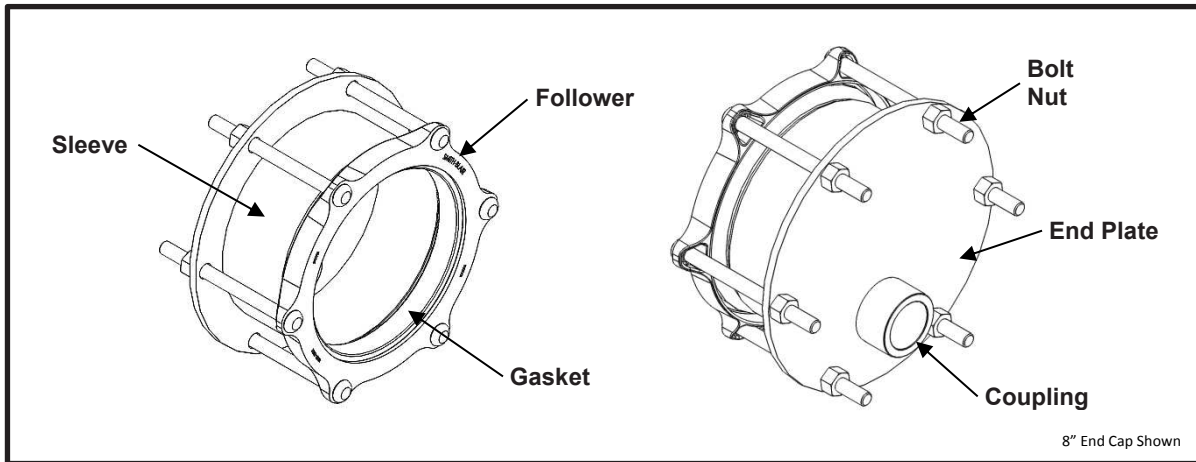




Smith-Blair  
a xylem brand

# SPECIFICATION STEEL END CAP COUPLING MODEL 481



## APPLICATIONS

- **Typical Uses**
  - Pipe-end sealing
  - Pipe-end testing
- **Standard Pipe Sizes**
  - 2" to 20" nominal
- **Type of Pipe**
  - Carbon Steel, Stainless Steel, Ductile Iron, Asbestos Cement, PVC, HDPE  
(see notes for thin wall PVC & HDPE applications)
- **Working Pressure**
  - 150 psi (standard design, greater pressure ratings available)

## MATERIALS

- **Followers**
  - **Cast Follower**
    - Cast using Ductile Iron 65-45-12 per ASTM A536
    - Flexi-Coat<sup>®</sup> fusion bonded epoxy finish
    - Permanently marked with part number and pipe size range
    - Integral bolt head pocket
  - **Steel Follower**
    - Carbon Steel C1020 per ASTM A576
    - Flexi-Coat<sup>®</sup> fusion bonded epoxy finish
    - Integral bolt head pocket
- **Sleeve**
  - Material: 2" – 4" nominal pipe size(s) = Carbon Steel per ASTM A513 or A53  
6" – 20" nominal pipe size(s) = Carbon Steel per ASTM A283C
  - Flexi-Coat<sup>®</sup> fusion bonded epoxy finish
- **End Plate**
  - Carbon Steel per ASTM A283C
  - Flexi-Coat<sup>®</sup> fusion bonded epoxy finish



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# SPECIFICATION

## STEEL END CAP COUPLING

### MODEL 481

- **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
  - Permanently marked with part number and pipe size range
- **Outlet**
  - Carbon Steel 2" FNPT coupling per ASTM A865
  - Offset for low point drain if required
- **Bolts**
  - HSLA Steel per AWWA C111/A21.11
  - 5/8"-11UNC, Oval Neck Track Head, rolled threads
- **Nut**
  - HSLA Steel per AWWA C111/A21.11
  - 5/8"-11UNC, Heavy Hex Semi-Finished

#### LISTINGS/STANDARDS

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

#### 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
- Anchor studs
- Higher working pressure design
- Custom sleeve length and thickness
- Custom outlet size and/or tap
- Carbon Steel 2" MNPT square head test plug

#### NOTES

- Pipe stiffeners **are required** when this product is used on HDPE
- These product specifications were correct at the time of publication and are subject to change without notice
- Xylem, Smith-Blair, SB stylized, and Flexi-Coat are registered trademarks of Xylem, Inc. or one of its subsidiaries.
- 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 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.



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# SPECIFICATION STEEL END CAP COUPLING MODEL 481

Minimum 3" pipe insertion required

**Total Maximum Allowable Axial Pipe Movement per Coupling**

Coupling Size	Allowable Movement
3/4" to 2"	1/16"
2-1/2" to 10"	1/8"
10-3/4" and Larger	3/16"

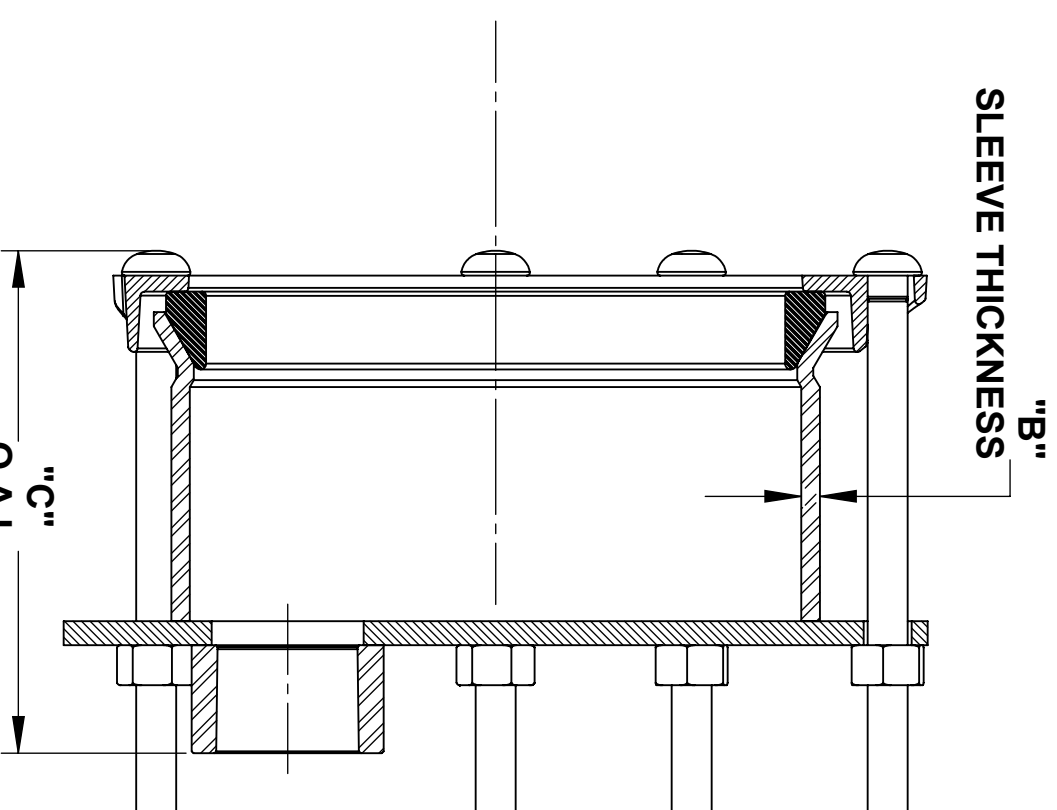
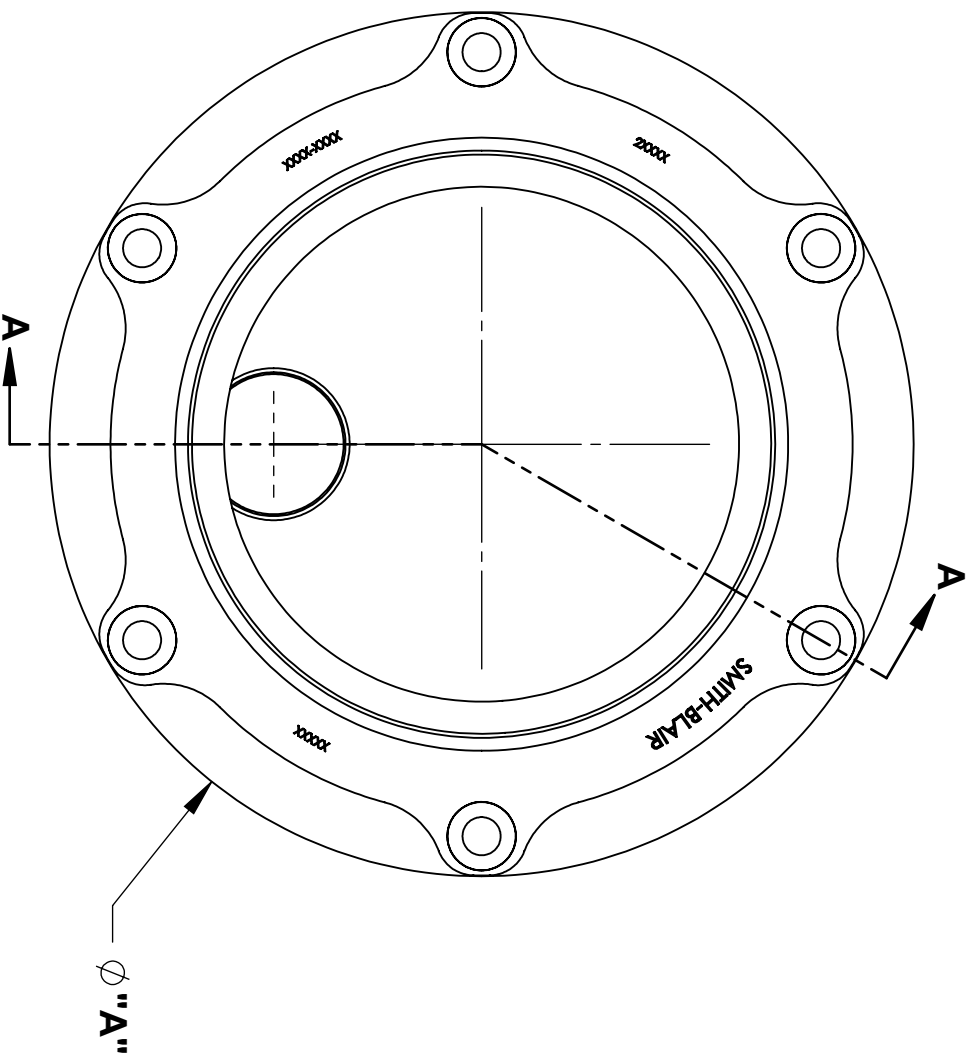
**Pipe End Tolerances**

Nominal Pipe Size	Minus Tolerance	Plus Tolerance
1/2" up to 16"	-0.06	+0.06
>16" up to 24"	-0.08	+0.08
>24" up 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" up to 2"	3-1/2°	3-1/2°	3-1/2°
>2" up to 12"	2°	2-1/4°	2-1/4°
>12" up to 24"	3/4°	1°	1-1/8°
>24" up to 36"	-	1-3/4°	2°
>36" up to 42"	-	1-1/2°	1-3/4°
>42" up to 60"	-	1-1/4°	1-1/2°
>60" up to 80"	-	-	1-1/4°
>80" up to 100"	-	-	1°
>100"	-	-	-

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SECTION A-A

**NOTES:**

1. 8" STANDARD SLEEVE LENGTH COUPLING SHOWN OTHER SIZES SIMILAR

NOM. PIPE SIZE	PIPE O.D.	A	B	C	HARDWARE		APPROX WEIGHT (LBS)
					QTY.	SIZE	
2	2.50	6.20	0.216	7.94	2	5/8" X 8.00"	10
	3.50	7.09	0.190	7.94	3		12
3	3.7 TO 3.96	7.53	0.237	8.19	2	5/8" X 8.00"	11
		8.13	0.250	8.19	4		18
4	4.64	8.13	0.250	8.19	4	5/8" X 8.00"	18
6	6.90	10.56	0.250	8.19	5	5/8" X 8.00"	28
8	9.05	13.44	0.250	8.19	6	5/8" X 8.00"	39
10	11.10 TO 11.66	16.50	0.250	8.19	6	5/8" X 8.00"	46
12	13.20 TO 13.92	18.31	0.250	8.31	8	5/8" X 8.00"	54
14	15.30 TO 15.65	20.10	0.250	8.31	8	5/8" X 8.00"	89
16	17.40 TO 17.80	22.25	0.250	8.31	10	5/8" X 8.00"	93
18	19.50 TO 19.92	24.40	0.250	8.31	10	5/8" X 8.00"	122
20	21.60 - 22.06	26.50	0.250	8.31	10	5/8" X 8.00"	136

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. SCALE: N/A	APP'D	DATE
		CK'D	DATE
		DRN	10/12/15

**SPECIFICATION**  
STEEL END CAP COUPLING  
MODEL 481

<b>SMITH-BLAIR, Inc.</b>		P/N	N/A
TEXARKANA, ARKANSAS		DWG. NO.	<b>SPEC_481.DRW</b>
		1 OF 1 SHEET	8/15/18 REV.