007	264-48015-008	264-48015-009		120-131	381	5.9
6	6.56-6.96	7.5	7	264-66307-006	264-66307-007	264-66307-008	264-66307-009	150	167-177	190	3.2
	6.56-6.96	10	10	264-66310-006	264-66310-007	264-66310-008	264-66310-009		167-177	254	4.5
	6.56-6.96	12.5	12	264-66312-006	264-66312-007	264-66312-008	264-66312-009		167-177	317	5.4
	6.56-6.96	15	15	264-66315-006	264-66315-007	264-66315-008	264-66315-009		167-177	381	6.8
6	6.84-7.24	7.5	7	264-69007-006	264-69007-007	264-69007-008	264-69007-009	150	174-184	190	3.2
	6.84-7.24	10	10	264-69010-006	264-69010-007	264-69010-008	264-69010-009		174-184	254	4.5
	6.84-7.24	12.5	12	264-69012-006	264-69012-007	264-69012-008	264-69012-009		174-184	317	5.4
	6.84-7.24	15	15	264-69015-006	264-69015-007	264-69015-008	264-69015-009		174-184	381	6.8
8	8.54-8.94	7.5	9	264-86307-006	264-86307-007	264-86307-008	264-86307-009	200	217-227	190	4.1
	8.54-8.94	10	11	264-86310-006	264-86310-007	264-86310-008	264-86310-009		217-227	254	5.0
	8.54-8.94	12.5	14	264-86312-006	264-86312-007	264-86312-008	264-86312-009		217-227	317	6.4
	8.54-8.94	15	17	264-86315-006	264-86315-007	264-86315-008	264-86315-009		217-227	381	7.7
8	8.99-9.39	7.5	9	264-90507-006	264-90507-007	264-90507-008	264-90507-009	200	225-239	190	4.1
	8.99-9.39	10	12	264-90510-006	264-90510-007	264-90510-008	264-90510-009		225-239	254	5.4
	8.99-9.39	12.5	15	264-90512-006	264-90512-007	264-90512-008	264-90512-009		225-239	317	6.8
	8.99-9.39	15	17	264-90515-006	264-90515-007	264-90515-008	264-90515-009		225-239	381	7.7

1 1/4" through 2" NPT and CC Taps

STANDARD				1 1/4" NPT 32 MM	1 1/2" NPT 32 MM	2" NPT 50 MM	2" CC 50 MM	METRIC			
NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
4	4.45-4.73	7.5	6	264-45007-010	264-45007-012	264-45007-014	264-45007-015	100	114-124	190	2.7
	4.45-4.73	10	7	264-45010-010	264-45010-012	264-45010-014	264-45010-015		114-124	254	3.2
	4.45-4.73	12.5	9	264-45012-010	264-45012-012	264-45012-014	264-45012-015		114-124	317	4.1
	4.45-4.73	15	11	264-45015-010	264-45015-012	264-45015-014	264-45015-015		114-124	381	5.0
4	4.74-5.14	7.5	6	264-48007-010	264-48007-012	264-48007-014	264-48007-015	100	120-131	190	2.7
	4.74-5.14	10	8	264-48010-010	264-48010-012	264-48010-014	264-48010-015		120-131	254	3.6
	4.74-5.14	12.5	11	264-48012-010	264-48012-012	264-48012-014	264-48012-015		120-131	317	5.0
	4.74-5.14	15	13	264-48015-010	264-48015-012	264-48015-014	264-48015-015		120-131	381	5.9
6	6.56-6.96	7.5	7	264-66307-010	264-66307-012	264-66307-014	264-66307-015	150	167-177	190	3.2
	6.56-6.96	10	10	264-66310-010	264-66310-012	264-66310-014	264-66310-015		167-177	254	4.5
	6.56-6.96	12.5	12	264-66312-010	264-66312-012	264-66312-014	264-66312-015		167-177	317	5.4
	6.56-6.96	15	15	264-66315-010	264-66315-012	264-66315-014	264-66315-015		167-177	381	6.8
6	6.84-7.24	7.5	7	264-69007-010	264-69007-012	264-69007-014	264-69007-015	150	174-184	190	3.2
	6.84-7.24	10	10	264-69010-010	264-69010-012	264-69010-014	264-69010-015		174-184	254	4.5
	6.84-7.24	12.5	12	264-69012-010	264-69012-012	264-69012-014	264-69012-015		174-184	317	5.4
	6.84-7.24	15	15	264-69015-010	264-69015-012	264-69015-014	264-69015-015		174-184	381	6.8
8	8.54-8.94	7.5	9	264-86307-010	264-86307-012	264-86307-014	264-86307-015	200	217-227	190	4.1
	8.54-8.94	10	11	264-86310-010	264-86310-012	264-86310-014	264-86310-015		217-227	254	5.0
	8.54-8.94	12.5	14	264-86312-010	264-86312-012	264-86312-014	264-86312-015		217-227	317	6.4
	8.54-8.94	15	17	264-86315-010	264-86315-012	264-86315-014	264-86315-015		217-227	381	7.7
8	8.99-9.39	7.5	9	264-90507-010	264-90507-012	264-90507-014	264-90507-015	200	225-239	190	4.1
	8.99-9.39	10	12	264-90510-010	264-90510-012	264-90510-014	264-90510-015		225-239	254	5.4
	8.99-9.39	12.5	15	264-90512-010	264-90512-012	264-90512-014	264-90512-015		225-239	317	6.8
	8.99-9.39	15	17	264-90515-010	264-90515-012	264-90515-014	264-90515-015		225-239	381	7.7



# Tapped Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Fabricated Lugs, Double Band

# 265



**Description:** A double-band clamp designed to provide 360° pressure and complete leak repair

**Application:** For leaks at service outlets.

## Key Features:

- Standard widths 7.5" through 30"
- Can be used to repair pipe or join pipe ends
- Can be manufactured to odd size pipe O.D.'s
- All 304 Stainless Steel construction for corrosion resistance
- A 360° Gasket seal provides maximum support and reinforcement
- A wide variety of outlet sizes and thread types available to meet demand
- Keeper bar helps pull clamp around the pipe and closes the clamp during installation
- Range up to .80"
- Larger clamps have a greater range to help reduce inventory

## Materials Specifications (subject to change)

BAND: 304 Stainless Steel

LUGS: 304 Stainless Steel

KEEPER BARS: 304 Stainless Steel

GASKET: Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and other chemicals.

Temperature Range: -20°F to +180°F

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded to gasket

STUD BOLTS: 304 Stainless Steel Epoxy coated

NUTS: Fluoropolymer coated to prevent galling

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Cast Iron, Ductile Iron, Asbestos Cement, PVC, HDPE\*, Steel, Copper, Fiberglass and other types of pipes.

\*HDPE applications require clamps with spring washers.

**Sizes (in inches):** 4, 6, 8, 10, 12. ¾", 1" NPT and CC. 1¼", 1½", and 2" NPT. 2" CC

## Bolt Numbers

BAND WIDTH INCHES	NUMBER OF STUDS	STUD SIZES
7.5	4	5/8" x 7"
10	6	
12.5	6	
15	8	



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



265

# Tapped Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Fabricated Lugs, Double Band

¾" and 1" NPT and CC Taps

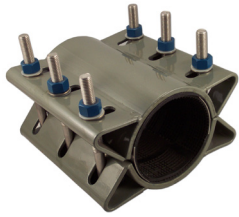
STANDARD				¾" NPT 20 MM	¾" CC 20 MM	1" NPT 25 MM	1" CC 25 MM	METRIC			
NOM. SIZE IN.	O.D. RANGE IN.	WIDTH IN.	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
4	4.44-5.24	7.5	11	265-045007-006	265-045007-007	265-045007-008	265-045007-009	100	113-133	190	4.5
	4.44-5.24	10	13	265-045010-006	265-045010-007	265-045010-008	265-045010-009		113-133	254	5.9
	4.44-5.24	12.5	16	265-045012-006	265-045012-007	265-045012-008	265-045012-009		113-133	317	7.3
	4.44-5.24	15	19	265-045015-006	265-045015-007	265-045015-008	265-045015-009		113-133	381	8.6
6	6.62-7.42	7.5	12	265-066307-006	265-066307-007	265-066307-008	265-066307-009	150	168-189	190	5.4
	6.62-7.42	10	16	265-066310-006	265-066310-007	265-066310-008	265-066310-009		168-189	254	7.3
	6.62-7.42	12.5	19	265-066312-006	265-066312-007	265-066312-008	265-066312-009		168-189	317	8.6
	6.62-7.42	15	23	265-066315-006	265-066315-007	265-066315-008	265-066315-009		168-189	381	10.4
6	6.84-7.64	7.5	12	265-069007-006	265-069007-007	265-069007-008	265-069007-009	150	174-194	190	5.4
	6.84-7.64	10	16	265-069010-006	265-069010-007	265-069010-008	265-069010-009		174-194	254	7.3
	6.84-7.64	12.5	19	265-069012-006	265-069012-007	265-069012-008	265-069012-009		174-194	317	8.6
	6.84-7.64	15	23	265-069015-006	265-069015-007	265-069015-008	265-069015-009		174-194	381	10.4
8	8.62-9.42	7.5	13	265-086307-006	265-086307-007	265-086307-008	265-086307-009	200	219-239	190	5.9
	8.62-9.42	10	17	265-086310-006	265-086310-007	265-086310-008	265-086310-009		219-239	254	7.7
	8.62-9.42	12.5	21	265-086312-006	265-086312-007	265-086312-008	265-086312-009		219-239	317	9.5
	8.62-9.42	15	25	265-086315-006	265-086315-007	265-086315-008	265-086315-009		219-239	381	11.3
8	8.99-9.79	7.5	17	265-090507-006	265-090507-007	265-090507-008	265-090507-009	200	229-248	190	7.7
	8.99-9.79	10	21	265-090510-006	265-090510-007	265-090510-008	265-090510-009		229-248	254	9.5
	8.99-9.79	12.5	25	265-090512-006	265-090512-007	265-090512-008	265-090512-009		229-248	317	11.3
	8.99-9.79	15	26	265-090515-006	265-090515-007	265-090515-008	265-090515-009		229-248	381	11.8
10	10.75-11.55	10	23	265-107510-006	265-107510-007	265-107510-008	265-107510-009	250	273-293	254	10.4
	10.75-11.55	12.5	27	265-107512-006	265-107512-007	265-107512-008	265-107512-009		273-293	317	12.2
	10.75-11.55	15	33	265-107515-006	265-107515-007	265-107515-008	265-107515-009		273-293	381	15.0
10	11.10-11.90	10	23	265-111010-006	265-111010-007	265-111010-008	265-111010-009	250	282-302	254	10.4
	11.10-11.90	12.5	28	265-111012-006	265-111012-007	265-111012-008	265-111012-009		282-302	317	12.7
	11.10-11.90	15	34	265-111015-006	265-111015-007	265-111015-008	265-111015-009		282-302	381	15.4
12	12.75-13.55	10	25	265-127510-006	265-127510-007	265-127510-008	265-127510-009	300	324-344	254	11.3
	12.75-13.55	12.5	29	265-127512-006	265-127512-007	265-127512-008	265-127512-009		324-344	317	13.2
	12.75-13.55	15	37	265-127515-006	265-127515-007	265-127515-008	265-127515-009		324-344	381	16.8
12	13.20-14.00	10	25	265-132010-006	265-132010-007	265-132010-008	265-132010-009	300	335-355	254	11.3
	13.20-14.00	12.5	29	265-132012-006	265-132012-007	265-132012-008	265-132012-009		335-355	317	13.2
	13.20-14.00	15	37	265-132015-006	265-132015-007	265-132015-008	265-132015-009		335-355	381	17.7

NOTE: Additional widths, OD ranges and tap sizes available upon request.

## 1¼", 1½" and 2" NPT Taps, and 2" CC Taps

STANDARD				1 1/4" NPT 32 MM	1 1/2" NPT 38 MM	2" NPT 50 MM	2" CC 50 MM	METRIC			
NOM. SIZE IN.	O.D. RANGE INCHES	WIDTH IN.	WT. EACH LBS.	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
4	4.44-5.24	7.5	10	265-045007-010	265-045007-012	265-045007-014	265-045007-015	100	113-133	190	4.5
	4.44-5.24	10	13	265-045010-010	265-045010-012	265-045010-014	265-045010-015		113-133	254	5.9
	4.44-5.24	12.5	16	265-045012-010	265-045012-012	265-045012-014	265-045012-015		113-133	317	7.3
	4.44-5.24	15	19	265-045015-010	265-045015-012	265-045015-014	265-045015-015		113-133	381	8.6
6	6.62-7.42	7.5	12	265-066307-010	265-066307-012	265-066307-014	265-066307-015	150	168-189	190	5.4
	6.62-7.42	10	16	265-066310-010	265-066310-012	265-066310-014	265-066310-015		168-189	254	7.3
	6.62-7.42	12.5	19	265-066312-010	265-066312-012	265-066312-014	265-066312-015		168-189	317	8.6
	6.62-7.42	15	23	265-066315-010	265-066315-012	265-066315-014	265-066315-015		168-189	381	10.4
6	6.84-7.64	7.5	12	265-069007-010	265-069007-012	265-069007-014	265-069007-015	150	174-194	190	5.4
	6.84-7.64	10	16	265-069010-010	265-069010-012	265-069010-014	265-069010-015		174-194	254	7.3
	6.84-7.64	12.5	19	265-069012-010	265-069012-012	265-069012-014	265-069012-015		174-194	317	8.6
	6.84-7.64	15	23	265-069015-010	265-069015-012	265-069015-014	265-069015-015		174-194	381	10.4
8	8.62-9.42	7.5	13	265-086307-010	265-086307-012	265-086307-014	265-086307-015	200	219-239	190	5.9
	8.62-9.42	10	17	265-086310-010	265-086310-012	265-086310-014	265-086310-015		219-239	254	7.7
	8.62-9.42	12.5	21	265-086312-010	265-086312-012	265-086312-014	265-086312-015		219-239	317	9.5
	8.62-9.42	15	25	265-086315-010	265-086315-012	265-086315-014	265-086315-015		219-239	381	11.3
8	8.99-9.79	7.5	17	265-090507-010	265-090507-012	265-090507-014	265-090507-015	200	229-248	190	7.7
	8.99-9.79	10	21	265-090510-010	265-090510-012	265-090510-014	265-090510-015		229-248	254	9.5
	8.99-9.79	12.5	25	265-090512-010	265-090512-012	265-090512-014	265-090512-015		229-248	317	11.3
	8.99-9.79	15	26	265-090515-010	265-090515-012	265-090515-014	265-090515-015		229-248	381	11.8
10	10.75-11.55	10	23	265-107510-010	265-107510-012	265-107510-014	265-107510-015	250	273-293	254	10.4
	10.75-11.55	12.5	27	265-107512-010	265-107512-012	265-107512-014	265-107512-015		273-293	317	12.2
	10.75-11.55	15	33	265-107515-010	265-107515-012	265-107515-014	265-107515-015		273-293	381	15.0
10	11.10-11.90	10	23	265-111010-010	265-111010-012	265-111010-014	265-111010-015	250	282-302	254	10.4
	11.10-11.90	12.5	28	265-111012-010	265-111012-012	265-111012-014	265-111012-015		282-302	317	12.7
	11.10-11.90	15	34	265-111015-010	265-111015-012	265-111015-014	265-111015-015		282-302	381	15.4
12	12.75-13.55	10	25	265-127510-010	265-127510-012	265-127510-014	265-127510-015	300	324-344	254	11.3
	12.75-13.55	12.5	29	265-127512-010	265-127512-012	265-127512-014	265-127512-015		324-344	317	13.2
	12.75-13.55	15	37	265-127515-010	265-127515-012	265-127515-014	265-127515-015		324-344	381	16.8
12	13.20-14.00	10	25	265-132010-010	265-132010-012	265-132010-014	265-132010-015	300	335-355	254	11.3
	13.20-14.00	12.5	29	265-132012-010	265-132012-012	265-132012-014	265-132012-015		335-355	317	13.2
	13.20-14.00	15	37	265-132015-010	265-132015-012	265-132015-014	265-132015-015		335-355	381	17.7

NOTE: Additional widths, OD ranges and tap sizes available upon request.



# Higher Pressure Full Circle<sup>®</sup> Repair Clamp

## Fabricated Lugs, Multi-Band

# 267



**Description:** A multi-band clamp designed to provide 360° pressure and complete leak repair

**Application:** Repair holes, cracks and other damage to Cast Iron, Steel and other types of rigid pipe at higher pressures.

### Key Features:

- No special tools required to install clamp
- 360° seal around the pipe for complete coverage
- Lighter and easier to install than comparable Cast Iron repair sleeves
- Higher pressure rating than standard band clamps for more pressure range coverage

### Materials Specifications (subject to change)

**BODY:** Carbon Steel ASTM A 285 Grade A ASTM A 283 Grade C or **Optional All 304 Stainless Steel**

**GASKET:** Nitrile (Buna N) compounded to produce superior and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and other chemicals

**Temperature Range:** -20°F to 180°F

**BOLTS & NUTS:** High strength, low alloy electrogalvanized steel with heavy semi-finished hexagon nuts to STM A-307 (ANSI A21.11) standards. **Optional 304 Stainless Steel nuts, Fluoropolymer coated to prevent galling**

**FINISH:** Flexi-Coat<sup>®</sup> Fusion-Bonded Epoxy Finish

**Working Pressure:** 4.50"-14.25" is up to 225 PSI and 15.30"-25.80" is up to 75 PSI

**Pipe Applications:** Cast Iron, Asbestos Cement, Plastic, Steel, Fiberglass and other types of pipes

**Sizes (in inches):** 4, 6, 8, 8-10, 10, 10-12, 12, 12-14, 14-16, 16-18, 18-20, 20, 24, 24-26

**NOTE:** Larger sizes and higher pressures available upon request.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Higher Pressure Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Fabricated Lugs, Multi-Band

# 268



**Description:** A multi-band clamp designed to provide seal and complete leak repair.

**Application:** Repair holes, cracks and other damage to Cast & Ductile Iron, Steel and other types of rigid pipe at higher pressures.

### Key Features:

- No special tools required to install clamp
- 360° seal around the pipe for complete coverage
- Lighter and easier to install than comparable Cast Iron repair sleeves
- Higher pressure rating than standard band clamps for more pressure range coverage

### Materials Specifications (subject to change)

**BODY:** Full circumference band. 304 Stainless Steel

**GASKET:** Nitrile (Buna N) compounded to produce superior and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and other chemicals

**Temperature Range:** -20° F to 180° F

**BOLTS & NUTS:** 304 Stainless Steel heavy hex nuts, stud bolts & washers. Nuts and studs are fluoropolymer coated to prevent galling

**Working Pressure:** 4.50-14.56 is 225 PSI, 15.30-17.30 is 150 PSI, and 18.60-26.60 is 75 PSI.

**Pipe Applications:** Cast & Ductile Iron, Asbestos Cement, PVC, HDPE\*, Steel, Fiberglass and other types of pipes. *For other pipe materials, please contact Smith-Blair Engineering.*

*\*HDPE applications require clamps with spring washers.*

**Sizes (in inches):** 4, 6, 8, 8-10, 10, 10-12, 12, 12-14, 14-16, 16-18, 18-20, 20, 24, 24-26

**NOTE:** Larger sizes available upon request.

267-268

# Higher Pressure Full Circle® Repair Clamp

## 267 Pressure Rating

SIZE O.D. INCHES	WORKING PRESSURE
4.50-14.25	300
15.30-25.80	200

## 268 Pressure Rating

SIZE O.D. INCHES	WORKING PRESSURE
4.50-14.56	225
15.30-17.00	150
18.00-26.60	75

NOM. SIZE INCHES	O.D. RANGE INCHES	267			268			268 CATALOG		
		CATALOG NUMBER CARBON STEEL BODY REMOVABLE BOLTS	WIDTH IN	EST. WT. EACH LBS.	CATALOG NUMBER STAINLESS STEEL BODY REMOVABLE BOLTS	WIDTH IN.	EST. WT. EACH LBS.	NUMBER STAINLESS STEEL BODY NON-REMOVABLE BOLTS	WIDTH IN	EST. WT. EACH LBS.
4	4.46-4.86	267-00048012-000	12	23	268-00048012-100	12	23	268-00048015-000	15	21
6	6.59-6.99	267-00066312-000	12	41	268-00066312-100	12	41	268-00066315-000	15	36
	6.84-7.30	267-00069012-000	12	42	268-00069012-100	12	42	268-00069015-000	15	36
8-10	7.90-8.30	267-00080012-000	12	47	268-00080012-100	12	47	268-00080015-000	15	41
8-10	8.62-9.06	267-00086312-000	12	48	268-00086312-100	12	48	268-00086315-000	15	41
	8.62-9.06	267-00086316-000	16	64	268-00086316-100	16	64	268-00086320-000	20	57
8-10	8.99-9.45	267-00090512-000	12	48	268-00090512-100	12	48	268-00090515-000	15	42
	8.99-9.45	267-00090516-000	16	65	268-00090516-100	16	65	268-00090520-000	20	58
8-10	9.20-9.60	267-00094512-000	12	48	268-00094512-100	12	48	268-00094515-000	15	42
	9.20-9.60	267-00094516-000	16	65	268-00094516-100	16	65	268-00094520-000	20	58
8-10	9.60-10.00	267-00096512-000	12	48	268-00096512-100	12	48	268-00096515-000	15	43
	9.60-10.00	267-00096516-000	16	65	268-00096516-100	16	65	268-00096520-000	20	58
10-12	9.90-10.30	267-00100012-000	12	50	268-00100012-100	12	50	268-00100015-000	15	47
	9.90-10.30	267-00100016-000	16	67	268-00100016-100	16	67	268-00100020-000	20	60
10-12	10.73-11.13	267-00107512-000	12	50	268-00107512-100	12	50	268-00107515-000	15	47
	10.73-11.13	267-00107516-000	16	67	268-00107516-100	16	67	268-00107520-000	20	62
	10.73-11.13	267-00107520-000	20	83	268-00107520-100	20	83	268-00107525-000	25	77
10-12	11.05-11.45	267-00111012-000	12	56	268-00111012-100	12	56	268-00111015-000	15	51
	11.05-11.45	267-00111016-000	16	70	268-00111016-100	16	70	268-00111020-000	20	65
	11.05-11.45	267-00111020-000	20	89	268-00111020-100	20	89	268-00111025-000	25	80
10-12	11.70-12.10	267-00117512-000	12	60	268-00117512-100	12	60	268-00117515-000	15	55
	11.70-12.10	267-00117516-000	16	80	268-00117516-100	16	80	268-00117520-000	20	75
	11.70-12.10	267-00117520-000	20	100	268-00117520-100	20	100	268-00117525-000	25	91
12-14	12.00-12.40	267-00120012-000	12	60	268-00120012-100	12	60	268-00120015-000	15	55
	12.00-12.40	267-00120016-000	16	80	268-00120016-100	16	80	268-00120020-000	20	75
	12.00-12.40	267-00120020-000	20	100	268-00120020-100	20	100	268-00120025-000	25	91
12-14	12.50-12.90	267-00127512-000	12	62	268-00127512-100	12	62	268-00127515-000	15	57
	12.50-12.90	267-00127516-000	16	82	268-00127516-100	16	82	268-00127520-000	20	77
	12.50-12.90	267-00127520-000	20	102	268-00127520-100	20	102	268-00127525-000	25	93
12-14	13.16-13.56	267-00132012-000	12	63	268-00132012-100	12	63	268-00132015-000	15	58
	13.16-13.56	267-00132016-000	16	83	268-00132016-100	16	83	268-00132020-000	20	78
	13.16-13.56	267-00132020-000	20	103	268-00132020-100	20	103	268-00132025-000	25	94



NOM. SIZE INCHES	O.D. RANGE INCHES	267			268			268 CATALOG		
		CATALOG NUMBER	WIDTH IN	EST. WT. EACH LBS.	CATALOG NUMBER	WIDTH IN.	EST. WT. EACH LBS.	NUMBER STAINLESS STEEL BODY NON-REMOVABLE BOLTS	WIDTH IN	EST. WT. EACH LBS.
12-14	13.60-14.09	267-00138212-000	12	64	268-00138212-100	12	64	268-00138215-000	15	59
	13.60-14.09	267-00138216-000	16	84	268-00138216-100	16	84	268-00138220-000	20	79
	13.60-14.09	267-00138220-000	20	104	268-00138220-100	20	104	268-00138225-000	25	95
12-14	14.10-14.58	267-00142512-000	12	65	268-00142512-100	12	65	268-00142515-000	15	60
	14.10-14.58	267-00142516-000	16	86	268-00142516-100	16	86	268-00142520-000	20	81
	14.10-14.58	267-00142520-000	20	107	268-00142520-100	20	107	268-00142525-000	25	98
14-16	15.30-15.80	267-00153012-000	12	68	268-00153012-100	12	68	268-00153015-000	15	63
	15.30-15.80	267-00153016-000	16	91	268-00153016-100	16	91	268-00153020-000	20	86
	15.30-15.80	267-00153020-000	20	113	268-00153020-100	20	113	268-00153025-000	25	104
14-16	15.80-16.30	267-00160012-000	12	70	268-00160012-100	12	70	268-00160015-000	15	65
	15.80-16.30	267-00160016-000	16	93	268-00160016-100	16	93	268-00160020-000	20	88
	15.80-16.30	267-00160020-000	20	116	268-00160020-100	20	116	268-00160025-000	25	107
14-16	16.40-16.80	267-00164012-000	12	71	268-00164012-100	12	71	268-00164015-000	15	56
	16.40-16.80	267-00164016-000	16	94	268-00164016-100	16	94	268-00164020-000	20	89
	16.40-16.80	267-00164020-000	20	117	268-00164020-100	20	117	268-00164025-000	25	108
16-18	17.40-17.80	267-00174012-000	12	74	268-00174012-100	12	74	268-00174015-000	15	71
	17.40-17.80	267-00174016-000	16	96	268-00174016-100	16	96	268-00174020-000	20	91
	17.40-17.80	267-00174020-000	20	119	268-00174020-100	20	119	268-00174025-000	25	110
16-18	18.60-19.20	267-00187012-000	12	76	268-00187012-100	12	76	268-00187015-000	15	73
	18.60-19.20	267-00187016-000	16	96	268-00187016-100	16	96	268-00187020-000	20	93
	18.60-19.20	267-00187020-000	20	121	268-00187020-100	20	121	268-00187025-000	25	112
18-20	19.50-20.10	267-00195012-000	12	78	268-00195012-100	12	78	268-00195015-000	15	75
	19.50-20.10	267-00195016-000	16	100	268-00195016-100	16	100	268-00195020-000	20	97
	19.50-20.10	267-00195020-000	20	125	268-00195020-100	20	125	268-00195025-000	25	116
18-20	20.90-21.59	267-00209012-000	12	80	268-00209012-100	12	80	268-00209015-000	15	77
	20.90-21.59	267-00209016-000	16	105	268-00209016-100	16	105	268-00209020-000	20	102
	20.90-21.59	267-00209020-000	20	130	268-00209020-100	25	130	268-00209025-000	25	121
20	21.60-22.40	267-00216012-000	12	83	268-00216012-100	12	83	268-00216015-000	15	80
	21.60-22.40	267-00216016-000	16	109	268-00216016-100	16	109	268-00216020-000	20	106
	21.60-22.40	267-00216020-000	20	132	268-00216020-100	20	132	268-00216025-000	25	123
24	23.50-24.20	267-00235012-000	12	86	268-00235012-100	12	86	268-00235015-000	15	83
	23.50-24.20	267-00235016-000	16	115	268-00235016-100	16	115	268-00235020-000	20	112
	23.50-24.20	267-00235020-000	20	140	268-00235020-100	20	140	268-00235025-000	25	131
24-26	25.80-26.60	267-00258012-000	12	89	268-00258012-100	12	89	268-00258015-000	15	86
	25.80-26.60	267-00258016-000	16	119	268-00258016-100	16	119	268-00258020-000	20	116
	25.80-26.60	267-00258020-000	20	147	268-00258020-100	20	147	268-00258025-000	25	138



# Full Circle<sup>®</sup> Collar Leak Clamp

All Stainless Steel, Single Band

# 269



**Description:** Single band clamp used leaking solvent welds on PVC

**Application:** Leaking solvent weld joints on PVC and most threaded Steel couplings.

### Key Features:

- Designed for "hot" soils
- Standard widths 7.5" through 15"
- Step gasket seals against the face of solvent weld bell to stop the leak
- Use on leaking solvent weld PVC joints and most threaded Steel couplings
- All 304 Stainless Steel construction for corrosion resistance
- A 360° Gasket seal provides maximum support and reinforcement
- Keeper bar helps pull clamp around the pipe and closes the clamp during installation

### Materials Specifications (subject to change)

BAND: 304 Stainless Steel

LUGS: 304 Stainless Steel

KEEPER BARS: 304 Stainless Steel

GASKET: Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalis, most aliphatic hydrocarbon and other chemicals

Temperature Range: -20°F to +180°F

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded to gasket

STUD BOLTS: 304 Stainless Steel Epoxy coated

NUTS: Fluoropolymer coated to prevent galling

**Working Pressure:** 150 PSI

**Pipe Applications:** PVC and Steel. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 2, 2½, 3, 3½, 4, 5, 6, 8, 10, 12



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



269

# Full Circle<sup>®</sup> Collar Leak Clamp

All Stainless Steel, Single Band

## Bolt Numbers

BAND WIDTH INCHES	NUMBER OF STUDS	STUD SIZES
7.5	2	5/8" x 7"

NOM. SIZE INCHES	O.D. RANGE INCHES	WIDTH INCHES	WT. EACH LBS.	CATALOG NUMBER	NOM. SIZE MM	O.D. RANGE MM	WIDTH MM	WT. EACH KG.
2	2.38	7.5	5	269-00023807-000	50	60-67	190	2.3
2.5	2.88	7.5	5	269-00028807-000	65	70-77	190	2.3
3	3.50	7.5	5	269-00035007-000	80	88-93	190	2.3
3.5	4.00	7.5	6	269-00040007-000	90	101-107	190	2.7
4	4.50	7.5	6	269-00045007-000	100	114-124	190	2.7
5	5.56	7.5	7	269-00055607-000	125	132-143	190	3.2
6	6.63	7.5	8	269-00066307-000	150	167-177	190	3.6
8	8.63	7.5	9	269-00086307-000	200	217-227	190	4.1
10	10.75	7.5	10	269-00107507-000	250	273-280	190	4.5
12	12.75	7.5	11	269-00127507-000	300	323-330	190	5.0



# Bell Joint Leak Clamp

# 274

**Description:** Bell Joint Leak Clamp.

**Application:** Sealing and/or preventing leaks on Cast Iron bell and spigot caulked or rubber ring joints.

## Key Features:

- Designed to fit both caulked or rubber ring joints in virtually all classes and brands of Cast Iron or Ductile Iron pipe within same nominal size
- Suitable for use on C900 and C905 PVC through 24" with the use of longer bolts-DR 18 minimum
- Kee-Lok gasket design eliminates need for field cutting gaskets so the ends are easily joined—no need of staples, tongs, tape or other gadgets to hold the gasket ends together (not available in 14", 30" or 36")
- Flexi-Coat® Fusion-Bonded Epoxy finish standard for great corrosion resistance
- Can be used to prevent leaking bell gaskets as well as repairing them
- Can be installed without interrupting the flow of the pipeline
- Front and back pieces are interchangeable
- All Bell-Spigot pieces are identical, making installation easier

## Materials Specifications (subject to change)

BELL-SPIGOT RING: Ductile Iron per ASTM S36 or Carbon Steel on 14" size only—ASTM A36

GASKET: Nitrile (Buna N) – Compounded to resist oil, natural gas, acids, alkalis, most (aliphatic) hydrocarbon, water and other chemicals

BOLTS & NUTS: High strength, low alloy Steel with heavy, semi-finished hexagon nuts to ANSI-A21.11 standards. Two inch clamps have electrogalvanized Steel studs.

Temperature Range: -20°F to +180°F

FINISH: Flexi-Coat®, Fusion-Bonded Epoxy Finish

**Working Pressure:** 150 PSI (water).

**Pipe Applications:** Ductile Iron, Cast Iron

**Sizes (in inches):** 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Bell Joint Leak Clamp

274

Ductile Iron Pipe and Short Bell C900 & C905 PVC (DR 18 minimum)

STANDARD			(+ ) BOLTS		CATALOG NUMBER	METRIC		
NOMINAL PIPE SIZE INCHES	PIPE O.D. RANGE INCHES	WEIGHT EACH LBS.	NO.	BOLT SIZE INCHES		NOMINAL PIPE SIZE MM	O.D. RANGE MM	WEIGHT EACH KG
2	2.50	3	4	1/2 x 7	274-0000250-000	50	64	1.4
3	3.80-3.96	15	4	5/8 x 9	274-0000380-000	80	97-100	6.8
4	4.80-5.00	18	4	5/8 x 9	274-0000480-000	100	122-127	8.2
6	6.90-7.10	22	4	5/8 x 9	274-0000690-000	150	175-180	10.0
8	9.05-9.30	31	6	5/8 x 10 1/2	274-0000905-000	200	230-236	14.1
10	11.10-11.40	35	6	5/8 x 10 1/2	274-00001110-000	250	282-289	15.9
12	13.20-13.50	45	6	5/8 x 10 1/2	274-00001320-000	300	336-342	20.4
14*•	15.30	52	8	5/8 x 11	274-00001530-000	350	389	24.0
14*•	15.65	54	8	5/8 x 11	274-00001565-000	350	398	25.0
16	17.40-17.80	73	9	5/8 x 13	274-00001740-000	400	442-452	33.1
18	19.50-19.92	84	12	5/8 x 13	274-00001950-000	450	495-505	38.1
20	21.60-22.06	112	12	5/8 x 13	274-00002160-000	500	549-560	50.8
24	25.80-26.32	124	12	5/8 x 13	274-00002580-000	600	655-668	56.3
30†•	31.74-32.74	239	15	5/8 x 17	274-00003174-000	762	806-832	108.6
36†•	37.96-38.70	295	18	5/8 x 17	274-00003796-000	914	964-983	134.1

\*Fabricated Carbon Steel. †Not recommended for PVC pipe. •Available with Bias Cut Gasket Only  
May be used on C900 & C905, Cast Iron pipe sizes. Longer bolts may be required (see below).

Ductile Iron Pipe and Longer Bell C900 & C905 PVC (DR 18 minimum)

STANDARD			(+ ) BOLTS		CATALOG NUMBER**	METRIC		
NOMINAL PIPE SIZE INCHES	PIPE O.D. RANGE INCHES	WEIGHT EACH LBS.	NO.	BOLT OR STUD SIZE INCHES		NOMINAL PIPE SIZE MM	O.D. RANGE MM	WEIGHT EACH KG
4	4.80-5.00	19	4	5/8 x 17	274-4000480-500	100	122-127	8.6
6	6.90-7.10	23	4	5/8 x 17	274-4000690-500	150	175-180	10.4
8	9.05-9.30	33	6	5/8 x 17	274-3000905-500	200	230-236	15.0
10	11.10-11.40	37	6	5/8 x 17	274-30001110-500	250	282-289	16.8
12	13.20-13.50	48	6	5/8 x 17	274-30001320-500	300	336-342	21.8
14*•	15.30	54	8	5/8 x 17	274-30001530-500	350	389	20.9
14*•	15.65	58	8	5/8 x 17	274-30001565-500	350	398	26.3
16	17.40-17.80	78	9	5/8 x 25	274-40001740-000	400	442-452	35.4
18	19.50-19.92	90	12	5/8 x 25	274-40001950-000	450	495-505	40.8
20	21.60-22.06	118	12	5/8 x 25	274-40002160-000	500	549-560	53.5
24	25.80-26.32	130	12	5/8 x 25	274-40002580-000	600	655-668	59.0
30†•	31.74-32.74	245	15	5/8 x 27	274-40003174-000	762	806-832	111.1
36†•	37.96-38.70	301	18	5/8 x 27	274-40003796-000	914	964-983	136.5

\*Fabricated Carbon Steel †Not recommended for PVC pipe. •Available with Bias Cut Gasket Only \*\*-500 end code = 12" of thread \*\*-000 end code = All thread.



# Full Circle® Wide Range Repair Clamp

All Stainless Steel, Fabricated Lugs, Single Band

## 281



**Description:** A wide range repair clamp with double the range of Smith-Blair's standard 261 repair clamp delivering the convenience of handling more applications with fewer product sizes.

**Application:** The repair of leaks due to complete breaks, splits, holes or for joining pipes of the same diameter.

### Key Features:

- Up to .95" range
- Widest range repair clamp in the Smith-Blair's product line
- Can be used to repairs pipes or join pipe ends
- All 304 Stainless Steel construction for corrosion resistance
- A 360° Gasket seal provides maximum support and reinforcement
- Keeper bar helps pull clamp around the pipe and closes the clamp during installation
- Standard widths 7.5", 10.0", 12.5", 15.0", 20.0", 25.0", 30.0"

### Materials Specifications (subject to change):

**BAND:** Type 304 Stainless Steel per ASTM A240

**FINGER:** Type 304 Stainless Steel, per ASTM A 240

**LUG BAR:** Type 304 Stainless Steel per ASTM A 240

**KEEPER BAR:** Type 304 Stainless Steel per ASTM 240

**NUTS:** Type 316 Stainless Steel GR 8 per ASTM A194, Fluoropolymer coated

**WASHER:** Type 304 Stainless Steel per ASTM A 240

**STUD:** Type 304 Stainless Steel per ASTM A276; epoxy coated to minimize galling

**GASKET:** Nitrile (Buna N) per ASTM D2000

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Carbon Steel, Stainless Steel, Ductile Iron, PVC, Asbestos Cement, Copper Aluminum.

**Sizes (in inches):** 3" to 12" nominal



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pull-out. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read product installation instructions prior to installing this product.



# Full Circle® Wide Range Repair Clamp

All Stainless Steel, Fabricated Lugs, Single Band

281

All Stainless Steel, Fabricated Lugs, Single Band

Nom. Size Inches	O.D. Size Inches	Catalog Number	Width Inches	Approx Wt. Each Lbs.	List Price Each
3	3.46-4.04	281-00035007-000	7.5	6	<b>\$161.65</b>
		281-00035010-000	10	8	<b>229.00</b>
		281-00035012-000	12.5	9	<b>293.25</b>
		281-00035015-000	15	12	<b>335.55</b>
4	4.45-5.14	281-00045007-000	7.5	7	<b>166.00</b>
		281-00045010-000	10	9	<b>232.50</b>
		281-00045012-000	12.5	12	<b>301.00</b>
		281-00045015-000	15	15	<b>357.70</b>
4	4.75-5.45	281-00048007-000	7.5	7	<b>169.50</b>
		281-00048010-000	10	10	<b>236.85</b>
		281-00048012-000	12.5	12	<b>309.50</b>
		281-00048015-000	15	15	<b>364.95</b>
		281-00048020-000	20	19	<b>503.80</b>
6	6.56-7.36	281-00066307-000	7.5	8	<b>188.90</b>
		281-00066310-000	10	11	<b>266.85</b>
		281-00066312-000	12.5	13	<b>354.60</b>
		281-00066315-000	15	17	<b>418.20</b>
		281-00066320-000	20	22	<b>578.60</b>
		281-00066325-000	25	26	<b>775.30</b>
6	6.83-7.63	281-00066330-000	30	34	<b>936.25</b>
		281-00069007-000	7.5	8	<b>191.60</b>
		281-00069010-000	10	11	<b>270.55</b>
		281-00069012-000	12.5	13	<b>360.00</b>
		281-00069015-000	15	17	<b>424.45</b>
		281-00069020-000	20	22	<b>587.25</b>
		281-00069025-000	25	26	<b>785.90</b>
8	8.54-9.34	281-00069030-000	30	34	<b>948.65</b>
		281-00086307-000	7.5	10	<b>209.05</b>
		281-00086310-000	10	13	<b>294.45</b>
		281-00086312-000	12.5	16	<b>395.05</b>
		281-00086315-000	15	19	<b>464.65</b>
		281-00086320-000	20	25	<b>643.24</b>
		281-00086325-000	25	32	<b>854.65</b>
8	8.99-9.79	281-00086330-000	30	38	<b>1,029.15</b>
		281-00090507-000	7.5	10	<b>227.75</b>
		281-00090510-000	10	13	<b>301.30</b>
		281-00090512-000	12.5	16	<b>405.05</b>
		281-00090515-000	15	19	<b>476.20</b>
		281-00090520-000	20	25	<b>659.25</b>
		281-00090525-000	25	32	<b>874.19</b>
10	10.64-11.54	281-00090530-000	30	38	<b>1,052.20</b>
		281-00107507-000	7.5	11	<b>256.10</b>
		281-00107510-000	10	14	<b>368.50</b>
		281-00107512-000	12.5	18	<b>493.80</b>
		281-00107515-000	15	22	<b>575.37</b>
		281-00107520-000	20	29	<b>792.85</b>
		281-00107525-000	25	36	<b>1,036.00</b>
		281-00107530-000	30	44	<b>1,150.90</b>



# Full Circle® Wide Range Repair Clamp

All Stainless Steel, Fabricated Lugs, Single Band

281

All Stainless Steel, Fabricated Lugs, Single Band

Nom. Size Inches	O.D. Size Inches	Catalog Number	Width Inches	Approx Wt. Each Lbs.	List Price Each
10	10.64-11.54	281-00107507-000	7.5	11	<b>256.10</b>
		281-00107510-000	10	14	<b>368.50</b>
		281-00107512-000	12.5	18	<b>493.80</b>
		281-00107515-000	15	22	<b>575.37</b>
		281-00107520-000	20	29	<b>792.85</b>
		281-00107525-000	25	36	<b>1,036.00</b>
		281-00107530-000	30	44	<b>1,150.90</b>
10	11.34-12.24	281-00114007-000	7.5	11	<b>290.78</b>
		281-00114010-000	10	15	<b>382.17</b>
		281-00114012-000	12.5	18	<b>498.60</b>
		281-00114015-000	15	22	<b>580.70</b>
		281-00114020-000	20	29	<b>800.30</b>
		281-00114025-000	25	36	<b>1,046.35</b>
		281-00114030-000	30	44	<b>1,160.84</b>
12	12.62-13.57	281-00127507-000	7.5	12	<b>290.78</b>
		281-00127510-000	10	15	<b>392.50</b>
		281-00127512-000	12.5	20	<b>510.00</b>
		281-00127515-000	15	24	<b>598.00</b>
		281-00127520-000	20	31	<b>807.25</b>
		281-00127525-000	25	40	<b>1,059.50</b>
		281-00127530-000	30	48	<b>1,222.20</b>
12	13.44-14.39	281-00135007-000	7.5	12	<b>347.45</b>
		281-00135010-000	10	16	<b>463.75</b>
		281-00135012-000	12.5	20	<b>561.85</b>
		281-00135015-000	15	24	<b>639.10</b>
		281-00135020-000	20	31	<b>873.20</b>
		281-00135025-000	25	40	<b>1,067.90</b>
		281-00135030-000	30	48	<b>1,225.40</b>







# Service Saddle

## Single Bale

# 311



**Description:** Single bale Ductile Iron service saddle with TaperSeal™ gasket and wraparound bales used to connect branch lines, instruments, and other accessories to pipe.

### Application:

Tapping pipe for branch connections and to install service connections, air and vacuum valves.

### Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- The gasket is fully bonded to the cavity to hold it in place
- NPT, CC and other threaded outlets available
- A closed lug on one side, combined with the bale, acts as a hinge for easier installation

### Materials Specifications (subject to change)

BODY: Ductile Iron per ASTM A536

BALE: Carbon Steel ASTM A108 (C1018) or HSLA (C111) electrogalvanized with di-chromate seal ASTM-B633

NUTS: Cold formed semi-finished heavy hex Steel A563 electrogalvanized with di-chromate seal ASTM-B633

WASHERS: Carbon Steel ASTM A108, electrogalvanized with a di-chromate seal ASTM B633

GASKET: Nitrile (Buna N) NSF 61® compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemical

Temperature Range: -20°F to 180°F

FINISH: Flexi-Coat® Fusion-Bonded Epoxy Finish on Saddle Body

**Optional: 304 Stainless Steel hardware available upon request**

**Working Pressure:** Up to 300 PSI, depending on size and application

**Pipe Applications:** Steel, Ductile Iron, Cast Iron. *For other pipe materials, please contact Smith-Blair Engineering.*

**Taps:** 5/8", 3/4" and 1", 1 1/4" and 1 1/2" CC T aps, 3/4", 1", 1 1/4", 1 1/2", and 2" NPT Taps.

**Sizes (in inches):** *Varies by tap type; see tables for size details*



# Service Saddle

## Single Bale

5/8", 3/4" and 1" CC Taps

STANDARD			CATALOG NUMBER			CTN. QTY	METRIC		
NOM. SIZE INCHES	O.D. RANGE INCHES	WT. EACH LBS.	5/8" CC/16 MM	3/4" CC/20 MM	1" CC/25 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
1	1.31-1.39	1	311-00013905-000	311-00013907-000	N/A	12	25	33-35	1
1-1/4-1-1/2	1.61-1.92	1	311-00019205-000	311-00019207-000	311-00019209-000	12	40	41-48	1
2	2.38	2	311-00023805-000	311-00023807-000	311-00023809-000	12	50	60	1
2	2.35-2.56	2	311-00025605-000	311-00025607-000	311-00025609-000	12	50	60-65	1
2-1/4-2-1/2	2.44-2.91	2	311-00029105-000	311-00029107-000	311-00029109-000	8	57-65	62-73	1
3	2.97-3.54	2	311-00035405-000	311-00035407-000	311-00035409-000	12	80	76-89	1
4	4.40-4.50	3	311-00045005-000	311-00045007-000	311-00045009-000	12	80-100	112-115	1
4	4.40-4.80	4	311-00048005-000	311-00048007-000	311-00048009-000	12	103	112-122	1
4-5	4.74-5.63	3	311-00056305-000	311-00056307-000	311-00056309-000	10	100-125	121-143	2
5-6	5.94-6.70	4	311-00066305-000	311-00066307-000	311-00066309-000	8	125-150	151-170	2
5-6	5.94-6.90	4	311-00069005-000	311-00069007-000	311-00069009-000	8	125-150	151-175	2
6	6.84-7.60	5	311-00076005-000	311-00076007-000	311-00076009-000	10	150	174-193	2
6-8	7.69-8.72	5	311-00087205-000	311-00087207-000	311-00087209-000	10	150-200	195-221	2
6-8	7.69-9.05	5	311-00090505-000	311-00090507-000	311-00090509-000	10	150-200	195-230	2
8-10	8.54-10-10	5	311-00101005-000	311-00101007-000	311-00101009-000	10	200-250	217-256	2
10-12	10.64-12.12	5	311-00121205-000	311-00121207-000	311-00121209-000	6	250-300	271-307	3
12-14	12.62-14.32	7	311-00143205-000	311-00143207-000	311-00143209-000	6	300-350	321-363	3

3/4" and 1" NPT Taps

STANDARD			CATALOG NUMBER		CTN. QTY	METRIC		
NOM. SIZE INCHES	O.D. RANGE INCHES	WT. EACH LBS.	3/4" NPT/20 MM	1" NPT/25 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
1	1.31-1.39	1	311-00013906-000	N/A	12	25-32	33-35	1
1-1/4-1 1/2	1.61-1.92	1	311-00019206-000	311-00019208-000	12	40	41-48	1
2	2.38	2	311-00023806-000	311-00023808-000	12	50	60	1
2	2.35-2.56	2	311-00025606-000	311-00025608-000	12	50	60-65	1
2-1/4-2-1/2	2.44-2.91	2	311-00029106-000	311-00029108-000	8	57-65	62-73	1
3	2.97-3.54	2	311-00035406-000	311-00035408-000	12	80	76-89	1
4	4.40-4.50	3	311-00045006-000	311-00045008-000	12	80-100	112-114	1
4	4.40-4.80	3	311-00048006-000	311-00048008-000	12	103	112-122	1
4-5	4.74-5.63	3	311-00056306-000	311-00056308-000	10	100-125	120-143	2
5-6	5.94-6.70	4	311-00066306-000	311-00066308-000	8	125-150	151-170	2
5-6	5.94-6.90	4	311-00069006-000	311-00069008-000	8	125-150	151-175	2
6	6.84-7.60	5	311-00076006-000	311-00076008-000	10	150	174-193	2
6-8	7.69-8.72	5	311-00087206-000	311-00087208-000	10	150-200	195-221	2
6-8	7.69-9.05	5	311-00090506-000	311-00090508-000	10	150-200	195-230	2
8-10	8.54-10.10	5	311-00101006-000	311-00101008-000	10	200-250	217-256	2
10-12	10.64-12.12	5	311-00121206-000	311-00121208-000	6	250-300	271-307	3
12-14	12.62-14.32	7	311-00143206-000	311-00143208-000	6	300-350	321-363	3

## 1¼" and 1½" CC Taps

STANDARD			CATALOG NUMBER		CTN. QTY.	METRIC		
NOM. SIZE INCHES	O.D. RANGE INCHES	WT. EACH LBS.	1-1/4" CC/32 MM	1 1/2" - 40MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
2	2.35-2.56	2	311-00025611-000	N/A	6	50	60-65	1
2-1/4-2-1/2	2.44-2.91	3	311-00029111-000		6	57-65	62-73	1
3	2.97-3.54	3	311-00035411-000	N/A	6	80	76-89	1
4	4.40-4.50	3	311-00045011-000	311-00045013-000	6	80-100	112-115	2
4	4.40-4.80	4	311-00048011-000	311-00048013-000	6	103	112-122	1
4-5	4.74-5.63	5	311-00056311-000	311-00056313-000	6	100-125	121-143	2
5-6	5.94-6.70	5	311-00066311-000	311-00066313-000	6	125-150	151-170	2
5-6	5.94-6.90	5	311-00069011-000	311-00069013-000	6	125-150	151-175	2
6	6.84-7.60	6	311-00076011-000	311-00076013-000	6	150	174-193	3
6-8	7.69-8.72	6	311-00087211-000	311-00087213-000	6	150-200	195-221	3
6-8	7.69-9.05	6	311-00090511-000	311-00090513-000	6	150-200	195-230	3
8-10	8.54-10.10	6	311-00101011-000	311-00101013-000	6	200-250	217-256	3
10-12	10.64-12.12	6	311-00121211-000	311-00121213-000	6	250-300	271-307	3
12-14	12.62-14.32	7	311-00143211-000	311-00143213-000	6	300-350	321-363	3

## 1¼", 1½" and 2" NPT Taps

STANDARD			CATALOG NUMBER			CTN. QTY.	METRIC		
NOM. SIZE INCHES	O.D. RANGE INCHES	WT. EACH LBS.	1-1/4" NPT/32MM	1-1/2" NPT/40MM	2" NPT/50 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
2	2.35-2.56	2	311-00025610-000	311-00025612-000	N/A	6	50	60-65	1
2-1/4-2-1/2	2.44-2.91	3	311-00029110-000	311-00029112-000	N/A	6	57-65	62-73	1
3	2.97-3.54	3	311-00035410-000	311-00035412-000	N/A	6	80	76-89	1
4	4.40-4.50	4	311-00045010-000	311-00045012-000	311-00045014-000	6	80-100	112-114	2
4	4.40-4.80	4	311-00048010-000	311-00048012-000	311-00048014-000	6	103	112-122	2
4-5	4.74-5.63	5	311-00056310-000	311-00056312-000	311-00056314-000	6	100-125	121-143	2
5-6	5.94-6.70	5	311-00066310-000	311-00066312-000	311-00066314-000	6	125-150	151-175	2
5-6	5.94-6.90	5	311-00069010-000	311-00069012-000	311-00069014-000	6	125-150	151-175	2
6	6.84-7.60	6	311-00076010-000	311-00076012-000	311-00076014-000	6	150	174-193	3
6-8	7.69-8.72	6	311-00087210-000	311-00087212-000	311-00087214-000	6	150-200	195-221	3
6-8	7.69-9.05	6	311-00090510-000	311-00090512-000	311-00090514-000	6	150-200	195-230	3
8-10	8.54-10.10	6	311-00101010-000	311-00101012-000	311-00101014-000	6	200-250	217-256	3
10-12	10.64-12.12	6	311-00121210-000	311-00121212-000	311-00121214-000	6	250-300	271-307	3
12-14	12.62-14.32	7	311-00143210-000	311-00143212-000	311-00143214-000	6	300-350	321-363	3

## BSP Thread Tap Codes

SIZE	CODE NUMBER	EXAMPLE
1/2"	59	3/4" BSP 311-00013950-000
3/4"	50	
1"	51	
1 1/4"	54	
1 1/2"	52	
2"	53	
2 1/2"	55	
3"	56	



# Service Saddle

## Double Bale

# 313



**Description:** Double bale Ductile Iron service saddle with TaperSeal™ gasket and wraparound bales to connect branch lines, instruments, and other accessories to pipe.

**Application:** Tapping pipe for branch connections and to install service connections, air and vacuum valves.

### Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- The gasket is fully bonded to the cavity to hold it in place
- NPT, CC and other threaded outlets available
- A closed lug on one side, combined with the bale, acts as a hinge for easier installation

### Materials Specifications (subject to change)

**BODY:** Ductile Iron per ASTM A536

**BALE:** Carbon Steel ASTM A108 (C1018) or HSLA (C111) electrogalvanized with di-chromate seal ASTM-B633

**NUTS:** Cold formed semi-finished heavy hex Steel A563 electrogalvanized with di-chromate seal ASTM-B633

**WASHERS:** Carbon Steel ASTM A108, electrogalvanized with a di-chromate seal ASTM B633

**GASKET:** Nitrile (Buna N) NSF 61® compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemical

**Temperature Range:** -20°F to 180°F

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish, per AWWA C213

**Optional:** 304 Stainless Steel hardware available upon request

**Working Pressure:** Up to 300 PSI, depending on size and application

**Pipe Applications:** Steel, Ductile Iron, and Cast Iron. *For other pipe material, please contact Smith-Blair Engineering.*

**Taps:** ¾" and 1" NPT taps; 1¼", 1½", 2" and 2½" NPT taps, 3" & 4" NPT taps; ", ¾" and 1" CC taps; 1¼", 1½" and 2" CC taps

**Sizes (in inches):** *Varies by tap type; see tables for size details*



# Service Saddle

## Double Bale

313

5/8", 3/4" and 1" CC Taps

STANDARD			CATALOG NUMBER			CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	5/8" CC/16 MM	3/4" CC/20 MM	1" CC/25 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
1-1/4-1-1/2	1.61-1.92	3	313-00019205-000	313-00019207-000	313-00019209-000	6	32-40	41-48	1
2	2.35-2.56	3	313-00025605-000	313-00025607-000	313-00025609-000	6	50	60-65	1
2-1/4-2-1/2	2.44-2.91	3	313-00029105-000	313-00029107-000	313-00029109-000	6	57-63	62-73	2
3	2.97-3.54	4	313-00035405-000	313-00035407-000	313-00035409-000	6	80	76-89	2
3-4	3.74-4.13	6	313-00041305-000	313-00041307-000	313-00041309-000	6	80-100	95-105	3
4	4.40-4.50	6	313-00045005-000	313-00045007-000	313-00045009-000	6	100	112-114	3
4	4.40-4.80	6	313-00048005-000	313-00048007-000	313-00048009-000	6	100	112-122	3
4-5	5.00-5.63	6	313-00056305-000	313-00056307-000	313-00056309-000	6	100-125	121-143	3
6	5.94-6.70	6	313-00066305-000	313-00066307-000	313-00066309-000	4	150	151-170	3
6	5.94-6.90	6	313-00069005-000	313-00069007-000	313-00069009-000	4	150	151-175	3
6	6.84-7.60	7	313-00076005-000	313-00076007-000	313-00076009-000	4	150	174-193	3
6-8	7.69-8.72	7	313-00087205-000	313-00087207-000	313-00087209-000	4	150-200	195-221	4
6-8	7.69-9.05	8	313-00090505-000	313-00090507-000	313-00090509-000	4	150-200	195-230	4
8-10	8.54-10.10	8	313-00101005-000	313-00101007-000	313-00101009-000	4	200-250	217-256	4
10	10.75-11.10	10	313-00111005-000	313-00111007-000	313-00111009-000	4	250	273-282	4
10-12	10.64-12.12	10	313-00121205-000	313-00121207-000	313-00121209-000	4	250-300	271-307	4
12	12.75-13.20	14	313-00132005-000	313-00132007-000	313-00132009-000	4	300	324-335	7
12-14	12.62-14.32	15	313-00143205-000	313-00143207-000	313-00143209-000	4	300-350	321-363	7
12-14	14.73-15.65	18	313-00156505-000	313-00156507-000	313-00156509-000	1	300-350	375-397	8
14-16	15.95-17.25	19	313-00172505-000	313-00172507-000	313-00172509-000	1	350-400	406-438	9
16	17.25-17.80	19	313-00178005-000	313-00178007-000	313-00178009-000	1	410	438-452	9
16-18	17.40-18.88	19	313-00188805-000	313-00188807-000	313-00188809-000	1	400-450	442-479	9
*18	19.38-19.68	20	313-00195005-000	313-00195007-000	313-00195009-000	1	450	492-500	9
*20	21.55-21.65	20	313-00216005-000	313-00216007-000	313-00216009-000	1	500	547-550	9
*24	25.75-25.85	20	313-00258005-000	313-00258007-000	313-00258009-000	1	600	654-657	9

\*Fabricated straps, epoxy coated carbon Steel.

1 1/4", 1 1/2" and 2" CC Taps

STANDARD			CATALOG NUMBER			CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	1-1/4" CC/32 MM	1-1/2" CC/40 MM	2" CC/50 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
2	2.35-2.56	3	313-00025611-000	N/A	N/A N/A	6	50	60-65	1
	2.97-3.54	5	313-00035411-000	313-00035413-000		6	80	76-89	2
3-4	3.74-4.13	8	313-00041311-000	313-00041313-000	313-00041315-000	6	80-100	95-104	3
4	4.40-4.50	6	313-00045011-000	313-00045013-000	313-00045015-000	6	100	112-114	3
4	4.40-4.80	6	313-00048011-000	313-00048013-000	313-00048015-000	6	100	112-122	3
4-5	4.74-5.14	8	313-00051411-000	313-00051413-000	313-00051415-000	6	100-125	120-130	3
4-5	5.00-5.63	9	313-00056311-000	313-00056313-000	313-00056315-000	4	100-125	127-143	4
6	5.94-6.70	9	313-00066311-000	313-00066313-000	313-00066315-000	4	150	151-170	4
6	5.94-6.90	9	313-00069011-000	313-00069013-000	313-00069015-000	4	150	151-175	4
6	6.84-7.60	7	313-00076011-000	313-00076013-000	313-00076015-000	4	150	174-193	3
6-8	7.69-8.72	11	313-00087211-000	313-00087213-000	313-00087215-000	4	150-200	195-221	5
6-8	7.69-9.05	11	313-00090511-000	313-00090513-000	313-00090515-000	4	150-200	195-230	5
8-10	8.54-10.10	9	313-00101011-000	313-00101013-000	313-00101015-000	4	200-250	217-256	4
10	10.75-11.10	10	313-00111011-000	313-00111013-000	313-00111015-000	4	250	273-282	5
10-12	10.64-12.12	11	313-00121211-000	313-00121213-000	313-00121215-000	4	250-300	271-307	5
12	12.75-13.20	14	313-00132011-000	313-00132013-000	313-00132015-000	4	300	324-335	6
12-14	12.62-14.32	14	313-00143211-000	313-00143213-000	313-00143215-000	4	300-350	321-363	6
12-14	14.73-15.65	18	313-00156511-000	313-00156513-000	313-00156515-000	1	300-350	375-397	8
14-16	15.95-17.25	19	313-00172511-000	313-00172513-000	313-00172515-000	1	350-400	406-438	9

\*Fabricated straps, epoxy coated carbon Steel.

### 1¼", 1½" and 2" CC Taps Continued

STANDARD			CATALOG NUMBER			CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	1-1/4" CC/32 MM	1-1/2" CC/40 MM	2" CC/50 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
16	17.25-17.80	19	313-00178011-000	313-00178013-000	313-00178015-000	1	410	438-452	9
16-18	17.40-18.88	19	313-00188811-000	313-00188813-000	313-00188815-000	1	400-450	442-479	9
*18	19.38-19.68	20	313-00195011-000	313-00195013-000	313-00195015-000	1	450	492-500	9
*20	21.55-21.65	20	313-00216011-000	313-00216013-000	313-00216015-000	1	500	547-550	9
*24	25.75-25.85	20	313-00258011-000	313-00258013-000	313-00258015-000	1	600	654-657	9

\*Fabricated straps, epoxy coated carbon Steel.

### ¾" and 1" NPT Taps

STANDARD			CATALOG NUMBER		CTN. QTY	METRIC		
NOM. SIZE INCHES	O.D. RANGE INCHES	WT. EACH LBS.	¾" NPT/20 MM	1" NPT/25 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
1-1/4-1-1/2	1.61-1.92	3	313-00019206-000	313-00019208-000	6	32-40	41-48	1
2	2.35-2.56	3	313-00025606-000	313-00025608-000	6	50	60-65	1
2-1/4-2-1/2	2.44-2.91	3	313-00029106-000	313-00029108-000	6	57-65	62-73	2
3	2.97-3.54	4	313-00035406-000	313-00035408-000	6	80	76-89	2
3-4	3.74-4.13	6	313-00041306-000	313-00041308-000	6	80-100	95-105	3
4	4.40-4.50	6	313-00045006-000	313-00045008-000	6	100	112-114	3
4	4.40-4.80	6	313-00048006-000	313-00048008-000	6	100	112-122	3
4-5	5.00-5.63	6	313-00056306-000	313-00056308-000	6	100-125	121-143	3
6	5.94-6.70	6	313-00066306-000	313-00066308-000	4	150	151-170	3
6	5.94-6.90	6	313-00069006-000	313-00069008-000	4	150	151-175	3
6	6.84-7.60	7	313-00076006-000	313-00076008-000	4	150	174-193	3
6-8	7.69-8.72	8	313-00087206-000	313-00087208-000	4	150-200	195-221	4
6-8	7.69-9.05	8	313-00090506-000	313-00090508-000	4	150-200	195-230	4
8-10	8.54-10.10	8	313-00101006-000	313-00101008-000	4	200-250	217-256	4
10	10.75-11.10	10	313-00111006-000	313-00111008-000	4	250	273-282	4
10-12	10.64-12.12	10	313-00121206-000	313-00121208-000	4	250-300	271-307	4
12	12.75-13.20	14	313-00132006-000	313-00132008-000	4	300	324-335	7
12-14	12.62-14.32	15	313-00143206-000	313-00143208-000	4	300-350	321-363	7
12-14	14.73-15.65	18	313-00156506-000	313-00156508-000	1	300-350	375-397	8
14-16	15.95-17.25	19	313-00172506-000	313-00172508-000	1	350-400	406-438	9
16	17.25-17.80	19	313-00178006-000	313-00178008-000	1	410	438-452	9
16-18	17.40-18.88	19	313-00188806-000	313-00188808-000	1	400-450	442-479	9
*18	19.38-19.68	20	313-00195006-000	313-00195008-000	1	450	492-499	9
*20	21.55-21.65	20	313-00216006-000	313-00216008-000	1	500	547-550	9
*24	25.75-25.85	20	313-00258006-000	313-00258008-000	1	600	654-657	9

\*Fabricated straps, epoxy coated carbon Steel.

### 1¼", 1½", 2" and 2½" NPT Taps

STANDARD			CATALOG NUMBER				CTN. QTY.	METRIC		
NOM. SIZE IN.	O.D. RANGE INCHES	WT. EACH LBS.	1-1/4" NPT/32 MM	1-1/2" NPT/40 MM	2" NPT/50 MM	2-1/2" NPT/65 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
2	2.35-2.56	3	313-00025610-000	313-00025612-000	-	-	6	50	60-65	1
3	2.97-3.54	5	313-00035410-000	313-00035412-000	313-00035414-000	-	6	80	76-89	3
3-4	3.74-4.13	8	313-00041310-000	313-00041312-000	313-00041314-000	313-00041316-000	6	80-100	95-104	3
4	4.40-4.50	6	313-00045010-000	313-00045012-000	313-00045014-000	313-00045016-000	6	100	112-114	3
4	4.40-4.80	6	313-00048010-000	313-00048012-000	313-00048014-000	313-00048016-000	6	100	112-122	3
4-5	4.74-5.14	8	313-00051410-000	313-00051412-000	313-00051414-000	313-00051416-000	6	100-125	120-130	3
4-5	5.00-5.63	9	313-00056310-000	313-00056312-000	313-00056314-000	313-00056316-000	4	100-125	127-143	4
6	5.94-6.70	9	313-00066310-000	313-00066312-000	313-00066314-000	313-00066316-000	4	150	151-170	4
6	5.94-6.90	9	313-00069010-000	313-00069012-000	313-00069014-000	313-00069016-000	4	150	151-175	4
6	6.84-7.60	7	313-00076010-000	313-00076012-000	313-00076014-000	313-00076016-000	4	150	174-193	3

\*Fabricated straps, epoxy coated carbon Steel.

## 1 1/4", 1 1/2", 2" and 2 1/2" NPT Taps Continued

STANDARD			CATALOG NUMBER				CTN. QTY.	METRIC		
NOM. SIZE IN.	O.D. RANGE INCHES	WT. EACH LBS.	1-1/4" NPT/32 MM	1-1/2" NPT/40 MM	2" NPT/50 MM	2-1/2" NPT/65 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG
6-8	7.69-8.72	11	313-00087210-000	313-00087212-000	313-00087214-000	313-00087216-000	4	150-200	195-221	5
6-8	7.69-9.05	11	313-00090510-000	313-00090512-000	313-00090514-000	313-00090516-000	4	150-200	195-230	5
8-10	8.54-10.10	9	313-00101010-000	313-00101012-000	313-00101014-000	313-00101016-000	4	200-250	217-256	4
10	10.75-11.10	10	313-00111010-000	313-00111012-000	313-00111014-000	313-00111016-000	4	250	273-282	4
10-12	10.64-12.12	11	313-00121210-000	313-00121212-000	313-00121214-000	313-00121216-000	4	250-300	271-307	5
12	12.75-13.20	15	313-00132010-000	313-00132012-000	313-00132014-000	313-00132016-000	4	300	324-355	7
12-14	12.62-14.32	14	313-00143210-000	313-00143212-000	313-00143214-000	313-00143216-000	4	300-350	321-363	6
12-14	14.73-15.65	18	313-00156510-000	313-00156512-000	313-00156514-000	313-00156516-000	1	300-350	375-397	8
14-16	15.95-17.25	19	313-00172510-000	313-00172512-000	313-00172514-000	313-00172516-000	1	350-400	406-438	9
16	17.25-17.80	19	313-00178010-000	313-00178012-000	313-00178014-000	313-00178016-000	1	410	438-452	9
16-18	17.40-18.88	19	313-00188810-000	313-00188812-000	313-00188814-000	313-00188816-000	1	400-450	442-479	9
*18	19.38-19.68	20	313-00195010-000	313-00195012-000	313-00195014-000	313-00195016-000	1	450	479-495	9
*20	21.55-21.65	20	313-00216010-000	313-00216012-000	313-00216014-000	313-00216016-000	1	500	547-550	9
*24	25.75-25.85	20	313-00258010-000	313-00258012-000	313-00258014-000	313-00258016-000	1	600	654-657	9

\*Fabricated straps, epoxy coated carbon Steel.

## 3" and 4" NPT Taps

STANDARD			CATALOG NUMBER		CTN. QTY.	METRIC		
NOM. SIZE INCHES	O.D. RANGE INCHES	WT. EACH LBS.	3" NPT/80 MM	4" NPT/100 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
6	5.94-6.70	10	313-00066317-000	N/A	4	150	151-171	5
6	6.84-7.60	13	313-00076017-000	313-00076018-000	4	150	174-193	6
8-10	8.54-10.10	15	313-00101017-000	313-00101018-000	3	200-250	217-256	7
10	10.75-11.10	14	-	-	-	-	-	-
10-12	11.30-12.12	14	313-00121017-000	313-00121018-000	2	250-300	271-307	6
12	12.75-13.20	18	-	-	-	-	-	-
12-14	13.40-14.32	18	313-00143017-000	313-00143018-000	2	300-350	321-363	8
12-14	14.73-15.65	28	313-00156517-000	313-00156518-000	2	300-350	375-397	13
14-16	15.98-16.59	28	313-00165917-000	313-00165918-000	1	350-400	406-421	13
16	17.25-17.80	29	313-00178017-000	313-00178018-000	1	400	439-452	13
16-18	17.81-18.88	30	313-00188817-000	313-00188818-000	1	400-450	452-479	13
*18	19.38-19.68	30	313-00195017-000	313-00195018-000	1	450	492-500	14

\*Fabricated straps, epoxy coated carbon Steel. 1/2 inch I.P. Taps can be accommodated by inserting a bushing in the 3/4 inch taps.

## BSP Thread Tap Codes

SIZE	CODE NUMBER	EXAMPLE
1/2"	59	1-1/4" NPT 313-00025610-000
3/4"	50	
1"	51	
1 1/4"	54	
1 1/2"	52	1-1/4" BSP 313-00025654-000
2"	53	
2 1/2"	55	
3"	56	





# Service Saddle

## Single Stainless Steel Strap

# 315



**Description:** Single strap, Ductile Iron service saddle with TaperSeal™ gasket and wraparound 304 Stainless Steel strap for added corrosion resistance

**Application:** For outlets of 3/4" through 2".

### Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- Designed with PVC and other soft or brittle pipe in mind
- The gasket is fully bonded to the cavity to hold it in place
- NPT, CC and other threaded outlets available
- Wide band spreads the load over larger area to prevent damage to the pipe when tightening the strap
- A closed lug on one side, combined with the strap, acts as a hinge for easier installation

### Materials Specifications (subject to change)

**BODIES:** Ductile Iron per ASTM A536

**STRAPS:** Type 304 Stainless Steel. Single Strap, 2" wide

**NUTS:** Type 304 Stainless Steel fluoropolymer coated

**WASHERS:** Type 304 Stainless Steel

**STUDS:** Type 304 Stainless Steel

**GASKET:** Nitrile (Buna N) NSF 61® compounded to resist oil, acids, alkalis, most (aliphatic) hydrocarbon fluids, water and other chemicals

**Temperature Range:** -20°F to 180°F

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 200 PSI

**Pipe Applications:** Steel, Ductile Iron (depending on size and application), Cast Iron, Asbestos Cement, PVC. *For other pipe materials, please contact Smith-Blair Engineering.*

**Taps:** 3/4", 1", 1 1/4" and 1 1/2" CC Taps; 3/4", 1", 1 1/4", 1 1/2" and 2" NPT taps

**Sizes (in inches):** *Varies by tap type; see tables for size details*



# Service Saddle

## Single Stainless Steel Strap

5/8", 3/4" and 1" CC Taps

\*Sized for use on C900 PVC Pipe

STANDARD			CATALOG NUMBER			CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	5/8" CC/16 MM	3/4" CC/20 MM	1" CC/25 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
1	1.31-1.39	1	315-00013905-000	315-00013907-000	N/A	12	25-32	33-35	1
1-1/4-1-1/2	1.61-1.92	1	315-00019205-000	315-00019207-000	315-00019209-000	12	40	41-48	1
2	2.13	2	315-00021305-000	315-00021307-000	315-00021309-000	12	50	54	1
2	2.38	2	315-00023805-000	315-00023807-000	315-00023809-000	12	50	60	1
2	2.35-2.56	2	315-00025605-000	315-00025607-000	315-00025609-000	12	50	60-65	1
2-1/4-2-1/2	2.44-2.91	2	315-00029105-000	315-00029107-000	315-00029109-000	8	57-65	62-73	1
3	2.97-3.54	2	315-00035405-000	315-00035407-000	315-00035409-000	12	80	76-89	1
4	4.40-4.50	3	315-00045005-000	315-00045007-000	315-00045009-000	12	80-100	112-114	1
4	4.40-4.80	4	315-00048005-000	315-00048007-000	315-00048009-000	10	100	111-122	2
4-5	4.74-5.63	3	315-00056305-000	315-00056307-000	315-00056309-000	10	100-125	120-143	2
5-6	5.94-6.70	4	315-00066305-000	315-00066307-000	315-00066309-000	8	125-150	151-170	2
5-6*	5.94-6.90	4	315-00069005-000	315-00069007-000	315-00069009-000	8	125-150	151-175	2
6	6.84-7.60	4	315-00076005-000	315-00076007-000	315-00076009-000	10	150	174-193	2
6-8	7.69-8.72	5	315-00087205-000	315-00087207-000	315-00087209-000	10	150-200	195-221	2
6-8*	7.69-9.05	5	315-00090505-000	315-00090507-000	315-00090509-000	10	150-200	195-230	2
8-10	8.54-10.10	5	315-00101005-000	315-00101007-000	315-00101009-000	10	200-250	217-256	2
10-12	10.64-12.12	5	315-00121205-000	315-00121207-000	315-00121209-000	6	250-300	271-307	3
12	12.75-13.20	6	315-00132005-000	315-00132007-000	315-00132009-000	6	300	324-335	3
12-14	12.62-14.32	7	315-00143205-000	315-00143207-000	315-00143209-000	6	300-350	321-363	3

3/4" and 1" NPT Taps

STANDARD			CATALOG NUMBER		CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	3/4" NPT/20 MM	1" NPT/25 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
1	1.31-1.39	1	315-00013906-000	N/A	12	25-32	33-35	1
1-1/4-1-1/2	1.61-1.92	1	315-00019206-000	315-00019208-000	12	40	41-48	1
2	2.13	2	315-00021306-000	315-00021308-000	12	50	54	1
2	2.38	2	315-00023806-000	315-00023808-000	12	50	60	1
2	2.35-2.56	2	315-00025606-000	315-00025608-000	12	50	60-65	1
2-1/4-2-1/2	2.44-2.91	2	315-00029106-000	315-00029108-000	8	57-65	62-73	1
3	2.97-3.54	2	315-00035406-000	315-00035408-000	12	80	76-89	1
4	4.40-4.50	3	315-00045006-000	315-00045008-000	12	100	112-114	1
4	4.40-4.80	4	315-00048006-000	315-00048008-000	10	100	112-122	2
4-5	4.74-5.63	3	315-00056306-000	315-00056308-000	10	100-125	121-143	2
5-6	5.94-6.70	4	315-00066306-000	315-00066308-000	8	125-150	151-170	2
5-6*	5.94-6.90		315-00069006-000	315-00069008-000	8	125-150	151-175	2
6	6.84-7.60	5	315-00076006-000	315-00076008-000	8	150	174-193	2
6-8	7.69-8.72	5	315-00087206-000	315-00087208-000	10	150-200	195-221	2
*6-8	7.69-9.05	5	315-00090506-000	315-00090508-000	10	150-200	195-230	2
8-10	8.54-10.10	5	315-00101006-000	315-00101008-000	10	200-250	217-256	2
10-12	10.64-12.12	5	315-00121206-000	315-00121208-000	6	250-300	271-307	3
12*	12.75-13.20	5	315-00132006-000	315-00132008-000	6	300	324-335	3
12-14	12.62-14.32	5	315-00143206-000	315-00143208-000	6	300-350	321-363	3

### 1 1/4" and 1 1/2" CC Taps

\*Sized for use on C900 PVC Pipe

STANDARD			CATALOG NUMBER		CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	1-1/4" CC/32 MM	1-1/2" CC/40 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
2	2.35-2.56	2	315-00025611-000	-	6	50	60-65	1
2-1/4-2-1/2	2.44-2.91	3	315-00029111-000	-	6	57-65	62-73	1
3	2.91-2.97	3	315-00035411-000	-	6	80	74-75	1
4	4.40-4.50	4	315-00045011-000	315-00045013-000	6	100	112-114	2
4	4.40-4.80	4	315-00048011-000	315-00048013-000	6	100	112-122	2
4-5	4.74-5.63	5	315-00056311-000	315-00056313-000	6	100-125	121-143	2
5-6	5.94-6.70	5	315-00066311-000	315-00066313-000	6	125-150	151-170	2
5-6*	5.94-6.90	5	315-00069011-000	315-00069013-000	6	125-150	151-175	2
6	6.84-7.60	6	315-00076011-000	315-00076013-000	6	150	174-193	3
6-8	7.69-8.72	6	315-00087211-000	315-00087213-000	6	150-200	195-221	3
6-8*	7.69-9.05	6	315-00090511-000	315-00090513-000	6	150-200	195-230	3
8-10	8.54-10.10	6	315-00101011-000	315-00101013-000	6	200-250	217-256	3
10-12	10.64-12.12	6	315-00121211-000	315-00121213-000	6	250-300	271-307	3
12*	12.75-13.20	6	315-00132011-000	315-00132013-000	6	300	324-335	3
12-14	12.62-14.32	6	315-00143211-000	315-00143213-000	6	300-350	321-363	3

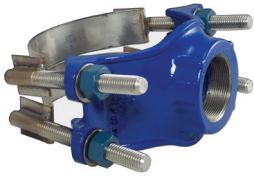
### 1 1/4", 1 1/2" and 2" NPT Taps

\*Sized for use on C900 PVC Pipe

STANDARD			CATALOG NUMBER			CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	1-1/4" NPT/32 MM	1-1/2" NPT/40 MM	2" NPT/50 MM		NOM. SIZE MM	O.D. RANGE MM	
2	2.35-2.56	2	315-00025610-000	315-00025612-000	-	6	50	60-65	1
2-1/4-2-1/2	2.44-2.91	3	315-00029110-000	315-00029112-000	-	6	57-65	62-73	1
3	2.97-3.54	3	315-00035410-000	315-00035412-000	-	6	80	76-89	1
4	4.40-4.50	4	315-00045010-000	315-00045012-000	315-00045014-000	6	100	112-114	2
4	4.40-4.80	4	315-00048010-000	315-00048012-000	315-00048014-000	6	100	112-122	2
4-5	4.74-5.63	5	315-00056310-000	315-00056312-000	315-00056314-000	6	100-125	121-143	2
5-6*	5.94-6.70	3	315-00066310-000	315-00066312-000	315-00066314-000	6	125-150	151-170	2
5-6	5.94-6.90	3	315-00069010-000	315-00069012-000	315-00069014-000	6	125-150	151-175	2
6	6.84-7.60	6	315-00076010-000	315-00076012-000	315-00076014-000	6	150	174-193	3
6-8	7.69-8.72	6	315-00087210-000	315-00087212-000	315-00087214-000	6	150-200	195-221	3
6-8*	7.69-9.05	6	315-00090510-000	315-00090512-000	315-00090514-000	6	150-200	195-230	3
8-10	8.54-10.10	6	315-00101010-000	315-00101012-000	315-00101014-000	6	200-250	217-256	3
10-12	10.64-12.12	6	315-00121210-000	315-00121212-000	315-00121214-000	6	250-300	271-307	3
12*	12.75-13.20	6	315-00132010-000	315-00132012-000	315-00132014-000	6	300	324-335	3
12-14	12.62-14.32	7	315-00143210-000	315-00143212-000	315-00143214-000	6	300-350	321-363	3

### BSP Thread Tap Codes

SIZE	CODE NUMBER	EXAMPLE
1/2"	59	3/4" NPT 315-00013906-000
3/4"	50	
1"	51	
1 1/4"	54	
1 1/2"	52	3/4" BSP 315-00013950-000
2"	53	
2 1/2"	55	
3"	56	



# Service Saddle

## Double Stainless Steel Strap

# 317



**Description:** Double strap Ductile Iron service saddle with TaperSeal™ gasket and wraparound 304 Stainless Steel strap for added corrosion resistance

**Application:** For outlets of 1/2" through 4".

### Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- Designed with PVC and other soft or brittle pipe in mind
- The gasket fully bonds to the cavity to hold it in place
- NPT, CC and other threaded outlets available in sizes 1/2" thru 4"
- Wide bands spread the load over larger area to prevent damage to the pipe when tightening the straps
- A closed lug on one side, combined with the strap, acts as a hinge for easier installation

### Materials Specifications (subject to change)

**BODIES:** Ductile Iron per ASTM A536

**STRAPS:** Type 304 Stainless Steel. Double Strap 1.50" wide

**NUTS:** Type 304 Stainless Steel fluoropolymer coated

**WASHERS:** Type 304 Stainless Steel

**STUDS:** Type 304 Stainless Steel

**GASKET:** Nitrile (Buna N) NSF 61® compounded to resist oil, acids, alkalis, most (aliphatic) hydrocarbon fluids, water and other chemical

**Temperature Range:** -20°F to 180°F

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish per AWWA C213

**Working Pressure:** Up to 150 PSI, depending on size and application

**Pipe Applications:** Steel, Ductile Iron, Cast Iron, Asbestos Cement, PVC and HDPE (with spring washers)

**Taps:** 1/2", 3/4", 1", 1 1/4", 1 1/2" and 2" CC Taps; 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3" and 4" NPT Taps

**Sizes (in inches):** Varies by tap type; see tables for size details



# Service Saddle

## Double Stainless Steel Strap

### BSP Thread Tap Codes

SIZE	CODE NUMBER	EXAMPLE
1/2"	59	3" NPT 317-00076017-000
3/4"	50	
1"	51	
1 1/4"	54	
1 1/2"	52	
2"	53	3" BSP 317-00076056-000
2 1/2"	55	
3"	56	

### 3/4" and 1" NPT Taps

\*Sized for use on C900 PVC Pipe

STANDARD			CATALOG NUMBER		CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	3/4" NPT/20 MM	1" NPT/25 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
1-1/4-1-1/2	1.61-1.92	3	317-00019206-000	317-00019208-000	6	32-40	41-48	1
2	2.35-2.56	3	317-00025606-000	317-00025608-000	6	50	60-65	1
2-1/4-2-1/2	2.44-2.91	3	317-00029106-000	317-00029108-000	6	57-65	62-73	2
3	2.97-3.54	4	317-00035406-000	317-00035408-000	6	80	76-89	2
3-4	3.74-4.13	6	317-00041306-000	317-00041308-000	6	80-100	95-105	3
4	4.40-4.50	6	317-00045006-000	317-00045008-000	6	100	112-114	3
4*	4.40-4.80	6	317-00048006-000	317-00048008-000	6	100	112-122	3
4-5	5.00-5.63	6	317-00056306-000	317-00056308-000	6	100-125	121-143	3
6	5.94-6.70	6	317-00066306-000	317-00066308-000	6	150	151-170	3
6*	5.94-6.90	6	317-00069006-000	317-00069008-000	4	150	151-175	3
6	6.84-7.60	7	317-00076006-000	317-00076008-000	4	150	174-193	3
6-8	7.69-8.72	8	317-00087206-000	317-00087208-000	4	150-200	195-221	4
6-8*	7.69-9.05	8	317-00090506-000	317-00090508-000	4	150-200	195-230	4
8-10	8.54-10.10	8	317-00101006-000	317-00101008-000	4	200-250	217-256	4
10*	10.75-11.10	9	317-00111006-000	317-00111008-000	4	250	273-282	4
10-12	10.64-12.12	10	317-00121206-000	317-00121208-000	4	250-300	271-307	4
12*	12.75-13.20	9	317-00132006-000	317-00132008-000	4	300	324-335	6
12-14	12.62-14.32	15	317-00143206-000	317-00143208-000	4	300-350	321-363	7
12-14	14.73-15.65	18	317-00156506-000	317-00156508-000	1	300-350	375-397	8
14-16	15.95-17.25	19	317-00172506-000	317-00172508-000	1	350-400	406-438	9
16	17.25-17.80	19	317-00178006-000	317-00178008-000	1	410	438-452	9
16-18	17.40-18.88	19	317-00188806-000	317-00188808-000	1	400-450	442-479	9
18*	19.38-19.68	19	317-00195006-000	317-00195008-000	1	450	492-500	9
20*	21.55-21.65	19	317-00216006-000	317-00216008-000	1	500	547-550	9
24	25.75-25.85	30	317-00258006-000	317-00258008-000	1	600	654-657	14

When properly sized from the factory, this product (denoted by \*) meets the requirements listed in the Uni-Bell PVC Pipe Association's "Handbook of PVC Pipe" and in the AWWA's "Manual M23: PVC Pipe Design and Installation."

" , 3/4" and 1" CC Taps

\*Sized for use on C900 PVC Pipe

STANDARD			CATALOG NUMBER			CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	5/8" CC/16 MM	3/4" CC/20 MM	1" CC/25 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
1-1/4-1-1/2	1.61-1.92	3	317-00019205-000	317-00019207-000	317-00019209-000	6	32-40	41-48	1
2	2.35-2.56	3	317-00025605-000	317-00025607-000	317-00025609-000	6	50	60-65	1
2-1/4-2-1/2	2.44-2.91	3	317-00029105-000	317-00029107-000	317-00029109-000	6	57-65	62-73	2
3	2.97-3.54	4	317-00035405-000	317-00035407-000	317-00035409-000	6	80	76-89	2
3-4	3.74-4.13	6	317-00041305-000	317-00041307-000	317-00041309-000	6	80-100	95-105	3
4	4.40-4.50	6	317-00045005-000	317-00045007-000	317-00045009-000	6	100	112-114	3
4*	4.40-4.80	6	317-00048005-000	317-00048007-000	317-00048009-000	6	100	112-122	3
4-5	5.00-5.63	6	317-00056305-000	317-00056307-000	317-00056309-000	6	100-125	121-143	3
6	5.94-6.70	6	317-00066305-000	317-00066307-000	317-00066309-000	4	150	151-170	3
6*	5.94-6.90	6	317-00069005-000	317-00069007-000	317-00069009-000	4	150	151-175	3
6	6.84-7.60	7	317-00076005-000	317-00076007-000	317-00076009-000	4	150	174-193	3
6-8	7.69-8.72	8	317-00087205-000	317-00087207-000	317-00087209-000	4	150-200	195-221	4
6-8*	7.69-9.05	8	317-00090505-000	317-00090507-000	317-00090509-000	4	150-200	195-230	4
8-10	8.54-10.10	8	317-00101005-000	317-00101007-000	317-00101009-000	4	200-250	217-256	4
10*	10.75-11.10	9	317-00111005-000	317-00111007-000	317-00111009-000	4	250	273-282	4
10-12*	10.64-12.12	10	317-00121205-000	317-00121207-000	317-00121209-000	4	250-300	271-307	4
12*	12.75-13.20	10	317-00132005-000	317-00132007-000	317-00132009-000	4	300	324-335	7
12-14	12.62-14.32	15	317-00143205-000	317-00143207-000	317-00143209-000	4	300-350	321-363	7
12-14	14.73-15.65	18	317-00156505-000	317-00156507-000	317-00156509-000	1	300-350	375-397	8
14-16	15.95-17.25	19	317-00172505-000	317-00172507-000	317-00172509-000	1	350-400	406-438	9
16	17.25-17.80	19	317-00178005-000	317-00178007-000	317-00178009-000	1	410	438-452	9
16-18	17.40-18.88	19	317-00188805-000	317-00188807-000	317-00188809-000	1	400-450	442-479	9
18*	19.38-19.68	19	317-00195005-000	317-00195007-000	317-00195009-000	1	450	492-500	9
20*	21.55-21.65	19	317-00216005-000	317-00216007-000	317-00216009-000	1	500	547-550	9
24	25.75-25.85	30	317-00258005-000	317-00258007-000	317-00258009-000	1	600	654-657	9

When properly sized from the factory, this product (denoted by \*) meets the requirements listed in the Uni-Bell PVC Pipe Association's "Handbook of PVC Pipe" and in the AWWA's "Manual M23: PVC Pipe Design and Installation."

1 1/4", 1 1/2" and 2" CC Taps

\*Sized for use on C900 PVC Pipe

STANDARD			CATALOG NUMBER			CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	1-1/4" CC/32 MM	1-1/2" CC/40 MM	2" CC/50 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
2	2.35-2.56	3	317-00025611-000	-	-	6	50	60-65	1
3	2.97-3.54	5	317-00035411-000	-	-	6	80	76-89	2
3-4	3.74-4.13	8	317-00041311-000	317-00041313-000	317-00041315-000	6	80-100	95-105	3
4	4.40-4.50	9	317-00045011-000	317-00045013-000	317-00045015-000	6	100	112-114	3
4*	4.40-4.80	9	317-00048011-000	317-00048013-000	317-00048015-000	6	100	112-122	3
4-5	5.00-5.14	9	317-00051411-000	317-00051413-000	317-00051415-000	6	100-125	120-130	3
4-5	5.00-5.63	9	317-00056311-000	317-00056313-000	317-00056315-000	6	100-125	121-143	4
6	5.94-6.70	9	317-00066311-000	317-00066313-000	317-00066315-000	4	150	151-170	4
6*	5.94-6.90	9	317-00069011-000	317-00069013-000	317-00069015-000	4	150	151-175	4
6	6.84-7.60	8	317-00076011-000	317-00076013-000	317-00076015-000	4	150	174-193	4
6-8	7.69-8.72	11	317-00087211-000	317-00087213-000	317-00087215-000	4	150-200	195-221	5
6-8*	7.64-9.05	11	317-00090511-000	317-00090513-000	317-00090515-000	4	150-200	195-230	5
8-10	8.54-10.10	9	317-00101011-000	317-00101013-000	317-00101015-000	4	200-250	217-256	4
10*	10.75-11.10	11	317-00111011-000	317-00111013-000	317-00111015-000	4	250	273-282	4
10-12	10.64-12.12	11	317-00121211-000	317-00121213-000	317-00121215-000	4	250-300	271-307	5
12*	12.75-13.20	14	317-00132011-000	317-00132013-000	317-00132015-000	4	300	324-335	6
12-14	12.62-14.32	14	317-00143211-000	317-00143213-000	317-00143215-000	4	300-350	321-363	6
12-14	14.73-15.65	18	317-00156511-000	317-00156513-000	317-00156515-000	1	300-350	375-397	8
14-16	15.95-17.25	19	317-00172511-000	317-00172513-000	317-00172515-000	1	350-400	406-438	9
16	17.25-17.80	19	317-00178011-000	317-00178013-000	317-00178015-000	1	410	438-452	9
16-18	17.40-18.88	19	317-00188811-000	317-00188813-000	317-00188815-000	1	400-450	442-479	9
18*	19.38-19.68	19	317-00195011-000	317-00195013-000	317-00195015-000	1	450	492-500	9
20*	21.55-21.65	19	317-00216011-000	317-00216013-000	317-00216015-000	1	500	547-500	9
24	25.75-25.85	30	317-00258011-000	317-00258013-000	317-00258015-000	1	600	654-657	9

When properly sized from the factory, this product (denoted by \*) meets the requirements listed in the Uni-Bell PVC Pipe Association's "Handbook of PVC Pipe" and in the AWWA's "Manual M23: PVC Pipe Design and Installation."

1¼", 1½", 2" and 2½" NPT Taps

\*Sized for use on C900 PVC Pipe

STANDARD			CATALOG NUMBER				CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	1-1/4" NPT/32 MM	1-1/2" NPT/40 MM	2" NPT/50 MM	2-1/2" NPT/65 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
2	2.35-2.56	3	317-00025610-000	317-00025612-000	N/A	N/A	6	50	60-65	1
3	2.97-3.54	5	317-00035410-000	317-00035412-000	317-00035414-000	N/A	6	80	76-89	2
3-4	3.74-4.13	8	317-00041310-000	317-00041312-000	317-00041314-000	317-00041316-000	6	80-100	95-105	3
4	4.40-4.50	6	317-00045010-000	317-00045012-000	317-00045014-000	317-00045016-000	6	100	112-114	3
4*	4.40-4.80	6	317-00048010-000	317-00048012-000	317-00048014-000	317-00048016-000	6	100	112-122	3
4-5	4.74-5.14	6	317-00051410-000	317-00051412-000	317-00051414-000	317-00051416-000	6	100	120-130	3
4-5	5.00-5.63	9	317-00056310-000	317-00056312-000	317-00056314-000	317-00056316-000	4	100-125	121-143	4
6	6.94-6.70	9	317-00066310-000	317-00066312-000	317-00066314-000	317-00066316-000	4	150	151-170	4
6*	5.94-6.90	9	317-00069010-000	317-00069012-000	317-00069014-000	317-00069016-000	4	150	151-175	4
6	6.84-7.60	7	317-00076010-000	317-00076012-000	317-00076014-000	317-00076016-000	4	150	174-193	3
6-8	7.69-8.72	11	317-00087210-000	317-00087212-000	317-00087214-000	317-00087216-000	4	150-200	195-221	5
6-8*	7.69-9.05	11	317-00090510-000	317-00090512-000	317-00090514-000	317-00090516-000	4	150-200	195-230	5
8-10	8.54-10.10	9	317-00101010-000	317-00101012-000	317-00101014-000	317-00101016-000	4	200-250	217-256	4
10*	10.75-11.10	9	317-00111010-000	317-00111012-000	317-00111014-000	317-00111016-000	4	250	273-282	5
10-12	10.64-12.12	11	317-00121210-000	317-00121212-000	317-00121214-000	317-00121216-000	4	250-300	271-307	5
12*	12.75-13.20	9	317-00132010-000	317-00132012-000	317-00132014-000	317-00132016-000	4	300	324-335	6
12-14	12.62-14.32	14	317-00143210-000	317-00143212-000	317-00143214-000	317-00143216-000	4	300-350	321-363	6
12-14	14.73-15.65	18	317-00156510-000	317-00156512-000	317-00156514-000	317-00156516-000	1	300-350	375-397	8
14-16	15.95-17.25	19	317-00172510-000	317-00172512-000	317-00172514-000	317-00172516-000	1	350-400	406-438	9
16	17.25-17.80	19	317-00178010-000	317-00178012-000	317-00178014-000	317-00178016-000	1	410	438-452	9
16-18	17.40-18.88	19	317-00188810-000	317-00188812-000	317-00188814-000	317-00188816-000	1	400-450	442-479	9
18*	19.38-19.68	19	317-00195010-000	317-00195012-000	317-00195014-000	317-00195016-000	1	450	492-500	9
20*	21.55-21.65	19	317-00216010-000	317-00216012-000	317-00216014-000	317-00216016-000	1	500	547-500	9
24	25.75-25.85	30	317-00258010-000	317-00258012-000	317-00258014-000	317-00258016-000	1	600	654-657	14

When properly sized from the factory, this product (denoted by \*) meets the requirements listed in the Uni-Bell PVC Pipe Association's "Handbook of PVC Pipe" and in the AWWA's "Manual M23: PVC Pipe Design and Installation."

3" and 4" NPT Taps

\*Sized for use on C900 PVC Pipe

STANDARD			CATALOG NUMBER		CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	3" NPT/80 MM	4" NPT/100 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
6	6.84-7.60	13	317-00076017-000	317-00076018-000	2	150	174-193	6
8-10	8.54-10.10	15	317-00101017-000	317-00101018-000	3	200-250	217-256	7
10*	10.75-11.10	14	-	-	-	-	-	-
10-12	11.30-12.12	14	317-00121017-000	317-00121018-000	2	250-300	271-307	6
12*	12.75-13.20	18	-	-	-	-	-	-
12-14	13.40-14.32	18	317-00143017-000	317-00143018-000	2	300-350	321-363	8

When properly sized from the factory, this product (denoted by \*) meets the requirements listed in the Uni-Bell PVC Pipe Association's "Handbook of PVC Pipe" and in the AWWA's "Manual M23: PVC Pipe Design and Installation."



# Bronze Service Saddle

## Extra Wide Stainless Strap

# 325



**Description:** Bronze Service Saddle with Stainless Steel strap

**Application:** Ideal for PVC pipe and will provide added corrosion resistance.

### Key Features:

- Buna-N Gasket per ASTM D2000
- Meets applicable AWWA C800 Standards
- Available with 3/4" thru 2" NPT and CC outlets
- Body made of Cast Red Brass for corrosion resistance
- Designed with PVC Pipe applications in mind. O.D. Specific bodies are available
- Maximum support and reinforcement on PVC pipe (nearly 360°)
- Strap will provide a range that covers Steel and Ductile Iron O.D.'s on rigid pipe
- Strap is single 3.5" wide, 304 Stainless Steel, four studs for wide stance on the pipe

### Materials Specifications (subject to change)

**BODY:** 85-5-5-5 Cast Red Brass per ASTM B584 or B62

**GASKET:** NSF-61 Approved Buna-N

**Temperature Range:** -20 to 180

**STRAPS:** 18-8 Type 304 Stainless Steel

**NUTS/WASHERS:** 18-8 Type 304 Premium Grade Stainless Nuts, coated to prevent galling

**Working Pressure:** 150 PSI, depending on size and application

**Pipe Applications:** PVC, Ductile Iron, Cast Iron and Steel

**Sizes (in inches):** 4, 6, 8, 10, 12

3/4" and 1" NPT and CC Taps

For Rigid Pipe Applications

NOM. SIZE IN.	O.D. RANGE INCHES	CTN. QTY.	CATALOG NUMBER				WT. EACH LBS.
			3/4" NPT	3/4" CC	1" NPT	1" CC	
4	4.50 - 4.80	4	325-048006-100	325-048007-100	325-048008-100	325-048009-100	6.3
6	6.63 - 6.90	4	325-069006-100	325-069007-100	325-069008-100	325-069009-100	7.3
8	8.63 - 9.05	4	325-090506-100	325-090507-100	325-090508-100	325-090509-100	7.9
10	10.75 - 11.10	4	325-111006-100	325-111007-100	325-111008-100	325-111009-100	9.3
12	12.75 - 13.20	2	325-132006-100	325-132007-100	325-132008-100	325-132009-100	10.3





325

# Bronze Service Saddle

## Extra Wide Stainless Strap

3/4" and 1" NPT and CC Taps

For PVC Pipe Applications

NOM. SIZE IN.	O.D. INCHES	CTN. QTY.	CATALOG NUMBER				WT. EACH LBS.
			3/4" NPT	3/4" CC	1" NPT	1" CC	
4	4.50	4	325-045006-000	325-045007-000	325-045008-000	325-045009-000	6.3
	4.80	4	325-048006-000	325-048007-000	325-048008-000	325-048009-000	6.3
6	6.63	4	325-066306-000	325-066307-000	325-066308-000	325-066309-000	7.3
	6.90	4	325-069006-000	325-069007-000	325-069008-000	325-069009-000	7.3
8	8.63	4	325-086306-000	325-086307-000	325-086308-000	325-086309-000	7.9
	9.05	4	325-090506-000	325-090507-000	325-090508-000	325-090509-000	7.9
10	10.75	4	325-107506-000	325-107507-000	325-107508-000	325-107509-000	9.3
	11.10	4	325-111006-000	325-111007-000	325-111008-000	325-111009-000	9.3
12	12.75	2	325-127506-000	325-127507-000	325-127508-000	325-127509-000	10.3
	13.20	2	325-132006-000	325-132007-000	325-132008-000	325-132009-000	10.3

1 1/4" – 2" NPT and CC Taps

For PVC Pipe Applications

NOM. SIZE IN.	O.D. INCHES	CTN. QTY.	CATALOG NUMBER						WT. EACH LBS.
			1 1/4" NPT	1 1/4" CC	1 1/2" NPT	1 1/2" CC	2" NPT	2" CC	
4	4.50	4	325-045010-000	325-045011-000	325-045012-000	325-045013-000	325-045014-000	325-045015-000	7.5
	4.80	4	325-048010-000	325-048011-000	325-048012-000	325-048013-000	325-048014-000	325-048015-000	7.5
6	6.63	4	325-066310-000	325-066311-000	325-066312-000	325-066313-000	325-066314-000	325-066315-000	7.9
	6.90	4	325-069010-000	325-069011-000	325-069012-000	325-069013-000	325-069014-000	325-069015-000	7.9
8	8.63	4	325-086310-000	325-086311-000	325-086312-000	325-086313-000	325-086314-000	325-086315-000	9.1
	9.05	4	325-090510-000	325-090511-000	325-090512-000	325-090513-000	325-090514-000	325-090515-000	9.1
10	10.75	4	325-107510-000	325-107511-000	325-107512-000	325-107513-000	325-107514-000	325-107515-000	10.3
	11.10	4	325-111010-000	325-111011-000	325-111012-000	325-111013-000	325-111014-000	325-111015-000	10.3
12	12.75	2	325-127510-000	325-127511-000	325-127512-000	325-127513-000	325-127514-000	325-127515-000	11.5
	13.20	2	325-132010-000	325-132011-000	325-132012-000	325-132013-000	325-132014-000	325-132015-000	11.5

When properly sized from the factory, this product (denoted by \*) meets the requirements listed in the Uni-Bell PVC Pipe Association's "Handbook of PVC Pipe" and in the AWWA's "Manual M23: PVC Pipe Design and Installation."

1 1/4" – 2" NPT and CC Taps SS Straps

NOM. SIZE IN.	O.D. RANGE INCHES	CTN. QTY.	CATALOG NUMBER						WT. EACH LBS.
			1 1/4" NPT	1 1/4" CC	1 1/2" NPT	1 1/2" CC	2" NPT	2" CC	
4	4.50 - 4.80	4	325-048010-100	325-048011-100	325-048012-100	325-048013-100	325-048014-100	325-048015-100	7.5
6	6.63 - 6.90	4	325-069010-100	325-069011-100	325-069012-100	325-069013-100	325-069014-100	325-069015-100	7.9
8	8.63 - 9.05	4	325-090510-100	325-090511-100	325-090512-100	325-090513-100	325-090514-100	325-090515-100	9.1
10	10.75 - 11.10	4	325-111010-100	325-111011-100	325-111012-100	325-111013-100	325-111014-100	325-111015-100	10.3
12	12.75 - 13.20	2	325-132010-100	325-132011-100	325-132012-100	325-132013-100	325-132014-100	325-132015-100	11.5

When properly sized from the factory, this product (denoted by \*) meets the requirements listed in the Uni-Bell PVC Pipe Association's "Handbook of PVC Pipe" and in the AWWA's "Manual M23: PVC Pipe Design and Installation."



# Service Saddle

## Ductile Iron Body, Double Bale

# 331



### Description:

Double bale Ductile Iron repair saddle with large concentric-ribbed gasket and Carbon Steel bales.

**Application:** Pulled out or broken direct taps, stripped threads, cracked pipe or new installations where wide gasket coverage is desired.

### Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- Concentric ribbed gasket conforms to pipe surface irregularities to assure dependable seal
- NPT, CC and other threaded outlets available in sizes 5/8" to 2"
- Excellent way to repair and restore a damaged branch connection in one operation
- In conjunction with the bales, a closed lug on one side acts as a hinge for easier installation

### Materials Specifications (subject to change)

BODIES: Ductile Iron per ASTM A536

BALES: Carbon Steel ASTM A108 (C1018) or HSLA (C111) electrogalvanized with di-chromate seal ASTM B633

NUTS: Cold formed semi-finished heavy hex Steel A563 electrogalvanized with di-chromate seal ASTM B633

WASHERS: Carbon Steel ASTM A108, electrogalvanized with a di-chromate seal ASTM B633

GASKET: Nitrile (Buna N) NSF 61 compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemical

Temperature Range: -20°F to 180°F

FINISH: Flexi-Coat® Fusion-Bonded Epoxy Finish per AWWA C213

**Optional Bales: Type 304 Stainless Steel**

**Working Pressure:** Up to 300 PSI, depending on size and application

**Pipe Applications:** Steel, Ductile Iron, Cast Iron, Asbestos Cement

**Taps:** 3/4", 1", 1 1/4", 1 1/2" and 2" NPT taps; 5/8", 3/4", 1", 1 1/4" and 1 1/2" CC taps

**Sizes (in inches):** Varies by tap type; see tables for size details.

### BSP Thread Tap Codes

SIZE	CODE NUMBER	EXAMPLE
1/2"	59	3/4" CC 331-00053207-000
3/4"	50	
1"	51	
1 1/4"	54	
1 1/2"	52	3/4" BSP 331-00053250-000
2"	53	
2 1/2"	55	
3"	56	



331

# Service Saddle

Ductile Iron Body, Double Bale

5/8", 3/4" and 1" CC Taps

STANDARD			CATALOG NUMBER			CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	5/8" CC/16 MM	3/4" CC/20 MM	1" CC/25 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
4	4.79-5.32	7	331-00053205-000	331-00053207-000	331-00053209-000	4	100	122-135	3
6	6.90-7.40	8	331-00074005-000	331-00074007-000	331-00074009-000	4	150	175-188	4
8	9.00-9.63	10	331-00096305-000	331-00096307-000	331-00096309-000	4	200	229-244	4
10	11.04-12.12	13	331-00121205-000	331-00121207-000	331-00121209-000	4	250	281-307	6
12	13.14-14.38	15	331-00143805-000	331-00143807-000	331-00143809-000	4	300	334-365	7

3/4" and 1" NPT Taps

STANDARD			CATALOG NUMBER		CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	3/4" NPT/20 MM	1" NPT/25 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
4	4.79-5.32	7	331-00053206-000	331-00053208-000	4	100	122-135	3
6	6.90-7.40	8	331-00074006-000	331-00074008-000	4	150	175-188	4
8	9.00-9.63	10	331-00096306-000	331-00096308-000	4	200	229-244	4
10	11.04-12.12	13	331-00121206-000	331-00121208-000	4	250	281-307	6
12	13.14-14.38	15	331-00143806-000	331-00143808-000	4	300	334-365	7

1 1/4", 1 1/2" and 2" NPT Taps

STANDARD			CATALOG NUMBER			CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	1-1/4" NPT/32 MM	1-1/2" NPT/32 MM	2" NPTC/50 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
4	4.79-5.32	7	331-00053210-000	331-00053212-000	331-00053214-000	4	100	122-135	3
6	6.90-7.40	8	331-00074010-000	331-00074012-000	331-00074014-000	4	150	175-188	4
8	9.00-9.63	10	331-00096310-000	331-00096312-000	331-00096314-000	4	200	229-244	4
10	11.04-12.12	13	331-00121210-000	331-00121212-000	331-00121214-000	4	250	281-307	6
12	13.14-14.38	15	331-00143810-000	331-00143812-000	331-00143814-000	4	300	334-365	7

1 1/4" and 1 1/2" CC Taps

STANDARD			CATALOG NUMBER		CTN. QTY	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	1 1/4" CC/16 MM	1 1/2" CC/20 MM		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
4	4.79-5.32	7	331-00053211-000	331-00053213-000	4	100	122-135	3
6	6.90-7.40	8	331-00074011-000	331-00074013-000	4	150	175-188	4
8	9.00-9.63	10	331-00096311-000	331-00096313-000	4	200	229-244	4
10	11.04-12.12	13	331-00121211-000	331-00121213-000	4	250	281-307	6
12	13.14-14.38	15	331-00143811-000	331-00143813-000	4	300	334-365	7



# Service Saddle

For PVC or Steel Pipe (not Ductile Iron)

# 357



**Description:** Double strap saddle with large tapped outlet.

**Application:** For distribution or new pipeline installations. *(Not for use on Ductile Iron pipe)*

### Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- Designed with PVC pipe in mind
- The gasket fully bonded to the cavity to hold it in place
- NPT, CC and other threaded outlets available in 3" and 4"
- Wide bands spread the load over larger area to prevent damage to the pipe when tightening the straps
- A closed lug on one side, combined with the straps, acts as a hinge for easier installation

### Materials Specifications (subject to change)

**BODIES:** Ductile Iron per ASTM A536

**BANDS:** Type 304 Stainless Steel

**GASKET:** Nitrile (Buna N) NSF 61 compounded to resist oil, acids, alkalis, most (aliphatic) hydrocarbon fluids, water and other chemical

**Temperature Range:** -20°F to 180°F

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish

**STUD:** Type 304 Stainless Steel

**NUTS & WASHERS:** Type 304 Stainless Steel

**Working Pressure:** Up to 150 PSI, depending on size and application

**Pipe Applications:** PVC, Carbon Steel, Stainless Steel (not Ductile Iron)

**Taps:** 3" and 4" NPT taps

**Sizes (in inches):** 6, 8, 10, 12 nominal

### 3" and 4" NPT Taps

STANDARD				CATALOG NUMBER	METRIC		
NOM. SIZES INCHES	O.D. RANGE INCHES	WT. EACH LBS.	TAP SIZE INCHES		NOM. SIZE MM	O.D. RANGE MM	WT. EACH KG.
6	6.63-6.90	12	3	357-00069017-000 357-00069018-000	150	168-175	6
		12	4				6
8	8.63-9.05	13	3	357-00090517-000 357-00090518-000	200	219-230	6
		13	4				6
10	10.75-11.10	14	3	357-00111017-000 357-00111018-000	250	273-282	6
		14	4				6
12	12.75-13.20	14	3	357-00132017-000 357-00132018-000	300	323-335	6
		14	4				6



# Service Saddle

For Concrete Steel Cylinder Pipe, Double Strap

## 362

**Description:** Double strap service saddle specifically for Concrete Steel Cylinder and concrete coated Steel pipe.

**Application:** Making taps in concrete cylinder and concrete Steel pipe

### Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- Excellent way to tap concrete cylinder or concrete Steel pipe
- NPT, CC and other threaded outlets available in sizes 3/4" to 2"
- Hemispherical washers provide full bearing for the strap nuts and align the straps with the saddle body
- Provides maximum support of the pipe for better performance in the tapped area (nearly 360°)
- The unique twist-lock tapped insert can accommodate up to 1½" variation in the thickness of the concrete finish
- A grout opening is provided in the saddle body alongside the insert for restoring the concrete Finish after the tap is completed

### Materials Specifications (subject to change)

**BODIES:** Ductile Iron per ASTM A536

**TAPPED INSERT:** Ductile Iron ASTM A 536. Tap threads are full and free from shear and conform to AWWA standards

**HEMISPHERICAL WASHERS:** Ductile Iron ASTM A 536

**GASKET:** Nitrile (Buna N) NSF O-Ring gasket. Compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemical

**Temperature Range:** -20 to +180

**STRAPS:** Carbon Steel ASTM A 285 with Flexi-Coat® Fusion Bonded Epoxy Finish. *Stainless Steel is optional.*

**STUD:** High strength, low alloy

**NUTS & WASHERS:** Type 304 Stainless Steel

**FINISH:** Flexi-Coat® Fusion Bonded Epoxy Finish, per C213

**Working Pressure:** Up to 150 PSI, depending on size and application

**Pipe Applications:** Concrete Steel Cylinder, Concrete Steel Pipe

**Taps:** ¾", 1", 1¼", 1½", 2" in NPT Taps; ¾", 1", 1¼", 1½", 2" in CC Taps

**Sizes (in inches):** 12, 14, 16, 18, 20, 21, 24, 27, 30, 33, 36





# Service Saddle

For Concrete Steel Cylinder Pipe, Double Strap

362

## CC BSP and NPT BSP Thread Tap Codes

SIZE	CODE NUMBER	EXAMPLE
3/4"	50	3/4" CC 362-00158807-000 3/4" BSP 362-00158850-000
1"	51	
1 1/4"	54	
1 1/2"	52	
2"	53	
2 1/2"	55	
3"	56	

## CC Taps

NOM. PIPE SIZE IN.	STEEL CYL. O.D. INCHES	CONCRETE COATING O.D. RANGE INCHES	WT. EA. LBS.	CATALOG NUMBER				
				3/4" CC/20 MM	1" CC/25 MM	1-1/4" CC/32 MM	1-1/2" CC/40 MM	2" CC/50 MM
12	13-5/8	15.38-15.88	24	362-00158807-000	362-00158809-000	362-00158811-000	362-00158813-000	362-00158815-000
14	15-3/4	17.25-18.00	24	362-00180007-000	362-00180009-000	362-00180011-000	362-00180013-000	362-00180015-000
16	17-3/8	19.38-19.88	26	362-00198807-000	362-00198809-000	362-00198811-000	362-00198813-000	362-00198815-000
18	19	21.75-22.38	26	362-00223807-000	362-00223809-000	362-00223811-000	362-00223813-000	362-00223815-000
20	21	23.75-24.38	31	362-00243807-000	362-00243809-000	362-00243811-000	362-00243813-000	362-00243815-000
21	22	24.75-25.50	31	362-00255007-000	362-00255009-000	362-00255011-000	362-00255013-000	362-00255015-000
24	25-3/4	27.88-28.50	33	362-00285007-000	362-00285009-000	362-00285011-000	362-00285013-000	362-00285015-000
27	28	30.75-31.50	35	362-00315007-000	362-00315009-000	362-00315011-000	362-00315013-000	362-00315015-000
30	31-7/8	34.13-34.88	37	362-00348807-000	362-00348809-000	362-00348811-000	362-00348813-000	362-00348815-000
33	34-7/8	37.13-37.38	38	362-00373807-000	362-00373809-000	362-00373811-000	362-00373813-000	362-00373815-000
36	37-7/8	40.25-41.00	40	362-00410007-000	362-00410009-000	362-00410011-000	362-00410013-000	362-00410015-000

NOTE: Other sizes available upon request.

## NPT Taps

NOM. PIPE SIZE IN.	STEEL CYL. O.D. INCHES	CONCRETE COATING O.D. RANGE INCHES	WT. EA. LBS.	CATALOG NUMBER				
				3/4" NPT/20 MM	1" NPT/25 MM	1-1/4" NPT/32 MM	1-1/2" NPT/40 MM	2" NPT/50 MM
12	13-3/8	15.38-15.88	23	362-00158806-000	362-00158808-000	362-00158810-000	362-00158812-000	362-00158814-000
14	15 1/4	17.25-18.00	24	362-00180006-000	362-00180008-000	362-00180010-000	362-00180012-000	362-00180014-000
16	17-3/8	19.38-19.88	26	362-00198806-000	362-00198808-000	362-00198810-000	362-00198812-000	362-00198814-000
18	19	21.75-22.38	26	362-00223806-000	362-00223808-000	362-00223810-000	362-00223812-000	362-00223814-000
20	21	23.75-24.38	31	362-00243806-000	362-00243808-000	362-00243810-000	362-00243812-000	362-00243814-000
21	22	24.75-25.50	31	362-00255006-000	362-00255008-000	362-00255010-000	362-00255012-000	362-00255014-000
24	25-3/4	27.88-28.50	33	362-00285006-000	362-00285008-000	362-00285010-000	362-00285012-000	362-00285014-000
27	28	30.75-31.50	35	362-00315006-000	362-00315008-000	362-00315010-000	362-00315012-000	362-00315014-000
30	31-7/8	34.13-34.88	36	362-00348806-000	362-00348808-000	362-00348810-000	362-00348812-000	362-00348814-000
33	34-7/8	37.13-37.38	38	362-00373806-000	362-00373808-000	362-00373810-000	362-00373812-000	362-00373814-000
36	37-7/8	40.25-41.00	40	362-00410006-000	362-00410008-000	362-00410010-000	362-00410012-000	362-00410014-000

NOTE: Other sizes available upon request.



# Service Saddle

For Large Diameter Pipe, Triple Strap

# 366



**Description:** Triple strap service saddle specifically for large diameter pipe

**Application:** Large diameter Cast Iron, Asbestos Cement, Steel, or PVC pipe.

## Key Features:

- Excellent way to tap large diameter pipe
- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- NPT, CC and other threaded outlets available in sizes ¾" to 2½"
- Hemispherical washers provide full bearing for the strap nuts and align the straps with the saddle body
- Provides maximum support of the pipe for better performance in the tapped area (nearly 360°)

## Materials Specifications (subject to change)

**BODIES:** Ductile Iron per ASTM A536

**TAPPED INSERT:** Ductile Iron ASTM A 536. Tap threads are full and free from shear and conform to AWWA standards

**HEMISPHERICAL WASHERS:** Ductile Iron ASTM A 536

**GASKET:** Nitrile (Buna N) NSF O-Ring gasket. Compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemical

**Temperature Range:** -20 to +180

**STRAPS:** Carbon Steel ASTM A 285 with Flexi-Coat® Fusion Bonded Epoxy Finish. **Stainless Steel is optional**

**STUD:** Carbon Steel

**NUTS & WASHERS:** Carbon Steel

**FINISH:** Flexi-Coat® Fusion Bonded Epoxy Finish, per AWWA C213

**Working Pressure:** Up to 150 PSI, depending on size and application

**Pipe Applications:** Cast Iron, Ductile Iron, Asbestos Cement, Steel, Concrete or PVC

**Taps:** ¾", 1", 1¼", 1½", 2", 2½" in NPT Taps; ¾", 1", 1¼", 1½", 2" in CC Taps

**Sizes (in inches):** See tables for size details.



366

# Service Saddle

For Large Diameter Pipe, Triple Strap

¾", 1", 1¼", 1½" and 2" CC Taps

O.D. INCHES	WT. EA. LBS.	CATALOG NUMBER				
		¾ CC/20 MM	1" CC/25 MM	1-1/4" CC/32 MM	1-1/2"/40 MM	2"CC/50 MM
19.25-20.00	38	366-00200007-000	366-00200009-000	366-00200011-000	366-00200013-000	366-00200015-000
19.75-20.50	38	366-00205007-000	366-00205009-000	366-00205011-000	366-00205013-000	366-00205015-000
20.50-21.25	38	366-00212507-000	366-00212509-000	366-00212511-000	366-00212513-000	366-00212515-000
21.35-22.10	39	366-00221007-000	366-00221009-000	366-00221011-000	366-00221013-000	366-00221015-000
21.81-22.56	39	366-00225607-000	366-00225609-000	366-00225611-000	366-00225613-000	366-00225615-000
22.50-23.25	39	366-00232507-000	366-00232509-000	366-00232511-000	366-00232513-000	366-00232515-000
23.19-23.94	39	366-00239407-000	366-00239409-000	366-00239411-000	366-00239413-000	366-00239415-000
23.75-24.50	42	366-00245007-000	366-00245009-000	366-00245011-000	366-00245013-000	366-00245015-000
24.50-25.25	42	366-00252507-000	366-00252509-000	366-00252511-000	366-00252513-000	366-00252515-000
25.55-26.32	44	366-00263207-000	366-00263209-000	366-00263211-000	366-00263213-000	366-00263215-000
26.07-26.82	44	366-00268207-000	366-00268209-000	366-00268211-000	366-00268213-000	366-00268215-000
26.06-27.50	44	366-00275007-000	366-00275009-000	366-00275011-000	366-00275013-000	366-00275015-000
27.51-28.25	45	366-00282507-000	366-00282509-000	366-00282511-000	366-00282513-000	366-00282515-000
28.75-29.50	45	366-00295007-000	366-00295009-000	366-00295011-000	366-00295013-000	366-00295015-000
29.53-30.28	47	366-00302807-000	366-00302809-000	366-00302811-000	366-00302813-000	366-00302815-000
29.75-30.50	47	366-00305007-000	366-00305009-000	366-00305011-000	366-00305013-000	366-00305015-000
31.49-32.24	49	366-00322407-000	366-00322409-000	366-00322411-000	366-00322413-000	366-00322415-000
31.75-32.50	49	366-00325007-000	366-00325009-000	366-00325011-000	366-00325013-000	366-00325015-000
32.49-33.24	49	366-00332407-000	366-00332409-000	366-00332411-000	366-00332413-000	366-00332415-000
33.21-33.96	49	366-00339607-000	366-00339609-000	366-00339611-000	366-00339613-000	366-00339615-000
34.90-35.65	52	366-00353507-000	366-00353509-000	366-00353511-000	366-00353513-000	366-00353515-000
35.67-36.42	52	366-00364207-000	366-00364209-000	366-00364211-000	366-00364213-000	366-00364215-000
36.49-37.24	54	366-00372407-000	366-00372409-000	366-00372411-000	366-00372413-000	366-00372415-000
36.97-37.72	54	366-00377207-000	366-00377209-000	366-00377211-000	366-00377213-000	366-00377215-000
37.71-38.46	54	366-00384607-000	366-00384609-000	366-00384611-000	366-00384613-000	366-00384615-000
38.45-39.20	54	366-00392007-000	366-00392009-000	366-00392011-000	366-00392013-000	366-00392015-000
39.35-40.10	56	366-00401007-000	366-00401009-000	366-00401011-000	366-00401013-000	366-00401015-000
39.81-40.56	56	366-00405607-000	366-00405609-000	366-00405611-000	366-00405613-000	366-00405615-000
41.95-42.70	56	366-00427007-000	366-00427009-000	366-00427011-000	366-00427013-000	366-00427015-000
42.40-43.15	57	366-00431507-000	366-00431509-000	366-00431511-000	366-00431513-000	366-00431515-000

NOTE: Sizes larger than shown may be fabricated upon request. Use Smith-Blair 600 Series Tapping Sleeves for larger diameters.



## 3/4", 1", 1 1/4", 2" and 2 1/2" NPT Taps

O.D. INCHES	WT. EA. LBS.	CATALOG NUMBER					
		3/4 NPT/20 MM	1" NPT/25 MM	1-1/4" NPT/32 MM	1-1/2" NPT/40 MM	2" NPT/50 MM	2-1/2" NPT/65 MM
19.25-20.00	38	366-00200006-000	366-00200008-000	366-00200010-000	366-00200012-000	366-00200014-000	366-00200016-000
19.75-20.50	38	366-00205006-000	366-00205008-000	366-00205010-000	366-00205012-000	366-00205014-000	366-00205016-000
20.50-21.25	38	366-00212506-000	366-00212508-000	366-00212510-000	366-00212512-000	366-00212514-000	366-00212516-000
21.35-22.10	39	366-00221006-000	366-00221008-000	366-00221010-000	366-00221012-000	366-00221014-000	366-00221016-000
21.81-22.56	39	366-00225606-000	366-00225608-000	366-00225610-000	366-00225612-000	366-00225614-000	366-00225616-000
22.50-23.25	39	366-00232506-000	366-00232508-000	366-00232510-000	366-00232512-000	366-00232514-000	366-00232516-000
23.19-23.94	39	366-00239406-000	366-00239408-000	366-00239410-000	366-00239412-000	366-00239414-000	366-00239416-000
23.75-24.50	42	366-00245006-000	366-00245008-000	366-00245010-000	366-00245012-000	366-00245014-000	366-00245016-000
24.50-25.25	42	366-00252506-000	366-00252508-000	366-00252510-000	366-00252512-000	366-00252514-000	366-00252516-000
25.55-26.32	44	366-00263206-000	366-00263208-000	366-00263210-000	366-00263212-000	366-00263214-000	366-00263216-000
26.07-26.82	44	366-00268206-000	366-00268208-000	366-00268210-000	366-00268212-000	366-00268214-000	366-00268216-000
26.65-27.50	44	366-00275006-000	366-00275008-000	366-00275010-000	366-00275012-000	366-00275014-000	366-00275016-000
27.51-28.25	45	366-00282506-000	366-00282508-000	366-00282510-000	366-00282512-000	366-00282514-000	366-00282516-000
28.75-29.50	45	366-00295006-000	366-00295008-000	366-00295010-000	366-00295012-000	366-00295014-000	366-00295016-000
29.53-30.28	47	366-00302806-000	366-00302808-000	366-00302810-000	366-00302812-000	366-00302814-000	366-00302816-000
29.75-30.50	47	366-00305006-000	366-00305008-000	366-00305010-000	366-00305012-000	366-00305014-000	366-00305016-000
31.49-32.24	49	366-00322406-000	366-00322408-000	366-00322410-000	366-00322412-000	366-00322414-000	366-00322416-000
31.75-32.50	49	366-00325006-000	366-00325008-000	366-00325010-000	366-00325012-000	366-00325014-000	366-00325016-000
32.49-33.24	49	366-00332406-000	366-00332408-000	366-00332410-000	366-00332412-000	366-00332414-000	366-00332416-000
33.21-33.96	49	366-00339606-000	366-00339608-000	366-00339610-000	366-00339612-000	366-00339614-000	366-00339616-000
34.90-35.65	52	366-00356506-000	366-00356508-000	366-00356510-000	366-00356512-000	366-00356514-000	366-00356516-000
35.67-36.42	52	366-00364206-000	366-00364208-000	366-00364210-000	366-00364212-000	366-00364214-000	366-00364216-000
36.49-37.24	54	366-00372406-000	366-00372408-000	366-00372410-000	366-00372412-000	366-00372414-000	366-00372416-000
36.97-37.72	54	366-00377206-000	366-00377208-000	366-00377210-000	366-00377212-000	366-00377214-000	366-00377216-000
37.71-38.46	54	366-00384606-000	366-00384608-000	366-00384610-000	366-00384612-000	366-00384614-000	366-00384616-000
38.45-39.20	54	366-00392006-000	366-00392008-000	366-00392010-000	366-00392012-000	366-00392014-000	366-00392016-000
39.35-40.10	56	366-00401006-000	366-00401008-000	366-00401010-000	366-00401012-000	366-00401014-000	366-00401016-000
39.81-40.56	56	366-00405606-000	366-00405608-000	366-00405610-000	366-00405612-000	366-00405614-000	366-00405616-000
41.95-42.70	56	366-00427006-000	366-00427008-000	366-00427010-000	366-00427012-000	366-00427014-000	366-00427016-000
42.40-43.15	57	366-00431506-000	366-00431508-000	366-00431510-000	366-00431512-000	366-00431514-000	366-00431516-000

Use Smith-Blair 600 Series Tapping Sleeves for larger diameters.

## BSP Thread Tap Codes

SIZE	CODE NUMBER	EXAMPLE
3/4"	50	3/4" BSP 366-00200050-000
1"	51	
1 1/4"	54	
1 1/2"	52	
2"	53	
2 1/2"	55	
3"	56	



# Service Saddle

Single Bolt, Stainless Steel, for PVC

# 371

**Description:** Stainless Steel service saddle with single bolt specifically designed for PVC pipe, but can be used on other pipe types.

**Application:** Uniform sealing to provide uniform pipe support.

## Key Features:

- Provides maximum support and reinforcement
- Standard widths are 5" for the 371
- All 304 Stainless Steel construction for great corrosion resistance
- Outlet gasket is bonded into the band to provide optimum sealing efficiency
- Can be manufactured to odd size pipe O.D.s, not restricted to catalog sizes
- A wide variety of outlet sizes and thread types are available to meet demand
- Keeper bar helps pull clamp around the pipe and helps close the clamp during installation
- One saddle covers both Steel pipe size and Ductile Iron O.D. pipe within the same nominal size
- Outlet Gasket has a hydro-mechanical lip to improve sealing as the pipeline pressure increases

## Materials Specifications (subject to change)

BAND: Type 304 Stainless Steel

SIDE BARS & FINGERS: Type 304 Stainless Steel

KEEPER BAR: Type 304 Stainless Steel

STUD BOLTS: Type 304 Stainless Steel with Epoxy Finish on threads

NUTS: Type 304 Stainless Steel Fluorocarbon Finish on threads

WASHERS: Type 304 Stainless Steel

GASKET: Nitrile (Buna N) NSF 61, compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemical

Temperature Range: -20°F to 180°F

**Working Pressure:** Up to 150 PSI, depending on size and application

**Pipe Applications:** Steel, Ductile Iron, Cast Iron, Asbestos Cement, and PVC. *For other pipe types, please contact Smith-Blair engineering.*

**Taps:** ½" CC tap and ¾" and 1" CC and NPT taps.

**Sizes (in inches):** 4, 6, 8, 10, 12



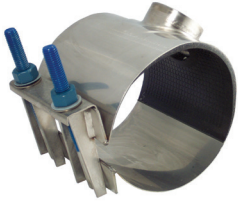


# Service Saddle

Single Bolt, Stainless Steel, for PVC

1/2" CC Tap; 3/4" and 1" CC and NPT Taps

NOM. SIZE IN.	O.D. RANGE INCHES	CATALOG NUMBER					WT. EA. LBS.
		1/2" CC/15 MM	3/4" NPT/20 MM	3/4" CC/20 MM	1" NPT/25 MM	1" CC/25 MM	
4	4.50-4.80	371-00048004-000	371-00048006-000	371-00048007-000	371-00048008-000	371-00048009-000	3
6	6.63-6.90	371-00069004-000	371-00069006-000	371-00069007-000	371-00069008-000	371-00069009-000	4
8	8.63-9.05	371-00090504-000	371-00090506-000	371-00090507-000	371-00090508-000	371-00090509-000	5
10	10.75-11.10	371-00111004-000	371-00111006-000	371-00111007-000	371-00111008-000	371-00111009-000	5
12	12.75-13.20	371-00132004-000	371-00132006-000	371-00132007-000	371-00132008-000	371-00132009-000	6



# Service Saddle

Double Bolt, Stainless Steel, for PVC

# 372



**Description:** Stainless Steel service saddle with double bolt specifically designed for PVC pipe, but can be used on other pipe types.

**Application:** Uniform sealing to provide uniform pipe support, without crushing action.

## Key Features:

- Provides maximum support and reinforcement
- Standard width is 7½"
- All 304 Stainless Steel construction for great corrosion resistance
- Outlet gasket is bonded into the band to provide optimum sealing efficiency
- Can be manufactured to odd size pipe O.D.s, not restricted to catalog sizes
- A wide variety of outlet sizes and thread types are available to meet demand up to 2"
- Keeper bar helps pull clamp around the pipe and helps close the clamp during installation
- One saddle covers both iron pipe size and Ductile Iron O.D. pipe within the same nominal size
- Outlet Gasket has a hydro-mechanical lip to improve sealing as the pipeline pressure increases

## Materials Specifications (subject to change)

BAND: Type 304 Stainless Steel

SIDE BARS & FINGERS: Type 304 Stainless Steel

KEEPER BAR: Type 304 Stainless Steel

STUD BOLTS: Type 304 Stainless Steel with Epoxy Finish on threads

NUTS: Type 304 Stainless Steel Fluorocarbon Finish on threads

WASHERS: Type 304 Stainless Steel

GASKET: Nitrile (Buna N) NSF 61, compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemical

Temperature Range: -20°F to 180°F

**Working Pressure:** Up to 150 PSI, depending on size and application

**Pipe Applications:** Steel, Ductile Iron, Cast Iron, Asbestos Cement, and PVC. *For other types of pipe, please contact Smith-Blair engineering.*

**Taps:** ½", ¾" and 1" NPT taps and CC taps; 1¼" and 1½" CC and NPT Taps; 2" CC and NPT taps

**Sizes (in inches):** 4, 6, 8, 10, 12, 14, 16



# Service Saddle

Double Bolt, Stainless Steel, for PVC

1/2", 3/4" and 1" NPT and CC Taps

NOM. SIZE IN.	O.D. RANGE INCHES	CATALOG NUMBER					WT.
		1/2" CC/15 MM	3/4" NPT/20 MM	3/4" CC/20 MM	1" NPT/25 MM	1" CC/25 MM	
4	4.50-4.80	372-00048004-000	372-00048006-000	372-00048007-000	372-00048008-000	372-00048009-000	6
6	6.63-6.90	372-00069004-000	372-00069006-000	372-00069007-000	372-00069008-000	372-00069009-000	6
8	8.63-9.05	372-00090504-000	372-00090506-000	372-00090507-000	372-00090508-000	372-00090509-000	7
10	10.75-11.10	372-00111004-000	372-00111006-000	372-00111007-000	372-00111008-000	372-00111009-000	8
12	12.75-13.20	372-00132004-000	372-00132006-000	372-00132007-000	372-00132008-000	372-00132009-000	9
14	15.20-15.30	372-00153004-000	372-00153006-000	372-00153007-000	372-00153008-000	372-00153009-000	10
16	17.32-17.46	372-00174004-000	372-00174006-000	372-00174007-000	372-00174008-000	372-00174009-000	11

1 1/4" and 1 1/2" CC and NPT Taps

NOM. SIZE IN.	O.D. RANGE INCHES	CATALOG NUMBER				WT. EA. LBS.
		1 1/4" NPT/32 MM	1 1/4" CC/32 MM	1 1/2" NPT/40 MM	1 1/2" CC/40 MM	
4	4.50-4.80	372-00048010-000	372-00048011-000	372-00048012-000	372-00048013-000	6
6	6.63-6.90	372-00069010-000	372-00069011-000	372-00069012-000	372-00069013-000	6
8	8.63-9.05	372-00090510-000	372-00090511-000	372-00090512-000	372-00090513-000	7
10	10.75-11.10	372-00111010-000	372-00111011-000	372-00111012-000	372-00111013-000	8
12	12.75-13.20	372-00132010-000	372-00132011-000	372-00132012-000	372-00132013-000	9
14	15.20-15.30	372-00153010-000	372-00153011-000	372-00153012-000	372-00153013-000	11
16	17.32-17.46	371-00174010-000	372-00174011-000	372-00174012-000	372-00174013-000	12

2" CC and NPT Taps

NOM. SIZE IN.	O.D. RANGE INCHES	CATALOG NUMBER		WT. EA. LBS.
		2" NPT/50 MM	2" CC/50 MM	
4	4.50-4.80	372-00048014-000	372-00048015-000	6
6	6.63-6.90	372-00069014-000	372-00069015-000	6
8	8.63-9.05	372-00090514-000	372-00090515-000	7
10	10.75-11.10	372-00111014-000	372-00111015-000	8
12	12.75-13.20	372-00132014-000	372-00132015-000	9
14	15.20-15.30	372-00153014-000	372-00153015-000	11
16	17.32-17.46	372-00174014-000	372-00174015-000	12

Maximum Working Pressure up to 150 PSI.



# Service Saddle

Ductile Iron Body, for PVC

# 397



**Description:** Ductile Iron saddle with 3" wide Stainless Steel strap.

**Application:** Uniform sealing to provide uniform pipe support, without crushing action.

## Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- The gasket is bonded into the cavity to hold it in place
- NPT, CC and other threaded outlets available in sizes ¾" thru 2"
- The wide strap spreads the load over larger area to prevent damage to the pipe when tightening
- At recommended torque, the saddle will exceed the working pressure of most standard pipes
- A closed lug on one side, combined with the strap, acts as a hinge for easier installation
- Provides maximum support of the pipe for better performance in the tapped area — nearly 360°

## Materials Specifications (subject to change)

**BODIES:** Ductile Iron ASTM A-536

**FINISH:** Flexi-Coat® Fusion Bonded Epoxy Finish

**GASKET:** Smith-Blair® Nitrile (Buna N) NSF 61® Compounded to resist – oil, acids, alkalis, most (aliphatic) hydrocarbon fluids, water and many chemicals

**Temperature Range:** -20°F to 180°F

**STRAPS:** Type 304 Premium Grade Stainless Steel

**NUTS:** Type 304 Stainless Steel-Fluorocarbon Coated to prevent galling

**WASHERS:** Type 304 Stainless Steel

**Working Pressure:** Up to 200 PSI, depending on size and application

**Pipe Applications:** PVC

**Taps:** ¾", 1", 1¼", 1½" and 2" NPT and CC taps

**Sizes (in inches):** 2, 4, 6, 8, 10, 12 (see attached table to determine)



# Service Saddle

Ductile Iron Body, for PVC

¾" and 1" NPT and CC Taps

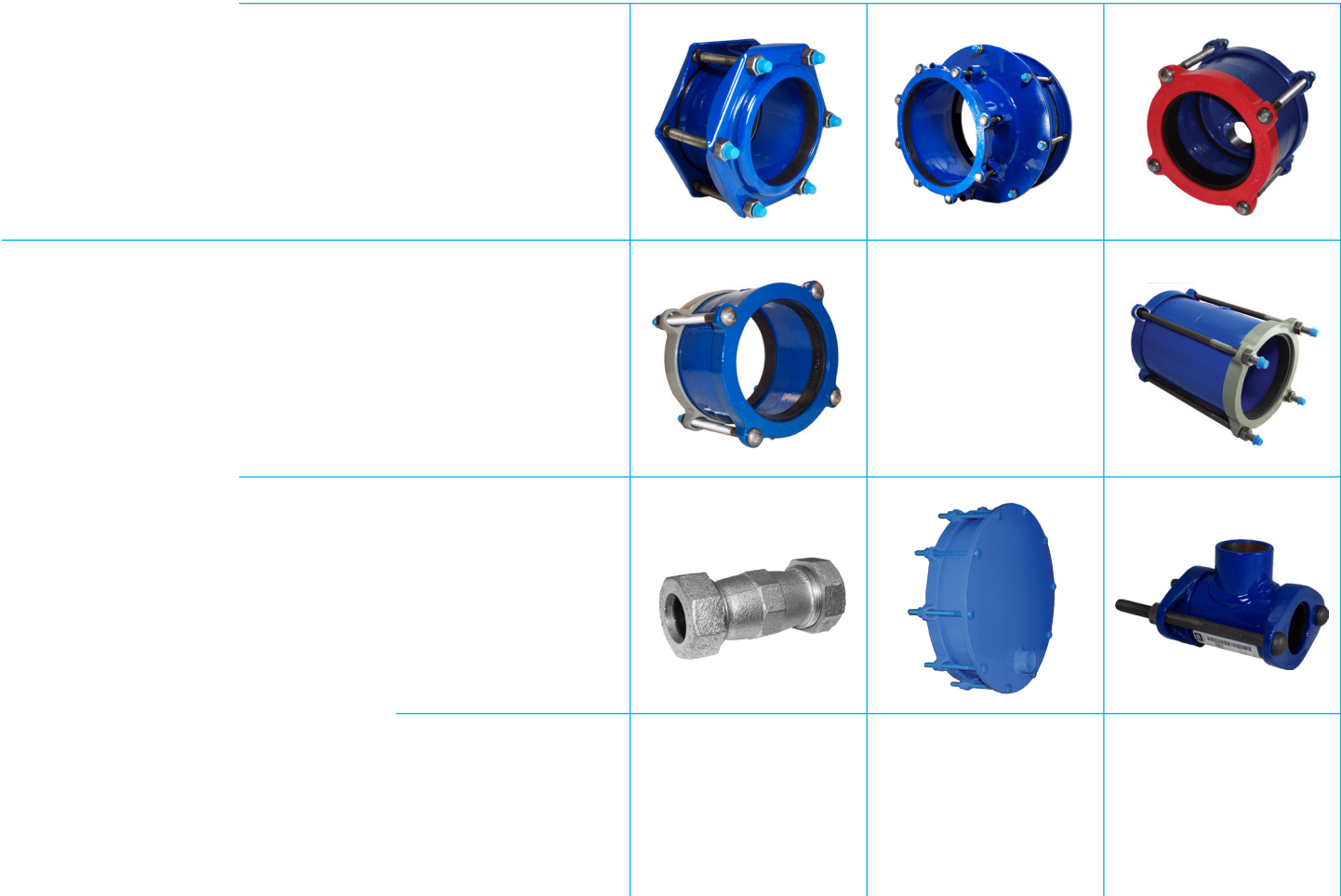
NOM. SIZE IN.	O.D. IN.	WT. EA. LBS.	CATALOG NUMBER				CTN. QTY.
			¾" NPT	¾" CC	1" NPT	1" CC	
2	2.38	4	397-00023806-000	397-00023807-000	397-00023808-000	397-00023809-000	6
4	4.50	5	397-00045006-000	397-00045007-000	397-00045008-000	397-00045009-000	4
4	4.80	5	397-00048006-000	397-00048007-000	397-00048008-000	397-00048009-000	4
6	6.63	5	397-00066306-000	397-00066307-000	397-00066308-000	397-00066309-000	4
6	6.90	5	397-00069006-000	397-00069007-000	397-00069008-000	397-00069009-000	4
8	8.63	6	397-00086306-000	397-00086307-000	397-00086308-000	397-00086309-000	4
8	9.05	6	397-00090506-000	397-00090507-000	397-00090508-000	397-00090509-000	4
10	10.75	10	397-00107506-000	397-00107507-000	397-00107508-000	397-00107509-000	4
10	11.10	11	397-00111006-000	397-00111007-000	397-00111008-000	397-00111009-000	4
12	12.75	10	397-00127506-000	397-00127507-000	397-00127508-000	397-00127509-000	2
12	13.20	10	397-00132006-000	397-00132007-000	397-00132008-000	397-00132009-000	2

397 Saddles are furnished with a 3" wide, one piece, Stainless Steel strap. Finish Code-000. If you prefer two separate straps, use finish code-001

1¼" through 2" NPT and CC Taps

NOM. SIZE IN.	O.D. IN.	WT. EA. LBS.	CATALOG NUMBER						CTN. QTY.
			1-1/4" NPT	1-1/4" CC	1-1/2" NPT	1-1/2" CC	2" NPT	2" CC	
4	4.50	6	397-00045010-000	397-00045011-000	397-00045012-000	397-00045013-000	397-00045014-000	397-00045015-000	6
4	4.80	6	397-00048010-000	397-00048011-000	397-00048012-000	397-00048013-000	397-00048014-000	397-00048015-000	4
6	6.63	7	397-00066310-000	397-00066311-000	397-00066312-000	397-00066313-000	397-00066314-000	397-00066315-000	4
6	6.90	7	397-00069010-000	397-00069011-000	397-00069012-000	397-00069013-000	397-00069014-000	397-00069015-000	4
8	8.63	8	397-00086310-000	397-00086311-000	397-00086312-000	397-00086313-000	397-00086314-000	397-00086315-000	4
8	9.05	8	397-00090510-000	397-00090511-000	397-00090512-000	397-00090513-000	397-00090514-000	397-00090515-000	4
10	10.75	10	397-00107510-000	397-00107511-000	397-00107512-000	397-00107513-000	397-00107514-000	397-00107515-000	4
10	11.10	11	397-00111010-000	397-00111011-000	397-00111012-000	397-00111013-000	397-00111014-000	397-00111015-000	4
12	12.75	10	397-00127510-000	397-00127511-000	397-00127512-000	397-00127513-000	397-00127514-000	397-00127515-000	2
12	13.20	10	397-00132010-000	397-00132011-000	397-00132012-000	397-00132013-000	397-00132014-000	397-00132015-000	2

397 Saddles are furnished with a 3" wide, one piece, Stainless Steel strap. Finish Code-000. If you prefer two separate straps, use finish code-001



# Couplings

## What Are Couplings?

A coupling connects plain end pipe or tubing sections, to adapt to different sizes or shapes, and for other purposes, such as regulating or measuring fluid flow in different circumstances and applications.



Smith-Blair  
 a **tylen** brand





# Steel Fabricated Coupling

## Straight Connection

# 411



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

**Description:** A bolted sleeve type coupling for joining plain end pipe of the same diameters.

**Application:** Joining plain end pipe without the need for welding or special pipe fittings

### Key Features:

- Meets applicable AWWA C219 Standards
- Allows for limited expansion and contraction
- Will dampen vibration to reduce pipe fatigue
- Easy to install, no special pipe end preparation required
- Available in a wide variety of pipe O.D. sizes and sleeve lengths
- Most sizes will accommodate anchor studs to restrain the joints
- Can be custom made to fit odd O.D.s or other unusual application
- Provided with or without pipe stops to accommodate customer needs
- Has good deflection capabilities, allows change in piping direction without the need of elbows, bends
- Steel sizes built to specific O.D. and Ductile Iron sizes are built with range to accommodate the variances in Ductile Iron pipe O.D.s

### Materials Specifications (subject to change)

SLEEVE: ASTM A53, ASTM A512 or Carbon Steel having minimum yield of 30,000 PSI

FOLLOWERS: Ductile Iron ASTM A536, Steel AISI C 1020, or A715 Grade 80 HSLA Steel. Designed for a high strength-to-weight ratio. Follower thickness determined by coupling size

BOLTS & NUTS: High strength, low alloy Steel with heavy semi-finished hexagon nuts **Optional: Stainless Steel and Carbon Steel ASTM A307 electrogalvanized with di-chromate seal**

GASKET: Nitrile (Buna N) NSF 61 compounded to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids, and other chemicals

Temperature Range: -20°F to 180°F

FINISH: Flexi-Coat® Fusion Bonded Epoxy Finish

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** All Types. HDPE requires use of stiffeners. *Contact Smith-Blair Engineering for any questions.*

**Sizes (in inches):** ½, ¾, 1, 1¼, 1½, 2, 2½, 3, 3-4, 4, 4-5, 6, 8, 10, 12, 12-14, 14, 16, 18, 20, 24, 30, 36, 42, 48, 54.

**NOTE:** Larger sizes available upon request.



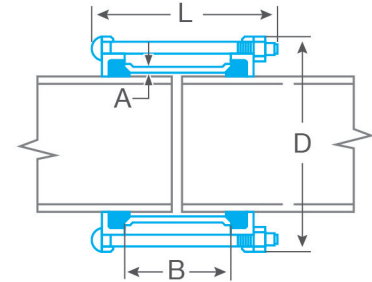
# Steel Fabricated Coupling

## Straight Connection

411

### Total Angular Deflection Per Join

FOR PIPE O.D. RANGES		SLEEVE LENGTH		
INCHES	MM	5" 127MM	7" 178MM	10" 250MM
0.84 thru 2.38	21 thru 60.5	7°	7°	7°
2.50 thru 13.50	63.5 thru 342.9	4°	4½°	4½°
13.60 thru 24.00	345.4 thru 610	2½°	4°	4½°
24.10 thru 36.00	612 thru 914	2°	3½°	4°
36.10 thru 42.00	917 thru 1067	-	3°	3½°
42.10 thru 60.00	1323 thru 1524	-	2½°	3°
60.10 thru 80.00	1527 thru 2032	-	-	2½°
80.10 thru 100.00	2035 thru 2540	-	-	2°



Dimensions

- A: Sleeve wall thickness
- B: Sleeve length
- D: Overall coupling diameter
- L: Overall coupling length

### Standard Lengths for Steel Sizes

NOM. PIPE SIZE IN.	PIPE O.D. INCHES	CATALOG NO. BUNA-N GASKET	SLEEVE THK. X LGTH. IN.		FLANGE O.D. INCHES (D)	BOLTS			APPROX. SHIP WT. LBS.
			(A)	(B)		NO.	DIA. IN.	LGTH. IN. (L)	
1/2	0.84	411-00008401-003	.120	4 1/2	3 5/8	2	1/2	7	2 1/4
3/4	1.05	411-00010501-003	.120	4 1/2	3 7/8	2	1/2	7	2 1/2
1	1.32	411-00013201-003	.120	5	4 1/4	2	1/2	7	3 1/4
1 1/4	1.66	411-00016601-003	.120	5	4 9/16	2	1/2	7	4
1 1/2	1.90	411-00019001-003	.120	5	4 13/16	2	1/2	7	4 1/4
2	2.00	411-00020001-003	.120	5	4 13/16	2	1/2	7	4 1/4
2	2.38	411-00023801-003	.120	5	5 5/16	2	1/2	7	4 3/4
		411-00023851-003	.120	5	5 11/16	2 3	5/8	8	5 1/2
		411-00023861-003	.120	5	5 11/16	3	5/8	8	6 1/2
		411-00023802-003	.120	7	5 11/16	3	5/8	10 1/2	9 1/2
2 1/2	2.88	411-00028801-003	.203	5	6 1/2	3	5/8	8	12 3/4
3	3.00	411-00030001-003	.203	5	6 9/16	3	5/8	8	12 3/4
		411-90035001-003	.180	5	8 3/100	3	5/8	6	11 1/2
	3.50	411-00035051-003	.180	5	7 9/100	4	5/8	8	12 1/4
		411-90035002-003	.180	7	8 3/100	3	5/8	8	14 1/2
3 1/2-4	4.00	411-00040001-003	.188	5	7 9/16	4	5/8	8	17 1/2
+4	4.50	411-90045001-003	.188	5	9 1/20	4	5/8	6	13
		411-90045002-003	.188	7	9 1/20	4	5/8	8	15 1/2
4 1/2-5	5.00	411-00050001-003	.250	5	8 5/8	4	5/8	8	20 1/2
5	5.56	411-00055601-003	.250	5	9 3/16	4	5/8	8	20 1/2
		411-00055602-003	.250	7	9 3/16	4	5/8	10 1/2	23 1/2
		411-00055603-003	.250	10	9 3/16	4	5/8	13 1/2	31 1/2
+6	6.63	411-90066301-003	.250	5	11 1/2	6	5/8	6	22 3/4
		411-90066302-003	.250	7	11 1/2	6	5/8	8	26
		411-90066303-003	.250	10	11 1/2	6	5/8	10 1/2	34 1/4

Standard Length Sleeves 1/2" thru 12" Steel Pipe Sizes. + Indicates couplings furnished with Steel "Z" section, High Strength Follower Flanges.

The basic design of bolted compression couplings does not provide for anchoring the pipes against pull-out. Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling. NOTE: Couplings working pressures depend on many variables such as pipe type, pipe diameter, sleeve diameter, sleeve material, gasket cross section, follower type and number of bolts. **Consult Smith-Blair® regarding your specific coupling pressure requirements.**

## Standard Lengths for Steel Sizes, Continued

NOM. PIPE SIZE IN.	PIPE O.D. INCHES	CATALOG NO. BUNA-N GASKET	SLEEVE THK. X LGTH. IN.		FLANGE O.D. INCHES (D)	BOLTS			APPROX. SHIP WT. LBS.
			(A)	(B)		NO.	DIA. IN.	LGTH. IN. (L)	
+8	8.63	411-90086301-003	.250	5	13 1/2	6	5/8	6	28
		411-90086302-003	.250	7	13 1/2	6	5/8	8	32
		411-90086303-003	.250	10	13 1/2	6	5/8	10 1/2	42
10	10.00	411-00100001-003	.250	5	14 5/16	8	5/8	8	33
		411-00100002-003	.250	7	14 5/16	8	5/8	10 1/2	38
		411-00100003-003	.250	10	14 5/16	8	5/8	13 1/2	50
+10	10.75	411-90107501-003	.250	5	15 36/59	8	5/8	6	34
		411-90107502-003	.250	7	15 36/59	8	5/8	8	40
		411-90107507-003	.375	7	15 36/59	8	5/8	8	49
		411-90107503-003	.250	10	15 36/59	8	5/8	10 1/2	52
12	12.00	411-00120001-003	.250	5	16 5/16	8	5/8	8	37
		411-00120002-003	.250	7	16 5/16	8	5/8	10 1/2	44
		411-00120003-003	.250	10	16 5/16	8	5/8	13 1/2	56
+12	12.75	411-90127501-003	.250	5	17 36/59	8	5/8	6	39
		411-90127502-003	.250	7	17 36/59	8	5/8	8	46
		411-90127507-003	.375	7	17 25/41	8	5/8	8	56
		411-90127503-003	.250	10	17 36/59	8	5/8	10 1/2	59
14	14.00	411-00140001-003	.250	5	18 5/16	6	5/8	8	41
		411-00140002-003	.250	7	18 5/16	6	5/8	10 1/2	48
		411-00140007-003	.375	7	18 7/16	6	5/8	10 1/2	75
		411-00140008-003	.375	10	18 7/16	6	5/8	13 1/2	94
16	16.00	411-00160002-003	.250	7	20 5/16	8	5/8	10 1/2	56
		411-00160007-003	.375	7	20 7/16	8	5/8	10 1/2	87
		411-00160003-003	.250	10	20 5/16	8	5/8	10 1/2	72
		411-00160008-003	.375	10	20 7/16	8	5/8	10 1/2	108
18	18.00	411-00180002-003	.250	7	22 7/16	8	5/8	10 1/2	81
		411-00180007-003	.375	7	22 7/16	8	5/8	10 1/2	96
		411-00180003-003	.250	10	22 7/16	8	5/8	10 1/2	109
		411-00180008-003	.375	10	22 7/16	8	5/8	13 1/2	119
20	20.00	411-00200002-003	.250	7	24 7/16	10	5/8	10 1/2	91
		411-00200007-003	.375	7	24 7/16	10	5/8	10 1/2	107
		411-00200003-003	.250	10	24 7/16	10	5/8	13 1/2	122
		411-00200008-003	.375	7	24 7/16	10	5/8	13 1/2	134
22	22.00	411-00220002-003	.250	7	26 7/16	10	5/8	10 1/2	98
		411-00220007-003	.375	7	26 7/16	10	5/8	10 1/2	116
		411-00220003-003	.250	10	26 7/16	10	5/8	13 1/2	132
		411-00220008-003	.375	10	26 7/16	10	5/8	13 1/2	145
24	24.00	411-00240002-003	.250	7	28 7/16	10	5/8	10 1/2	106
		411-00240007-003	.375	7	28 7/16	10	5/8	10 1/2	125
		411-00240003-003	.250	10	28 7/16	10	5/8	13 1/2	142
		411-00240008-003	.375	10	28 7/16	10	5/8	13 1/2	156

Standard Length Sleeves 1/2" thru 12" Steel Pipe Sizes

+ Indicates couplings furnished with Steel "Z" section, High Strength Follower Flanges.

The basic design of bolted compression couplings does not provide for anchoring the pipes against pull-out. Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling. NOTE: Couplings working pressures depend on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. *Consult Smith-Blair regarding your specific coupling pressure requirements.*

Standard Length Sleeves 14" thru 24" Steel Pipe Sizes

The basic design of bolted compression couplings does not provide for anchoring the pipes against pull-out. Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling. NOTE: Couplings working pressures depend on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. *Consult Smith-Blair regarding your specific coupling pressure requirements.*

## Standard Lengths for Ductile Iron and Cast Iron Sizes

NOM. PIPE SIZE IN.	PIPE O.D. INCHES	CATALOG NO.	SLEEVE THK. X LGTH. IN.		OVERALL DIA. (D)	BOLTS			APPROX. SHIP WT. LBS.
			(A)	(B)		NO.	DIA. IN.	LGTH. IN. (L)	
2	2.34-2.56	411-00025002-003	.216	7	6.3/16	2	5/8	10 1/2	13.5
		411-00025003-003	.216	10	6.3/16	2	5/8	13 1/2	16.3
2 1/2	2.75-2.88	411-00027502-003	.203	7	6.3/16	3	5/8	11	14.8
		411-00027503-003	.203	10	6.3/16	3	5/8	14	17.8
3	3.75-3.86	411-00038002-003	.237	7	7 13/16	3	5/8	10 1/2	20.3
		411-00038003-003	.237	10	7 13/16	3	5/8	13 1/2	24.6
3-4	3.87-4.04	411-00039602-003	.188	7	7 11/32	4	5/8	11	21.4
		411-00039603-003	.188	10	7 11/32	4	5/8	14	25.7
4	4.07-4.19	411-00041302-003	.188	7	8 3/32	4	5/8	11	22.3
		411-00041303-003	.188	10	8 3/32	4	5/8	14	26.8
4	4.74-5.06	411-00050002-003	.250	7	8 19/32	4	5/8	11	27
		411-00050003-003	.250	10	8 19/32	4	5/8	14	32.5
4-5	5.00-5.16	411-00051002-003	.250	7	9 5/32	4	5/8	11	27.5
		411-00051003-003	.250	10	9 5/32	4	5/8	14	33.1
6	6.84-6.96	411-00069002-003	.250	7	10 9/16	5	5/8	11	37.2
		411-00069003-003	.250	10	10 9/16	5	5/8	14	44.8
6	7.04-7.16	411-00071002-003	.250	7	10 9/16	5	5/8	11	38.3
		411-00071003-003	.250	10	10 9/16	5	5/8	14	46.1
6	7.14-7.26	411-00072002-003	.250	7	11 5/16	5	5/8	11	38.8
		411-00072003-003	.250	10	11 5/16	5	5/8	14	46.8
8	8.91-9.30	411-00090502-003	.250	7	12 13/16	6	5/8	11	48.8
		411-00090503-003	.250	10	12 13/16	6	5/8	14	58.8
8	9.30-9.50	411-00094202-003	.250	7	13 23/32	6	5/8	11	50.8
		411-00094203-003	.250	10	13 23/32	6	5/8	14	61.2
10	11.04-11.16	411-00111002-003	.250	7	15 1/8	7	5/8	11	59.9
		411-00111003-003	.250	10	15 1/8	7	5/8	14	72.1
10	11.34-11.46	411-00114002-003	.250	7	15 1/8	7	5/8	11	61.5
		411-00114003-003	.250	10	15 1/8	7	5/8	14	74.1
10	11.84-12.00	411-00119502-003	.250	7	16	8	5/8	11	64.5
		411-00119503-003	.250	10	16	8	5/8	14	77.7
12	13.14-13.26	411-00132007-003	.375	7	17 5/8	8	5/8	11	71.3
		411-00132008-003	.375	10	17 5/8	8	5/8	14	85.8
12	13.44-13.56	411-00135007-003	.375	7	17 7/8	8	5/8	11	72.9
		411-00135008-003	.375	10	17 7/8	8	5/8	14	87.8
12-14	13.88-14.06	411-00139207-003	.375	7	18 15/16	6	5/8	11	75.2
		411-00139208-003	.375	10	18 15/16	6	5/8	14	90.5
14	15.30	411-00153007-003	3/8	7	19 7/8	8	5/8	11	86
		411-00153008-003	3/8	10	19 7/8	8	5/8	14	107
		411-00153015-003	3/8	16	19 7/8	8	5/8	20	144
		411-00153016-003	3/8	24	19 7/8	8	5/8	28	196
14	15.65	411-00156507-003	3/8	7	20 3/16	8	5/8	11	88
		411-00156508-003	3/8	10	20 3/16	8	5/8	14	109
		411-00156515-003	3/8	16	20 3/16	8	5/8	20	146
		411-00156516-003	3/8	24	20 3/16	8	5/8	28	200
16	17.40	411-00174007-003	3/8	7	21 15/16	8	5/8	11	92
		411-00174008-003	3/8	10	21 15/16	8	5/8	14	119
		411-00174015-003	3/8	16	21 15/16	8	5/8	20	160
		411-00174016-003	3/8	24	21 15/16	8	5/8	28	218
16	17.80	411-00178007-003	3/8	7	22 3/8	8	5/8	11	93
		411-00178008-003	3/8	10	22 3/8	8	5/8	14	120
		411-00178015-003	3/8	16	22 3/8	8	5/8	20	162
		411-00178016-003	3/8	24	22 3/8	8	5/8	28	221
18	19.50	411-00195007-003	3/8	7	24 1/16	10	5/8	11	107
		411-00195008-003	3/8	10	24 1/16	10	5/8	14	133
		411-00195015-003	3/8	16	24 1/16	10	5/8	20	179
		411-00195016-003	3/8	24	24 1/16	10	5/8	28	245

Standard and Long Length Sleeves 14" thru 24" CAST IRON

The basic design of bolted compression couplings does not provide for anchoring the pipes against pull-out. **Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling.**

NOTE: Coupling working pressures depend on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. **Consult Smith-Blair regarding your specific coupling pressure requirements.**

\*\*\*The last three numbers of the catalog number indicate the type of gasket. (Buna N gaskets are furnished as standard.

BUNA-N-003, BUNA-N Protected -015 (with brass spring molded into leading edge)

## Standard Lengths for Ductile Iron and Cast Iron Sizes, Continued

NOM. PIPE SIZE IN.	PIPE O.D. INCHES	CATALOG NO.	SLEEVE THK. X LGTH. IN.		OVERALL DIA. (D)	BOLTS			APPROX. SHIP WT. LBS.
			(A)	(B)		NO.	DIA. IN.	LGTH. IN. (L)	
18	19.92	411-00199207-003	3/8	7	24 1/2	10	5/8	11	109
		411-00199208-003	3/8	10	24 1/2	10	5/8	14	135
		411-00199215-003	3/8	16	24 1/2	10	5/8	20	182
		411-00199216-003	3/8	24	24 1/2	10	5/8	28	249
20	21.60	411-00216007-003	3/8	7	26 1/8	10	5/8	11	117
		411-00216008-003	3/8	10	26 1/8	10	5/8	14	145
		411-00216015-003	3/8	16	26 1/8	10	5/8	20	195
		411-00216016-003	3/8	24	26 1/8	10	5/8	28	266
20	22.06	411-00220607-003	3/8	7	26 5/8	10	5/8	11	119
		411-00220608-003	3/8	10	26 5/8	10	5/8	14	148
		411-00220615-003	3/8	16	26 5/8	10	5/8	20	200
		411-00220616-003	3/8	24	26 5/8	10	5/8	28	271
24	25.80	411-00258007-003	3/8	7	30 3/8	12	5/8	11	138
		411-00258008-003	3/8	10	30 3/8	12	5/8	14	171
		411-00258015-003	3/8	16	30 3/8	12	5/8	20	231
		411-00258016-003	3/8	24	30 3/8	12	5/8	28	315
24	26.32	411-00263207-003	3/8	7	30 7/8	12	5/8	11	140
		411-00263208-003	3/8	10	30 7/8	12	5/8	14	174
		411-00263215-003	3/8	16	30 7/8	12	5/8	20	235
		411-00263216-003	3/8	24	30 7/8	12	5/8	28	321

Standard and Long Length Sleeves 14" thru 24" CAST IRON

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NOTE: Coupling working pressures depend on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. **Consult Smith-Blair regarding your specific coupling pressure requirements.**

\*\*\*The last three numbers of the catalog number indicate the type of gasket. (Buna N) gaskets are furnished as standard.

BUNA-N-003, BUNA-N Protected -015 (with brass spring molded into leading edge)

## Large Diameter Standard Lengths

NOM. PIPE SIZE IN.	PIPE O.D. INCHES	SLEEVE THK. X LGTH (A) (B) INCHES	FOLLOWER FLANGE O.D. INCHES	BOLTS		CATALOG NUMBER	APPROX. SHIP WT. LBS.
				NO.	DIA. X LGTH (L)		
30	30.00	1/4 x 7	34 7/16	12	5/8 x 11	411-00300002-003	132
		1/4 x 10	34 7/16	12	5/8 x 14	411-00300003-003	152
		3/8 x 7	34 7/16	12	5/8 x 11	411-00300007-003	155
		3/8 x 10	34 7/16	12	5/8 x 14	411-00300008-003	187
		1/2 x 10	34 7/16	12	5/8 x 14	411-00300009-003	221
30	30.50	1/4 x 7	34 15/16	12	5/8 x 11	411-00305002-003	133
		1/4 x 10	34 15/16	12	5/8 x 14	411-00305003-003	154
		3/8 x 7	34 15/16	12	5/8 x 11	411-00305007-003	157
		3/8 x 10	34 15/16	12	5/8 x 14	411-00305008-003	189
		1/2 x 10	34 15/16	12	5/8 x 14	411-00305009-003	224
30	31.74	1/4 x 7	36 3/16	14	5/8 x 11	411-00317402-003	139
		1/4 x 10	36 3/16	14	5/8 x 14	411-00317403-003	163
		3/8 x 7	36 3/16	14	5/8 x 11	411-00317407-003	164
		3/8 x 10	36 3/16	14	5/8 x 14	411-00317408-003	198
		1/2 x 10	36 3/16	14	5/8 x 14	411-00317409-003	235
30	32.00	1/4 x 7	36 7/16	14	5/8 x 11	411-00320002-003	140
		1/4 x 10	36 7/16	14	5/8 x 14	411-00320003-003	164
		3/8 x 7	36 7/16	14	5/8 x 11	411-00320007-003	166
		3/8 x 10	36 7/16	14	5/8 x 14	411-00320008-003	201
		1/2 x 10	36 7/16	14	5/8 x 14	411-00320009-003	237

The basic design of bolted compression couplings does not provide for anchoring the pipes against pullout. Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling. NOTE: Coupling working pressure depends on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. Consult Smith-Blair regarding your specific coupling pressure requirements.

## Large Diameter Standard Lengths

NOM. PIPE SIZE IN.	PIPE O.D. INCHES	SLEEVE THK. X LGTH (A) (B) INCHES	FOLLOWER FLANGE O.D. INCHES	BOLTS		CATALOG NUMBER	APPROX. SHIP WT. LBS.
				NO.	DIA. X LGTH (L)		
30	34.00	1/4 x 7	38 7/16	14	5/8 x 11	411-00340002-003	148
		1/4 x 10	38 7/16	14	5/8 x 14	411-00340003-003	173
		3/8 x 7	38 7/16	14	5/8 x 11	411-00340007-003	175
		3/8 x 10	38 7/16	14	5/8 x 14	411-00340008-003	211
		1/2 x 10	38 7/16	14	5/8 x 14	411-00340009-003	250
36	36.00	1/4 x 7	40 7/16	16	5/8 x 11	411-00360002-003	158
		1/4 x 10	40 7/16	16	5/8 x 14	411-00360003-003	184
		3/8 x 7	40 7/16	16	5/8 x 11	411-00360007-003	183
		3/8 x 10	40 7/16	16	5/8 x 14	411-00360008-003	225
		1/2 x 10	40 7/16	16	5/8 x 14	411-00360009-003	266
36	36.50	1/4 x 7	40 15/16	16	5/8 x 11	411-00365002-003	159
		1/4 x 10	40 15/16	16	5/8 x 14	411-00365003-003	186
		3/8 x 7	40 15/16	16	5/8 x 11	411-00365007-003	188
		3/8 x 10	40 15/16	16	5/8 x 14	411-00365008-003	227
		1/2 x 10	40 15/16	16	5/8 x 14	411-00365009-003	269
36	36.63	1/4 x 7	41 1/16	16	5/8 x 11	411-00366302-003	160
		1/4 x 10	41 1/16	16	5/8 x 14	411-00366303-003	187
		3/8 x 7	41 1/16	16	5/8 x 11	411-00366307-003	189
		3/8 x 10	41 1/16	16	5/8 x 14	411-00366308-003	228
		1/2 x 10	41 1/16	16	5/8 x 14	411-00366309-003	270
36	37.96	1/4 x 7	42 13/32	16	5/8 x 11	411-00379602-003	162
		1/4 x 10	42 13/32	16	5/8 x 14	411-00379603-003	189
		3/8 x 7	42 13/32	16	5/8 x 11	411-00379607-003	191
		3/8 x 10	42 13/32	16	5/8 x 14	411-00379608-003	230
		1/2 x 10	42 13/32	16	5/8 x 14	411-00379609-003	272

The basic design of bolted compression couplings does not provide for anchoring the pipes against pullout. *Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling.* NOTE: Coupling working pressure depends on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. Consult Smith-Blair regarding your specific coupling pressure requirements.

## For Large Diameter Steel and Cast Iron Sizes Standard Lengths

NOM. PIPE SIZE IN.	PIPE O.D. INCHES	SLEEVE THK. X LGTH (A) (B) INCHES	FOLLOWER FLANGE O.D. INCHES	BOLTS		CATALOG NUMBER	APPROX. SHIP WEIGHT LBS.
				NO.	DIA. X LGTH (L)		
36	38.30	1/4 x 7	42 3/4	16	5/8 x 11	411-00383002-003	166
		1/4 x 10	42 3/4	16	5/8 x 14	411-00383003-003	194
		3/8 x 7	42 3/4	16	5/8 x 11	411-00383007-003	196
		3/8 x 10	42 3/4	16	5/8 x 14	411-00383008-003	237
		1/2 x 10	42 3/4	16	5/8 x 14	411-00383009-003	281
42	42.00	1/4 x 7	46 1/2	18	5/8 x 11	411-00420002-003	123
		1/4 x 10	46 1/2	18	5/8 x 14	411-00420003-003	214
		3/8 x 7	46 1/2	18	5/8 x 11	411-00420007-003	216
		3/8 x 10	46 1/2	18	5/8 x 14	411-00420008-003	262
		1/2 x 10	46 1/2	18	5/8 x 14	411-00420009-003	310
42	42.50	1/4 x 7	47	18	5/8 x 11	411-00425002-003	186
		1/4 x 10	47	18	5/8 x 14	411-00425003-003	215
		3/8 x 7	47	18	5/8 x 11	411-00425007-003	220
		3/8 x 10	47	18	5/8 x 14	411-00425008-003	263
		1/2 x 10	47	18	5/8 x 14	411-00425009-003	312

The basic design of bolted compression couplings does not provide for anchoring the pipes against pullout. *Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling.* NOTE: Coupling working pressure depends on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. Consult Smith-Blair regarding your specific coupling pressure requirements.

## For Large Diameter Steel and Cast Iron Sizes Standard Lengths, Continued

NOM. PIPE SIZE IN.	PIPE O.D. INCHES	SLEEVE THK. X LGTH (A) (B) INCHES	FOLLOWER	BOTLS		CATALOG NUMBER	APPROX. SHIP WEIGHT LBS.
			FLANGE O.D. INCHES	NO.	DIA. X LGTH (L)		
42	42.75	1/4 x 7	47 1/4	18	5/8 x 11	411-00427502-003	187
		1/4 x 10	47 1/4	18	5/8 x 14	411-00427503-003	216
		3/8 x 7	47 1/4	18	5/8 x 11	411-00427507-003	221
		3/8 x 10	47 1/4	18	5/8 x 14	411-00427508-003	264
		1/2 x 10	47 1/4	18	5/8 x 14	411-00427509-003	315
42	44.20	1/4 x 7	48 11/16	18	5/8 x 11	411-00442002-003	190
		1/4 x 10	48 11/16	18	5/8 x 14	411-00442003-003	225
		3/8 x 7	48 11/16	18	5/8 x 11	411-00442007-003	225
		3/8 x 10	48 11/16	18	5/8 x 14	411-00442008-003	275
		1/2 x 10	48 11/16	18	5/8 x 14	411-00442009-003	325
42	44.50	1/4 x 7	49	18	5/8 x 11	411-00445002-003	193
		1/4 x 10	49	18	5/8 x 14	411-00445003-003	228
		3/8 x 7	49	18	5/8 x 11	411-00445007-003	228
		3/8 x 10	49	18	5/8 x 14	411-00445008-003	278
		1/2 x 10	49	18	5/8 x 14	411-00445009-003	329
48	48.00	1/4 x 7	52 1/2	20	5/8 x 11	411-00480002-003	208
		1/4 x 10	52 1/2	20	5/8 x 14	411-00480003-003	245
		3/8 x 7	52 1/2	20	5/8 x 11	411-00480007-003	246
		3/8 x 10	52 1/2	20	5/8 x 14	411-00480008-003	299
		1/2 x 10	52 1/2	20	5/8 x 14	411-00480009-003	354
48	48.75	1/4 x 7	53 1/4	20	5/8 x 11	411-00487502-003	212
		1/4 x 10	53 1/4	20	5/8 x 14	411-00487503-003	249
		3/8 x 7	53 1/4	20	5/8 x 11	411-00487507-003	246
		3/8 x 10	53 1/4	20	5/8 x 14	411-00487508-003	303
		1/2 x 10	53 1/4	20	5/8 x 14	411-00487509-003	358
48	50.50	1/4 x 7	55	20	5/8 x 11	411-00505002-003	217
		1/4 x 10	55	20	5/8 x 14	411-00505003-003	255
		3/8 x 7	55	20	5/8 x 11	411-00505007-003	258
		3/8 x 10	55	20	5/8 x 14	411-00505008-003	312
		1/2 x 10	55	20	5/8 x 14	411-00505009-003	372
48	50.80	1/4 x 7	55 5/16	20	5/8 x 11	411-00508002-003	220
		1/4 x 10	55 5/16	20	5/8 x 14	411-00508003-003	260
		3/8 x 7	55 5/16	20	5/8 x 11	411-00508007-003	261
		3/8 x 10	55 5/16	20	5/8 x 14	411-00508008-003	317
		1/2 x 10	55 5/16	20	5/8 x 14	411-00508009-003	375
54	57.10	1/4 x 7	61 19/32	24	5/8 x 11	411-00571002-003	238
		1/4 x 10	61 19/32	24	5/8 x 14	411-00571003-003	286
		3/8 x 7	61 19/32	24	5/8 x 11	411-00571007-003	292
		3/8 x 10	61 19/32	24	5/8 x 14	411-00571008-003	349
		1/2 x 10	61 19/32	24	5/8 x 14	411-00571009-003	414

The basic design of bolted compression couplings does not provide for anchoring the pipes against pullout. *Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling.* NOTE: Coupling working pressure depends on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. Consult Smith-Blair regarding your specific coupling pressure requirements.

## Long Lengths 1/2" through 24" Steel Pipe

NOM. PIPE SIZE IN.	PIPE OD INCHES	CATALOG NO. BUNA-N GASKET	SLEEVE THK. X LGTH. IN.		FLANGE O.D. INCHES (D)	BOLTS			APPROX. SHIP WT. LBS.
			(A)	(B)		NO.	DIA. IN.	LGTH. IN. (L)	
1/2	0.084	411-00008410-003	0.120	12	3 5/8	2	1/2	14	4
3/4	1.05	411-00010510-003	0.120	12	3 7/8	2	1/2	14	4 1/2
1	1.32	411-00013210-003	0.120	12	4 1/2	2	1/2	14	5 1/2
1 1/4	1.66	411-00016610-003	0.120	12	4 9/16	2	1/2	14	7
1 1/2	1.90	411-00019010-003	0.120	12	4 13/16	2	1/2	14	7 1/2
2	2.00	411-00020010-003	0.120	12	4 13/16	2	1/2	14	7 1/2
	2.38	411-00023810-003	0.120	12	5 11/16	3	5/8	15	13
2 1/2	2.88	411-00028810-003	0.203	12	6 1/2	3	5/8	15	17
+3	3.50	411-90035010-003	0.180	12	8.03	3	5/8	13 1/2	20 1/2
3 1/2-4	4.00	411-00040010-003	0.180	12	7 9/16	4	5/8	15	25
+4		411-90045010-003	0.188	12	9.05	4	5/8	13 1/2	22
	4.50	411-90045011-003	0.188	16	9.05	4	5/8	17	27 1/2
		411-90045012-003	0.188	24	9.05	4	5/8	25	38 1/2
4 1/2-5	5.00	411-00050010-003	0.250	12	8 5/8	4	5/8	15	30
5	5.56	411-00055611-003	0.250	16	9 3/16	4	5/8	19 1/2	41
		411-00055612-003	0.250	24	9 3/16	4	5/8	27 1/2	52
+6	6.63	411-90066311-003	0.250	16	11 1/2	6	5/8	17	46 1/2
		411-90066312-003	0.250	24	11 1/2	6	5/8	25	65
+8	8.63	411-90086311-000	0.250	16	13 1/2	6	5/8	17	57
		411-90086312-003	0.250	24	13 1/2	6	5/8	25	79
10	10.00	411-00100012-003	0.250	16	14 5/16	8	5/8	19 1/2	67
		411-00100012-003	0.250	24	14 5/16	8	5/8	27 1/2	97
+10	10.75	411-90107511-003	0.250	16	15.61	8	5/8	17	71
		411-90107512-003	0.250	24	15.61	8	5/8	25	99
12	12.00	411-00120011-003	0.250	16	16 1/16	8	5/8	19 1/2	77
		411-00120012-003	0.250	24	16 1/16	8	5/8	27 1/2	108
+12	12.75	411-90127511-003	0.250	16	17.61	8	5/8	17	81
		411-90127512-003	0.250	24	17.61	8	5/8	25	113
		411-90127516-003	0.375	24	17.61	8	5/8	25	148
14	14.00	411-00140015-003	0.375	16	18 7/16	6	5/8	19 1/2	126
		411-00140016-003	0.375	24	18 7/16	6	5/8	27 1/2	171
16	16.00	411-00160015-003	0.375	16	20 7/16	8	5/8	19 1/2	146
		411-00160016-003	0.375	24	20 7/16	8	5/8	27 1/2	197
18	18.00	411-00180015-003	0.375	16	22 7/16	8	5/8	19 1/2	160
		411-00180016-003	0.375	24	22 7/16	8	5/8	27 1/2	219
20	20.00	411-00200015-003	0.375	16	24 7/16	10	5/8	19 1/2	180
		411-00200016-003	0.375	24	24 7/16	10	5/8	27 1/2	245
22	22.00	411-00220015-003	0.375	16	26 7/16	10	5/8	19 1/2	196
		411-00220016-003	0.375	24	26 7/16	10	5/8	27 1/2	265
24	24.00	411-00240015-003	0.375	16	28 7/16	10	5/8	19 1/2	210
		411-00240016-003	0.375	24	28 7/16	10	5/8	27 1/2	286

+ Indicates couplings furnished with Steel "Z" section, High Strength Follower Flanges.

The basic design of bolted compression couplings does not provide for anchoring the pipes against pull-out. *Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling.* NOTE: Coupling working pressures depend on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. Consult Smith-Blair regarding your specific coupling pressure requirements.





# Steel Transition Coupling

## Transition Connection

# 413



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

**Description:** Used to connect pipes of different outside diameters when the maximum O.D. variation does not exceed the listed coupling O.D. range.

**Application:** Joining plain end pipe of different diameters within the same nominal pipe size.

### Key Features:

- Meets applicable AWWA C219 Standards
- Allows for limited expansion and contraction
- Will dampen vibration to reduce pipe fatigue
- Easy to install, no special pipe end preparation required
- Available in a wide variety of pipe O.D. sizes and sleeve lengths
- Most sizes will accommodate anchor studs to restrain the joints
- Can be custom made to fit odd O.D.s or other unusual application
- Provided with or without pipe stops to accommodate customer needs
- Has good deflection capabilities, allows change in piping direction without the need of elbows, bends, etc

### Materials Specifications (subject to change)

**SLEEVE:** ASTM A53, ASTM A513 or Carbon Steel having a minimum yield of 30,000 PSI

**FOLLOWERS:** Ductile Iron ASTM A536 or Steel AISI C 1020. Designed for a high strength to weight ratio  
Follower thickness determined by coupling size

**BOLTS & NUTS:** High strength, low alloy Steel with heavy semi-finished hexagon nuts. **Optional: Stainless Steel**

**GASKET:** Nitrile (Buna N) NSF® 61 compounded to produce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic) hydrocarbon fluids, and other chemical  
**Temperature Range:** -20°F to 180°F

**FINISH:** Flexi-Coat® Fusion Bonded Epoxy Finish

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** PVC, Steel, Ductile Iron, AC, and others. For other pipe materials, please contact Smith-Blair Engineering.

**Sizes (in inches):** 2, 2½, 3-4, 4-5, 5-6, 6, 8, 8-12, 12, 12-14, 14, 16, 18, 20, 24, 30, 36, 42, 48

**NOTE:** Larger sizes available upon request.



# Steel Transition Coupling

## Transition Connection

413

### Straight Sleeve

NOM. PIPE SIZE IN.	*MAXIMUM COUPLING TRANSITION RANGE IN.	DIMENSIONS		BOLTS			APPROX. SHIP WT. LBS.
		SLEEVE LENGTH (B) IN.	SLEEVE THICK. INCHES	NO.	DIA. IN.	LGTH. IN. (L)	
2	2.07-2.81	5	0.216	2	5/8	8	8
2-3	2.69-3.88	5	0.227	2	5/8	8	9 1/2
3-4	3.44-4.88	5	0.258	3	5/8	8	13
4-5	4.74-5.84	5	0.280	4	5/8	8	20 1/2
5-6	5.47-6.99	5	0.301	5	5/8	8	23 1/2
6	6.57-7.26	5	0.322	5	5/8	8	27 3/4
8	7.94-8.75	5	0.342	6	5/8	8	33 1/2
8	7.94-9.25	5	3/8	6	5/8	8	40 1/2
8	8.56-9.45	5	3/8	6	5/8	8	40 1/2
8-10	9.00-10.38	5	3/8	7	5/8	8	41
10	9.88-10.84	5	1/4	8	5/8	8	32 3/4
10	10.63-11.50	5	3/8	7	5/8	8	46
10-12	11.00-12.06	5	3/8	7	5/8	8	47 1/2
12	11.88-13.10	5	3/8	8	5/8	8	52 1/4
12	12.63-13.70	5	3/8	8	5/8	8	56 1/2
12-14	13.88-14.50	5	3/8	6	5/8	8	62
14	15.30-15.65	7	3/8	8	5/8	11	86
16	17.40-17.80	7	3/8	8	5/8	11	96
18	19.50-19.92	7	3/8	10	5/8	11	108
20	21.60-22.06	7	3/8	10	5/8	11	118
24	25.80-26.32	7	3/8	12	5/8	11	140

Remember to order by stating the exact pipe O.D.'s. Do NOT state the listed transition.

### Expanded Sleeve

NOM. PIPE SIZE IN.	*MAXIMUM COUPLING TRANSITION IN.	DIMENSIONS		BOLTS			APPROX. SHIP WT. LBS.
		SLEEVE LENGTH IN. (B)	SLEEVE THICK. INCHES	NO.	DIA. IN.	LGTH. IN. (L)	
14	14.00 to 15.30	12	3/8	8	5/8	15	110
16	16.00 to 17.40	12	3/8	8	5/8	15	125
18	18.00 to 19.50	12	3/8	8	5/8	15	145
20	20.00 to 21.60	12	3/8	10	5/8	15	160
24	24.00 to 25.80	12	3/8	12	5/8	15	180
30	30.00 to 32.00	12	3/8	14	5/8	15	215
36	36.00 to 38.30	12	3/8	16 per End	5/8	4.5	260
42	42.00 to 44.50	12	3/8	18 per End	5/8	4.5	315
48	48.00 to 50.80	12 12	3/8	20 per End	5/8	4.5	350

\*Longer sleeve available on request. Most transitions available on request, up to 10% change in diameter. Consult Smith-Blair engineers for details. Remember to order by stating the exact pipe O.D.'s. Do NOT state the listed transition.



# Steel Transition Coupling

## Reducing Connection

# 415



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

**Description:** Used to connect pipes with large differences in outside diameters.

**Application:** Joining plain end pipe of different nominal pipe sizes.

### Key Features:

- Meets applicable AWWA C219 Standards
- Allows for limited expansion and contraction
- Will dampen vibration to reduce pipe fatigue
- Easy to install, no special pipe end preparation required
- Available in a wide variety of pipe O.D. sizes and sleeve lengths
- Most sizes will accommodate anchor studs to restrain the joints
- Can be custom made to fit odd O.D.s or other unusual application
- Provided with or without pipe stops to accommodate customer needs
- Has good deflection capabilities, allows change in piping direction without the need of elbows, bends, etc...

### Materials Specifications (subject to change)

**SLEEVE:** ASTM A53, ASTM A513 or Carbon Steel having a minimum yield of 30,000 PSI. Flexi-Coat® Fusion Bonded Finish

**FOLLOWERS:** Ductile Iron ASTM A536 or Steel AISI C1020 Steel

**BOLTS & NUTS:** High strength, low alloy Steel with heavy semi-finished hexagon nuts. ( Stainless Steel optional)

**GASKET:** Nitrile (Buna N) NSF® 61 compounded to produce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic) hydrocarbon fluids, and other chemical  
Temperature Range: -20°F to 180°F

**FINISH:** Flexi-Coat® Fusion Bonded Epoxy

**Working Pressure:** Up to 150 PSI

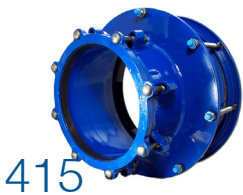
**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC, and Ductile Iron. *For other pipe materials, please contact Smith-Blair Engineering.*

### Sizes (in inches):

**LARGE PIPE END:** 6, 8, 10, 12, 14, 16, 17, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48.

**SMALL PIPE END:** 4, 5, 6, 8, 10, 12, 13, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46.

**NOTE:** Larger sizes available upon request.



415

# Steel Transition Coupling

## Reducing Connection

### Large Pipe End

NOM. PIPE SIZE IN.	PIPE O.D. RANGE INCHES	SLEEVE THICKNESS (A) IN.	*APPROX. SHIP WT. LBS.
6	5.00-7.49	19/59	32
8	7.50-8.49	13/38	35
8	8.50-9.49	1/4	38
10	9.50-10.49	1/4	44
10	10.50-11.49	1/4	47
12	11.50-12.49	1/4	56
12	12.50-13.49	1/4	60
14	13.50-14.49	1/4	71
14	14.50-15.49	1/4	79
16	15.50-16.49	1/4	85
16	16.50-17.49	1/4	91
18	17.50-18.49	1/4	97
18	18.50-19.49	1/4	105
20	19.50-20.99	1/4	114
22	21.00-22.99	1/4	129
24	23.00-24.99	1/4	142
24	25.00-26.99	1/4	156
28	27.00-28.99	1/4	175
30	29.00-30.99	1/4	189
32	31.00-32.99	1/4	207
34	33.00-34.99	1/4	225
36	35.00-36.99	1/4	258
38	37.00-38.99	1/4	279
40	39.00-40.99	3/8	298
42	41.00-42.99	3/8	336
44	43.00-44.99	3/8	359
46	45.00-46.99	3/8	384
48	47.00-48.99	3/8	407
4	3.50-4.49	8/31	13
4	4.50-5.49	7/25	16
6	5.50-6.49	28/93	20
6	6.50-7.49	19/59	20

To order by stating the exact pipe O.D.s Do NOT state the listed O.D. ranges.  
 Larger Sizes available upon request. Specify if pipe stops are required.  
 \*Add together for total weight. Larger sizes available upon request  
 Check 413 ranges first if O. D. difference is 2" or less.

### Small Pipe End

NOM. PIPE SIZE IN.	PIPE O.D. RANGE INCHES	SLEEVE THICKNESS (A) IN.	*APPROX. SHIP WT. LBS.
8	7.50-8.49	1/4	21
8	8.50-9.49	1/4	23
10	9.50-10.49	1/4	24
10	10.50-11.49	1/4	30
12	11.50-12.49	1/4	31
12	12.50-13.99	1/4	34
14	13.50-14.99	1/4	40
16	15.00-16.99	1/4	45
18	17.00-18.99	1/4	54
20	19.50-20.99	1/4	68
20	21.00-22.99	1/4	70
24	23.00-24.99	1/4	81
24	25.00-26.99	1/4	98
28	27.00-28.99	1/4	101
30	29.00-30.99	1/4	103
32	31.00-32.99	1/4	105
34	33.00-34.99	1/4	116
36	35.00-36.99	1/4	118
38	37.00-38.99	1/4	124
40	39.00-40.99	3/8	130
42	41.00-42.99	3/8	138
44	43.00-44.99	3/8	150
46	45.00-46.99	3/8	156

To order by stating the exact pipe O.D.s. do NOT state the listed O.D. ranges.  
 Larger Sizes available upon request. Specify if pipe stops are required.  
 \*Add together for total weight. Larger sizes available upon request  
 Check 413 ranges first if O. D. difference is 2" or less.



# Steel Insulating Coupling

## Straight Transition

# 416



**Description:** Used to connect and insulate metal pipes with the same outside diameters.

**Application:** Joining and insulating plain end metal pipe.

### Key Features:

- Meets applicable AWWA C219 Standards
- Allows for limited expansion and contraction
- Will dampen vibration to reduce pipe fatigue
- Easy to install, no special pipe end preparation required
- Available in a wide variety of pipe O.D. sizes and sleeve lengths
- Can be custom made to fit odd O.D.s or other unusual application
- Has good deflection capabilities, allows change in piping direction without the need of elbows, bends, etc....

### Materials Specifications (subject to change)

SLEEVE: ASTM A53, ASTM A513 or Carbon Steel having a minimum yield of 30,000 PSI

FOLLOWERS: Ductile Iron ASTM A536 or Steel AISI C1020 Steel

BOLTS & NUTS: High strength, low alloy Steel with heavy semi-finished hexagon nuts. ***Stainless Steel bolts and nuts optional***

GASKET: Nitrile (Buna N) NSF 61 compounded to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids, and other chemicals

Temperature Range: -20°F to 180°F

FINISH: Flexi-Coat® Fusion Bonded Epoxy Finish

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, Cast Iron

**Sizes (in inches):** 2, 2½, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24

**NOTE:** Larger sizes available upon request.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



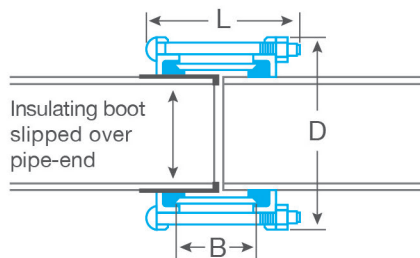
# Steel Insulating Coupling

## Straight Transition

416

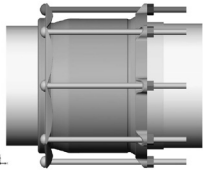
NOM PIPE SIZE IN.	COUPLING O.D. RANGE INCHES	CATALOG NO.	SLEEVE DIMENSIONS		OVERALL	OVERALL	BOLTS			APPROX.
			SLEEVE THK. (A)	SLEEVE LGTH. (B)	DIAMETER IN. (D)	DIAMETER IN. (L)	QTY.	DIA. IN.	LGTH.	SHIP WT. LBS.
2	2.32-2.44	416-00238011-003	19/88	5	6 1/4	8 1/2	2	5/8	8 1/2	6
2.5	2.82-2.94	416-00288011-003	19/84	5	6 1/2	7 1/2	2	1/2	7 3/8	10
3	3.44-3.56	416-00350011-003	23/97	5	7	8 1/2	2	5/8	8 1/2	11
4	3.94-4.06	416-00400011-003	8/31	5	8 1/4	8 1/2	3	5/8	8 1/2	14 1/2
4	4.44-4.56	416-00450011-003	8/31	5	8 1/4	8 1/2	3	5/8	8 1/2	15 1/2
5	5.44-5.62	416-00556011-003	7/25	5	9 1/2	8 1/2	4	5/8	8 1/2	18 1/2
6	5.94-6.06	416-00600011-003	28/93	5	10 5/8	8 1/2	5	5/8	8 1/2	23 1/2
6	6.57-6.69	416-00663011-003	1/4	5	11 3/8	8 1/2	5	5/8	8 1/2	26
8	7.94-8.06	416-00800011-003	1/4	5	12 1/2	8 1/2	6	5/8	8 1/2	31
8	8.57-8.75	416-00863011-003	1/4	7	13 3/16	11	6	5/8	11	38 1/2
10	10.69-10.85	416-01075071-003	3/8	7	15 9/16	11	7	5/8	11	41
12	12.69-12.88	416-01275071-003	3/8	7	17 3/16	11	8	5/8	11	43
14	13.94-14.13	416-01400071-003	3/8	7	18 3/4	11	6	5/8	10 3/4	72
16	15.94-16.13	416-01600071-003	3/8	7	20 3/4	11	8	5/8	11	84
18	17.94-18.13	416-01800071-003	3/8	7	22 3/4	11	8	5/8	11	92
20	19.88-20.09	416-02000071-003	3/8	7	24 3/4	11	10	5/8	11	103
22	21.88-22.09	416-02200071-003	3/8	7	26 3/4	11	10	5/8	11	112
24	23.88-24.09	416-02400071-003	3/8	7	28 3/4	11	10	5/8	11	121

Larger sizes available upon request. To order a 416 with two insulating boots (optional), change the end code to 2-003. Example: 416-00238012-003



### Dimensions

- B: Sleeve length
- D: Overall coupling diameter
- L: Overall coupling length



# Steel Insulating Coupling

## Transition Connection

# 417

**Description:** Used to connect and insulate pipes with different outside diameters.

**Application:** Joining and insulating plain end pipe of different diameters.

### Key Features:

- Meets applicable AWWA C219 Standards
- Allows for limited expansion and contraction
- Will dampen vibration to reduce pipe fatigue
- Easy to install, no special pipe end preparation required
- Available in a wide variety of pipe O.D. sizes and sleeve lengths
- Can be custom made to fit odd O.D.s or other unusual application
- Has good deflection capabilities, allows change in piping direction without the need of elbows, bends, etc...

### Materials Specifications (subject to change)

SLEEVE: ASTM A53, ASTM A513 or Carbon Steel having a minimum yield of 30,000 PSI

FOLLOWERS: Ductile Iron ASTM A536 or Steel AISI C 1020 Steel

BOLTS & NUTS: High strength, low alloy Steel with heavy semi-finished hexagon nut

GASKET: Nitrile (Buna N) NSF® 61 compounded to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids, and other chemicals

Temperature Range: -20°F to 180°F

FINISH: Flexi-Coat® Fusion Bonded Epoxy Finish

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, Cast & Ductile Iron

**Sizes (in inches):** 2, 2½, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24

**NOTE:** Larger sizes available upon request.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Tee Coupling

# 418



**Description:** Bolted tee coupling with threaded outlet

**Application:** Provide a bolted coupling with a threaded branch outlet.

**Key Features:**

- Meets applicable AWWA C219 Standards
- Makes size-on-size connections a breeze
- Allows for limited expansion and contraction
- Will dampen vibration to reduce pipe fatigue
- Easy to install because no special pipe end preparation is required
- Coupling portion has good deflection capabilities, allows change in piping direction

**Materials Specifications (subject to change)**

TEE SLEEVE: ASTM A536, ASTM A512 or Carbon Steel having minimum yield of 30,000 PSI

FOLLOWER: Ductile Iron ASTM A536, Steel AISI C 1020, or A715 Grade 80 HSLA Steel. Designed for a high strength to weight ratio. Follower thickness determined by coupling size

GASKET: Nitrile (Buna N) NSF 61 compounded to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids, and other chemicals

Temperature Range: -20°F to 180°F

BOLTS & NUTS: High strength, low alloy Steel with heavy semi-finished hexagon nuts *Stainless Steel optional*

FINISH: Flexi-Coat® Fusion Bonded Epoxy Finish

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, PVC, Cast Iron, Asbestos Cement, and others. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** ¾, 1, 1¼, 1½, 2.

NOM. SIZE INCHES	*O.D. INCHES	TAP SIZE I.P. THREAD INCHES	SLEEVE LENGTH (B) IN.	CATALOG NUMBER	APPROX. SHIP WT. LBS.
3/4	1.02-1.08	3/4	5	418-00010506-003	4
1	1.26-1.38	1	5	418-00013208-003	5
1 1/4	1.60-1.72	1 1/4	5	418-00016610-003	7
1 1/2	1.84-1.96	1 1/2	6	416-00019012-003	7
2	2.32-2.44	2	6	418-00023814-003	10
2	2.44-2.56	2	6	418-00025014-003	10



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.





# Top Bolt Couplings

## With Double-Acting Bolt Technology (6" and larger)

PATENT NO. 8,528,945 / 8,776,351 / 8,789,832

# 421



Double-acting bolts close in two directions at once, lowering installation times.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

**Description:** Two bolt, stab fit coupling featuring removable/replaceable inner gaskets to expand range of product and reduce number of SKUs that must be stocked.

**Application:** Joining plain end pipe

### Key Features:

- Double-acting bolt technology closes flange in two directions at once, lowering installation times
- Removable inner gasket for larger O.D.s
- Bi-directional inner gasket can be reinstalled
- Corrugated armor — reduces friction between gasket and armor, thus allowing better gasket seating; prevents armor from gouging flange finish, thus reducing possible corrosion point
- Wide range - Up to 1.31 inches
- Reduces inventory by having wide range
- Deflection 4° per end
- Lightweight
- Stab insertion of pipe ends
- Corrosion resistant Flexi-Coat® Epoxy Finish
- Coated 304 Stainless Steel hardware and fluoropolymer coated nuts to reduce galling
- Connectors available for additional corrosion protection using anodes
- Easily disassembled when necessary

### Materials Specifications (subject to change)

SLEEVE: Carbon Steel

FLANGES: Carbon Steel

ARMOR: Half hard 304 Stainless Steel

GASKET: Nitrile (Buna N)

BOLTS: Type 304 Stainless Steel with Flexi-Coat® Fusion Bonded Epoxy Finish

NUTS: Heavy hex Type 304 Stainless Steel with fluoropolymer finish to prevent galling

FINISH: Flexi-Coat® Fusion Bonded Epoxy Finish

**Working Pressure:** Up to 260 PSI

**Pipe Applications:** Steel, PVC, Ductile Iron, Asbestos Cement, Copper tube and HDPE (with stiffener).

**Sizes (in inches):** 2, 3, 4, 6, 8, 10, 12, 10 oversize and 12 oversize, 16, 24



# Top Bolt Couplings

With Double-Acting Bolt Technology (6" and larger)

PATENT NO. 8,528,945 / 8,776,351 / 8,789,832

421

## Standard

NOM SIZE (IN)	CATALOG NUMBER	OVERALL RANGE	LOWER RANGE (IN)	UPPER RANGE (IN)	WIDTH (IN)	HEIGHT (IN)	SLEEVE LENGTH (IN)	LAYING LENGTH (IN)	MAXIMUM GAP (IN)	APPROX. WEIGHT (LBS)
2	421-02130295-031	2.13-2.95	2.13-2.60	2.50-2.95	5.38	7.25	4	7.50	1	9
3	421-03100420-031	3.10-4.20	3.10-3.56	3.70-4.20	6.88	8.38	6	9.50	2	12
4	421-04460560-031	4.46-5.60	4.46-5.05	5.00-5.60	8.75	10.00	6	9.75	2	19
6	421-06560760-031	6.56-7.60	6.56-7.05	7.00-7.60	10.88	12.13	8	11.75	4	27
8	421-08540985-031	8.54-9.85	8.54-9.15	9.15-9.85	13.13	14.38	8	11.75	4	34
10	421-10641183-031	10.64-11.83	10.64-11.18	11.13-11.83	15.50	16.50	8	11.75	4	40
12	421-12621367-031	12.62-13.67	12.62-13.06	13.10-13.67	17.63	18.75	8	11.75	4	47
10 OS*	421-10641220-031	10.64-12.20	10" Side: 10.64-11.18	10" Side: 11.13-11.83	16.13	17.25	8	11.75	4	42
			10 OS Side: 11.05-11.56	10 OS Side: 11.56-12.20						
12 OS*	421-12621440-031	12.62-14.40	12" Side: 12.62-13.06	12" Side: 13.10-13.67	18.50	19.38	8	11.75	4	49
			12 OS Side: 13.14-13.78	12 OS Side: 13.73-14.40						
16	421-16001785-031	16.00-17.85	16.00-16.50	17.35-17.85	22.00	24.00	9	12.63	4	80
24	421-24002632-031	24.00-26.32	24.00-24.80	25.25-26.32	30.31	33.00	9	12.63	4	120

\*OS sizes show two different lower and upper ranges: the range on top shows the range of the standard coupling end and the range on bottom shows the range of the oversized coupling.



# Top Bolt® Coupling

## Long Sleeve, With Double-Acting Bolt Technology

PATENT NO. 8,582,945 / 8,776,351 / 9,789,832

# 422



Double-acting bolts close in two directions at once, lowering installation times.

**Description:** Two bolt, stab fit coupling featuring removable/replaceable inner gaskets to expand range of product and reduce number of SKUs that must be stocked.

### Applications:

- Joining plain-end pipe of same outside diameters
- Joining wide range plain-end pipe of different outside diameters with same nominal size.
- Replacing split or excessively damaged pipe

### Key Features:

- Double-acting bolt technology closes flange in two directions at once, lowering installation times
- Removable inner gasket for larger O.D.s
- Bi-directional inner gasket can be reinstalled
- Corrugated armor — reduces friction between gasket and armor, thus allowing better gasket seating; prevents armor from gouging flange finish, thus reducing possible corrosion points
- Wide range - Up to 1.31 inches
- Reduces inventory by having wide range
- Lightweight
- Stab insertion of pipe ends
- Corrosion resistant Flexi-Coat® Epoxy Finish
- Epoxy coated 304 Stainless Steel hardware and fluoropolymer coated nuts to reduce galling
- Optional anode connector for additional corrosion protection
- Easily disassembled when necessary

### Options (subject to change):

SLEEVE: Carbon Steel

FLANGES: Carbon Steel

ARMOR: 304 Stainless Steel

GASKET: Nitrile (Buna N)

BOLTS: Type 304 Stainless Steel with Flexi-Coat® Fusion Bonded Epoxy Finish

NUTS: Type 304 Stainless Steel or equivalent, with fluoropolymer finish to prevent galling

FINISH: Flexi-Coat® Fusion Bonded Epoxy Finish

**Working Pressure:** 260 PSI

**Pipe Applications:** Steel, PVC, Ductile Iron, Asbestos Cement and Copper tube sizes

**Sizes (in inches):** 2, 3, 4, 6, 8, 10, 12

**Deflection:** 4° per end



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



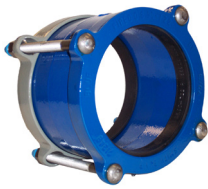
# Top Bolt® Coupling

Long Sleeve, With Double-Acting Bolt Technology

PATENT NO. 8,582,945 / 8,776,351 / 9,789,832

422

NOM. SIZE (IN.)	CATALOG NUMBER	OVERALL RANGE (IN.)	LOWER RANGE (IN.)	UPPER RANGE (IN.)	WIDTH (IN.)	HEIGHT (IN.)	SLEEVE LENGTH (IN.)	LAYING LENGTH (IN.)	MAX GAP (IN.)	BOXED WEIGHT (LBS.)
2	422-02130295-031	2.13-2.95	2.13-2.60	2.50-2.95	5.38	7.25	8	12.00	4	11
3	422-03100420-031	3.10-4.20	3.10-3.56	3.70-4.20	6.88	8.38	12	16.00	8	16
4	422-04460560-031	4.46-5.60	4.46-5.05	5.00-5.60	8.75	10	12	16.00	8	26
6	422-06560760-031	6.65-7.60	6.65-7.05	7.00-7.60	10.88	12.13	16	21.00	12	39
8	422-08540985-031	8.54-9.85	8.54-9.15	9.15-9.85	13.13	14.38	16	21.00	12	49
10	422-10641183-031	10.64-11.83	10.64-11.18	11.13-11.83	15.5	16.5	16	21.00	12	58
12	422-12621367-031	12.62-13.67	12.62-13.06	13.10-13.67	17.63	18.75	16	21.00	12	67



# OMNI Coupling System

## Cast Couplings — Straight & Reducing Transitions

# 441



**Description:** Cast Couplings

**Application:** To join plain end pipes with the same or different O.D.s by changing followers and gaskets.

### Key Features:

- Heavy cast Ductile Iron parts for long life
- Meets applicable AWWA C219 Standards
- Flanges and gaskets can be mixed and matched on the same size nominal sleeve
- Most couplings are stab fit, making installation a breeze. No disassembly is required
- Up to 2.4" of range with a single coupling, reducing the need for large coupling inventories
- One sleeve per nominal pipe size takes the guesswork out of deciding which sleeve size to choose
- Flanges are color coded by pipe type: Red for iron pipe size O.D.; Blue for Ductile O.D.; and Gray for Asbestos Cement O.D.
- Gaskets and flanges are permanently marked with a part number and range to facilitate proper selection
- Sleeves are available in a variety of lengths, and custom length Steel sleeves are available for special applications

### Materials Specifications (subject to change)

**SLEEVE:** Ductile Iron ASTM A536. Ends have smooth inside taper for uniform gasket seating

**GASKET:** Nitrile (Buna N) certified to NSF/ANSI 61/372. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic) hydrocarbon fluids and other chemicals

**FOLLOWER FLANGES:** Ductile Iron ASTM A536. Designed for high strength to weight ratio

**BOLTS & NUTS:** High strength low alloy Steel bolts with heavy, semi-finished hexagon nuts to AWWA C219 (ANSI A21.11) **Optional: Stainless Steel**

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 250 PSI

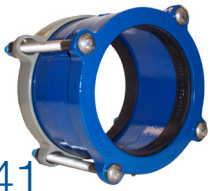
**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 2, 2½, 3, 4, 6, 8, 10, 12, 14, 16



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

441



# OMNI Coupling System

## Cast Couplings — Straight & Reducing Transitions

### Cast Straight and Cast Transition

NOMINAL PIPE SIZE INCHES	CATALOG NUMBER END CODE (SEE PAGE 14)	O.D.** END 1 INCHES	O.D.** END 2 INCHES	OVERALL BOLT & LAYING LENGTH INCHES	5/8" BOLT QUANTITY REQUIRED	SLEEVE LENGTH INCHES †	APPROXIMATE SHIPPING WEIGHT LBS.
2	441-0000263-900	2.34-2.63	2.34-2.63	8 1/2	2	4	8 1/2
2 1/2	441-0000288-900	2.65-2.88	2.65-2.88	8 1/2	2	4	9
3	441-0000313-900	2.85-3.13	2.85-3.13	8 1/2	4	4	13 1/2
	441-0000350-900	3.44-3.62	3.44-3.62	8 1/2	4	4	13 1/2
	441-0000396-900	3.80-3.96	3.80-3.96	8 1/2	4	4	13 1/2
	441-0000414-900	3.97-4.14	3.97-4.14	8 1/2	4	4	13 1/2
	441-03500313-900	3.44-3.62	2.85-3.13	8 1/2	4	4	13 1/2
	441-03960313-900	3.80-3.96	2.85-3.13	8 1/2	4	4	13 1/2
	441-03960350-900	3.80-3.96	3.44-3.62	8 1/2	4	4	13 1/2
	441-04140313-900	3.97-4.14	2.85-3.13	8 1/2	4	4	13 1/2
	441-04140350-900	3.97-4.14	3.44-3.62	8 1/2	4	4	13 1/2
	441-04140396-900	3.97-4.14	3.80-3.96	8 1/2	4	4	13 1/2
4†	441-00000415-900	4.00-4.15	4.00-4.15	8 1/2	4	5	15
	441-00000450-900	4.22-4.50	4.22-4.50	8 1/2	4	5	15
	441-00000486-900	4.46-4.86	4.46-4.86	8 1/2	4	5	15
	441-00000510-900	4.80-5.10	4.80-5.10	8 1/2	4	5	15
	441-00000545-900	5.11-5.45	5.11-5.45	8 1/2	4	5	15
	441-04500415-900	4.22-4.50	4.00-4.15	8 1/2	4	5	15
	441-04860415-900	4.46-4.86	4.00-4.15	8 1/2	4	5	15
	441-05100415-900	4.80-5.10	4.00-4.15	8 1/2	4	5	15
	441-05100450-900	4.80-5.10	4.22-4.50	8 1/2	4	5	15
	441-05100486-900	4.80-5.10	4.46-4.86	8 1/2	4	5	15
	441-05450415-900	5.11-5.45	4.00-4.15	8 1/2	4	5	15
	441-05450450-900	5.11-5.45	4.22-4.50	8 1/2	4	5	15
	441-05450486-900	5.11-5.45	4.46-4.86	8 1/2	4	5	15
	441-05450510-900	5.11-5.45	4.80-5.10	8 1/2	4	5	15
6†	441-00000615-900	6.00-6.15	6.00-6.15	8 1/2	4	5	25
	441-00000663-900	6.28-6.63	6.28-6.63	8 1/2	4	5	25
	441-00000696-900	6.56-6.96	6.56-6.96	8 1/2	4	5	25
	441-00000722-900	6.90-7.22	6.90-7.22	8 1/2	4	5	25
	441-00000765-900	7.25-7.65	7.25-7.65	8 1/2	4	5	25
	441-06630615-900	6.28-6.63	6.00-6.15	8 1/2	4	5	25
	441-06960615-900	6.56-6.96	6.00-6.15	8 1/2	4	5	25
	441-07220615-900	6.90-7.22	6.00-6.15	8 1/2	4	5	25
	441-07220663-900	6.90-7.22	6.28-6.63	8 1/2	4	5	25
	441-07220696-900	6.90-7.22	6.56-6.96	8 1/2	4	5	25
	441-07650615-900	7.25-7.65	6.00-6.15	8 1/2	4	5	25
	441-07650663-900	7.25-7.65	6.28-6.63	8 1/2	4	5	25
	441-07650696-900	7.25-7.65	6.56-6.96	8 1/2	4	5	25
	441-07650722-900	7.25-7.65	6.90-7.22	8 1/2	4	5	25

Type 441 Couplings will connect any two pipes within the O.D. range without changing parts. Suitable anchorage must be provided when excessive pipe movement could occur. \*\* Published ranges indicate nominal pipe outside diameters. Couplings are designed for pipes within current AWWA standard tolerances. † For longer sleeve length see 442.

## Cast Straight and Cast Transition, Continued

NOMINAL PIPE SIZE INCHES	CATALOG NUMBER END CODE (SEE PAGE 14)	O.D.** END 1 INCHES	O.D.** END 2 INCHES	OVERALL BOLT & LAYING LENGTH INCHES	5/8" BOLT QUANTITY REQUIRED	SLEEVE LENGTH INCHES †	APPROXIMATE SHIPPING WEIGHT LBS.
8†	441-0000800-900	8.00-8.16	8.00-8.16	8 1/2	6	5	31
	441-0000863-900	8.40-8.63	8.40-8.63	8 1/2	6	5	31
	441-0000911-900	8.54-9.11	8.54-9.11	8 1/2	6	5	31
	441-0000930-900	9.05-9.30	9.05-9.30	9 1/2	6	5	31
	441-0000945-900	9.05-9.45	9.05-9.45	9 1/2	6	5	31
	441-0000985-900	9.46-9.85	9.46-9.85	9 1/2	6	5	31
	441-08630800-900	8.40-8.63	8.00-8.16	8 1/2	6	5	31
	441-09110800-900	8.54-9.11	8.00-8.16	8 1/2	6	5	31
	441-09300800-900	8.00-8.16	8.00-8.16	8 1/2	6	5	31
	441-09300863-900	8.40-8.63	8.40-8.63	8 1/2	6	5	31
	441-09300911-900	8.54-9.11	8.54-9.11	8 1/2	6	5	31
	441-09450800-900	9.05-9.45	8.00-8.16	9 1/2	6	5	31
	441-09450863-900	9.05-9.45	8.40-8.63	9 1/2	6	5	31
	441-09450911-900	9.05-9.45	8.54-9.11	9 1/2	6	5	31
	441-09850800-900	9.46-9.85	8.00-8.16	9 1/2	6	5	31
	441-09850863-900	9.46-9.85	8.40-8.63	8 1/2	6	5	31
	441-09850911-900	9.46-9.85	8.54-9.11	8 1/2	6	5	31
	441-09850945-900	9.46-9.85	9.05-9.45	8 1/2	6	5	31
10†	441-00001000-900	10.00	10.00	9 1/2	6	6	47
	441-00001075-900	10.50-10.75	10.50-10.75	9 1/2	6	6	47
	441-00001160-900	11.10-11.60	11.10-11.60	11	6	6	47
	441-00001188-900	11.65-11.88	11.65-11.88	9 1/2	6	6	47
	441-00001220-900	11.90-12.20	11.90-12.20	9 1/2	6	6	47
	441-10751000-900	10.50-10.75	10.00	9 1/2	6	6	47
	441-11601000-900	11.10-11.60	10.00	11	6	6	47
	441-11601075-900	11.10-11.60	10.50-10.75	9 1/2	6	6	47
	441-11881000-900	11.65-11.88	10.00	9 1/2	6	6	47
	441-11881075-900	11.65-11.88	10.50-10.75	9 1/2	6	6	47
	441-11881160-900	11.65-11.88	11.10-11.60	11	6	6	47
	441-12201000-900	11.90-12.20	10.00	9 1/2	6	6	47
	441-12201075-900	11.90-12.20	10.50-10.75	9 1/2	6	6	47
	441-12201160-900	11.90-12.20	11.10-11.60	11	6	6	47
	441-12201188-900	11.90-12.20	11.65-11.88	9 1/2	6	6	47

Type 441 Couplings will connect any two pipes within the O.D. range without changing parts. Suitable anchorage must be provided when excessive pipe movement could occur.

\*\* Published ranges indicate nominal pipe outside diameters. Couplings are designed for pipes within current AWWA standard tolerances. †For longer sleeve length see 442.

## Cast Straight and Cast Transition, Continued

NOMINAL PIPE SIZE INCHES	CATALOG NUMBER END CODE (SEE PAGE 14)	O.D.** END 1 INCHES	O.D.** END 2 INCHES	OVERALL BOLT & LAYING LENGTH INCHES	5/8" BOLT QUANTITY REQUIRED	SLEEVE LENGTH INCHES †	APPROXIMATE SHIPPING WEIGHT LBS.
12†	441-00001200-900	12.00	12.00	9 1/2	8	6	52
	441-00001275-900	12.50-12.75	12.50-12.75	9 1/2	8	6	52
	441-00001350-900	13.20-13.50	13.20-13.50	11	8	6	52
	441-00001375-900	13.51-13.75	13.51-13.75	9 1/2	8	6	52
	441-00001420-900	13.90-14.20	13.90-14.20	9 1/2	8	6	52
	441-00001440-900	14.21-14.40	14.21-14.40	9 1/2	8	6	52
	441-12751200-900	12.50-12.75	12.00	9 1/2	8	6	52
	441-13501200-900	13.20-13.50	12.00	9 1/2	8	6	52
	441-13501275-900	13.20-13.50	12.50-12.75	9 1/2	8	6	52
	441-13751200-900	13.51-13.75	12.00	9 1/2	8	6	52
	441-13751275-900	13.51-13.75	12.50-12.75	9 1/2	8	6	52
	441-13751350-900	13.51-13.75	13.20-13.50	9 1/2	8	6	52
	441-14201200-900	13.90-14.20	12.00	9 1/2	8	6	52
	441-14201275-900	13.90-14.20	12.50-12.75	9 1/2	8	6	52
	441-14201350-900	13.90-14.20	13.20-13.50	9 1/2	8	6	52
	441-14201375-900	13.90-14.20	13.51-13.75	9 1/2	8	6	52
	441-14401200-900	14.21-14.40	12.00	9 1/2	8	6	52
	441-14401275-900	14.21-14.40	12.50-12.75	9 1/2	8	6	52
	441-14401350-900	14.21-14.40	13.20-13.50	9 1/2	8	6	52
	441-14401375-900	14.21-14.40	13.51-13.75	9 1/2	8	6	52
441-14401420-900	14.21-14.40	13.90-14.20	9 1/2	8	6	52	
14†	441-00001550-900	15.30-15.50	15.30-15.50	9 1/2	8	6	59
	441-00001580-900	15.55-15.80	15.55-15.80	9 1/2	8	6	59
	441-00001622-900	16.22-16.35	16.22-16.35	9 1/2	8	6	59
	441-00001655-900	16.41-16.55	16.41-16.55	9 1/2	8	6	59
	441-00001690-900	16.73-16.90	16.73-16.90	9 1/2	8	6	59
	441-15801550-900	15.55-15.80	15.30-15.50	9 1/2	8	6	59
	441-16221550-900	16.22-16.35	15.30-15.50	9 1/2	8	6	59
	441-16221580-900	16.22-16.35	15.55-15.80	9 1/2	8	6	59
	441-16551550-900	16.41-16.55	15.30-15.50	9 1/2	8	6	59
	441-16551580-900	16.41-16.55	15.55-15.80	9 1/2	8	6	59
	441-16551622-900	16.41-16.55	16.22-16.35	9 1/2	8	6	59
	441-16801550-900	16.73-16.90	15.30-15.50	9 1/2	8	6	59
	441-16901580-900	16.73-16.90	15.55-15.80	9 1/2	8	6	59
	441-16901622-900	16.73-16.90	16.22-16.35	9 1/2	8	6	59
441-16901655-900	16.73-16.90	16.41-16.55	9 1/2	8	6	59	
16†	441-00001780-900	17.40-17.80	17.40-17.80	11	10	6	71
	441-00001890-900	18.46-18.90	18.46-18.90	9 1/2	10	6	71
	441-00001920-900	18.90-19.20	18.90-19.20	9 1/2	10	6	71
	441-18901780-900	18.46-18.90	17.40-17.80	11	10	6	71
	441-19201780-900	18.90-19.20	17.40-17.80	11	10	6	71
	441-19201890-900	18.90-19.20	18.46-18.90	9 1/2	10	6	71

Type 441 Couplings will connect any two pipes within the O.D. range without changing parts. Suitable anchorage must be provided when excessive pipe movement could occur.

\*\* Published ranges indicate nominal pipe outside diameters. Couplings are designed for pipes within current AWWA standard tolerances. †For longer sleeve length see 442.



## Cast Reducing Couplings

NOMINAL SIZE INCHES		CATALOG NUMBER END CODE (SEE PAGE 14)	O.D.** END 1 INCHES	O.D.** END 2 INCHES	LAYING LENGTH INCHES	5/8" BOLTS		APPROXIMATE SHIPPING WEIGHT LBS.
END 1	END 2					LENGTH INCHES	QUANTITY REQUIRED	
2 1/2	2	441-02880263-900	2.65-2.88	2.34-2.63	8 1/2	8	2	20
6	4	441-06630415-900	6.28-6.63	4.00-4.15	5	4 1/2	8	25
		441-06630450-900	6.28-6.63	4.22-4.50				
		441-06630486-900	6.28-6.63	4.46-4.86				
		441-06630510-900	6.28-6.63	4.80-5.10				
		441-06630545-900	6.28-6.63	5.11-5.45				
		441-06960415-900	6.56-6.96	4.00-4.15				
		441-06960450-900	6.56-6.96	4.22-4.50				
		441-06960486-900	6.56-6.96	4.46-4.86				
		441-06960510-900	6.56-6.96	4.80-5.10				
		441-06960545-900	6.56-6.96	5.11-5.45				
		441-07220415-900	6.90-7.22	4.00-4.15				
		441-07220450-900	6.90-7.22	4.22-4.50				
		441-07220486-900	6.90-7.22	4.46-4.86				
		441-07220510-900	6.90-7.22	4.80-5.10				
		441-07220545-900	6.90-7.22	5.11-5.45				
		411-07650415-900	7.25-7.65	4.00-4.15				
		441-07650450-900	7.25-7.65	4.22-4.50				
		441-07650486-900	7.25-7.65	4.46-4.86				
411-07650510-900	7.25-7.65	4.80-5.10						
441-07650545-900	7.25-7.65	5.11-5.45						
8	6	441-08630615-900	8.40-8.63	6.00-6.15	5	4 1/2	10	35
		441-08630663-900	8.40-8.63	6.28-6.63				
		441-08630696-900	8.40-8.63	6.56-6.96				
		441-08630722-900	8.40-8.63	6.90-7.22				
		441-08630765-900	8.40-8.63	7.25-7.65				
		441-09110615-900	8.54-9.11	6.00-6.15				
		441-09110663-900	8.54-9.11	6.28-6.63				
		441-09110696-900	8.54-9.11	6.56-6.96				
		441-09110722-900	8.54-9.11	6.90-7.22				
		441-09110765-900	8.54-9.11	7.25-7.65				
		441-09450615-900	9.05-9.45	6.00-6.15				
		441-09450663-900	9.05-9.45	6.28-6.63				
		441-09450696-900	9.05-9.45	6.56-6.96				
		441-09450722-900	9.05-9.45	6.90-7.22				
		441-09450765-900	9.05-9.45	7.25-7.65				
		441-09850615-900	9.46-9.85	6.00-6.15				
		441-09850663-900	9.46-9.85	6.28-6.63				
		441-09850696-900	9.46-9.85	6.56-6.96				
441-09850722-900	9.46-9.85	6.90-7.22						
441-09850765-900	9.46-9.85	7.25-7.65						



# OMNI Coupling System

## Long Sleeve Cast Couplings — Straight and Reducing Transitions

# 442



**Description:** Cast Couplings

**Application:** To join plain end pipes with different O.D.s by changing followers and gaskets.

### Key Features:

- Heavy cast Ductile Iron parts for long life
- Meets applicable AWWA C219 Standards
- Flanges and gaskets can be mixed and matched on the same size nominal sleeve
- Most couplings are stab fit, making installation a breeze. No disassembly is required
- Up to 2.4" of range with a single coupling, reducing the need for large coupling inventories
- One sleeve per nominal pipe size takes the guesswork out of deciding which sleeve size to choose
- Flanges are color coded by pipe type: Red for standard pipe size O.D.; blue for Ductile O.D.; and Gray for Asbestos Cement O.D.
- Gaskets and flanges are permanently marked with a part number and range to facilitate proper selection
- Sleeves are available in a variety of lengths, and custom length Steel sleeves are available for special applications

### Materials Specifications (subject to change)

**SLEEVE:** Ductile Iron ASTM A536. Ends have smooth inside taper for uniform gasket seating

**GASKET:** Nitrile (Buna N) certified to NSF/ANSI 61/372. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids and other chemicals

**FOLLOWER FLANGES:** Ductile Iron ASTM A536. Designed for high strength to weight ratio

**BOLTS & NUTS:** High strength low alloy Steel bolts with heavy, semi-finished hexagon nuts to AWWA C219 (ANSI A21.11) (Stainless Steel Optional)

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 250 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 2½, 4, 6, 8, 10, 12, 14, 16



### THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



442

# OMNI Coupling System

Long Sleeve Cast Couplings — Straight and Reducing Transitions

## Cast Straight and Transition

NOMINAL PIPE SIZE INCHES	CATALOG NUMBER END CODE (SEE PAGE 14)	O.D.** END 1 INCHES	O.D.** END 2 INCHES	SLEEVE LENGTH INCHES	5/8" BOLT QUANTITY REQUIRED	OVERALL BOLT & LAYING LENGTH INCHES	APPROXIMATE SHIPPING WEIGHT LBS.
4	442-00000415-	4.00-4.15	4.00-4.15	7 -200	4	11	21.4
	442-00000450-	4.22-4.50	4.22-4.50				
	442-00000486-	4.46-4.86	4.46-4.86				
	442-00000510-	4.80-5.10	4.80-5.10				
	442-00000545-	5.11-5.45	5.11-5.45				
	442-04500415-	4.22-4.50	4.00-4.15				
	442-04860415-	4.46-4.86	4.00-4.15				
	442-05100415-	4.80-5.10	4.00-4.15	12 -400	4	15 1/2	34.0
	442-05100450-	4.80-5.10	4.22-4.50				
	442-05100486-	4.80-5.10	4.46-4.86				
	442-05450415-	5.11-5.45	4.00-4.15				
	442-05450450-	5.11-5.45	4.22-4.50				
	442-05450486-	5.11-5.45	4.46-4.86				
	442-05450510-	5.11-5.45	4.80-5.10				
6	442-00000615-	6.00-6.15	6.00-6.15	7	4	11	30.3
	442-00000663-	6.28-6.63	6.28-6.63				
	442-00000696-	6.56-6.96	6.56-6.96				
	442-00000722-	6.90-7.22	6.90-7.22				
	442-00000765-	7.25-7.65	7.25-7.65				
	442-06630615-	6.28-6.63	6.00-6.15				
	442-06960615-	6.56-6.96	6.00-6.15				
	442-07220615-	6.90-7.22	6.00-6.15	12 -400	4	15 1/2	47.1
	442-07220663-	6.90-7.22	6.28-6.63				
	442-07220696-	6.90-7.22	6.56-6.96				
	442-07650615-	7.25-7.65	6.00-6.15				
	442-07650663-	7.25-7.65	6.28-6.63				
	442-07650696-	7.25-7.65	6.56-6.96				
	442-07650722-	7.25-7.65	6.90-7.22				
8	442-00000800-	8.00-8.16	8.00-8.16	7 -200	6	11	39.0
	442-00000863-	8.40-8.63	8.40-8.63				
	442-00000911-	8.54-9.11	8.54-9.11				
	442-00000930-	9.05-9.30	9.05-9.30				
	442-00000945-	9.05-9.45	9.05-9.45				
	442-00000985-	9.46-9.85	9.46-9.85				
	442-08630800-	8.40-8.63	8.00-8.16				
	442-09110800-	8.54-9.11	8.00-8.16				
	442-09450800-	9.05-9.45	8.00-8.16				
	442-09450863-	9.05-9.45	8.40-8.63				
	442-09450911-	9.05-9.45	8.54-9.11				
	442-09850800-	9.46-9.85	8.00-8.16				
	442-09850863-	9.46-9.85	8.40-8.63				
	442-09850911-	9.46-9.85	8.54-9.11				
442-09850945-	9.46-9.85	9.05-9.45					
10	442-00001000-400	10.00	10.00	12	6	17 1/2	77.5
	442-00001075-400	10.50-10.75	10.00-10.75				
	442-00001160-400	11.10-11.60	11.10-11.60				
	442-00001188-400	11.65-11.88	11.65-11.88				
	442-00001220-400	11.90-12.20	11.90-12.20				
	442-10751000-400	10.50-10.75	10.00				
	442-11601000-400	11.10-11.60	10.00				
	442-11601075-400	11.10-11.60	10.50-10.75				
	442-11881000-400	11.65-11.88	10.00				
	442-11881075-400	11.65-11.88	10.50-10.75				
	442-11881160-400	11.65-11.88	11.10-11.60				
	442-12201000-400	11.90-12.20	10.00				
	442-12201075-400	11.90-12.20	10.50-10.75				
	442-12201160-400	11.90-12.20	11.10-11.60				
442-12201188-400	11.90-12.20	11.65-11.88					

## Cast Straight and Transition, Continued

NOMINAL PIPE SIZE INCHES	CATALOG NUMBER END CODE (SEE PAGE 14)	O.D.** END 1 INCHES	O.D.** END 2 INCHES	SLEEVE LENGTH INCHES	5/8" BOLT QUANTITY REQUIRED	OVERALL BOLT & LAYING LENGTH INCHES	APPROXIMATE SHIPPING WEIGHT LBS.
12	442-00001200-400	12.00	12.00				
	442-00001275-400	12.50-12.75	12.50-12.75				
	442-00001350-400	13.20-13.50	13.20-13.50				
	442-00001375-400	13.51-13.75	13.51-13.75				
	442-00001420-400	13.90-14.20	13.90-14.20				
	442-00001440-400	14.21-14.40	14.21-14.40				
	442-12751200-400	12.50-12.75	12.00				
	442-13501200-400	13.20-13.50	12.00				
	442-13501275-400	13.20-13.50	12.50-12.75				
	442-13751200-400	13.51-13.75	12.00				
	442-13751275-400	13.51-13.75	12.50-12.75	12	8	15 1/2	81.1
	442-13751350-400	13.51-13.75	13.20-13.50				
	442-14201200-400	13.90-14.20	12.00				
	442-14201275-400	13.90-14.20	12.50-12.75				
	442-14201350-400	13.90-14.20	13.20-13.50				
	442-14201375-400	13.90-14.20	13.51-13.75				
	442-14401200-400	14.21-14.40	12.00				
	442-14401275-400	14.21-14.40	12.50-12.75				
442-14401350-400	14.21-14.40	13.20-13.50					
442-14401375-400	14.21-14.40	13.51-13.75					
442-14401420-400	14.21-14.40	13.90-14.20					
14	442-00001550-400	15.30-15.50	15.30-15.50				
	442-00001580-400	15.55-15.80	15.55-15.80				
	442-00001622-400	16.22-16.35	16.22-16.35				
	442-00001655-400	16.41-16.55	16.41-16.55				
	442-00001690-400	16.73-16.90	16.73-16.90				
	442-15801550-400	15.55-15.80	15.30-15.50				
	442-16221550-400	16.22-16.35	15.30-15.50				
	442-16221580-400	16.22-16.35	15.55-15.80	12	8	15 1/2	105.0
	442-16551550-400	16.41-16.55	15.30-15.50				
	442-16551580-400	16.41-16.55	15.55-15.80				
	442-16551622-400	16.41-16.55	16.22-16.35				
	442-16901550-400	16.73-16.90	15.30-15.50				
442-16901580-400	16.73-16.90	15.55-15.80					
442-16901622-400	16.73-16.90	16.22-16.35					
442-16901655-400	16.73-16.90	16.41-16.55					
16	442-00001780-400	17.40-17.80	17.40-17.80				
	442-00001890-400	18.46-18.90	18.46-18.90				
	442-00001920-400	18.90-19.20	18.90-19.20				
	442-18901780-400	18.46-18.90	17.40-17.80	12	10	15 1/2	126.3
	442-19201780-400	18.90-19.20	17.40-17.80				
	442-19201890-400	18.90-19.20	18.46-18.90				



# Quantum Coupling

Patent 6,168210B1

# 461



**Description:** Wide Range Cast Couplings

**Application:** Joining plain end pipe of all outside diameters within the coupling range.

## Key Features:

- Great for reducing coupling inventory
- Heavy cast Ductile Iron parts for long life
- Meets applicable AWWA C219 Standards
- Stab fit, making installation a breeze. No disassembly required
- Bolts and nuts are coated for superior corrosion resistance and better torque capabilities
- Up to 1.65" of range with a single gasket and flange, reducing the need for large coupling inventories
- One coupling per nominal pipe size takes the guesswork out of deciding which coupling size to choose

## Materials Specifications (subject to change):

SLEEVE: High Strength Ductile Iron ASTM A536

FLANGES: High Strength Ductile Iron ASTM A536

GASKET: Nitrile (Buna N) NSF 61/372 approved

FINISH: Flexi-Coat® Fusion-Bonded Epoxy Finish

BOLTS: HSLA Steel per ANSI A21.11 (AWWA C111) with Flexi-Coat® Fusion-Bonded Epoxy Finish to prevent galling (Stainless Steel optional)

NUTS: Heavy hex HSLA Steel per ANSI A21.11 with fluoropolymer Finish to prevent galling

Temperature Range: -20 to +180

**Working Pressure:** Up to 250 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 1½, 2, 2½, 3, 4, 6, 8, 10, 12



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Quantum Coupling

Patent 6,168210B1

461

## Standard Coupling

NOM. SIZE (IN.)	O.D. RANGE (IN.)	WITH EPOXY COATED ALLOY BOLTS & NUTS	WITH STAINLESS STEEL BOLTS & NUTS	SLEEVE LENGTH (IN.)	5/8" BOLT QUANTITY	LAYING LENGTH (IN.)	WT. (LBS.)
		CATALOG NUMBER	CATALOG NUMBER				
1 1/2	1.81 - 2.28	461-01810228-000	461-01810228-031	4	2	8.5	8.2
2	2.34 - 2.85	461-02340285-000	461-02340285-031	4	2	8.5	10
2 1/2	2.84 - 3.35	461-02840335-000	461-02840335-031	4	2	8.5	10
3	3.46 - 4.21	461-03460421-000	461-03460421-031	5	4	9.5	15
4	4.46 - 5.60	461-04460560-000	461-04460560-031	5.5	4	11.0	26
6	6.54 - 7.65	461-06540765-000	461-06540765-031	6	4	11.0	33
8	8.54 - 9.85	461-08540985-000	461-08540985-031	6	4	11.0	44
10	10.65 - 12.20	461-10651220-000	461-10651220-031	7.5	8	14.0	72
12	12.75 - 14.40	461-12751440-000	461-12751440-031	7.5	8	14.0	89

## Metric Coupling

NOM. SIZE		O.D. RANGE	
(IN)	(MM)	(IN)	(MM)
1 1/2	40	1.81 - 2.28	46 - 58
2	50	2.34 - 2.85	59 - 72
2 1/2	65	2.84 - 3.35	72 - 85
3	80	3.46 - 4.21	88 - 107
4	100	4.46 - 5.60	113 - 142
6	150	6.54 - 7.65	166 - 194
8	200	8.54 - 9.85	217 - 250
10	250	10.65 - 12.20	271 - 310
12	300	12.75 - 14.40	324 - 366

## Long Sleeve Coupling

NOM. SIZE (IN.)	O.D. RANGE (IN.)	WITH EPOXY COATED ALLOY BOLTS & NUTS	WITH STAINLESS STEEL BOLTS & NUTS	SLEEVE LENGTH (IN.)	5/8" BOLT QUANTITY	LAYING LENGTH (IN.)	WT. (LBS.)
		CATALOG NUMBER	CATALOG NUMBER				
4	4.46 - 5.60	462-04460560-000	462-04460560-031	12	4	17.5	31.4
6	6.54 - 7.65	462-06540765-000	462-06540765-031	12	4	17.5	42.3
8	8.54 - 9.85	462-08540985-000	462-08540985-031	12	4	17.5	55.3
10	10.65 - 12.20	462-10651220-000	462-10651220-031	12	8	17.5	73.0
12	12.75 - 14.40	462-12751440-000	462-12751440-031	12	8	17.5	87.0



# Quantum Coupling

## 12" Long Sleeve

PATENT NO. 6,168210B1

# 462



**Description:** Wide range, long sleeve cast couplings.

**Application:** Joining plain end pipe of all outside diameters within the coupling range.

### Key Features:

- Great for reducing coupling inventory
- Heavy cast Ductile Iron parts for long life
- Meets applicable AWWA C219 Standards
- Stab fit, making installation a breeze. No disassembly required
- Bolts and nuts are coated for superior corrosion resistance and better torque capabilities
- Up to 1.65" of range with a single gasket and flange, reducing the need for large coupling inventories
- One coupling per nominal pipe size takes the guesswork out of deciding which coupling size to choose

### Materials Specifications (subject to change)

SLEEVE: High Strength Ductile Iron ASTM A536

FLANGES: High Strength Ductile Iron ASTM A536

GASKET: Nitrile (Buna N) NSF®/ANSI 61/372 approved

FINISH: Fusion-Bonded Flexi-Coat® Epoxy Finish, per AWWA C213

BOLTS: High strength, low alloy Steel per ANSI A21.11 (AWWA C111) with Flexi-Coat® Epoxy Finish

***Stainless Steel optional.***

NUTS: Heavy hex HSLA Steel per ANSI A21.11 with Fluoropolymer Finish to prevent galling

**Pipe Applications:** Ductile Iron, Steel, Asbestos Cement and PVC.

**Sizes (in inches):** 4, 6, 8, 10, 12

**Pressure Ratings:** 250 PSI



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Quantum Coupling

## 12" Long Sleeve

PATENT NO. 6,168210B1

462

### Standard and Metric Coupling

NOM. SIZE (INCHES)	NOM. SIZE (MM)	OD RANGE (INCHES)	OD RANGE (MM)	WITH EPOXY COATED ALLOY BOLTS & NUTS	WITH STAINLESS STEEL BOLTS & NUTS	SLEEVE LENGTH (INCH)	5/8" BOLT QTY	LAYING LENGTH (INCH)	WT. (LBS.)
				CATALOG NUMBER	CATALOG NUMBER				
4	100	4.46 - 5.60	113 - 142	462-04460560-000	462-04460560-031	12	4	17	31.4
6	150	6.54 - 7.65	166 - 194	462-06540765-000	462-06540765-031	12	4	17	42.3
8	200	8.54 - 9.85	217 - 250	462-08540985-000	462-08540985-031	12	4	17	55.3
10	250	10.65 - 12.20	271 - 310	462-10651220-000	462-10651220-031	12	8	17	73.0
12	300	12.75 - 14.40	324 - 366	462-12751440-000	462-12751440-031	12	8	17	87.0







# Steel Pipe End Cap

# 481



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

**Description:** Steel end caps are easy to remove, reinstall and block. Perfect for line testing and dependable for pipe-end sealing.

**Application:** Capping pipe ends.

## Key Features:

- Easy to install
- No special pipe end preparation required
- Meets applicable AWWA C219 Standards
- Can be custom made to fit unusual applications
- Available in a wide variety of pipe O.D. sizes and sleeve lengths
- Offset outlet makes it convenient to blow off or drain the pipe line
- Pressure rating depends on many factors. Check with the factory for more details
- Outlet is 2" NPT Standard, but a variety of other sizes are available to fit this application

## Materials Specifications (subject to change):

SLEEVE: ASTM A53, ASTM A513 or Carbon Steel having a minimum yield of 30,000 PSI

END PLATE: Mild Steel with a two inch I.P. threaded outlet. Other outlet sizes available upon request

FOLLOWERS: Ductile Iron ASTM A536 or AISI C 1020 Steel

GASKETS: Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids and other chemicals

Temperature Range: -20°F to +180°F

BOLTS & NUTS: High-strength, low alloy Steel with heavy, semi-finished hexagon nuts

*Optional: Stainless Steel*

FINISH: Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** 150 psi (standard design, greater pressure ratings available)

**Pipe Applications:** Carbon Steel, Stainless Steel, Ductile Iron, Asbestos Cement, PVC, HDPE

**Sizes (in inches):** 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20.

*NOTE: Larger sizes available upon request.*

*NOTE: Ridged pipe stiffeners are required for PE applications*

481

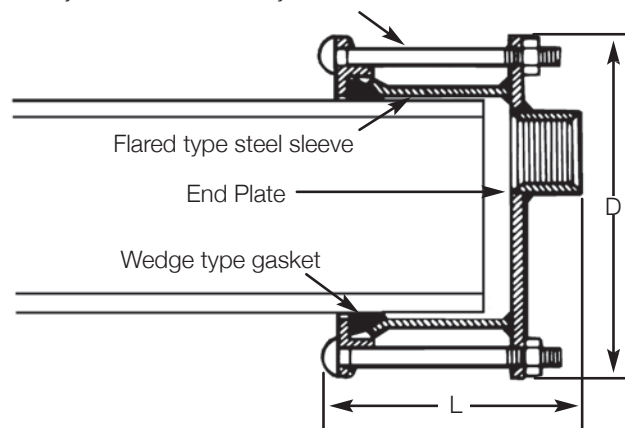


# Steel Pipe End Cap

NOM. PIPE SIZE IN.	PIPE O.D. INCHES	CATALOG NUMBER	OVERALL DIAMETER INCHES (D)	OVERALL LENGTH INCHES (L)	APPROX. SHIPPING WT. LBS.
2	2.50	481-02500114-003	6.20	7.94	10
3	3.50	481-03500114-003	7.09	7.94	11
	3.74	481-03740114-003	7.30	7.94	11
	3.80	481-03800114-003	7.06	8.19	13
	3.88	481-03880114-003	7.06	8.19	12 1/2
	3.96	481-03960114-003	7.53	8.19	12 3/4
	4	4.64	481-04640114-003	8.13	8.19
6	6.90	481-06900114-003	10.56	8.19	28
8	9.05	481-09050114-003	13.44	8.19	39
10	11.10	481-11100114-003	15.13	8.19	45 1/2
	11.40	481-11400114-003	15.13	8.19	53
	11.66	481-11660114-003	16.50	8.19	53 1/2
12	13.20	481-13200114-003	17.47	8.31	53 1/2
	13.50	481-13500114-003	17.47	8.31	58 3/4
	13.92	481-13920114-003	18.31	8.31	73
14	15.30	481-15300114-003	19.75	8.31	89
	15.65	481-15650114-003	20.10	8.31	92
16	17.40	481-17400114-003	21.84	8.31	92 1/4
	17.80	481-17800114-003	22.25	8.31	92 1/2
18	19.50	481-19500114-003	24.00	8.31	122
	19.92	481-19920114-003	24.40	8.31	125
20	21.60	481-21600114-003	26.30	8.31	136
	22.06	481-22060114-003	26.50	8.31	138

Other sizes available upon request. Pipe end caps must be securely blocked or anchored to prevent them from moving off of the pipe.

Low alloy steel bolt and heavy hex nut.





# Cast Line Cap

# 482

**Description:** Steel end cap for remove and reinstall and block. Perfect for line testing and dependable for pipe-end sealing.

**Application:** Capping pipe ends.

## Key Features:

- No special pipe end preparation required
- Meets applicable AWWA C219 Standards
- Can be custom made to fit unusual application
- Available in a wide variety of pipe O.D. sizes
- Offset outlet makes it convenient to blow out or drain the pipe line
- Pressure rating depends on many factors. Check with the factory for more details
- Outlet is 2" NPT Standard

## Materials Specifications (subject to change)

**SLEEVE:** Ductile Iron ASTM A-536. Ends have smooth inside taper for uniform gasket seating

**GASKETS:** Nitrile (Buna N) Certified to NSF®/ANSI 61/372. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic) hydrocarbons and many other chemicals

**Temperature Range:** -20 to 180

**FOLLOWER FLANGES:** Ductile Iron ASTM A536. Designed for high strength/weight ratio

**BOLTS & NUTS:** High-strength, low alloy Steel with heavy, semi-finished hexagon nuts. **Optional:** ***Stainless Steel and carbon Steel ASTM A307 electrogalvanized with di-chromate seal***

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 250 PSI

**Pipe Applications:** Cast Iron, PVC, Steel

**Sizes (in inches):** 2, 2½, 3, 4, 6, 8, 10, 12



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



482

# Cast Line Cap

NOMINAL PIPE SIZE INCHES	CATALOG NUMBER END CODE	RANGE †† INCHES	OVERALL BOLT & LAYING LENGTH INCHES	5/8" BOLT QUANTITY REQUIRED	SLEEVE LENGTH INCHES	APPROXIMATE SHIPPING WEIGHT - LBS.
2	482-00026306-900	2.34-2.63	8 1/2	2	4	9
2 1/2	482-00028806-900	2.65-2.88	8 1/2	2	4	10
3	482-00031306-900	2.85-3.13	8 1/2	4	4	15
	482-00035006-900	3.44-3.62	8 1/2	4	4	15
	482-00039606-900	3.80-3.96	8 1/2	4	4	15
	482-00041406-900	3.97-4.14	8 1/2	4	4	15
4	482-00045006-900	4.22-4.50	8 1/2	4	5	18
	482-00048606-900	4.46-4.86	8 1/2	4	5	18
	482-00051006-900	4.80-5.10	8 1/2	4	5	18
	482-00054506-900	5.11-5.45	8 1/2	4	5	18
6	482-00066306-900	6.28-6.63	8 1/2	4	5	30
	482-00069606-900	6.56-6.96	8 1/2	4	5	30
	482-00072206-900	6.90-7.22	8 1/2	4	5	30
	482-00076506-900	7.25-7.65	8 1/2	4	5	30
8	482-00086306-900	8.40-8.63	8 1/2	6	5	39
	482-00091106-900	8.54-9.11	8 1/2	6	5	39
	482-00094506-900	9.05-9.45	8 1/2	6	5	39
	482-00098506-900	9.46-9.85	8 1/2	6	5	39
10	482-00100006-900	10.00	9 1/2	6	6	57
	482-00107506-900	10.50-10.75	9 1/2	6	6	57
	482-00116006-900	11.10-11.60	9 1/2	6	6	57
	482-00118806-900	11.65-11.88	9 1/2	6	6	57
	482-00122006-900	11.90-12.20	9 1/2	6	6	57
12	482-00120006-900	12.00	9 1/2	8	6	75
	482-00127506-900	12.50-12.75	9 1/2	8	6	75
	482-00135006-900	13.20-13.50	9 1/2	8	6	75
	482-00137506-900	13.51-13.75	9 1/2	8	6	75
	482-00142006-900	13.90-14.20	9 1/2	8	6	75
	482-00144006-900	14.21-14.40	9 1/2	8	6	75

Pipe end caps must be securely blocked or anchored to prevent them from moving off of the pipe.



# Compression Coupling

## 525

**Description:** A Ductile or malleable iron coupling with threaded ends that seal to the pipe when turned.

**Application:** Joining plain end pipe of the same diameter.

### Key Features:

- Stab fit for easier installation
- Galvanized finish for additional corrosion resistance
- Ductile or malleable iron metal parts for strength and corrosion resistance
- May be used in most water, wastewater and industrial applications
- Wrench flats on the nuts and sleeve help with holding the coupling during tightening
- The retainer cup holds the gasket in place and concentrates gasket compression where it is needed most
- The compression coupling may be used in conjunction with Smith-Blair adapter gaskets to join Copper pipe
- Protected gasket extends the life of the gasket and provides electrical continuity between the pipe and the coupling
- Deflection of 2° per end allows for pipe movement and installation on pipe that is not perfectly aligned

### Materials Specifications (subject to change)

SLEEVE: Ductile Iron or malleable iron

GASKET: Nitrile (Buna N) - compounded to resist oil, acids, alkalis, most (aliphatic) hydrocarbon fluids, water and many chemicals

Temperature Range: -20°F to 180°F

COMPRESSION NUT: Ductile Iron or malleable iron

FINISH: Galvanized

**NOTE: Product not recommended for natural gas service.**

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** PVC, Copper (with adapter gasket), Steel

**Sizes (in inches):** ½, ¾, 1, 1¼, 1½, 2



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



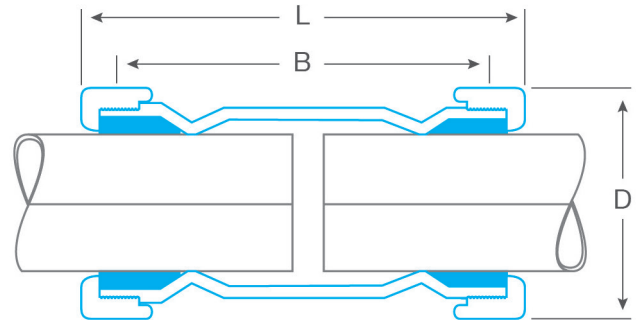
525

# Compression Coupling

U.S.				CATALOG NUMBER	QTY. PER CARTON	METRIC			
NOM. PIPE SIZE INCHES	PIPE O.D. RANGE	WT. EA. LBS.	CTN. WT. LBS.			NOM. PIPE SIZE MM	PIPE O.D. MM	WT. EA. KG.	CTN. WT. KG.
1/2	0.840	1.0	24	525-00008400-003	24	15	21.24	0.45	10.90
3/4	1.050	1.3	32	525-00010500-003	24	20	26.67	0.59	14.53
1	1.320	1.5	24	525-00013200-003	16	25	33.40	0.68	10.90
1 1/4	1.660	1.8	22	525-00016600-003	12	32	42.16	0.82	9.99
1 1/2	1.900	2.7	33	525-00019000-003	12	40	48.26	1.23	14.98
2	2.375	3.5	42	525-00023800-003	12	50	60.33	1.59	19.07

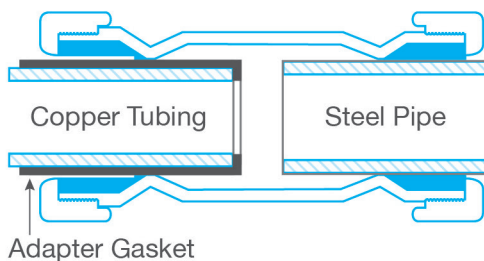
## Dimensional Chart

NOM. PIPE SIZE INCHES	PIPE OD INCHES	DIMENSION INCHES		
		B	D	L
1/2	0.840	3.35	1.68	4.13
3/4	1.050	3.62	1.94	4.33
1	1.315	4.00	2.21	4.53
1 1/4	1.660	4.00	2.61	4.72
1 1/2	1.900	4.00	2.94	4.92
2	2.375	4.44	3.56	5.31



## Adapter Gaskets

U.S.			CATALOG NUMBER	METRIC		
NOM. PIPE SIZE INCHES	STEEL PIPE O.D. INCHES	COPPER TUBING O.D. INCHES		NOM. PIPE SIZE MM	STEEL PIPE O.D. MM	COPPER TUBING O.D. MM
1/2	0.84	0.63	000-00038420-069	15	21.34	16.00
3/4	1.05	0.88	000-00038421-069	20	26.67	22.35
1	1.32	1.13	000-00038422-069	25	33.40	28.70
1 1/4	1.66	1.38	000-00038423-069	32	42.16	35.05
1 1/2	1.90	1.63	000-00038424-069	40	48.26	41.40
2	2.38	2.13	000-00038425-069	50	60.33	54.10





# Maxi-Grip® EZ-W™

## Restrained Coupling - Straight and Reducing

**EZWS**  
**EZWR**

### Description:

A simple to use, seal and restraint, coupling with stab-fit gaskets designed to restrain a pipe joint while ensuring a tight seal.

### Applications:

Connecting and restraining straight or reducing transition in any combination of plain end MDPE and HDPE, PVC, Steel, or Ductile Iron pipe.

### Key Features:

- Able to seal and grip pipe independently
- Design was adapted for water from tried-and-true natural gas industry technology
- Reduces need for transition fittings, welding, fusion, blocking, and shop fabrication
- Is Flanged Coupling Adapter and Line Cap capable

### Materials Specifications (subject to change)

SLEEVE: Steel ASTM 513 or Carbon Steel having a minimum yield of 30,000 PSI

FOLLOWERS: Steel, hot rolled – AISI C-1008 to 1010-ASTM-569 or Ductile Iron per ASTM A 536

GASKETS: SBR - Resistance to Carbon Dioxide, Water, U.V., Ozone Water

GRIPPING BAND: IPS and DI: Steel-AISI C-1010 ERW-ASTM A 513

PRESSURE RING: IPS and DI: Hot Rolled-AISI C-1010-ASTM A 569

BOLTS & NUTS: High strength, low alloy Steel, with heavy semi-finished hexagon nuts to AWWA C-111 (ANSI-A21.11) standards

FINISH: Flexi-Coat®, Fusion-Bonded epoxy per AWWA C213

**Pressure Ratings:** 200 PSI for PE, 235 PSI for PVC, 300 PSI for Ductile Iron and Steel

**Pipe Applications:** Steel, Ductile Iron, MDPE and HDPE (DR 32.5 or thicker), PVC (DR 26 or thicker)

**Sizes:** IPS-IPS: 1"-12"; IPS-DIPS 2"-12"; DIPS-DIPS 4"-12"

*NOTE: Ridged pipe stiffeners are required for PE applications*



# Maxi-Grip® EZ-W™

## Restrained Coupling - Straight and Reducing

### EZWS (Straight)

PIPE		CATALOG NUMBER	M. RING	BOLTS		WT. EA. LBS.
NOM. SIZE (IN.)	O.D. (IN.)		THICKNESS & LENGTH	NO.	SIZE	
2	2.38	EZWS00023802003	.156 x 7	3	5/8 x 12	14
3	3.50	EZWS00035002003	.156 x 7	4	5/8 x 12	19
4	4.50	EZWS00045002003	.190 x 7	4	5/8 x 12	25
4	4.80	EZWS00048002003	.190 x 7	4	5/8 x 12	26
6	6.63	EZWS00066302003	.250 x 7	6	5/8 x 12	48
6	6.90	EZWS00069002003	.250 x 7	6	5/8 x 12	43
6	7.10	EZWS00071002003	.250 x 7	6	5/8 x 12	43
8	8.63	EZWS00086302003	.250 x 7	8	5/8 x 12	61
8	9.05	EZWS00090502003	.250 x 7	8	5/8 x 12	68
12	12.75	EZWS00127503003	.250 x 10	12	5/8 x 15	120
12	13.20	EZWS00132003003	.250 x 10	12	5/8 x 15	121



### EZWR (Reducing)

PIPE		CATALOG NUMBER	M. RING	BOLTS		WT. EA. LBS.
NOM. SIZE (INCHES)	O.D. (INCHES)		THICKNESS & LENGTH	NO.	SIZE	
3 to 2	3.50 x 2.38	EZWR03500238203	.203 x 7	4	5/8 x 12	20
4 to 3	4.50 x 3.50	EZWR04500350203	.190 x 7	4	5/8 x 12	23
4 to 4	4.80 x 4.50	EZWR04800450203	.190 x 7	4	5/8 x 12	26
6 to 4	6.63 x 4.50	EZWR06630450203	.250 x 7	6	5/8 x 12	34
6 to 4	6.90 x 4.80	EZWR06900480203	.250 x 7	6	5/8 x 12	41
6 to 6	6.90 x 6.63	EZWR06900663203	.250 x 7	6	5/8 x 12	50
6 OS to 6	7.10 x 6.90	EZWR07100690203	.250 x 7	6	5/8 x 12	43
8 to 6	8.63 x 6.63	EZWR08630663203	.250 x 7	8	5/8 x 12	68
8 to 6	9.05 x 6.90	EZWR09050690203	.250 x 7	8	5/8 x 12	71
8 to 8	9.05 x 8.63	EZWR09050863203	.250 x 7	8	5/8 x 12	65
8 OS to 8	9.30 x 9.05	EZWR09300905203	.250 x 7	8	5/8 x 12	68
12 to 12	13.20 x 12.75	EZWR13201275203	.250 x 10	12	5/8 x 15	121





# Maxi-Grip® EZ-W™

## Restrained Line Cap

# EZWC

### Description:

A simple to use, seal and restraint, line cap with stab-fit gaskets designed to restrain a pipe end while ensuring a tight seal.

### Application:

Ideal for capping and restraining plain-end pipe to MDPE and HDPE, PVC, Steel, or Ductile Iron pipe.

### Key Features:

- Able to seal and grip pipe independently
- Design was adapted for water from tried-and-true natural gas industry technology
- Reduces need for transition fittings, welding, fusion, blocking, and shop fabrication

### Materials Specifications (subject to change)

SLEEVE: Steel ASTM 513 or Carbon Steel having a minimum yield of 30,000 PSI

FOLLOWERS: Steel, hot rolled – AISI C-1008 to 1010-ASTM A569 or Ductile Iron per ASTM A536

GASKETS: SBR - Resistance to Carbon Dioxide, Water, U.V., Ozone Water

GRIPPING BAND: Steel-AISI C-1010 ERW-ASTM A 513

PRESSURE RING: Hot Rolled-AISI C-1010-ASTM A 569

BOLTS & NUTS: High strength, low alloy Steel, with heavy hex semi-finished nuts to AWWA

C-111(ANSI-A21.11) standards

FINISH: Flexi-Coat®, Fusion-Bonded epoxy per AWWA C213

**Pressure Ratings:** 200 PSI for PE, 235 PSI for PVC, 300 PSI for Ductile Iron and Steel

**Pipe Applications:** Steel, Ductile Iron, MDPE and HDPE (DR 32.5 or thicker), PVC (DR 26 or thicker)

**Sizes:** IPS 2" -12", DIPS 4" -12"

*NOTE: Ridged pipe stiffeners are required for PE applications*



**EZWC**

# Maxi-Grip® EZ-W™

## Restrained Line Cap

PIPE		CATALOG NUMBER	M. RING	BOLTS		WT. EA. LBS.
NOM. SIZE (IN.)	O.D. (IN.)		THICKNESS & LENGTH	NO.	SIZE	
2	2.38	EZWC02380108003	.156 x 5	3	5/8 x 8	14
3	3.50	EZWC03500108003	.156 x 5	4	5/8 x 8	16
4	4.50	EZWC04500108003	.190 x 5	4	5/8 x 8	20
4	4.80	EZWC04800114003	.190 x 5	4	5/8 x 8	21
6	6.63	EZWC06630114003	.250 x 5	6	5/8 x 8	38
6	6.90	EZWC06900114003	.250 x 5	6	5/8 x 8	37
6 OS	7.10	EZWC07100114003	.250 x 5	6	5/8 x 8	37
8	8.63	EZWC08630114003	.250 x 5	8	5/8 x 8	58
8	9.05	EZWC09050114003	.250 x 5	8	5/8 x 8	63
8 OS	9.30	EZWC09300114003	.250 x 5	8	5/8 x 8	63
12	12.75	EZWC12750214003	.250 x 7	12	5/8 x 11	124
12	13.20	EZWC13200214003	.250 x 7	12	5/8 x 11	127



# Expansion Joints

## What Are Expansion Joints?

An expansion joint is an assembly designed to safely absorb heat induced axial expansion and contraction of various piping system components, to absorb vibration, or to allow movement due to ground settling or earthquakes. Often used in bridge crossings.



*Smith-Blair*  
a xylem brand



# Expansion Joint

## Single End

# 611

**Description:** A slip type joint that allows for thermal expansion or contraction in pipelines.

**Application:** Absorbing changes in pipe length due to concentrated pipe movement in a given area of pipe.

### Key Features:

- Meets applicable AWWA C221 Standards
- Compact in design and can be customized to handle many applications
- Available in a variety of end types: Plain ends beveled for welding, flanged and other
- Accommodates a large amount of axial pipe movement, relieving stress buildup in the pipeline
- Hard Chrome-Plated slip pipe helps:
  - Ensure free movement
  - Reduces friction and wear on the packing rings
  - Resists scratching and scoring of the slip pipe surface
- Optional Limit Rods offer three important functions:
  - Limits travel of slip pipe, preventing it from pulling out of the body when used with two or more expansion joints
  - Is used to indicate the position of the slip pipe within the body to know where it is in the expansion/contraction cycle
- Generous Packing Provides:
  - Great sealing between the body and the slip pipe
  - Increased life of the packing before replacement is necessary
  - Designed to allow replacement of packing without taking the expansion joint out of service

### Materials Specifications (subject to change)

**BODY:** Carbon Steel AISI C1015-20 or ASTM A283 GR. C

**SLIP PIPE:** Carbon Steel ASTM A53. ASTM A283 or AISI C1015-20. Hard chromed plated on a machined surface or optional Stainless Steel

**GASKET:** Alternate square rings of lubricant impregnated with fibrous packing and Nitrile (Buna N) rubber, compounded to resist oil, natural gas, acids, alkalis, most (aliphatic) hydrocarbon fluids, water and other chemicals

**Temperature Range:** -20°F to 180°F

**LIMIT RODS:** High strength low alloy Steel with heavy, semi-finished hexagon nut

**BODY STUDS/BOLTS & NUTS:** High strength low alloy Steel with heavy, semi-finished hexagon nut

**Optional:** *Stainless Steel hardware for corrosive applications to allow re-torque of packing material*

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, Cast Iron

**Size (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24. **NOTE:** Larger sizes available upon request.



611

# Expansion Joint

## Single End

Without Slip Pipe // Without Limit Rods // Open (cold) Length = 26" // Weld End

STEEL PIPE SIZE		CATALOG NUMBER	WT. EACH LBS.
NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES (A)		
3	3.50	611-03501010-000	50
4	4.50	611-04501010-000	65
6	6.63	611-06631010-000	90
8	8.63	611-08631010-000	125
10	10.75	611-10751010-000	165
12	12.75	611-12751010-000	195
14	14.00	611-14001010-000	220
16	16.00	611-16001010-000	250
18	18.00	611-18001010-000	280
20	20.00	611-20001010-000	310
22	22.00	611-22001010-000	340
24	24.00	611-24001010-000	370

When expansion joints are furnished without slip pipes, the customer is responsible for providing a smooth surfaced, properly sized slip pipe and assumes all responsibility for proper operation of the expansion joint. The customer furnished slip pipe must have a prepared end at least 24 inches long that is round, smooth and no greater than +.30" or -.10" from nominal size.

With Slip Pipe // Without Limit Rods // Open (cold) Length = 38" // Weld End

STEEL PIPE SIZE		CATALOG NUMBER	WT. EACH LBS.
NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES (A)		
3	3.50	611-03502010-000	75
4	4.50	611-04502010-000	90
6	6.63	611-06632010-000	125
8	8.63	611-08632010-000	200
10	10.75	611-10752010-000	270
12	12.75	611-12752010-000	300
14	14.00	611-14002010-000	335
16	16.00	611-16002010-000	385
18	18.00	611-18002010-000	475
20	20.00	611-20002010-000	520
22	22.00	611-22002010-000	560
24	24.00	611-24002010-000	625

With Slip Pipe // Without Limit Rods // Open  
(cold) Length = 39" // Flanged End

STEEL PIPE SIZE		CATALOG NUMBER	WEIGHT EACH LBS.
NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES (A)		
3	3.50	611-03504010-000	90
4	4.50	611-04504010-000	115
6	6.63	611-06634010-000	165
8	8.63	611-08634010-000	260
10	10.75	611-10754010-000	355
12	12.75	611-12754010-000	425
14	14.00	611-14004010-000	515
16	16.00	611-16004010-000	580
18	18.00	611-18004010-000	735
20	20.00	611-20004010-000	850
22	22.00	611-22004010-000	930
24	24.00	611-24004010-000	1065

With Slip Pipe // With Limit Rods // Open  
(cold) Length = 40.5" // Weld End

STEEL PIPE SIZE		CATALOG NUMBER	WEIGHT LBS.
NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES (A)		
3	3.50	611-03503010-000	80
4	4.50	611-04503010-000	100
6	6.63	611-06633010-000	150
8	8.63	611-08633010-000	200
10	10.75	611-10753010-000	265
12	12.75	611-12753010-000	330
14	14.00	611-14003010-000	380
16	16.00	611-16003010-000	430
18	18.00	611-18003010-000	480
20	20.00	611-20003010-000	540
24	22.00 24.00	611-22003010-000 611-24003010-000	595 650

With Slip Pipe // With Limit Rods //  
Open (cold) Length = 50.5" // Flanged End

STEEL PIPE SIZE		CATALOG NUMBER	WEIGHT LBS.
NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES (A)		
3	3.50	611-03505010-000	95
4	4.50	611-04505010-000	125
6	6.63	611-06635010-000	185
8	8.63	611-08635010-000	260
10	10.75	611-10755010-000	350
12	12.75	611-12755010-000	460
14	14.00	611-14005010-000	560
16	16.00	611-16005010-000	685
18	18.00	611-18005010-000	740
20	20.00	611-20005010-000	870
22	22.00	611-22005010-000	965
24	24.00	611-24005010-000	1090



# Expansion Joint

## Double End

# 612

**Description:** A fitting with slip type joints with a slip pipe at each end to accommodate axial pipe movement.

**Application:** Absorbing changes in pipe length due to concentrated pipe movement in a given area of pipe

**NOTE:** *This fitting must always be anchored to prevent the total pipe movement from accumulating in one end.*

### Key Features:

- Meets applicable AWWA C221 Standards
- Compact in design and can be customized to handle many applications
- Available in a variety of end types: Plain ends beveled for welding and flange
- Accommodates a large amount of axial pipe movement, relieving stress buildup in the pipeline
- Hard Chrome-Plated Slip Pipe helps:
  - Ensure free movement
  - Reduce friction and wear on the packing rings
  - Resist scratching and scoring of the slip pipe surface
- Optional Limit Rods offer three important functions:
  - Limits travel of slip pipe, preventing it from pulling out of the body
  - When using two or more expansion joints, they activate the adjoining sleeve when the other has reached its full limit
  - Is used to indicate the position of the slip pipe within the body to know where it is in the expansion/contraction cycle
- Generous Packing Provides:
  - Great sealing between the body and the slip pipe
  - Increased life of the packing before replacement is necessary
  - The possibility of considerable tightening and adjustments in the future
  - Designed to allow replacement of packing without taking the expansion joint out of service

### Materials Specifications (subject to change)

BODY: Carbon Steel AISI C1015-20 or ASTM A283 GR. C

SLIP PIPE: Carbon Steel ASTM A53. ASTM A283 or AISI C1015-20. Hard chromed plated on a machined surface

GASKET: Alternate square rings of lubricant impregnated with fibrous packing and Nitrile (Buna N) rubber, compounded to resist oil, natural gas, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemicals

Temperature Range: -20°F to 180°F. For other temperature ranges, alternate packing materials can be offered

RODS: High strength low alloy Steel with heavy, semi-finished hexagon nut

BODY STUDS/BOLTS & NUTS: High strength low alloy Steel with heavy, semi-finished hexagon nut **Optional:** *Stainless Steel hardware for corrosive applications to allow re-torque of packing material*

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, Cast Iron

**Size (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



612

# Expansion Joint

## Double End

Without Slip Pipe // Without Limit Rods //  
Open (cold) Length = 36" // Weld End

STEEL PIPE SIZE		CATALOG NUMBER	WT EACH LBS.
NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES (A)		
3	3.50	612-03501010-000	60
4	4.50	612-04501010-000	75
6	6.63	612-06631010-000	100
8	8.63	612-08631010-000	145
10	10.75	612-10751010-000	180
12	12.75	612-12751010-000	205
14	14.00	612-14001010-000	235
16	16.00	612-16001010-000	265
18	18.00	612-18001010-000	305
20	20.00	612-20001010-000	335
22	22.00	612-22001010-000	370
24	24.00	612-24001010-000	400

When expansion joints are furnished without slip pipes, the customer is responsible for providing a smooth surfaced, properly sized slip pipe and assumes all responsibility for proper operation of the expansion joint. The customer furnished slip pipe must have a prepared end at least 24 inches long that is round, smooth and no greater than +.30" or -.10" from nominal size.

Without Slip Pipe // Without Limit Rods //  
Open (cold) Length = 36" // Weld End

STEEL PIPE SIZE		CATALOG NUMBER	WT EACH LBS.
NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES (A)		
3	3.50	612-03503010-000	100
4	4.50	612-04503010-000	130
6	6.63	612-06633010-000	190
8	8.63	612-08633010-000	270
10	10.75	612-10753010-000	100
12	12.75	612-12753010-000	130
14	14.00	612-14003010-000	190
16	16.00	612-16003010-000	270
18	18.00	612-18003010-000	610
20	20.00	612-20003010-000	700
22	22.00	612-22003010-000	770
24	24.00	612-24003010-000	840



With Slip Pipe // Without Limit Rods //  
Open (cold) Length = 48" // Weld End

STEEL PIPE SIZE		CATALOG NUMBER	WT. EACH LBS.
NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES (A)		
3	3.50	612-03502010-000	85
4	4.50	612-04502010-000	120
6	6.63	612-06632010-000	160
8	8.63	612-08632010-000	230
10	10.75	612-10752010-000	290
12	12.75	612-12752010-000	405
14	14.00	612-14002010-000	475
16	16.00	612-16002010-000	530
18	18.00	612-18002010-000	575
20	20.00	612-20002010-000	625
22	22.00	612-22002010-000	670
24	24.00	612-24002010-000	740

With Slip Pipe // Without Limit Rods // Open  
(cold) Length = 56" // Flanged End

STEEL PIPE SIZE		CATALOG NUMBER	WT. EACH LBS.
NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES (A)		
3	3.50	612-03504010-000	100
4	4.50	612-04504010-000	145
6	6.63	612-06634010-000	200
8	8.63	612-08634010-000	290
10	10.75	612-10754010-000	375
12	12.75	612-12754010-000	535
14	14.00	612-14004010-000	585
16	16.00	612-16004010-000	725
18	18.00	612-18004010-000	835
20	20.00	612-20004010-000	955
22	22.00	612-22004010-000	1040
24	24.00	612-24004010-000	1180

With Slip Pipe // With Limit Rods // Open  
(cold) Length = 71" // Flanged End

STEEL PIPE SIZE		CATALOG NUMBER	WT. EACH LBS.
NOMINAL PIPE SIZE INCHES	PIPE O.D. INCHES (A)		
3	3.50	612-03505010-000	115
4	4.50	612-04505010-000	155
6	6.63	612-06635010-000	230
8	8.63	612-08635010-000	330
10	10.75	612-10755010-000	435
12	12.75	612-12755010-000	555
14	14.00	612-14005010-000	665
16	16.00	612-16005010-000	745
18	18.00	612-18005010-000	870
20	20.00	612-20005010-000	1030
22	22.00	612-22005010-000	1140
24	24.00	612-24005010-000	1280



# Tapping Sleeves

## What Are Tapping Sleeves?

Fittings that can be clamped onto an existing main line to facilitate connecting a branch line.

Tapping can be executed while the pipe or vessel is energized (under pressure), called a hot tap, or while de-energized (no pressure in pipe), often referred to as a dry tap.



Smith-Blair  
a xylem brand



# Tapping Sleeve

## Carbon Steel

Available in flanged and MJ outlet versions

# 622

**Description:** Tapping sleeve.

**Application:** For 4" pipe and larger: reducing and size-on-size flanged outlets. Available with 3/4"-6" threaded outlets.

### Key Features:

- Easy to install
- Has range to reduce inventory
- Meets AWWA C223 Standards
- Epoxy Finish meets AWWA C213 Standards
- Virtually 360° support of the pipe
- Roll-resistant gasket will not bind
- Gasket seal increases with line pressure
- No special tools required to install the sleeve
- Flanged outlets are recessed to accept tapping valves
- Flexi-Coat® Fusion-Bonded Epoxy Finish is standard for superior corrosion resistance
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe (not available in standard 4" x 4")

### Materials Specifications (subject to change)

**BODY:** Carbon Steel ASTM A283 Grade C. **Type 304 Stainless Steel Optional**

**FLANGES:** AWWA C207 Class D, ANSI 150# drilling. Recessed for tapping valve per MSS-SP 60.

**Optional: Other types of flanges, threaded outlets; MJ outlets**

**GASKET:** Nitrile (Buna N) NSF-61/372 listed. Concave wedge gasket, compounded to resist water, oil, acids, alkalis, most (aliphatic) hydrocarbon fluids, and other chemicals

**Temperature Range:** up to +180°F

**BOLTS & NUTS:** High strength low alloy Steel with heavy semi-finished hexagon nuts to STM A-307 (ANSI A21.11) standards. **Optional Type 304 Stainless Steel bolts and nuts are coated to prevent galling**

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 175 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC

**Sizes (in inches):** See attached charts for dimensional data



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

622



# Tapping Sleeve

Carbon Steel

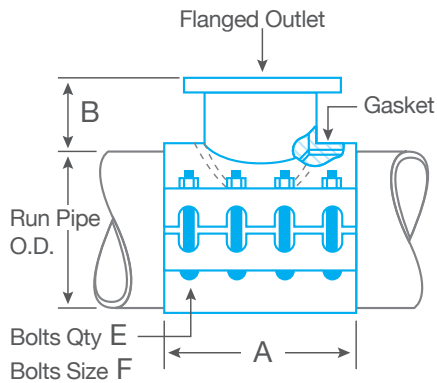
Available in flanged and MJ outlet versions

## Dimensional Data

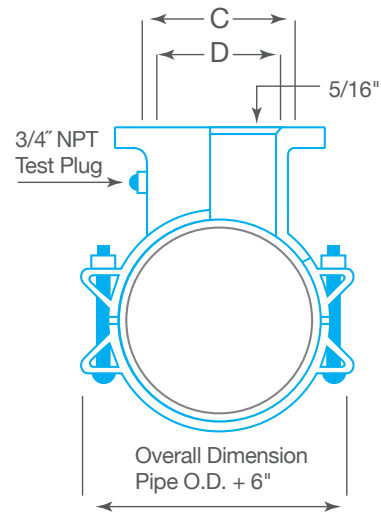
OUTLET SIZE	NOMINAL BODY SIZE	BODY THICKNESS (IN)	A (IN)	B (IN)	C (IN)	D (IN)	E	F (IN)
4	4	1/4" Top x 3/16" Bottom	9	5	5 1/16	4 1/32	6	5/8
	6	3/8	12	5	5 1/16	4 19/32	8	5/8
	8 - 30	3/8	12	5	5 1/16	4 19/32	6	3/4
6	6	3/8	12	5	7 1/16	6 1/18	8	5/8
	8 - 30	3/8	12	5	7 1/16	6 1/2	6	3/4
8	8	3/8	16	5	9 1/16	8 1/8	8	3/4
	10 - 30	3/8	16	5	9 1/16	8 1/2	8	3/4
10	10 - 30	3/8	20	5	11 3/32	10 1/4	10	3/4
12	14 - 24	3/8	20	5	13 3/32	12 1/4	10	3/4
	30	3/8	24	5	13 3/32	12 1/4	12	3/4

Larger sizes and outlets available upon request. For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 622-127504MJ-003.

## Side View



## End View



NOMINAL SIZE OF PIPE X FLANGED OUTLET	OD RANGE INCHES	FLEXI-COAT® EPOXY WITH ALLOY BOLTS CATALOG NUMBER	FLEXI-COAT® EPOXY WITH STAINLESS STEEL BOLTS CATALOG NUMBER	WEIGHT EACH POUNDS
4 x 4*	4.50	622-04500400-203	622-04500400-231	34
4 x 4*	4.80	622-04800400-203	622-04800400-231	34
4-5 x 6	5.00-5.22	622-05100400-203	622-05100400-231	34
6 x 4	6.57-6.73	622-06630400-003	622-06630400-031	71
6 x 6*		622-06630600-203	622-06630600-231	76
6 x 4	6.90-7.20	622-06900400-003	622-06900400-031	71
6 x 6*		622-06900600-203	622-06900600-231	76
6 x 4	7.07-7.40	622-07200400-003	622-07200400-031	71
6 x 6*		622-07200600-203	622-07200600-231	76
6 x 4	7.40-7.73	622-07450400-003	622-07450400-031	71
8 x 4	7.80-8.13	622-08000400-003	622-08000400-031	78
8 x 6		622-08000600-003	622-08000600-031	87
8 x 4	8.36-8.75	622-08630400-003	622-08630400-031	78
8 x 6		622-08630600-003	622-08630600-031	87
8 x 8*		622-08630800-203	622-08630800-231	117
8 x 8*	8.73-9.12	622-08800800-203	622-08800800-231	78
8 x 4	9.05-9.40	622-09050400-003	622-09050400-031	78
8 x 6		622-09050600-003	622-09050600-031	87
8 x 8*		622-09050800-203	622-09050800-231	117
8 x 4	9.27-9.69	622-09400400-003	622-09400400-031	78
8 x 6		622-09400600-003	622-09400600-031	87
8 x 8*		622-09400800-203	622-09400800-231	117
8-10 x 4	9.68-10.10	622-10000400-003	622-10000400-031	82
8-10 x 6		622-10000600-003	622-10000600-031	94
8-10 x 8*		622-10000800-203	622-10000800-231	125
10 x 4	10.45-10.88	622-10750400-003	622-10750400-031	82
10 x 6		622-10750600-003	622-10750600-031	94
10 x 8		622-10750800-003	622-10750800-031	125
10 x 10*		622-10751000-203	622-10751000-231	138
10 x 4	11.03-11.47	622-11100400-003	622-11100400-031	82
10 x 6		622-11100600-003	622-11100600-031	94
10 x 8		622-11100800-003	622-11100800-031	125
10 x 10*		622-11101000-203	622-11101000-231	138
10 x 4	11.36-11.80	622-11400400-003	622-11400400-031	82
10 x 6		622-11400600-003	622-11400600-031	94
10 x 8		622-11400800-003	622-11400800-031	125
10 x 10*		622-11401000-203	622-11401000-231	138
10-12 x 4	11.76-12.20	622-12000400-003	622-12000400-031	97
10-12 x 6		622-12000600-003	622-12000600-031	103
10-12 x 8		622-12000800-003	622-12000800-031	135
10-12 x 10*		622-12001000-203	622-12001000-231	170
12 x 4	12.42-12.88	622-12750400-003	622-12750400-031	97
12 x 6		622-12750600-003	622-12750600-031	103
12 x 8		622-12750800-003	622-12750800-031	135
12 x 10		622-12751000-003	622-12751000-031	170
12 x 12*		622-12751200-203	622-12751200-231	201
12 x 4		13.13-13.60	622-13200400-003	622-13200400-031
12 x 6	622-13200600-003		622-13200600-031	103
12 x 8	622-13200800-003		622-13200800-031	135
12 x 10	622-13201000-003		622-13201000-031	170
12 x 12*	622-13201200-203		622-13201200-231	201

\*Size on size taps require a 1/2" undersized shell cutter. Larger size on size and smaller sized tapping sleeve are available upon request. Also available in Stainless Steel. For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 622-127504MJ-003.

NOMINAL SIZE OF PIPE X FLANGED OUTLET	OD RANGE INCHES	FLEXI-COAT® EPOXY WITH ALLOY BOLTS CATALOG NUMBER	FLEXI-COAT® EPOXY WITH STAINLESS STEEL BOLTS CATALOG NUMBER	WEIGHT EACH POUNDS
12 x 4	13.60-14.09	622-13820400-003	622-13820400-031	97
12 x 6		622-13820600-003	622-13820600-031	103
12 x 8		622-13820800-003	622-13820800-031	135
12 x 10		622-13821000-003	622-13821000-031	170
12 x 12*		622-13821200-203	622-13821200-231	201
12 x 4	14.10-14.58	622-14250400-003	622-14250400-031	103
12 x 6		622-14250600-003	622-14250600-031	111
12 x 8		622-14250800-003	622-14250800-031	145
12 x 10		622-14251000-003	622-14251000-031	204
12 x 12*		622-14251200-203	622-14251200-231	229
12 x 4	14.59-15.08	622-14750400-003	622-14750400-031	108
12 x 6		622-14750600-003	622-14750600-031	111
12 x 8		622-14750800-003	622-14750800-031	148
12 x 10		622-14751000-003	622-14751000-031	204
12 x 12*		622-14751200-003	622-14751200-031	229
14 x 4	15.23-15.72	622-15300400-003	622-15300400-031	108
14 x 6		622-15300600-003	622-15300600-031	111
14 x 8		622-15300800-003	622-15300800-031	148
14 x 10		622-15301000-003	622-15301000-031	204
14 x 12		622-15301200-003	622-15301200-031	229
14-16 x 4	15.73-16.22	622-16000400-003	622-16000400-031	108
14-16 x 6		622-16000600-003	622-16000600-031	111
14-16 x 8		622-16000800-003	622-16000800-031	148
14-16 x 10		622-16001000-003	622-16001000-031	204
14-16 x 12		622-16001200-003	622-16001200-031	229
14-16 x 4	16.30-16.73	622-16470400-003	622-16470400-031	108
14-16 x 6		622-16470600-003	622-16470600-031	111
14-16 x 8		622-16470800-003	622-16470800-031	148
14-16 x 10		622-16471000-003	622-16471000-031	204
14-16 x 12		622-16471200-003	622-16471200-031	229
14-16 x 4	16.74-17.26	622-16840400-003	622-16840400-031	108
14-16 x 6		622-16840600-003	622-16840600-031	111
14-16 x 8		622-16840800-003	622-16840800-031	148
14-16 x 10		622-16841000-003	622-16841000-031	204
14-16 x 12		622-16841200-003	622-16841200-031	229
16 x 4	17.33-17.87	622-17400400-003	622-17400400-031	117
16 x 6		622-17400600-003	622-17400600-031	122
16 x 8		622-17400800-003	622-17400800-031	162
16 x 10		622-17401000-003	622-17401000-031	216
16 x 12		622-17401200-003	622-17401200-031	245
16 x 4	17.88-18.43	622-18000400-003	622-18000400-031	117
16 x 6		622-18000600-003	622-18000600-031	122
16 x 8		622-18000800-003	622-18000800-031	162
16 x 10		622-18001000-003	622-18001000-031	216
16 x 12		622-18001200-003	622-18001200-031	245
16 x 4	18.46-19.03	622-18780400-003	622-18780400-031	117
16 x 6		622-18780600-003	622-18780600-031	122
16 x 8		622-18780800-003	622-18780800-031	162
16 x 10		622-18781000-003	622-18781000-031	216
16 x 12		622-18781200-003	622-18781200-031	245

\*Size on size taps require a 1/2" undersized shell cutter. Larger size on size and smaller sized tapping sleeve are available upon request. Also available in Stainless Steel. For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 622-127504MJ-003.

NOMINAL SIZE OF PIPE X FLANGED OUTLET	OD RANGE INCHES	FLEXI-COAT® EPOXY WITH ALLOY BOLTS CATALOG NUMBER	FLEXI-COAT® EPOXY WITH STAINLESS STEEL BOLTS CATALOG NUMBER	WEIGHT EACH POUNDS
18 x 4	18.87-19.45	622-19200400-003	622-19200400-031	117
18 x 6		622-19200600-003	622-19200600-031	122
18 x 8		622-19200800-003	622-19200800-031	162
18 x 10		622-19201000-003	622-19201000-031	216
18 x 12		622-19201200-003	622-19201200-031	245
18 x 4	19.41-20.01	622-19500400-003	622-19500400-031	117
18 x 6		622-19500600-003	622-19500600-031	122
18 x 8		622-19500800-003	622-19500800-031	162
18 x 10		622-19501000-003	622-19501000-031	216
18 x 12		622-19501200-003	622-19501200-031	245
18-20 x 4	19.88-20.48	622-20000400-003	622-20000400-031	122
18-20 x 6		622-20000600-003	622-20000600-031	130
18-20 x 8		622-20000800-003	622-20000800-031	180
18-20 x 10		622-20001000-003	622-20001000-031	232
18-20 x 12		622-20001200-003	622-20001200-031	284
20 x 4	20.29-20.92	622-20640400-003	622-20640400-031	122
20 x 6		622-20640600-003	622-20640600-031	130
20 x 8		622-20640800-003	622-20640800-031	180
20 x 10		622-20641000-003	622-20641000-031	232
20 x 12		622-20641200-003	622-20641200-031	284
20 x 4	20.93-21.57	622-21320400-003	622-21320400-031	122
20 x 6		622-21320600-003	622-21320600-031	130
20 x 8		622-21320800-003	622-21320800-031	180
20 x 10		622-21321000-003	622-21321000-031	232
20 x 12		622-21321200-003	622-21321200-031	284
20 x 4	21.51-22.15	622-21600400-003	622-21600400-031	122
20 x 6		622-21600600-003	622-21600600-031	130
20 x 8		622-21600800-003	622-21600800-031	180
20 x 10		622-21601000-003	622-21601000-031	232
20 x 12		622-21601200-003	622-21601200-031	284
20 x 4	22.16-22.81	622-22680400-003	622-22680400-031	122
20 x 6		622-22680600-003	622-22680600-031	130
20 x 8		622-22680800-003	622-22680800-031	180
20 x 10		622-22681000-003	622-22681000-031	232
20 x 12		622-22681200-003	622-22681200-031	284
20 x 4	22.78-23.45	622-22940400-003	622-22940400-031	133
20 x 6		622-22940600-003	622-22940600-031	144
20 x 8		622-22940800-003	622-22940800-031	197
20 x 10		622-22941000-003	622-22941000-031	258
20 x 12		622-22941200-003	622-22941200-031	284
20 x 4	23.46-24.16	622-24000400-003	622-24000400-031	133
20 x 6		622-24000600-003	622-24000600-031	144
20 x 8		622-24000800-003	622-24000800-031	197
20 x 10		622-24001000-003	622-24001000-031	258
20 x 12		622-24001200-003	622-24001200-031	284

\*Size on size taps require a ½" undersized shell cutter. Larger size on size and smaller sized tapping sleeve are available upon request. Also available in Stainless Steel. For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 622-127504MJ-003.

NOMINAL SIZE OF PIPE X FLANGED OUTLET	OD RANGE INCHES	FLEXI-COAT® EPOXY WITH ALLOY BOLTS CATALOG NUMBER	FLEXI-COAT® EPOXY WITH STAINLESS STEEL BOLTS CATALOG NUMBER	WEIGHT EACH POUNDS
24 x 4	24.15-24.85	622-24500400-003	622-24500400-031	133
24 x 6		622-24500600-003	622-24500600-031	144
24 x 8		622-24500800-003	622-24500800-031	197
24 x 10		622-24501000-003	622-24501000-031	258
24 x 12		622-24501200-003	622-24501200-031	284
24 x 4	24.82-25.52	622-25020400-003	622-25020400-031	133
24 x 6		622-25020600-003	622-25020600-031	144
24 x 8		622-25020800-003	622-25020800-031	197
24 x 10		622-25021000-003	622-25021000-031	258
24 x 12		622-25021200-003	622-25021200-031	284
24 x 4	25.71-26.41	622-25800400-003	622-25800400-031	149
24 x 6		622-25800600-003	622-25800600-031	157
24 x 8		622-25800800-003	622-25800800-031	219
24 x 10		622-25801000-003	622-25801000-031	286
24 x 12		622-25801200-003	622-25801200-031	304
24 x 4	26.55-27.25	622-27120400-003	622-27120400-031	149
24 x 6		622-27120600-003	622-27120600-031	157
24 x 8		622-27120800-003	622-27120800-031	219
24 x 10		622-27121000-003	622-27121000-031	286
24 x 12		622-27121200-003	622-27121200-031	304
24 x 4	27.26-27.96	622-27460400-003	622-27460400-031	149
24 x 6		622-27460600-003	622-27460600-031	157
24 x 8		622-27460800-003	622-27460800-031	219
24 x 10		622-27461000-003	622-27461000-031	286
24 x 12		622-27461200-003	622-27461200-031	304
24 x 4	28.14-28.84	622-28340400-003	622-28340400-031	149
24 x 6		622-28340600-003	622-28340600-031	157
24 x 8		622-28340800-003	622-28340800-031	219
24 x 10		622-28341000-003	622-28341000-031	286
24 x 12		622-28341200-003	622-28341200-031	304
30 x 4	29.78-30.48	622-30000400-003	622-30000400-031	156
30 x 6		622-30000600-003	622-30000600-031	160
30 x 8		622-30000800-003	622-30000800-031	219
30 x 10		622-30001000-003	622-30001000-031	292
30 x 12		622-30001200-003	622-30001200-031	315
30 x 4	30.48-31.18	622-30750400-003	622-30750400-031	156
30 x 6		622-30750600-003	622-30750600-031	160
30 x 8		622-30750800-003	622-30750800-031	219
30 x 10		622-30751000-003	622-30751000-031	292
30 x 12		622-30751200-003	622-30751200-031	315
30 x 4	31.52-32.22	622-32000400-003	622-32000400-031	156
30 x 6		622-32000600-003	622-32000600-031	160
30 x 8		622-32000800-003	622-32000800-031	219
30 x 10		622-32001000-003	622-32001000-031	292
30 x 12		622-32001200-003	622-32001200-031	315

\*Size on size taps require a 1/2" undersized shell cutter. Larger size on size and smaller sized tapping sleeve are available upon request. Also available in Stainless Steel. For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 622-127504MJ-003.





# Tapping Sleeve

## Mechanical Joint Tapping Sleeve

Fabricated

# 623



**Description:** Tapping sleeve Carbon Steel Mechanical Joint

**Application:** For reducing and size-on-size flanged outlets 4" and up

### Key Features:

- Meets AWWA C223 Standards
- No special tools required to install the sleeve
- Seals 360° around the pipe in case the pipe breaks
- Flanged outlets are recessed to accept tapping valve
- Flexi-Coat® epoxy finish is standard for superior corrosion resistance
- Lighter and easier to install than comparable Cast Ductile Iron sleeves
- ¾" test outlet to allow hydrostatic pressure test before tapping the pipe
- Delivery is generally quicker because the tapping sleeve is not a casting
- Body can be built to accommodate any size pipe diameter, unlike cast sleeves

### Materials Specifications (subject to change)

FLANGE: Carbon Steel. AWWA C207 Class D ANSI drilling

TEST PLUG: ¾" NPT with standard square head

OUTLET: ASTM A283 Grade C Carbon Steel

BODY: ASTM A283 Grade C Carbon Steel

BOLTS & NUTS: High strength, low alloy per AWWA C111 (ANSI A21.11) **Optional 304 Stainless Steel**

LUGS: ASTM A36 Carbon Steel

COATING: Flexi-Coat® Fusion-Bonded Epoxy Finish, per AWWA C213

GASKETS: Nitrile (Buna N) Concave Wedge Gasket compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and many chemicals

Temperature Range: up to +180

GLAND: AISI C 1020 Steel or Ductile Iron ASTM A536 depending on size

**Working Pressure:** Up to 175 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. **For other pipe materials, please contact Smith-Blair Engineering.**

**Sizes (in inches):** *Please contact Smith-Blair for styles, sizes and pricing.*



# Tapping Sleeve

## Reinforced Concrete Pipe

# 625



**Description:** Tapping sleeve, Carbon Steel.

**Application:** For reducing size-on-size flanged outlets 4" and up on Concrete Cylinder pipe. Mechanical joint outlets are available.

### Key Features:

- Designed specifically for lined and coated pre-stressed and non pre-stressed concrete cylinder pipe
- No welding required
- Stripping of the concrete finish is eliminated except in the area of the outlet
- The body of the sleeve is mounted on the pipe before the reinforcing wires are removed from the Steel Cylinder and the outlet neck inserted after the reinforcing wires are removed
- The sleeves' concave wedge gasket seals efficiently
- A series of studs compresses the adjustable outlet against the Steel cylinder

### Materials Specifications (subject to change)

BODY: ASTM A283 Grade C Carbon Steel

FLANGES: AWWA C207 Class D, ANSI 150# drilling

GASKET: Nitrile (Buna N) NSF-61 listed. Concave wedge gasket, compounded to resist water, oil, acids, alkalis, most (aliphatic) hydrocarbon fluids, and other chemicals. Temperatures up to 180°F

STRAPS: Carbon Steel ASTM A36. **Type 304 Stainless Steel Optional**

BOLTS & NUTS: High strength, low alloy Steel with heavy semi-finished hexagon nuts to AWWA C111 (ANSI A21. 11) standards. **Optional Type 304 Stainless Steel bolts and nuts are coated**

SEAL PLATE: Carbon Steel ASTM 283 Grade C C/A36 ASTM A36

GROUT PIPES: Carbon Steel ASTM A53 Grade B

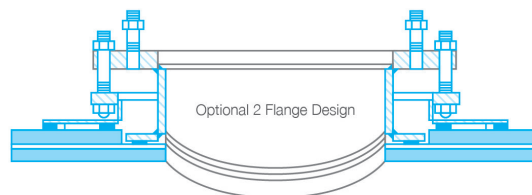
GROUT SEAL: One inch Square Foam Rubber

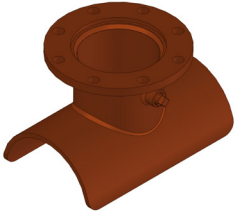
FINISH: Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Reinforced Concrete Pipe

**Sizes (in inches):** *Please contact Smith-Blair for styles, sizes and pricing.*





# Fabricated Weld-On Outlet

## Four Types Available

# 626



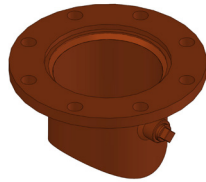
**Description:** Custom weld on outlets that can be made of either Carbon Steel or Stainless Steel and can be welded on to Steel to allow for Steel pipe taps.

**Application:** Economical way to tap Steel pipe.

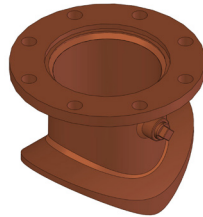
**Materials Specifications (subject to change):** Based on customer need, Smith-Blair can fabricate to materials and size specifications in carbon or Stainless Steel.

**Sizes:** 3" Nominal and up

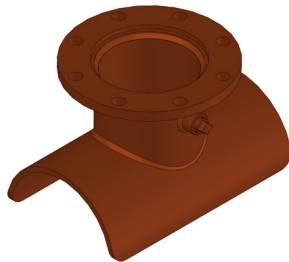
### Style Options:



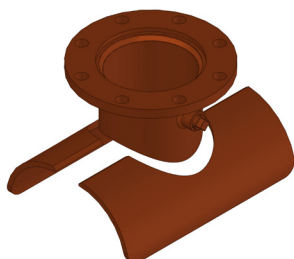
Type 1 — Flange and Neck Only



Type 2 — Flange, Neck and Weld Plate



Type 3 — Top Half Tapping Sleeves



Type 4 — Split Body, Three piece Tapping Sleeve



# Fabricated Weld-On Outlet

Two Types Available

# 627

**Description:** Custom weld on outlets that can be made of either Carbon Steel or Stainless Steel and can be welded on to Steel to allow for Steel pipe taps.

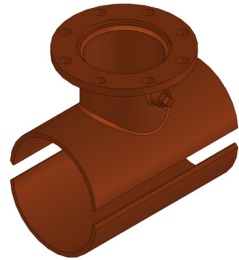
**Application:** Economical way to tap Steel pipe.

**Materials Specifications (subject to change)**

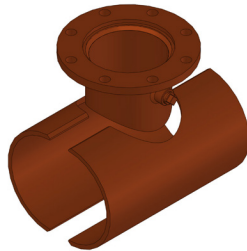
Based on customer need, Smith-Blair can fabricate to materials and size specifications

**Sizes:** 3" Nominal and up

**Style Options:**



Type 1 — Full Body, Two-Piece Tapping Sleeve



Type 2 — Full Body, Three-Piece Tapping Sleeve



# Tapping Sleeve

## Stainless Steel Body and Neck w/Carbon Steel Flange

# 662



**Description:** Stainless steel tapping sleeve with epoxy-coated carbon steel flange and 360° gasket seal.

**Application:** For tapping size-on-size or reducing branch connections on new or existing pipe.

### Key Features:

- Easy to install
- Range helps reduce inventory
- Meets applicable AWWA C223 Standards
- Molded-in ring in the gasket to ensure effective sealing
- Nylon washers are provided to improve bolt torque capability
- Heavy gauge, all-Stainless Steel body for rugged performance
- Fully chemically passivated for maximum corrosion protection
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Body drawn out to accept the outlet neck adding to the overall strength of the area under the most stress

### Materials Specifications (subject to change)

**BODY:** Full circumference band. 18-8 type 304 Stainless Steel

**FLANGES:** AWWA C207 Class D, ANSI 150# drilling. Recessed for Tapping Valve per MSS-SP 60

Fusion-Bonded, Flexi-Coat® epoxy coated Carbon Steel. **Optional: Other types of Flanges, threaded outlets, MJ Outlets**

**GASKET:** Nitrile (Buna-N) NSF® 61/372 compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids and many chemical

**Temperature Range:** up to +180°F

**BOLTS, NUTS & WASHERS:** 18-8 Type 304 Stainless Steel heavy hex nuts, stud bolts & washers. Nuts and studs are coated to prevent galling

### Working/Test Pressure:

- 4" – 12" nominal pipe size(s) = 240 psi / 300 psi
- 14" – 20" nominal pipe size(s) = 180 psi / 225psi
- 24" nominal pipe size = 120 psi / 150 psi

**Pipe Applications:** Carbon Steel, Stainless Steel, Cast Iron, Asbestos Cement, PVC, HDPE, Ductile Iron

**Sizes:** 4"-24" Nominal with 4"-12" Outlets

*NOTE: See Specification Sheet for HDPE and PVC application details.*



# Tapping Sleeve

## All Stainless Steel

# 663



**Description:** All stainless steel tapping sleeve with 360° gasket seal.

**Application:** For tapping size-on-size or reducing branch connections on new or existing pipe.

### Key Features:

- Easy to install
- Range helps reduce inventory
- Meets applicable AWWA C223 Standards
- Molded-in ring in the gasket to ensure effective sealing
- Nylon washers provided to improve bolt torque capability
- Heavy gauge, all-Stainless Steel body for rugged performance
- Fully chemically passivated for maximum corrosion protection
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Body drawn out to accept the outlet neck adding to the overall strength of the area under the most stress

### Materials Specifications (subject to change)

**BODY:** Full circumference band. 18-8 type 304 Stainless Steel

**FLANGES:** AWWA C228 Class SD, ANSI 150# drilling. Recessed for Tapping Valve Per MSS-SP 60. 18-8 type 304 Stainless Steel flange on 663. **Optional: Other types of Flanges, threaded outlets, MJ Outlets**

**GASKET:** Nitrile (Buna-N NSF/ANSI 61/372 certified to resist water, oil, acids, alkalies, most (aliphatic hydrocarbon fluids and many chemicals. Temperatures up to 180°F

**BOLTS, NUTS & WASHERS:** 18-8 Type 304 Stainless Steel heavy hex nuts, stud bolts & washers. Nuts and studs are coated to prevent galling

### Working Pressure:

- 4" – 12" nominal pipe size(s) = 240 psi / 300 psi
- 14" – 20" nominal pipe size(s) = 180 psi / 225psi
- 24" nominal pipe size = 120 psi / 150 psi

**Pipe Applications:** Carbon Steel, Stainless Steel, Cast Iron, Asbestos Cement, PVC, HDPE, Ductile Iron

**Sizes:** 4"-24" Nominal with 4"-12" Outlets

*NOTE: See Specification Sheet for HDPE and PVC application details.*

662-663

# Tapping Sleeve

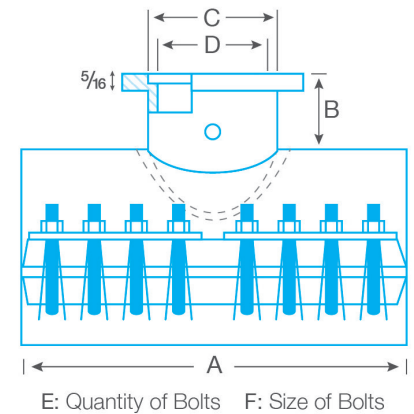
## Carbon Steel and Stainless Steel Flange

### Tapping Sleeve Specification

OUTLET SIZE	NOMINAL BODY SIZE	A (IN.)	B (IN.)	C (IN.)	D (IN.)	E	F (IN.)
4	4	15	5	5 1/16	4 1/4	8	5/8
	6-18	15	5	5 1/16	4 1/4	8	5/8
	20-24	20	5	5 1/16	4 1/4	15	5/8
6	6	15	5	7 1/16	6 5/16	8	5/8
	8-18	15	5	7 1/16	6 5/16	8	5/8
	20-24	20	5	7 1/16	6 5/16	15	5/8
8	8	20	5	9 1/16	8 3/8	10	5/8
	10-18	20	5	9 1/16	8 3/4	10	5/8
	20-24	25	5	9 1/16	8 3/4	24	5/8
10	10	25	5	11 3/32	10 1/4	16	5/8
	12-18	25	5	11 3/32	10 3/4	16	5/8
	20-24	25	5	11 3/32	10 3/4	24	5/8
12	12	25	5	13 3/32	12 1/4	16	5/8
	14-18	25	5	13 3/32	12 3/4	16	5/8
	20-24	25	5	13 3/32	12 3/4	24	5/8

Optional 316 Stainless Steel. For MJ Outlets, replace the last two 00s in the middle eight digits with MJ. Example: 662-127504MJ-000

NOMINAL SIZE OF PIPE X FLANGED OUTLET	OD RANGE (INCHES)	662 FLEXI-COAT® EPOXY COATED CARBON STEEL FLANGE	663 STAINLESS STEEL FLANGE	APPROX WEIGHT EACH LBS.
		CATALOG NUMBER	CATALOG NUMBER	
4 X 4	4.46-4.86	662-04800400-200	663-04800400-200	32
4 X 4	4.80-5.10	662-05000400-200	663-05000400-200	34
4 X 4	4.95-5.35	662-05100400-200	663-05100400-200	40
6 X 4 6 X 6	6.59-6.99	662-06630400-000 662-06630600-200	663-06630400-000 663-06630600-200	38 42
6 X 4 6 X 6	6.84-7.30	662-06900400-000 662-06900600-200	663-06900400-000 663-06900600-200	38 42
6 X 4 6 X 6	7.10-7.50	662-07200400-000 662-07200600-200	663-07200400-000 663-07200600-200	38 42
6 X 4 6 X 6	7.40-7.80	662-07450400-000 662-07450600-200	663-07450400-000 663-07450600-200	38 42
8 X 4 8 X 6	7.90-8.30	662-08000400-000 662-08000600-000	663-08000400-000 663-08000600-000	43 63
8 X 4	8.62-9.06	662-08630400-000	663-08630400-000	43
8 X 6		662-08630600-000	663-08630600-000	47
8 X 8		662-08630800-200	663-08630800-200	63
8 X 4	8.99-9.45	662-09050400-000	663-09050400-000	43
8 X 6		662-09050600-000	663-09050600-000	47
8 X 8		662-09050800-200	663-09050800-200	63
8 X 4	9.20-9.60	662-09450400-000	663-09450400-000	43
8 X 6		662-09450600-000	663-09450600-000	47
8 X 8		662-09450800-200	663-09450800-200	63



For MJ Outlets, replace the last two 00s in the middle eight digits with MJ. Example: 662-127504MJ-000

NOMINAL SIZE OF PIPE X FLANGED OUTLET	OD RANGE (INCHES)	662 FLEXI-COAT® EPOXY COATED CARBON STEEL FLANGE	663 STAINLESS STEEL FLANGE	APPROX WEIGHT EACH LBS.
		CATALOG NUMBER	CATALOG NUMBER	
8 X 4	9.60-10.00	662-09650400-000	663-09650400-000	43
8 X 6		662-09650600-000	663-09650600-000	47
8 X 8		662-09650800-200	663-09650800-200	63
10 X 4	9.90-10.30	662-10000400-000	663-10000400-000	47
10 X 6		662-10000600-000	663-10000600-000	51
10 X 8		662-10000800-000	663-10000800-000	70
10 X 4	10.73-11.13	662-10750400-000	663-10750400-000	47
10 X 6		662-10750600-000	663-10750600-000	51
10 X 8		662-10750800-000	663-10750800-000	70
10 X 10		662-10751000-200	663-10751000-200	75
10 X 4	11.05-11.45	662-11100400-000	663-11100400-000	47
10 X 6		662-11100600-000	663-11100600-000	51
10 X 8		662-11100800-000	663-11100800-000	70
10 X 10		662-11101000-200	663-11101000-200	75
10 X 4	11.70-12.10	662-11750400-000	663-11750400-000	47
10 X 6		662-11750600-000	663-11750600-000	51
10 X 8		662-11750800-000	663-11750800-000	70
10 X 10		662-11751000-200	663-11751000-200	75
10 X 4	12.00-12.40	662-12000400-000	663-12000400-000	47
10 X 6		662-12000600-000	663-12000600-000	51
10 X 8		662-12000800-000	663-12000800-000	70
10 X 10		662-12001000-200	663-12001000-200	75
12 x 4	12.50-12.90	662-12750400-000	663-12750400-000	51
12 x 6		662-12750600-000	663-12750600-000	55
12 x 8		662-12750800-000	663-12750800-000	75
12 x 10		662-12751000-000	663-12751000-000	80
12 x 12		662-12751200-200	663-12751200-200	110
12 x 4	13.16-13.56	662-13200400-000	663-13200400-000	51
12 x 6		662-13200600-000	663-13200600-000	55
12 x 8		662-13200800-000	663-13200800-000	75
12 x 10		662-13201000-000	663-13201000-000	80
12 x 12		662-13201200-200	663-13201200-200	110
12 x 4	13.60-14.09	662-13820400-000	663-13820400-000	51
12 x 6		662-13820600-000	663-13820600-000	55
12 x 8		662-13820800-000	663-13820800-000	75
12 x 10		662-13821000-000	663-13821000-000	80
12 x 12		662-13821200-200	663-13821200-200	110
12 x 4	14.10-14.58	662-14250400-000	663-14250400-000	51
12 x 6		662-14250600-000	663-14250600-000	55
12 x 8		662-14250800-000	663-14250800-000	75
12 x 10		662-14251000-000	663-14251000-000	80
12 x 12		662-14251200-200	663-14251200-200	110
14 x 4	15.30-15.80	662-15300400-000	663-15300400-000	72
14 x 6		662-15300600-000	663-15300600-000	76
14 x 8		662-15300800-000	663-15300800-000	95
14 x 10		662-15301000-000	663-15301000-000	102
14 x 12		662-15301200-000	663-15301200-000	135

For MJ Outlets, replace the last two 00s in the middle eight digits with MJ. Example: 662-127504MJ-000



NOMINAL SIZE OF PIPE X FLANGED OUTLET	OD RANGE (INCHES)	662 FLEXI-COAT® EPOXY COATED CARBON STEEL FLANGE	663 STAINLESS STEEL FLANGE	APPROX WEIGHT EACH LBS.
		CATALOG NUMBER	CATALOG NUMBER	
14 x 4	15.80-16.30	662-16000400-000	663-16000400-000	72
14 x 6		662-16000600-000	663-16000600-000	76
14 x 8		662-16000800-000	663-16000800-000	95
14 x 10		662-16001000-000	663-16001000-000	102
14 x 12		662-16001200-000	663-16001200-000	135
14 x 4	16.40-16.80	662-16400400-000	663-16400400-000	72
14 x 6		662-16400600-000	663-16400600-000	76
14 x 8		662-16400800-000	663-16400800-000	95
14 x 10		662-16401000-000	663-16401000-000	102
14 x 12		662-16401200-000	663-16401200-000	135
16 x 4	17.40-17.80	662-17400400-000	663-17400400-000	77
16 x 6		662-17400600-000	663-17400600-000	82
16 x 8		662-17400800-000	663-17400800-000	103
16 x 10		662-17401000-000	663-17401000-000	108
16 x 12		662-17401200-000	663-17401200-000	145
16-18 x 4	18.60-19.20	662-18700400-000	663-18700400-000	77
16-18 x 6		662-18700600-000	663-18700600-000	82
16-18 x 8		662-18700800-000	663-18700800-000	103
16-18 x 10		662-18701000-000	663-18701000-000	108
16-18 x 12		662-18701200-000	663-18701200-000	145
18-20 x 4	19.50-20.10	662-19500400-000	663-19500400-000	78
18-20 x 6		662-19500600-000	663-19500600-000	82
18-20 x 8		662-19500800-000	663-19500800-000	105
18-20 x 10		662-19501000-000	663-19501000-000	111
18-20 x 12		662-19501200-000	663-19501200-000	147
18-20 x 4	20.90-21.59	662-20900400-000	663-20900400-000	78
18-20 x 6		662-20900600-000	663-20900600-000	82
18-20 x 8		662-20900800-000	663-20900800-000	105
18-20 x 10		662-20901000-000	663-20901000-000	111
18-20 x 12		662-20901200-000	663-20901200-000	147
20 x 4	21.60-22.40	662-21600400-000	663-21600400-000	88
20 x 6		662-21600600-000	663-21600600-000	94
20 x 8		662-21600800-000	663-21600800-000	118
20 x 10		662-21601000-000	663-21601000-000	124
20 x 12		662-21601200-000	663-21601200-000	160
20-24 x 4	23.50-24.20	662-23500400-000	663-23500400-000	95
20-24 x 6		662-23500600-000	663-23500600-000	100
20-24 x 8		662-23500800-000	663-23500800-000	122
20-24 x 10		662-23501000-000	663-23501000-000	130
20-24 x 12		662-23501200-000	663-23501200-000	169
24 x 4	25.80-26.60	662-25800400-000	663-25800400-000	95
24 x 6		662-25800600-000	663-25800600-000	100
24 x 8		662-25800800-000	663-25800800-000	122
24 x 10		662-25801000-000	663-25801000-000	130
24 x 12		662-25801200-000	663-25801200-000	170
24 x 4	28.30-29.00	662-28300400-000	663-28300400-000	103
24 x 6		662-28300600-000	663-28300600-000	109
24 x 8		662-28300800-000	663-28300800-000	133
24 x 10		662-28301000-000	663-28301000-000	141
24 x 12		662-28301200-000	663-28301200-000	185

For MJ Outlets, replace the last two 00s in the middle eight digits with MJ. Example: 662-127504MJ-000



# Tapping Sleeve

Stainless Steel Body and Neck w/Carbon Steel Flange

# 664



**Description:** Stainless steel tapping sleeve with epoxy-coated carbon steel flange, 360° gasket seal, and removable bolts.

**Application:** For tapping size-on-size or reducing branch connections on new or existing pipe.

## Key Features:

- Easy to install
- Range helps reduce inventory
- Meets applicable AWWA C223 Standards
- Molded-in ring in the gasket to ensure effective sealing
- Nylon washers to improve bolt torque capability
- Heavy gauge, all-Stainless Steel body for rugged performance
- Fully chemically passivated for maximum corrosion protection
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Body drawn out to accept the outlet neck adding to the overall strength of the area under the most stress

## Materials Specifications (subject to change)

**BODY:** Full circumference band. 18-8 type 304 Stainless Steel

**FLANGES:** AWWA C207 Class D, ANSI 150# drilling. Recessed for Tapping Valve per MSS-SP 60.

Fusion-Bonded, Flexi-Coat® epoxy coated Carbon Steel

### **Optional: Other types of Flanges, threaded outlets, MJ Outlets**

**GASKET:** Nitrile (Buna-N) NSF-61 compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids and many chemicals

**Temperature Range:** up to +180

**BOLTS, NUTS & WASHERS:** 18-8 Type 304 Stainless Steel heavy hex nuts, bolts & washers. Nuts and studs are coated to prevent galling

## Working Pressure:

- 4" - 12" nominal pipe size(s) = 150 psi / 225 psi
- 14" nominal pipe size = 140 psi / 210 psi
- 16" nominal pipe size = 125 psi / 187 psi
- 18" - 20" nominal pipe size(s) = 100 psi / 150 psi
- 24" nominal pipe size = 75 psi / 112 psi

**Pipe Applications:** Carbon Steel, Stainless Steel, Cast Iron, Asbestos Cement, PVC, HDPE, Ductile Iron

**Sizes:** 4"-24" Nominal with 4"-12" Outlets

*NOTE: See Specification Sheet for HDPE and PVC application details.*



# Tapping Sleeve

## All Stainless Steel

# 665



**Description:** All stainless steel tapping sleeve with 360° gasket seal and removable bolts.

**Application:** For tapping size-on-size or reducing branch connections on new or existing pipe.

### Key Features:

- Easy to install
- Range helps reduce inventory
- Meets applicable AWWA C223 Standards
- Molded-in ring in the gasket to ensure effective sealing
- Nylon washers to improve bolt torque capability
- Heavy gauge, all-Stainless Steel body for rugged performance
- Fully chemically passivated for maximum corrosion protection
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Body drawn out to accept the outlet neck adding to the overall strength of the area under the most stress

### Materials Specifications (subject to change)

**BODY:** Full circumference band. 18-8 type 304 Stainless Steel

**FLANGES:** AWWA C228 Class SD, ANSI 150# drilling. Recessed for Tapping Valve Per MSS-SP 60. 18-8 type 304 Stainless Steel flange on 663. **Optional: Other types of Flanges, threaded outlets, MJ Outlets.**

**GASKET:** Nitrile (Buna-N) NSF® 61 compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids and many chemicals

**Temperature Range:** up to +180

**BOLTS, NUTS & WASHERS:** 18-8 Type 304 Stainless Steel heavy hex nuts, bolts & washers. Nuts and studs are coated to prevent galling

### Working Pressure:

- 4" – 12" nominal pipe size(s) = 150 psi / 225 psi
- 14" nominal pipe size = 140 psi / 210 psi
- 16" nominal pipe size = 125 psi / 187 psi
- 18" – 20" nominal pipe size(s) = 100 psi / 150 psi
- 24" nominal pipe size = 75 psi / 112 psi

**Pipe Applications:** Carbon Steel, Stainless Steel, Cast Iron, Asbestos Cement, PVC, HDPE, Ductile Iron

**Sizes (in inches):** 4"-24" Nominal with 4"-12" Outlets

*NOTE: See Specification Sheet for HDPE and PVC application details.*

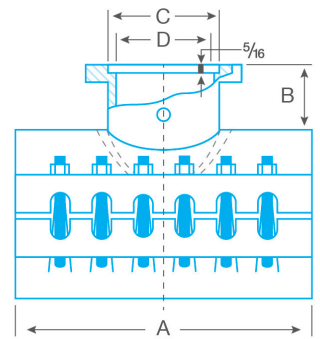
664-665

# Tapping Sleeve

## Carbon and Stainless Steel Flange

### Tapping Sleeve Specification

OUTLET SIZE	NOMINAL BODY SIZE	A (IN)	B (IN)	C (IN)	D (IN)	E (IN)	F (IN)
4	4	15	5	5 1/16	4 1/4	8	5/8
	6-18	15	5	5 1/16	4 1/4	8	5/8
	20-24	20	5	5 1/16	4 1/4	8	5/8
6	6	15	5	7 1/16	6 5/16	8	5/8
	8-18	15	5	7 1/16	6 5/16	8	5/8
	20-24	20	5	7 1/16	6 5/16	10	5/8
8	8	20	5	9 1/16	8 5/16	10	5/8
	10-18	20	5	9 1/16	8 5/16	10	5/8
	20-24	25	5	9 1/16	8 5/16	14	5/8
10	10	25	5	11 3/32	10 1/4	14	5/8
	20-24	25	5	11 3/32	10 3/8	14	5/8
12	12	25	5	13 3/32	12 1/4	14	5/8
	14-24	25	5	13 3/32	10 3/8	14	5/8



E: Quantity of Bolts F: Size of Bolts

For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 664-127504MJ-000.

NOMINAL SIZE OF PIPE X FLANGED OUTLET	OD RANGE (INCHES)	664 FLEXI-COAT® EPOXY COATED CARBON STEEL FLANGE	665 STAINLESS STEEL FLANGE	APPROX. WEIGHT EACH POUNDS
		CATALOG NUMBER	CATALOG NUMBER	
4 x 4	4.50-4.80	664-04800400-200	665-04800400-200	34
4 x 4	4.80-5.10	664-05000400-200	665-05000400-200	42
6 x 4 6 x 6	6.59-6.99	664-06630400-000	665-06630400-000	55
6 x 6		664-06630600-200	665-06630600-200	61
6 x 4	6.84-7.30	664-06900400-000	665-06900400-000	55
6 x 6		664-06900600-200	665-06900600-200	61
6 x 4	7.10-7.50	664-07200400-000	665-07200400-000	55
6 x 6		664-07200600-200	665-07200600-200	61
6 x 4	7.40-7.80	664-07450400-000	665-07450400-000	55
6 x 6		664-07450600-200	665-07450600-200	61
8 x 4	7.90-8.30	664-08000400-000	665-08000400-000	64
8 x 6		664-08000600-000	665-08000600-000	72
8 x 4	8.62-9.06	664-08630400-000	665-08630400-000	64
8 x 6		664-08630600-000	665-08630600-000	72
8 x 8		664-08630800-200	665-08630800-200	93
8 x 4	8.99-9.45	664-09050400-000	665-09050400-000	64
8 x 6		664-09050600-000	665-09050600-000	72
8 x 8		664-09050800-200	665-09050800-200	93
8 x 4	9.20-9.60	664-09450400-000	665-09450400-000	64
8 x 6		664-09450600-000	665-09450600-000	72
8 x 8		664-09450800-200	665-09450800-200	93
8 x 4	9.60-10.00	664-09650400-000	665-09650400-000	64
8 x 6		664-09650600-000	665-09650600-000	72
8 x 8		664-09650800-200	665-09650800-200	93

For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 664-127504MJ-000.

NOMINAL SIZE OF PIPE X FLANGED OUTLET	OD RANGE (INCHES)	664 FLEXI-COAT® EPOXY COATED CARBON STEEL FLANGE	665 STAINLESS STEEL FLANGE	APPROX. WEIGHT EACH POUNDS
		CATALOG NUMBER	CATALOG NUMBER	
10 x 4	9.90-10.30	664-10000400-000	665-10000400-000	61
10 x 6		664-10000600-000	665-10000600-000	65
10 x 8		664-10000800-000	665-10000800-000	88
10 x 4	10.73-11.13	664-10750400-000	665-10750400-000	61
10 x 6		664-10750600-000	665-10750600-000	65
10 x 8		664-10750800-000	665-10750800-000	88
10 x 10		664-10751000-200	665-10751000-200	95
10 x 4	11.05-11.45	664-11100400-000	665-11100400-000	61
10 x 6		664-11100600-000	665-11100600-000	65
10 x 8		664-11100800-000	665-11100800-000	88
10 x 10		664-11101000-200	665-11101000-200	95
10 x 4	11.70-12.10	664-11750400-000	665-11750400-000	61
10 x 6		664-11750600-000	665-11750600-000	65
10 x 8		664-11750800-000	665-11750800-000	88
10 x 10		664-11751000-200	665-11751000-200	95
10 x 4	12.00-12.40	664-12000400-000	665-12000400-000	61
10 x 6		664-12000600-000	665-12000600-000	65
10 x 8		664-12000800-000	665-12000800-000	88
10 x 10		664-12001000-200	665-12001000-200	95
12 x 4	12.50-12.90	664-12750400-000	665-12750400-000	65
12 x 6		664-12750600-000	665-12750600-000	69
12 x 8		664-12750800-000	665-12750800-000	95
12 x 10		664-12751000-000	665-12751000-000	101
12 x 12		664-12751200-200	665-12751200-200	138
12 x 4	13.16-13.56	664-13200400-000	665-13200400-000	65
12 x 6		664-13200600-000	665-13200600-000	69
12 x 8		664-13200800-000	665-13200800-000	95
12 x 10		664-13201000-000	665-13201000-000	101
12 x 12		664-13201200-200	665-13201200-200	138
12 x 4	13.60-14.09	664-13820400-000	665-13820400-000	63
12 x 6		664-13820600-000	665-13820600-000	67
12 x 8		664-13820800-000	665-13820800-000	90
12 x 10		664-13821000-000	665-13821000-000	113
12 x 12		664-13821200-200	665-13821200-200	128
12 x 4	14.10-14.58	664-14250400-000	665-14250400-000	64
12 x 6		664-14250600-000	665-14250600-000	68
12 x 8		664-14250800-000	665-14250800-000	91
12 x 10		664-14251000-000	665-14251000-000	115
12 x 12		664-14251200-200	665-14251200-200	130
14 x 4	15.30-15.80	664-15300400-000	665-15300400-000	63
14 x 6		664-15300600-000	665-15300600-000	67
14 x 8		664-15300800-000	665-15300800-000	90
14 x 10		664-15301000-000	665-15301000-000	113
14 x 12		664-15301200-000	665-15301200-000	128
14 x 4	15.80-16.30	664-16000400-000	665-16000400-000	64
14 x 6		664-16000600-000	665-16000600-000	68
14 x 8		664-16000800-000	665-16000800-000	91
14 x 10		664-16001000-000	665-16001000-000	115
14 x 12		664-16001200-000	665-16001200-000	130

For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 664-127504MJ-000.

NOMINAL SIZE OF PIPE X FLANGED OUTLET	OD RANGE (INCHES)	664 FLEXI-COAT® EPOXY COATED CARBON STEEL FLANGE	665 STAINLESS STEEL FLANGE	APPROX. WEIGHT EACH POUNDS
		CATALOG NUMBER	CATALOG NUMBER	
14 x 4	16.40-16.80	664-16400400-000	665-16400400-000	70
14 x 6		664-16400600-000	665-16400600-000	73
14 x 8		664-16400800-000	665-16400800-000	98
14 x 10		664-16401000-000	665-16401000-000	123
14 x 12		664-16401200-000	665-16401200-000	132
16 x 4	17.40-17.80	664-17400400-000	665-17400400-000	68
16 x 6		664-17400600-000	665-17400600-000	71
16 x 8		664-17400800-000	665-17400800-000	95
16 x 10		664-17401000-000	665-17401000-000	120
16 x 12		664-17401200-000	665-17401200-000	135
16-18 x 4	18.60-19.20	664-18700400-000	665-18700400-000	70
16-18 x 6		664-18700600-000	665-18700600-000	73
16-18 x 8		664-18700800-000	665-18700800-000	98
16-18 x 10		664-18701000-000	665-18701000-000	123
16-18 x 12		664-18701200-000	665-18701200-000	138
18-20 x 4	19.50-20.10	664-19500400-000	665-19500400-000	93
18-20 x 6		664-19500600-000	665-19500600-000	96
18-20 x 8		664-19500800-000	665-19500800-000	125
18-20 x 10		664-19501000-000	665-19501000-000	134
18-20 x 12		664-19501200-000	665-19501200-000	148
18-20 x 4	20.90-21.59	664-20900400-000	665-20900400-000	94
18-20 x 6		664-20900600-000	665-20900600-000	98
18-20 x 8		664-20900800-000	665-20900800-000	127
18-20 x 10		664-20901000-000	665-20901000-000	136
18-20 x 12		664-20901200-000	665-20901200-000	150
20 x 4	21.60-22.40	664-21600400-000	665-21600400-000	94
20 x 6		664-21600600-000	665-21600600-000	98
20 x 8		664-21600800-000	665-21600800-000	127
20 x 10		664-21601000-000	665-21601000-000	136
20 x 12		664-21601200-000	665-21601200-000	150
20-24 x 4	23.50-24.20	664-23500400-000	665-23500400-000	99
20-24 x 6		664-23500600-000	665-23500600-000	102
20-24 x 8		664-23500800-000	665-23500800-000	133
20-24 x 10		664-23501000-000	665-23501000-000	142
20-24 x 12		664-23501200-000	665-23501200-000	156
24 x 4	25.80-26.60	664-25800400-000	665-25800400-000	105
24 x 6		664-25800600-000	665-25800600-000	108
24 x 8		664-25800800-000	665-25800800-000	140
24 x 10		664-25801000-000	665-25801000-000	149
24 x 12		664-25801200-000	665-25801200-000	164
24 x 4	28.30-29.00	664-28300400-000	665-28300400-000	111
24 x 6		664-28300600-000	665-28300600-000	114
24 x 8		664-28300800-000	665-28300800-000	148
24 x 10		664-28301000-000	665-28301000-000	157
24 x 12		664-28301200-000	665-28301200-000	171

For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 664-127504MJ-000.



# Tapping Sleeve

MJ Outlet available on any style tapping sleeve

## MJ

**Description:** MJ outlet is available on any style of tapping sleeve.

**Application:** Taps utilizing standard MJ valve.

**Key Features:**

- The MJ Outlet allows the user to tap pipe, utilizing a standard MJ x MJ valve in lieu of a specialty tapping valve
- This outlet allows the user to combine valve inventory to a single valve, reduce installation time and save money
- The heavy mechanical joint flange is fixed in place to make installation easier, while reducing the chance of injuries during the tapping operation

**Materials Specifications (subject to change)**

FLANGES: Drilling per ANSIAWWA C111A21.11. Fusion-Bonded, Flexi-Coat® epoxy coated Carbon Steel on 622662664. 18-8 type 304 Stainless Steel flange on 663 665

**Working Pressure:** Up to fitting design

**Pipe Applications:** Carbon Steel, Stainless Steel, Cast Iron, Asbestos Cement, PVC, HDPE, Ductile Iron

**Sizes (in inches):** *Call Smith-Blair for more information on sizes and pricing.*



# Tapping Sleeves with Line Stop Outlets

# 680



**Description:** For Line Stopping and plugging

**Application:** To temporarily shut off flow in a live pipeline

**Materials Specifications (subject to change)**

**COVER PLATE:** Various materials available

**COVER STUDS:** Various materials available with heavy hex nuts and flat washer

**GASKET:** Nitrile (Buna N) NSF 61 listed, compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids and other chemicals

**COMPLETION PLUG:** Ductile Iron per ASTM A536

**TEST PORT:** 3/4"

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish on Carbon Steel parts

**Working Pressure:** See type and size of tapping sleeve for details

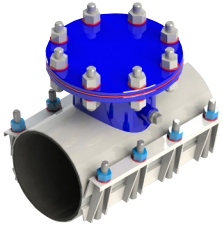
**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 4 inches and up

**Outlet Sizes:** 4"-12"

MODEL	BODY STYLE
682	662
683	663
684	664
685	665
687	622 all gasket
688	622
689	624 with line stop





# Line Stop Sleeve

## Stainless Steel Body, Carbon Steel Outlet

# 682

**Description:** Stainless Steel Line Stop Sleeve, with Carbon Steel outlet

**Application:** To temporarily shut off flow in a live pipeline

### Key Features:

- Easy to install
- Fitting Range helps reduce inventory
- Nylon washers are provided to improve bolt torque capability
- Heavy gauge, all-Stainless Steel body for rugged performance
- Stainless Steel fully chemically passivated for maximum corrosion protection
- Carbon Steel and Ductile Iron components are Flexi-Coat® Fusion-Bonded epoxy coated
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Flange recessed for Tapping Valve per MSS-SP 60
- Industry Standard Threaded Completion Plug Mount
  - 3 pins on 5.25" bolt circle 6-12" plugs
  - Slotted Mount 4" plug

### Materials Specifications (subject to change)

**BODY:** Full Circumference band. 18-8 Type 304 Stainless Steel

**COMPLETION PLUG:** Ductile Iron per ASTM A536

**OUTLET:** Carbon Steel Flange per ANSI B16.5 Raised Face, Class 150 drilling. Carbon Steel neck per ASTM A53B.

**COVER PLATE:** ASTM A36/A283 GrC Dust Cover

**COVER GASKET:** 1/8" Full Face Red Rubber

**BODY GASKET:** Nitrile (Buna-N) NSF®/ANSI 61/372 compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, and many other chemicals

**TEMPERATURE RANGE:** up to +180°F

**COMPLETION PLUG O-RING:** Nitrile (Buna-N)

**BODY STUDS, NUTS, & WASHERS:** 18-8 Type 304 Stainless Steel heavy hex nuts, stud bolts, and washers. Nuts and studs are coated to prevent galling

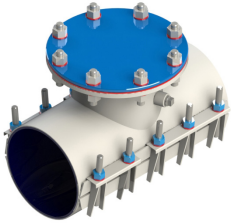
**COVER STUDS, NUTS & WASHERS:** ASTM A193 B7 studs with heavy hex nuts and washers.

Cover Plate and Cover Hardware available in Stainless Steel options

**Working Pressure:** 150 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 4"-20" Nominal Pipe size with 4"-12" Line Stop Outlet



# Line Stop Sleeve

## Stainless Steel Body, Stainless Steel Outlet

# 683

**Description:** Stainless Steel Line Stop Sleeve, with Stainless Steel outlet

**Application:** To temporarily shut off flow in a live pipeline

### Key Features:

- Easy to install
- Fitting Range helps reduce inventory
- Nylon washers are provided to improve bolt torque capability
- Heavy gauge, all-Stainless Steel body for rugged performance
- Stainless Steel fully chemically passivated for maximum corrosion protection
- Carbon Steel and Ductile Iron components are Flexi-Coat® Fusion-Bonded epoxy coated
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Flange recessed for Tapping Valve per MSS-SP 60
- Industry Standard Threaded Completion Plug Mount
  - 3 pins on 5.25" bolt circle 6-12" plugs
  - Slotted Mount 4" plug

### Materials Specifications (subject to change)

**BODY:** Full Circumference band. 18-8 type 304 Stainless Steel

**COMPLETION PLUG:** Ductile Iron per ASTM A536

**OUTLET:** Stainless Steel Flange per ANSI B16.5 Raised Face, Class 150 drilling. Stainless Steel neck per A53B.

**COVER PLATE:** ASTM A36/A283 GrC Dust Cover

**COVER GASKET:** 1/8" Full Face Red Rubber

**BODY GASKET:** Nitrile (Buna-N) NSF®/ANSI 61/372 compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, and many other chemicals

**TEMPERATURE RANGE:** up to +180°F

**COMPLETION PLUG O-RING:** Nitrile (Buna-N)

**BODY STUDS, NUTS, & WASHERS:** 18-8 Type 304 Stainless Steel heavy hex nuts, stud bolts, and washers. Nuts and studs are coated to prevent galling

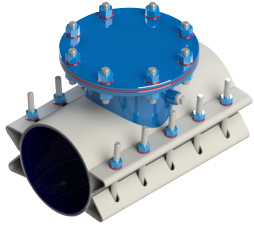
**COVER STUDS, NUTS & WASHERS:** ASTM A193 B7 studs with heavy hex nuts and washers.

Cover Plate and Cover Hardware available in Stainless Steel options

**Working Pressure:** 150 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 4"-20" Nominal Pipe size with 4"-12" Line Stop Outlet



# Line Stop Sleeve

Stainless Steel Body, Carbon Steel Outlet

# 684

**Description:** Stainless Steel Line Stop Sleeve, with Stainless Steel outlet and removable bolts

**Application:** To temporarily shut off flow in a live pipeline

## Key Features:

- Easy to install
- Fitting Range helps reduce inventory
- Nylon washers are provided to improve bolt torque capability
- Removable V-lug bolts on the body
- Heavy gauge, all-Stainless Steel body for rugged performance
- Stainless Steel fully chemically passivated for maximum corrosion protection
- Carbon Steel and Ductile Iron components are Flexi-Coat® Fusion-Bonded epoxy coated
- ¾" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Flange recessed for Tapping Valve per MSS-SP 60
- Industry Standard Threaded Completion Plug Mount
  - 3 pins on 5.25" bolt circle 6-12" plugs
  - Slotted Mount 4" plug

## Materials Specifications (subject to change)

BODY: Full Circumference band. 18-8 type 304 Stainless Steel

COMPLETION PLUG: Ductile Iron per ASTM A536

FLANGES: Carbon Steel per ANSI B16.5 Raised Face, Class 150 drilling.

COVER PLATE: ASTM A36/A283 GrC Dust Cover

COVER GASKET: 1/8" Full Face Red Rubber

BODY GASKET: Nitrile (Buna-N) NSF®/ANSI 61/372 compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, and many other chemicals

TEMPERATURE RANGE: up to +180°F

COMPLETION PLUG O-RING GASKET: Nitrile (Buna-N)

BODY BOLTS, NUTS, & WASHERS: 18-8 Type 304 Stainless Steel heavy hex nuts, stud bolts, and washers. Nuts and studs are coated to prevent galling

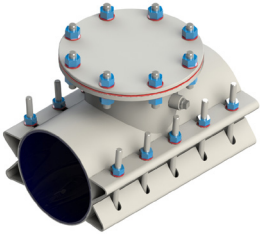
COVER STUDS, NUTS & WASHERS: ASTM A193 B7 studs with heavy hex nuts and washers.

Cover Plate and Cover Hardware available in Stainless Steel options

**Working Pressure:** 150 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 4"-20" Nominal Pipe size with 4"-12" Line Stop Outlet



# Line Stop Sleeve

## Stainless Steel Body, Neck and Flange

# 685

**Description:** All Stainless Steel Line Stop Sleeve, with Stainless Steel outlet and removable bolts

**Application:** To temporarily shut off flow in a live pipeline

### Key Features:

- Easy to install
- Fitting Range helps reduce inventory
- Nylon washers are provided to improve bolt torque capability
- Removable V-lug bolts on the body
- Heavy gauge, all-Stainless Steel body for rugged performance
- Stainless Steel fully chemically passivated for maximum corrosion protection
- Carbon Steel and Ductile Iron components are Flexi-Coat® Fusion-Bonded epoxy coated
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Flange recessed for Tapping Valve per MSS-SP 60
- Industry Standard Threaded Completion Plug Mount
  - 3 pins on 5.25" bolt circle 6-12" plugs
  - Slotted Mount 4" plug

### Materials Specifications (subject to change)

BODY: Full Circumference band. 18-8 type 304 Stainless Steel

COMPLETION PLUG: Ductile Iron per ASTM A536

OUTLET: 304 Stainless Steel per ANSI B16.5 Raised Face, Class 150 drilling. Stainless Steel neck per ASTM A53B

COVER PLATE: ASTM A36/A283 GrC Dust Cover

COVER GASKET: 1/8" Full Face Red Rubber

BODY GASKET: Nitrile (Buna-N) NSF®/ANSI 61 compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, and many other chemicals

TEMPERATURE RANGE: up to +180°F

COMPLETION PLUG O-RING GASKET: Nitrile (Buna-N)

BODY BOLTS, NUTS, & WASHERS: 18-8 Type 304 Stainless Steel heavy hex nuts, stud bolts, and washers. Nuts and studs are coated to prevent galling

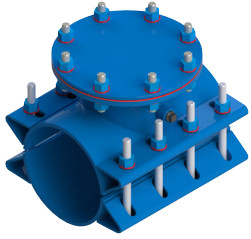
COVER STUDS, NUTS & WASHERS: ASTM A193 B7 studs with heavy hex nuts and washers.

Cover Plate and Cover Hardware available in Stainless Steel options

**Working Pressure:** 150 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 4"-20" Nominal Pipe size with 4"-12" Line Stop Outlet



# Line Stop Sleeve

Carbon Steel Body with Carbon Steel Outlet  
with Threaded Completion Plug

# 687

**Description:** All Carbon Steel Line Stop Sleeve with Threaded Completion Plug

**Application:** To temporarily shut off flow in a live pipeline

## Key Features:

- Easy to install
- Fitting Range helps reduce inventory
- Virtually 360° support of the pipe
- Roll-resistant gasket will not bind
- Gasket seal increases with line pressure
- No special tools required to install the sleeve
- Flanged Outlets are recessed per MSS-SP60 to accept tapping valves
- Carbon Steel and Ductile Iron components are Flexi-Coat® Fusion-Bonded epoxy coated
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- Flange recessed for Tapping Valve per MSS-SP 60
- Industry Standard Threaded Completion Plug Mount
  - 3 pins on 5.25" bolt circle 6-12" plugs
  - Slotted Mount 4" plug

## Materials Specifications (subject to change)

BODY: Carbon Steel ASTM A283 Grade C

COMPLETION PLUG: Ductile Iron per ASTM A536

OUTLET: Carbon Steel per ANSI B16.5 Raised Face, Class 150 drilling. Carbon Steel neck per ASTM A53B COVER PLATE: ASTM A36/A283 GrC Dust Cover

COVER GASKET: 1/8" Full Face Red Rubber

OUTLET GASKET: Nitrile (Buna-N) NSF®/ANSI 61/372 listed. Concave wedge gasket, compounded to resist water, oil, acids, alkalis, most (aliphatic) hydrocarbon fluids, and other chemicals

TEMPERATURE RANGE: up to +180°F

COMPLETION PLUG O-RING GASKET: Nitrile (Buna-N)

BODY BOLTS & NUTS: High strength low alloy Steel with heavy semi-finished hexagon nuts to ASTM A-307 (ANSI A21.11) standards

COVER STUDS, NUTS & WASHERS: ASTM A193 B7 studs with heavy hex nuts and washers.

Cover Plate and Cover Hardware available in Stainless Steel options

**Working Pressure:** 150 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 4"-24" Nominal Pipe size with 4"-12" Line Stop Outlet



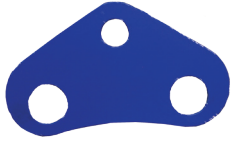
# Flanged Coupling Adapters

## What Are Flanged Coupling Adapters?

The Flanged Coupling Adapter combines a flexible coupling with a flange to create a compact, flexible fitting to connect plain-end pipe to flange fittings. The device is meant to bring two flanged pipe ends together in flush, sealed manner .



*Smith-Blair*  
a xylem brand



# Restraint Plates

# 907



**Description:** Smith-Blair restraint plates are used to adapt a flange x flange connection using triangular extension plates and tie rods

**Application:** Used to restrain flange x flange piping connection

### Key Features:

- Triangular metal plates, connected behind the flanges using the existing flange bolting hardware. These plates are then connected using tie rods.

### Materials Specifications (subject to change)

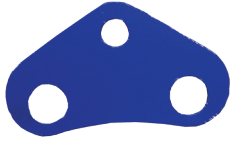
Fusion bonded epoxy coated A36 carbon steel standard. 304 stainless steel and 316 stainless steel are optional

### Working Pressure:

Pressure rating is determined by the quantity and size of the restraining plates and restraining rods. ***See Smith-Blair catalog for recommended rod size and plate quantities for standard pressure ratings***

**Pipe Applications:** Any flange x flange connected pipe material

**Sizes:** Any size and style of bolted flange



# Restraint Plates

907

## Flange Drilling – 125, 150, Class "D" and Class "E"

FLANGE SIZE INCHES	RECOMMENDED TIE-ROD QUANTITY MAXIMUM PRESSURE					"T" = LUG THICKNESS INCHES	TIE-ROD SIZE INCHES	"D" = LUG DIAMETER INCHES (SEE NOTE 1)	CATALOG NUMBER EACH LUG	CATALOG END CODE	
	50	100	150	200	250					EPOXY COATED	BARE
4	2	2	2	2	2	0.50	0.63	6.19	907-04000001	000	-001
6	2	2	2	2	2	0.50	0.63	8.00	907-06000001	000	-001
8	2	2	2	2	2	0.50	0.63	10.25	907-08000001	000	-001
10	2	2	2	3	3	0.63	0.63	12.50	907-10000101	000	-001
12	2	2	3	3	4	0.63	0.63	15.25	907-12000101	000	-001
14	2	2	3	3	4	0.75	0.75	16.75	907-14000202	000	-001
16	2	2	2	2	3	0.75	1.00	19.25	907-16000204	000	-001
18	2	2	2	3	4	1.00	1.00	20.62	907-18000404	000	-001
20	2	2	3	3	4	1.00	1.00	22.88	907-20000404	000	-001
24	2	2	2	3	4	1.00	1.25	27.12	907-24000406	000	-001
30	2	2	3	4	6	1.25	1.25	33.62	907-30000606	000	-001
36	2	3	5	6	8	1.25	1.25	40.00	907-36000606	000	-001
42	2	4	6	8	10	1.25	1.25	46.75	907-42000606	000	-001
48	2	4	6	8	9	1.50	1.50	53.25	907-48000808	000	-001

Standard Material ASTM A36 or ASTM A283 Grade C. Other materials, coatings, thicknesses and rod size

Note 1: CAUTION: Check lug diameter for clearance over the flange hub. Some threaded flanges have large diameter hubs which may cause interference. Combinations available upon request.

Note 2: It is recommended that the tie rods be symmetrically spaced around the flange bolt circle.

Note 3: Check with Smith-Blair for applications using 907's with 912 FCA's.

## Tie Rod and Nut Sets Alloy Steel All Thread Set = 1 Rod and 4 Nuts

SIZE UNC	CATALOG NUMBER					
	18"	24"	30"	36"	42"	48"
5/8	101-00090040-404	101-00090874-404	101-00090684-404	101-00090541-404	101-00090855-404	101-00090856-404
3/4	101-00090720-404	101-00090857-404	101-00090858-404	101-00090859-404	101-00090860-404	101-00090861-404
1	101-00090739-404	101-00090480-404	101-00090862-404	101-00090852-404	101-00090863-404	101-00090864-404
1 1/4	101-00090865-404	101-00090866-404	101-00090867-404	101-00090828-404	101-00090868-404	101-00090869-404
1 1/2	101-00090870-404	101-00090721-404	101-00090871-404	101-00090872-404	101-00090873-404	101-00090407-404





# Flanged Coupling Adapter

Ductile Iron (OMNI compatible gasket)

# 912

**Description:** Cast flanged coupling adapter

**Application:** For joining plain end pipe to flanged valves and fitting

## Key Features:

- Heavy cast Ductile Iron parts for long life
- Shipped complete, including flange bolt
- Meets applicable AWWA C219 Standards
- Optional anchor studs provide joint restraint capability to secure the plain pipe end
- Provides a quick means of removing and reinstalling a flanged fitting already in line
- Compatible with Omni Coupling System gaskets to give your inventory more flexibility
- Most applications are stab fit making installation easy . No disassembly required for other application types
- One body per nominal pipe size takes the guess work out of deciding which body to choose. Just add the correct color flanges and Omni gasket
- Follower flanges are color coded by general pipe type. Blue for ductile O.D., red for iron pipe size O.D. and gray for Asbestos Cement O.D.
- Coupling end helps relieve stress, absorbs vibration and accepts deflection in the piping system
- No need for field fabrications. FC's work with plain-end pipe to make the flanged connections

## Materials Specifications (subject to change)

**BODY:** Ductile Iron ASTM A536, bolt circle, bolt size and spacing conform to ANSI lb. flange drilling

**FOLLOWER:** Ductile Iron ASTM A536

**GASKET:** Nitrile (Buna N) Certified to NSF/ANSI 61/372. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic hydrocarbon fluids and other chemicals

Temperature Range: -20°F to 180°F. **NOTE: Consult manufacturer for specific applications or other service temperatures.**

**O-RING:** Nitrile

**BOLTS & NUTS:** Carbon Steel ASTM A307 electrogalvanized with di-chromate seal.

### **Optional 304 Stainless Steel**

**TEE BOLTS:** Ductile Iron

**CROSS BOLTS:** Ductile Iron

**STUDS:** ATSM A193 Grade B7 electrogalvanized with dichromate seal. **Optional 304 Stainless Steel**

**FINISH:** Flexi-Coat®, Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 250 PSI.

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, Ductile Iron, PVC

**Sizes (in inches):** 3, 4, 6, 8, 10, 12



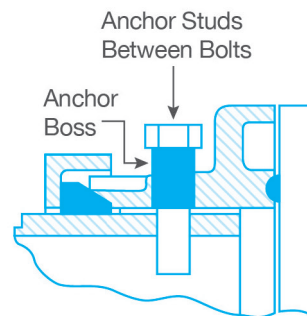
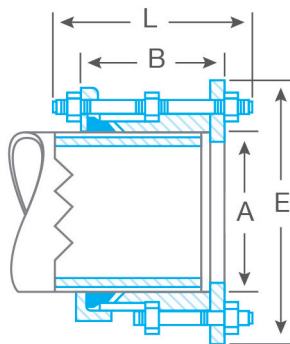
912

# Flanged Coupling Adapter

Ductile Iron (OMNI compatible gasket)

Uses Cross Bolts and T-Bolts

NOM SIZE INCHES	O.D. RANGE INCHES	CATALOG NUMBER	WEIGHT EACH LBS.	OPTIONAL ANCHOR STUDS		DIMENSIONS/INCHES			
				QTY	*PSI	A	B	E	L
3	2.85-3.13	912-91031303-000	17	N/A	N/A	3 7/8	3	7 3/4	4 9/16
	3.44-3.62	912.91035003-000	17	2	175	3 7/8	3	7 3/4	4 9/16
	3.80-3.96	912-91039603-000	17	2	175	3 7/8	3	7 3/4	4 9/16
	3.97-4.14	912-91041403-000	17	2	175	3 7/8	3	7 3/4	4 9/16
4	4.00-4.15	912-91041504-000	22	N/A	N/A	5 1/4	3	9 1/32	4 7/8
	4.22-4.50	912-91045004-000	22	2	175	5 1/4	3	9 1/32	4 7/8
	4.46-4.86	912-91048604-000	22	2	175	5 1/4	3	9 1/32	4 7/8
	4.80-5.10	912-91051004-000	22	2	175	5 1/4	3	9 1/32	4 7/8
6	6.00-6.15	912-91061506-000	29	2	125	7 1/4	3 1/2	10 7/8	5 3/4
	6.28-6.63	912-91066306-000	29	N/A	N/A	7 1/4	3 1/2	10 7/8	5 3/4
	6.56-6.96	912-91069606-000	29	2	175	7 1/4	3 1/2	10 7/8	5 3/4
	6.90-7.20	912-91072006-000	29	2	175	7 1/4	3 1/2	10 7/8	5 3/4
8	8.00	912-91080008-000	40	N/A	N/A	9 13/32	3 1/2	13 3/8	5 7/8
	8.40-8.63	912-91086308-000	40	2	100	9 13/32	3 1/2	13 3/8	5 7/8
	8.54-9.11	912-91091108-000	40	2	100	9 13/32	3 1/2	13 3/8	5 7/8
	9.05-9.40	912-91094008-000	40	2	175	9 13/32	3 1/2	13 3/8	5 7/8
10	10.00	912-91100010-000	60	N/A	N/A	11 5/8	4	15 7/8	6 3/8
	10.50-10.75	912-91107510-000	60	4	100	11 5/8	4	15 7/8	6 3/8
	11.10-11.60	912-91116010-000	60	4	120	11 5/8	4	15 7/8	6 3/8
	11.65-11.88	912-91118810-000	60	N/A	N/A	11 5/8	4	15 7/8	6 3/8
	11.90-11.95	912-91119510-000	60	N/A	N/A	11 5/8	4	15 7/8	6 3/8
12	12.00	912-91120012-000	80	N/A	N/A	14	4	18 3/4	6 3/8
	12.50-12.75	912-91127512-000	80	6	100	14	4	18 3/4	6 3/8
	13.20-13.50	912-91135012-000	80	6	100	14	4	18 3/4	6 3/8
	13.50-13.75	912-91137512-000	80	N/A	N/A	14	4	18 3/4	6 3/8
	13.90-14.20	912-91142012-000	80	N/A	N/A	14	4	18 3/4	6 3/8



Anchor studs will be installed at the factory on customer request only.

## Uses Studs Instead of Cross Bolts

NOM SIZE INCHES	O.D. RANGE INCHES	CATALOG NUMBER	WEIGHT EACH LBS.	OPTIONAL ANCHOR STUDS		DIMENSIONS/INCHES			
				QTY.	*PSI	A	B	E	L
3	2.85-3.13	912-90031303-000	17	N/A	N/A	3 7/8	3	7 3/4	4 9/16
	3.44-3.62	912-90035003-000	17	2	175	3 7/8	3	7 3/4	4 9/16
	3.80-3.96	912-90039603-000	17	2	175	3 7/8	3	7 3/4	4 9/16
	3.97-4.14	912-90041403-000	17	2	175	3 7/8	3	7 3/4	4 9/16
4	4.00-4.15	912-90041504-000	22	N/A	N/A	5 1/4	3	9 1/32	4 7/8
	4.22-4.50	912-90045004-000	22	2	175	5 1/4	3	9 1/32	4 7/8
	4.46-4.86	912-90048604-000	22	2	175	5 1/4	3	9 1/32	4 7/8
	4.80-5.10	912-90051004-000	22	2	175	5 1/4	3	9 1/32	4 7/8
6	6.00-6.15	912-90061506-000	29	N/A	N/A	7 1/4	3 1/2	10 7/8	5 3/4
	6.28-6.63	912-90066306-000	29	2	125	7 1/4	3 1/2	10 7/8	5 3/4
	6.56-6.96	912-90069606-000	29	N/A	175	7 1/4	3 1/2	10 7/8	5 3/4
	6.90-7.20	912-90072006-000	29	2	175	7 1/4	3 1/2	10 7/8	5 3/4
8	8.00	912-90080008-000	40	N/A	N/A	9 13/32	3 1/2	13 3/8	5 7/8
	8.40-8.63	912-90086308-000	40	2	100	9 13/32	3 1/2	13 3/8	5 7/8
	8.54-9.11	912-90091108-000	40	2	100	9 13/32	3 1/2	13 3/8	5 7/8
	9.05-9.40	912-90094008-000	40	2	175	9 13/32	3 1/2	13 3/8	5 7/8
10	10.00	912-90100010-000	60	N/A	N/A	11 5/8	4	15 7/8	6 3/8
	10.50-10.75	912-90107510-000	60	4	100	11 5/8	4	15 7/8	6 3/8
	11.10-11.60	912-90116010-000	60	4	120	11 5/8	4	15 7/8	6 3/8
	11.65-11.88	912-90118810-000	60	N/A	N/A	11 5/8	4	15 7/8	6 3/8
	11.90-11.95	912-90119510-000	60	N/A	N/A	11 5/8	4	15 7/8	6 3/8
12	12.00	912-90120012-000	80	N/A	N/A	14	4	18 3/4	6 3/8
	12.50-12.75	912-90127512-000	80	6	100	14	4	18 3/4	6 3/8
	13.20-13.50	912-90135012-000	80	6	100	14	4	18 3/4	6 3/8
	13.50-13.75	912-90137512-000	80	N/A	N/A	14	4	18 3/4	6 3/8
	13.90-14.20	912-90142012-000	80	N/A	N/A	14	4	18 3/4	6 3/8

## OMNI Nuts

NOMINAL SIZE INCHES	SIZE INCHES	+NUT ELECTRO-GALVANIZED	+NUT STAINLESS STEEL	+NUT LOW ALLOY
3" - 4"	5/8	100025-001	100025-202	100025-005
6" - 8"	3/4	100032-001	100032-202	100032-005
10" - 12"	7/8	100072-001	100072-202	100072-005

OMNI Parts

NOMINAL SIZE INCHES	O.D. RANGE INCHES	FOLLOWER FLANGE PART NUMBER	BODY PART NUMBER	"O" RING FLANGE GASKET NUMBER	BOLT OR STUD PART NUMBER*	CPLG. GASKET PART NUMBER	CROSS BOLT PART NUMBER	TEE BOLT PART NUMBER
3	2.85-3.13	22137-045	60265-045	30019-069	(4) 90532 5/8 x 7	34610-069	(4) 90809 5/8 x 7	-
	3.44-3.62	22137-045	60265-045	30019-069		33829-069		
	3.80-3.96	22138-045	60265-045	30019-069		33830-069		
	3.97-4.14	22138-045	60265-045	30019-069		33831-069		
4	3.96-4.15	22139-045	60266-045	30023-069	(4) 90364	33809-069	(4) 90809 5/8 x 7	(4) 90812 5/8 x 3
	4.22-4.50	22139-045	60266-045	30023-069	5/8 x 3	33810-069		
	4.46-4.86	22575-045	60266-045	30023-069	(4) 90532	34578-069		
	4.80-5.10	22140-045	60266-045	30023-069	5/8 x 7	33811-069		
6	6.00-6.15	22141-045	60267-045	30024-069	(4) 90536	33801-069	(4) 90810 3/4 x 8	(4) 90813 3/4 x 3 1/4
	6.28-6.63	22141-045	60267-045	30024-069	3/4 x 3 1/4	33802-069		
	6.56-6.96	22576-045	60267-045	30024-069	(4) 90533	34579-069		
	6.90-7.20	22142-045	60267-045	30024-069	3/4 x 8	33803-069		
8	8.00-8.16	22144-045	60268-045	30025-069	(4) 90536	33805-069	(4) 90810 3/4 x 8	(4) 90813 3/4 x 3 1/4
	8.40-8.63	22144-045	60268-045	30025-069	3/4 x 3 1/4	33806-069		
	8.54-9.11	22577-045	60268-045	30025-069	(4) 90533	34580-069		
	9.05-9.40	22145-045	60268-045	30025-069	3/4 x 8	33846-069		
10	10.00	22147-045	60269-045	30026-069	(6) 90537	33860-069	(6) 90811 7/8 x 9	(6) 90814 7/8 x 3 3/4
	10.50-10.75	22147-045	60269-045	30026-069	7/8 x 3 3/4	33813-069		
	11.10-11.60	22148-045	60269-045	30026-069		33814-069		
	11.65-11.88	22149-045	60269-045	30026-069	(6) 90534	33815-069		
	11.90-11.95	22149-045	60269-045	30026-069	7/8 x 9	33816-069		
12	12.00	22150-045	60270-045	30027-069	(6) 90537	33859-069	(6) 90811 7/8 x 9	(6) 90814 7/8 x 3 3/4
	12.50-12.75	22150-045	60270-045	30027-069	7/8 x 3 3/4	33817-069		
	13.20-13.50	22151-045	60270-045	30027-069		33820-069		
	13.51-13.75	22151-045	60270-045	30027-069	(6) 60534	33821-069		
	13.90-14.20	22152-045	60270-045	30027-069	7/8 x 9	33818-069		



# Flanged Coupling Adapter

## Steel

# 913



**Description:** Fabricated Steel flanged coupling adapter

**Application:** For joining plain end pipe to flanged valves and fitting

### Key Features:

- Meets applicable AWWA C219 Standards
- Pressure rated at 150 PSI +/- working pressure according to design
- Available in straight (913) or reducing (914) styles to fit your needs
- Provides a quick means of removing and reinstalling flanged fitting already in line
- Optional anchor studs provide joint restraint capability to secure the plain pipe end
- No need for field fabrications. FC's work with plain-end pipe to make the flanged connection
- Coupling end helps relieve stress, absorb vibration and accept deflection in the piping system

### Materials Specifications (subject to change)

BODY: Steel ASTM A53, ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI FLANGE: 3" thru 5" Sizes: ANSI 150 lb. flat face. 6" and above: AWWA C207 Class D ANSI 150 lb. drilling FOLLOWER: 3" thru 12" sizes—Ductile Iron ASTM A536. 14" and above: heavy rolled Steel AISI C1020 GASKET: Nitrile (Buna N) Certified to NSF/ANSI 61/372. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids and many other chemicals

Temperature Range: -20 to +180

BOLTS & NUTS: High strength low alloy Steel with heavy semi-finished hexagon nuts to AWWA C-111 (ANSI-A21.11) standards

FINISH: Flexi-Coat®, Fusion-Bonded epoxy per AWWA C213

**Working Pressure:** Up to 150 PSI, depending on size and design

**Pipe Applications:** Steel, Cast Iron, Ductile Iron, Abestos Cement, PVC

**Sizes (in inches):** 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24. **NOTE:** Larger sizes available upon request.



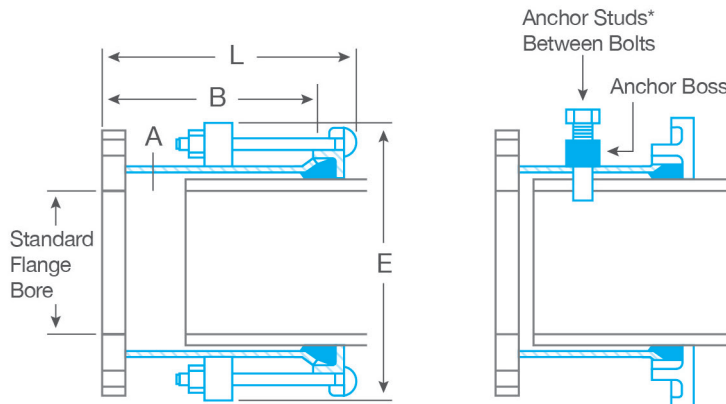
# Flanged Coupling Adapter

Steel

913

NOM SIZE INCHES	OD RANGE INCHES	NOM FLANGE SIZE INCHES	CATALOG NUMBER	WEIGHT EACH LBS.	OPTIONAL		DIMENSIONS/INCHES			
					QTY.	*PSI	A	B	E	L
3	3.44-3.56	3	913-03500300-003	18	2	275	0.203	7 11/16	8 1/2	9
4	3.94-4.06	4	913-04000400-003	24	2	275	.203	7 11/16	9	9
	4.44-4.56	4	913-04500400-003	24	2	275	.203	7 11/16	9	9
	4.74-4.86	4	913-04800400-003	24	2	275	1/4	7 11/16	9 3/4	9
5	5.49-5.62	5	913-05560500-003	27	2	250	1/4	10 11/16	10 1/4	12
6	5.94-6.06	6	913-06000600-003	36	2	210	1/4	10 11/16	11 5/8	12
	6.57-6.69	6	913-06630600-003	38	2	175	1/4	10 11/16	11 5/8	12
	6.84-6.96	6	913-06900600-003	37	2	175	1/4	10 11/16	11 5/8	12
8	7.94-8.06	8	913-08000800-003	49	4	240	1/4	10 11/16	13 5/8	12
	8.57-8.70	8	913-08630800-003	49	4	206	1/4	10 11/16	13 5/8	12
	8.99-9.10	8	913-09050800-003	52	4	187	1/4	10 11/16	14	12
10	9.94-10.06	10	913-10001000-003	60	4	175	1/4	10 11/16	14 3/4	12
	10.69-10.81	10	913-10751000-003	61	4	175	1/4**	10 11/16	15 1/2	12
	11.00-11.25	10	913-11101000-003	62	4	175	1/4**	10 11/16	16	12
12	11.94-12.06	12	913-12001200-003	74	4	175	1/4**	10 13/16	16 3/4	12 1/8
	12.63-12.84	12	913-12751200-003	78	4	175	1/4**	10 13/16	17 1/2	12 1/8
	13.08-13.29	12	913-13201200-003	82	4	172	1/4**	10 13/16	18 1/8	12 1/4
14	13.88-14.09	14	913-14001400-003	112				10 15/16	18 7/8	12 1/4
	15.18-15.39	14	913-15301400-003	116				10 15/16	20 1/8	12 1/4
	15.51-15.74	14	913-15651400-003	120				10 15/16	20 1/2	12 1/4
16	15.88-16.09	16	913-16001600-003	130				11	20 7/8	12 3/8
	17.28-17.49	16	913-17401600-003	135				11	22 1/4	12 3/8
	17.68-17.89	16	913-17801600-003	139				11	22 5/8	12 3/8
18	17.88-18.09	18	913-18001800-003	140				11 1/16	22 7/8	12 1/2
	19.38-19.59	18	913-19501800-003	146				11 1/16	24 3/8	12 1/2
	19.80-20.01	18	913-19921800-003	152				11 1/16	24 7/8	12 1/2
20	19.88-20.09	20	913-20002000-003	160				11 1/8	24 7/8	12 1/2
	21.48-21.69	20	913-21602000-003	155				11 1/8	26 1/2	12 5/8
	21.94-22.15	20	913-22062000-003	154				11 1/8	27	12 5/8
24	23.88-24.09	24	913-24002400-003	197				11 1/4	28 7/8	12 3/4
	25.68-25.89	24	913-25802400-003	204				11 1/4	30 5/8	12 3/4
	26.20-26.41	24	913-26322400-003	207				11 1/4	31 1/8	12 1/4

NOTE: For higher pressures or sizes larger than 12", contact Smith-Blair, Inc.



\*Pipe must be drilled in order to use anchor studs.



# Flanged Coupling Adapter

## Reducing

# 914

**Description:** Fabricated Steel, reducing flanged coupling adapter

### Application:

Reducing style flanged coupling adapter for joining plain-end pipe to flanged valves and fittings

### Key Features:

- Meets applicable AWWA C219 Standards
- Pressure rated at 150 PSI +/- working pressure according to design
- Available in straight (913) or reducing (914) styles to fit your need
- Provides a quick means of removing and reinstalling flanged fitting already in line
- Optional anchor studs provide joint restraint capability to secure the plain pipe end
- No need for field fabrications. FC's work with plain-end pipe to make the flanged connection
- Coupling end helps relieve stress, absorb vibration and accept deflection in the piping system

### Materials Specifications (subject to change)

**BODY:** Steel ASTM A53, ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

**FLANGE:** 3" thru 5" sizes: ANSI 150 lb. flat face. 6" and above: AWWA C207 Class D ANSI 150 lb. drilling

**FOLLOWER:** 3" thru 12" sizes—Ductile Iron ASTM A536. 14" and above: heavy rolled Steel AISI C1020

**GASKET:** Nitrile (Buna N) Certified to NSF/ANSI 61/372. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids and many other chemicals

**Temperature Range:** -20 to +180

**BOLTS & NUTS:** High strength low alloy Steel with heavy semi-finished hexagon nuts to AWWA C-111 (ANSI-A21.11) standards

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 150 PSI, according to size and design.

**Pipe Applications:** All types of pipe. *Contact Smith-Blair Engineering for any questions.*

**Sizes (in inches):** See attached charts for dimensional data



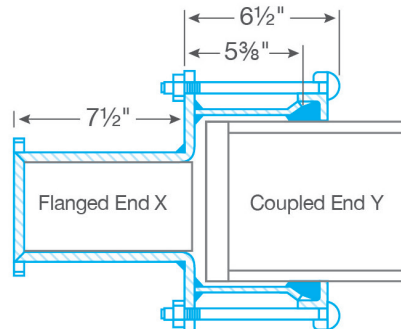


# Flanged Coupling Adapter

## Reducing

914

COUPLING END ONLY "Y"			FLANGED END ONLY "X"		
O.D. RANGE INCHES	CATALOG CODE	WEIGHT EACH LBS.	FLANGE SIZE INCHES	CATALOG CODE	WEIGHT EACH LBS.
3.44-3.56	914-0350	16	3	3	12
3.90-4.06	914-0396	16	4	4	17
4.44-4.56	914-0450	17	5	5	21
4.74-4.86	914-0480	18	6	6	18
4.94-5.06	914-0500	23	8	8	26
5.04-5.16	914-0510	23	10	10	27
5.49-5.62	914-0556	23	12	12	40
5.94-6.06	914-0600	29	14	14	53
6.57-6.69	914-0663	29	16	16	63
6.84-6.96	914-0690	29	18	18	65
7.04-7.17	914-0710	29	20	20	78
7.94-8.06	914-0800	30	22	22	84
8.57-8.70	914-0863	37	24	24	100
8.99-9.10	914-0905	38			
9.24-9.36	914-0930	39			
9.94-10.06	914-1000	43			
10.69-10.81	914-1075	46			
11.04-11.16	914-1110	49			
11.34-11.46	914-1140	50			
11.94-12.06	914-1200	52			
12.63-12.84	914-1275	56			
13.08-13.29	914-1320	57			
13.38-13.59	914-1350	?			
13.88-14.09	914-1400	70			
15.18-15.39	914-1530	78			
15.53-15.74	914-1565	80			
15.88-16.09	914-1600	82			
17.28-17.49	914-1740	91			
17.68-17.89	914-1780	93			
17.88-18.09	914-1800	93			
19.38-19.59	914-1950	105			
19.80-20.01	914-1992	108			
19.88-20.09	914-2000	108			
21.48-21.69	914-2160	119			
21.88-22.09	914-2200	121			
21.94-22.15	914-2206	121			
23.88-24.09	914-2400	143			
25.68-25.89	914-2580	155			
26.20-26.41	914-2632	159			
29.88-30.09	914-3000	190			
31.88-32.09	914-3200	207			



### How to Order

Example: You require a flanged coupling adapter to connect 12" Steel pipe to an 8" flanged fitting

1. Determine the Code Number

- The 12"-12.75" O.D. pipe would fit the O.D. range 12.63-12.84.

- The code number for the O.D. range is 914-1275.

- The 8" flanged end has the code number 08

- Combine the two code numbers and add 003 to the end (-003 represents our standard Flexi-Coat finish, alloy bolts and nuts and NSF Buna N gasket).

- Final catalog number is: 914-127500-1350.

2. Determine shipping weight

914-1275 = 56 lbs.

08 = 26 lbs.

Total Weight = 82 lbs.

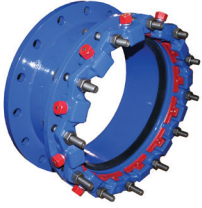
- Large sizes and sizes to fit O.D. ranges not listed are available upon request.

- Reductions of more than three nominal pipe sizes require special pricing.

Bolts, nuts and gasket for flange end not supplied.

Suitable anchorage must be provided when excessive pipe movement could occur.





# Flange-Lock Mechanical Joint Coupling

## Adapter with Cam-Lock Joint Restraint

# 920

**Description:** Mechanical joint coupling with Cam-Lock Joint Restraint.

**Application:** For connecting plain end D.I. to plain-end PVC

### Key Features:

- Mechanical restraint shall be an integral part of the follower gland utilizing multiple single tooth wedges
- Use with the Multi-Seal Gasket for more flexibility in nominal sizes 4"-12"
- Breakaway nut torque per wedge is 40 to 60 ft. lbs.
- Coupling is rated the working pressure of the pipe to a 2:1 safety factor
- Longer sleeves available

### Materials Specifications (subject to change)

SLEEVE: ASTM A36 A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FLANGE: \*AWWA C207 Class D, ANSI 150 lb. Flat face

FINISH: Flexi-Coat®, Fusion-Bonded Epoxy Finish

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single tooth, Ductile Iron, heat treated for Ductile Iron pipe applications

BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel or Cast Iron

FINISH: Gland is Flexi-Coat® Fusion-Bonded Epoxy, per AWWA C213; Wedges & Bolts are E-coated Epoxy

### Kit Specifications

GASKET: SBR Standard Mechanical Joint. AWWA C111 and ANSI A21. 11 SBR or Multi-Seal Gasket

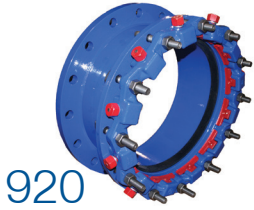
T-BOLTS: High Strength, low alloy per AWWA C111; **Optional: 304 Stainless Steel, fluoropolymer coated**

**Pipe Applications:** Ductile Iron, PVC

**Sizes (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36

**Working Pressure:** Through 30" 150 PSI; 36" 125 PSI, both at 1.5:1 Safety Factor

**Deflection** Assembled joints into each follower gland through 12" shall allow for 5 degree deflection, 3 degrees 14" through 24", 1.5 degrees 18"-24", 1 degree 30"-48".



920

# Flange-Lock Mechanical Joint Coupling

## Adapter with Cam-Lock Joint Restraint

### Restraint FCA for PVC Pipe

NOM. PIPE SIZE (IN.)	O.D. RANGE (IN.)	NOM. FLANGE RANGE (IN.)	CATALOG NUMBER	WEIGHT EACH (LBS)	DIMENSIONS/INCHES					MAX. JOINT DEFLECTION
					A1	B	C	D	E2	
3	3.50	3	920-03500300-000	26	9.82	7.50	4.62	7.88	3.00	5°
4	4.50-4.80	4	920-04800400-100	35	10.67	9.00	5.00	7.88	3.00	5°
4	4.50	4	920-04500400-000	35	10.67	9.00	5.00	7.88	3.00	5°
4	4.80	4	920-04800400-000	35	10.67	9.00	5.00	7.88	3.00	5°
6	6.63-6.90	6	920-06900600-100	49	11.19	11.00	7.03	7.88	3.00	5°
6	6.63	6	920-06630600-000	49	11.19	11.00	7.03	7.88	3.00	5°
6	6.90	6	920-06900600-000	49	11.19	11.00	7.03	7.88	3.00	5°
8	8.63-9.05	8	920-09050800-100	62	13.29	13.50	9.25	7.88	3.00	5°
8	8.63	8	920-08630800-000	62	13.29	13.50	9.25	7.88	3.00	5°
8	9.05	8	920-09050800-000	62	13.29	13.50	9.25	7.88	3.00	5°

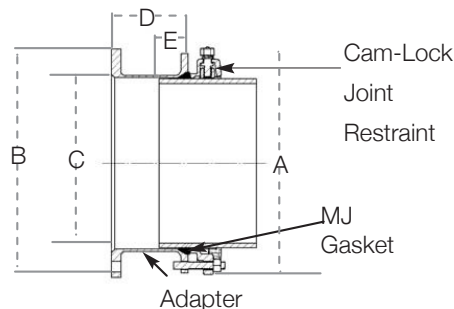
1 Overall with twist-off nuts removed

2 Minimum pipe insertion from flange fac

3 Maximum deflection achieved at minimum pipe insertion  
Other sizes and sleeve lengths (D) available.

### Restraint FCA for Ductile Iron O.D. PVC Pipe

NOM. PIPE SIZE (IN.)	O.D. RANGE (IN.)	NOM. FLANGE RANGE (IN.)	CATALOG NUMBER	WEIGHT EACH (LBS)	DIMENSIONS/INCHES					MAX. JOINT DEFLECTION DEGREE
					A	B	C	D	E	
10	10.25-11.10	10	920-11101000-100	86	13.29	13.50	9.25	7.88	3.00	5°
10	10.75	10	920-10751000-000	86	16.97	16.00	11.25	7.88	3.00	5°
10	11.10	10	920-11101000-000	86	16.97	16.00	11.25	7.88	3.00	5°
12	12.75-13.20	12	920-13201200-100	113	19.07	19.00	13.38	7.88	3.00	5°
12	12.75	12	920-12751200-000	113	19.07	19.00	13.38	7.88	3.00	5°
12	13.20	12	920-13201200-000	113	19.07	19.00	13.38	7.88	3.00	5°
14	15.30	14	920-15301400-000	136	21.18	21.00	15.50	7.88	3.00	2°
16	17.40	16	920-17401600-000	165	23.28	23.50	17.59	7.88	3.00	2°
18	19.50	18	920-19501800-000	178	25.98	25.00	19.69	7.88	3.00	1.5°
20	21.60	20	920-21602000-000	209	28.08	27.50	21.78	7.88	3.00	1.5°
24	25.80	24	920-25802400-000	268	32.28	32.00	26.00	7.88	3.00	1°
30	32.00	30	920-32003000-000	566	39.42	38.75	32.20	11.13	3.00	1°
36	38.30	36	920-38303600-000	752	46.29	46.00	38.50	11.13	3.00	1°





Double-acting bolt version not shown

# Top Bolt® FCA

## With Double Acting Bolt Technology

PATENT NO. 8,528,945 / 8,776,351 / 8,789,832

# 921



Double-acting bolts close in two directions at once, lowering installation times.

**Description:** A fabricated Steel flanged coupling adapter that can seal a wide range of pipe ODs in a nominal size.

**Application:** Connects a wide variety of plain-end pipe to flanged fittings, meters, valves and other flanged equipment

### Key Features:

- Removable/replaceable channeled inner gaskets which makes the 921 the only FCA in which you can remove the inner gasket without changing the part
- Bi-directional gaskets can be inserted either way; less chance for mistakes
- Corrugated armor design to reduce friction between gaskets and armor for better seating and to prevent finish gouging
- Lightweight construction for easier handling; quicker job installations
- Two-piece flange design (coupling end) that can be disassembled on job site for gasket replacement, if required
- Stab-Fit which makes pipe fitting easier and quicker
- Proprietary Flexi-Coat® Fusion-Bonded coating on body and hardware to reduce friction and help prevent corrosion points

### Materials Specifications (subject to change)

SLEEVE: Carbon Steel

FLANGE: 3"-12" AWWA C207 Class D ANSI 150 lb. drilling. 2" size is standard meter coupling flange

RING: Carbon Steel

GASKET: Nitrile (Buna N) certified to NSF/ANSI 61/372

BOLTS: 304 Stainless Steel with Flexi-Coat® Fusion bonded Epoxy Finish

NUTS: Heavy hex head, 304 Stainless Steel, fluoropolymer coating

FINISH: Flexi-Coat®, Smith-Blair's proprietary Fusion-Bonded epoxy finish, 12-15 mils thick

**Pipe Applications:** Ductile Iron, Steel, PVC, Copper, Asbestos Cement, HDPE (with pipe stiffeners)

**Sizes (in inches):** 2, 3, 4, 6, 8, 10, 12

**Pressure Ratings:** 175 PSI

921



Double-acting bolt version not shown

# Top Bolt® FCA

## With Double Acting Bolt Technology

PATENT NO. 8,528,945 / 8,776,351 / 8,789,832

### Standard

NOMINAL SIZE (IN.)	CATALOG NUMBER	OVERALL RANGE (IN.)	LOWER RANGE (IN.)	UPPER RANGE (IN.)	WIDTH (IN.)	HEIGHT (IN.)	FLANGE DIAMETER (IN.)	LAYING LENGTH (IN.)	MIN. PIPE INSERTION (IN.)	WEIGHT BOXED (LBS.)
2	921-02950200-031	2.13 - 2.95	2.13 - 2.60	2.50 - 2.95	5.38	7.25	6.00	6.81	2.88	8
3	921-04200300-031	3.10-4.20	3.10-3.56	3.70-4.20	6.88	8.38	7.50	5.38	3.38	12
4	921-05600400-031	4.46-5.60	4.46-5.05	5.00-5.60	8.75	10.00	9.00	5.50	3.50	17
6	921-07600600-031	6.56-7.60	6.56-7.05	7.00-7.60	10.88	12.13	11.00	6.56	3.50	23
8	921-09850800-031	8.54-9.85	8.54-9.15	9.15-9.85	13.13	14.38	13.50	6.56	3.50	30
10	921-11831000-031	10.64-11.83	10.64-11.18	11.13-11.83	15.50	16.50	16.00	6.56	3.50	37
12	921-13671200-031	12.62-13.67	12.62-13.06	13.10-13.67	17.63	18.75	19.00	6.69	3.50	50

\*Working Pressure: 175 PSI

### Metric

NOM. SIZE (MM)	CATALOG NUMBER	OVERALL RANGE (MM)	LOWER RANGE (MM)		UPPER RANGE (MM)		WIDTH (MM)	HEIGHT (MM)	SLEEVE LENGTH (MM)	LAYING LENGTH (MM)	MAX GAP (MM)	WT (KG)
50	921-02130295-031	54 - 75	54 - 66		64 - 75		137	184	102	191	25	4
80	921-03100420-031	79 - 107	79 - 90		94 - 107		175	213	152	241	51	5
100	921-04460560-031	113 - 142	113 - 128		127 - 142		222	254	152	248	51	9
150	921-06560760-031	167 - 193	167 - 179		178 - 193		276	308	203	298	102	12
200	921-08540985-031	217 - 250	217 - 232		232 - 250		334	365	203	298	102	15
250	921-10641183-031	270 - 300	270 - 284		283 - 300		394	419	203	298	102	17
250 X 250 OS	921-10641220-031	270 - 310	250: 270 - 284	250 OS: 281 - 294	250: 283 - 300	250 OS: 294 - 310	410	438	203	298	102	19
300	921-12621367-031	321 - 347	321 - 332		333 - 347		448	476	203	298	102	21
300 X 300 OS	921-12621440-031	300 - 366	300: 321 - 332	300 OS: 334 - 350	300: 333 - 347	300 OS: 349 - 366	470	492	203	298	102	22



# Flange-Lock<sup>®</sup> Mechanical Joint Coupling

FCA Body Only

## 923

**Description:** Flanged x MJ coupling adapter body.

**Application:** Combines with standard mechanical joint restraint, MJ gaskets, and t-bolts to produce a flanged coupling adapter with restraint.

### Key Features:

- Adapter body allows pipe to completely pass through for easier installation. **The pass through feature is not available with raised-faced flanges**
- Use with the Multi-Seal Gasket for more flexibility in nominal sizes 4"-12"
- Coupling is rated to a 150 PSI working pressure with a 2:1 safety factor
- Longer sleeves available

### Materials Specifications (subject to change)

SLEEVE: ASTM A36 A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FLANGE: \*AWWA C207 Class D, ANSI 150 lb. drilling. Flat face

FINISH: Flexi-Coat<sup>®</sup>, Fusion-Bonded epoxy

**Pipe Applications:** PVC, Steel, and Ductile iron

**Sizes (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48. (36" PVC: 125 PSI)

**Working Pressure:** 4-24" at PVC pressure rating of up to 250 PSI.; 30" 150 PSI ; 36" 125 PSI.

**Deflection** Assembled joints into each follower gland through 12" shall allow for 5 degree deflection, degrees 14" through 24", 1.5 degrees 18"-24", 1 degree 30"-48".

**NOTE:** \*300 lb. flanges available for 300 PSI applications. For other flanges, contact Smith-Blair for specific details and pricing. The pass-through feature may not be available with some flanges. 300 PSI rating is limited to series 911 on Ductile Iron pipe only though 16". All 18"-48" 911 on Ductile Iron pipe applications will be limited to 250 PSI. All 911 on Steel pipe 3"-12" and all 920 on PVC applications through 24" will be limited to 250 PSI, 150 PSI on 30" and 125 PSI on 36".

923



# Flange-Lock<sup>®</sup> Mechanical Joint Coupling

FCA Body Only

NOM. PIPE SIZE (IN.)	O.D. RANGE (IN.)	NOM. FLANGE RANGE (IN.)	CATALOG NUMBER	WEIGHT EACH (LBS)	DIMENSIONS/INCHES			
					NEED TITLE	C	D	E2
14	15.30	14	923-00001400-000	80	21.00	15.50	7.88	3.00
16	17.40	16	923-00001600-000	97	23.50	17.59	7.88	3.00
18	19.50	18	923-00001800-000	104	25.00	19.69	7.88	3.00
20	21.60	20	923-00002000-000	122	27.50	21.78	7.88	3.00
24	25.80	24	923-00002400-000	157	32.00	26.00	7.88	3.00
30	32.00	30	923-00003000-000	275	38.75	32.20	11.33	3.00
36	38.30	36	923-00003600-000	383	46.00	38.50	11.33	3.00
42	44.50	42	923-00004200-000	506	53.00	44.70	11.33	3.00
48	50.80	48	923-00004800-000	593	59.50	51.00	11.33	3.00

1 Overall with twist-off nuts removed

2 Minimum pipe insertion from flange face

3 Maximum deflection achieved at minimum pipe insertion

Other sizes and sleeve lengths (D) available.



# Flexible Meter Coupling

## 926



**Description:** Meter coupling

**Application:** For joining plain-end pipe to oval flanged water meters and joining plain-end pipe to flange valves and fittings

**Key Features:**

- Simple, quick installation of 1½" and 2" flanged meter
- Meter coupling eliminates pipe threading and need of precise cutting or alignment of pipe

**Materials Specifications (subject to change)**

FLANGED BODY AND FOLLOWER: Ductile Iron ASTM A536

GASKET: Nitrile (Buna N)

O-RING: Nitrile (Buna N)

BOLTS & NUTS: High strength low alloy bolts.

FINISH: Flexi-Coat® Fusion-Bonded Epoxy Coat Finish per AWWA C213

**Working Pressure:** Up to 150 PSI.

**Pipe Applications:** PVC, Copper, Steel

**Sizes (in inches):** 1½, 2

926



# Flexible Meter Coupling

FLANGED METER OUTLET SIZE INCHES	SERVICE SIZE (INCHES)		CATALOG NUMBER	WEIGHT EACH LBS.	LENGTH FLANGE	OD FLANGE	BODY THICKNESS	LENGTH	BOLTS	
	NOM. SIZE (INCHES)	PIPE O.D. INCHES							QTY.	SIZE
1 1/2	1 1/2 I.P.	1.90	926-000190-000	5	3 1/2	3 3/4	7/16	1 3/4	2	5/8 x 5
2	2 CO P.T. or Steel	2.13	926-000213-000	6	3 1/2	4 1/4	7/16	1 3/4	2	5/8 x 5
2	2 I.P. 2 C.I.	2.37- 2.50	926-000250-000	6	3 1/2	4 1/4	7/16	1 3/4	2	5/8 x 5





# Insulating Flanged Coupling Adapter Ductile Iron

# 932

**Description:** Insulating flanged coupling adapter

**Application:** Insulates steel and cast iron pipe from flanged fittings 3" through 12" sizes

## Key Features:

- Combines our special Grade 60 boot-style insulating gasket with our 912 cast flanged coupling adapter
- Heavy cast Ductile Iron parts for long life
- Shipped complete, including flange bolt
- Meets applicable AWWA C219 Standards
- Optional anchor studs provide joint restraint capability to secure the plain pipe end
- Provides a quick means of removing and reinstalling a flanged fitting already in line
- Compatible with Omni Coupling System gaskets to give your inventory more flexibility
- Most applications are stab fit making installation easy. No disassembly required for other application types
- One body per nominal pipe size takes the guesswork out of deciding which body to choose. Just add the correct color flanges and Omni gasket
- Follower flanges are color coded by general pipe type. Blue for ductile O.D. red for iron pipe size O.D. and gray for Asbestos Cement O.D.
- Coupling end helps relieve stress, absorbs vibration and accepts deflection in the piping system
- No need for field fabrications. FC 's work with plain-end pipe to make the flanged connection

## Materials Specifications (subject to change)

**BODY:** Ductile Iron ASTM A536, bolt circle, bolt size and spacing conform to ANSI lb. flange drilling

**FOLLOWER:** Ductile Iron ASTM A536

**GASKET:** Nitrile (Buna N) Certified to NSF/ANSI 61/372. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic) hydrocarbon fluids and other chemicals

**Temperature Range:** -20°F to 180°F. *NOTE: Consult manufacturer for specific applications or other service temperatures.*

**O-RING:** Nitrile

**BOLTS & NUTS:** Carbon Steel ASTM A307 electro-galvanized with di-chromate seal.

### **Optional 304 Stainless Steel**

**TEE BOLTS:** Ductile Iron

**CROSS BOLTS:** Ductile Iron

**STUDS:** ATSM A193 Grade B7 electrogalvanized with di-chromate seal. **Optional 304 Stainless Steel**

**FINISH:** Flexi-Coat®, Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 250 PSI.

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, Ductile Iron, PVC

**Sizes (in inches):** 3, 4, 6, 8, 10, 12

**\*Warning:** This pipe does not restrain against axial pipe movement.





# Insulating Flanged Coupling Adapter Steel

## 933

**Description:** Steel insulating flanged coupling adapte

**Application:** Insulates steel and cast iron pipe from flanged fittings 3" and larger

### Key Features:

- Combines a special Grade 60 boot style insulating gasket with our 913 steel flanged coupling adapter
- Meets applicable AWWA C219 Standards
- Pressure rated at 150 PSI +/- working pressure according to design
- Available in straight (913) or reducing (914) styles to fit your need
- Provides a quick means of removing and reinstalling flanged fitting already in line
- Optional anchor studs provide joint restraint capability to secure the plain pipe end
- No need for field fabrications. FC 's work with plain-end pipe to make the flanged connection
- Coupling end helps relieve stress, absorb vibration and accept deflection in the piping system

### Materials Specifications (subject to change)

BODY: Steel ASTM A53, ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI FLANGE: 3" thru 5" Sizes: ANSI 150 lb. flat face. 6" and above: AWWA C207 Class D ANSI 150 lb. drilling FOLLOWER: 3" thru 12" sizes—Ductile Iron ASTM A536. 14" and above: heavy rolled Steel AISI C1020 GASKET: Nitrile (Buna N) Certified to NSF/ANSI 61/372. Compounded to p oduce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic) hydrocarbon fluids and many other chemicals

Temperature Range: -20 to +180

BOLTS & NUTS: High strength low alloy Steel with heavy semi-finished hexagon nuts to AWWA C-111 (ANSI-A21.11) standards

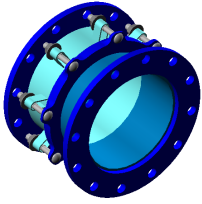
FINISH: Flexi-Coat®, Fusion-Bonded epoxy per AWWA C213

**Working Pressure:** Up to 150 PSI, depending on size and design

**Pipe Applications:** Steel, Cast Iron, Ductile Iron, Abestos Cement, PVC

**Sizes (in inches):** 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24. **NOTE: Larger sizes available upon request.**

**\*Warning: Pipe does not restrain against axial pipe movement**



# Dismantling Joint

## Non-Restrained

# 971

**Description:** Dismantling Joint which is non-restrained.

**Application:** For valve, pump, meter and other flanged fitting installation

### Key Features:

- Meets Applicable AWWA C219 Standards
- No special tools required
- Made to order, usually in only a few days
- A wide variety of types and sizes available
- Telescopes and adjusts to varying dimensions
- Allows some deflection for misaligned assemblies
- Product makes it easy to install a flanged product in a new or existing setting
- Easy to install flange gaskets with this fitting
- Joints are restrained when tie rods are used to secure the flanged fittings, making other joint restraints unnecessary
- Ideal to use with flanged fittings like butterfly valves and pumps

### Materials Specifications (subject to change)

FLANGED ADAPTER BODY: ASTM A53, ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FOLLOWER FLANGE: Ductile Iron per ASTM A536, Steel section per ASTM A576GR1020HR, or Carbon Steel having a minimum yield of 30,000 PSI

GASKET: Nitrile (Buna-N)

FLANGE: Per AWWA C207

SPIGOT: ASTM A53, ASTM A512 or Carbon Steel having a minimum yield of 30,000 PSI

STUDS: ASTM A325 or A307

TIE RODS: ASTM A 193 GR B7

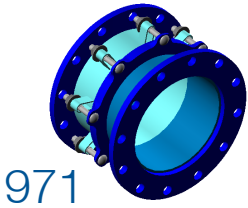
FINISH: Flexi-Coat®, Fusion-Bonded epoxy per AWWA C213.

**Working Pressure:** Up to 150 PSI.

**Pipe Applications:** Steel, Ductile Iron, Cast Iron

**Sizes (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48, 54, 60, 66, 72



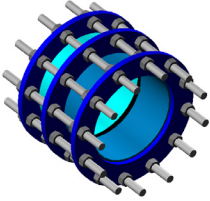


# Dismantling Joint

Non-Restrained

971

NOMINAL SIZE INCHES	ALLOY BOLTS AND NUTS	304 STAINLESS STEEL BOLTS AND NUTS	WEIGHT EACH LBS.
	CATALOG NUMBER	CATALOG NUMBER	
3	971-03000300-003	971-03000300-031	28
4	971-04000400-003	971-04000400-031	30
6	971-06000600-003	971-06000600-031	48
8	971-08000800-003	971-08000800-031	64
10	971-10001000-003	971-10001000-031	79
12	971-12001200-003	971-12000200-031	116
14	971-14001400-003	971-14001400-031	158
16	971-16001600-003	971-16001600-031	202
18	971-18001800-003	971-18001800-031	221
20	971-20002000-003	971-20002000-031	263
24	971-24002400-003	971-24002400-031	340
30	971-30003000-003	971-30003000-031	510
36	971-36003600-003	971-36003600-031	740
42	971-42004200-003	971-42004200-031	970
48	971-48004802-003	971-48004802-031	1,215
54	971-54005402-003	971-54005402-031	1,660
60	971-60006002-003	971-60006002-031	2,225
66	971-66006602-003	971-66006602-031	2,800
72	971-72007202-003	971-72007202-031	3,230



# Dismantling Joint

## Heavy Duty Restrained

# 972



**Description:** Dismantling Joint which with heavy duty joint restraint.

**Application:** For valve, pump, meter and other flanged fitting installation

### Key Features:

- Meets Applicable AWWA C219 Standards
- No special tools required
- Made to order, usually in only a few days
- A wide variety of types and sizes available
- Telescopes and adjusts to varying dimensions
- Allows some deflection for misaligned assemblies
- Product makes it easy to install a flanged product in a new or existing setting
- Easy to install flanged gaskets with this fitting
- Joints are restrained when tie rods are used to secure the flanged fittings, making other joint restraints unnecessary
- Ideal to use with flanged fittings like butterfly valves and pumps

### Materials Specifications (subject to change)

FLANGED ADAPTER BODY: ASTM A53, ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FOLLOWER FLANGE: Ductile Iron per ASTM A536, Steel section per ASTM A576GR1020HR, or Carbon Steel having a minimum yield of 30,000 PSI

GASKET: Nitrile (Buna-N)

FLANGE: Per AWWA C207

SPIGOT: ASTM A53, ASTM A512 or Carbon Steel having a minimum yield of 30,000 PSI

STUDS: ASTM A325 or A307

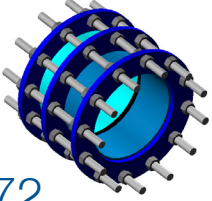
TIE RODS: ASTM A193 GR B7

FINISH: Flexi-Coat®, Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 150 PSI. Other pressures available upon request.

**Pipe Applications:** Steel, Ductile Iron, Cast Iron

**Sizes (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48, 54, 60, 66, 72.



972

# Dismantling Joint

## Heavy Duty Restrained

NOMINAL SIZE INCHES	ALLOY BOLTS NUTS AND TIE RODS	304 STAINLESS STEEL BOLTS, NUTS AND TIE RODS	NO. OF TIE RODS	DIA. X LENGTH OF TIE RODS INCHES	WEIGHT EACH LBS.
	CATALOG NUMBER				
4	972-04000400-003	972-04000400-031	8	5/8 x 14	55
6	972-06000600-003	972-06000600-031	8	3/4 x 16	84
8	972-08000800-003	972-08000800-031	8	3/4 x 16	105
10	972-10001000-003	972-10001000-031	12	7/8 x 18	117
12	972-12001200-003	972-12001200-031	12	7/8 x 18	158
14	972-14001400-003	972-14001400-031	12	1 x 24	235
16	972-16001600-003	972-16001600-031	16	1 x 24	302
18	972-18001800-003	972-18001800-031	16	1 1/8 x 20	352
20	972-20002000-003	972-20002000-031	20	1 1/8 x 20	426
24	972-24002400-003	972-24002400-031	20	1 1/4 x 25	531
30	972-30003000-003	972-30003000-031	28	1 1/4 x 25	771
36	972-36003600-003	972-36003600-031	32	1 1/2 x 24	1,156
42	972-42004200-003	972-42004200-031	36	1 1/2 x 26	1,521
48	972-48004802-003	972-48004802-031	44	1 1/2 x 26	1,886
54	972-54005402-003	972-54005402-031	44	1 3/4 x 33	2,936
60	972-60006002-003	972-60006002-031	52	1 3/4 x 33	3,733
66	972-66006602-003	972-66006602-031	52	1 3/4 x 33	4,168
72	972-72007202-003	972-72007202-031	60	1 3/4 x 33	5,780



# Dismantling Joint

## Restrained

# 975

**Description:** Dismantling Joint which with heavy duty joint restraint.

**Application:** For valve, pump, meter and other flanged fitting installation

### Key Features:

- Meets Applicable AWWA C219 Standards
- No special tools required
- Made to order, usually in only a few days
- A wide variety of types and sizes available
- Telescopes to adjust to varying dimensions
- Allows some deflection for misaligned assemblies
- Product makes it easy to install a flanged product in a new or existing setting
- Easy to install flanged gaskets with this fitting
- Joints are restrained when tie rods are used to secure the flanged fittings, making other joint restraints unnecessary
- Ideal to use with flanged fittings like butterfly valves and pumps

### Materials Specifications (subject to change)

FLANGED ADAPTER BODY: ASTM A53, ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FOLLOWER FLANGE: Ductile Iron per ASTM A536, Steel section per ASTM A576GR1020HR, or Carbon Steel having a minimum yield of 30,000 PSI

GASKET: Nitrile (Buna-N) is standard. Certified to NSF/ANSI 61/372

FLANGE: Per AWWA C207

SPIGOT: ASTM A53, ASTM A512 or Carbon Steel having a minimum yield of 30,000 PSI

STUDS: ASTM A325 or A307

TIE RODS: ASTM A 193 GR B7

FINISH: Flexi-Coat®, Fusion-Bonded epoxy per AWWA C213

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, Ductile Iron, Cast Iron

**Sizes (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48, 54, 60, 66, 72.





# Dismantling Joint

Restrained

NOMINAL SIZE INCHES	NUMBER OF TIE RODS	DIA. X LENGTH OF TIE RODS INCHES	ALLOY BOLTS AND NUTS AND TIE RODS	304 STAINLESS STEEL BOLTS AND NUTS AND TIE RODS	WEIGHT EACH LBS.
			CATALOG NUMBER	CATALOG NUMBER	
4	2	5/8 x 14	975-04000400-003	975-04000400-031	35
6	2	3/4 x 16	975-06000600-003	975-06000600-031	53
8	2	3/4 x 16	975-08000800-003	975-08000800-031	70
10	4	7/8 x 18	975-10001000-003	975-10001000-031	100
12	4	7/8 x 18	975-12001200-003	975-12001200-031	135
14	4	1 x 24	975-14001400-003	975-14001400-031	195
16	4	1 x 24	975-16001600-003	975-16001600-031	240
18	4	1 1/8 x 20	975-18001800-003	975-18001800-031	250
20	4	1 1/8 x 20	975-20002000-003	975-20002000-031	295
24	4	1 1/4 x 25	975-24002400-003	975-24002400-031	375
30	7	1 1/4 x 25	975-30003000-003	975-30003000-031	570
36	8	1 1/2 x 24	975-36003600-003	975-36003600-031	890
42	9	1 1/2 x 26	975-42004200-003	975-42004200-031	1,140
48	11	1 1/2 x 26	975-48004802-003	975-48004802-031	1,420
54	11	1 3/4 x 33	975-54005402-003	975-54005402-031	1,980
60	13	1 3/4 x 33	975-60006002-003	975-60006002-031	2,600
66	13	1 3/4 x 30	975-66006602-003	975-66006602-031	3,175
72	15	1 3/4 x 42	975-72007202-003	975-72007202-031	3,675





# Maxi-Grip® EZ-W™

## Restrained Flange Coupling Adapter

# EZWF

### Description:

A simple to use, seal and restraint, flange coupling adapter with stab-fit gaskets designed to restrain a plain-end pipe to flanged fittings, meters, valves, or other flanged service equipment while ensuring a tight seal.

**Application:** Ideal for connecting and restraining most types of flanged fittings to MDPE and HDPE, PVC, Steel, or Ductile Iron pipe.

### Key Features:

- Design was adapted for water from tried-and-true natural gas industry technology
- Special laying lengths available
- Stab fit means no disassembly of the coupling is required to install

### Materials Specifications (subject to change)

BODY: Steel ASTM 513 or Carbon Steel having a minimum yield of 30,000 PSI

FLANGE: AWWA C207 Class D (Other Flange types available upon request)

FOLLOWER: Steel: Hot Rolled – AISI C-1008 to 1010 – ASTM A-569

GASKETS: SBR Resistance to Carbon Dioxide, Water, U.V., Ozone Water

GRIPPING BAND: Heat Treated Steel-AISI ERW-ASTM A513

PRESSURE RING: Hot Rolled - AISI C-1010-ASTM A569

BOLTS & NUTS: High strength low alloy steel with heavy hex semi-finished nuts to AWWA C-111 (ANSIA21.11) standards

FINISH: Flexi-Coat®, fusion bonded epoxy per AWWA C213

**Pressure Ratings:** 175 PSI, or lesser of flange and pipe rating

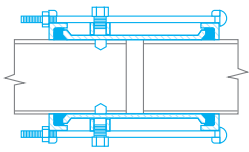
**Pipe Applications:** Steel, Ductile Iron, MDPE and HDPE (DR 32.5 or thicker), PVC (DR 26 or thicker)

**Sizes:** IPS 2"-12", DIPS 4"-12"

*NOTE: Rigid pipe stiffeners are required for PE applications*

NOM. PIPE SIZE (IN.)	PIPE O.D.	CATALOG NUMBER	M. RING THICKNESS & LENGTH	NO. BOLTS	SIZE BOLTS	CPLG. WEIGHT
2	2.38	EZW-F-023802020-03	.156 x 7	3	5/8 x 6	17
3	3.50	EZW-F-035003020-03	.156 x 7	4	5/8 x 6	24
4	4.50	EZW-F-045004020-03	.190 x 10	4	5/8 x 6	35
4	4.80	EZW-F-048004020-03	.190 x 10	4	5/8 x 6	36
6	6.63	EZW-F-066306020-03	.250 x 10	6	5/8 x 6	54
6	6.90	EZW-F-069006020-03	.250 x 10	6	5/8 x 6	54
8	8.63	EZW-F-086308020-03	.250 x 10	8	5/8 x 6	73
8	9.05	EZW-F-090508020-03	.250 x 10	8	5/8 x 6	76
12	12.75	EZW-F-127512020-03	.250 x 10	12	5/8 x 6	131
12	13.20	EZW-F-132012020-03	.250 x 10	12	5/8 x 6	132

Working Pressure: 175 PSI, higher pressure flanges available upon request. Pressures may be limited based on pipe type, flange type, or coupling rating. Contact Smith-Blair for availability of FCAs of different pressure ratings and hardware options



# Anchor Studs

**Description:** Smith-Blair Anchor Stud Couplings are designed as an alternative coupling method to harness assemblies for applications where moderate longitudinal stresses are encountered.

**Application:** The leak-resistant studs are threaded through couplings into pipe for a secure lock.

**NOTE:** *Anchor Studs do not replace the need for fixed pipe support*

**Key Features:** Please consult the Smith-Blair Engineering Department for specific anchor stud coupling recommendations to fit your specification materials and application .

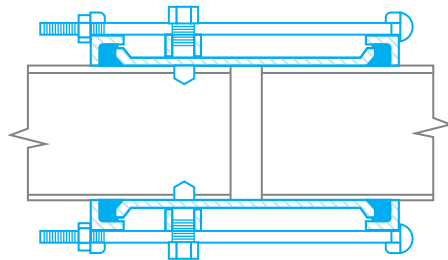
**Materials Specifications (subject to change)** Can vary.

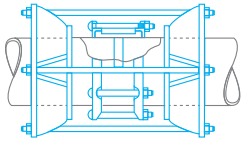
**Working Pressure:** Based on application

**Pipe Applications:** Steel, Ductile Iron

**Sizes (in inches):** Most

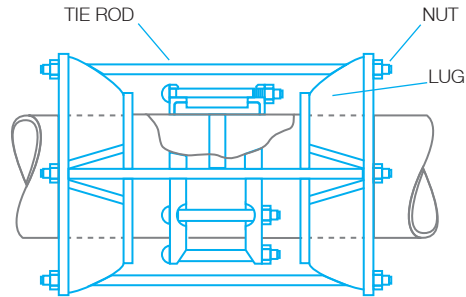
**Contact Smith-Blair engineering for specific anchor stud recommendations for your specific application**





# Harness Assembly

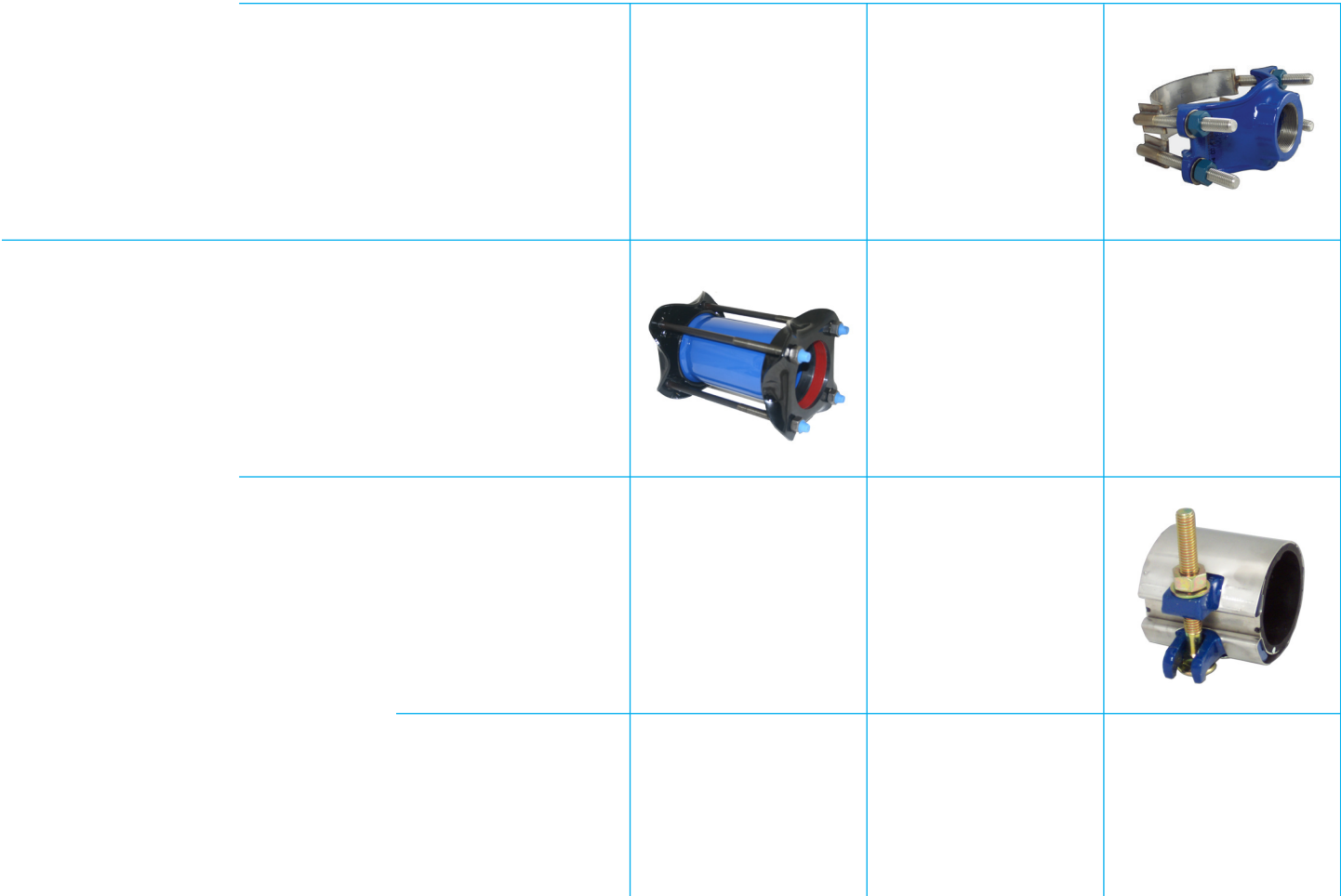
## Typical Harness Assembly



Harness assemblies should be used where calculations show the forces resulting from a lateral connection, change in direction of the pipeline, unstable soil, thermal expansion/contraction or other service conditions that can cause the pipe to move out of the coupling.

The angular deflection of the coupling may be restricted by the use of harness assemblies or anchor studs.

Harness should follow AWWA-M11 manual as a guide. ***Consult Smith-Blair engineers for more information.***



Products For












# High Density Polyethylene Pipe

(Water Applications)



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High Density Polyethylene Pipe, Table One

COUPLING PRODUCT	PRODUCT TYPE (CATALOG BROCHURE)	APPLICATION	PIPE DR	FOR NOMINAL PIPE SIZES	WORKING PRESSURE**
 411***†	Steel coupling (CC 411)	Joining plain-end pipe with same outside diameter	7.3-32.5	2-36	150 PSI + according to design
 413***†	Steel transition coupling (CC 411)	Joining pipe of different outside diameters	7.3-32.5	2-36	150 PSI + according to design
 415***†	Steel reducing coupling (CC 411)	Joining pipe of different outside diameters	7.3-32.5	2-36	150 PSI
 441***†	Cast coupling (OMNI)	Joining pipe of same or different outside diameters	7.3-32.5	2-16	250 PSI
 442***†	Cast coupling (OMNI)	Joining pipe of same or different outside diameters	7.3-32.5	4-16	250 PSI
 461***†	Quantum coupling (CC-460)	Joining pipe of same or different outside diameters	7.3-32.5	2-12	250 PSI
 462***†	Quantum coupling (CC-460)	Joining pipe of same or different outside diameters	7.3-32.5	4-12	250 PSI
 611	Steel expansion joint coupling, flanged end (CC-611)	Absorbing concentrated pipe movement	7.3-32.5	2-36	150 PSI + according to design
 612	Steel double-end expansion joint, flanged end (CC-611)	Absorbing concentrated pipe movement	7.3-32.5	2-36	150 PSI + according to design
 EZ-W FCA***	Restrained flanged coupling adapter (CC-EZWFC)	Joining plain-end pipe to flanged valves and fitting	7.3-32.5	2-12	150 PSI + according to design
 913***†	Steel flanged coupling adapter (CC-900)	Joining plain-end pipe to flanged valves and fitting	7.3-32.5	2-36	150 PSI + according to design

\*\*\* All coupling and pipe joining products require properly sized pipe stiffeners.

† These products do not restrain axial pipe movement. Suitable anchorage must be provided where pipe movement could cause the pipe to move out of the coupling.

\*\* Actual working pressure will vary depending on pipe wall thickness. Consult Smith-Blair for specific applications

\* These products should not be used on CI size HDPE pipe.

High Density Polyethylene pipe (HDPE) is different from other types of pipe. Smith-Blair products will provide satisfactory performance when applied as recommended, but the following characteristics must be considered when selecting clamp and coupling products for use on HDPE pipe:

- Thermal expansion and contraction are greater, while yield strength and rigidity are lower.
- HDPE has a tendency to cold-flow over time when subjected to a constant load
- The surface finish of HDPE pipe has a low frictional coefficient and the pipe ends toe-in after being cut.

High Density Polyethylene Pipe, Table One, continued

COUPLING PRODUCT	PRODUCT TYPE (CATALOG BROCHURE)	APPLICATION	PIPE DR	FOR NOMINAL PIPE SIZES	WORKING PRESSURE**
914***†	Steel reducing flanged coupling adapter (CC-900)	Joining plain-end pipe to flanged valves and fitting	7.3-32.5	2-36	150 PSI + according to design
EZ***	Maxi-Grip EZ seal and restraint coupling Pipe IPS to IPS IPS to CI*	Joining plain-end pipe	7.3-21	1 1/4-12 IPS 2-8 CI Reducing only	150 PSI
C	Pipe Stiffeners I.D. of pipe required.	Pipe stiffener	All	All	N/A

\*\*\* All coupling and pipe joining products require properly sized pipe stiffeners.

† These products do not restrain axial pipe movement. Suitable anchorage must be provided where pipe movement could cause the pipe to move out of the coupling.

\*\* Actual working pressure will vary depending on pipe wall thickness. Consult Smith-Blair for specific applications

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High Density Polyethylene pipe (HDPE) is different from other types of pipe. Smith-Blair products will provide satisfactory performance when applied as recommended, but the following characteristics must be considered when selecting clamp and coupling products for use on HDPE pipe:

- Thermal expansion and contraction are greater, while yield strength and rigidity are lower.
- HDPE has a tendency to cold-flow over time when subjected to a constant load
- The surface finish of HDPE pipe has a low frictional coefficient and the pipe ends toe-in after being cut.

High Density Polyethylene Pipe, Table Two

TAPPING PRODUCT	PRODUCT TYPE	APPLICATION	PIPE DR	FOR NOMINAL PIPE SIZES****	WORKING PRESSURE***
371	All stainless steel single bolt service saddle with stainless steel spring washers	Service Tap Outlet Sizes 1/2 thru 2	7.3-17	4-12	Up to 150 PSI
372	All stainless steel double bolt service saddle with stainless steel spring washers				
397	Ductile iron body with Flexi-Coat™ epoxy coating and stainless steel straps with stainless steel spring washers	Service Tap Outlet Sizes 3/4 thru 2 1/2	7.3-17	4-12	Up to 150 PSI
317	Double strap saddle with Flexi-Coat™ epoxy coating and wide stainless steel straps with stainless steel spring washers	Service Tap Outlet Sizes 5/8 thru 2 1/2	7.3-17	4-16	Up to 150 PSI

High Density Polyethylene Pipe, Table Three

REPAIR PRODUCT	PRODUCT TYPE	APPLICATION**	PIPE DR	FOR PIPE SIZES****	WORKING PRESSURE***
 226	Full Circle clamp with stainless steel spring washers	Splits and holes in pipe	7.3-11 7.3-17	2-3.50 4.00-14.00	Up to 255 PSI
 227	Super Range Full Circle clamp coupling with stainless steel spring washers	Splits and holes in pipe	7.3-11	4-14	Up to 175 PSI
 238	Tapped Full Circle clamp coupling with stainless steel spring washers	Leaks at service outlet	7.3-17	3-12	Up to 255 PSI
 239	Super Range Full Circle clamp coupling with stainless steel spring washers	Leaks at service outlet	7.3-11	4-14	Up to 175 PSI
 244/247	Full Circle Redi Clamp, stainless steel lugs, stainless steel washers (244) Full Circle Redi Clamp, stainless steel lugs, stainless steel washers (247)	Pin hole leaks and punctures in pipe	7.3-17	1/2-2	Up to 150 PSI
 245/248	Redi Clamp, stainless steel lugs, stainless steel washers (245) Redi Clamp, stainless steel lugs, stainless steel washers (248)	Pin hole leaks, punctures and splits in pipe	7.3-21	2-12	Up to 150 PSI
 256	Cast stainless steel, Full Circle clamp coupling with stainless steel spring washers	Corrosive environments	7.3-17	2-12	Up to 255 PSI
 257	Super range cast stainless steel, Full Circle clamp coupling with stainless steel spring washers			4-14	Up to 175 PSI
 261	All stainless steel, Full Circle clamp coupling with stainless steel spring washers	Splits and holes in pipe	7.3-11	2-12	Up to 150 PSI
 262	Super range all stainless steel, Full Circle clamp coupling with stainless steel spring washers			3-12	
 264	All stainless steel tapped, Full Circle clamp coupling with stainless steel spring washers	Leaks at service outlet	7.3-17	3-12	Up to 155 PSI
 265	All stainless steel super range tapped, Full Circle clamp coupling with stainless steel spring washers			4-12	

\*Bodies formed to fit exact pipe O.D. All clamping and Repair Products require Spring Washers.

\*\*Full Circle Clamp coupling may be used to join pipe only when stiffeners are used in the pipe ends. These products do not restrain axial movement. Suitable anchorage must be provided where pipe movement could cause the pipe to move out of the coupling.

\*\*\*Actual Working Pressure will vary depending on pipe wall thickness. Consult Smith-Blair for specific application

\*\*\*\*Not for use on Copper tube size (CTS) polyethylene.


# Informational Documents



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# Warranty, Freight & Returns

**Standard Limited Warranty:** Smith-Blair warrants its products to be free of defects in materials and workmanship for a period of one (1 year from the date of shipment by Smith-Blair (the “Warranty Period”. Dated proof of purchase, such as a bill of sale, is required to establish warranty eligibility. If a product fails to perform due to a defect in materials or workmanship during the Warranty Period, Smith-Blair, will repair or, at Smith-Blair's option, replace the product with the same or comparable item. In the event that the product cannot be repaired and a suitable replacement item is not available, Smith-Blair will refund the original purchase price shown on the proof of purchase. In all cases, the customer is responsible for returning the allegedly defective product to the factory or warehouse designated by Smith-Blair.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHER WARRANTY OF QUALITY, OR THOSE ARISING FROM A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. THE REMEDIES PROVIDED IN THIS LIMITED WARRANTY STATEMENT ARE THE CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES. IN NO EVENT SHALL SMITH-BLAIR, INC. BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER LEGAL THEORY, AND WHETHER ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

**Freight Policy:** Freight will be prepaid and allowed on all orders of \$3,000 net or more. For orders less than \$3,000 net, shipping and handling will be charged to the customer. Add-ons must also be \$3,000 net or more for freight allowance. Shipping and handling will be added to shipments expedited at the customer's request. This policy is subject to change, based on market conditions.

**Service Charge:** All net orders below \$100 are subject to a \$20 service charge.

**Return Policy:** All non-catalog items are considered “non-returnable”. For other catalog items to be considered, return requests must be submitted in writing and approved by Smith-Blair prior to returning material. Return evaluation for any catalog item will be based upon age of material (no older than one (1 year from shipment date, on-hand inventory and demand for those items at the time of request. Upon approval, a Return Material Authorization (RMA will be issued with applicable charges and terms and conditions of return. Approved items may be returned within a period of thirty (30 days after the issuance of an RMA. For proper credits to be applied, a copy of the RMA must accompany material.

- A. Material must be of current design.
- B. Material must be in 100% resalable condition or additional rework charges will apply. If total restocking and/or reworking charges exceed 50% of the product's initial price, the material should not be returned, as no credit will be allowed. Any material received requiring work exceeding 50% of the initial material value will be returned at the sender's expense or scrapped by Smith-Blair with no credit issued.
- C. Products that are engineered fabrications or special orders may not be returned.
- D. Returned material should be packaged securely. Multiple items should be packed in an organized manner. Be sure to include a copy of the RMA as the packing list. Material received which is not returned in this manner will be returned at the sender's expense.
- E. Shipments authorized to be returned COLLECT, but are returned PREPAID, should include a copy of the freight bill in order for credit to be issued. If Smith-Blair is to pay for a return, it will be charged to the account noted on the RMA. On material returned due to customer error, any original pre-paid and allowed outbound freight charge will be debited.
- F. Smith-Blair reserves the right to decline any return material where it is not covered by warranty.



# Sales Terms & Conditions

1. The terms and conditions as hereinafter written shall supersede the terms and conditions of the customer's order or any other terms and conditions in any other customer documentation. Further, no understanding, agreement, terms, condition or trade custom or business practice at variance herewith shall be binding on the parties. THESE TERMS AND CONDITIONS TRUMP ANY OTHERS AND ARE THE SOLE AND EXCLUSIVE TERMS REGARDING THE PURCHASE AND SALE OF ANY SMITH-BLAIR PRODUCTS.

2. Prices prevailing at time of shipment will apply, except as otherwise provided by a prior written quotation, which constitutes a firm offer.

3. Title and Risk of Loss for damage to the goods passes to the customer upon delivery to the carrier regardless of who pays the shipping cost.

4. Smith-Blair, Inc. warrants its products to be free of defects in materials and workmanship for a period of one (1) year from the date of shipment by Smith-Blair, Inc. (the "Warranty Period"). Dated proof of purchase, such as a bill of sale, is required to establish warranty eligibility. If a product fails to perform due to a defect in materials or workmanship during the Warranty Period, Smith-Blair, Inc. will repair or, at Smith-Blair, Inc.'s option, replace the product with the same or comparable item. In the event that the product cannot be repaired and a suitable replacement item is not available, Smith-Blair, Inc. will refund the original purchase price shown on the proof of purchase. In all cases, the customer is responsible for returning the allegedly defective product to the factory or warehouse designated by Smith-Blair, Inc. THIS LIMITED WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHER WARRANTY OF QUALITY, OR THOSE ARISING FROM A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. THE REMEDIES PROVIDED IN THIS LIMITED WARRANTY STATEMENT ARE THE CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES. IN NO EVENT SHALL SMITH-BLAIR, INC. BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER LEGAL THEORY, AND WHETHER ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

4A. Smith-Blair's liability with respect to any Smith-Blair products is limited as follows. (A) Smith-Blair's liability in any and all causes of action arising under, out of or in relation to any Smith-Blair products shall be limited to the price paid by the customer for the relevant product(s). This is so whether the relevant cause(s) of action are in tort, contract, under statute or otherwise. Further, Smith-Blair is not liable for any indirect or consequential damages. The foregoing damage limitations are fundamental inducements to Smith-Blair selling its products at the prices it does. They apply unconditionally and in all respects.

5. The consequences, direct or indirect, of labor troubles, fires, accidents, floods, hostilities, shortage of transportation, failure, suspension or curtailment of production due to shortage of supply of raw materials, or other economic factors, government acts or requirements and any and all like different causes beyond the control of the parties hereto excuse performance by either party to the extent by which performance is prevented thereby. Smith-Blair may, during any period of shortage due to any of said causes, prorate its supply of such goods among all its buyers in such manner as may be deemed equitable in the sole judgment of Smith-Blair.

6. RETURNS: All non-catalog items are considered "non-returnable". For other catalog items to be considered, return requests must be submitted in writing and approved by Smith-Blair prior to returning material. Return evaluation for any catalog item will be based upon age of material (no older than one (1) year) from shipment date, on-hand inventory and demand for those items at the time of request. Upon approval, a Return Material Authorization (RMA) will be issued with applicable charges and terms and conditions of return. Approved items may be returned within a period of thirty (30) days after the issuance of an RMA. For proper credits to be applied, a copy of the RMA must accompany material.

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E. Shipments authorized to be returned COLLECT, but are returned PREPAID, should include a copy of the freight bill in order for credit to be issued. If Smith-Blair is to pay for a return, it will be charged to the account noted on the RMA. On material returned due to customer error, any original pre-paid and allowed outbound freight charge will be debited.

F. Smith-Blair reserves the right to decline any return material where it is not covered by warranty.

7. FREIGHT: Freight will be prepaid and allowed on all orders of \$3,000 net or more. For orders less than \$3,000 net, shipping and handling will be charged to the customer. Add-ons must also be \$3,000 net or more for freight allowance. Shipping and handling will be added to shipments expedited at the customer's request. This policy is subject to change, based on market conditions.

8. SERVICE CHARGE: All net orders below \$100 are subject to a \$20 service charge.

9. CANCELLATION CHARGES: May be applied to an order for the amount of work performed at the time of cancellation.

10. Smith-Blair reserves the right to furnish substitutes for materials which cannot be reasonably obtained because of any restrictions, voluntarily or compulsorily established by, or in connection with, any governmental authority.

11. United States law prohibits disposition of these products to certain countries unless otherwise authorized by the United States government. Contact the Office of Foreign Asset Controls of the U.S. Department of the Treasury at [www.treas.gov/offices/enforcement/ofac](http://www.treas.gov/offices/enforcement/ofac) or 202-622-2000 for more information



# Corrosion & Product Selection Notice

Metal products are subject to corrosion, particularly when used outdoors and/or underground. A large number of factors and location conditions affect the rate at which corrosion occurs.

To determine the life expectancy of your product when used with your pipeline's content, soil and environment, it is best to consult a corrosion expert in your area. To determine the suitability of your selected product also consult a system designer in your area.

Failure to determine the suitability of your product for your particular application, soil and environment, can result in premature product failure. Smith-Blair can provide additional information about your product's materials specifications at your request.

Contact the Smith-Blair Engineering Department at: 800-643-5183.