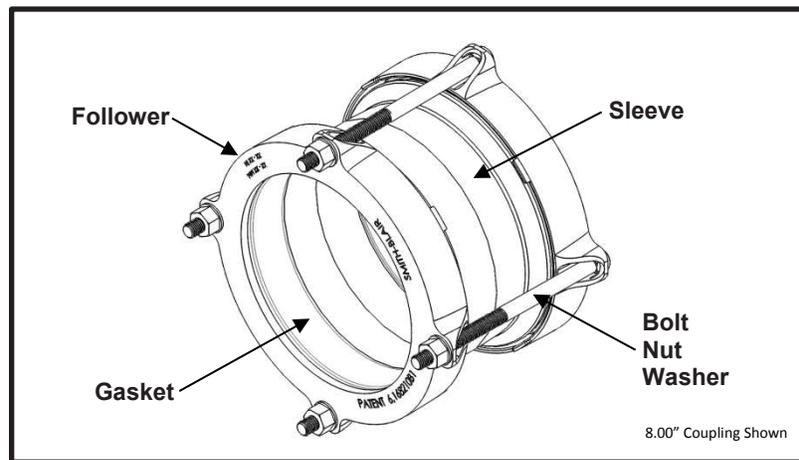


SPECIFICATION

QUANTUM[®] WIDE RANGE CAST COUPLING

MODEL 461



APPLICATIONS

- **Typical Uses**
 - Joining plain-end pipe of different outside diameters with same nominal size
 - Replace split or excessively damaged pipe
- **Standard Pipe Sizes**
 - 1-1/2" to 12" nominal
- **Type of Pipe**
 - Carbon Steel, Stainless Steel, Ductile Iron, Asbestos Cement, PVC, HDPE
(see notes for thin wall PVC & HDPE applications)
- **Working Pressure**
 - 250 psi

MATERIALS

- **Follower**
 - Cast using Ductile Iron 65-45-12 per ASTM A536
 - Flexi-Coat[®] fusion bonded epoxy finish which meets application methods AWWA C213
 - Permanently marked with part number and pipe size range for proper selection
 - Integral bolt head pocket for one wrench installation
 - Designed to provide up to 1.65" of range with a single follower
 - Tabs cast in follower to center and concentrate sealing force uniformly over gasket
- **Sleeve**
 - Cast using Ductile Iron 65-45-12 per ASTM A536
 - Flexi-Coat[®] fusion bonded epoxy finish which meets application methods AWWA C213
 - Single sleeve design for each nominal pipe size reducing inventory
- **Gasket**
 - Nitrile (Buna-N) per ASTM D2000
 - NSF/ANSI 61 and 372 certified
 - Compounded to resist water, oil, natural gas, acids, alkalies, most (aliphatic) hydrocarbon fluids, and many other chemicals
 - Temperature range: -20°F to +180°F
 - Leading edge of gasket has molded in ribs for maximum sealing against sleeve
 - Permanently marked with part number and pipe size range for proper selection



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- **Bolts**
 - HSLA Carbon Steel per AWWA C111/A21.11
 - Epoxy coated threads to prevent galling
 - Size: 1-1/2" - 8" nominal pipe size = 5/8"-11UNC x 10.50" long, Oval Neck Track Head
 10" - 12" nominal pipe size = 5/8"-10UNC x 13.50" long, Oval Neck Track Head
 - Rolled threads for improved physical characteristics, greater thread accuracy, and smooth surface finish
- **Nut**
 - HSLA Carbon Steel per AWWA C111/A21.11
 - Fluoropolymer coated to prevent galling
 - 5/8"-11UNC, Heavy Hex Semi-Finished
- **Washer**
 - Carbon Steel per ASTM F844
 - Fe/Zn coated per ASTM F1941-10
 - 5/8" Type A Plain
 - Utilized to preserve corrosion resistance of epoxy coated surfaces and increase bearing surface

LISTINGS

- UL certified to NSF/ANSI 61 and 372
- Meets applicable AWWA C219 standards

OPTIONS

- 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)

NOTES

- This product **does not** restrain the pipe from pulling out of the fitting
- Pipe stiffeners **are required** when this product is used on HDPE and thin wall PVC pipe
- Flexi-Coat[®] and Quantum[®] are registered trademarks of Smith-Blair, Inc.
- These product specifications were correct at the time of publication and are subject to change without notice
- See the Smith-Blair[®] web site for part numbers and ordering information
- See the Smith-Blair[®] web site for warranty information
- See the Smith-Blair[®] web site for corrosion warnings



SPECIFICATION

QUANTUM[®] WIDE RANGE CAST COUPLING

MODEL 461

Recommended Pipe to Pipe Centerline Gaps

Sleeve Length	Optimum Gaps		Maximum Gap
	Straight Run	Deflected Joints	
5"	1/2"	1"	2"
7"	1/2"	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

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

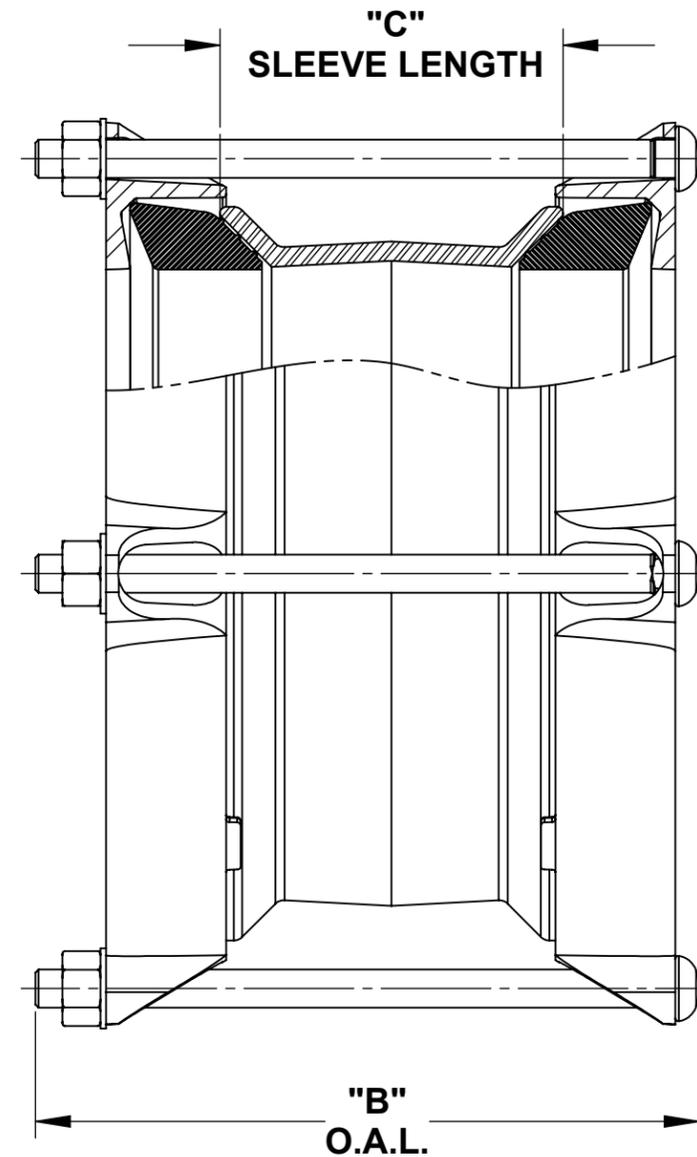
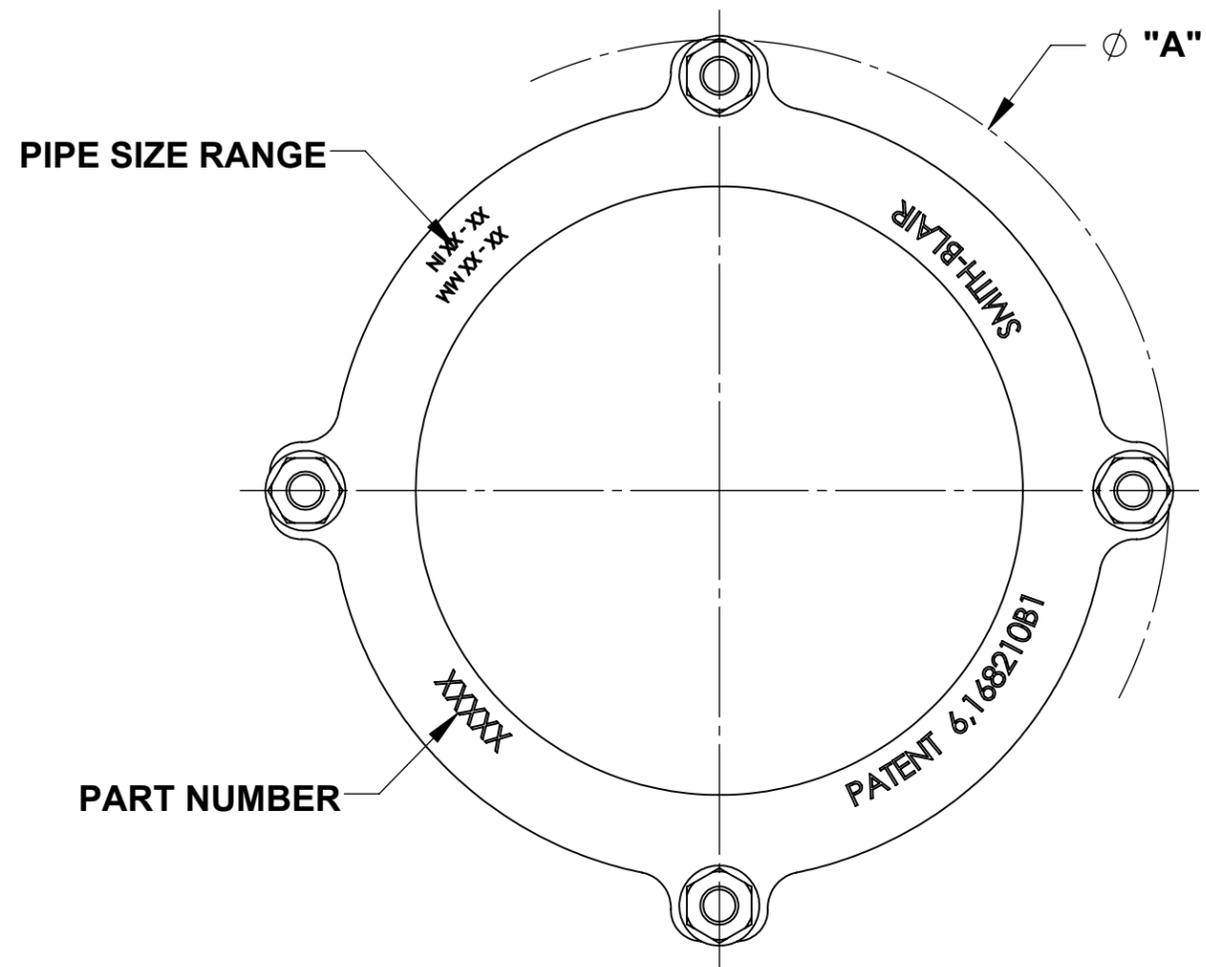
Pipe End Tolerances

Pipe OD	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"	7°	7°	7°
>2" up to 12"	4°	4-1/2°	4-1/2°
>12" up to 24"	2-1/2°	4°	4-1/2°
>24" up to 36"	-	3-1/2°	4°
>36" up to 42"	-	3°	3-1/2°
>42" up to 60"	-	2-1/2°	3°
>60" up to 80"	-	-	2-1/2°
>80" up to 100"	-	-	2°
>100"	-	-	-

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 Toll-Free Numbers: Ph: 800-643-9705 • Fax: 800-648-6792



NOTES:

1. SEE SMITH-BLAIR CATALOG FOR PIPE RANGE AVAILABILITY
2. 8" COUPLING SHOWN OTHER SIZES SIMILAR

CERTIFIED TO NSF/ANSI 61-G & 372

NOM. PIPE SIZE	PIPE O.D. RANGE	A	B	C	HARDWARE		APPROX WEIGHT (LBS)
					QTY.	SIZE	
1.50	1.81 TO 2.28	6.50	11.00	4	2	5/8" X 10.50"	8.2
2	2.34 TO 2.85	7.00	11.00	4	2	5/8" X 10.50"	10.0
2.50	2.84 TO 3.35	7.50	11.00	4	2	5/8" X 10.50"	10.0
3	3.46 TO 4.21	8.50	11.00	5	4	5/8" X 10.50"	15.0
4	4.46 TO 5.60	10.50	11.00	5.50	4	5/8" X 10.50"	26.0
6	6.54 TO 7.65	12.50	11.00	6	4	5/8" X 10.50"	33.0
8	8.54 TO 9.85	15.25	11.00	6	4	5/8" X 10.50"	44.0
10	10.65 TO 12.20	18.00	14.00	7.50	8	5/8" X 13.00"	72.0
12	12.75 TO 14.40	20.25	14.00	7.50	8	5/8" X 13.00"	89.0

TOLERANCES U.N.O. .XX= ±.03 .XXX= ±.015 FRACTIONS= ±.015 ANGLES= ±1° MACH. FIN=	NOTES: REMOVE BURRS AND SHARP EDGES DO NOT SCALE DWG.	APP'D	DATE
	SCALE: N/A	CK'D	DATE
		DRN	CHD

TITLE
SPECIFICATION
QUANTUM® WIDE RANGE CAST COUPLING
MODEL 461

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

SMITH-BLAIR, Inc.
 TEXARKANA, ARKANSAS

P/N	N/A
DWG. NO.	SPEC_461.DRW
1 OF 1 SHEET	1/13/15 REV.