

OMNI™ Coupling System

Smith-Blair's OMNI™ Coupling System utilizes the tremendous tensile strength of ductile iron to your best advantage.

Applying the principles of space age technology to engineer the OMNI pipe coupling has resulted in several advantages, including: using the proper thickness and volume of gasket rubber to provide greatly expanded range coverage; inaugurating the optimum angle at which a gasket should mate with the sleeve while improving the grip on the pipe; lighter weight and fewer parts.

Within each nominal pipe size, from 2" through 16", the nucleus of the OMNI™ Coupling System is the center sleeve. A host of interchangeable components (follower flanges, gaskets and end caps) within each nominal pipe size are compatible with the center sleeve. By selecting the proper color coded follower flanges and gaskets to exactly fit the pipe you want to join, virtually the entire range, from the smallest to the largest dimension, will be covered for either straight or transition couplings.

End caps for line testing or

permanent capping are also compatible and interchangeable with all of the other components.

In addition to these interchangeable components, which allow you to accommodate straight coupling, transition coupling, cut-in coupling and end capping, the OMNI Coupling System also has three available reduction sleeves, which utilize all of the same interchangeable components for reduction couplings between adjacent nominal pipe sizes from 2" through 8" nominal size.

Smith-Blair OMNI Coupling System Advantages:

TOUGH

Tough ductile iron sleeves, follower flanges, collars and end caps provide the tremendous tensile strength and corrosion resistance necessary to withstand the punishment couplings must endure during installation and throughout their long life.

Excluding fasteners, all ferrous metal components have a standard nominal 12-16 mils thickness of fusion bonded epoxy coating for maximum corrosion protection.

ECONOMICAL

The economy of interchangeable follower flanges and gaskets to fit a

single sleeve, within each nominal pipe size, allows you to reduce your inventory and yet be able to provide full service for the many jobs you are required to perform.

OMNI couplings are quick and easy to install, provide for pipe misalignment and settlement deflection, and make a leak-resistant joint which allows for limited line movement due to expansion and contraction.

Working pressures of the couplings are comparable to the working pressures of the cast iron, asbestos-cement or other types of pipe on which they are used, and they are as

permanent as the pipeline itself.

VERSATILE

The versatile OMNI™ Coupling System enables you to do straight coupling, transition coupling, reducing coupling and end capping on virtually any type of pipe.

RESILIENT

Resilient, high volume, Nitrile (Buna N) rubber gaskets provide a firm grip on the pipe and a leak-resistant seal. Most importantly, they give extra range coverage so that it takes fewer gaskets to cover the entire range. Gaskets for other fluids are available on request.

Meets AWWA C-219



Certified to NSF®/ANSI 61-G

Pressure Rating

The Omni Coupling System is designed for a maximum pressure of 250 PSI. The actual maximum operating pressure is limited by the type and condition of the pipe, operating temperature, line contents, and installation technique. As with all products, consult the appropriate safety and engineering personnel regarding installation and piping system design.



Try It Out

See for yourself how you can fill your cast coupling needs with a small selection of color coded follower flanges and gaskets on the component selection charts on pages 12-14. You can buy complete couplings or select components you can interchange to fit the types and sizes of pipe you want to join. They are all color coded to make it easy for you.

441 Cast Reducing Couplings

2" through 8"



Smith-Blair 441 Reducing Couplings are used to connect pipes with a difference in outside diameters of approximately 1 1/2" to 2 3/4". The reducing sleeve utilizes all of the color coded gaskets and follower flanges within any given nominal pipe size of the OMNI™ Coupling System. For sizes not listed, consult listings on the 415 Steel Reducing Coupling.

HOW TO ORDER

The large pipe O.D. and small pipe O.D. requested to couple must fall within the O.D. ranges listed on the same line. If the pipes do not come within the ranges listed, please consult listings on 413 and 415 couplings.

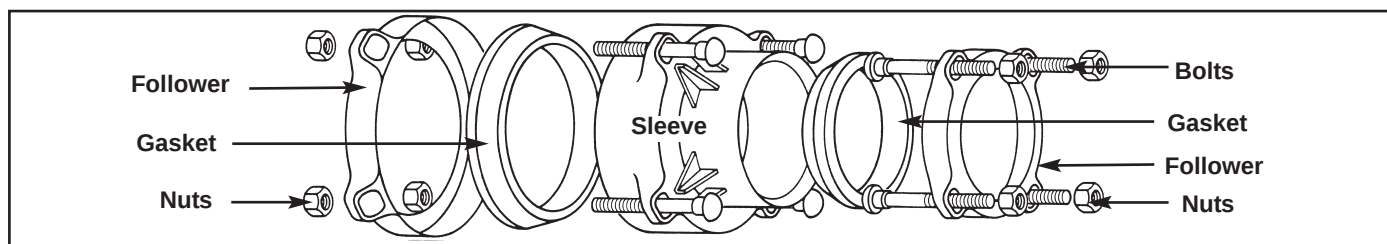
The ordering description for 441 Reducing Coupling consists of "441" followed by the "Exact" outside diameters of the two pipes to be connected.

EXAMPLE: To couple an 8" Asbestos-Cement pipe with a 9.40" O.D. to a Cast Iron pipe with a 7.10" O.D, the ordering description would be: 441-9.40" - 7.10".

Material Specifications

SLEEVE:	Ductile Iron ASTM A-536. Ends have smooth inside taper for uniform gasket seating.
GASKETS:	Nitrile (Buna N) Certified to NSF®/ANSI 61-G. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic) hydrocarbons and many other chemicals. Nominal temperature range: -20°F to 180°F. Consult manufacturer for specific applications or other service temperatures.
FOLLOWER FLANGES:	Ductile Iron ASTM A-536. Designed for high strength/weight ratio. Thickness determined by coupling size.
BOLTS & NUTS:	High strength low alloy steel bolts with heavy, semi-finished hexagon nuts to AWWA C219 (ANSI-A21.11) standards. Stainless Steel hardware available on request.
FINISH:	Flexi-Coat®, fusion bonded epoxy per AWWA C213. Special coatings available on request. Follower flanges are color-coded.

Material Specifications are subject to change.



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				
		441-07650415-900	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				
		441-07650510-900	7.25-7.65	4.80-5.10				
		441-07650545-900	7.25-7.65	5.11-5.45				

Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling.

**Published ranges indicate nominal pipe outside diameters. Couplings are designed for pipes within current AWWA Standard tolerances.

See page 14 for end code description.

441 Cast Reducing Couplings

2" through 8"



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	
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				

Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling.

**Published ranges indicate nominal pipe outside diameters. Couplings are designed for pipes within current AWWA Standard tolerances.

See page 14 for end code description.

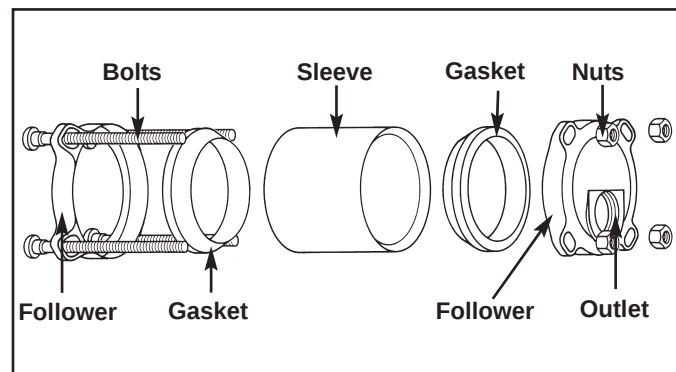
482 Cast End Cap Couplings

2" through 12"



Smith-Blair 482 End Cap Test Couplings combine the 441 Cast Coupling parts with a special ductile iron blind end flange for testing the line or capping it permanently.

A 1" NPT threaded outlet in 2", 2 1/2", or 3" end caps and a 2" NPT threaded outlet in 4" through 12" end caps is conveniently located to allow for blow-off or line draining.



Material Specifications

- SLEEVE:** Ductile Iron ASTM A-536. Ends have smooth inside taper for uniform gasket seating.
- GASKETS:** Nitrile (Buna N) Certified to NSF®/ANSI 61-G. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic) hydrocarbons and many other chemicals. Nominal temperature range: -20°F to 180°F. *Consult manufacturer for specific applications or other service temperatures.*
- FOLLOWER FLANGES:** Ductile Iron ASTM A-536. Designed for high strength/weight ratio. Thickness determined by coupling size.
- BOLTS & NUTS:** High strength low alloy steel bolts with heavy, semi-finished hexagon nuts to AWWA C219 (ANSI-A21.11) standards. Stainless Steel hardware available on request.
- FINISH:** Flexi-Coat®, fusion bonded epoxy per AWWA C213. Special coatings available on request. Follower flanges are color-coded.

Material Specifications are subject to change.



Smith-Blair
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OMNI Coupling System Component Selection Chart

Nominal Pipe Size (Inches)	Range †† (Inches)	Gasket/ Flange Color Code	Gasket	Follower Flange	Fits Pipes of these Nominal O. D.'s (Inches)										
					Copper Tube Size (CTS)	O.D. Steel	Schedule 40/80 Std. Steel and IPS PVC	Centrifugal Cast Iron AWWA C-900 PVC C950 FRP	AWWA Pit Cast Iron	Asbestos Cement Pipe					
										Class 100		Class 150		Class 200	
										ME	RB	ME	RB	ME	RB
2	2.34-2.63	Blue	33827	20975			2.38	2.50							
2 1/2	2.65-2.88	Red	33828	21366			2.88								
3	2.85-3.13	Red	34610	21368	3.13										
	3.44-3.62	Red	33829	21368			3.50								
	3.80-3.96	Blue	33830	21369				3.80	3.96		3.95	3.84		3.84	
	3.97-4.14	Blue	33831	21369									4.13		
4	4.00-4.15	Red	33809	22392	4.13	4.00									
	4.22-4.50	Red	33810	22392			4.50								
	4.46-4.86	Red	34578	22392			4.50	4.80							
	4.80-5.10	Blue	33811	21353				4.80	5.00		5.05	4.81	5.07	4.81	
	5.11-5.45	Blue	33812	21353							5.25		5.32		5.33
6	6.00-6.15	Red	33801	22393	6.13	6.00									
	6.28-6.63	Red	33802	22393			6.63								
	6.56-6.96	Red	34579	22393			6.63	6.90							
	6.90-7.22	Blue	33803	21348				6.90	7.10	6.91	7.19	6.91	7.20	6.91	
	7.25-7.65	Gray	33804	21349							7.40		7.37		7.60
8	8.00-8.16	Red	33805	22394		8.00	8.63								
	8.40-8.63	Red	33806	22394			8.63	9.05							
	8.54-9.11	Red	34580	22394				9.05		9.11	9.39	9.11	9.40	9.11	9.44
	9.05-9.45	Blue	33846	21350					9.30						
	9.05-9.30	Blue	33807	21350							9.57		9.62		9.79
	9.46-9.85	Gray	33808	21351											
10	10.00	Red	33860	21355		10.00									
	10.50-10.75	Red	33813	21355			10.75								
	11.10-11.60	Blue	33814	21356				11.10	11.40	11.24	11.47				
	11.65-11.88	Gray	33815	21357							11.77	11.66	11.88	11.66	11.88
	11.90-12.20	Gray	33816	21357									12.12		12.12
12	12.00	Red	33859	21359		12.00									
	12.50-12.75	Red	33817	21359			12.75								
	13.20-13.50	Blue	33820	21360				13.20	13.50	13.44					
	13.51-13.75	Blue	33821	21360							13.74				
	13.90-14.20	Gray	33818	21361		14.00	14.00				14.04	13.92	14.20	13.92	14.20
	14.21-14.40	Gray	33819	21361									14.38		14.38
14	15.30-15.50	Blue	33822	21363				15.30			15.50				
	15.55-15.80	Blue	33823	21363					15.65		15.80				
	16.22-16.35	Gray	33835	21364								16.22		16.22	
	16.41-16.55	Gray	33824	21364									16.50		16.55
	16.73-16.90	Gray	33825	21364									16.73		16.88
16	17.40-17.80	Blue	33832	21371				17.40	17.80		17.65				
	18.46-18.90	Gray	33833	21372								18.46	18.75	18.46	18.84
	18.90-19.20	Gray	33834	21372									18.97		19.19

†† Published ranges indicate nominal pipe outside diameters. Couplings are designed for pipes within current AWWA Standard tolerances.

OMNI Coupling System Component Selection Chart

Nom. Size (In.)	†† O.D. Range Inches	Gasket (Requires 2)	Follower Flange Flexi-Coat Epoxy	□ Cap Flexi-Coat Epoxy	Sleeve Flexi-Coat Epoxy	§ 441/R441 Bolts & Nuts (# Required) Bolt/Nut	§ 442 Bolts & Nuts (# Required) Bolt/Nut	§ 482 Bolts & Nuts (# Required) Bolt/Nut
2	2.34-2.63	33827-069	20975-045	21365-045	55139-045	(2)90281 / (2)100025 5/8 x 8	-	(2)90281 / (2)10025 5/8 x 8
2 1/2 x 2	Reducing Coupling	*	*	-	55142-045	(2)90281 / (2)100025 5/8 x 8	-	-
2 1/2	2.65-2.88	33828-069	21366-045	21367-045	55141-045	(2)90281 / (2)100025 5/8 x 8	-	(2)90281 / (2)10025 5/8 x 8
3	2.85-3.13 3.44-3.62 3.80-3.96 3.97-4.14	34610-069 33829-069 33830-069 33831-069	21368-045 21368-045 21369-045 21369-045	21370-045	55144-045 55144-045 55144-045 55144-045	(4)90281 / (4)100025 5/8 x 8	-	(4)90413 / (4)10025 5/8x6
4	4.00-4.15 4.22-4.50 4.46-4.86 4.80-5.10 5.11-5.45	33809-069 33810-069 34578-069 33811-069 33812-069	22392-045 22392-045 22392-045 21353-045 21353-045	21354-045	55131-045 55131-045 55131-045 55131-045 55131-045	(4)90281 / (4)100025 5/8 x 8	(4)90275 / (4)100025 5/8 x 10 1/2 (4)90282 / (4)10025 5/8 x 15	(4)90281 / (4)10025 5/8x6
6x4	Reducing Coupling	*	*	-	55133-045	(8)90257 / (8)100025 5/8 x 4 1/2	-	-
6	6.00-6.15 6.28-6.63 6.56-6.96 6.90-7.22 7.25-7.65	33801-069 33802-069 34579-069 33803-069 33804-069	22393-045 22393-045 22393-045 21348-045 21349-045	21347-045	55126-045 55126-045 55126-045 55126-045 55126-045	(4)90281 / (4)100025 5/8 x 8	(4)90275 / (4)100025 5/8 x 10 1/2 (4) 90282 / (4)100025 5/8 x 15	(4)90281 / (4)10025 5/8x8
8x6	Reducing Coupling	*	*	-	55127-045	(10)90257 / (10)100025 5/8 x 4 1/2	-	-
8	8.00-8.16 +8.40 8.40-8.63 8.54-9.11 9.05-9.45 9.05-9.30 9.46-9.85	33805-069 33806-069 33806-069 34580-069 33846-069 33807-069 33808-069	22394-045 22394-045 22394-045 22394-045 21350-045 21350-045 21351-045	21345-045	55073-045 55073-045 55073-045 55073-045 55073-045 55073-045 55073-045	(6)90281 / (6)100025 5/8 x 8 (6)90297 / (6)100025 5/8 x 9	(6)90275 / (6)100025 5/8 x 10 1/2 (6)90282 / (6)100025 5/8 x 12	(6)90281 / (6)10025 5/8x8
10	10.00 10.50-10.75 11.40-11.60 11.65-11.88 11.90-12.20	33860-069 33813-069 33814-069 33815-069 33816-069	21355-045 21355-045 21356-045 21357-045 21357-045	21358-045	55134-045 55134-045 55134-045 55134-045 55134-045	(6)90297 / (6)100025 5/8 x 9 (6)90275 / (6)100025 5/8 x 10 1/2	(6)90282 / (6)100025 5/8 x 15	(6)90297 / (6)10025 5/8x9
12	12.00 12.50-12.75 13.20-13.50 13.51-13.75 13.90-14.20 14.21-14.40	33859-069 33817-069 33820-069 33821-069 33818-069 33819-069	21359-045 21359-045 21360-045 21360-045 21361-045 21361-045	21362-045	55136-045 55136-045 55136-045 55136-045 55136-045 55136-045	(8)90297 / (8)100025 5/8 x 9 (8)90275 / (8)100025 5/8 x 10 1/2	(8)90282 / (8)100025 5/8 x 15	(8)90297 / (8)10025 5/8x9
14	15.30-15.50 15.55-15.80 16.10-16.35 16.41-16.55 16.73-16.90	33822-069 33823-069 33835-069 33824-069 33825-069	21363-045 21363-045 21364-045 21364-045 21364-045	-	55138-045 55138-045 55138-045 55138-045 55138-045	(8) 90297 / (8)100025 5/8 x 9	(8)90282 / (8)100025 5/8 x 15	-
16	17.40-17.80 18.46-18.90 18.90-19.20	33832-069 33833-069 33834-069	21371-045 21372-045 21372-045	-	55146-045 55146-045 55146-045	(10)90275 / (10)100025 5/8 x 10 1/2 (10)90297 / (10)100025 5/8 x 9	(10)90282 / (10)100025 5/8 x 15 (10)90422 / (10)10025 5/8 x 17	-

††Published ranges indicate nominal pipe outside diameters. Couplings are designed for pipes within current AWWA Standard tolerances.

□This component requires the largest gasket within its nominal pipe size for proper fit.

§ Finish codes for nuts and bolts are: -005=Alloy, -202=Stainless Steel, -001=Electro-Galv.

*Please reference the "RANGE" column to select appropriate component.

When ordering bolts for shaded coupling range, use shaded bolt code.

Sleeve Length Options

Sleeve Part Number For Use On 441, 442, & 482 Products

Nominal Size	Sleeve Length (Inches)	Part Number	Sleeve Color Code
4	5	55131-045	Blue
	7	55646-045	Blue
	12	56827-045	Blue
6	5	55126-045	Blue
	7	55647-045	Blue
	12	56828-045	Blue
8	5	55073-045	Blue
	7	55648-045	Blue
	12	56839-045	Blue
10	6	55134-045	Blue
	12	56830-045	Blue
12	6	55136-045	Blue
	12	56831-045	Blue
14	6	55138-045	Blue
	12	56832-045	Blue
16	6	55146-045	Blue
	12	56833-045	Blue

End Codes for Coupling Sleeve, Coating and Hardware

End Code	Description
441 and 482	
-900	Standard Sleeve, Flexi-Coat®, Fusion Bonded Epoxy, Alloy Bolts and Nuts
-931	Standard Sleeve, Flexi-Coat®, Fusion Bonded Epoxy, 304 Stainless Steel Bolts and Nuts
-943	Standard Sleeve, Flexi-Coat®, Fusion Bonded Epoxy, 316 Stainless Steel Bolts and Nuts
442 Only	
-200	7" Long Sleeve Flexi-Coat®, Fusion Bonded Epoxy, Alloy Bolts and Nuts
-231	7" Long Sleeve Flexi-Coat®, Fusion Bonded Epoxy, 304 Stainless Steel Bolts and Nuts
-243	7" Long Sleeve Flexi-Coat®, Fusion Bonded Epoxy, 316 Stainless Steel Bolts and Nuts
-400	12" Long Sleeve Flexi-Coat®, Fusion Bonded Epoxy, Alloy Bolts and Nuts
-431	12" Long Sleeve Flexi-Coat®, Fusion Bonded Epoxy, 304 Stainless Steel Bolts and Nuts
-443	12" Long Sleeve Flexi-Coat®, Fusion Bonded Epoxy, 316 Stainless Steel Bolts and Nuts