

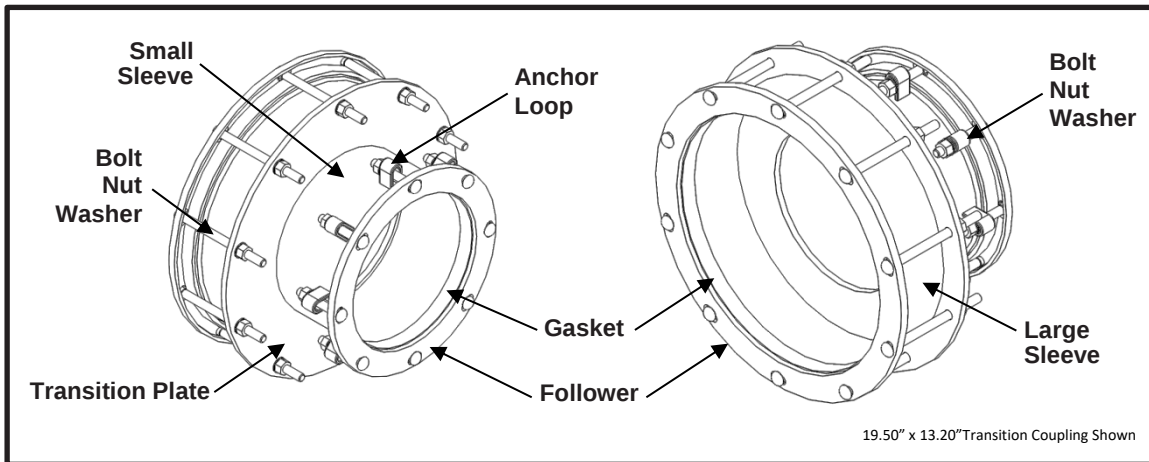


Smith-Blair
a xylem brand

SPECIFICATION

STEEL REDUCING COUPLING

MODEL 415



APPLICATIONS

- **Typical Uses**
 - Joining plain-end pipe of different outside diameters
- **Standard Pipe Sizes**
 - 4" to 48" nominal
- **Type of Pipe**
 - Carbon Steel, Stainless Steel, Ductile Iron, Asbestos Cement, PVC, HDPE, Copper
(see notes for HDPE applications)
- **Working Pressure**
 - 150 psi (standard design)

MATERIALS

- **Followers**
 - **Cast Follower** (for sizes up to 12" nominal pipe size)
 - Cast using Ductile Iron 65-45-12 per ASTM A536
 - Flexi-Coat® fusion bonded epoxy finish
 - Integral bolt head pocket for one wrench installation
 - **Steel Follower** (for sizes 14"-48" nominal pipe sizes)
 - Carbon Steel C1020 per ASTM A576
 - Flexi-Coat® fusion bonded epoxy finish
 - Integral bolt head pocket for one wrench installation
- **Sleeve**
 - Material: 4" – 5" nominal pipe size(s) = Carbon Steel per ASTM A513
6" – 48" nominal pipe size(s) = Carbon Steel per ASTM A283C
 - Flexi-Coat® fusion bonded epoxy finish
 - Larger O.D. sleeves provided with hanging ring(s) for ease of installation
- **Transition Plate**
 - Carbon Steel per ASTM A36
 - Flexi-Coat® fusion bonded epoxy finish



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- **Gasket**
 - Nitrile (Buna-N) per ASTM D2000
 - Compounded to resist water, oil, natural gas, acids, alkalis, most (aliphatic) hydrocarbon fluids, and many other chemicals
 - Temperature range: -20°F to +180°F
 - Permanently marked with part number and pipe size range for proper selection
- **Anchor Loop**
 - Carbon Steel per ASTM A36
 - Welded to sleeve to secure each follower end independently
- **Bolts**
 - High Strength Low Alloy (HSLA) Steel per AWWA C111/A21.11
 - 5/8"-11UNC, Track Head Oval Neck
 - Rolled threads for improved physical characteristics, greater thread accuracy, and smooth surface finish
- **Nut**
 - HSLA Steel per AWWA C111/A21.11
 - 5/8"-11UNC, Heavy Hex Semi-Finished
- **Washers**
 - Carbon Steel per ASTM F844
 - 5/8" Type A Plain
 - Utilized to preserve corrosion resistance of epoxy coated surfaces and increase bearing surface

LISTINGS

- Certified to NSF/ANSI 61 and NSF/ANSI 372
- Meets applicable portions of AWWA C219
- Flexi-Coat® Fusion-Bonded Epoxy Coating meets requirements of AWWA C213

OPTIONS

- Other materials of construction (e.g. 304SS, 316SS, etc.)
- Type 304 Stainless Steel hardware with fluoropolymer coated nuts to prevent galling
- Type 316 Stainless Steel hardware with fluoropolymer coated nuts to prevent galling
- Alternative gasket material (e.g. Viton, EPDM, etc.)
- Protected gasket (brass spring molded into leading edge)
- Anode connector
- Anchor studs
- Insulating boot(s)
- Pipe stops incorporated into sleeve
- Higher working pressure design
- Custom sleeve length and thickness
- Angled sleeve design (for deflections exceeding straight coupling deflection ranges)
- Transition gasket for undersized pipe
- Wall sleeve design (for building wall or bulkhead passage)



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NOTES

- Pipe stiffeners **are required** when this product is used on HDPE
- Flexi-Coat® is a registered trademark of Smith-Blair
- These product specifications were correct at the time of publication and are subject to change without notice
- See the Smith-Blair website for part numbers and ordering information
- See the Smith-Blair website for warranty information
- See the Smith-Blair website for corrosion notice



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, and/or death. Read the product installation instructions prior to installing this product.



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Recommended Pipe Centerline Minimum Stab Depths

Sleeve Length	Minimum Stab Depth
5"	1-1/2"
7"	2"
10"	2-3/4"
Longer Than 10"	3"

Total Maximum Allowable Axial Pipe Movement per Coupling

Nominal Pipe Size	Allowable Movement
1/2" to ≤ 2"	1/8"
> 2" to ≤ 10"	1/4"
> 10"	3/8"

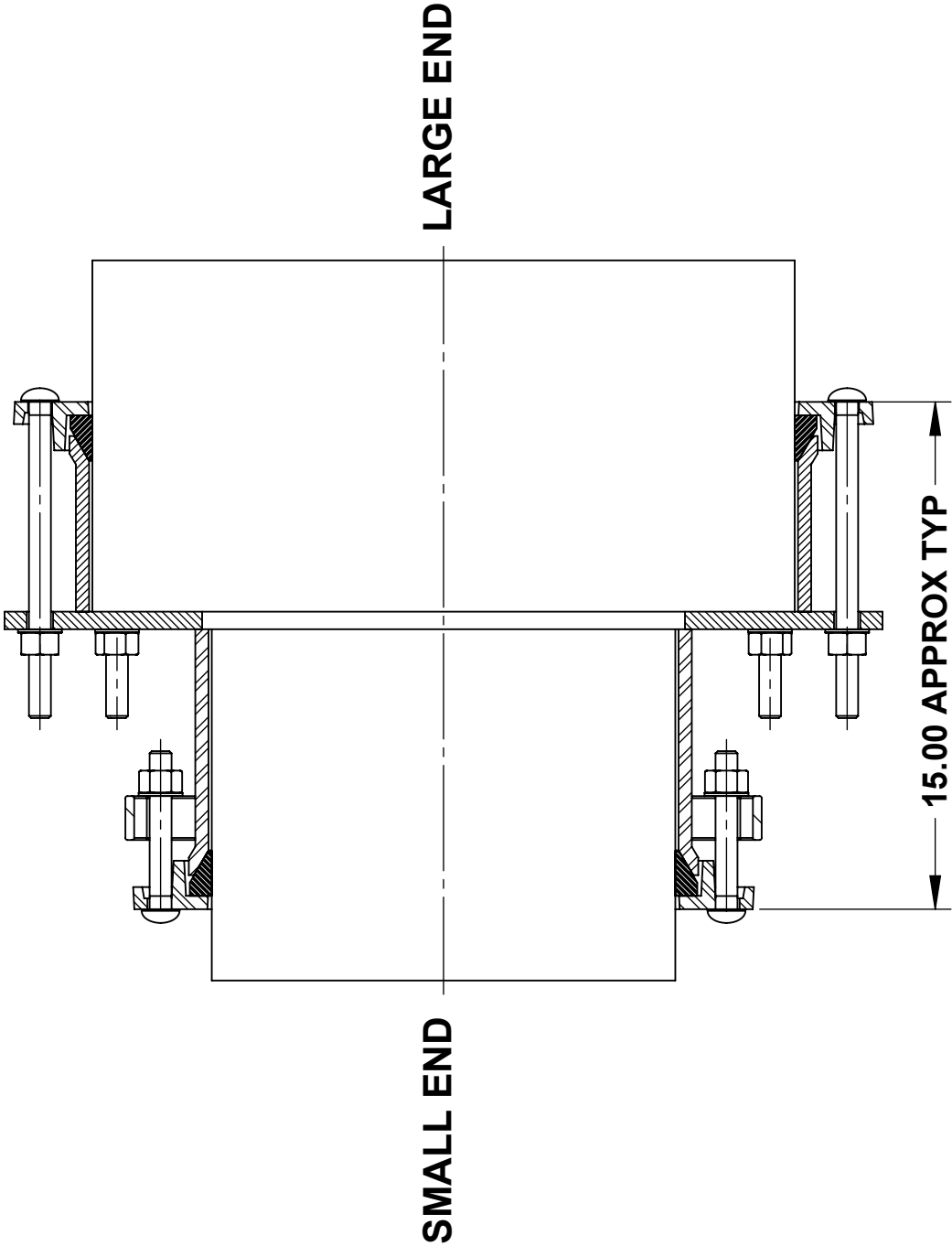
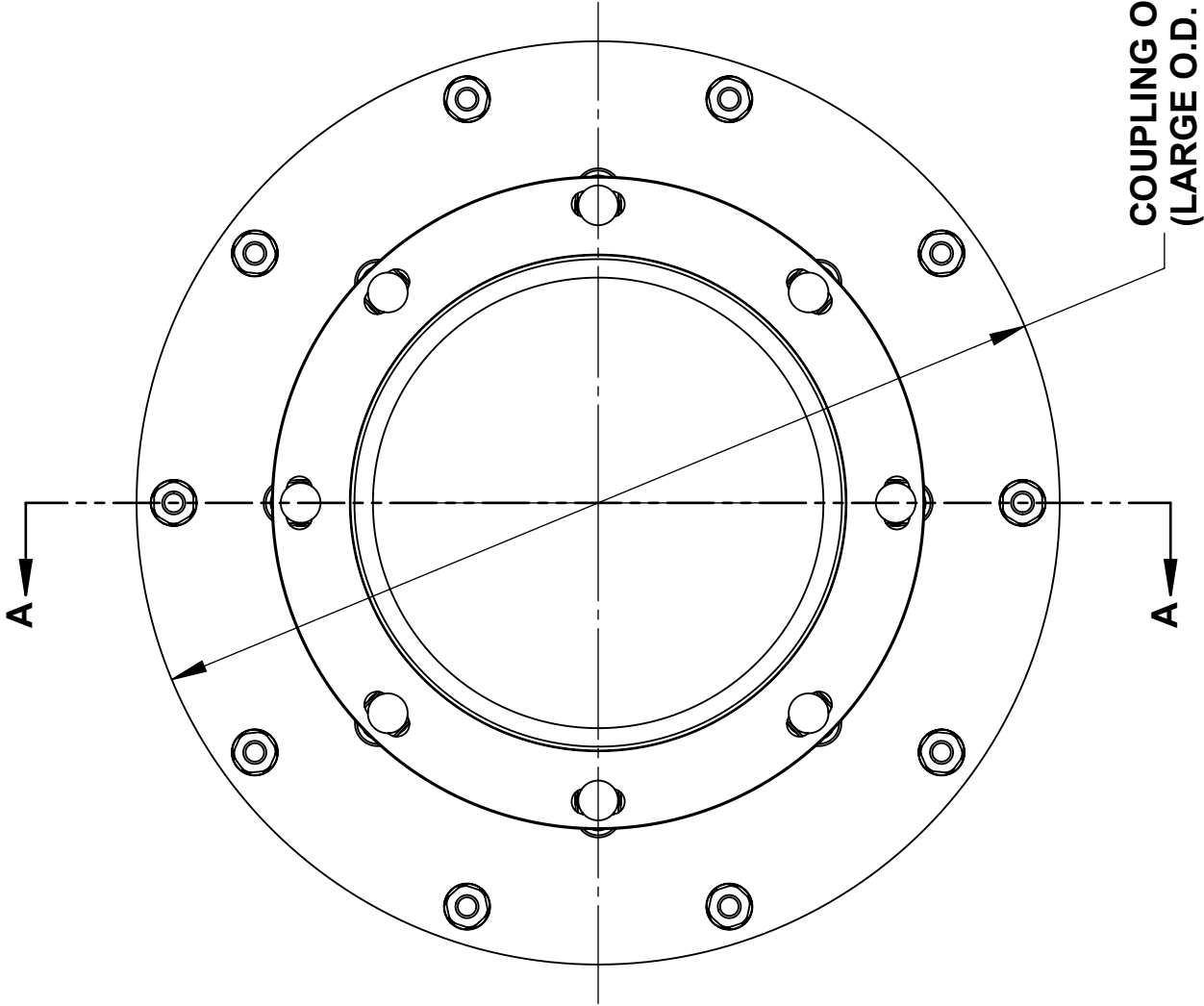
Pipe End Tolerances

Nominal Pipe Size	Minus Tolerance	Plus Tolerance
1/2" to ≤ 16"	-0.06	+0.06
> 16" to ≤ 24"	-0.08	+0.08
> 24" to ≤ 42"	-0.10	+0.10
> 42"	-0.06	+0.12

Maximum Angular Deflection per Coupling

Nominal Pipe Size	Center Sleeve Length		
	5"	7"	10" and Larger
1/2" to ≤ 2"	7°	7°	7°
> 2" to ≤ 12"	4°	4-1/2°	4-1/2°
> 12" to ≤ 24"	2-1/2°	4°	4-1/2°
> 24" to ≤ 36"	-	3-1/2°	4°
> 36" to ≤ 42"	-	3°	3-1/2°
> 42" to ≤ 60"	-	2-1/2°	3°
> 60" to ≤ 80"	-	-	2-1/2°
> 80" to ≤ 100"	-	-	2°
> 100"	-	-	-

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SECTION A-A

- NOTES:
- SEE CATALOG FOR DESIGN DATA SPECIFIC TO REDUCTIONS OF STANDARD PIPE SIZES
 - 19.50" X 13.20" COUPLING SHOWN OTHER SIZES SIMILAR

WRENCH SIZE CHART		
NUT		SIZE
5/8"-11UNC HH		1-1/16"

TOLERANCES U.N.O. XX= +.03 XXX= +.015 FRACTIONS= ANGLES=+1° MACH. FIN=	NOTES: REMOVE BURRS AND SHARP EDGES DO NOT SCALEDWG.		APP'D	DATE
	SCALE: N/A		CK'D	DATE
	ALL DIMENSIONS ARE IN INCHES.		DRN	DATE

TITLE				
SPECIFICATION				
STEEL REDUCING COUPLING				
MODEL 415				
P/N		N/A		

SMITH-BLAIR		P/N		N/A	
TEXARKANA, ARKANSAS		SPEC_415.DRW		5 OF 6	
		DWG. NO.		SHEET	
				8/3/17	
				REV.	

LARGE PIPE END				
PIPE O.D.	A	HARDWARE		APPROX WEIGHT (LBS)
		QTY.	SIZE	
5.00 TO 7.49	0.250	4	5/8" X 8.00"	32
7.50 TO 8.49	0.250	6	5/8" X 8.00"	35
8.50 TO 9.49	0.250	6	5/8" X 8.00"	38
9.50 TO 10.49	0.250	6	5/8" X 8.00"	44
10.50 TO 11.49	0.250	6	5/8" X 8.00"	47
11.50 TO 12.49	0.250	6	5/8" X 8.00"	56
12.50 TO 13.49	0.250	8	5/8" X 8.00"	60
13.50 TO 14.49	0.250	8	5/8" X 8.00"	71
14.50 TO 15.49	0.250	8	5/8" X 8.00"	79
15.50 TO 16.49	0.250	8	5/8" X 8.00"	85
16.50 TO 17.49	0.250	8	5/8" X 8.00"	91
17.50 TO 18.49	0.250	8	5/8" X 8.00"	97
18.50 TO 19.49	0.250	10	5/8" X 8.00"	105
19.50 TO 20.99	0.250	10	5/8" X 8.00"	114
21.00 TO 22.99	0.250	10	5/8" X 8.00"	129
23.00 TO 24.99	0.250	10	5/8" X 8.00"	142
25.00 TO 26.99	0.250	12	5/8" X 8.00"	156
27.00 TO 28.99	0.250	12	5/8" X 8.00"	175
29.00 TO 30.99	0.250	12	5/8" X 8.00"	189
31.00 TO 32.99	0.250	14	5/8" X 8.00"	207
33.00 TO 32.99	0.250	14	5/8" X 8.00"	225
35.00 TO 36.99	0.250	16	5/8" X 8.00"	258
37.00 TO 38.99	0.250	16	5/8" X 8.00"	279
39.00 TO 40.99	0.375	16	5/8" X 8.00"	298
41.00 TO 42.99	0.375	18	5/8" X 8.00"	336
43.00 TO 44.99	0.375	18	5/8" X 8.00"	359
45.00 TO 46.99	0.375	20	5/8" X 8.00"	384
47.00 TO 48.99	0.375	20	5/8" X 8.00"	407

SMALL PIPE END				
PIPE O.D.	B	HARDWARE		APPROX WEIGHT (LBS)
		QTY.	SIZE	
3.50 TO 4.49	0.188	4	5/8" X 4.50"	13
4.50 TO 5.49	0.188	4	5/8" X 4.50"	16
5.50 TO 6.49	0.250	4	5/8" X 4.50"	20
6.50 TO 7.49	0.250	6	5/8" X 4.50"	20
7.50 TO 8.49	0.250	6	5/8" X 4.50"	21
8.50 TO 9.49	0.250	6	5/8" X 4.50"	23
9.50 TO 10.49	0.250	6	5/8" X 4.50"	24
10.50 TO 11.49	0.250	6	5/8" X 4.50"	30
11.50 TO 12.49	0.250	8	5/8" X 4.50"	21
12.50 TO 13.99	0.250	8	5/8" X 4.50"	34
13.50 TO 14.99	0.250	8	5/8" X 4.50"	40
15.00 TO 16.99	0.250	8	5/8" X 4.50"	45
17.00 TO 18.99	0.250	8	5/8" X 4.50"	54
19.50 TO 20.99	0.250	8	5/8" X 4.50"	68
21.00 TO 22.90	0.250	10	5/8" X 4.50"	70
23.00 TO 24.99	0.250	10	5/8" X 4.50"	81
25.00 TO 26.99	0.250	10	5/8" X 4.50"	98
27.00 TO 28.99	0.250	10	5/8" X 4.50"	101
29.00 TO 30.99	0.250	12	5/8" X 4.50"	103
31.00 TO 32.99	0.250	12	5/8" X 4.50"	105
33.00 TO 34.99	0.250	12	5/8" X 4.50"	116
35.00 TO 36.99	0.250	14	5/8" X 4.50"	118
37.00 TO 38.99	0.250	14	5/8" X 4.50"	124
39.00 TO 40.99	0.375	16	5/8" X 4.50"	130
41.00 TO 42.99	0.375	16	5/8" X 4.50"	138
43.00 TO 44.99	0.375	16	5/8" X 4.50"	150
45.00 TO 46.99	0.375	18	5/8" X 4.50"	156

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TITLE SPECIFICATION STEEL REDUCING COUPLING MODEL 415				
SMITH-BLAIR TEXARKANA, ARKANSAS			P/N	N/A
			SPEC_415.DRW	6 OF 6 SHEET
			DWG. NO.	8/3/17 REV.