

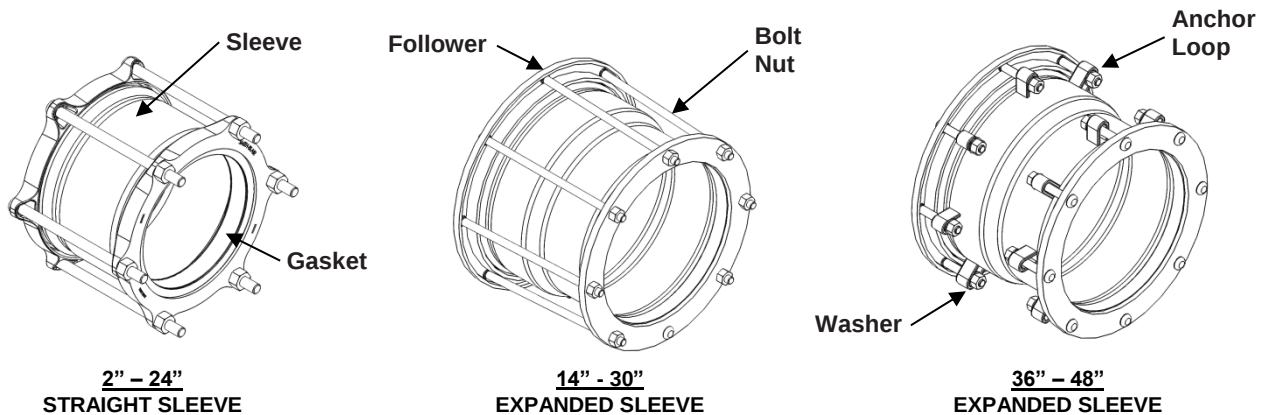


Smith-Blair
a xylem brand

SPECIFICATION

STEEL TRANSITION COUPLING

MODEL 413



APPLICATIONS

- **Typical Uses**
 - Joining plain-end pipe of different outside diameters within the same nominal pipe size
- **Standard Pipe Sizes**
 - 2" to 48" nominal
- **Type of Pipe**
 - Carbon Steel, Stainless Steel, Ductile Iron, Asbestos Cement, PVC, HDPE
(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: 2" – 5" nominal pipe size(s) = Carbon Steel per ASTM A513 or A53
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
- **Anchor Loop**
 - Carbon Steel per ASTM A36
 - Welded to sleeve to secure each follower end independently allowing greater O.D. pipe transitions



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- **Gasket**
 - Nitrile (Buna-N) per ASTM D2000
 - Compounded to resist water, oil, natural gas, acids, alkalies, most (aliphatic) hydrocarbon fluids, and many other chemicals
 - Temperature range: -20°F to +180°F
 - For ductile iron and asbestos cement pipe sizes, the gaskets sealing surface has molded in ribs for maximum sealing on textured pipe
 - Permanently marked with part number and pipe size range for proper selection
- **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

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
- Insulating boot(s)
- Anchor studs
- Pipe stops incorporated into sleeve
- Higher working pressure design
- Custom sleeve length and thickness

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 to Pipe Centerline Gaps

Sleeve Length	Optimum Gaps		Maximum Gap
	Straight Run	Deflected Joints	
5"	1/2"	1"	2"
7"	1"	1-1/2"	3"
10"	1"	2-1/4"	4-1/2"
Longer Than 10"	1"	2-3/4"	"Sleeve Length" – 6"

Pipe gap to be centered in coupling sleeve.

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"

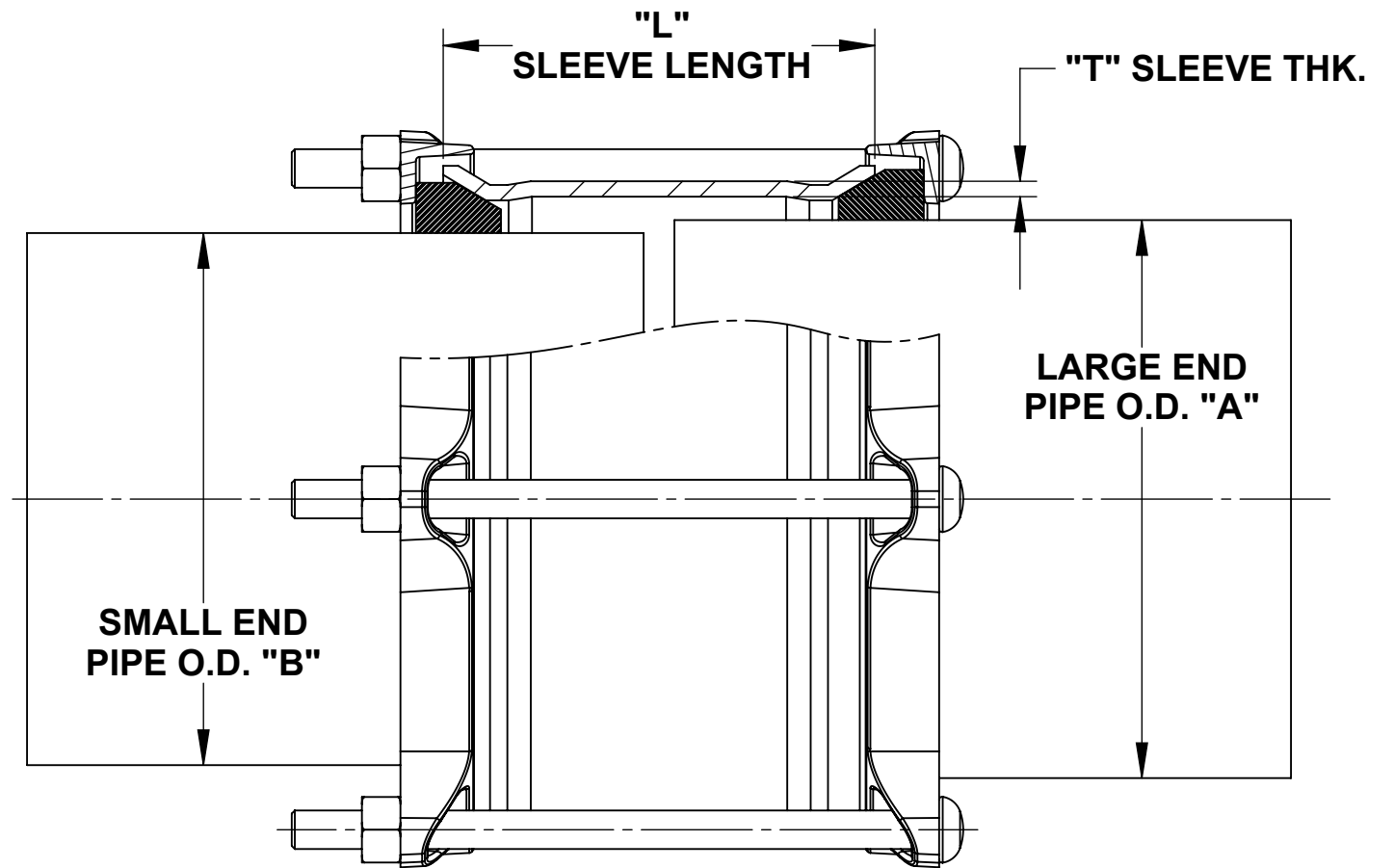
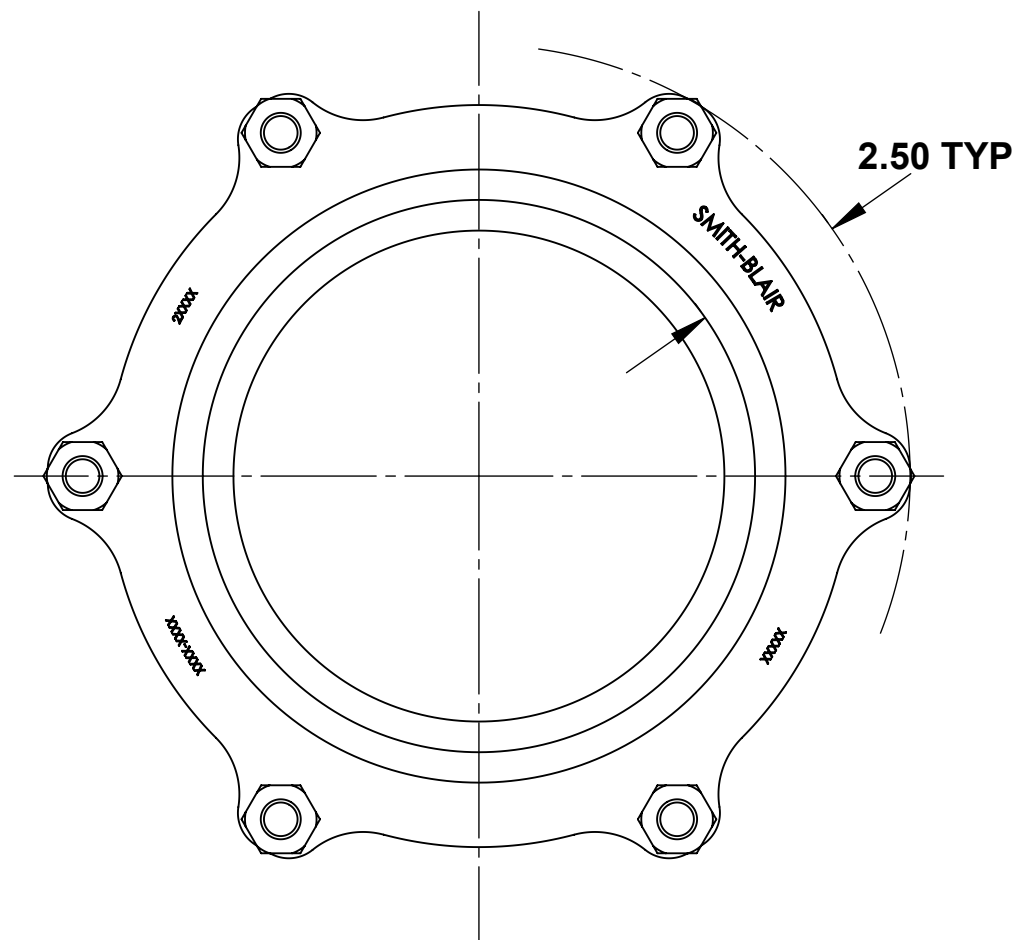
Pipe End Tolerances

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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2" - 24" STRAIGHT SLEEVE TRANSITION COUPLING

NOMINAL PIPE SIZE	PIPE SIZES		L	T	HARDWARE		APPROX. WEIGHT (LBS)
	PIPE O.D. A	PIPE O.D. B			QTY.	SIZE	
2	2.81	2.07	5	.261	2	5/8" X 8.00"	8
2-3	3.88	2.69	5	.227	2	5/8" X 8.00"	10
3-4	4.68	3.44	5	.258	3	5/8" X 8.00"	13
5-5	5.84	4.74	5	.280	4	5/8" X 8.00"	21
5-6	6.99	5.47	5	.301	5	5/8" X 8.00"	24
6	7.26	6.57	5	.322	5	5/8" X 8.00"	28
8	8.75	7.94	5	.342	6	5/8" X 8.00"	34
8	9.25	7.94	5	.375	6	5/8" X 8.00"	41
8	9.45	8.56	5	.375	6	5/8" X 8.00"	41
8-10	10.38	9.00	5	.375	7	5/8" X 8.00"	41
10	10.84	9.88	5	.250	8	5/8" X 8.00"	33
10	11.50	10.63	5	.375	7	5/8" X 8.00"	46
10-12	12.06	11.00	5	.375	7	5/8" X 8.00"	48
12	13.10	11.88	5	.375	8	5/8" X 8.00"	53
12	13.70	12.63	5	.375	8	5/8" X 8.00"	57
12-14	14.50	13.88	5	.375	6	5/8" X 8.00"	62
14	15.65	15.30	7	.375	8	5/8" X 11.00"	86
16	17.80	17.40	7	.375	8	5/8" X 11.00"	96
18	19.92	19.50	7	.375	10	5/8" X 11.00"	108
20	22.06	21.60	7	.375	10	5/8" X 11.00"	118
24	26.32	25.80	7	.375	12	5/8" X 11.00"	140

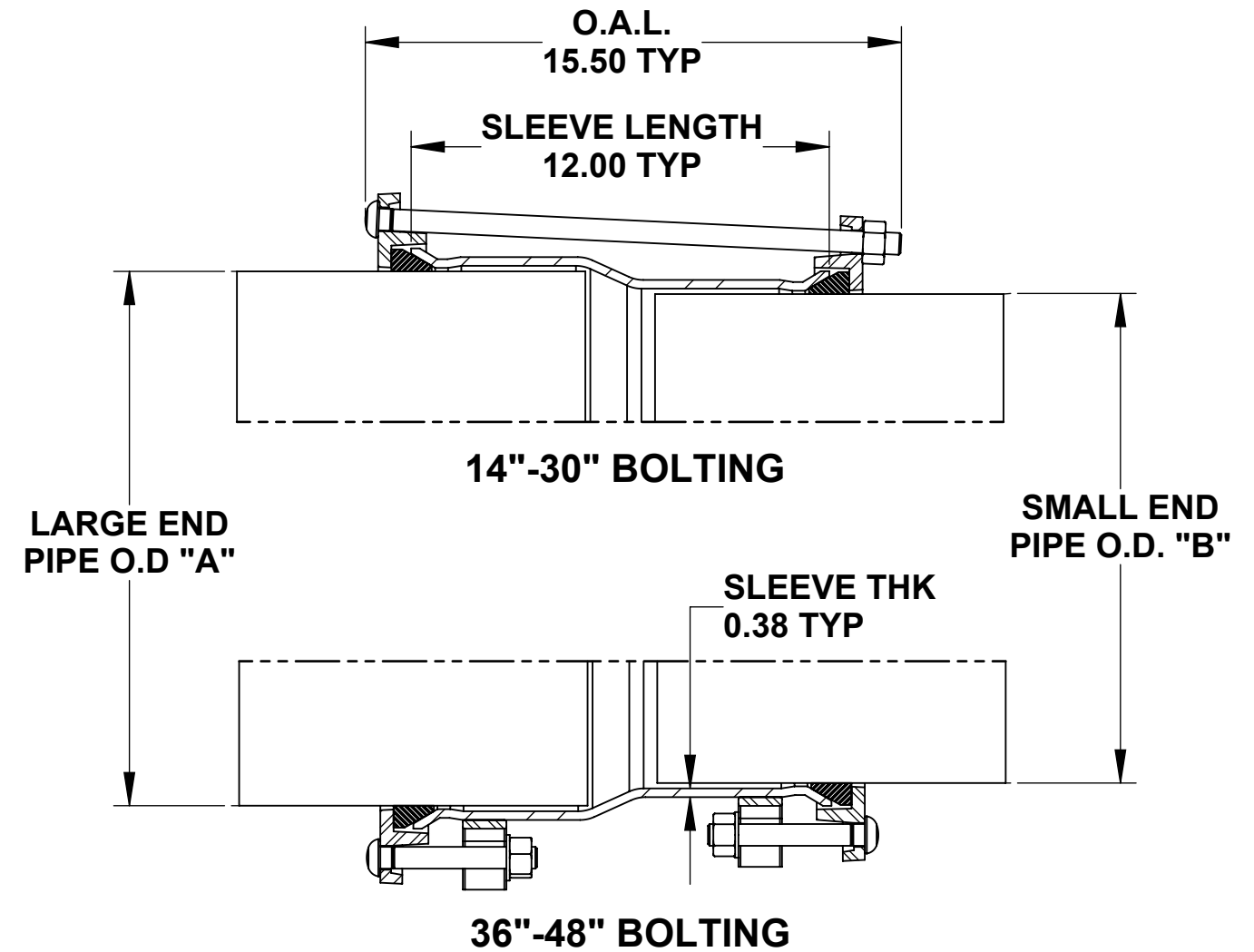
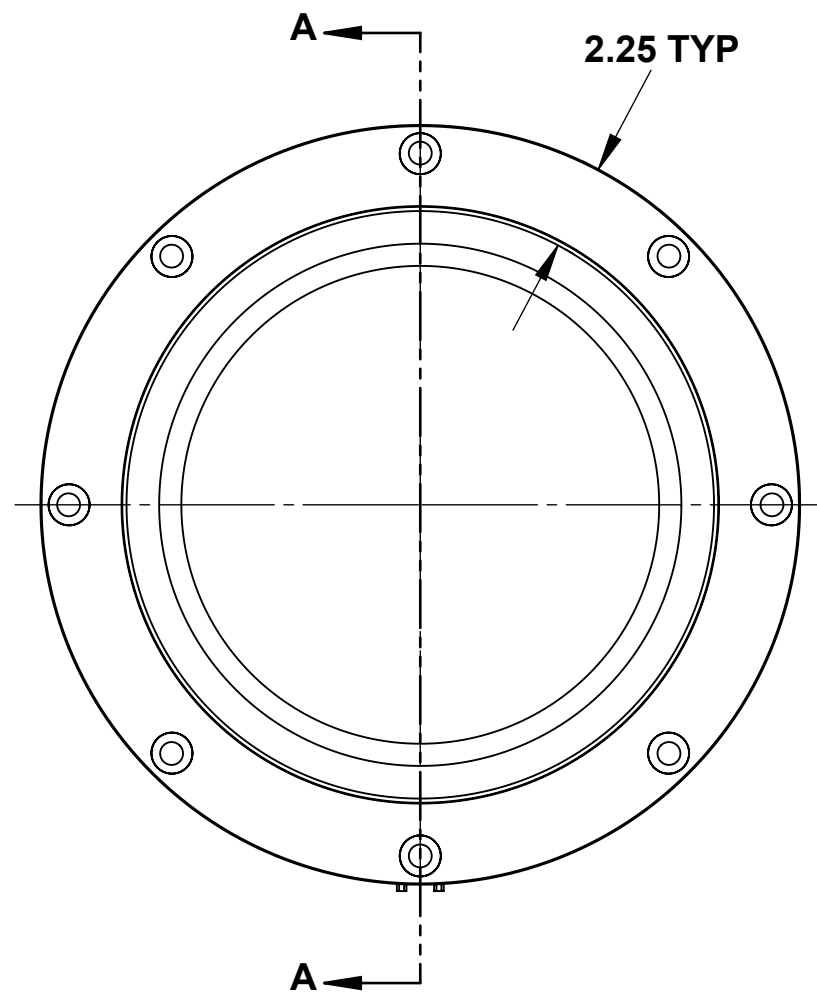
NOTES:

- SEE SMITH-BLAIR CATALOG FOR ADDITIONAL DETAILS
- 8.63" X 9.05" STD SLEEVE LENGTH 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= ALL DIMENSIONS ARE IN INCHES.	NOTES: REMOVE BURRS AND SHARP EDGES DO NOT SCALE DWG.	APP'D		DATE	
		CK'D		DATE	
	SCALE: N/A	DRN	CHD	DATE	10/6/15
TITLE SPECIFICATION STEEL TRANSITION COUPLING MODEL 413					
SMITH-BLAIR TEXARKANA, ARKANSAS		P/N N/A			
		SPEC_413.DRW		4 OF 5 SHEET	
		DWG. NO.		8/3/17 REV.	



SECTION A-A

- NOTES:
1. SEE SMITH-BLAIR CATALOG FOR ADDITIONAL DETAILS
 2. 8.63" X 9.05" STD SLEEVE LENGTH COUPLING SHOWN.
OTHER SIZES SIMILAR

NOMINAL PIPE SIZE	PIPE SIZES		HARDWARE		APPROX. WEIGHT (LBS)
	Pipe O.D. A	Pipe O.D. B	QTY.	SIZE	
14	15.30	14.00	8	5/8" X 15.00"	110
16	17.40	16.00	8	5/8" X 15.00"	125
18	19.50	18.00	8	5/8" X 15.00"	145
20	21.60	20.00	10	5/8" X 15.00"	160
24	25.80	24.00	12	5/8" X 15.00"	180
30	32.00	30.00	14	5/8" X 15.00"	215
36	38.30	36.00	32	5/8" X 4.50"	260
42	44.50	42.00	36	5/8" X 4.50"	315
48	50.80	48.00	40	5/8" X 4.50"	350

14" - 48"
EXPANDED SLEEVE
TRANSITION COUPLING

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

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SMITH-BLAIR TEXARKANA, ARKANSAS		P/N N/A			
		SPEC_413.DRW DWG. NO.		5 OF 5 SHEET REV.	