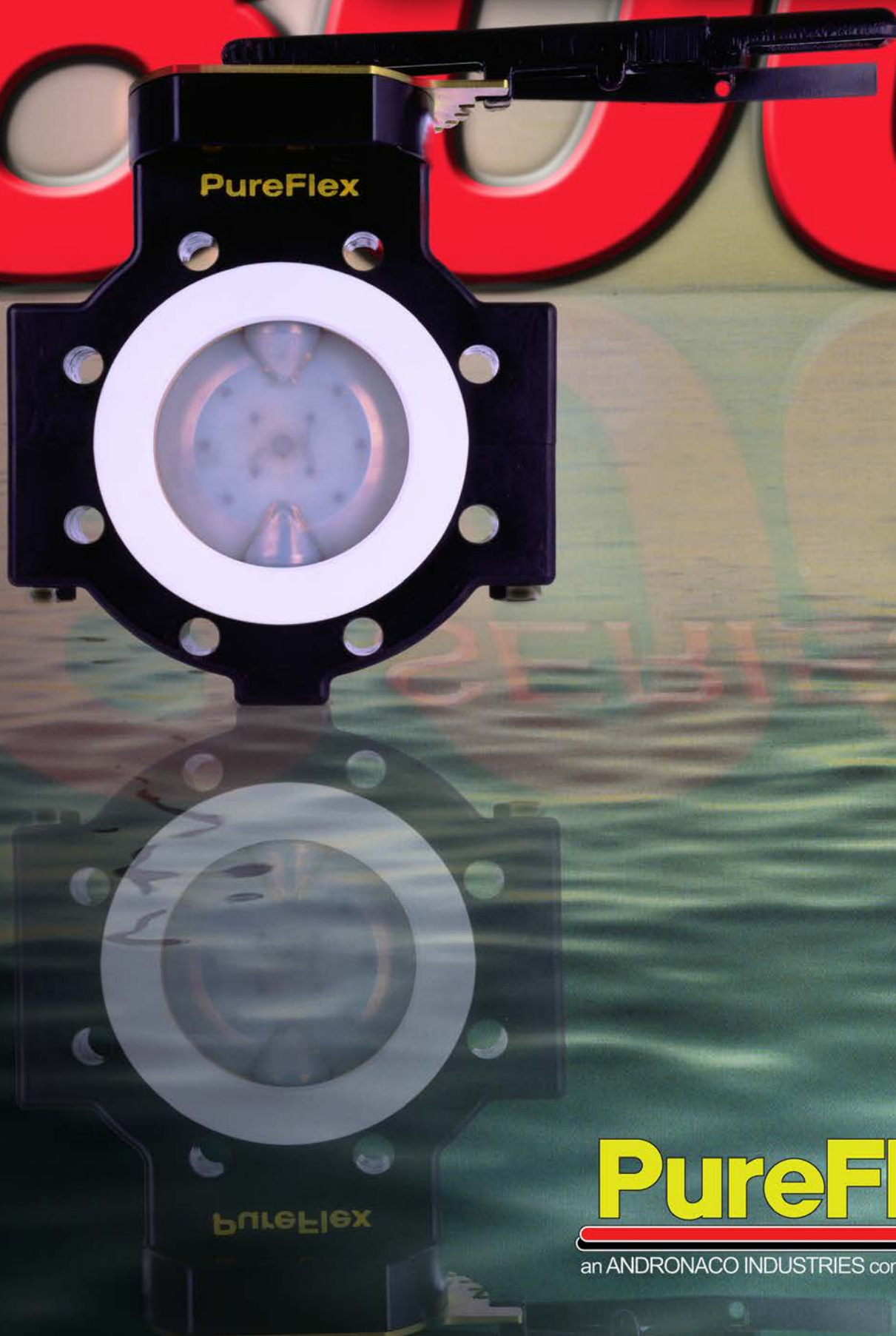


8000 SERIES



PureFlex[®]

an ANDRONACO INDUSTRIES company

PUREFLEX



PureFlex is a world leading manufacturer of high performance Fluoropolymer and Composite products and technologies. We specialize in the manufacturing of fluid handling and sealing products specifically designed for Chemical, Pharmaceutical and Ultra-Pure related industries.

Since 1994, we have earned a reputation for creating fluid handling and sealing products that are truly different. We create innovation -- Products that serve demanding applications better than before. PureFlex excels in its service, aggressive in its technology, bold in vision, and responsible in its regard for safe and dependable products.



800 Series Butterfly Valve

The 800 series fully lined composite valve is manufactured to be corrosion resistant inside and out in hostile services. The valve has the strength of steel with 1/2 the weight and is 10x more impact resistant than standard FRP. 800 Series valves have the purity required for Ultra-Pure applications and are used for shut-off and throttling of most known corrosive fluids. It can be used for end of the line service and is bubble tight at full rated pressure of 150 psi, has triple stem seals and can operate at temperatures of (-)60°F to (+)250°F.



COMPOSITE VALVE BODY DURCOR®

The 800 series valve body is manufactured from Durcor®, PureFlex proprietary advanced fiber reinforce composite. Durcor reinforcing fibers are long and interlocked, this interlocked reinforcement system transfers loads throughout the fiber matrix, making the 800 series valve body virtually indestructible. It has tensile and compressive strength that rivals steel, along with outstanding impact resistance that is unmatched in the industry. The strength of Durcor enables the 800 series valve to maintain ASME face to face dimensions, be direct threaded for lug design and allows it to be installed in any type of piping system without the need for special considerations. Durcor excels in temperatures from (-)60°F to (+)250°F and has only .001" of thermal expansion across its full temperature range.

- **Tensile strength of 50,000 psi per ASTM D-638 or 345 Mpa**
- **Notched Izod impact strength of 35 ft-lb/in per ASTM D-256 or 1868 J/M are achieved.**

Tensile strength comparison

Steel 60,000 psi

Durcor® 50,000 psi

FRP 12,000 psi



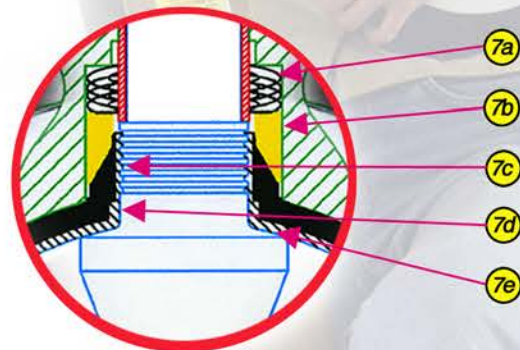
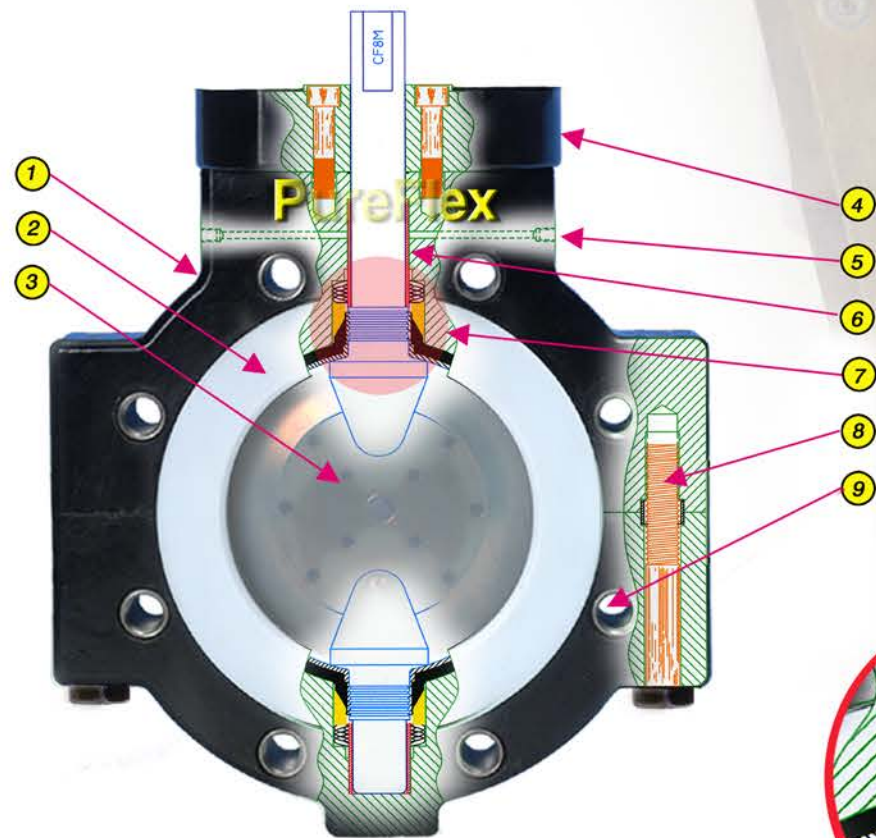
Durcor vinyl ester backbone provides excellent protection when exposed to aggressive chemicals and hostile atmospheres such as acid sprays, bleach, salt water and high chlorides. The 800 series valve body out-performs ductile iron valves not only in corrosive environments but non corrosive as well. Its lightweight advantage reduces the need for heavier support structures for hanging, eliminates the need for extra equipment and personnel for valve installation and reduces pipe strain once installed. The 800 series valve body is so dependable and maintenance free that we offer the industries first 5 year warranty against failure. Contact PureFlex or your local distributor for details.



THE 800 SERIES VALVE BODY EASILY WITHSTANDS THE IMPACT OF A GUNSHOT

**The strongest, lightest,
most chemically resistant
valve in the world**

800 VALVE FEATURES



- 1 Composite Durcor® valve body is light weight, provides maximum external corrosion protection, tensile and impact resistance.
- 2 PTFE seat is .125" nominal thickness and is recessed into body, seat is energized by one piece non-wetted elastomer providing bubble tight sealing.
- 3 One piece PFA lined Ductile iron Disc & Stem provides high Cv value, blow-out protection and has a double "D" shaft drive, can be lined with PFA or UHMWPE.
- 4 Mounting Flange is ISO 5211 compliant.
- 5 NPT connections (optional) for purge or leak detection, inert gas pad or sealing lubricant port.
- 6 PTFE composite bearing (top & bottom) is self-lubricating, reduces friction and is maintenance free. Triple stem seals top and bottom.
- 7a 304 S.S. coil springs keep preload on stem seal and taper ring.
- 7b 304 S.S. tapered ring compresses energized PTFE liner onto locking barbs, creates tortuous no leak path.
- 7c Locking barbs molded or machined onto disc stem.
- 7d Stem seal is created through an interference fit as the stem is passed through the body liner.
- 7e Primary seal is achieved at the disc hub and liner (ball & socket) through preloaded force.
- 8 Bottom PTFE coated B7 standard. Other materials available.
- 9 Flanged Wafer or Lug design with composite threads 250ft. pound pull - out strength. Alloy inserts also available.

LINERS & DISCS



UHMWPE LINED

MAXIMUM ABRASION RESISTANCE AGAINST EROSIVE SERVICES

Ultra High Molecular Weight Polyethylene is a tough abrasion resistant polymer perfectly suited for severe erosive services while providing good chemical resistance. UHMWPE will consistently outperform rubber lined or plastic valves in fluids containing abrasive particles with or without corrosive media present at temperatures of (-)20°F to +210°F. PureFlex 800 series valves with UHMWPE are 1/2 the weight of metal lined valves and provide outstanding service life in Pulp and Paper processing, mining and metal refining, power plants, pollution abatement and chemical industries. Typical services include:

- Fly Ash
- Lime Slurry
- Lime Mud
- Green Liquor
- White Liquor
- Zinc Sulfate Slurry
- Iron Ore Tailings
- Titanium Dioxide Slurry
- Sodium Chloride Brine



PTFE / PFA LINED

MAXIMUM CHEMICAL RESISTANCE AGAINST CORROSIVE SERVICES

PTFE (Polytetrafluoroethylene) and PFA (Perfluoroalkoxy) are fluoropolymers that provide outstanding chemical and temperature resistance from (-)60°F to +250°F. The fluoropolymers non-stick properties aid to eliminate build-up of deposits on valve seat and disc that could possibly affect valve performance. PureFlex 800 series valves lined with PTFE / PFA are unequalled for severe chemical services and will resist the attacks of:

- All Acids
- All Solvents
- All Bleach solutions
- All Caustics
- All Peroxides
- All Phenols
- All Organic Chlorides & Sulfates
- All Inorganic Chlorides & Sulfates



Disc Options

- PFA lined Ductile Iron (STD.)
- 316 S.S.
- Hastelloy® C276
- Titanium Gr. C-2
- UHMWPE / 316 S.S.



DURCOR® STRUCTURAL COMPOSITE
PTFE LINED PIPING SYSTEM



DURCOR® STRUCTURAL COMPOSITE
PFA LINED VALVES



800 SERIES - PTFE/PFA LINED



860 SERIES - RESILIENT SEATED



PURESITE™ - UNBREAKABLE FEP



BLUELINE™ EXPANSION JOINTS

TRULY VISIONARY



INNOVATION



AUTOMATED VALVES



CL2™ CHLORINE HOSE

100% COMPLIANT WITH
CHLORINE INSTITUTE



TASK-LINE® - GROUNDING PADDLES



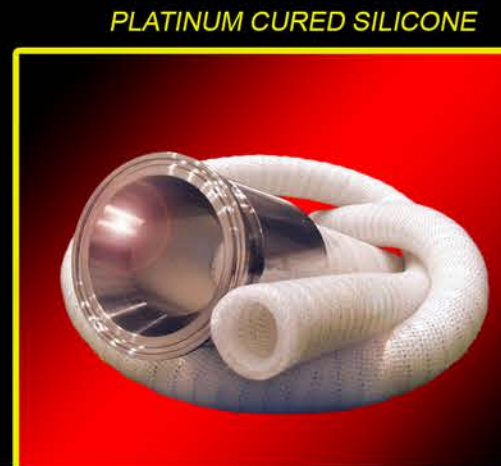
TASK-LINE® - LINE BLOCKERS



TASK-LINE® - GASKETS



HEATED HOSES



PLATINUM CURED SILICONE



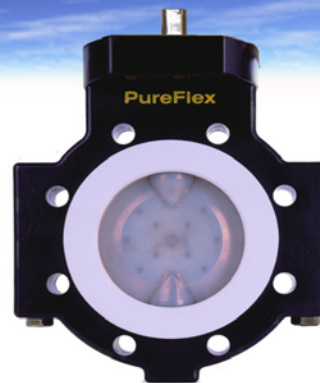
PTFE/FEP/PFA HOSE & FITTINGS

HOW TO ORDER & SPECIFY

EXAMPLE:

6" WAFER STYLE VALVE WITH PTFE SEAT, SILICONE ENERGIZER,
PFA LINED DISC, B7 PTFE COATED BOLTS, BARE STEM VALVE

PART NUMBER: **80006WO11T01**



STEP 1 STEP 2 STEP 3 STEP 4 STEP 5 STEP 6 STEP 7
800 - 06 - WO - 1 - 1 - T - 01

STEP 1

800 = BUTTERFLY VALVE

STEP 2

DETERMINE VALVE SIZE

02 = 2" (50MM)
03 = 3" (80MM)
04 = 4" (100MM)
06 = 6" (150MM)
08 = 8" (200MM)
10 = 10" (250MM)
12 = 12" (300MM)

STEP 3

DETERMINE VALVE BODY STYLE

WO = FLANGED WAFER (STD.)
LC = LUG COMPOSITE THREADS

STEP 4

DETERMINE SEAT (WETTED) AND ENERGIZER (NON-WETTED) MATERIAL

1 = PTFE / SILICONE (STD.)
2 = PTFE / VITON
3 = UHMWPE / SILICONE
4 = UHMWPE / VITON
5 = TFM / SILICONE
6 = TFM / VITON

STEP 5

DETERMINE DISC MATERIAL

1 = PFA LINED DUCTILE IRON (STD.)
2 = 316 STAINLESS
3 = HASTELLOY C276
4 = UHMWPE LINED STAINLESS
5 = TITANIUM GRADE C-2
Z = SPECIAL

STEP 6

DETERMINE BODY BOLT MATERIAL

T = GRADE B7 PTFE COATED (STD.)
P = GRADE B7 ZINC PLATED
S = GRADE B8 STAINLESS
A = ALLOY 20
H = HASTELLOY C276
Z = SPECIAL

STEP 7

DETERMINE VALVE OPERATOR

01 = BARE STEM (STD.)
02 = 10 POSITION DI WRENCH
S2 = 10 POSITION S.S. WRENCH
03 = WORM GEAR CAST IRON
S3 = WORM GEAR STAINLESS
04 = PADLOCKING GEAR CAST IRON
S4 = PADLOCKING GEAR STAINLESS
05 = AIR ACTUATED
06 = ELECTRIC ACTUATED
ZZ = SPECIAL

1. Scope

- 1.1 The following product specification applies to lined butterfly valves for chemical and/or abrasive service. Valve shall be rated for 150psi continuous service and have temperature rating of (-)60°F to +250°F. Valves must be bubble tight in the closed position.
- 1.2 It is recommended that you check chemical compatibility with your

2. Valve Body

- 2.1 Valve body shall be manufactured from vinyl ester and Fiberglass composite. The valve body shall be full-face flange wafer or lug style for end of the line service. Valve body shall be capable of direct threading for lug style and threads shall have nominal pullout strength of 250ft lbs.
- 2.2 Valve body composite shall have a nominal tensile strength of 50,000 psi as per ASTM D-256.
- 2.3 Valve body composite shall have a nominal notched izod impact strength of 30ft lb. per inch of 1760 J/M.
- 2.4 Valve shall be equipped with operator mounting flange that is compliant to ISO 5211 and flange fasteners shall not be pressure retaining.

3. Valve Seat Energizer

- 3.1 Valve seat shall be molded and machined PTFE or UHMWPE depending on service conditions with a nominal wall thickness of .125 capable of full vacuum at maximum temperature rating.
- 3.2 Valve sealing face of seat shall be recessed into valve body to eliminate liner cold flow (creep). Wetted elastomers shall not be allowed.
- 3.3 Valve seat non-wetted energizer shall be either Silicone or Viton and shall be one piece permanently attached to valve seat.

4. Valve disc and stem

- 4.1 Disc and stem shall be one-piece blowout resistant type and stem shall be double "D" machined where operator is attached. Two piece stem and disc and exposed fasteners on disc shall not be allowed.

- 4.2 Disc shall be lined or unlined. Lined discs shall be encapsulated with PFA or UHMWPE and have a nominal liner thickness of .125". Unlined discs shall be stainless steel, Hastelloy C276 or Titanium. Disc material shall be determined by service conditions.
- 4.3 Stem shall have machined locking barbs at both ends of disc to provide torturous no leak path with valve seat.
- 4.4 Valve stem shall have top and bottom PTFE composite stem bearings.

5. Valve triple stem seals

- 5.1 Valve shall have matching radii molded seat and disc (ball and socket)
- 5.2 Valve shall have tight compression around stem maintained by resilient energizer against valve seat.
- 5.3 Valve shall have live loaded stainless steel tapered rings on both ends of disc that compress energized valve seat onto locking barbs on stem to provide sealing.

6. Valve fasteners

- 6.1 Valve body fasteners shall be hex head cap screws.
- 6.2 Fasteners shall be PTFE coated B7 A193 standard material. Optional materials can be B7 zinc plated, B8 stainless steel, alloy 20 or Hastelloy.

7. Valve testing

- 7.1 Valve seat to exceed testing criteria of API-598. Valve shall be hydrostatically tested at 165 psi and maintain bubble tight when the disc is in the closed position and valve stems tested to 225 psi. All valves shall be tagged per MSS-SP25 for identification and shall have a unique serial number.

8. Valve manufacturer

- 8.1 Valve shall be manufactured by PureFlex, Inc.: 4855 Broadmoor Ave. Kentwood, MI 49512 Ph: 616-554-1100 Fax: 646-554-3633 www.pureflex.com

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WWW.PUREFLEX.COM

8000101-0615

DURCOR[®]

ADVANCED COMPOSITE
PTFE LINED PIPING SYSTEM



PureFlex[®]

an ANDRONACO INDUSTRIES company



PureFlex is a world leading manufacturer of high performance Fluoropolymer and Composite products and technologies. We specialize in the manufacturing of fluid handling and sealing products specifically designed for chemical, pharmaceutical and ultrapure related industries.

Since 1994, we have earned a reputation for creating fluid handling and sealing products that are truly different. We create innovations; products that serve demanding applications better than before. PureFlex excels in its service, aggressive in its technology, bold in vision, and responsible in its regard for safe and dependable products.



100,000 sq. feet
DURCOR Manufacturing



200,000 sq. feet
Corporate Offices & Manufacturing

ANDRONACO INDUSTRIES is a group of global manufacturing companies specializing in innovative engineered products, specialty systems, and value added services for the pharmaceutical, chemical, steel, waste water, mining and energy markets. We support autonomous operating companies focused on meeting the demands of their customers requirements in ultrapure and industrial fluid management. Our companies pride themselves on exhibiting the highest ethical, moral and legal standards in the conduct of its business.



Durcor® is the world's first advanced structural composite piping system designed exclusively to be lined with seamless PTFE. Durcor's architecture was optimized from the start, not compromised by conversion. It is the strongest, lightest, most chemically resistant piping system available.

Durcor's thick wall PTFE liner provides unmatched internal chemical resistance while its revolutionary vinyl ester / fiberglass housing provides outstanding exterior corrosion protection, high impact resistance and excellent span and burst capabilities. The construction of Durcor offers the ultimate in corrosion resistance and carries the industry's first (5) year bumper to bumper warranty.



Strong, Light Weight, Zero Corrosion



**End Corrosion Attack
with
Durcor®**



Typical Properties of Durcor PTFE Liner			
Property	Test Method	Unit	Value
Tensile Strength	ASTM D638	psi	3,000
Ultimate Elongation	ASTM D638	%	250
Izod Impact Strength @ (-)40°F	ASTM D256	ft-lb/in	1.5
Izod Impact Strength @ (-)75°F	ASTM D256	ft-lb/in	3
Hardness, Durometer	ASTM D2240	Shore D	55
Thermal Conductivity	ASTM E1530	Btu/hr-ft²-F	0.14
Dielectric Strength	ASTM D149	V/mil	600
Surface Resistivity	ASTM D257	ohm-sq.	>10 ¹⁵
Water Absorption	ASTM D570	%	<0.01
UL 94 Flame Rating			94 V-0
Static Coefficient of Friction			0.05
Specific Gravity			2.14 - 2.19

PTFE MAXIMUM CHEMICAL RESISTANCE

Without question, PTFE (polytetrafluoroethylene) offers the broadest capabilities of any commercially available material. In Durcor pipe, PTFE will handle temperatures up to 300°F and resist:

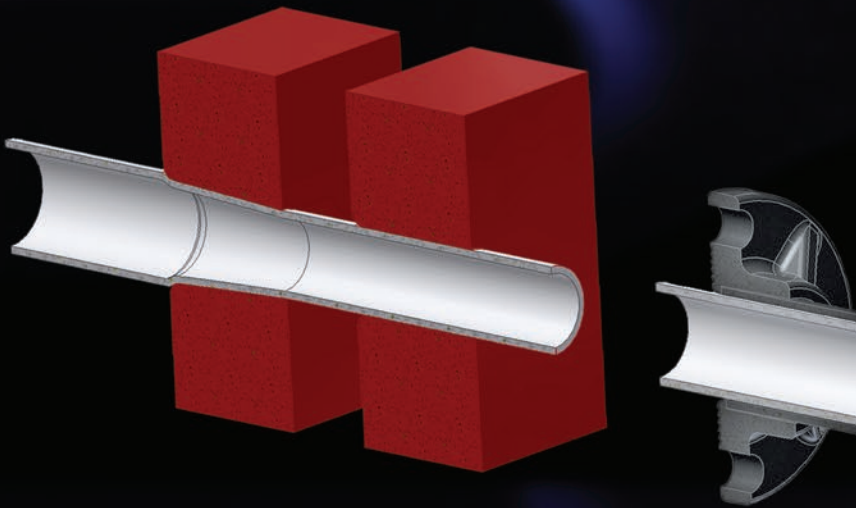
- all acids and all solvents
- all organic and inorganic chlorides & sulfates
- all bleach solutions
- all phenols and all caustics
- all peroxides

as well as any combination of the above. PTFE also has incredible non-stick properties which eliminate and/or minimize deposits on pipe wall.

Durcor's seamless PTFE liners exceed the requirements of ASTM F1545 where applicable. Liner thickness range from .130" for 1" pipe to .310" for 8" diameter piping. Durcor's thick and strong liners aid in permeation resistance and are able to withstand full vacuum conditions throughout its full temperature range.

THERMOSIZED™ PTFE LINERS

Durcor's thick, free standing PTFE liners undergo a battery of tests designed to ensure liner integrity prior to being positioned into its structural composite housing. Durcor's unique Thermosizing process combines the PTFE liner into the composite pipe. An additional heating cycle then relaxes the liner for a snug, interference fit within the composite housing. The Thermosize technique provides PTFE dimensional stability under pressure, vacuum and temperature cycling conditions.



- ZERO CORROSION RATE
- Size range 1" to 8"
- Full vacuum rated
- Pressures to 275 psi
- Temperature ratings Uninsulated (-)40°F to (+)300°F
- Superior strength to weight ratio
- 1/4 the weight of steel
- Lower freight cost
- Lower installed cost
- Faster to install
- Safer to install
- No exterior priming or painting required

ADVANCED STRUCTURAL COMPOSITE HOUSING

Durcor is the world's first composite pipe designed exclusively to support free-standing PTFE fluoropolymer liners. Through a proprietary process, Durcor pipe is manufactured with glass fiber bundles, pressure saturated with a highly chemical resistant formulation of premium vinyl ester resin to provide maximum exterior protection. The fiberglass bundles are oriented in strict axial and hoop routes which provide outstanding impact, stiffness and pressure capabilities. Durcor is dimensionally equivalent to schedule 40 steel pipe and can be essentially treated the same. Durcor also has excellent insulating properties and can often eliminate the need for tracing and/or reduced thickness of insulation required to maintain a given temperature.

Typical Properties of Durcor®				
Property	75°F	250°F	Typical FRP @ 75°F	Method
Axial Tensile Strength	48,000 psi	31,200 psi	11,600 psi	ASTM D2105
Axial Tensile Design Strength	12,000 psi	7,800 psi	3,870 psi	
Axial Modulus of Elasticity	2.76 X 10 ⁶ psi	1.70 X 10 ⁶ psi	1.6 X 10 ⁶ psi	
Axial Compression Strength	50,750 psi	34,075 psi	14,500 psi	ASTM D695
Axial Compression Design Strength	12,690 psi	8,520 psi		
Compression Modulus	2.39 X 10 ⁶ psi	1.47 X 10 ⁶ psi		
Beam Bending Ultimate Stress	47,100 psi	35,300 psi	12,380 psi	ASTM D2935
Beam Bending Design Stress	5,900 psi	4,410 psi		
Poisson's Ratio	0.32		0.65	ASTM D790
Flexural Modulus of Elasticity	3.26 X 10 ⁶ psi	1.89 X 10 ⁶ psi	1.81 X 10 ⁶ psi	
Coefficient of Linear Thermal Expansion	4.5 X 10 ⁻⁶ in/in/F		10 X 10 ⁻⁶ in/in/F	
Specific Gravity	1.92 (housing) and 2.15 (PTFE)		1.80	
Heat Deflection Temperature	266°F			
Hazen-Williams Flow Coefficient	155		150	
Thermal Conductivity	0.22 Btu/hr-ft²-F			

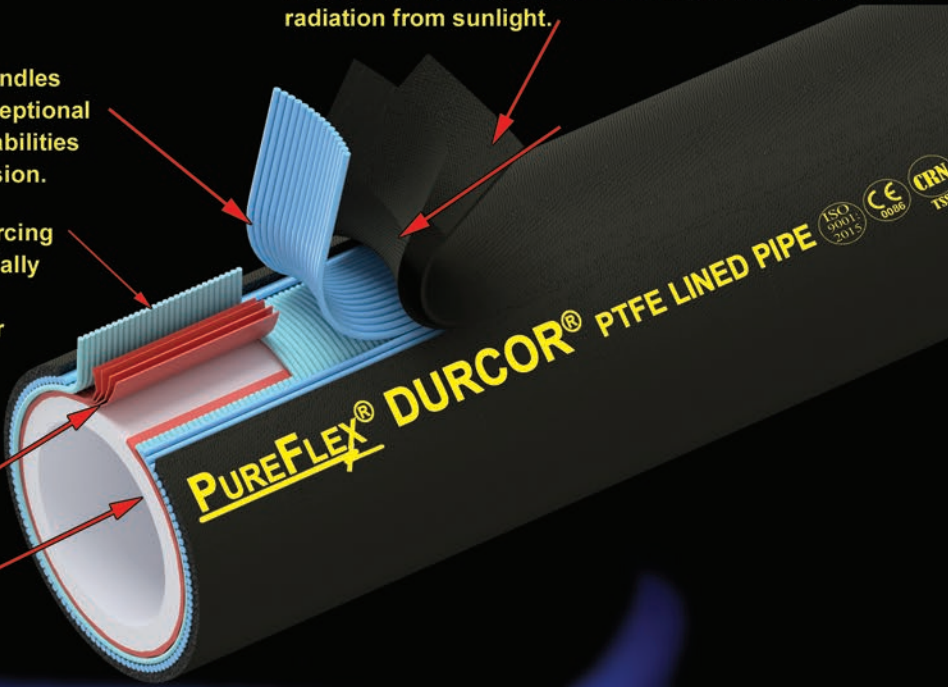
Resin-rich outer layer provides corrosion and abrasion barrier. The barrier surface provides excellent chemical resistance from hostile environments and corrosive soils that can attack carbon steel. The additional layers add protection against glass blooming caused by ultraviolet radiation from sunlight.

Axial glass roving filament bundles in linear direction provide exceptional stiffness and better span capabilities with near-zero thermal expansion.

Continuous bundles of reinforcing glass roving are wrapped radially over inner veil to provide outstanding hoop strength for 4:1 pressure safety factor.

Multiple inner layers of resin-rich veil provide superb corrosion barrier to reinforcing roving bundles.

PTFE liner thickness exceeds the requirements of ASTM F1545 and is full vacuum rated in all sizes to +300°F.

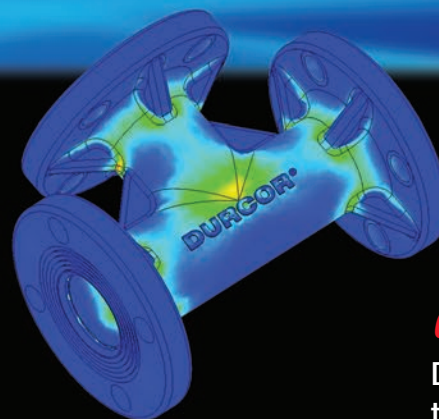


Durcor® Outstanding Dimensional Control and Tolerance

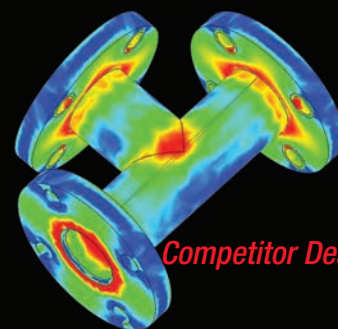
ETHYLENE™ PTFE

an ANDRONACO INDUSTRIES company

For over 50 years, Ethylene has been a recognized leader in the design and manufacturing of advanced PTFE lined products. Durcor utilizes that experience in its PTFE fitting liners. All Ethylene liners are seamless, isostatically molded and independent of the Durcor composite housing. The process enables all liners to be tightly controlled for conformity to dimensional requirements and leak-free performance. The thick wall PTFE liners incorporate exclusive radial locking ribs for maintaining dimensional stability during temperature cycling. All Ethylene / Durcor fitting liners are rated for full vacuum to 300 °F.



Red reveals weakness in standard FRP fitting



Competitor Design



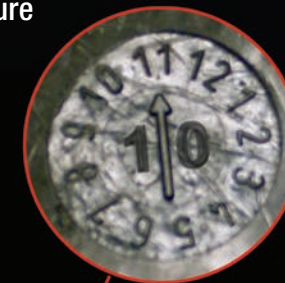
CONSISTENCY

Durcor fittings are manufactured in two part closed molds, resin injection completely wetting out all fibers. Speed and pressures remain consistent producing a uniform product thickness that is void free, has smooth surfaces and all parts are identical to one another. Durcor's manufacturing process also offers health & safety, and environmental control due to enclosed resin injection which releases less volatiles into the atmosphere and less exposure to employees during manufacturing.

Optimized NOT Compromised

TRACEABILITY

Durcor PTFE lined fittings are the industry's first to incorporate a date stamp showing month and year of manufacture for lot traceability. All Durcor pipe and fittings have an unlimited shelf life.



DURCOR PIPING SYSTEM IS NOT A DUAL LAMINATE

Durcor piping system should not be confused with dual laminate. Unlike dual laminate fittings & pipe, Durcor has excellent dimensional control and tolerance as well as outstanding surface quality. Durcor utilizes thick, seamless PTFE liners that don't require any chemical or mechanical bonding to composite that could lead to delamination failure. Dual laminate liners typically are made from sheet that is rolled and welded to form geometrical shapes. The nature of hand lay-up dual laminate process results in parts with inconsistent fiber orientations and resin wet-out. Resin is applied over glass with rollers and excess is removed with squeegees, the process is highly reliant on operator skill.

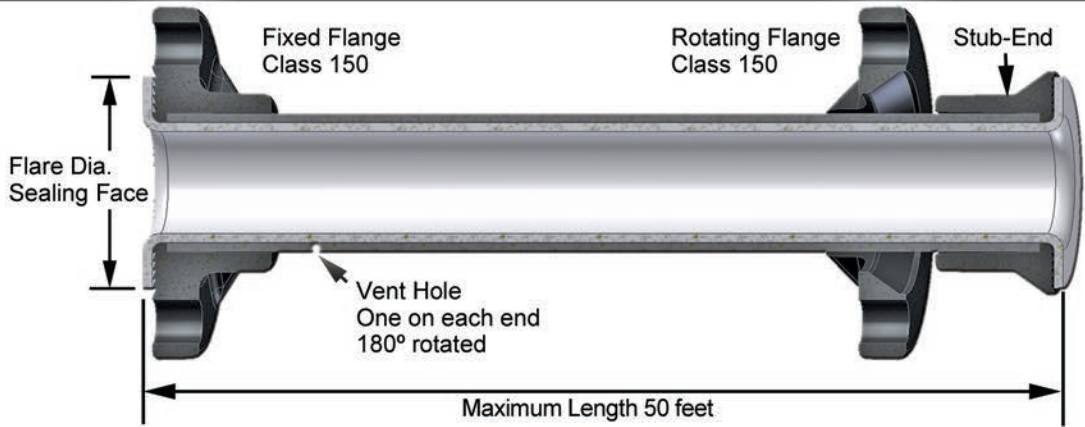
The process typically generates a textured finish on inner surfaces which provide a poor condition for bonding between added layers. The resins need to be low viscosity to be workable by hand, which compromises their mechanical / thermal properties due to the need for high diluents / styrene levels. Porous voids are common in hand lay-up parts and tight dimensional accuracy & smooth surfaces are impossible. Lastly, this technique raises environmental & safety concerns with the amount of volatiles it generates and releases into the atmosphere due to rollers and squeegees being used to apply resin. Contact molding is also another term used for hand lay-up.

Durcor fittings are typically 1/4 the weight of alloy PTFE lined fittings.

- Lower Freight Costs
- Lower Installation Costs
- Quicker to Install
- Safer to Install

Components of Durcor's product line are manufactured to established dimensional standards, making them completely interchangeable with other PTFE alloy piping manufacturers.

All PTFE lined products are susceptible to vapor permeation by certain chemicals under certain operating conditions. Through osmosis, Durcor fittings allow any gas to freely vent without the need for vent holes.



We have included some basic design data to determine if Durcor piping system meets your principle requirements. For more engineering data on expansion, end loads from restrained thermal expansion, minimum offset leg requirements, etc., please refer to Durcor Piping Design & Specification Guide, brochure Eng-2100.

Size	ID PTFE Pipe		Flare Dia.		Liner Thickness		Pipe OD		Dry wt/ft		Capacity	
(in)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(lbs/ft)	(kg/m)	(gal/ft)	(ft³/ft)
1	0.79	20.1	2.00	50.8	0.130	3.3	1.36	34.5	0.83	1.25	0.03	0.003
1 1/2	1.34	33.3	2.88	73.2	0.150	3.8	1.92	48.8	1.29	1.94	0.07	0.010
2	1.74	44.2	3.63	92.2	0.160	4.1	2.38	60.5	1.75	2.63	0.12	0.017
3	2.75	69.8	5.00	127.0	0.160	4.1	3.50	88.9	3.14	4.71	0.31	0.041
4	3.71	94.2	6.19	157.2	0.175	4.4	4.50	114.3	4.37	6.56	0.56	0.075
6	5.50	139.7	8.50	215.9	0.280	7.1	6.63	168.4	9.14	13.72	1.23	0.165
8	7.36	186.9	10.63	270.0	0.310	7.9	8.63	219.2	13.56	20.34	2.21	0.296

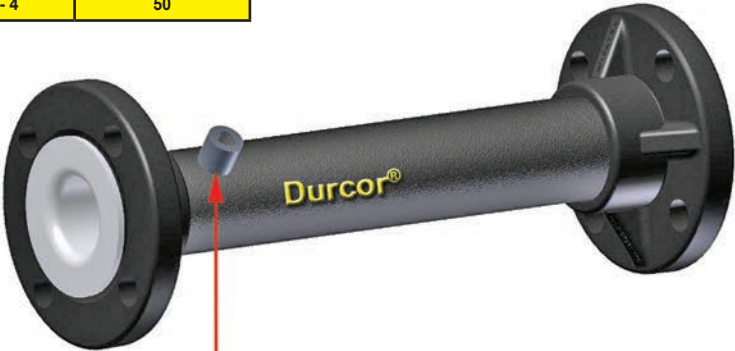
Unsupported Span (Feet) at Various Temperatures			
Size (in)	Uninsulated Pipe		
	Up to 150°F	225°F	300°F
1	14	13	12.5
1 1/2	16.5	15	14.5
2	18	16.5	15.5
3	22	20	19
4	24	22	21
6	27.5	25	24.5
8	34	28	27

*Note: For water filled pipe. These values consider maximum 0.5" mid-span deflection. These values do not take into account concentrated loads from flanges.

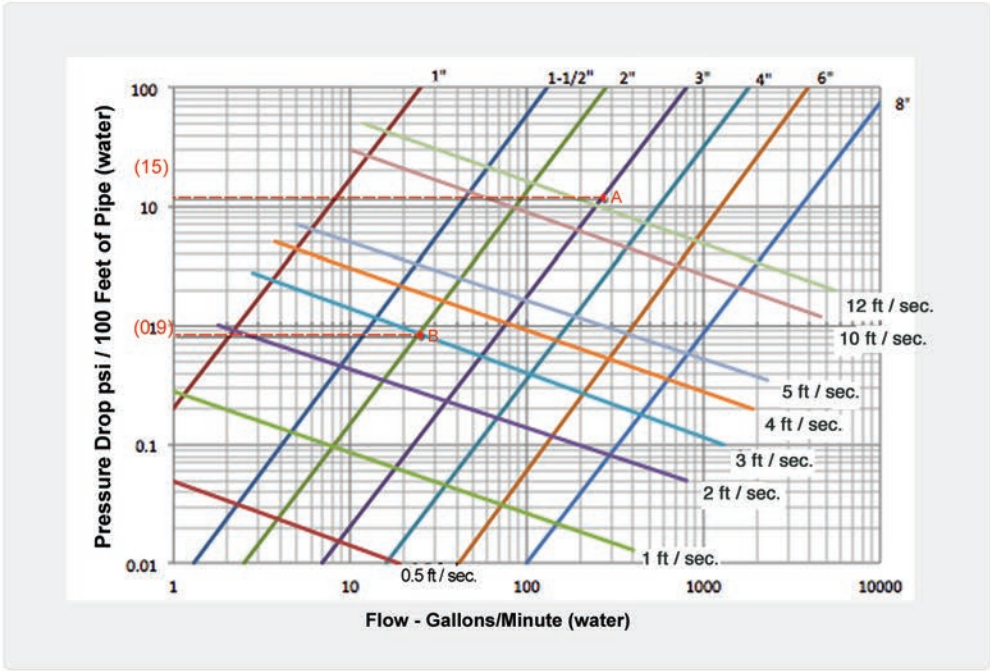
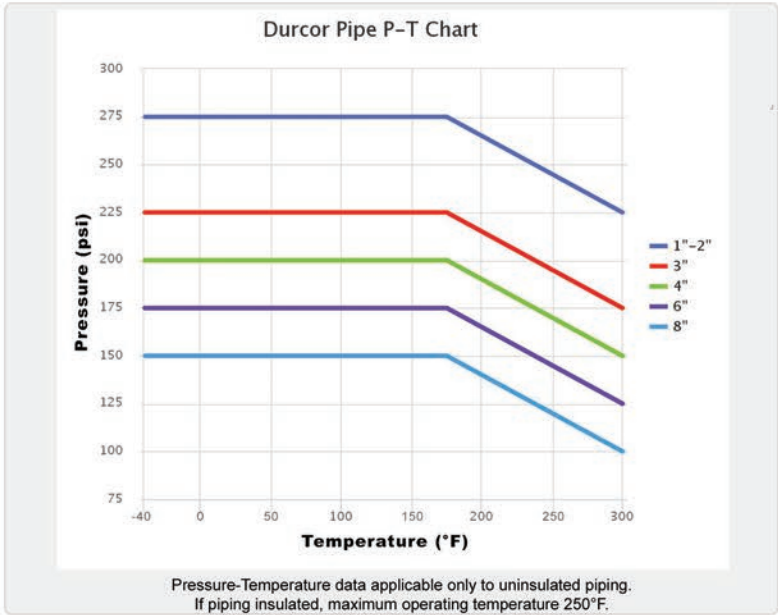
Temperature Change (°F)	Durcor (in/100 FT)	Fiberglass (in/100 FT)	PVC (in/100 FT)	CPVC (in/100 FT)	Carbon Steel (in/100 FT)	Stainless Steel (in/100 FT)
25	0.14	0.30	0.90	1.14	0.19	0.26
50	0.27	0.60	1.80	2.28	0.38	0.51
75	0.41	0.90	2.70	3.42	0.58	0.77
100	0.54	1.20	3.60	4.56	0.77	1.02
125	0.68	1.50	4.50	5.70	0.96	1.28
150	0.81	1.80	5.40	6.84	1.15	1.53
175	0.95	2.10	6.30	7.98	1.34	1.79
200	1.08	2.40	7.20	9.12	1.54	2.04

Pressure Ratings			
Nominal Pipe Size (in)	Max. Pressure @ (-)40°F (psi)	Max. Pressure @ 75°F (psi)	Max. Pressure @ 300°F (psi)
1	275	275	230
1 1/2	275	275	230
2	275	275	230
3	225	225	175
4	200	200	150
6	175	175	125
8	150	150	100

Maximum Pipe Length Available	
Size (in)	Length (ft)
1 - 8	20
1 - 4	50



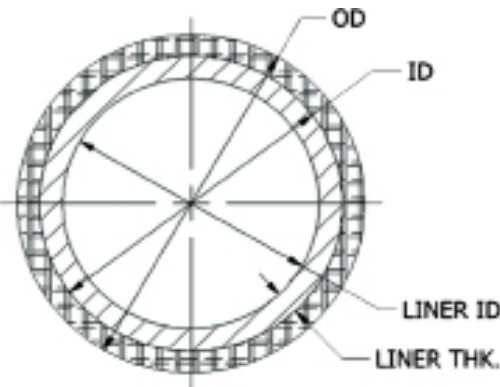
Special vent couplings are available for pipe with insulation. 1/8" NPS half couplings can be supplied and pipe nipples of sufficient length can extend through the insulation cover.



All Durcor flanges (pipe & fittings) have a ribbed face to aid against cold flow (creep) or flare distortion during temperature cycling.



Standard flange drilling is Class 150
DIN PN10/PN16, JIS B2220 5KG/10KG also Available

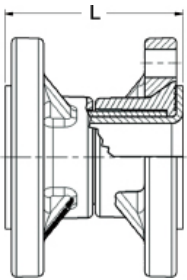


Durcor® Pipe

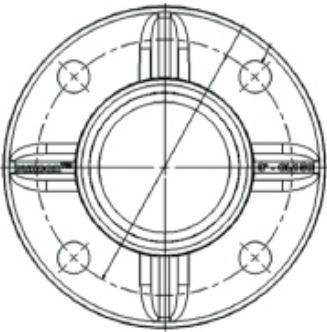
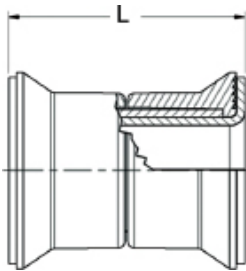
Size (in)	ID PTFE Pipe (in)	Liner Thickness (in)	Pipe OD (in)	Durcor® Weight (lbs)	Steel Lined (lbs)
1	0.79	0.130	1.36	0.83	2.1
1 1/2	1.34	0.150	1.92	1.29	3.4
2	1.74	0.160	2.38	1.75	4.6
3	2.75	0.160	3.50	3.14	9.1
4	3.71	0.220	4.50	4.37	13.0
6	5.50	0.280	6.63	9.14	22.8
8	7.36	0.310	8.63	13.56	32.1

Min. Spool

Size (in)	Minimum Spool Length "L" (in)
1	3-1/4
1 1/2	3-1/2
2	4-1/2
3	4-1/2
4	5
6	7-1/4
8	7-3/8

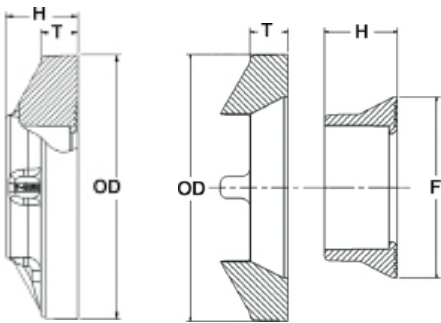


Distance Pieces are used when you need more length than a spacer but don't want the bulk of flanges.



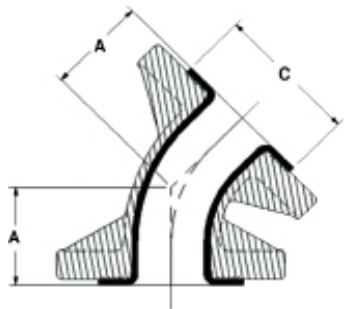
Flanges - Fixed & Rotating

Size (in)	Outside Dia. (in)	T (Nominal)	H (in)	F (in)	# Holes	Hole Dia.	Durcor® Wt. (lbs)	Ductile Iron Wt. (lbs)
1	4.25	.78	1-7/16	2-9/32	4	.63	0.7	2.0
1 1/2	5.00	.87	1-5/8	3	4	.63	1.0	3.0
2	6.00	.90	2-1/8	3-13/16	4	.75	1.6	4.7
3	7.50	1.18	2-3/16	5-1/8	4	.75	2.8	9.2
4	9.00	1.16	2-3/8	6-5/16	8	.75	3.6	12.4
6	11.00	1.19	3	8-1/2	8	.88	4.6	16.8
8	13.50	1.38	3	10-5/8	8	.88	7.8	28.0



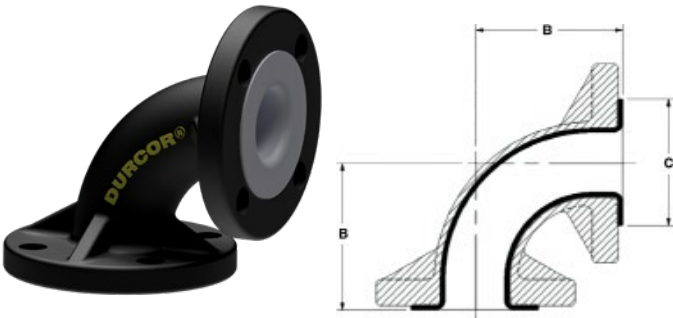
45° Elbow

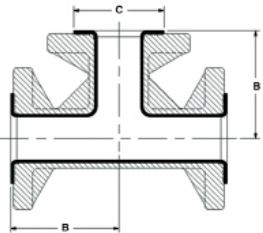
Dimensional Data			Compare Weights	
Size (in)	A (in)	C (in)	Durcor® Weight (lbs)	Alloy Fitting (lbs)
1	1-3/4	2	1.3	5.5
1 1/2	2-1/4	2-7/8	2.1	8
2	2-1/2	3-5/8	3.1	11
3	3	5	6.4	22
4	4	6-3/16	10.2	39.5
6	5	8-1/2	16.7	63.0
8	5-1/2	10-5/8	28.1	110.0



90° Elbow

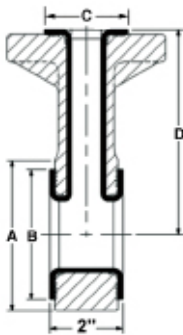
Dimensional Data			Compare Weights	
Size (in)	B (in)	C (in)	Durcor® Weight (lbs)	Alloy Fitting (lbs)
1	3-1/2	2	1.5	6
1 1/2	4	2-7/8	2.4	9
2	4-1/2	3-5/8	3.5	14.0
3	5-1/2	5	7.7	26.0
4	6-1/2	6-3/16	10.6	41.0
6	8	8-1/2	19.5	75.0
8	9	10-5/8	32.9	125.0





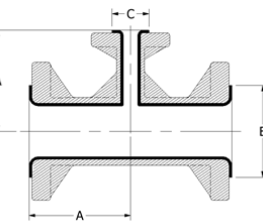
Standard Tee

Dimensional Data			Compare Weights	
Size	B (in)	C (in)	Durcor® Weight (lbs)	Alloy Fitting Weight (lbs)
1	3-1/2	2	2.6	10.0
1-1/2	4	2-7/8	3.7	14.0
2	4-1/2	3-5/8	5.4	20.5
3	5-1/2	5	12.0	40.0
4	6-1/2	6-3/16	17.0	67.0
6	8	8-1/2	29.3	120.0
8	9	10-5/8	45.6	180.0



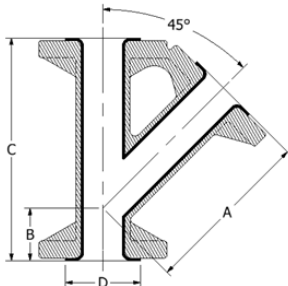
Instrument Tee

Dimensional Data					Compare Weights	
Size	A (in)	B (in)	C (in)	D (in)	Durcor® Weight (lbs)	Alloy Fitting Weight (lbs)
1 x 1	2-5/8	2	2	3-1/2	1.4	3.7
1-1/2 x 1	3-3/8	2-7/8	2	4	1.8	5.1
2 x 1	4-1/8	3-5/8	2	4-1/2	2.3	6.6
3 x 1	5-3/8	5	2	5-1/2	3.1	9.2
4 x 1	6-7/8	6-3/16	2	6-1/2	4.2	13.3
6 x 1	8-3/4	8-1/2	2	8-1/16	5.4	17.4
8 x 1	11	10-5/8	2	9	7.2	27.6



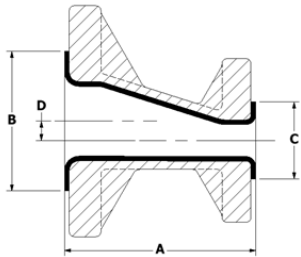
Reducing Tee

Dimensional Data				Compare Weights	
Size	A (in)	B (in)	C (in)	Durcor® Weights (lbs)	Alloy Fitting Weights (lbs)
1-1/2 x 1	4	2-7/8	2	3.5	12.2
2 x 1	4-1/2	3-5/8	2	4.6	16.2
2 x 1-1/2	4-1/2	3-5/8	2-7/8	5.0	17.6
3 x 1	5-1/2	5	2	8.4	31.0
3 x 1-1/2	5-1/2	5	2-7/8	8.9	32.2
3 x 2	5-1/2	5	3-5/8	9.7	34.0
4 x 1	6-1/2	6-3/16	2	12.1	44.6
4 x 1-1/2	6-1/2	6-3/16	2-7/8	12.6	56.2
4 x 2	6-1/2	6-3/16	3-5/8	13.0	57.0
4 x 3	6-1/2	6-3/16	5	14.5	57.7
6 x 2	8	8-1/2	3-5/8	22.4	90.8
6 x 3	8	8-1/2	5	24.0	104.5
6 x 4	8	8-1/2	6-3/16	25.1	105.6
8 x 3	9	10-5/8	5	36.9	138.6
8 x 4	9	10-5/8	6-3/16	38.1	165.5
8 x 6	9	10-5/8	8-1/2	40.4	170.3



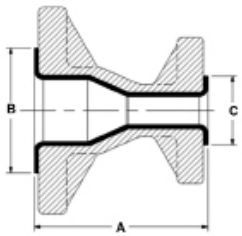
45° Lateral

Dimensional Data					Compare Weights	
Size	A (in)	B (in)	C (in)	D (in)	Durcor® Weight (lbs)	Alloy Fitting Weight (lbs)
1	5-3/4	1-3/4	7-1/2	2	2.6	12
1-1/2	7	2	9	2-7/8	4.4	18
2	8	2-1/2	10-1/2	3-5/8	6.2	25
3	10	3	13	5	12.5	53
4	12	3	15	6-3/16	17.8	97
6	14-1/2	3-1/2	18	8-1/2	36.3	145
8	17-1/2	4-1/2	22	10-5/8	57.3	219



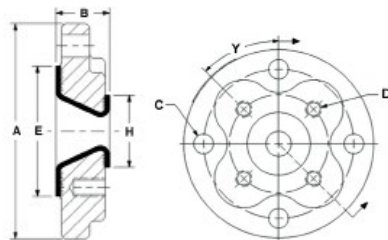
Eccentric Reducer

Dimensional Data					Compare Weights	
Size	A (in)	B (in)	C (in)	D (in)	Durcor® Weight (lbs)	Alloy Fitting Weight (lbs)
1-1/2 x 1	4-1/2	2-7/8	2	1/4	1.7	6.7
2 x 1	5	3-5/8	2	1/2	2.3	8.9
2 x 1-1/2	5	3-5/8	2-7/8	1/4	2.7	10.4
3 x 1-1/2	6	5	2-7/8	3/4	4.0	15.3
3 x 2	6	5	3-5/8	1/2	4.6	17.7
4 x 1-1/2	7	6-3/16	2-7/8	1-1/4	5.8	22.3
4 x 2	7	6-3/16	3-5/8	1	6.4	24.6
4 x 3	7	6-3/16	5	1/2	7.5	29.0
6 x 3	9	8-1/2	5	1-1/2	11.6	44.5
6 x 4	9	8-1/2	6-3/16	1	13.4	51.5
8 x 4	11	10-5/8	6-3/16	2	20.0	75.5
8 x 6	11	10-5/8	8-1/2	1	23.1	84.0



Concentric Reducer

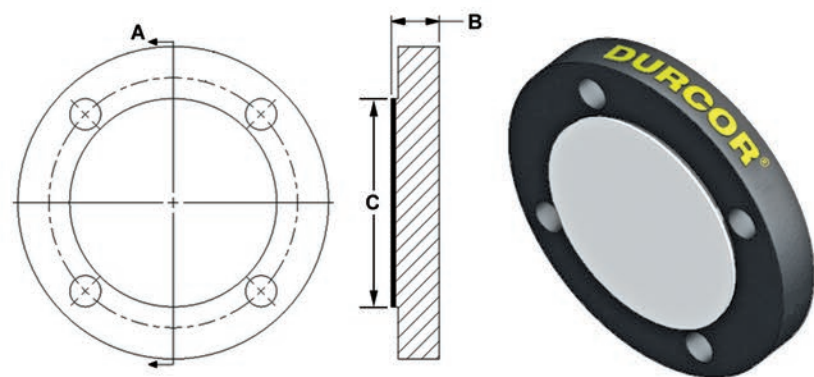
Dimensional Data				Compare Weights	
Size	A (in)	B (in)	C (in)	Durcor® Weight (lbs)	Alloy Fitting Weight (lbs)
1-1/2 x 1	4-1/2	2-7/8	2	1.7	6.7
2 x 1	5	3-5/8	2	2.3	8.9
2 x 1-1/2	5	3-5/8	2-7/8	2.7	10.4
3 x 1	6	5	2	3.5	13.5
3 x 1-1/2	6	5	2-7/8	4.0	15.3
3 x 2	6	5	3-5/8	4.6	17.7
4 x 1	7	6-3/16	2	5.3	20.4
4 x 1-1/2	7	6-3/16	2-7/8	5.8	22.3
4 x 2	7	6-3/16	3-5/8	6.4	24.6
4 x 3	7	6-3/16	5	7.5	29.0
6 x 2	9	8-1/2	3-5/8	10.5	40.3
6 x 3	9	8-1/2	5	11.6	44.5
6 x 4	9	8-1/2	6-3/16	13.4	51.5
8 x 4	11	10-5/8	6-3/16	20.0	75.5
8 x 6	11	10-5/8	8-1/2	23.1	84.0



Reducing Flange

Dimensional Data					C Holes			D Holes					Compare Weights	
Size	A (in)	B (in)	E (in)	H (in)	# Holes	Dia.	B.C.	# Holes	Thread	B.C.	Depth	Y°	Durcor® Weight (lbs)	Alloy Fitting Weight (lbs)
1-1/2 x 1	5	1-9/16	2-7/8	2	4	5/8	3-7/8	4	1/2-13	3-1/8	1	45	1.2	4.3
2 x 1	6	1-9/16	3-5/8	2	4	3/4	4-3/4	4	1/2-13	3-1/8	1	45	1.8	6.0
2 x 1-1/2	6	1-9/16	3-5/8	2-7/8	4	3/4	4-3/4	4	1/2-13	3-7/8	1	45	1.8	6.3
3 x 1	7-1/2	1-5/8	5	2	4	3/4	6	4	1/2-13	3-1/8	3/4	45	3.0	11.5
3 x 1-1/2	7-1/2	1-5/8	5	2-7/8	4	3/4	6	4	1/2-13	3-7/8	1	45	3.0	12.8
3 x 2	7-1/2	1-3/4	5	3-5/8	4	3/4	6	4	5/8-11	4-3/4	1-1/4	45	3.4	12.5
4 x 1	9	1-7/8	6-3/16	2	8	3/4	7-1/2	4	1/2-13	3-1/8	3/4	0	4.7	15.8
4 x 1-1/2	9	1 7/8	6-3/16	2-7/8	8	3/4	7-1/2	4	1/2-13	3-7/8	3/4	0	3.9	15.5
4 x 2	9	2	6-3/16	3-5/8	8	3/4	7-1/2	4	5/8-11	4-3/4	15/16	0	5.5	14.5
4 x 3	9	1-3/4	6-3/16	5	8	3/4	7-1/2	4	5/8-11	6	15/16	0	4.4	14.5
6 x 1-1/2	11	2 1/4	8-1/2	2 7/8	8	7/8	9-1/2	4	1/2-13	3-7/8	3/4	0	6.2	24.5
6 x 2	11	2 3/8	8-1/2	3-5/8	8	7/8	9-1/2	4	5/8-11	4-3/4	15/16	0	6.4	24.3
6 x 3	11	2 1/8	8-1/2	5	8	7/8	9-1/2	4	5/8-11	6	15/16	0	6.5	22.3
6 x 4	11	2-1/4	8-1/2	6-3/16	8	7/8	9-1/2	8	5/8-11	7-1/2	15/16	22.5	8.3	22.0
8 x 4	13-1/2	2 1/4	10-5/8	6-3/16	8	7/8	11-3/4	8	5/8-11	7-1/2	15/16	22.5	11.8	39.5
8 x 6	13-1/2	2 1/2	10-5/8	8-1/2	8	7/8	11-3/4	8	3/4-10	9-1/2	1-1/8	22.5	10.8	36.3

Durcor® Blind Flange - Class 150 Lined with PTFE



Blind Flange

Dimensional Data				Compare Weights	
Size (in)	A (in)	B (in)	C (in)	Durcor® Weight (lbs)	Alloy Fitting (lbs)
1	4.25	0.79	2.00	0.7	2.2
1 1/2	5.00	0.86	2.88	1.1	3.3
2	6.00	0.96	3.63	1.7	4.8
3	7.50	1.16	5.00	3.3	9.9
4	9.00	1.16	6.18	4.7	12.8
6	11.00	1.26	8.50	7.7	28.5
8	13.50	1.37	10.63	12.6	47.0

Insulation and Heat Tracing

Insulation and heat tracing are not only used to prevent freezing of the process fluid, but can be used to minimize energy losses and reduce viscosity. The thermal conductivity of Durcor is extremely low, especially when compared to steel lined pipe.

Durcor® - 0.22 BTU/hr-ft-°F

Steel - 34 BTU/hr-ft-°F

Analysis of this feature can often eliminate the need for tracing and / or reduce the thickness of insulation required to maintain a given temperature. On long tracing runs, Durcor flanged Flexijoints® should be provided to compensate for any pipe expansion or contraction.

Maximum Heat Tracing Temperature	
Max Temp.	Type of Tracing
250°F	Hot Water Electric Steam

Durcor® pipe and fittings should never exceed maximum temperature of 250 °F when insulated.

All typical heat tracing methods may be applied to Durcor pipe and fittings. Consultation with tracing manufactures is highly recommended.

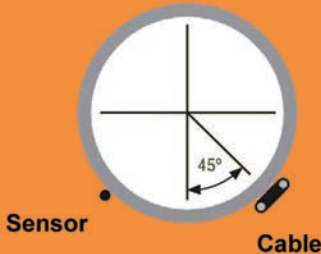
Hot water: Typically the most economical, however, heat transfer cement should be installed for better heat transfer according to cement manufactures' recommendations.

Electrical tracing: Tracing Durcor pipe can be accomplished successfully with electrical cable and sensors to ensure against localized overheating. Specifying a T-Rating that won't allow electrical cable to go above the 250°F is also another option.

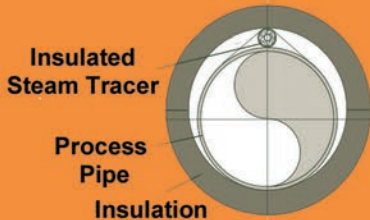
Steam tracing: Steam pressure must be controlled so that the temperature does not exceed the maximum temperatures of 250°F. Isolated (insulated) steam tracer should be used to avoid localized overheating.

Because of its extremely low thermal conductivity, it isn't necessary or recommended to insulate the flange connections.

Heating Cable Illustration



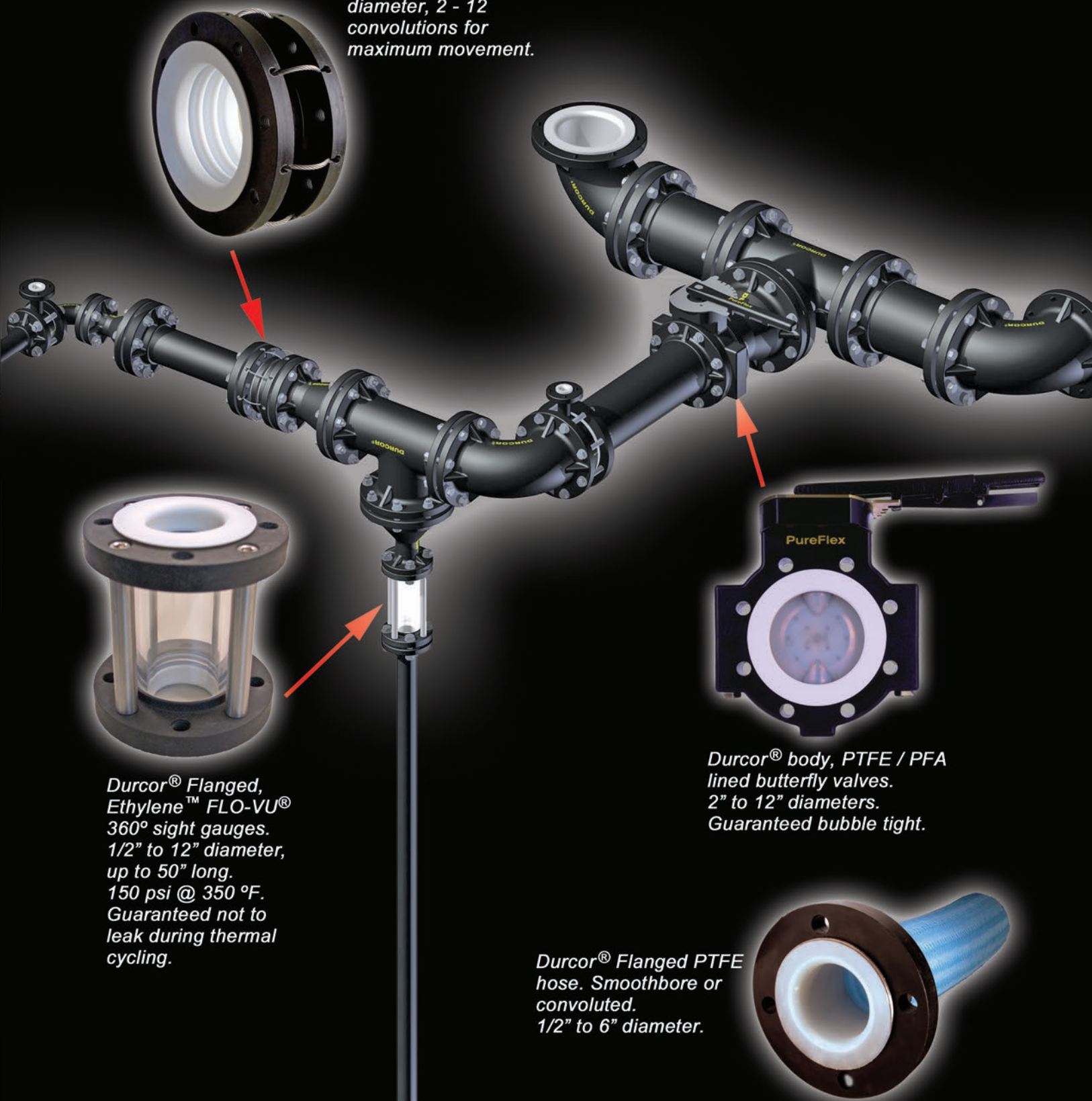
Steam Tracing Illustration



Accessories

Like No Other - Strong, Lightweight, Zero Corrosion

Durcor® Flanged, Ethylene™ Flexijoint® PTFE Expansion joints. The severe service standard. 1/2" to 42" diameter, 2 - 12 convolutions for maximum movement.

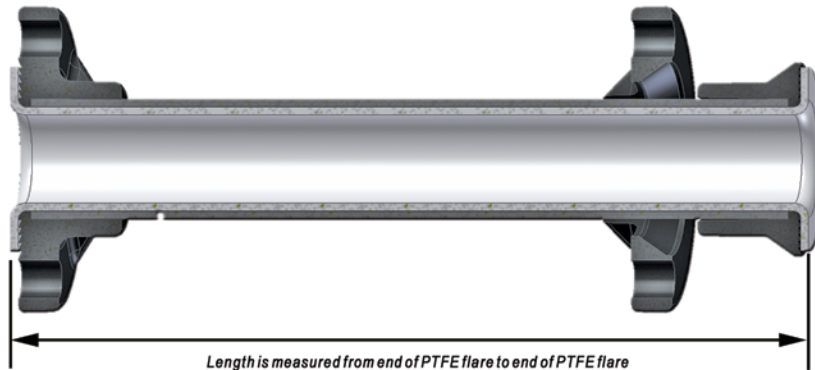


Durcor® Flanged, Ethylene™ FLO-VU® 360° sight gauges. 1/2" to 12" diameter, up to 50" long. 150 psi @ 350 °F. Guaranteed not to leak during thermal cycling.

Durcor® body, PTFE / PFA lined butterfly valves. 2" to 12" diameters. Guaranteed bubble tight.

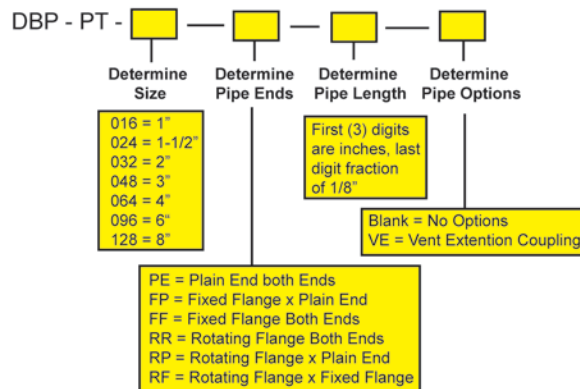
Durcor® Flanged PTFE hose. Smoothbore or convoluted. 1/2" to 6" diameter.

Durcor® How To Order



Example: 2" diameter Durcor® pipe spool, Fixed Flange one end x Rotating Flange other end, 36-1/8" long with no options

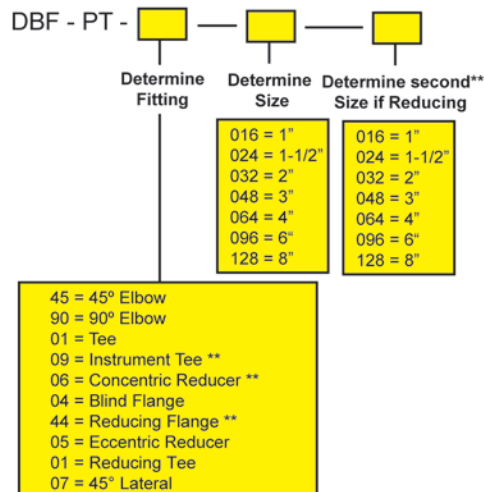
Example Part Number : DBP - PT - 032 - RF - 0361



How to Order Fittings

Example: 2" x 1" Reducing Flange

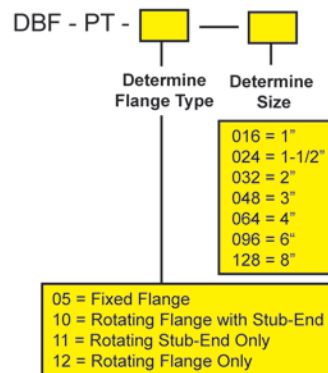
Example Part Number : DBF - PT - 44 - 032 - 016



How to Order Flanges

Example: 2" Rotating Flange with Stub-End

Example Part Number : DBF - 10 - 032



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Ph 616.554-1100 Fax 616.554-3633

www.PureFlex.com

Durcor 1205-10212020

Durcor®

Advanced Composite PTFE Lined Piping System

Like no other

Durcor® is the worlds first advanced structural composite piping system lined with seamless PTFE. Its thick wall PTFE liner provides maximum internal chemical resistance while Durcor's vinyl ester resin backbone eliminates the devastating effects of environmental corrosion externally.

- Size range 1" to 8"
- Full Vacuum Rated
- Pressures to 150psi
- Temperature Ratings (-)40°F to (+)300°F
- Zero Corrosion Rate
- Superior Strength to Weight Ratio
- 1/4 the weight
- Lower Freight Cost
- Lower Installed Cost
- Faster to Install
- Safer to Install
- No Painting

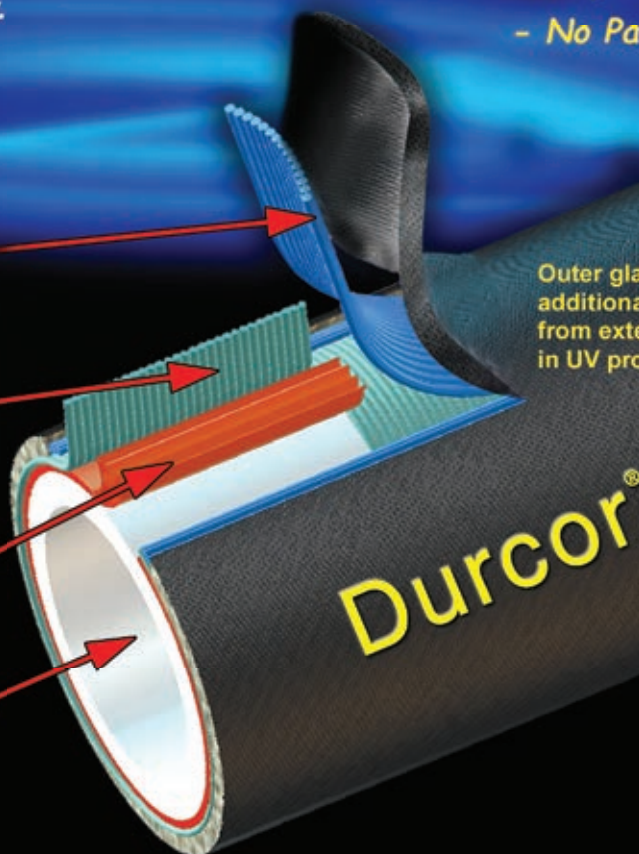
Bundles of axial glass roving in linear direction provide exceptional stiffness and near-zero thermal expansion

Continuous bundles of reinforcing glass roving is wrapped radially over inner veil to provide outstanding hoop strength for 4:1 pressure safety factor

Multiple inner layers of resin-rich veil provide superb corrosion barrier to reinforcing roving bundles

PTFE liner thickness exceeds the requirements of ASTM F1545 and is full vacuum rated in all sizes to +300°F

Outer glass matting provides additional mass to protect piping from exterior corrosion and aids in UV protection



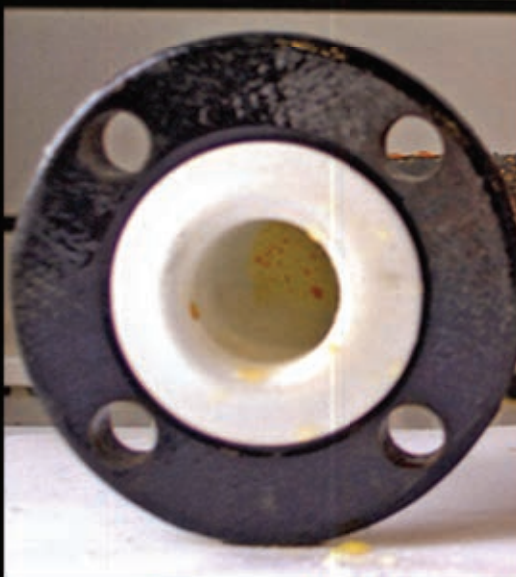
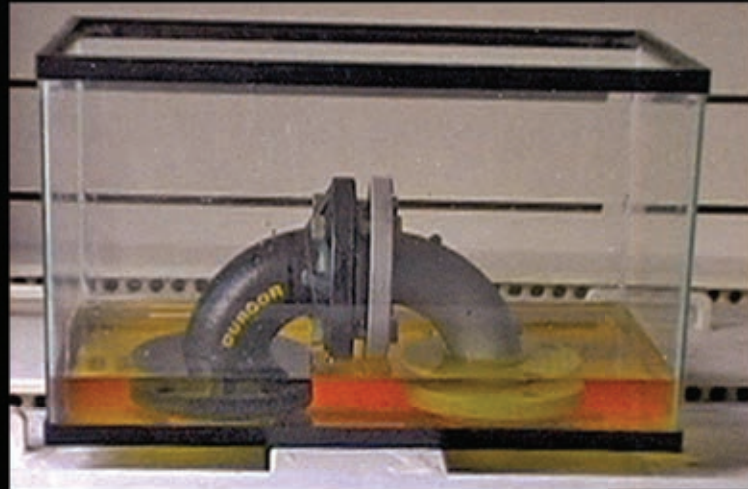
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www.pureflex.com

Durcor®

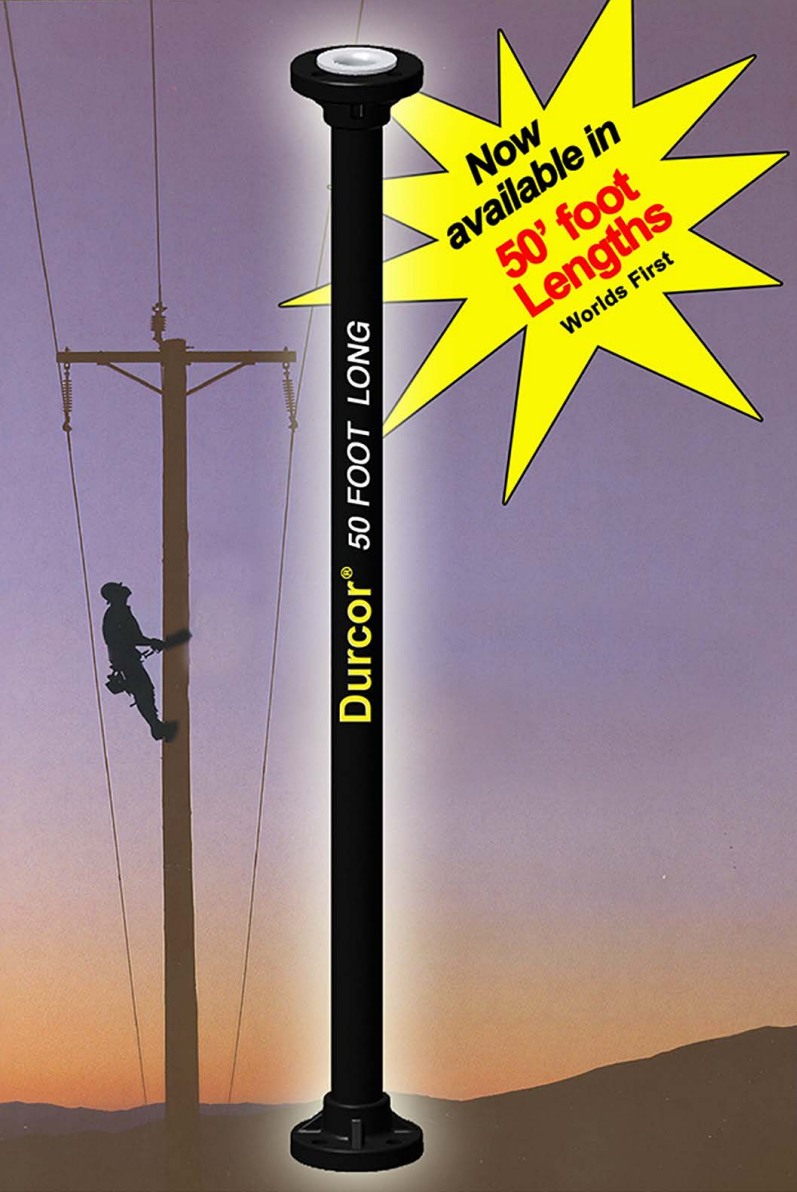
Advanced Composite
PTFE Lined Piping System

No Comparison



Durcor 2" 90° vs. Carbon Steel 2" 90°

New fittings were bolted to one another and submerged in (4) parts Muriatic acid to (1) part Nitric acid at ambient temperature for 16 hours. The results were catastrophic to the carbon steel fitting, while Durcor had zero corrosion and no loss of strength.



Durcor® 50 FOOT LONG

**Now available in
50' foot
Lengths
Worlds First**

Durcor®

**A System Approach
to Eliminate Corrosion**

Strong, Light Weight, Zero Corrosion

Durcor 50' foot FEP lined pipe spools are designed to save you money by making installation faster and safer with fewer potential leak paths along with zero corrosion to let you focus on running your business not fixing it.



50' Foot Lengths

*Another
Industry First*

Features & Benefits

- Zero Corrosion
- Faster / Easier Installation
- Lower Installed cost
- Cut Flange connections in 1/2
- 1/2 The # of Bolts / Nuts / Washers
- Fewer leak paths
- Lighter Weight
- Safer to Install
- Lower Shipping Costs



FEP lined Durcor 50' foot pipe spools are available in 1" - 4", will handle full vacuum & temperatures to 300°F.

FEP is resistant to;

- all acids,
- all organic and inorganic
- chlorides & sulfates
- all bleach solutions
- all solvents
- all phenols
- all caustics
- all peroxides
- as well as any combination of the above

FEP also has incredible non-stick properties which eliminate and/or minimize deposits on pipe wall

PureFlex®

an ANDRONACO INDUSTRIES company

PureFlex®

Heated Hoses

June 2009



Optional micro controlled processor for precise temperature control

PureFlex PTFE hose with stainless braid and sanitary end connections, other hose and fitting styles available

Reflective tape disperses heat and aids in insulation factor

Silicone prewrap serves as an elastic cushion as well as a dielectric insulator



Hardened tight molded Polyolefin, bonding the heating components to the hose

Polyester braid wraps tightly around insulation maintaining product integrity and protecting internal components

High Temperature Polyimide insulation blankets heating elements and reflective tape to provide stable temperature control

Proprietary heating element is wound uniformly and in tight proximity to provide accurate heating and control. "J" thermocouples or RTD's sensors are available.

PureFlex electrically heated option may be applied to any of the hoses and fittings available from PureFlex. Our superior insulations and precisely applied heating elements provide the most temperature-stable heated hoses on the market. PureFlex heated hoses are excellent for maintaining viscosity control, freeze protection and dispensing temperature sensitive media. Temperature options from ambient to 450°F (hose selection dependant). Contact PureFlex for more details.

PureFlex®
Inc.
an ANDRONACO INDUSTRIES co.

DEMAND PUREFLEX QUALITY




**PLATINUM CURED
SILICONE**

HIGH PURITY HOSES AND FITTINGS

PureFlex[®]
AN ANDRONACO INDUSTRIES COMPANY

PLATINUM CURED



PureFlex high purity platinum cured silicone hose is manufactured from Biopharmaceutical grade elastomer meeting or exceeding Pharmacopeia USP 23 class VI, FDA 21CFR-177.2600, USDA and 3A criteria. Our hose is designed for maximum flexibility when utilized in fluid transfer, filling and moving in pharmaceutical and biotech manufacturing processes. PureFlex Silicone hose offers high tear resistance, will impart no taste or odor and its hydrophobic properties make it ideal for use in medical, semiconductor, cosmetics, food, beverage and dairy industries. PureFlex Silicone hose is available in PC65-B Polyester Braid reinforced and PC65-W wire reinforced with polyester or Nomex® braid reinforcement. Sizes range from 1/4" to 4" diameter with temperatures ranging from -75 °F (-60 °C) to 500 °F (260 °C).

PC65-W SERIES

WIRE REINFORCED


PureFlex PC65-W series hose has an ultra-smooth inside diameter core that is wrapped with Polyester braid reinforcement or Nomex® braid reinforcement and a S.S. wire, designed for maximum flexibility in high pressure and vacuum services.

APPLICATIONS

- Pharmaceutical and Biotechnological processes
- Ultra-pure liquid transfer
- Food and beverage transfer
- Bulk transfer
- Load cell applications
- Vacuum applications

FEATURES

- Available in 12 foot lengths
- -75 °F (-60 °C) to 500 °F (260 °C) temperature range
- Excellent flexibility
- No organic plasticizers, phthalates or latex additives
- Imparts no taste or odor
- Non-wettable (hydrophobic)
- Sterilizable & Autoclavable



Part Number	Nominal ID (in) (mm)		Nominal OD (in) (mm)		Working Pressure PSI	Burst Pressure PSI	Min. Bend Radius (in)	Vacuum Rating (in.hg)	Weight lbs/ft
PC65-W-0500	.50	(12.7)	.86	(21.8)	225	900	2.00	29.9	.30
PC65-W-0750	.75	(19.1)	1.11	(28.2)	225	900	3.50	29.9	.40
PC65-W-1000	1.00	(25.4)	1.36	(34.5)	225	900	5.00	29.9	.45
PC65-W-1500	1.50	(38.1)	1.86	(47.2)	200	800	6.00	29.9	.75
PC65-W-2000	2.00	(50.8)	2.36	(59.9)	150	600	9.50	29.9	1.00
PC65-W-2500	2.50	(63.5)	3.00	(76.2)	150	600	11.5	29.9	1.25
PC65-W-3000	3.00	(76.2)	3.50	(88.9)	125	500	15.0	29.9	1.40
PC65-W-4000	4.00	(101.6)	4.68	(118.9)	90	360	23.00	29.9	2.10

Pressure and vacuum ratings based @ 70 °F (21 °C)
Burst pressure will decrease 10% for each 200 °F (37 °C) increase

SILICONE HOSE & TUBING

CLEANING & STERILIZATION

IT IS THE END USER'S RESPONSIBILITY TO COMPLETE THE CLEANING AND STERILIZATION VALIDATION PROCESS. TESTING SHOULD BE CONDUCTED BY THE END USER IF STERILIZATION CONDITIONS VARY AND IF MINOR PHYSICAL PROPERTY CHANGES OF TUBING COULD AFFECT PROCESS PERFORMANCE. IT IS THE END USER'S RESPONSIBILITY TO ENSURE THAT PUREFLEX HOSE PRODUCTS ARE SAFE, EFFECTIVE AND SATISFACTORY FOR ANY INTENDED USE.

CLEANING

Silicone hoses can be cleaned with hot water and mild surgical soap. Synthetic detergents or oil based soaps should not be used as they may be absorbed and subsequently leach out into the process fluid. Rinse thoroughly in running purified (distilled) water. Autoclave before interior becomes dry.

AUTOClave (STEAM STERILIZATION)

Silicone hoses can withstand all common steam autoclave sterilization cycles without adverse effects to the product. Standard gravity steam cycles and high steep flash sterilization may be used.

ETHYLENE OXIDE STERILIZATION

Silicone hoses can withstand sterilization with Ethylene Oxide with no degradation of physical properties. It is recommended only if qualified by the end user for normal ETO cycles, and complete aeration and outgassing times have been set.

GAMMA RADIATION STERILIZATION

Silicone hose can withstand gamma radiation within the end user's qualified levels up to 2.5 Mrad (25KGy). Repeated cycles or higher doses may change some physical properties; such as increase in durometer and tensile modulus, and potential slight decrease in tear strength and elongation.

PC65-B SERIES

POLYESTER BRAID REINFORCED

PureFlex PC65-B series hose incorporates strong polyester braid between extrusions of platinum cured silicone. PB65-B is super flexible and can handle much higher pressures than non-reinforced silicone tubing.

APPLICATIONS

- Pharmaceutical and Biotechnological processes
- Ultra-pure liquid transfer
- Cell cultures
- Food and beverage transfer
- Dairy applications
- Bulk transfer
- Load cell applications
- Pump applications

FEATURES

- Available in 33 or 64 foot lengths
- -75 °F (-60 °C) to 350 °F (177 °C) temperature range
- Excellent flexibility
- No organic plasticizers, phthalates or latex additives
- Imparts no taste or odor
- Non-wettable (hydrophobic)
- Sterilizable & Autoclavable



Part Number	Nominal ID (in) (mm)	Nominal OD (in) (mm)	Working Pressure PSI	Burst Pressure PSI	Min. Bend Radius (in)	Weight lbs/ft
PC65-B-0250	.250 (6.3)	.519 (13.2)	135	406	1.57	.070
PC65-B-0375	.375 (9.5)	.653 (16.6)	102	305	2.16	.120
PC65-B-0500	.500 (12.7)	.799 (20.3)	82	247	2.75	.160
PC65-B-0625	.625 (15.9)	.964 (24.5)	63	189	3.34	.220
PC65-B-0750	.750 (19.1)	1.09 (27.9)	53	160	3.74	.265
PC65-B-0875	.875 (22.2)	1.23 (31.3)	48	145	4.33	.310
PC65-B-1000	1.00 (25.4)	1.35 (34.5)	44	131	5.31	.350
PC65-B-1250	1.25 (31.8)	1.60 (40.8)	34	102	6.29	.460

Pressure ratings based @ 70 °F (21 °C)
Burst pressure will decrease 10% for each 200 °F (37 °C) increase

Fittings and Materials

PureFlex manufactures more of its own product than any other company in this industry.

Our fitting and collar selection is unequalled and offers more choices to meet your most demanding application.

FITTINGS

PureFlex fittings and collars are designed specifically for Silicone and Fluoropolymer hoses. Combining bio-pharmaceutical and aerospace quality standards, that provide a minimum interior surface finish of 15 Ra on all sanitary fittings. Other surface finishes available upon request.

MATERIALS

PureFlex offers a wide range of fitting materials which include 316 S.S., 304 S.S., Monel®, Hastelloy®, Titanium, solid Kynar® (PVDF), solid polypropylene, PFA encapsulated 316 S.S. or carbon steel. Other materials available upon request.

THREADED FITTINGS

SANITARY

CAM LOCK

FLANGES



Male Pipe (NPT) Hex



Male Pipe (NPT)



Female Pipe (NPT)



JIC Female Swivel



Male Union (NPT)



Female Union (NPT)



Female Swivel (NPSH)



Sanitary (Tri-Clamp)



Bevel Seat Female



I-Line Male



Bevel Seat Male



Sanitary Step-Up



I-Line Female



Sanitary Mini



Female CAM Lock 'D'



Male CAM Lock 'E'



Female CAM Lock 'D' Reducer



Female CAM Lock 'D' (PFA Encapsulated)



Male CAM Lock 'E' (PFA Encapsulated)



Flange Retainer P Series Flange Retainer



Flange Retainer (PFA Encapsulated)

COMPRESSION SPLICE BUTTWELD



Tube Buttweld



Pipe Buttweld

All fitting styles may not be available for all hose types.

PureFlex[®] Inc.

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Kentwood, MI 49512
Phone: (616) 554-1100
Fax: (616) 554-3633

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PCS-090116

**100% COMPLIANT WITH
THE CHLORINE INSTITUTE'S PAMPHLET 6**

DEMAND PUREFLEX® QUALITY



**CL2™
CHLORINE-BROMINE
TRANSFER HOSES**

PureFlex®
INC.



CL2

100% COMPLIANT WITH CHLORINE INSTITUTE SPECIFICATIONS

CL2™ Advantages

- Zero corrosion rate
- Does not stress fatigue or stress corrode like metal hose
- 5:1 safety factor for minimum burst
- Monel® fittings for dry service
- Hastelloy® C276 fittings for wet service
- Light weight
- Meets all Chlorine Institute standards for non-metallic hose

CL2™ Hose Service

- Chlorine
- Bromine
- Sodium hypochlorite
- Other highly aggressive oxidizers or corrosives

PureFlex CL2 hose assemblies are specifically designed for the safe transfer of chlorine in manufacturing, transporting and packaging industries. It is ideal for loading/unloading barges, rail cars, tankers and filling 1-ton, 100 lb and 150 lb cylinders. CL2 hose has excellent chemical resistance and is not subject to stress fatigue or corroding like metal hose. It is light weight, easy to clean and resists corrosion from any exposure to moisture/humidity which can unintentionally enter systems. CL2 hose assemblies are 100% compliant with the Chlorine Institute's Pamphlet 6.

SPECIFICATIONS

Max Temperature Rating: Kynar Braid +255°F

HOSE I.D. NOMINAL (in)	HOSE O.D. NOMINAL (in)	MAX. OPERATING PRESSURE* (psi)	MIN. BURST PRESSURE* (psi)	PROOF PRESSURE TEST* (psi)	NOMINAL WEIGHT** (lbs/ft)	MIN. BEND RADIUS (in)
1/2	.75	500	2500	1000	.19	2.00
1	1.50	500	2500	1000	.40	3.50
1 1/2	2.10	375	1875	750	.59	6.00
2	2.62	375	1875	750	.87	9.50

*Pressure ratings are based at +70°F (21°C)
**Weight can vary depending on chafe guard selection.



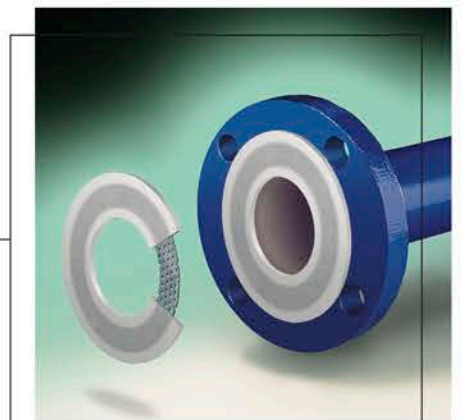
PureFlex options on CL2 hose chafe guards include (left to right):

- PVDF Kynar® heavy braid
- HDPE abrasion guard
- CPE pin pricked rubber



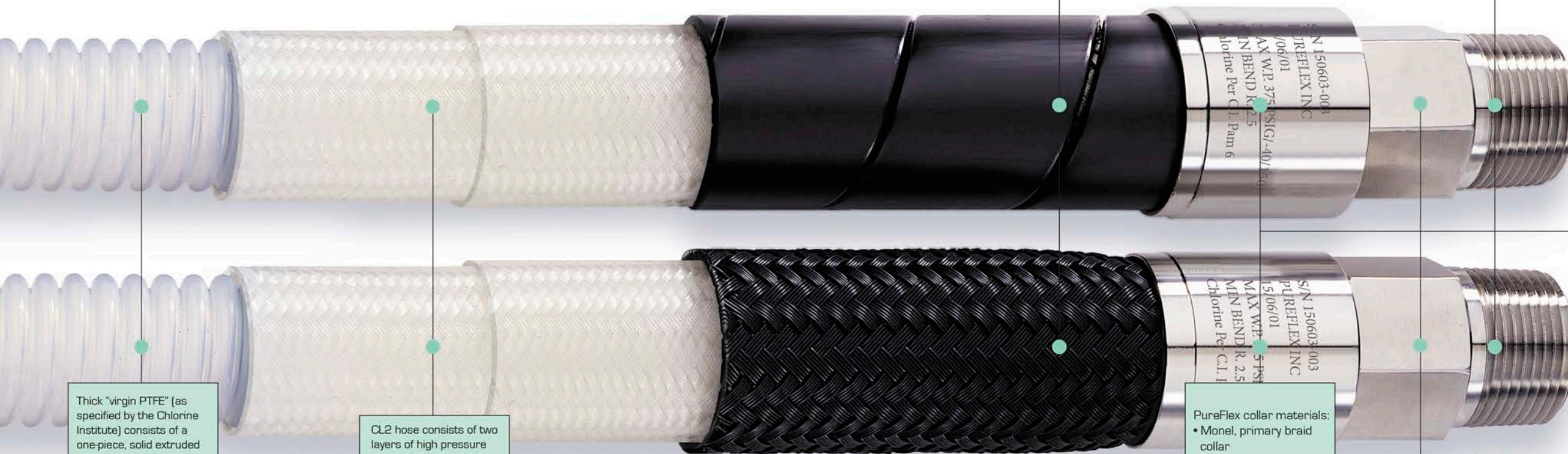
PureFlex offers the widest selection of hose end fittings and materials:

- Schedule 80 NPT's
- Schedule 80 flange retainers
- PFA encapsulated Schedule 80 flange retainers
- Monel material for dry chlorine (standard)
- Hastelloy C276® material for wet chlorine (option)



PureFlex TASK-LINE® Gaskets are manufactured with virgin PTFE resin molded around and through a stainless steel perforated metal insert. TASK-LINE Gaskets are recommended for chlorine service due to many advantages:

- Zero corrosion rate
- Blow-out protection
- Seats and releases easily
- -100°F to +400°F



Thick "virgin PTFE" (as specified by the Chlorine Institute) consists of a one-piece, solid extruded tube with no seams or voids, helically convoluted to facilitate draining and cleaning and reduce transfer time cycles.

CL2 hose consists of two layers of high pressure rated PVDF (Kynar®) braid that is resistant to wet or dry chlorine service (1/2" is single braided). PVDF braid is specified by the Chlorine Institute.

100% Compliant, "All Monel" hose construction also available.
Contact PureFlex® for more details

PureFlex collar materials:

- Monel, primary braid collar
- Stainless, secondary chafe guard collar as specified by the Chlorine Institute

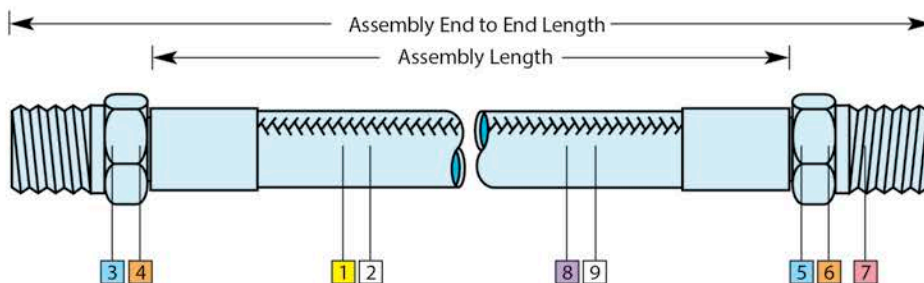
1" wide hex flats as specified by the Chlorine Institute.



Every PureFlex CL2 hose contains the following information as specified by the Chlorine Institute:

- Serial number
- PureFlex, Inc.
- Manufacturing date
- Maximum Working Pressure
- Minimum bend radius
- Chlorine Per C.I. Pamphlet 6

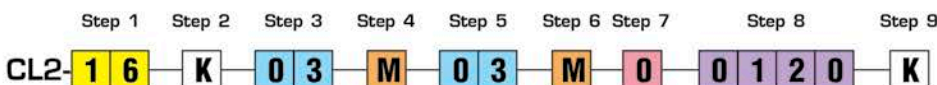
CL2 HOW TO ORDER



PUREFLEX® HOSE ASSEMBLY NUMBERING SYSTEM

Steps to order a 1" CL2 assembly with a length of 12", Monel NPT both ends, Kynar braid with Kynar chafe guard.

Sample part number: CL2-16-K-03-M-03-M-0-0120-K



STEP 1

Determine size:
16 = 1"

08 = 1/2"
16 = 1"
24 = 1-1/2"
32 = 2"

STEP 2

Determine hose braid:
K = Kynar

K = Kynar

STEP 3

Determine fitting style
of 1st end:
03 = Male NPT

Threaded
03 = Male pipe hex NPT
Flanges
05 = Flange retainer
25 = Enc. flange retainer

STEP 4

Determine fitting
material: M = Monel

H = Hastelloy
M = Monel

STEP 5

Determine fittings style
of 2nd end:
03 = Male NPT

Threaded
03 = Male Pipe Hex NPT
Flanges
05 = Flange retainer
25 = Enc. flange retainer

STEP 6

Determine fitting
material: M = Monel

H = Hastelloy
M = Monel

STEP 7

Determine flange
material: O = None

O = None
M = Monel
H = Hastelloy

STEP 8

Determine overall
length of CL2 hose in
inches:
0120 = 12"

Last digit in 1/8th increments.

STEP 9

Determine chafe guard
options:
K = Kynar

E = HDPE abrasion guard
(high-density polyethylene)
K = Kynar braid
R = CPE pin pricked

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0502-091417

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Web: www.pureflex.com

PureFlex®
an ANDRONACO INDUSTRIES company

“PFA” Hose Super Long Lengths

ProFlex™ PFA offers super long lengths, excellent chemical resistance and flexibility. PFA has the same chemical and temperature resistance as PTFE and much better flex life than FEP. ProFlex PFA open pitch spiral convolutions aid in draining, flushing and cleaning of the hose. ProFlex industrial grade PFA was designed for customer applications that don't require or need Pharmaceutical grade hose. For Pharmacopoeia class VI or semi-conductor applications please request ProFlex “HP”.

PROFLEX™ ADVANTAGES

Corrosion Resistant

PFA is fully resistant to the broadest range of industrial chemicals and has a zero corrosion rate with lower life cycle costs.

Long Continuous Lengths

Up to 1,000 feet long (size dependant) excellent for slip lining failed piping systems.

Ease of Fabrication

Fittings do not need PTFE tape wrap on fitting barb and insert does not require any tooling to be installed. Cut & crimp - reduced fabrication costs.

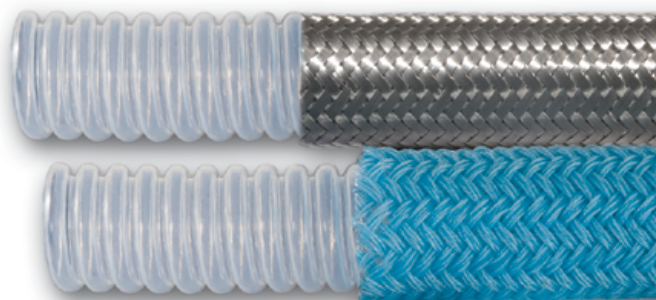
Cleanable

Non-Stick, low porosity tube is self cleaning and does not trap bacteria and can be cleaned with steam, detergents, caustics or solvents.

Flexible

Lower forces needed to bend or flex, aids in installation and operation.

**316 Stainless Steel Braid
PFA**



**Polypropylene Braid
PFA**

*Note: ProFlex is not available with
Static - Dissipating PFA*

MultiFlex™ & ProFlex™ Specification Data

Stainless braid and bare hose temperature range: (-)65°F (-54°C) to (+)450°F (+232°C)
Polypropylene braid temperature range: (-)20°F (-29°C) to (+)250°F (+121°C)

I.D Nominal (inch)	OPERATING PRESSURE (psi)		Minimum Bend Radius (inch)	Vacuum Rating (in-Hg)	Weight Per Foot (lbs.)
	S.S. Braid	Polypro Braid			
1/2"	1500	575	1.50	29.9	0.20
** 5/8"	1200	550	1.50	29.9	0.24
3/4"	1100	500	2.00	29.9	0.28
1"	1000	400	2.50	29.9	0.35
1-1/4"	875	350	3.13	29.9	0.48
1-1/2"	750	300	3.75	29.9	0.60
2"	625	250	6.50	24.0	0.85
3"	150	150	9.50	20.0	1.79

Operating pressure ratings are one-fourth the minimum burst pressure at (+)70°F (21°C)
Pressure and vacuum ratings are based at (+)70°F (21°C)

** 5/8" size is only available in ProFlex series hose

PUREFLEX FITTINGS

THREADED FITTINGS



STYLE 03 Male Pipe (NPT) Hex



STYLE 04 Male Pipe (NPT)



STYLE 07 Female CAM Lock 'D'



STYLE 17 Female CAM Lock 'D' Reducer



STYLE 31 O-Ring Female Swivel 'D'



STYLE 40 Sanitary (Tri-Clamp)



STYLE 45 Bevel Seat Female



STYLE 05 Flange Retainer P Series Flange Retainer



STYLE 06 Female Pipe (NPT)



STYLE 30 JIC Female Swivel



STYLE 27 Female CAM Lock 'D' (PFA Encapsulated)



STYLE 08 Male CAM Lock 'E'



STYLE 38 Compression Adapter



STYLE 40U Sanitary Flare Thru (UltraFlex hose only)



STYLE 46 Bevel Seat Male



STYLE 25 Flange Retainer (PFA Encapsulated)



STYLE 33 Male Union (NPT)



STYLE 36 Female Union (NPT)



STYLE 28 Male CAM Lock 'E' (PFA Encapsulated)



STYLE 20 Male Flange Adapter (PFA Encapsulated)



STYLE 39 Compression Connector with Nut and Ferrule



STYLE 41 Sanitary Step-Up



STYLE 48 I-Line Male



STYLE 29 Flare Thru Flange (UltraFlex hose only)



STYLE 37 Female Swivel NPSH



JIC/NPT Adapter with PTFE Seal



STYLE 21 Female Flange Adapter (PTFE Encapsulated)



STYLE 02 CAM Spool Adapter



STYLE 18 Tube Buttweld



STYLE 42 Sanitary Mini



STYLE 49 I-Line Female



STYLE 22 CAM Spool Adapter (PFA Encapsulated)



STYLE 19 Pipe Buttweld



STYLE 44 Sanitary X Male Cam



STYLE 11 Splice

CNC Machining

PureFlex has (24) CNC machining centers and manufactures the most diverse fitting and collar selection in the industry. Because of its machining expertise, PureFlex can also offer a wide range of materials including; Stainless steel, carbon steel, Monel, Hastelloy, titanium, solid PVDF, solid Polypropylene and any other plastic or alloy requested.



OPTIONS

Hose Cover Options

1 SCUFF SLEEVE

Protects hose exterior from damage when dragged over rough surfaces

2 FIRE SLEEVE

Protects hose from extreme exterior temperatures. Can be used as insulation and protects personnel from extreme interior temperatures

3 POLYOLEFIN

Provides a smooth, cleanable covering over braided hose. Many colors available

4 ARMOR GUARD

Protects hose from kinking by not allowing it to exceed its bend radius

5 SPRING GUARD

Provides kink resistance and protects hose from damage when dragged over rough surfaces

6 HDPE ARMOR

Provides kink and wear protection during rough handling. Available in (8) colors for color coding and is the only protective cover that can be installed on an existing assembly.



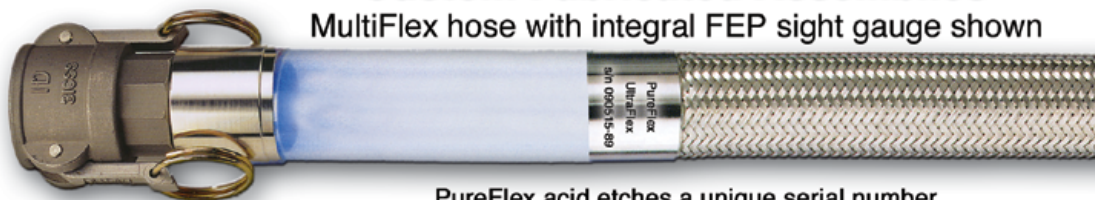
Electrically Heated Hoses & Controls



Consult Factory for more information

Custom Fabricated Assemblies

MultiFlex hose with integral FEP sight gauge shown



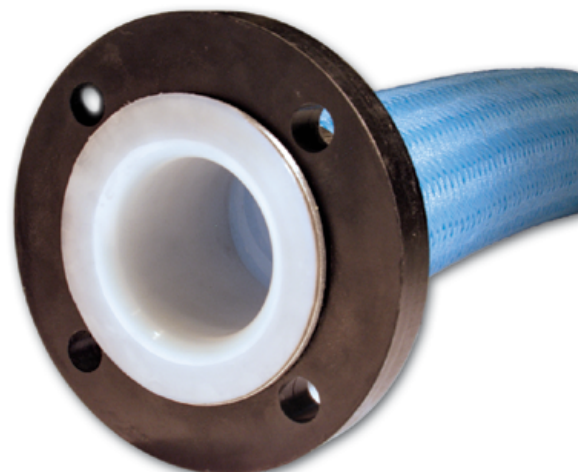
PureFlex acid etches a unique serial number on every assembly 3/4" and larger. Other special tagging available



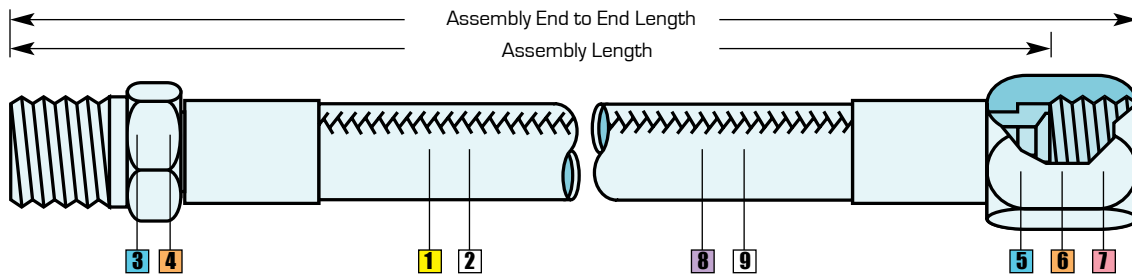
Durcor-62™ Composite Flanges



- **Strong As Steel**
- 1/4 The Weight Of Stainless
- Class 150 Rated
- ANSI B16.5
- (-)60°F to (+)300°F
- Lower Cost Than 316s.s.
- Lower Transportation Cost
- Lower Installed Cost
- Lower Life Cycle Cost
- **Zero Corrosion Rate**
- 5 Year Warranty



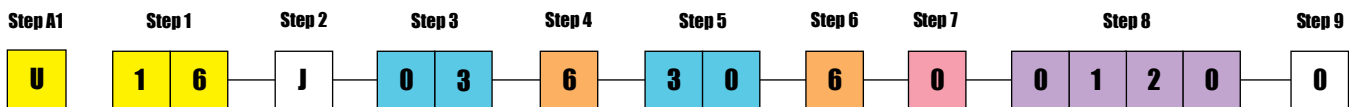
HOW TO ORDER



ULTRAFLEX HOSE ASSEMBLY NUMBERING SYSTEM

Steps to order a 1" UltraFlex assembly with a length of 12", 316SS male NPT one end, 316SS JIC other end. No options.

Sample part number: U16J036306001200



STEP A1 Hose Series

U = UltraFlex
M = MultiFlex
P = ProFlex

STEP 1 Determine I.D. of UltraFlex tube: 16 = 1"

08 = 1/2"
12 = 3/4"
16 = 1"
24 = 1-1/2"
32 = 2"
48 = 3"
64 = 4"

STEP 2 Determine hose product code: J

U = Bare
J = SS Braid
P = PP Braid
S = Special

STEP 3 Determine fitting style of 1st end: 03 = Male NPT

Threaded
03 = Male pipe hex NPT
04 = Male pipe NPT
06 = Female pipe NPT
30 = JIC female swivel
33 = Male union (NPT)
36 = Female union (NPT)
37 = Female swivel NPSH
Flanges
05 = Flange retainer
15 = Flange retainer P-series
25 = Enc. flange retainer
29 = Flare thru flange
Camlock
07 = Female cam lock "D"
27 = Enc. female cam lock "D"
08 = Male cam lock "E"
28 = Enc. male cam lock "E"
Compression
31 = O-ring female swivel "D"
38 = Compression adapter
39 = Compression connector
w/ nut & ferrule

Buttweld
18 = Tube buttweld
19 = Pipe buttweld
Sanitary
40 = Sanitary tri-clamp
40U = Sanitary flare thru
41 = Sanitary step-up
42 = Sanitary mini
48 = H-line male
49 = H-line female
45 = Bevel seat female
46 = Bevel seat male

STEP 4 Determine fitting material: 6 = 316SS

4 = 304SS
6 = 316SS
C = Carbon steel
T = TFE encapsulated
H = Hastelloy
M = Monel
A = Alloy 20
K = Kynar
P = Polypropylene

STEP 5 Determine fitting style of 2nd end: 30 = JIC

Threaded
03 = Male pipe hex NPT
04 = Male pipe NPT
06 = Female pipe NPT
30 = JIC female swivel
33 = Male union (NPT)
36 = Female union (NPT)
37 = Female swivel NPSH
Flanges
05 = Flange retainer
15 = Flange retainer P-series
25 = Enc. flange retainer
29 = Flare thru flange
Camlock
07 = Female cam lock "D"
27 = Enc. female cam lock "D"
08 = Male cam lock "E"
28 = Enc. male cam lock "E"
Compression
31 = O-ring female swivel "D"
38 = Compression adapter
39 = Compression connector
w/ nut & ferrule

Buttweld
18 = Tube buttweld
19 = Pipe buttweld
Sanitary
40 = Sanitary tri-clamp
40U = Sanitary flare thru
41 = Sanitary step-up
42 = Sanitary mini
48 = H-line male
49 = H-line female
45 = Bevel seat female
46 = Bevel seat male

STEP 6 Determine fitting material: 6 = 316SS

4 = 304SS
6 = 316SS
C = Carbon steel
T = TFE encapsulated
H = Hastelloy
M = Monel
A = Alloy 20
K = Kynar
P = Polypropylene

STEP 7 Determine flange material: 0 = None

0 = None
D = Ductile iron
C = Carbon steel
4 = 304SS
6 = 316SS
K = Kynar
P = Polypropylene

STEP 8 Determine overall length of UltraFlex hose in inches: 0120 = 12"

Last digit in 1/8th increments.

STEP 9 Determine options: 0 = None

0 = None
B = Conductive hose liner
Z = 300# Flg
L = Locking female cam
S = Spring guard
A = Armor guard
F = Firesleeve
P = Polyolefin cover
T = TFE shrink cover
H = Hypalon cover
N = Nylon scuff guard
D = HDPE Armor

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PureFlex®, Inc. Phone (616) 554-1100 Fax (616) 554-3633

"PTFE" Hose Higher Pressure Applications

MultiFlex™ combines excellent flexibility with a high pressure rating. The seamless open pitch, spiral PTFE convolutions facilitate cleaning because they're self-draining. MultiFlex is perfect for demanding high purity and chemical applications. Available in sizes 1/2" to 3"



316 Stainless Steel Braid
Pure PTFE



Polypropylene Braid
Static - Dissipating PTFE



Polypropylene Braid
Pure PTFE



316 Stainless Steel Braid
Static - Dissipating PTFE

MULTIFLEX™ ADVANTAGES

Corrosion Resistant

PTFE is fully resistant to the broadest range of industrial chemicals and has a zero corrosion rate with lower life cycle costs.

Cleanable

Non-Stick, low porosity tube is self cleaning and does not trap bacteria and can be cleaned with steam, detergents, caustics or solvents.

Sanitary

FDA- approved materials meet or exceed Pharmacopoeia class VI and 3A standards.

Compatible

Will not contaminate or impart a taste, color or odor to any media.

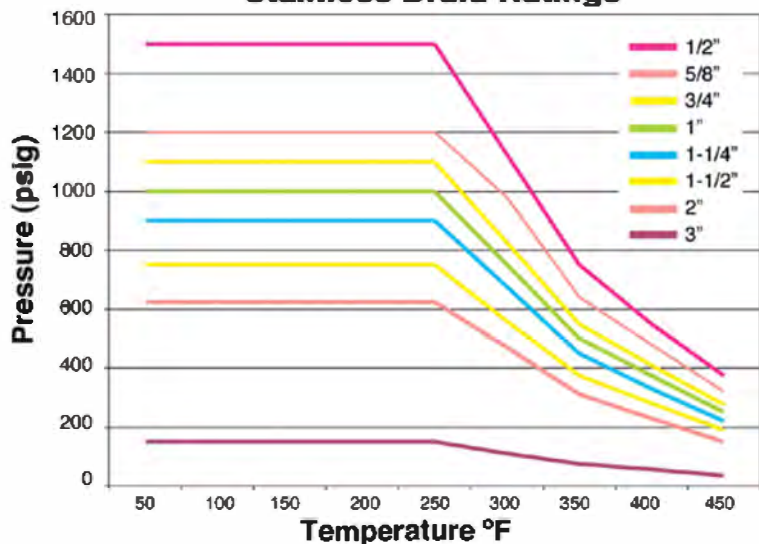
Flexible

Ultra flexible engineered design that resists cracking and stress corroding.

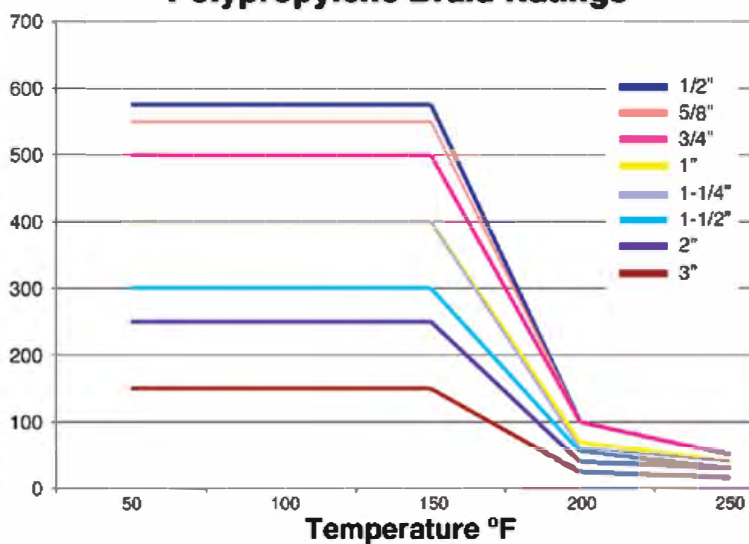
Durable

Engineered for extended use in hostile environments involving severe chemical, thermal, and mechanical stresses. Does not suffer from aging or embrittlement like rubber even with extreme thermal cycling.

MultiFlex™ & ProFlex™ Stainless Braid Ratings



MultiFlex™ & ProFlex™ Polypropylene Braid Ratings



PUREFLEX FITTINGS

THREADED FITTINGS



STYLE 03 Male Pipe
(NPT) Hex



STYLE 04 Male Pipe
(NPT)



STYLE 07 Female
CAM Lock 'D'



STYLE 17 Female
CAM Lock 'D'
Reducer



STYLE 31 O-Ring Female
Swivel 'D'



STYLE 40 Sanitary
(Tri-Clamp)



STYLE 45 Bevel Seat
Female



STYLE 05 Flange Retainer
STYLE 15 P Series Flange
Retainer



STYLE 06 Female Pipe
(NPT)



STYLE 30 JIC Female
Swivel



STYLE 27 Female CAM
Lock 'D' (PFA
Encapsulated)



STYLE 08 Male
CAM Lock 'E'



STYLE 38 Compression
Adapter



STYLE 40U Sanitary Flare
Thru (UltraFlex
hose only)



STYLE 46 Bevel Seat
Male



STYLE 25 Flange Retainer
(PFA
Encapsulated)



STYLE 33 Male Union
(NPT)



STYLE 36 Female Union
(NPT)



STYLE 28 Male CAM
Lock 'E' (PFA
Encapsulated)



STYLE 20 Male Flange
Adapter (PFA
Encapsulated)



STYLE 39 Compression
Connector with
Nut and Ferrule



STYLE 41 Sanitary
Step-Up



STYLE 48 I-Line Male



STYLE 29 Flare Thru
Flange (UltraFlex
hose only)



STYLE 37 Female Swivel
NPSH



JIC/NPT Adapter with
PTFE Seal



STYLE 21 Female Flange
Adapter (PTFE
Encapsulated)



STYLE 02 CAM Spool
Adapter



STYLE 18 Tube
Buttweld



STYLE 42 Sanitary Mini



STYLE 49 I-Line Female



STYLE 22 CAM Spool
Adapter (PFA
Encapsulated)



STYLE 19 Pipe
Buttweld



STYLE 44 Sanitary X
Male Cam



STYLE 11 Splice

CNC Machining

PureFlex has (24) CNC machining centers and manufactures the most diverse fitting and collar selection in the industry. Because of its machining expertise, PureFlex can also offer a wide range of materials including; Stainless steel, carbon steel, Monel, Hastelloy, titanium, solid PVDF, solid Polypropylene and any other plastic or alloy requested.



OPTIONS

Hose Cover Options

1 SCUFF SLEEVE

Protects hose exterior from damage when dragged over rough surfaces

2 FIRE SLEEVE

Protects hose from extreme exterior temperatures. Can be used as insulation and protects personnel from extreme interior temperatures

3 POLYOLEFIN

Provides a smooth, cleanable covering over braided hose. Many colors available

4 ARMOR GUARD

Protects hose from kinking by not allowing it to exceed its bend radius

5 SPRING GUARD

Provides kink resistance and protects hose from damage when dragged over rough surfaces

6 HDPE ARMOR

Provides kink and wear protection during rough handling. Available in (8) colors for color coding and is the only protective cover that can be installed on an existing assembly.



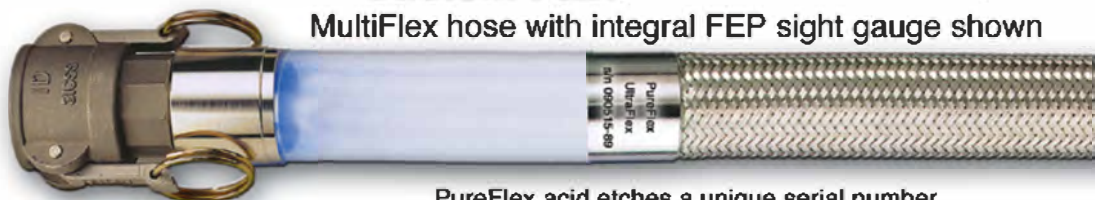
Electrically Heated Hoses & Controls



Consult Factory for more information

Custom Fabricated Assemblies

MultiFlex hose with integral FEP sight gauge shown



PureFlex acid etches a unique serial number on every assembly 3/4" and larger. Other special tagging available



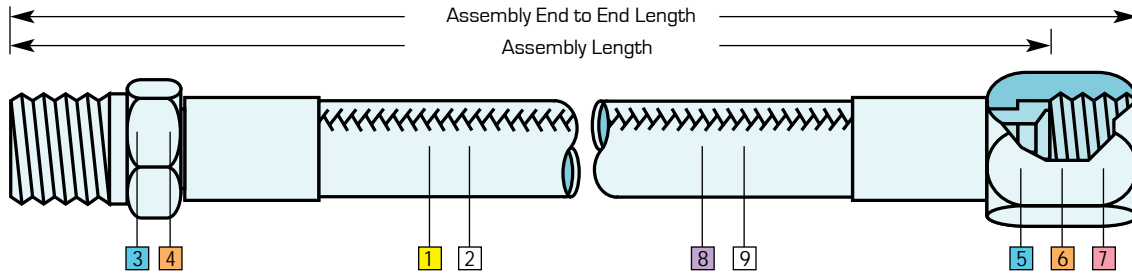
Durcor-62™ Composite Flanges



- **Strong As Steel**
- 1/4 The Weight Of Stainless
- Class 150 Rated
- ANSI B16.5
- (-)60°F to (+)300°F
- Lower Cost Than 316s.s.
- Lower Transportation Cost
- Lower Installed Cost
- Lower Life Cycle Cost
- **Zero Corrosion Rate**
- 5 Year Warranty



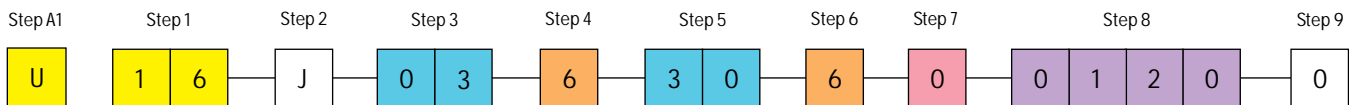
HOW TO ORDER



ULTRAFLEX HOSE ASSEMBLY NUMBERING SYSTEM

Steps to order a 1" UltraFlex assembly with a length of 12", 316SS male NPT one end, 316SS JIC other end. No options.

Sample part number: U16J036306001200



STEP A1

Hose Series

U = UltraFlex
M = MultiFlex
P = ProFlex

STEP 1

Determine I.D. of UltraFlex tube:

16 = 1"

08 = 1/2"
12 = 3/4"
16 = 1"
24 = 1-1/2"
32 = 2"
48 = 3"
64 = 4"

STEP 2

Determine hose product code: J

U = Bare
J = SS Braid
P = PP Braid
S = Special

STEP 3

Determine fitting style of 1st end: 03 = Male NPT

Threaded
03 = Male pipe hex NPT
04 = Male pipe NPT
06 = Female pipe NPT
30 = JIC female swivel
33 = Male union (NPT)
36 = Female union (NPT)
37 = Female swivel NPSH
Flanges
05 = Flange retainer
15 = Flange retainer P-series
25 = Enc. flange retainer
29 = Flare thru flange
Camlock
07 = Female cam lock "D"
27 = Enc. female cam lock "D"
08 = Male cam lock "E"
28 = Enc. male cam lock "E"
Compression
31 = O-ring female swivel "D"
38 = Compression adapter
39 = Compression connector w/ nut & ferrule
Buttweld
18 = Tube buttweld
19 = Pipe buttweld
Sanitary
40 = Sanitary tri-clamp
40U = Sanitary flare thru
41 = Sanitary step-up
42 = Sanitary mini
48 = H-line male
49 = H-line female
45 = Bevel seat female
46 = Bevel seat male

STEP 4

Determine fitting material: 6 = 316SS

4 = 304SS
6 = 316SS
C = Carbon steel
T = TFE encapsulated
H = Hastelloy
M = Monel
A = Alloy 20
K = Kynar
P = Polypropylene

STEP 5

Determine fitting style of 2nd end: 30 = JIC

Threaded
03 = Male pipe hex NPT
04 = Male pipe NPT
06 = Female pipe NPT
30 = JIC female swivel
33 = Male union (NPT)
36 = Female union (NPT)
37 = Female swivel NPSH
Flanges
05 = Flange retainer
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STEP 6

Determine fitting material: 6 = 316SS

4 = 304SS
6 = 316SS
C = Carbon steel
T = TFE encapsulated
H = Hastelloy
M = Monel
A = Alloy 20
K = Kynar
P = Polypropylene

STEP 7

Determine flange material: 0 = None

0 = None
D = Ductile iron
C = Carbon steel
4 = 304SS
6 = 316SS
K = Kynar
P = Polypropylene

STEP 8

Determine overall length of UltraFlex hose in inches: 0120 = 12"

Last digit in 1/8th increments.

STEP 9

Determine options: 0 = None

0 = None
B = Conductive hose liner
Z = 300# Flg
L = Locking female cam
S = Spring guard
A = Armor guard
F = Firesleeve
P = Polyolefin cover
T = TFE shrink cover
H = Hypalon cover
N = Nylon scuff guard
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0312-092817

THE SEVERE SERVICE STANDARD

HEAVY DUTY APPLICATIONS

UltraFlex heavy duty hose is made with the thickest, seamless PTFE liner in the industry and offers the largest size range (1/2" - 6") which makes it ideal for nearly all demanding high purity and chemical applications. The open pitch, spiral convolutions facilitate cleaning because they're self-draining, and the tight bend radius of UltraFlex hose is perfect for space-constrained locations. To ensure continuous fluid contact with PTFE throughout the hose assembly, the PTFE liner can be cuffed and flared through for a continuous fluid conduit.



316 Stainless Steel Braid
Pure PTFE



316 Stainless Steel Braid
Static - Dissipating PTFE



Polypropylene Braid
Pure PTFE



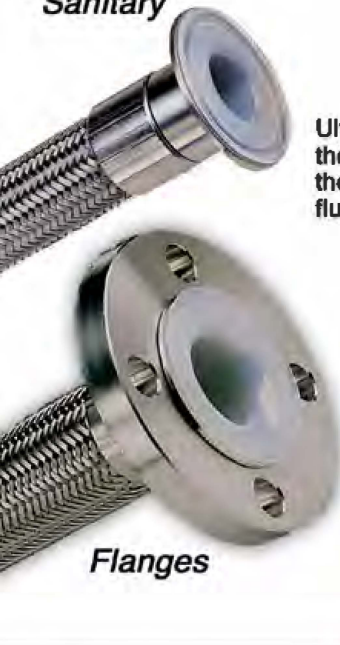
Polypropylene Braid
Static - Dissipating PTFE

OTHER BRAID OPTIONS AVAILABLE

Sanitary

FLARE-THRU FITTINGS

UltraFlex thick PTFE liner can be passed through the end fitting and flared radially outward against the sealing face to provide a continuous PTFE fluid conduit.



Flanges

Cam lock

ULTRAFLEX ADVANTAGES

Corrosion Resistant

PTFE is fully resistant to the broadest range of industrial chemicals and has a zero corrosion rate with lower life cycle costs.

Cleanable

Non-Stick, low porosity tube is self cleaning and does not trap bacteria and can be cleaned with steam, detergents, caustics or solvents.

Sanitary

FDA- approved materials meet or exceed Pharmacopoeia Class VI and 3A standards.

Compatible

Will not contaminate or impart a taste, color, or odor to any media.

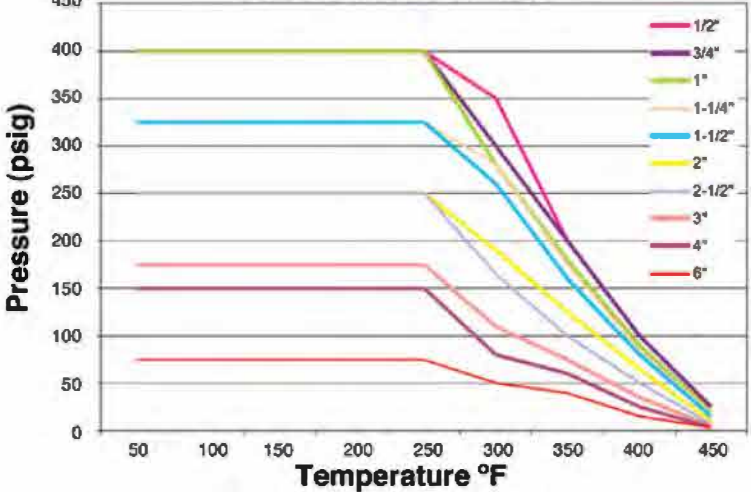
Flexible

Ultra flexible engineered design that resists cracking and stress corroding.

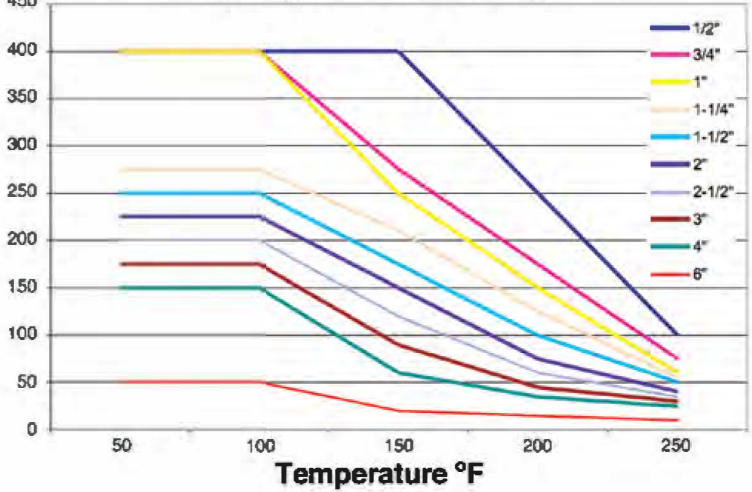
Durable

Engineered for extended use in hostile environments involving severe chemical, thermal, and mechanical stresses. Does not suffer from aging or embrittlement like rubber even with extreme thermal cycling.

Stainless Braid Ratings



Polypropylene Braid Ratings



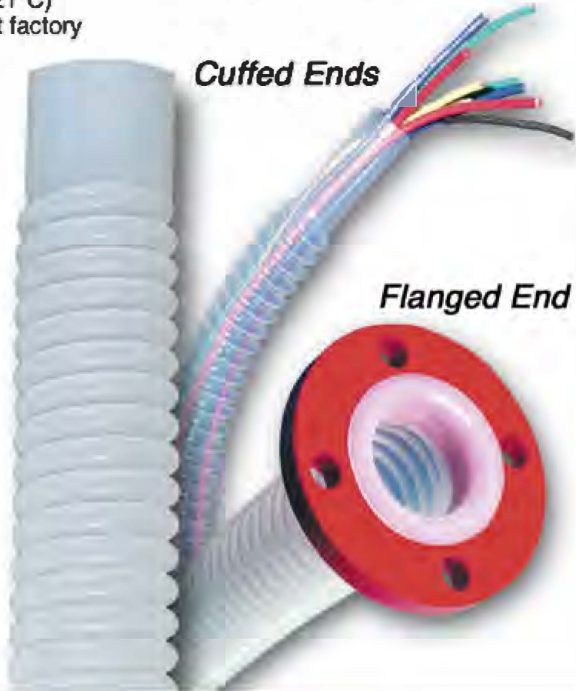
Stainless braid and bare hose temperature range: (-)65°F (-54°C) to (+)450°F (+232°C)
Polypropylene braid temperature range: (-)20°F (-29°C) to (+)250°F (+121°C)

I.D. Nominal (inch)	OPERATING PRESSURE (psi)			Minimum Bend Radius (inch)	Vacuum Rating (in-Hg)	Weight Per Foot (lbs.)
	S.S. Braid	Polypro Braid	Bare Hose			
1/2"	400	400	40	1.75	29.9	0.20
3/4"	400	400	30	2.25	29.9	0.35
1"	400	400	30	2.50	29.9	0.50
1-1/4"	325	275	20	3.00	29.9	0.70
1-1/2"	325	250	20	3.25	29.9	0.80
2"	250	225	15	5.25	29.9	0.95
2-1/2"	250	200	15	8.50	29.9	1.50
**3"	175	175	15	9.50	24.0	1.79
4"	150	150	15	11.95	20.0	2.25
6"	75	50	5	15.50	15.0	3.50

Operating pressure ratings are one-fourth the minimum burst pressure at (+)70°F (21°C)
Pressure and vacuum ratings are based at (+)70°F (21°C)
** 3" is available for full vacuum applications - consult factory

ULTRAFLEX™ Spiral Vent Tubing

Ultraflex heavy wall PTFE makes it ideal for vent tubing or flanged hose assemblies where line pressures are relatively low. UltraFlex Spiral Vent Tubing assemblies provide excellent flexibility, are light weight and have superior chemical resistance. Available in sizes 1/2" to 6" with cuffed, flanged or a variety of other end connections and materials.



PUREFLEX FITTINGS

OPTIONS

THREADED FITTINGS		CAM LOCK		COMPRESSION, SPLICE, BUTTWELD	SANITARY		FLANGES
							
STYLE 03 Male Pipe (NPT) Hex	STYLE 04 Male Pipe (NPT)	STYLE 07 Female CAM Lock 'D'	STYLE 17 Female CAM Lock 'D' Reducer	STYLE 31 O-Ring Female Swivel 'D'	STYLE 40 Sanitary (Tri-Clamp)	STYLE 45 Bevel Seat Female	STYLE 05 Flange Retainer STYLE 15 P Series Flange Retainer
							
STYLE 06 Female Pipe (NPT)	STYLE 30 JIC Female Swivel	STYLE 27 Female CAM Lock 'D' (PFA Encapsulated)	STYLE 08 Male CAM Lock 'E'	STYLE 38 Compression Adapter	STYLE 40U Sanitary Flare Thru (UltraFlex hose only)	STYLE 46 Bevel Seat Male	STYLE 25 Flange Retainer (PFA Encapsulated)
							
STYLE 33 Male Union (NPT)	STYLE 36 Female Union (NPT)	STYLE 28 Male CAM Lock 'E' (PFA Encapsulated)	STYLE 20 Male Flange Adapter (PFA Encapsulated)	STYLE 39 Compression Connector with Nut and Ferrule	STYLE 41 Sanitary Step-Up	STYLE 48 I-Line Male	STYLE 29 Flare Thru Flange (UltraFlex hose only)
							
STYLE 37 Female Swivel NPSH	JIC/NPT Adapter with PTFE Seal	STYLE 21 Female Flange Adapter (PTFE Encapsulated)	STYLE 02 CAM Spool Adapter	STYLE 18 Tube Buttweld	STYLE 42 Sanitary Mini	STYLE 49 I-Line Female	
							
		STYLE 22 CAM Spool Adapter (PFA Encapsulated)		STYLE 19 Pipe Buttweld		STYLE 44 Sanitary X Male Cam	

CNC Machining

PureFlex has (24) CNC machining centers and manufactures the most diverse fitting and collar selection in the industry. Because of its machining expertise, PureFlex can also offer a wide range of materials including; Stainless steel, carbon steel, Monel, Hastelloy, titanium, solid PVDF, solid Polypropylene and any other plastic or alloy requested.



STYLE 11 Splice



Hose Cover Options

- SCUFF SLEEVE**
Protects hose exterior from damage when dragged over rough surfaces
- FIRE SLEEVE**
Protects hose from extreme exterior temperatures. Can be used as insulation and protects personnel from extreme interior temperatures
- POLYOLEFIN**
Provides a smooth, cleanable covering over braided hose. Many colors available
- ARMOR GUARD**
Protects hose from kinking by not allowing it to exceed its bend radius
- SPRING GUARD**
Provides kink resistance and protects hose from damage when dragged over rough surfaces
- HDPE ARMOR**
Provides kink and wear protection during rough handling. Available in (8) colors for color coding and is the only protective cover that can be installed on an existing assembly.



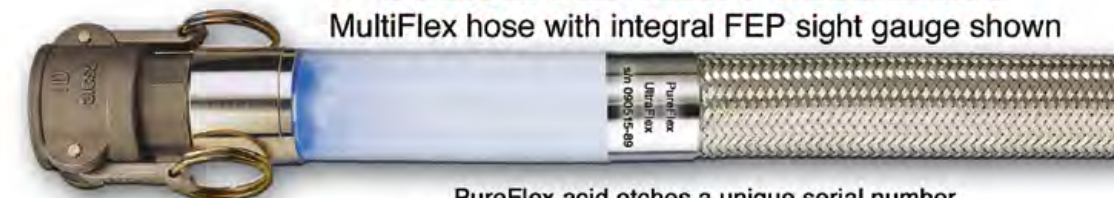
Electrically Heated Hoses & Controls



Consult Factory for more information

Custom Fabricated Assemblies

MultiFlex hose with integral FEP sight gauge shown



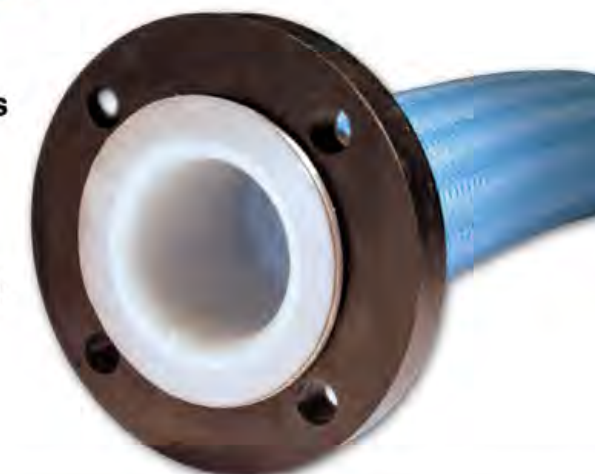
PureFlex acid etches a unique serial number on every assembly 3/4" and larger. Other special tagging available



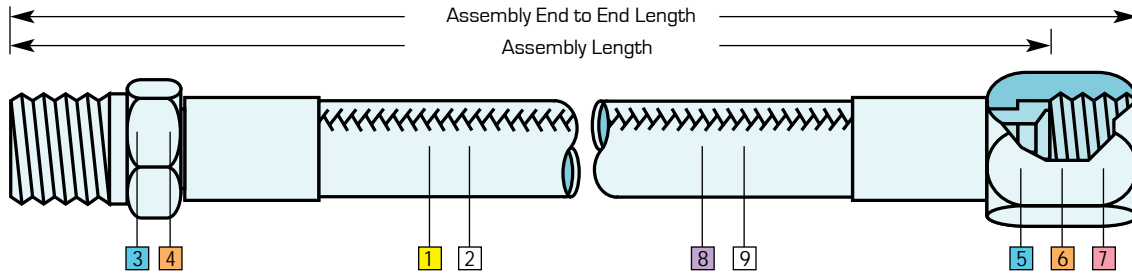
Durcor-62™ Composite Flanges



- **Strong As Steel**
- 1/4 The Weight Of Stainless
- Class 150 Rated
- ANSI B16.5
- (-)60°F to (+)300°F
- Lower Cost Than 316s.s.
- Lower Transportation Cost
- Lower Installed Cost
- Lower Life Cycle Cost
- **Zero Corrosion Rate**
- 5 Year Warranty



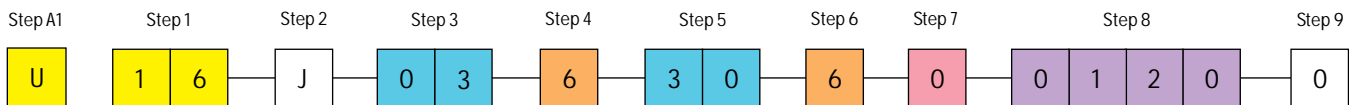
HOW TO ORDER



ULTRAFLEX HOSE ASSEMBLY NUMBERING SYSTEM

Steps to order a 1" UltraFlex assembly with a length of 12", 316SS male NPT one end, 316SS JIC other end. No options.

Sample part number: U16J036306001200



STEP A1

Hose Series

U = UltraFlex
M = MultiFlex
P = ProFlex

STEP 1

Determine I.D. of UltraFlex tube:

16 = 1"

08 = 1/2"
12 = 3/4"
16 = 1"
24 = 1-1/2"
32 = 2"
48 = 3"
64 = 4"

STEP 2

Determine hose product code: J

U = Bare
J = SS Braid
P = PP Braid
S = Special

STEP 3

Determine fitting style of 1st end: 03 = Male NPT

Threaded
03 = Male pipe hex NPT
04 = Male pipe NPT
06 = Female pipe NPT
30 = JIC female swivel
33 = Male union (NPT)
36 = Female union (NPT)
37 = Female swivel NPSH
Flanges
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15 = Flange retainer P-series
25 = Enc. flange retainer
29 = Flare thru flange
Camlock
07 = Female cam lock "D"
27 = Enc. female cam lock "D"
08 = Male cam lock "E"
28 = Enc. male cam lock "E"
Compression
31 = O-ring female swivel "D"
38 = Compression adapter
39 = Compression connector w/ nut & ferrule
Buttweld
18 = Tube buttweld
19 = Pipe buttweld
Sanitary
40 = Sanitary tri-clamp
40U = Sanitary flare thru
41 = Sanitary step-up
42 = Sanitary mini
48 = H-line male
49 = H-line female
45 = Bevel seat female
46 = Bevel seat male

STEP 4

Determine fitting material: 6 = 316SS

4 = 304SS
6 = 316SS
C = Carbon steel
T = TFE encapsulated
H = Hastelloy
M = Monel
A = Alloy 20
K = Kynar
P = Polypropylene

STEP 5

Determine fitting style of 2nd end: 30 = JIC

Threaded
03 = Male pipe hex NPT
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STEP 6

Determine fitting material: 6 = 316SS

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6 = 316SS
C = Carbon steel
T = TFE encapsulated
H = Hastelloy
M = Monel
A = Alloy 20
K = Kynar
P = Polypropylene

STEP 7

Determine flange material: 0 = None

0 = None
D = Ductile iron
C = Carbon steel
4 = 304SS
6 = 316SS
K = Kynar
P = Polypropylene

STEP 8

Determine overall length of UltraFlex hose in inches: 0120 = 12"

Last digit in 1/8th increments.

STEP 9

Determine options: 0 = None

0 = None
B = Conductive hose liner
Z = 300# Flg
L = Locking female cam
S = Spring guard
A = Armor guard
F = Firesleeve
P = Polyolefin cover
T = TFE shrink cover
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N = Nylon scuff guard
D = HDPE Armor

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0312-092817



PFA / PTFE Hose & Spiral Tubing

Convoluted

PureFlex[®]

an ANDRONACO INDUSTRIES company

THE SEVERE SERVICE STANDARD

HEAVY DUTY APPLICATIONS

UltraFlex heavy duty hose is made with the thickest, seamless PTFE liner in the industry and offers the largest size range (1/2" - 6") which makes it ideal for nearly all demanding high purity and chemical applications. The open pitch, spiral convolutions facilitate cleaning because they're self-draining, and the tight bend radius of UltraFlex hose is perfect for space-constrained locations. To ensure continuous fluid contact with PTFE throughout the hose assembly, the PTFE liner can be cuffed and flared through for a continuous fluid conduit.



316 Stainless Steel Braid
Pure PTFE



316 Stainless Steel Braid
Static - Dissipating PTFE



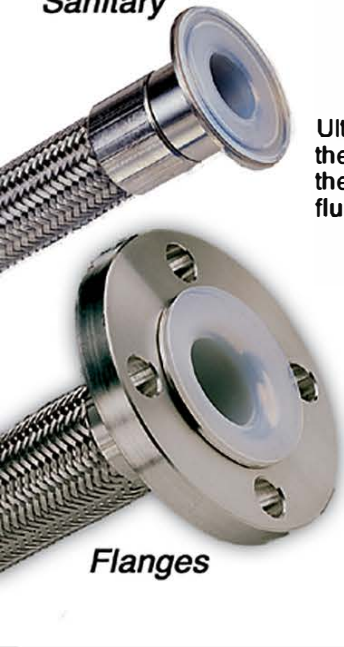
Polypropylene Braid
Pure PTFE



Polypropylene Braid
Static - Dissipating PTFE

OTHER BRAID OPTIONS AVAILABLE

Sanitary



FLARE-THRU FITTINGS

UltraFlex thick PTFE liner can be passed through the end fitting and flared radially outward against the sealing face to provide a continuous PTFE fluid conduit.



Cam lock

Flanges

ULTRAFLEX ADVANTAGES

Corrosion Resistant
PTFE is fully resistant to the broadest range of industrial chemicals and has a zero corrosion rate with lower life cycle costs.

Cleanable
Non-Stick, low porosity tube is self cleaning and does not trap bacteria and can be cleaned with steam, detergents, caustics or solvents.

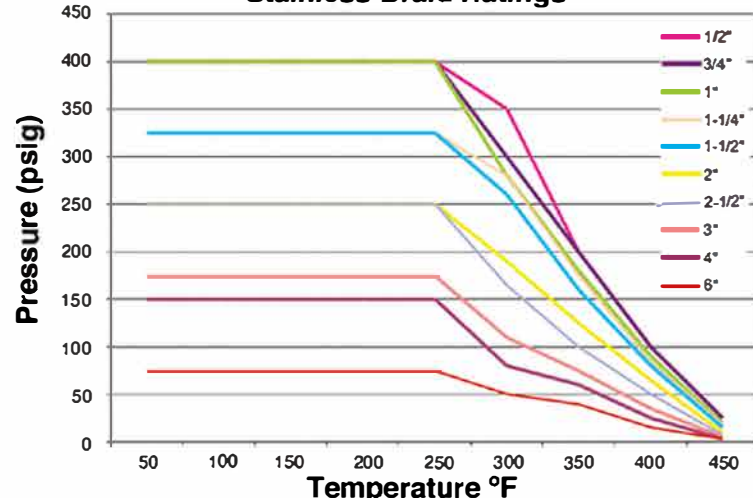
Sanitary
FDA- approved materials meet or exceed Pharmacopoeia Class VI and 3A standards.

Compatible
Will not contaminate or impart a taste, color, or odor to any media.

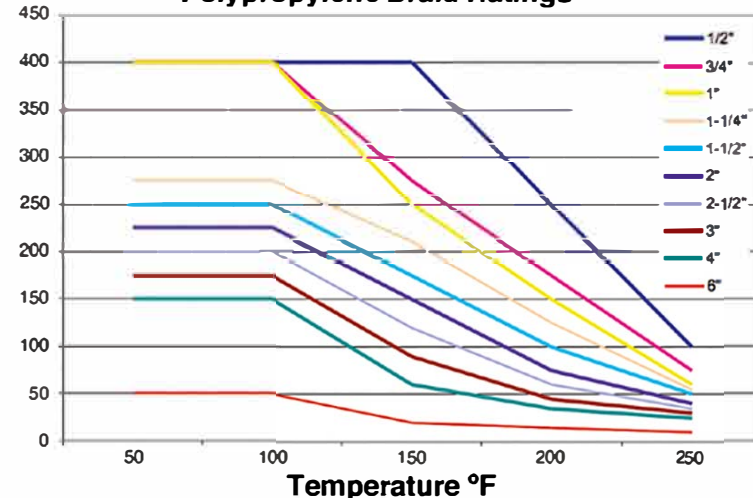
Flexible
Ultra flexible engineered design that resists cracking and stress corroding.

Durable
Engineered for extended use in hostile environments involving severe chemical, thermal, and mechanical stresses. Does not suffer from aging or embrittlement like rubber even with extreme thermal cycling.

Stainless Braid Ratings



Polypropylene Braid Ratings



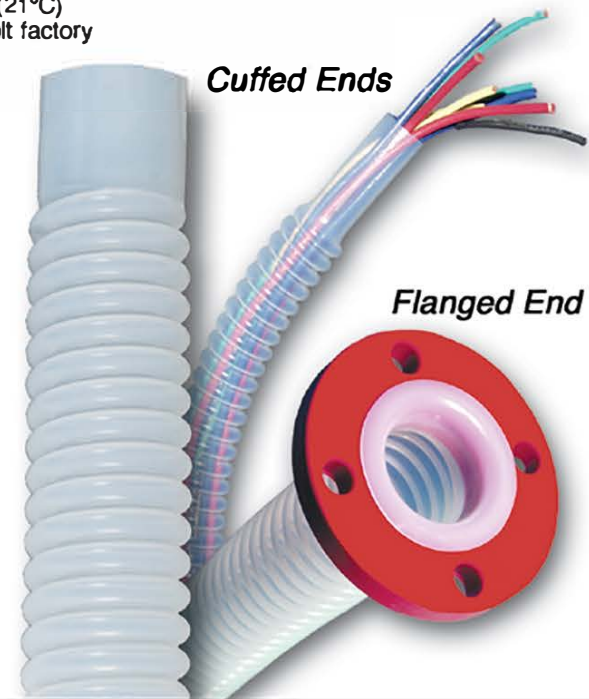
Stainless braid and bare hose temperature range: (-)65°F (-54°C) to (+)450°F (+232°C)
Polypropylene braid temperature range: (-)20°F (-29°C) to (+)250°F (+121°C)

I.D Nominal (inch)	OPERATING PRESSURE (psi)			Minimum Bend Radius (inch)	Vacuum Rating (in-Hg)	Weight Per Foot (lbs.)
	S.S. Braid	Polypro Braid	Bare Hose			
1/2"	400	400	40	1.75	29.9	0.20
3/4"	400	400	30	2.25	29.9	0.35
1"	400	400	30	2.50	29.9	0.50
1-1/4"	325	275	20	3.00	29.9	0.70
1-1/2"	325	250	20	3.25	29.9	0.80
2"	250	225	15	5.25	29.9	0.95
2-1/2"	250	200	15	8.50	29.9	1.50
**3"	175	175	15	9.50	24.0	1.79
4"	150	150	15	11.95	20.0	2.25
6"	75	50	5	15.50	15.0	3.50

Operating pressure ratings are one-fourth the minimum burst pressure at (+)70°F (21°C)
Pressure and vacuum ratings are based at (+)70°F (21°C)
** 3" is available for full vacuum applications - consult factory

ULTRAFLEX™
Spiral Vent Tubing

Ultraflex heavy wall PTFE makes it ideal for vent tubing or flanged hose assemblies where line pressures are relatively low. UltraFlex Spiral Vent Tubing assemblies provide excellent flexibility, are light weight and have superior chemical resistance. Available in sizes 1/2" to 6" with cuffed, flanged or a variety of other end connections and materials.



Cuffed Ends

Flanged End

“PTFE” Hose Higher Pressure Applications

MultiFlex™ combines excellent flexibility with a high pressure rating. The seamless open pitch, spiral PTFE convolutions facilitate cleaning because they're self-draining. MultiFlex is perfect for demanding high purity and chemical applications. Available in sizes 1/2" to 3"

MULTIFLEX™ ADVANTAGES

Corrosion Resistant

PTFE is fully resistant to the broadest range of industrial chemicals and has a zero corrosion rate with lower life cycle costs.

Cleanable

Non-Stick, low porosity tube is self cleaning and does not trap bacteria and can be cleaned with steam, detergents, caustics or solvents.

Sanitary

FDA- approved materials meet or exceed Pharmacopoeia class VI and 3A standards.

Compatible

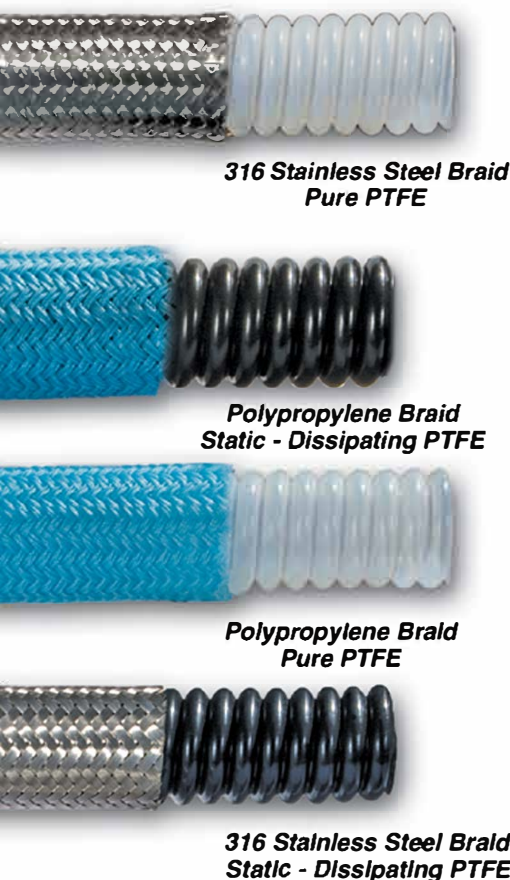
Will not contaminate or impart a taste, color or odor to any media.

Flexible

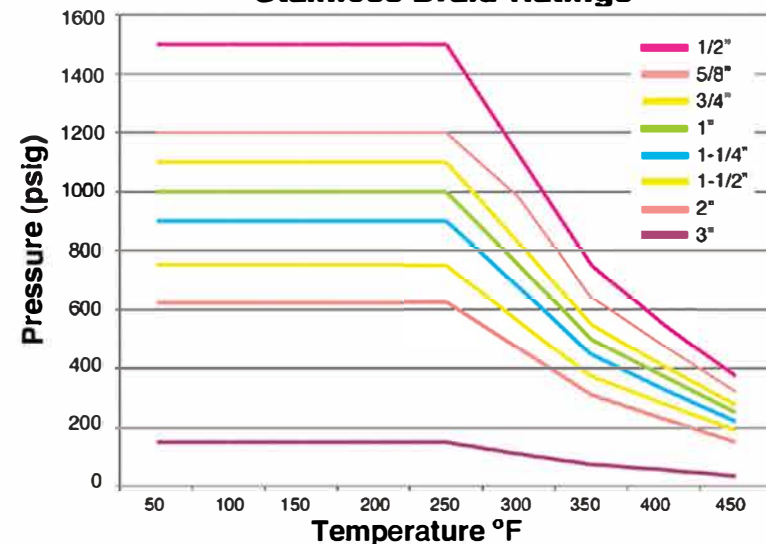
Ultra flexible engineered design that resists cracking and stress corroding.

Durable

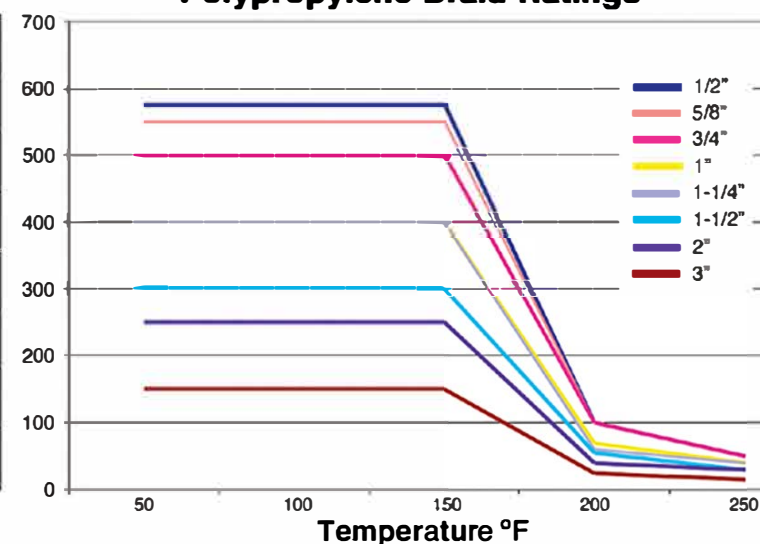
Engineered for extended use in hostile environments involving severe chemical, thermal, and mechanical stresses. Does not suffer from aging or embrittlement like rubber even with extreme thermal cycling.



MultiFlex™ & ProFlex™ Stainless Braid Ratings



MultiFlex™ & ProFlex™ Polypropylene Braid Ratings



“PFA” Hose Super Long Lengths

ProFlex™ PFA offers super long lengths, excellent chemical resistance and flexibility. PFA has the same chemical and temperature resistance as PTFE and much better flex life than FEP. ProFlex PFA open pitch spiral convolutions aid in draining, flushing and cleaning of the hose. ProFlex industrial grade PFA was designed for customer applications that don't require or need Pharmaceutical grade hose. For Pharmacopoeia class VI or semi-conductor applications please request ProFlex “HP”.

PROFLEX™ ADVANTAGES

Corrosion Resistant

PFA is fully resistant to the broadest range of industrial chemicals and has a zero corrosion rate with lower life cycle costs.

Long Continuous Lengths

Up to 1,000 feet long (size dependant) excellent for slip lining failed piping systems.

Ease of Fabrication

Fittings do not need PTFE tape wrap on fitting barb and insert does not require any tooling to be installed. Cut & crimp - reduced fabrication costs.

Cleanable

Non-Stick, low porosity tube is self cleaning and does not trap bacteria and can be cleaned with steam, detergents, caustics or solvents.

Flexible

Lower forces needed to bend or flex, aids in installation and operation.



MultiFlex™ & ProFlex™ Specification Data

Stainless braid and bare hose temperature range: (-)65°F (-54°C) to (+)450°F (+232°C)
Polypropylene braid temperature range: (-)20°F (-29°C) to (+)250°F (+121°C)

I.D. Nominal (inch)	OPERATING PRESSURE (psi)		Minimum Bend Radius (inch)	Vacuum Rating (in-Hg)	Weight Per Foot (lbs.)
	S.S. Braid	Polypro Braid			
1/2"	1500	575	1.50	29.9	0.20
** 5/8"	1200	550	1.50	29.9	0.24
3/4"	1100	500	2.00	29.9	0.28
1"	1000	400	2.50	29.9	0.35
1-1/4"	875	350	3.13	29.9	0.48
1-1/2"	750	300	3.75	29.9	0.60
2"	625	250	6.50	24.0	0.85
3"	150	150	9.50	20.0	1.79

Operating pressure ratings are one-fourth the minimum burst pressure at (+)70°F (21°C)
Pressure and vacuum ratings are based at (+)70°F (21°C)
** 5/8" size is only available in ProFlex series hose

PUREFLEX FITTINGS

OPTIONS

THREADED FITTINGS		CAM LOCK		COMPRESSION, SPLICE, BUTTWELD	SANITARY		FLANGES
							
STYLE 03 Male Pipe (NPT) Hex	STYLE 04 Male Pipe (NPT)	STYLE 07 Female CAM Lock 'D'	STYLE 17 Female CAM Lock 'D' Reducer	STYLE 31 O-Ring Female Swivel 'D'	STYLE 40 Sanitary (Tri-Clamp)	STYLE 45 Bevel Seat Female	STYLE 05 Flange Retainer P Series Flange Retainer
							
STYLE 06 Female Pipe (NPT)	STYLE 30 JIC Female Swivel	STYLE 27 Female CAM Lock 'D' (PFA Encapsulated)	STYLE 08 Male CAM Lock 'E'	STYLE 38 Compression Adapter	STYLE 40M Sanitary Flare Thru (UltraFlex hose only)	STYLE 46 Bevel Seat Male	STYLE 25 Flange Retainer (PFA Encapsulated)
							
STYLE 33 Male Union (NPT)	STYLE 36 Female Union (NPT)	STYLE 28 Male CAM Lock 'E' (PFA Encapsulated)	STYLE 20 Male Flange Adapter (PFA Encapsulated)	STYLE 39 Compression Connector with Nut and Ferrule	STYLE 41 Sanitary Step-Up	STYLE 48 I-Line Male	STYLE 29 Flare Thru Flange (UltraFlex hose only)
							
STYLE 37 Female Swivel NPSH	JIC/NPT Adapter with PTFE Seal	STYLE 21 Female Flange Adapter (PTFE Encapsulated)	STYLE 02 CAM Spool Adapter	STYLE 18 Tube Buttweld	STYLE 42 Sanitary Mini	STYLE 49 I-Line Female	
							
		STYLE 22 CAM Spool Adapter (PFA Encapsulated)		STYLE 19 Pipe Buttweld		STYLE 44 Sanitary X Male Cam	

CNC Machining

PureFlex has (24) CNC machining centers and manufactures the most diverse fitting and collar selection in the industry. Because of its machining expertise, PureFlex can also offer a wide range of materials including; Stainless steel, carbon steel, Monel, Hastelloy, titanium, solid PVDF, solid Polypropylene and any other plastic or alloy requested.



STYLE 11 Splice

Hose Cover Options

- 1 SCUFF SLEEVE**
Protects hose exterior from damage when dragged over rough surfaces
- 2 FIRE SLEEVE**
Protects hose from extreme exterior temperatures. Can be used as insulation and protects personnel from extreme interior temperatures
- 3 POLYOLEFIN**
Provides a smooth, cleanable covering over braided hose. Many colors available
- 4 ARMOR GUARD**
Protects hose from kinking by not allowing it to exceed its bend radius
- 5 SPRING GUARD**
Provides kink resistance and protects hose from damage when dragged over rough surfaces
- 6 HDPE ARMOR**
Provides kink and wear protection during rough handling. Available in (8) colors for color coding and is the only protective cover that can be installed on an existing assembly.



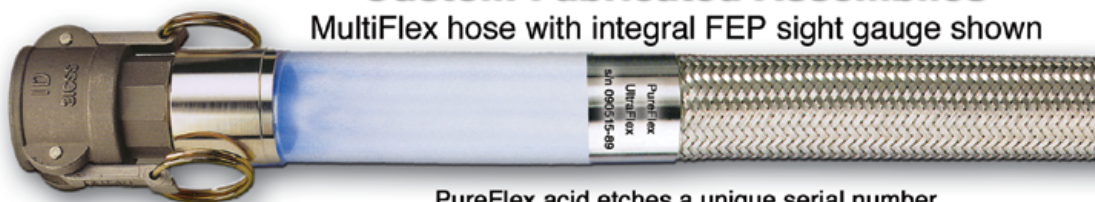
Electrically Heated Hoses & Controls



Consult Factory for more information

Custom Fabricated Assemblies

MultiFlex hose with integral FEP sight gauge shown



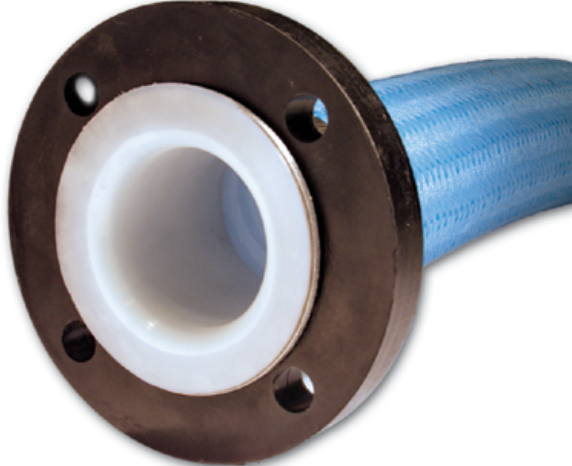
PureFlex acid etches a unique serial number on every assembly 3/4" and larger. Other special tagging available



Durcor-62™ Composite Flanges



- **Strong As Steel**
- 1/4 The Weight Of Stainless
- Class 150 Rated
- ANSI B16.5
- (-)60°F to (+)300°F
- Lower Cost Than 316s.s.
- Lower Transportation Cost
- Lower Installed Cost
- Lower Life Cycle Cost
- **Zero Corrosion Rate**
- 5 Year Warranty



PureFlex Product Integration

DEMAND PUREFLEX QUALITY



SMOOTHFLEX™
PTFE SMOOTH-BORE HOSES

PureFlex®



AN ANDRONACO INDUSTRIES COMPANY

SmoothFlex™

SmoothFlex™ Hose

SmoothFlex™ is a flexible smoothbore PTFE hose with stainless steel braided reinforcement that is designed for long trouble free service in a wide range of applications that may involve pressure, temperature and chemical extremes. The hose is available in virgin PTFE for high purity applications and anti-static conductive black PTFE where electrostatic dissipation is required. SmoothFlex™ is an excellent choice for pharmaceuticals, food and beverage applications, the transfer of viscous media such as paints and adhesives, fluid transfer of corrosive chemicals, and high temperature hydraulic or pneumatic applications.

- Zero Corrosion Rate
- Non-Stick Properties
- FDA Approved
- Meets Pharmacopoeia Class VI DIP & CIP
- -65 °F to 450 °F Temp. Range
- Long Life Cycles

SmoothFlex™ Nominal Bore (SN) Dash Size

DASH SIZE	NOMINAL I.D. (in)	NOMINAL O.D. (in)	WORKING PRESSURE (psi)	MINIMUM BURST (psi)	MINIMUM BEND RADIUS (in)	WEIGHT (lbs / ft)
-3	.125	.24	3,260	13,040	1.6	.047
-4	.187	.30	2,750	11,000	2.0	.077
-5	.250	.35	2,610	10,440	3.0	.098
-6	.312	.43	2,540	10,160	4.0	.110
-7	.375	.48	2,390	9,560	5.0	.124
-8	.405	.54	2,030	8,120	5.4	.124
-10	.500	.64	1,740	6,960	6.6	.154
-12	.625	.74	1,270	5,080	8.0	.170
-14	.750	.91	1,010	4,040	9.2	.198
-16	.875	1.03	870	3,480	9.2	.273
-18	1.000	1.15	870	3,480	12.0	.305
-20	1.125	1.30	630	2,520	16.4	.350

Ratings are based at 70 °F (21 °C)
Temperature range -65 °F (-54 °C) to 450 °F (232 °C)

SmoothFlex™ True Bore (ST) Full I.D. Size

ACTUAL I.D. (in)	NOMINAL O.D. (in)	WORKING PRESSURE (psi)	MINIMUM BURST (psi)	VACUUM RATING (in hg)	MINIMUM BEND RADIUS (in)	WEIGHT (lbs / ft)
1/4	.35	2,610	10,440	29.9	3.0	.098
3/8	.48	2,390	9,560	29.9	5.0	.124
1/2	.64	1,740	6,960	29.9	6.6	.154
3/4	.91	1,010	4,040	20.0	9.2	.198
1	1.15	870	3,480	14.0	12.0	.305

Ratings are based at 70 °F (21 °C)
Temperature range -65 °F (-54 °C) to 450 °F (232 °C)

Hose Cover Options



Electrically Heated Option



- ① Silicone Cover
- ② Anti Suff Sock
- ③ Fire Sleeve
- ④ Polyolefin Heat Shrink (other colors available)
- ⑤ Anti Kink Guard
- ⑥ Spring Guard
- ⑦ HDPE Armor

SmoothFlex™ High Pressure (SH)

SIZE	ACTUAL I.D. (in)	NOMINAL O.D. (in)	WORKING PRESSURE (psi)	MINIMUM BURST (psi)	MINIMUM BEND RADIUS	WEIGHT (lbs / ft)
1/4	.222	.375	5,000	16,000	1.5	.108
3/8	.308	.473	5,000	16,000	2.5	.180
1/2	.401	.600	5,000	16,000	2.9	.240
5/8	.459	.710	5,000	16,000	3.3	.324
3/4	.617	.970	5,000	16,000	4.0	.660
1	.867	1.250	5,000	16,000	5.0	1.020
1 1/4	1.125	1.600	4,000	16,000	12.0	1.680
1 1/2	1.375	1.920	4,000	12,000	14.0	2.280

Ratings are based at 70 °F (21 °C)

Temperature range -65 °F (-54 °C) to 400 °F (204 °C)

Reduce working pressure on all sizes to maximum of 3,000psi @ 400 °F (204 °C)

For impulse services reduce working pressures by 1,000psi

SmoothFlex™ Ultra High Pressure (SU)

SIZE	ACTUAL I.D. (in)	NOMINAL O.D. (in)	WORKING PRESSURE (psi)	MINIMUM BURST (psi)	MINIMUM BEND RADIUS	WEIGHT (lbs / ft)
1/4	.229	.495	6,000	24,000	3.0	.24
3/8	.300	.615	6,000	24,000	5.00	.40
1/2	.395	.725	6,000	24,000	5.75	.49
5/8	.525	.885	4,000*	12,000	6.25	.67
3/4	.650	1.060	4,000*	12,000	7.75	.93
1	.875	1.370	4,000*	12,000	9.63	1.45

Ratings are based at 70 °F (21 °C)

Temperature range -65 °F (-54 °C) to 400 °F (204 °C)

*Reduce working pressure to maximum of 3,000psi @ 400 °F (204 °C)

FITTINGS

PureFlex fittings and collars are manufactured specifically for plastic lined hoses. Applying the highest quality standards, they are designed for compatability with most manufacturers' true-bore plastic hoses including smooth bore, concoluted, cuffed and rubber-covered plastic lined.

In addition, PureFlex has designed and manufactured the most diverse fitting and collar selection in the industry.

All fitting styles may not be available for all hose types.

FITTING MATERIALS

A wide range of fitting materials include carbon steel, 304 S.S., 316 S.S., Monel®, Hastelloy®, solid Kynar® (PVDF), or solid polypropylene. Other materials available upon request.

To achieve maximum plastic hose performance, specify PureFlex encapsulated fittings available in PFA. Advantages include zero corrosion rates and lower lifecycle costs.

THREADED FITTINGS



STYLE 03 Male Pipe
NPT Hex



STYLE 04 Male Pipe
NPT



STYLE 06 Female Pipe
NPT



STYLE 30 JIC Female
Swivel



STYLE 33 Male Union
(NPT)



STYLE 36 Female Union
(NPT)



STYLE 37 Female Swivel
NPSH



JIC Adapter with PTFE
Seal



STYLE 07 Female
CAM Lock 'D'



STYLE 27 Female CAM
Lock 'D' (PFA
Encapsulated)



STYLE 28 Male CAM
Lock 'E' (PFA
Encapsulated)



STYLE 21 Female Flange
Adapter (PFA
Encapsulated)



STYLE 22 CAM Spool
Adapter (PFA
Encapsulated)

CAM LOCK



STYLE 17 Female CAM
Lock 'D'
Reducer



STYLE 08 Male CAM
Lock 'E'



STYLE 20 Male Flange
Adapter (PFA
Encapsulated)



STYLE 02 CAM Spool
Adapter

**COMPRESSION,
SPLICE, BUTTWELD**

SANITARY

FLANGES



STYLE 31 O-Ring Female Swivel 'D'



STYLE 40 Sanitary (Tri-Clamp)



STYLE 45 Bevel Seat Female



STYLE 05 Flange Retainer
STYLE 15 P Series Flange Retainer



STYLE 38 Compression Adapter



STYLE 40F Sanitary Flare Thru (FlexChem hose only)



STYLE 46 Bevel Seat Male



STYLE 25 Flange Retainer (PFA Encapsulated)



STYLE 39 Compression Connector with Nut and Ferrule



STYLE 40U Sanitary Flare Thru (UltraFlex hose only)



STYLE 48 I-Line Male



STYLE 29 Flare Thru Flange (UltraFlex hose only)



STYLE 18 Tube Buttweld



STYLE 41 Sanitary Step-up



STYLE 49 I-Line Female



STYLE 29 Flare Thru Flange (FlexChem hose only)



STYLE 19 Pipe Buttweld



STYLE 42 Sanitary Mini



STYLE 44 Sanitary X Male CAM Adapter

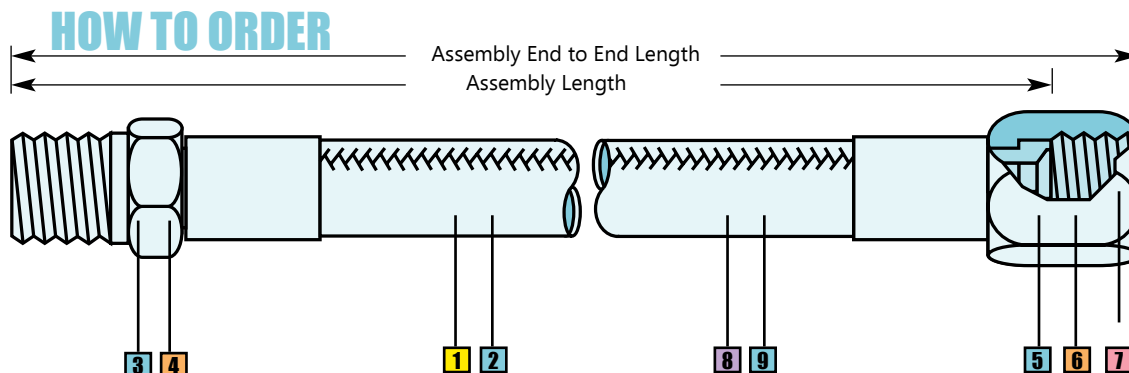


STYLE 11 Splice



PureFlex world class fitting manufacturing





PUREFLEX® INC. HOSE ASSEMBLY NUMBERING SYSTEM

Steps to order a 1" SmoothFlex High Pressure Assembly with a length of 12", 316 S.S. Male NPT one end, 316 S.S. JIC other end. No options.

Sample part number: SH16036306001200



Step 1

Determine Product Code

SN = Nominal Bore (Dash Size)
ST = True Bore
SH = High Pressure
SU = Ultra-High Pressure

Step 2

Determine Size

SmoothFlex SN Nominal Dash Size Only

03 = -3
04 = -4
05 = -5
06 = -6
07 = -7
08 = -8
10 = -10
12 = -12
14 = -14
16 = -16
18 = -18
20 = -20

SmoothFlex ST, SH, SU

04 = 1/4"
06 = 3/8"
08 = 1/2"
10 = 5/8"
12 = 3/4"
16 = 1"
20 = 1 1/4"
24 = 1 1/2"

Actual I.D. may vary.

Check specifications on pages 2 & 3 for your hose choice.

Step 3

Determine Fitting Style of 1st End:

03 = Male NPT

Threaded

03 = Male pipe hex NPT
04 = Male pipe NPT
06 = Female pipe NPT
30 = JIC female swivel
33 = Male union (NPT)
36 = Female union (NPT)
37 = Female Swivel NPSH

Flanges

05 = Flange retainer
15 = Flange retainer P-series
25 = Enc. flange retainer

Camlock

07 = Female cam lock "D"
27 = Enc. Female cam lock "D"
08 = Male cam lock "E"
28 = Enc. male cam lock "E"

Compression

31 = O-ring female swivel "D"
38 = Compression adapter
39 = Compression connector w/ nut & ferrule

Buttweld

18 = Tube buttweld
19 = Pipe buttweld

Sanitary

40 = Sanitary tri-clamp
41 = Sanitary step-up
42 = Sanitary mini
48 = I-line male
49 = I-line female
45 = Bevel seat female
46 = Bevel seat male

Step 4

Determine Fitting Material: 6 = 316 S.S.

4 = 304 S.S.
6 = 316 S.S.
C = Carbon Steel
T = TFE encapsulated
H = Hastelloy
M = Monel
A = Alloy 20
K = Kynar
P = Polypropylene

Step 5

Determine Fitting Style of 2nd End:

30 = JIC

Threaded

03 = Male pipe hex NPT
04 = Male pipe NPT
06 = Female pipe NPT
30 = JIC female swivel
33 = Male union (NPT)
36 = Female union (NPT)
37 = Female swivel NPSH

Flanges

05 = Flange retainer
15 = Flange retainer P-series
25 = Enc. flange retainer
29F = Flare thru flange

Camlock

07 = Female cam lock "D"
27 = Enc. female cam lock "D"
08 = Male cam lock "E"
28 = Enc. male cam lock "E"

Compression

31 = O-ring female swivel "D"
38 = Compression adapter
39 = Compression connector w/nut & ferrule

Buttweld

18 = Tube buttweld
19 = Pipe buttweld

Sanitary

40 = Sanitary tri-clamp
41 = Sanitary step-up
42 = Sanitary mini
48 = I-line male
49 = I-line female
45 = Bevel seat female
46 = Bevel seat male

Step 6

Determine Fitting Material: 6 = 316 S.S.

4 = 304 S.S.
6 = 316 S.S.
C = Carbon Steel
T = TFE encapsulated
H = Hastelloy
M = Monel
A = Alloy 20
K = Kynar
P = Polypropylene

Step 7

Determine Flange Material: 0 = None

0 = None
D = Ductile iron
C = Carbon steel
4 = 304 S.S.
6 = 316 S.S.
K = Kynar
P = Polypropylene

Step 8

Determine Overall Length of SmoothFlex hose in inches:

0120 = 12"

Last digit in 1/8th in. increments.

Step 9

Determine Options:

0 = None

0 = None
B = Conductive
Z = 300# Flg
L = Locking female cam
S = Spring guard
A = Armor guard
F = Firesleeve
P = Polyolefin
T = TFE shrink
H = Hypalon
N = Nylon scuff guard



Silicone
Ultra-Pure
Validated
Platinum cured
Silicone hose &
tubing.



PVC
Crystal clear
FDA approved
hose and
tubing.

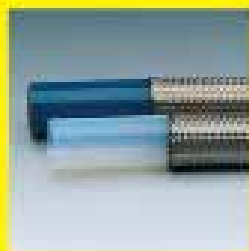
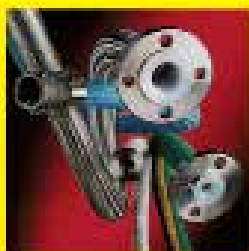
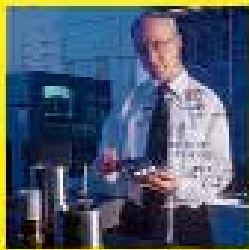


**Heated
Hoses**
Electrically
heat any
PureFlex hose
up to 450 °F.



BlueLine
Flexible
couplings,
expansion
joints and
bellows.

**ONE SOURCE FOR
ALL YOUR NEEDS**



UltraFlex™
Ultra flexible
heavy duty con-
volut hose.



MultiFlex™
Superior
flexibility for
higher pressure
applications.



**MTH™
(Metal PTFE Lined
Hose)**
Ultra flexible
heavy duty con-
volut hose.



FlexChem®
Rubber
covered smooth
bore FEP lined
hose.



ProFlex™
Industrial
grade, high
quality low
priced
convoluted PFA
hose.



PureSite™
Unbreakable
translucent FEP
sight gages.



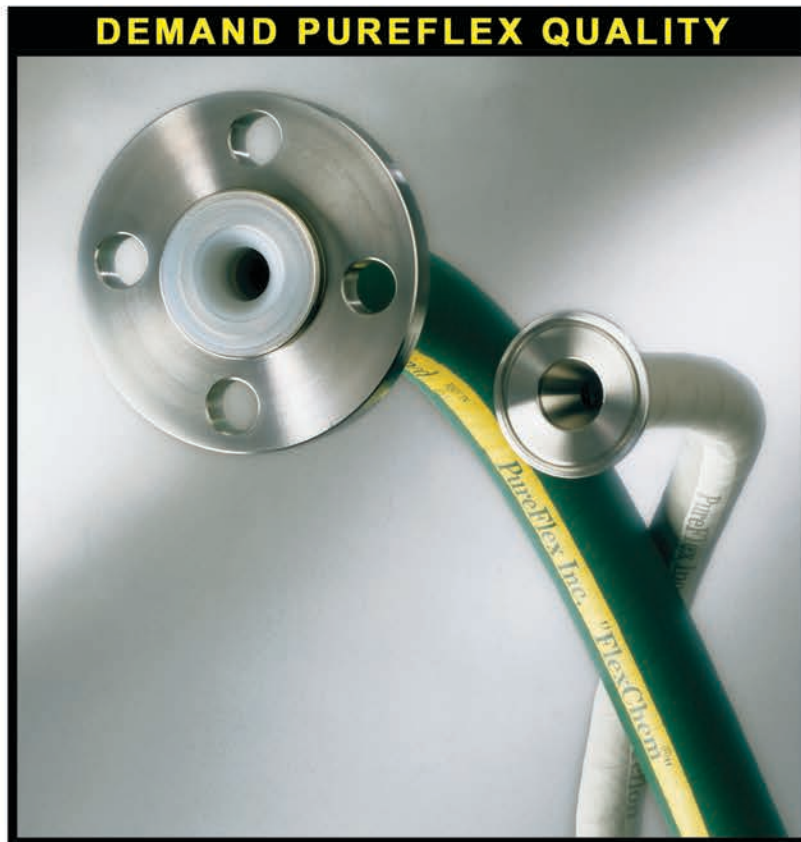
**TASK-LINE®
Gaskets**
PTFE gaskets
with encapsu-
lated stainless
steel insert.



**TASK-LINE®
Grounding
Paddles**
Pipe static
dissipating
paddles.



PureFlex Product Integration



FLEXCHEM®
RUBBER COVERED, FEP & PTFE
LINED TRANSFER HOSES

PureFlex®
AN ANDRONACO INDUSTRIES COMPANY

PUREFLEX INNOVATION

No other company in the industry rivals PureFlex's product integration. Using the most advanced manufacturing techniques, PureFlex integrates design, hose and fitting manufacturing, testing and assembly-all under one roof. Add the largest selection of end fittings and it's easy to see why PureFlex is the company of choice for those with demanding transfer processes.

FLEXCHEM HOSE

FlexChem is one of the industry's most versatile, rubber covered FEP-lined transfer hoses. It is designed for full flow applications that require maximum flexibility, minimum weight high purity.

This smooth bore FEP hose with its EPDM rubber cover is easy to handle and resists abrasion and chemical attack while it facilitates easy cleanability. The smooth, rubber cover makes it easy for operators to safely grip and handle the hose.

FlexChem hose incorporates a FEP, smooth bore design which gives it superior flexibility. Through a proprietary process, the FEP liner is bonded, covered and reinforced with multi-layered rubber, spiral-wound polyester cords and a double helix wire which gives it superior flexibility. Grounding is possible via its internal wires.

This wire helix "back bone" also supports full vacuum service. FlexChem series hose is available in white FEP or a PTFE conductive black liner where electrostatic dissipation is required. To ensure continuous fluid contact with FEP throughout the hose assembly, the FEP liner can be factory flared through: flanges; sanitary fittings; male and female cams.

FLEXCHEM ADVANTAGES

- Corrosion Resistant.
FEP & PTFE are fully resistant to the broadest range of industrial chemicals and have a zero corrosion rate and lower life cycle cost.
- Cleanable.
Non-stick, low porosity tube does not trap bacteria and can be cleaned with steam, detergents, caustics or solvents.
- Sanitary.
FDA-approved materials meet or exceed 3A requirements.
- Compatible.
Will not contaminate or impart a taste, color or odor to any media.
- Flexible.
The most flexible rubber covered hose in the industry. Does not fatigue or stress corrode like metal hose.
- Durable.
Designed for extended use in hostile environments involving severe chemical, thermal, and mechanical stresses. Does not suffer aging or embrittlement, even with extreme thermal cycling.

SPECIFICATIONS

Temperature Range: -40 °F (-40 °C) to 350 °F (177 °C)

I.D. NOMINAL (in)	O.D. NOMINAL	WORKING PRESSURE (psi)	MIN. BURST PRESSURE (psi)	VACUUM RATING (in. Hg)	MIN. BEND RADIUS (in)	WEIGHT PER FOOT (lbs)
1/2	0.95	500	2000	29.9	2.65	.34
3/4	1.25	500	2000	29.9	4.15	.51
1	1.55	450	1800	29.9	5.75	0.72
1-1/4	1.75	375	1500	29.9	8.50	0.89
1-1/2	2.13	350	1400	29.9	10.50	0.99
2	2.68	300	1200	29.9	13.00	1.38
3	3.88	250	1000	29.9	21.00	2.46
4	4.57	175	700	29.9	26.50	3.08
6	7.13	100	400	29.9	58.00	4.75



HOSE COVER OPTIONS

1 SCUFF SLEEVE

Protects hose exterior from damage when dragged over rough surfaces.

2 FIRE SLEEVE

Protects hose from extreme exterior temperatures. Used for insulating hose. Protects personnel who handle the hose from extreme interior temperatures.

3 POLYOLEFIN

Provides a smooth, cleanable covering over braided hose.

4 ARMOR GUARD

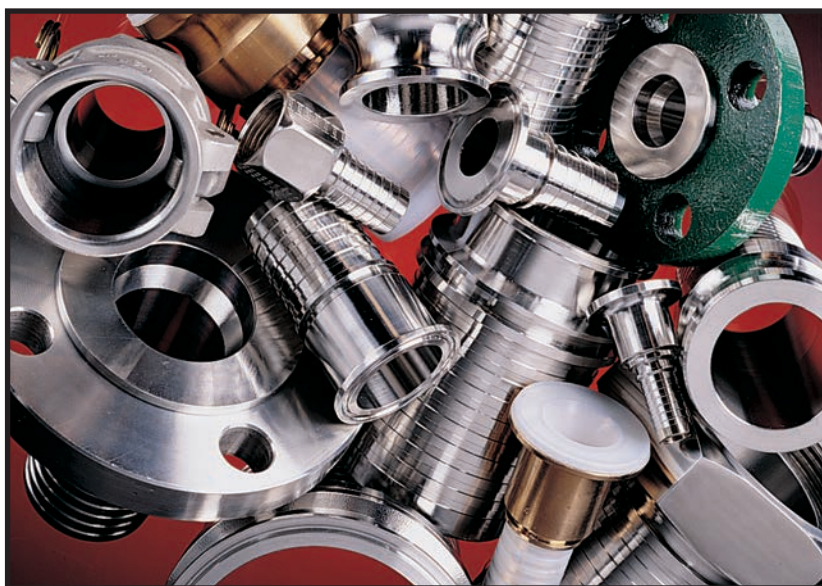
Protects hose from kinking by not allowing handler to exceed the bend radius.

5 SPRING GUARD

Provides kink resistance and protects hose exterior **from scuffing and damage** when dragged over rough surfaces.

6 HDPE ARMOR

Provides kink and wear protection during rough handling. Available in (8) colors for color coding and is the only protective cover that can be installed on an existing assembly.



HOSE END CONNECTIONS

Over 40 standard fitting styles are manufactured including: flanged, sanitary, JIC, NPT and Cam Lock. All fittings feature PureFlex's exclusive high performance barb design (see page 5).

SURFACE FINISHES

Ultra smooth internal surface finishes meet or exceed Pharmacopoeia Class VI, FDA, USDA and 3A standards.

FLARE-THRU

The thick, FEP tube can be passed through the end fitting and flared radially outward against the sealing face of the following fittings:

- 7** Sanitary **8** Flanged **9** Female Cam, and Male Cam (not picture.)



FITTINGS

PureFlex fittings and collars are manufactured specifically for plastic lined hoses. Applying the highest quality standards, they are designed for compatibility with most manufacturers' true-bore plastic hoses including smooth bore, concoluted, cuffed and rubber-covered plastic lined.

In addition, PureFlex has designed and manufactured the most diverse fitting and collar selection in the industry.

All fitting styles may not be available for all hose types.

FITTING MATERIALS

A wide range of fitting materials include carbon steel, 304 S.S., 316 S.S., Monel®, Hastelloy®, solid Kynar® (PVDF), or solid polypropylene. Other materials available upon request.

To achieve maximum plastic hose performance, specify PureFlex encapsulated fittings available in PFA. Advantages include zero corrosion rates and lower lifecycle costs.

THREADED FITTINGS		CAM LOCK	
			
STYLE 03 Male Pipe NPT Hex	STYLE 04 Male Pipe NPT	STYLE 07 Female CAM Lock 'D'	STYLE 17 Female CAM Lock 'D' Reducer
			
STYLE 06 Female Pipe NPT	STYLE 30 JIC Female Swivel	STYLE 27 Female CAM Lock 'D' (PFA Encapsulated)	STYLE 08 Male CAM Lock 'E'
			
STYLE 33 Male Union (NPT)	STYLE 36 Female Union (NPT)	STYLE 28 Male CAM Lock 'E' (PFA Encapsulated)	STYLE 20 Male Flange Adapter (PFA Encapsulated)
			
STYLE 37 Female Swivel NPSH	JIC Adapter with PTFE Seal	STYLE 21 Female Flange Adapter (PFA Encapsulated)	STYLE 02 CAM Spool Adapter
			
		STYLE 22 CAM Spool Adapter (PFA Encapsulated)	

COMPRESSION,
SPLICE, BUTTWELD

SANITARY

FLANGES



STYLE 31 O-Ring Female
Swivel 'D'



STYLE 40 Sanitary
(Tri-Clamp)



STYLE 45 Bevel Seat
Female



STYLE 05 Flange Retainer
STYLE 15 P Series Flange
Retainer



STYLE 38 Compression
Adapter



STYLE 40F Sanitary
Flare Thru
(FlexChem hose only)



STYLE 46 Bevel Seat
Male



STYLE 25 Flange Retainer
(PFA
Encapsulated)



STYLE 39 Compression
Connector with
Nut and Ferrule



STYLE 40U Sanitary Flare
Thru (UltraFlex
hose only)



STYLE 48 I-Line Male



STYLE 29 Flare Thru
Flange
(UltraFlex hose only)



STYLE 18 Tube
Butt weld



STYLE 41 Sanitary
Step-up



STYLE 49 I-Line Female



STYLE 29F Flare Thru
Flange
(FlexChem hose only)



STYLE 19 Pipe
Butt weld



STYLE 42 Sanitary Mini



STYLE 44 Sanitary X
Male CAM
Adapter



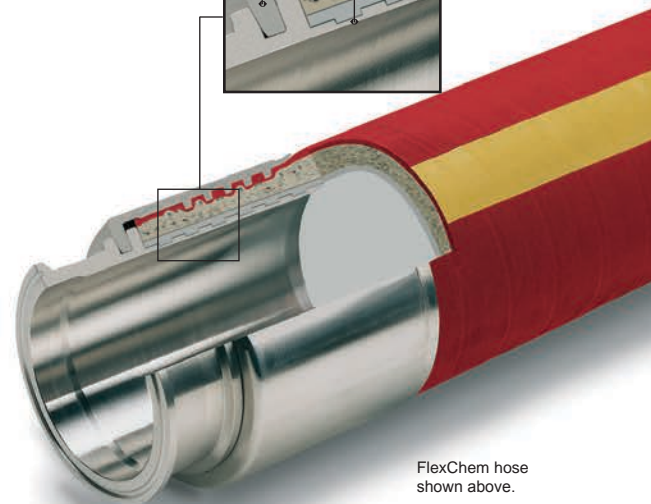
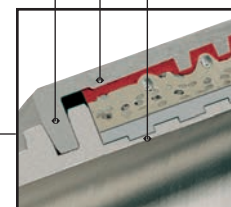
STYLE 11 Splice

PUREFLEX
"HIGH PERFORMANCE"
FITTING BARB DESIGN

- Double-sided, patent pending barb design locks fittings securely into hose.
- Fitting barb height and angles are tightly controlled to eliminate tearing and splitting of plastic hose during assembly, fabrication, and operation.
- Optimizes pressure and sealing capabilities.
- Eliminates: cold flowing of the liner around fittings; hose shifting in both directions; fitting blow off.
- Smooth transition between fitting and hose eliminates product entrapment.
- Easy-to-assemble collar and fitting "dog lock" design.

TRI-LOC™ ULTIMATE
BLOW OFF PREVENTION

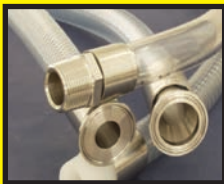
- 1 Dog Lock
- 2 Barbed Collar
- 3 Double Sided Barbs



FlexChem hose
shown above.



Silicone
Ultra-Pure
Validated
Platinum cured
Silicone hose &
tubing.



PVC
Crystal clear
FDA approved
hose and
tubing.

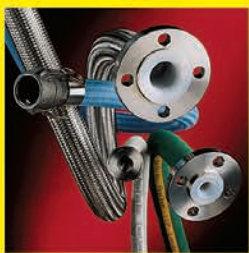
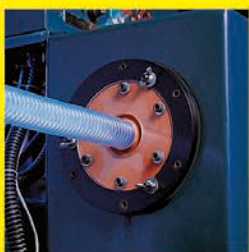
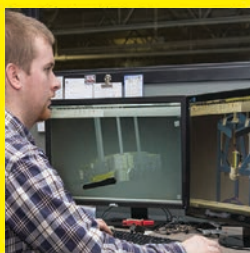


**Heated
Hoses**
Electrically
heat any
PureFlex hose
up to 450 °F.



BlueLine
Flexible
couplings,
expansion
joints and
bellows.

THE MOST ADVANCED
FLUOROPOLYMER HOSE
SYSTEM AVAILABLE



UltraFlex™
Ultra flexible
heavy duty con-
voluted hose.



MultiFlex™
Superior
flexibility for
higher pressure
applications.



MTH™
(Metal PTFE Lined
Hose)
Ultra flexible
heavy duty con-
voluted hose.



FlexChem®
Rubber
covered smooth
bore FEP lined
hose.



ProFlex™
Industrial
grade, high
quality low
priced
convoluted PFA
hose.



PureSite™
Unbreakable
translucent FEP
sight gages.



TASK-LINE®
Gaskets
PTFE gaskets
with encapsu-
lated stainless
steel insert.



TASK-LINE®
Grounding
Paddles
Pipe static
dissipating
paddles.

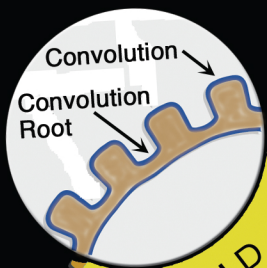


Nexus™

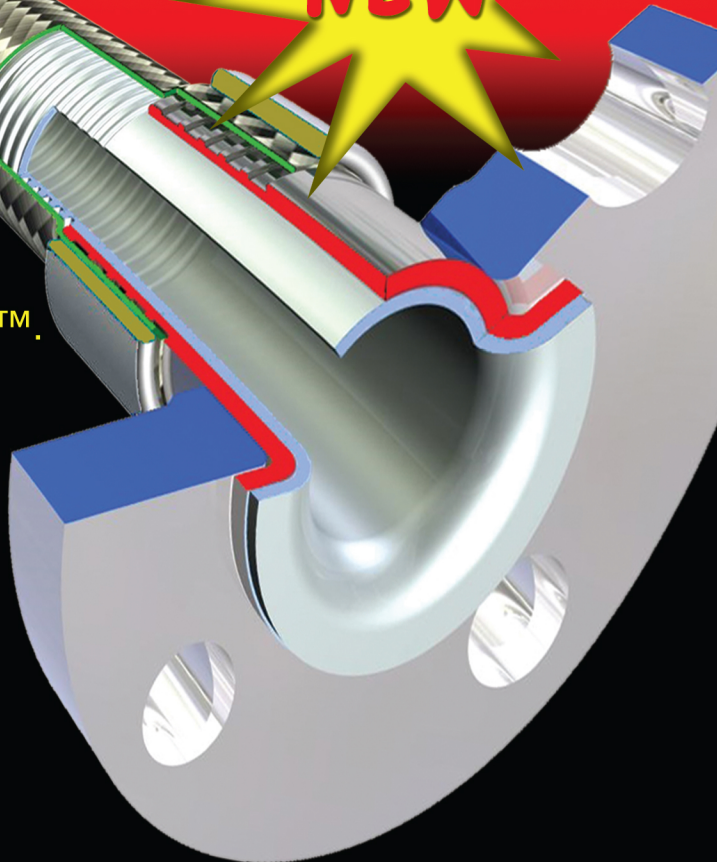
The ultimate PTFE hose

PureFlex combines the best features of smoothbore and convoluted hose into one incredible flexible product; NEXUS™.

- Smooth I.D. for outstanding cleanability.
- Convoluted O.D. for excellent flexibility.



NEXUS PTFE Smooth bore I.D. (slight ripple)



Available with 316 Stainless
or Polypropylene Braid

I.D. Size	O.D. Size	Max Working Pressure(PSI)	Min Burst Pressure (PSI)	Vacuum Rating (In-Hg)	Minimum Bend Radius(IN.)	Weight Per Foot (LBS)
0.75	1.07	1100	4400	29.9	2.0	0.32
1.00	1.31	1000	4000	29.9	2.75	0.47
1.50	1.82	750	3000	29.9	5.5	0.71
2.00	2.39	625	2500	29.9	10.0	1.00

**The FIRST smoothbore / convoluted PTFE hose
manufactured in the USA.**



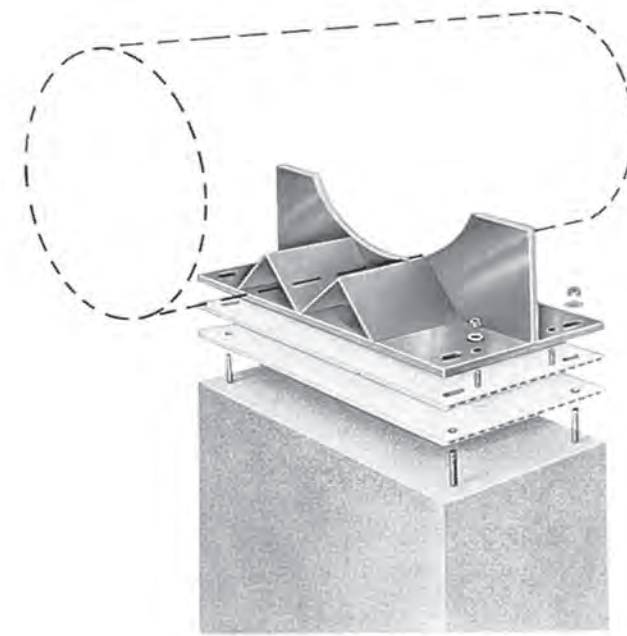
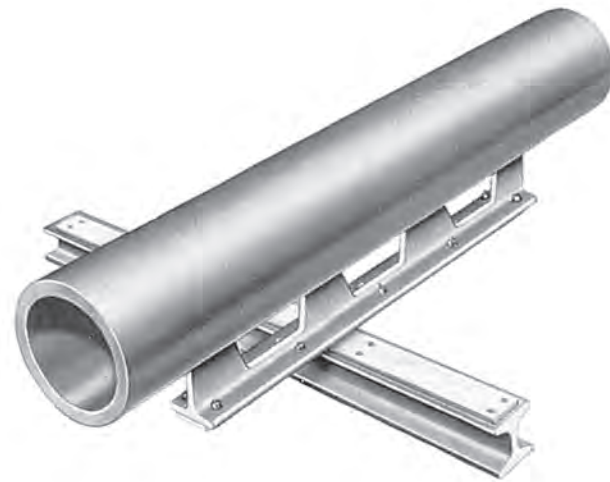
Proudly Made in the USA

PureFlex® Inc.

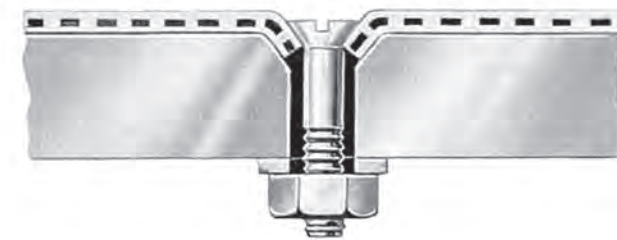
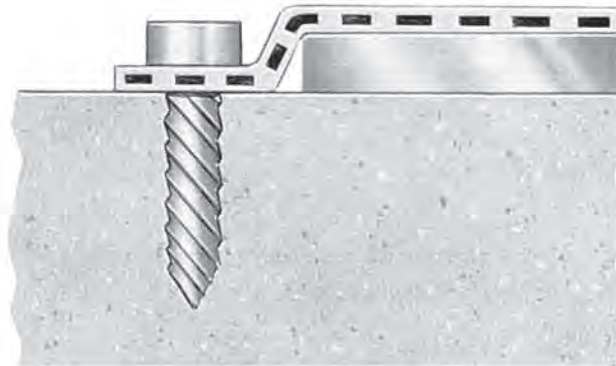
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www.pureflex.com

TYPICAL USAGE



FASTENING METHODS



Riload[®]

PTFE Bearing Pads

*for Pipe Slides,
Equipment Supports,
Architectural and
Bridge Applications*



Riload Bearing Pads Provide These Distinct Benefits:

- Excellent sliding properties with high strength and rigidity.
- Reliability in virtually any environment to 400 °F.
- Non-weathering, non-aging, corrosion resistance.
- Simple, easy installation requiring no adhesives or bonding agents.
- Long life with little deterioration and freedom from lubricant washout.
- Economical.

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4855 BROADMOOR AVE.
KENTWOOD, MI 49512
TEL. (616) 554-1100
FAX (616) 554-3633
www.pureflex.com

1098-092617

PureFlex[®]
an ANDRONACO INDUSTRIES company

PureSite™



Ideal For:

- Visual inspection
- Liquid level gauge
- Magnetic detection for metal particle monitoring
- Dip pipes
- Piping

Resistant To:

- Chemical attack
- Thermal shock
- Shattering
- Cracking
- Pipe Stress
- Aging
- UV

Services Include:

- Pharmaceutical
- High purity
- Ultra pure water
- Food & Beverage
- Chemical
- Cryogenic

**Virtually Unbreakable
FEP Sight Gauges &
Flow monitors**

PUREFLEX™



PureSite™

PureFlex PureSite™ is a translucent thickwall extruded FEP tube specifically designed for safe visual inspection. PureSite will not impart taste, any color or odor to fluid media and its smooth non-stick surface will not trap bacteria. It is virtually unbreakable from (-)100°F to 350°F and fully resistant to the broadest range of corrosive chemicals.

SAFE & UNBREAKABLE

SANITARY

CLEANABLE

ZERO CORROSION RATE

(-)100°F TO 350°F

ANY END CONNECTION

*FLANGED, SANITARY, JIC, NPT,
CAM-LOCK, FLANGED FLARE-THRU*

I.D. In.	Wall Thickness Nominal	Working Pressure psi	Burst Pressure psi	Vacuum Rating
1/2	.100	150	600	Full
3/4	.100	150	600	Full
1	.125	150	400	Full
1 1/2	.125	150	400	Full
2	.125	100	350	Full
3	.145	50	150	Full
4	.150	25	100	Full

PRESSURE AND VACUUM RATINGS BASED @ 70°F (21°C)
RATINGS WILL DECREASE 25% FOR EVERY +100°F INCREASE



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an ANDRONACO INDUSTRIES company

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MEASUREMENT SCALE (OPTIONAL)



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TASK-LINE®

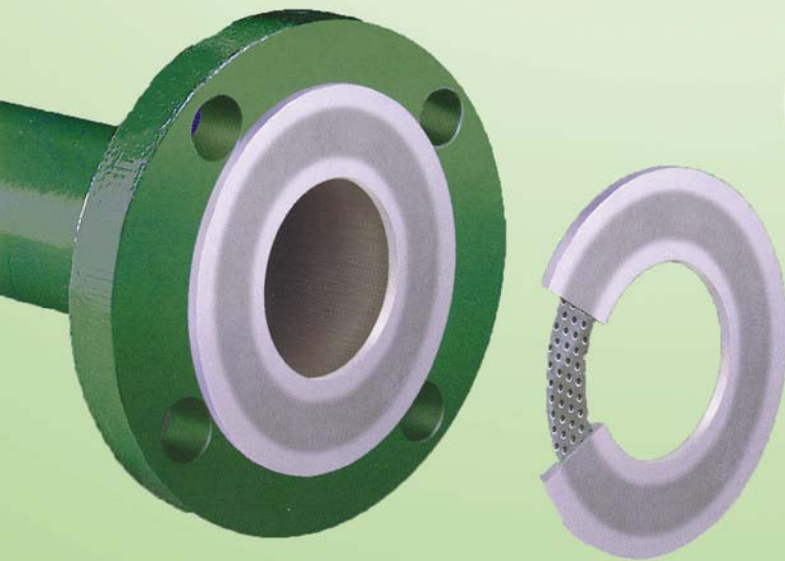
The Greenest Gasket
on the planet



TASK-LINE gaskets don't cold flow or creep which cause flange leaks - acid leaks are bad for our environment! TASK-LINE gaskets can also be re-used up to (10) times because they don't deform under bolt load. Std. PTFE gaskets can only be used once and then are discarded to a land-fill.



REPLACE "ONE time USE" STD. PTFE GASKETS
with multiple use TASK-LINE.



Every bit of scrap produced in the manufacturing process of TASK-LINE gaskets is recycled and renewable. Scrap PTFE is used in ink for ink pens and scrap steel is sent to a recycle mill to be turned back into productive product for industry use.

REDUCE YOUR ECOLOGICAL FOOTPRINT
WITH TASK-LINE GASKETS

INSTALL-AND-FORGET

SUSTAINABILITY - IT IS AN INVESTMENT IN THE LONG TERM



LIMITED
10
YEAR
WARRANTY

TASK-LINE gaskets are the only gasket
to carry a (10) year warranty

ENVIRONMENTALLY AND SOCIALLY RESPONSIBLE



PureFlex®
Inc.
www.pureflex.com

DEMAND PUREFLEX® QUALITY



TASK-LINE® SERIES

PureFlex®
an ANDRONACO INDUSTRIES company

TASK-LINE[®] GASKETS

The original is still the best.

TASK-LINE ADVANTAGES

- Maximum protection
- Zero corrosion rate
- No retorquing after installation
- Blowout protection
- No fabrication or waste
- Reusable
- Non-porous
- Seats easily/
releases easily
- Cryogenic to
+400°F (204°C)

TASK-LINE DESIGN

Through a proprietary process, FDA approved, pure virgin PTFE resin is compression molded around and through a 304 stainless steel, perforated metal insert. After oven sintering, every gasket undergoes a 15,000-volt spark test to check for pinholes. The porous-free PTFE resin 100% encapsulates the stainless steel insert, isolating it from any fluid contact while in service.

NO MORE FABRICATION; EASY INSTALLATION

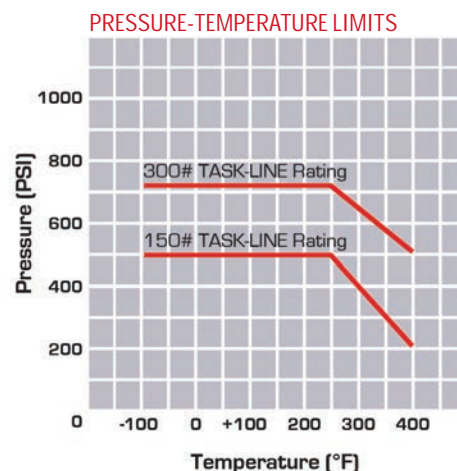
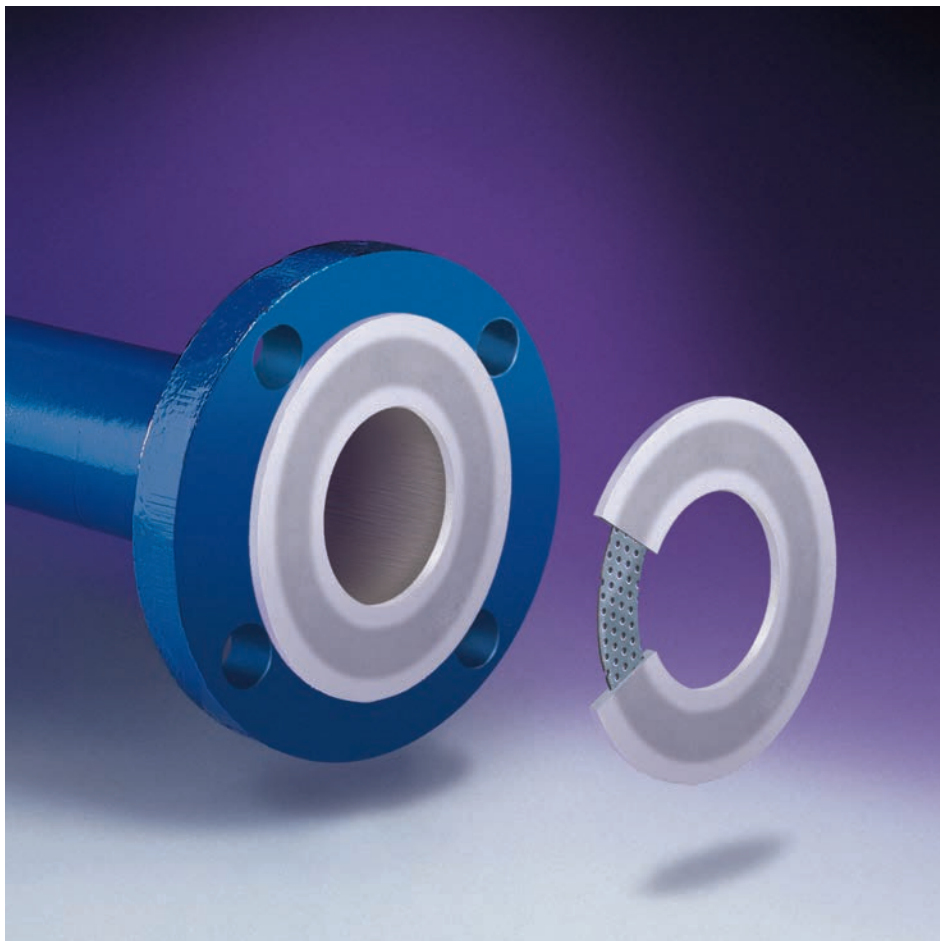
TASK-LINE gaskets are molded to size, 1/2" through 24" in class 150# and 300# ANSI ratings with a nominal thickness of 1/8" or 3/32" (other thicknesses available upon request). Installation is quick and simple. TASK-LINE gaskets are self-aligning and seat easily to any flange in almost any condition.

TASK-LINE BENEFITS

TASK-LINE gaskets have a temperature range of cryogenic to 400°F (consult factory for higher temperatures) and are chemically resistant to: all acids, all chlorides, all sulfates, all bleach solutions, all solvents, all phenols, all caustics, and all peroxides. TASK-LINE gaskets are leak-free and bubble-tight and can be used over and over without sacrificing sealing ability. TASK-LINE gaskets have zero corrosion rates which contribute to lower life-cycle costs when compared to envelope or solid gasket types.

TASK-LINE PERFORMANCE

In terms of performance and longevity, nothing comes close. When installed between two flanges, the PTFE-encapsulated metal insert restricts the PTFE from cold flow/creep while under load. The metal insert prevents radial flow of the gasket which eliminates bolt retorquing after installation, maintaining a tight seal even through repeated temperature cycles. The strength of the metal insert also provides critical, blowout-proof protection. Another benefit of TASK-LINE gaskets is the PTFE's non-stick property which allows it to easily release from flanges during disassembly without any scraping.



Task-Line gaskets have been tested in excess of the above pressures. Consult factory for higher pressure applications.

TASK-LINE®

LINED PIPE GROUNDING PADDLES

Putting safety first.

TASK-LINE ADVANTAGES

- Save over 60% in procurement and installation
- Protects lined piping and instrumentation
- Zero corrosion rate
- Blowout protection
- Non-porous
- Eliminates scrap waste
- Seats easily
- Comes complete in kit form

RELEASE THE STATIC MONSTER

Special consideration should be given to the transportation of flammable liquids through linings that incorporate a grounded metal backing, such as a steel pipe lined with PTFE or other plastic. The electrical volume resistivity of PTFE-lined pipe is 10^{18} ohm-cm. This value is characteristic of highly insulating materials capable of accumulating dangerous levels of static charge for several hours, even days. Materials having less than or equal to 10^9 ohm-cm are considered to be static dissipative/conductive.

Due to the large, effective capacitance of the PTFE against a steel housing, large surface-charge densities may be formed. These densities give rise to highly energetic, lightning-like sparks in rapid succession known as propagating brush discharges. Such discharges have the potential to ignite most flammable atmospheres and can even ignite some of the more sensitive

dusts. Pinholes in the PTFE liner may also be formed by these strong electrostatic charges. If left unchecked, these pinholes will cause premature pipe failure which will lead to chemical leaks and subsequent environmental concerns.

TASK-LINE DESIGN

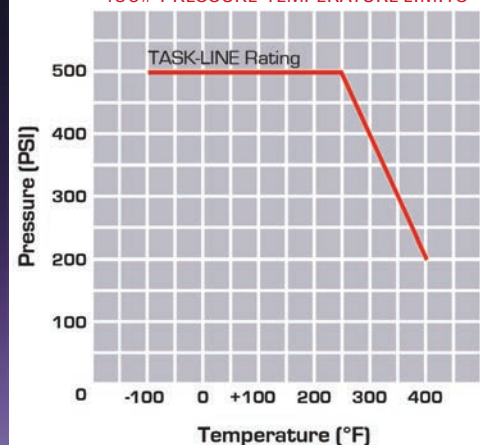
Through a proprietary process, static-dissipating PTFE resin is compression molded around and through a 304 stainless steel, perforated, metal insert. After oven sintering, the porous-free, static-dissipating PTFE resin 100% encapsulates the stainless insert, isolating it from any fluid contact while in service. TASK-LINE lined pipe grounding paddles have conductivity/static dissipating properties (volume resistivity) of less than or equal to 10^6 ohm-cm.

NO MORE FABRICATION OR GASKETS

TASK-LINE lined pipe grounding paddles are molded to size, 1" through 6" (other sizes available upon request) in class 150# ANSI ratings with a nominal thickness of $1/8$ ". The paddle handle extends 2" above the flange and is pre-drilled for grounding hardware and cable (included). TASK-LINE lined pipe grounding paddles self align and seat easily to any 150# ANSI, lined pipe flange and never require gaskets.



150# PRESSURE-TEMPERATURE LIMITS



TASK-LINE®

PIPELINE FLUID BLOCKERS

Nothing gets in. Nothing gets out.

TASK-LINE ADVANTAGES

- Save over 75% in procurement and installation
- Quick and easy installation
- No gaskets required
- No fabrication or waste
- Zero corrosion rate
- Blowout protection
- Reusable
- Non-porous
- Seats easily/
releases easily

To be used as temporary fluid blockers during maintenance of downstream equipment

TASK-LINE DESIGN

Through a proprietary process, FDA-approved, pure virgin PTFE resin is compression molded around and through a heavy-gage, 304 stainless steel, perforated, metal insert. After oven sintering, the porous-free PTFE resin 100% encapsulates the stainless steel insert, isolating it from any fluid contact while in service.

NO MORE FABRICATION OR GASKETS

TASK-LINE pipeline fluid blockers (line blockers) are molded to size, 1" through 6" (other sizes available upon request) in class 150# ANSI dimensions with a nominal thickness of 1/8". Installation and removal are a snap with its integral molded paddle handle. The handle extends 2" above the flange and has a pre-drilled 3/8" hole for tagging (while in service) or hanging (while in storage).

The handle can be factory painted for identification purposes. TASK-LINE line blockers self-align and seat easily to any 150# ANSI flange and never require gaskets.

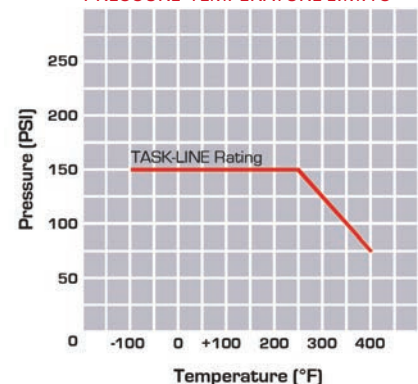
TASK-LINE BENEFITS

In terms of performance and longevity, TASK-LINE pipeline fluid blockers set the standard. Line blockers have a temperature range from cryogenic to +400°F and are chemically resistant to: all acids, all chlorides, all sulfates, all bleach solutions, all solvents, all phenols, all caustics, and all peroxides. TASK-LINE pipeline fluid blockers are leak-free, bubble-tight, and can be used over and over without sacrificing sealing ability. TASK-LINE line blockers have zero corrosion rates which contribute to lower life-cycle costs when compared to fabricated or competitive alloy paddles.

TASK-LINE PERFORMANCE

When installed between two flanges, TASK-LINE line blockers block out all pipeline fluid. The PTFE-encapsulated metal insert reduces any radial flow which eliminates bolt retorquing after installation, maintaining a bubble-tight seal. The strength of the metal insert also provides critical, blowout-proof protection. Another benefit of TASK-LINE line blockers is the PTFE's non-stick property which allows it to easily release from flanges during disassembly without any scraping.

PRESSURE-TEMPERATURE LIMITS



Consult factory for higher pressure applications.



TASK-LINE LINED PIPE FLUID BLOCKERS SIZING TABLE AND PART NUMBERS

Size (in)	Part Number (150# Flange)	OD
1/2	TLB0050	1.875
3/4	TLB0075	2.250
1	TLB0100	2.625
1-1/2	TLB0150	3.375
2	TLB0200	4.125
3	TLB0300	5.375
4	TLB0400	6.875
6	TLB0600	8.750

Other sizes available upon request.

Durcor Product Line

DURCOR-62®

Durcor-62® Lap Joint Flanges are manufactured from PureFlex proprietary advanced fiber reinforced composite.

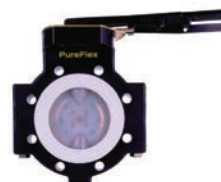
DURCOR®

Durcor® is the world's first advanced structural composite piping system designed exclusively to be lined with seamless PTFE.



LEARN MORE AT WWW.DURCOR.COM

PureFlex Products



800 series
Lined Composite Butterfly
Severe chemical / ultra-pure applications.



860 series
Resilient seated composite butterfly
Food and chemical services.



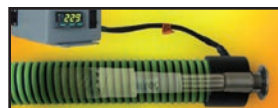
400 series
Composite ball valve Superior features / Chemical services.



CL2™
Chlorine/Bromine hose PTFE with PVDF braid.



PureSite™
Unbreakable translucent FEP sight gages.



Heated Hoses
Electrically heat any PureFlex hose up to 450 °F.



Silicone
Ultra-Pure Validated Platinum cured Silicone hose & tubing.



UltraFlex™ PTFE
Ultra-flexible heavy duty convoluted hose.



MultiFlex™ PTFE
Superior flexibility for higher pressure applications.



MTH™ (Metal PTFE Hose)
Flexible metal hose with smooth bore PTFE liner.



FlexChem™
Rubber covered smooth bore FEP hose.



ProFlex™ PFA
Industrial grade, high quality, convoluted hose.



SmoothFlex™
Smooth bore PTFE hose with stainless steel braid.



PVC
Crystal clear FDA approved hose and tubing.



COMPOSITE ACTUATOR BRACKET

Advantages

STRONG

LIGHT WEIGHT

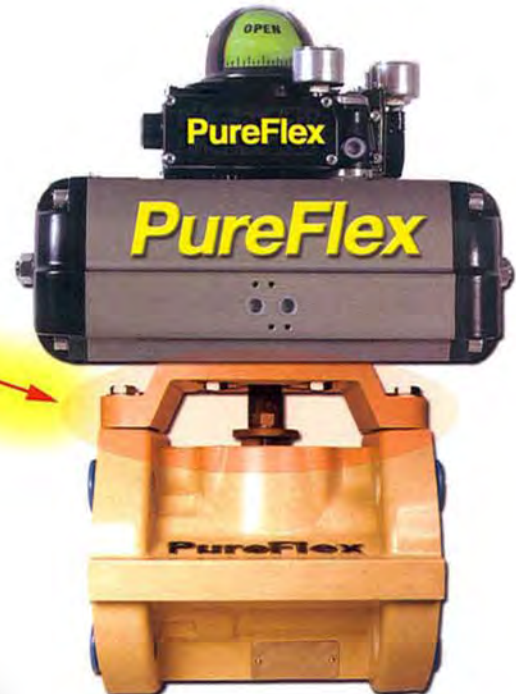
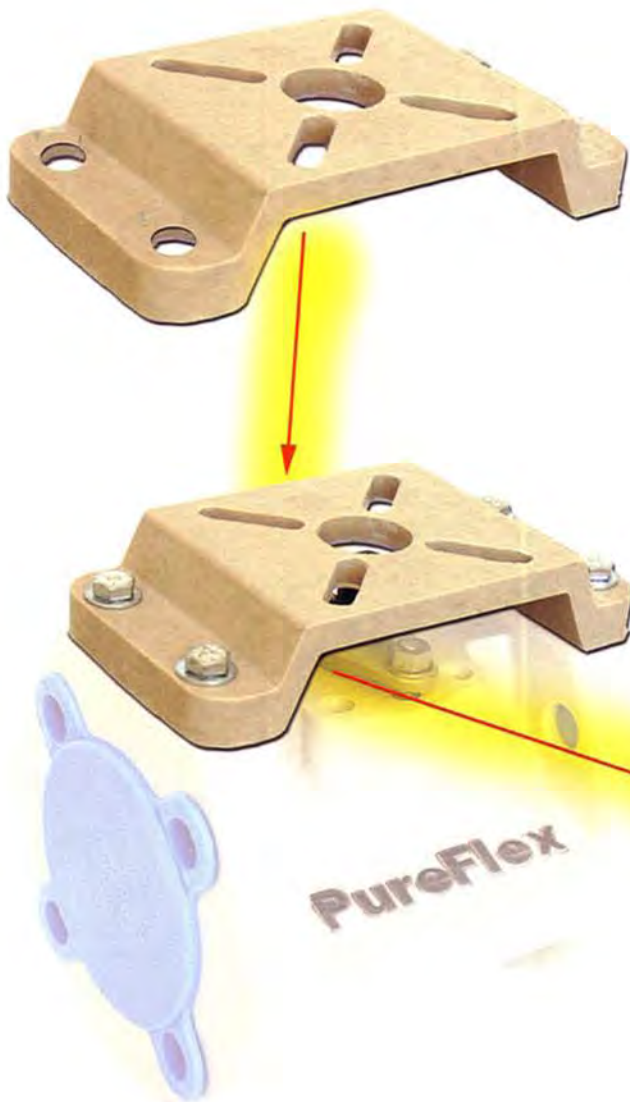
ZERO CORROSION

LOW PROFILE DESIGN

COUPLING INCLUDED

EASY TO INSTALL

LOW COST

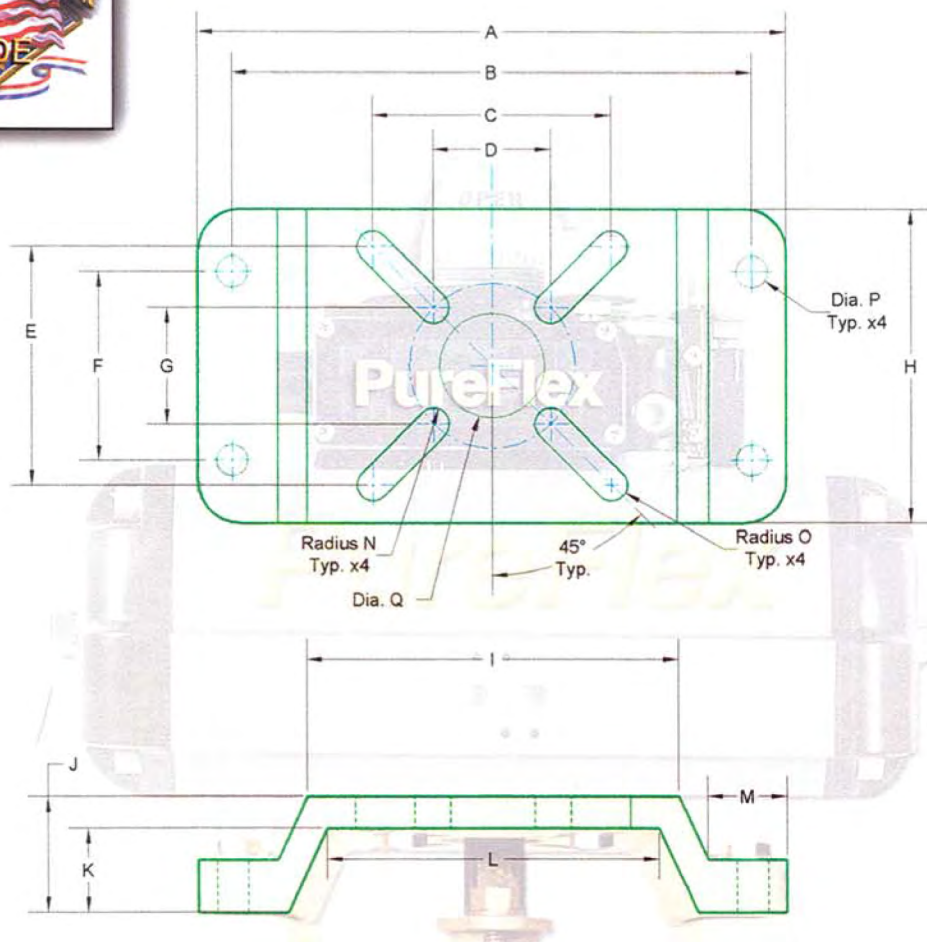


LIMITED

5

YEAR

WARRANTY



Ball Valve Molded Bracket

Part Number	Bracket Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)
BRA-400-016	1	4.94 (25.4)	4.19 (106.4)	1.94 (49.3)	1.16 (29.5)	1.94 (49.3)	1.75 (44.5)	1.16 (29.5)	2.75 (69.9)	3.13 (79.5)	1.17 (29.7)	.925 (23.5)	2.77 (70.4)	.75 (19.1)	.16 (4.1)	.19 (4.8)	.38 (9.7)	1.13 (28.7)
BRA-400-024	1.5	6.37 (38.1)	5.63 (143.0)	2.85 (72.4)	1.94 (49.3)	2.85 (72.4)	1.75 (44.5)	1.94 (49.3)	3.60 (91.4)	4.08 (103.6)	1.50 (38.1)	1.11 (28.2)	3.63 (92.2)	.78 (19.8)	.19 (4.8)	.19 (4.8)	.38 (9.7)	1.25 (31.8)
BRA-400-032	2	7.00 (50.8)	6.19 (157.2)	2.84 (72.1)	1.94 (49.3)	2.84 (72.1)	2.25 (57.2)	1.39 (35.3)	3.75 (95.3)	4.42 (112.3)	1.41 (35.8)	1.00 (25.4)	3.94 (100.1)	.94 (23.9)	.19 (4.8)	.19 (4.8)	.38 (9.7)	1.25 (31.8)
BRA-400-048	3	7.97 (76.2)	7.12 (202.1)	2.84 (180.8)	1.94 (49.3)	2.84 (72.1)	3.50 (88.9)	1.95 (49.5)	4.50 (114.3)	4.62 (117.3)	2.22 (56.4)	1.81 (45.9)	4.12 (104.6)	1.18 (29.9)	.19 (4.8)	.22 (5.6)	.437 (9.8)	1.25 (31.8)
BRA-400-064	4	8.92 (101.6)	8.00 (203.2)	2.84 (72.1)	1.95 (49.5)	2.84 (72.1)	4.00 (101.6)	1.94 (49.3)	5.25 (133.4)	6.01 (152.6)	2.63 (66.8)	2.11 (53.6)	5.24 (22.2)	.93 (60.3)	.19 (4.8)	.22 (5.6)	.50 (12.7)	2.00 (50.8)
BRA-400-096	6	10.20 (152.4)	9.00 (228.6)	3.26 (82.8)	2.30 (58.4)	3.26 (82.8)	5.25 (133.4)	2.30 (58.4)	6.50 (165.1)	6.25 (158.8)	3.19 (81.0)	2.69 (68.3)	5.52 (140.2)	1.18 (29.9)	.19 (4.8)	.19 (4.8)	.50 (12.7)	2.37 (60.2)

100 SERIES

BALL CHECK VALVES

Valve Body

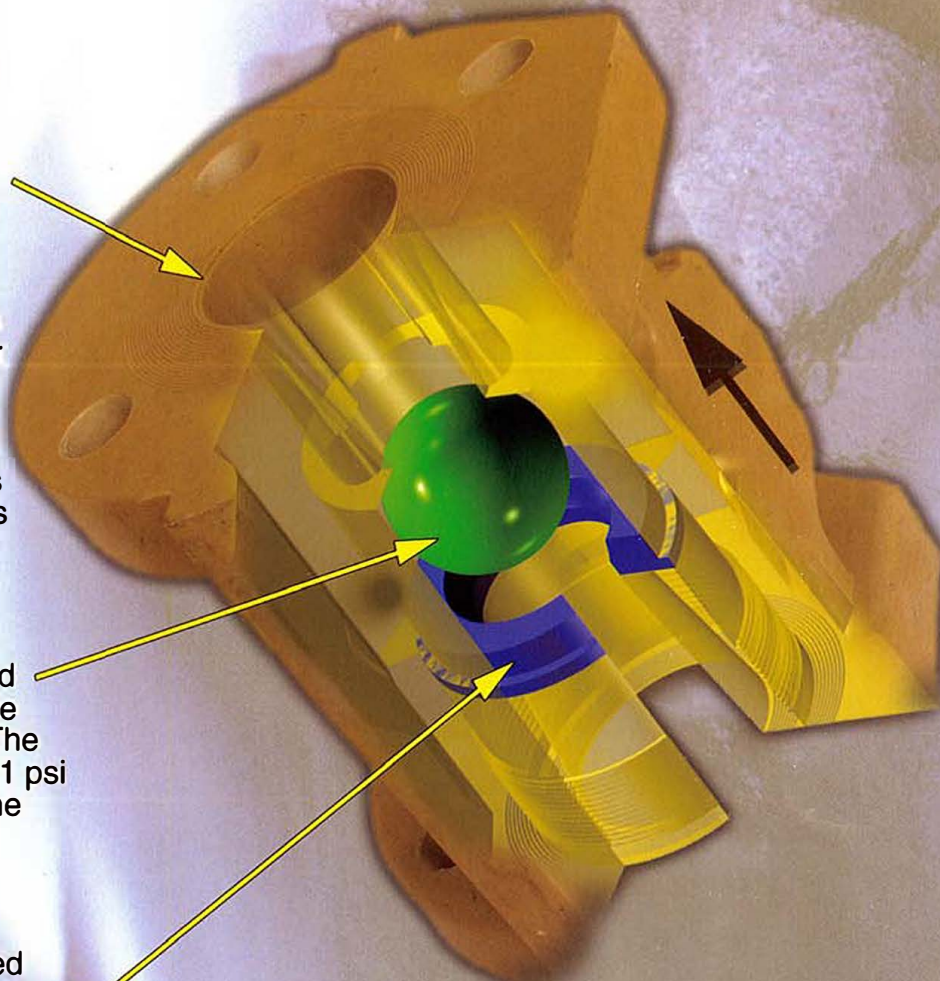
One piece massive valve body is light weight, rugged and is as corrosion resistant on the outside as it is on the inside to resist environmental attack. Available in fiberglass or carbon graphite reinforced vinyl ester or E-Plus™ epoxy materials. The valve body meets ANSI B16.10 and flange connections are compliant to ASME B16.5 Class 150. Other flange drilling options are available.

Valve Ball

Check valve ball is manufactured from virgin PTFE and is available in solid or hollow construction. The solid PTFE ball needs just over 1 psi to unseat when the valve is in the vertical position.

Valve Seat

Check valve seat is manufactured from virgin PTFE and is designed for tight trouble free sealing in your most demanding applications. The seat is easily field repairable with only the end cap needing removal.



HOW TO ORDER

Example:

2" ANSI BALL CHECK VALVE WITH GLASS FILLED 470 RESIN VINYL ESTER RESIN AND STANDARD PTFE BALL.

PART NUMBER: 100 - 02 - A - O

STEP 1

STEP 2

STEP 3

STEP 4

100 - 02 - A - O

STEP 1

DETERMINE VALVE SERIES

100 = 470 / GLASS
105 = 470 / CARBON GRAPHITE
150 = EPOXY / GLASS
155 = EPOXY / CARBON GRAPHITE

STEP 2

DETERMINE VALVE SIZE

01 = 1"
15 = 1 1/2"
02 = 2"
03 = 3"
04 = 4"
06 = 6"

STEP 3

DETERMINE VALVE BALL DESIGN

A = SOLID PTFE
B = HOLLOW PTFE

STEP 4

SPECIAL ADDERS

O = (STD) NONE
A = SPECIAL FLANGE DRILLING
B = SPECIAL

400 series



PureFlex®
an ANDRONACO INDUSTRIES company

PureFlex is a strategic business unit of ANDRONACO INDUSTRIES located in Kentwood Michigan. Pictured below is its 200,000 sq. foot state of the art manufacturing facility.



PUREFLEX®

PureFlex is a world leading manufacturer of high performance Fluoropolymer and Composite products and technologies. We specialize in the manufacturing of fluid handling and sealing products specifically designed for Chemical, Pharmaceutical and Ultra-Pure related industries.

Since 1994, we have earned a reputation for creating flow solutions that are truly different. We create innovations -- Products that serve demanding applications better than before. PureFlex excels in its service, aggressive in its technology, bold in vision, and responsible in its regard for safe and dependable products.

Composite Ball Valve

PureFlex 400 series composite ball valve is a superior quality, ANSI Class 150 valve engineered with features not yet available in any other composite ball valve. Manufactured from advanced premium Derakane® 470 grade vinyl ester or Z-Core® epoxy resin reinforced with fiberglass or carbon graphite. The valve is able to withstand severe corrosive media as well as hostile environments up to 275 °F. The 400 series ball valve exceeds Class VI shut-off and its stem seal will meet your routine or most demanding service requirements. The massive one piece body meets ANSI B16.10 dimensions and its ISO 5211 universal mounting pad and flange mounting makes automation simple even with the valve in service. The 400 series valves are 1/2 the weight of alloy valves, offer maximum corrosion resistance, the elimination of product contamination and provide the ultimate in flexibility and value.

Industries Served

Chemical Processing
Chlor-Alkali
Steel Processing
Water And Waste Water
Offshore Platforms
Pulp and Paper
Mining
Power Generation
Military And Marine
Agricultural
Pollution Control

MATERIAL OPTIONS



400 series

The 400 series valve is manufactured from advanced premium Derakane® 470 vinyl ester resin reinforced with glass fibers. It is highly corrosion resistant and is suitable for many chemicals from (-)50 °F to 215 °F up to 275 psi. Size range 1"- 10".

Typical services

**Hydrochloric Acid
Calcium Chloride
Ferric Chloride
Isopropyl Alcohol
Phosphoric Acid
Potassium Chloride
70% Sulfuric Acid**



405 series

The 405 series valve is manufactured from advanced premium Derakane® 470 vinyl ester resin reinforced with carbon graphite fibers. It is highly corrosion resistant and is suitable for many chemicals from (-)50 °F to 250 °F up to 275 psi. Size range 1"- 10". Valve is Conductive <10³ ohms-cm resistivity.

Typical services

**10% Hydrofluoric Acid
Acetic Acid-Glacial
Ammonium Acetate
Chlorobenzene
Sodium Bisulfite
25-50% Sodium Hydroxide**



450 series

The 450 series valve is manufactured from advanced Z-CORE® epoxy resin reinforced with glass fibers. It has outstanding corrosion resistance to solvents and is suitable for many chemicals from (-)50 °F to 250 °F up to 275 psi. Size range 1"- 10".

Typical services

**98% Sulfuric Acid
Methylene Chloride
Acetone
Chloroform
Sodium Hydroxide
Ethyl Acetate
Fluorobenzene
Acetic Anhydride**



455 series

The 455 series valve is manufactured from advanced Z-CORE® epoxy resin reinforced with carbon graphite fibers. It has outstanding corrosion resistance to solvents and is suitable for many chemicals from (-)50 °F to 275 °F up to 275 psi. Size range 1"- 10". Valve is Conductive <10³ ohms-cm resistivity.

Typical services

**Same as 450 series
with higher
temperature ratings**

(VALVE SIZE AND SERVICE MAY LOWER TEMPERATURE & PRESSURE RATINGS)

4000 SERIES

Wrench

Locking wrench manufactured from Durcor®-62 vinyl ester is virtually unbreakable. Lifetime warranty against failure of any kind.

Wrench Stop

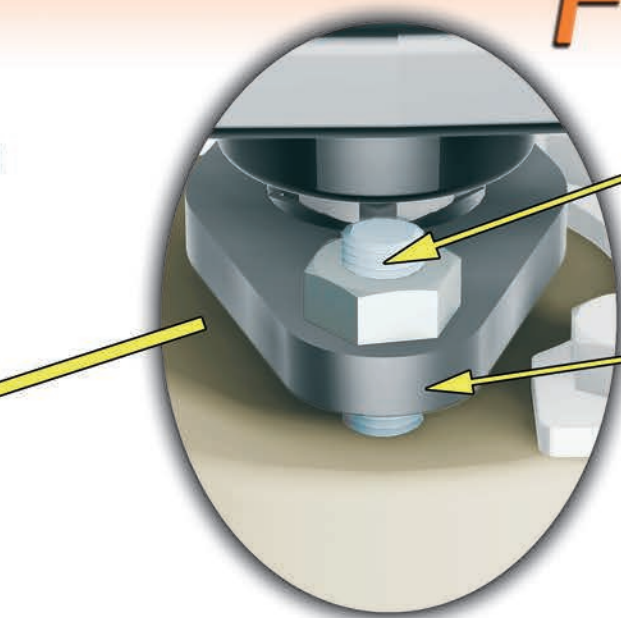
Independent locking wrench stop is bolted to valve body and not connected to packing gland in any way. Prevents unnecessary gland movement and stem side loading.



Valve Body

One piece massive valve body is light weight, rugged and is as corrosion resistant on the outside as it is on the inside to resist environmental attack. Valve body end cap is sealed with a PTFE diametrical seal locked in compression to eliminate cold flow. The valve body meets ANSI B16.10 and flange connections are compliant to ASME B16.5 Class 150. ISO 5211 and flange actuator mounting pads are standard.

FEATURES

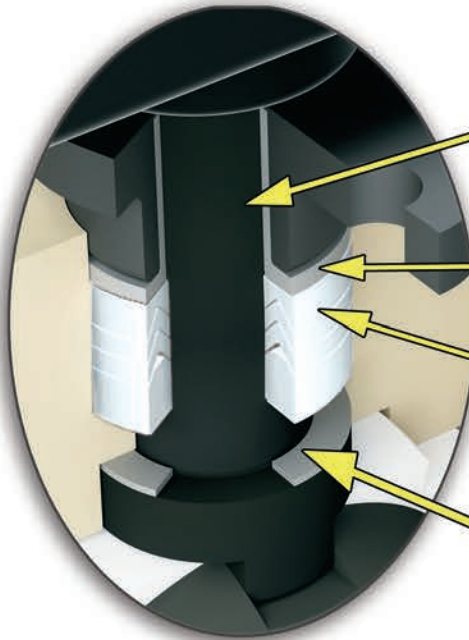


Packing Gland Adjustment

Stud and nut design, standard material is Hastelloy® C276. Designed to minimize valve body stress when adjustment is required.

Packing Gland

Packing gland standard material is Durcor®-62 and is guaranteed not to corrode in hostile environments. Optional Hastelloy® C276 available.



Valve Stem - Blow-Out Proof

Stem insert is Hastelloy® C276 encapsulated with either carbon graphite reinforced vinyl ester or Z-CORE® epoxy resin.

Stem Bearing

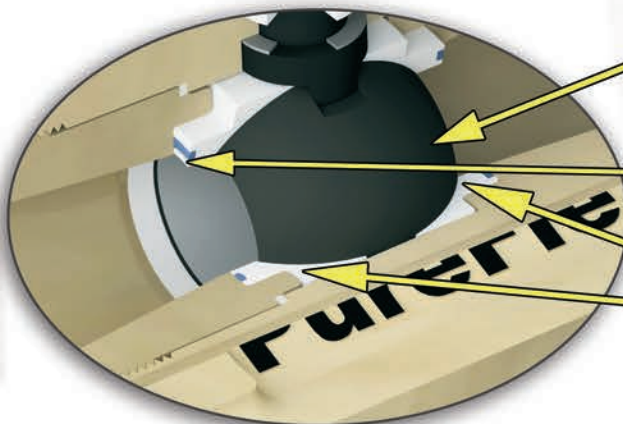
Graphite / PTFE radial bearing prevents stem side loading aiding in eliminating emissions and extending packing life.

Stem Sealing

Chevron PTFE packing provides positive stem sealing while maintaining low turning torque.

Thrust Bearing

Graphite / PTFE stem thrust bearing maintains low turning torque.



Valve Ball

Ball material is carbon graphite reinforced vinyl ester or Z-CORE® epoxy. Ball O.D. is micro polished to provide longer seat life.

Seat Energizer

PTFE coated Viton® O-rings energize seats to ball and aid in bubble tight shut-off at low pressures.

Seats

PTFE cavity filled seats minimize cavity around ball which could retain process media. Other seat materials available.

100 SERIES

BALL CHECK VALVES

Valve Body

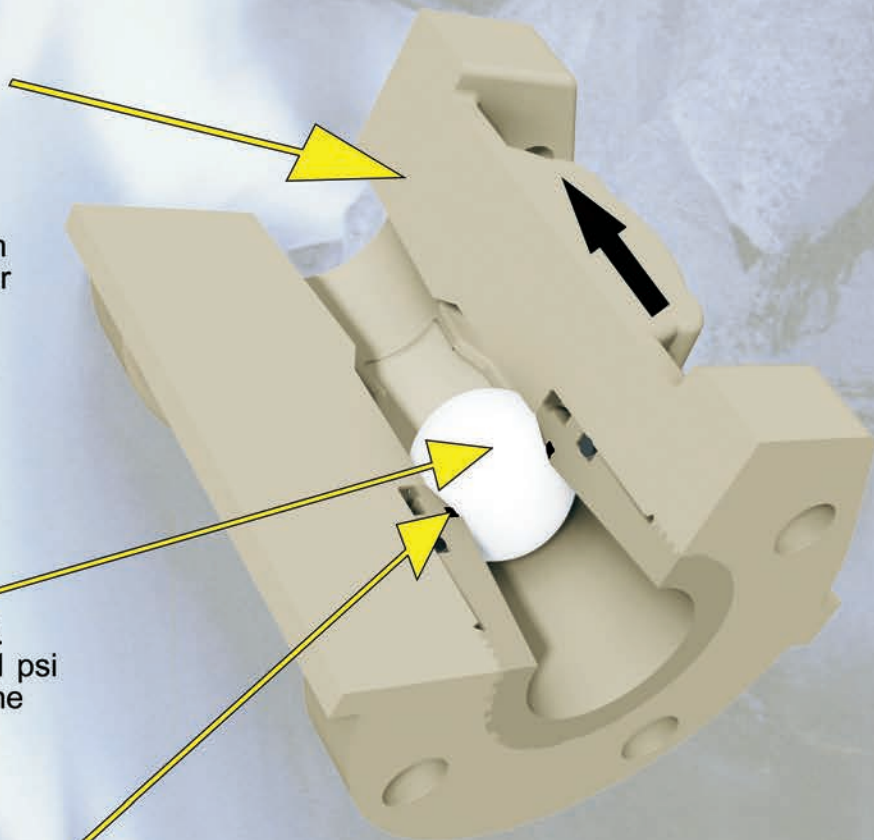
One piece massive valve body is light weight, rugged and is as corrosion resistant on the outside as it is on the inside to resist environmental attack. Available in fiberglass or carbon graphite reinforced vinyl ester or Z-CORE epoxy materials. The valve body meets ANSI B16.10 and flange connections are compliant to ASME B16.5 Class 150. Other flange drilling options are available.

Valve Ball

The solid check valve ball is manufactured from virgin PTFE. The PTFE ball needs just over 1 psi to unseat when the valve is in the vertical position.

Valve Seat

Check valve seat is manufactured from PTFE coated Viton and is designed for tight trouble free sealing in your most demanding applications. The seat is easily field repairable with only the end cap needing removal.



HOW TO ORDER

Example:

2" ANSI BALL CHECK VALVE WITH GLASS FILLED 470 RESIN, VINYL ESTER RESIN AND STANDARD PTFE BALL.

PART NUMBER: 100 - 02 - A - O

STEP 1 STEP 2 STEP 3 STEP 4

100 - 02 - A - O

STEP 1

DETERMINE VALVE
SERIES

100 = 470 / GLASS
105 = 470 / CARBON GRAPHITE
150 = EPOXY / GLASS
155 = EPOXY / CARBON GRAPHITE

STEP 2

DETERMINE VALVE
SIZE

01 = 1"
15 = 1 1/2"
02 = 2"
03 = 3"
04 = 4"
06 = 6"
08 = 8"
10 = 10"

STEP 3

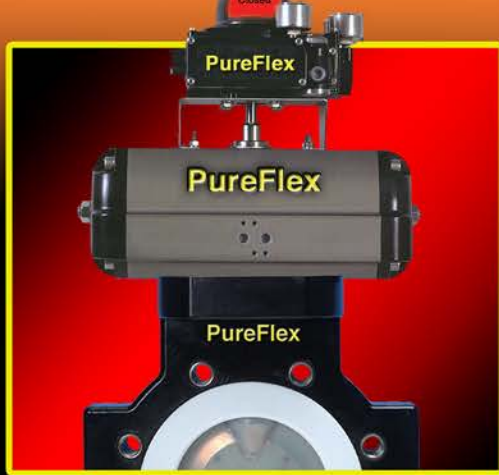
DETERMINE VALVE
BALL DESIGN

A = SOLID PTFE
B = HOLLOW PTFE

STEP 4

SPECIAL ADDERS

O = (STD) NONE
A = SPECIAL FLANGE
DRILLING
B = SPECIAL



AUTOMATED VALVES



800 SERIES - PTFE/PFA LINED



860 SERIES - RESILIENT SEATED

TRULY VISIONARY



INNOVATION

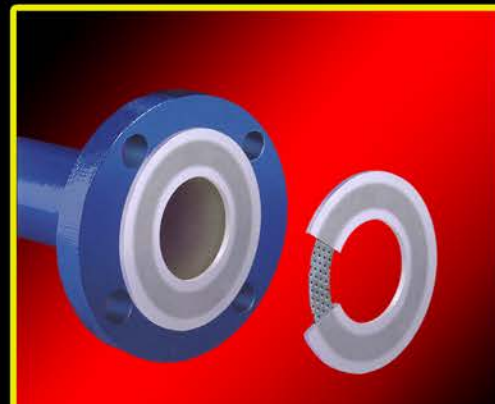
TASK-LINE® - GROUNDING PADDLES



TASK-LINE® - LINE BLOCKERS



TASK-LINE® - GASKETS





DURCOR® PTFE LINED COMPOSITE PIPING SYSTEM



PURESITE™ - UNBREAKABLE FEP



BLUELINE™ EXPANSION JOINTS



CL2™ CHLORINE HOSE



100% COMPLIANT WITH CHLORINE INSTITUTE

HEATED HOSES



PLATINUM CURED SILICONE



PTFE/FEP/PFA HOSE & FITTINGS



How To ORDER & SPECIFY

Example:

2" ANSI BALL VALVE WITH GLASS FILLED 470 RESIN, CAVITY FILLED PTFE SEATS COMPLETE WITH LOCKING HAND LEVER AND NO SPECIAL ADDERS.

PART NUMBER: **400 - 02 - A - 02 - O**



STEP 1 **STEP 2** **STEP 3** **STEP 4** **STEP 5**
400 - 02 - A - 02 - O

STEP 1

DETERMINE VALVE SERIES

400 = 470 / GLASS
405 = 470 / CARBON GRAPHITE
450 = EPOXY / GLASS
455 = EPOXY / CARBON GRAPHITE

STEP 2

DETERMINE VALVE SIZE

01 = 1"
15 = 1 1/2"
02 = 2"
03 = 3"
04 = 4"
06 = 6"
08 = 8"
10 = 10"

STEP 3

DETERMINE VALVE SEAT DESIGN

A = (STD) CAVITY FILLED VIRGIN PTFE
C = NON-CAVITY FILLED VIRGIN PTFE
E = GLASS REINFORCED PTFE
F = UHMWPE

STEP 4

DETERMINE VALVE OPERATOR

01 = (STD) BARE STEM
02 = HAND LEVER - LOCKING
03 = GEAR OPERATED
04 = GEAR OPERATED - LOCKING
05 = ACTUATION

STEP 5

SPECIAL ADDERS

O = (STD) NONE
A = SPECIAL FLANGE DRILLING
B = STEM EXTENSION
C = CHLORINE PREP
D = SPECIAL

1. Scope

1.1 The following product specifications applies to 1" through 10" flange composite valves for chemical and waste water service. Values shall be rated for up to 275 psi continuous (size dependent) service and have a temperature range of (-)50 °F to 275 °F. Valves must be bubble tight in the closed position.

1.2 It is recommended that you check chemical compatibility with your material selections.

2. Valve Body

2.1 Valve body shall be one piece of design manufactured from premium Derakane vinyl ester or Z-CORE epoxy resin reinforced with either fiberglass or carbon graphite fibers. Valve body shall have support gussets integrally molded in four equal quadrants for added strength. Two or three piece bodies shall not be allowed.

2.2 Valve body shall meet ANSI B16.10 face to face dimensions and flange connection shall be compliant to ASME B16.5 Class 150. DIN, JIS and BS drilling shall be available.

2.3 Valve body end cap shall be same material as valve body and shall have a solid PTFE diametrical seal for zero leakage.

3. Valve Operator

3.1 Hand lever operated valves shall have a locking wrench manufactured from Durcor-62 fiberglass reinforced vinyl ester and shall have a lifetime warranty against failure of any kind. Wrench shall have an independent locking stop plate mounted to valve. Under no circumstances is the handle stop plate to be connected to the valve packing gland. Metal or Nylon wrenches shall not be allowed.

3.2 Actuated valves shall have both integrally molded ISO 5211 universal mounting pad and flange mount as standard.

4. Valve Stem

4.1 Valve stem shall be blow-out proof design manufactured from Hastelloy C276 and encapsulated with carbon graphite reinforced vinyl ester or epoxy. Valve stem shall include graphite / PTFE thrust bearing.

5. Valve Stem Sealing

5.1 Valve stem seal shall be PTFE Chevron style and held in compression via Durcor-62 packing gland. Packing gland shall be adjusted via a Hastelloy C276 nut and stud assembly. Bolts used as a gland adjusters shall not be allowed.

5.2 Valve stem shall have a graphite / PTFE radial bearing located in packing gland to prevent side loading on packing.

6. Valve Ball And Ball Seats

6.1 Valve ball shall be independent from stem and be manufactured with carbon graphite fiber reinforced vinyl ester or Z-CORE epoxy.

6.2 Valve ball seats shall be cavity filled design manufactured from PTFE (TFM or glass filled PTFE available) and be energized with PTFE coated Viton O-Rings.

7. Valve Manufacturer

7.1 Valve shall be manufactured by:

PureFlex Inc.
 4855 Broadmoor Ave.
 Kentwood, Michigan 49512.
 Phone: 616-554-1100 Fax: 616-554-3633
 www.pureflex.com

PureFlex®
 Inc.
 an ANDRONACO INDUSTRIES company

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4855 Broadmoor Ave. Kentwood, MI. 49512 USA
 Ph 616-554-1100 Fax 616.554-3633
 www.pureflex.com

400-1108-1015-3

The future of erosion control is about to change

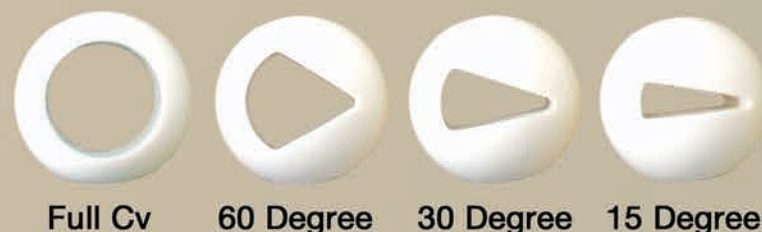
459

Tough Valve For Tough Services

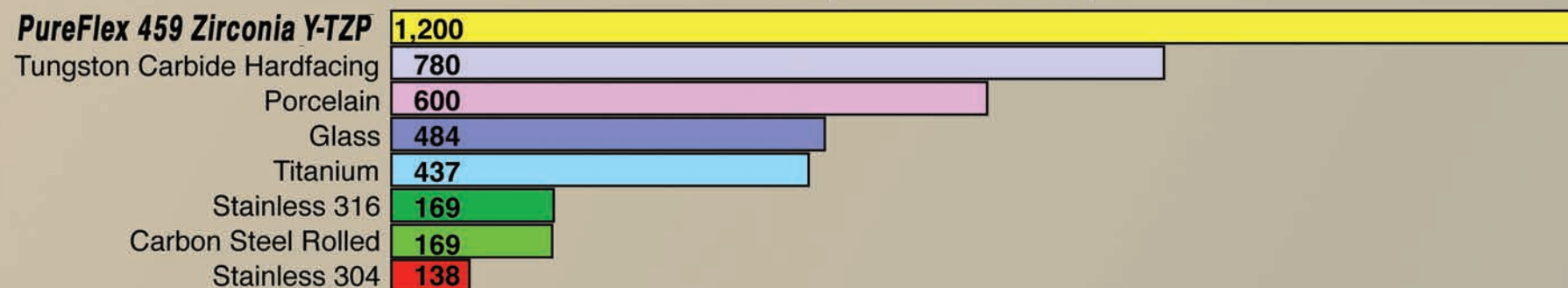
Ceramic Lined

PureFlex 459 series ceramic lined composite ball valve is a superior quality, ANSI Class 150 valve engineered with features not yet available in any other ceramic valve. The valve body is manufactured from strong, light weight advanced premium Z-Core® epoxy resin reinforced with carbon graphite. The ceramic liner / seats and ball are Yttria-partially stabilized zirconia (Y-TZP) which provides unmatched impact resistance. The valve is able to withstand abrasion, cavitation, wear, thermal cycling and severe corrosive media and environments up to 275°F. The 459 series ball valve exceeds Class IV shut-off and its stem seal will meet your routine or most rigid service requirements. The massive one piece body meets ANSI B16.10 dimensions and its ISO 5211 universal mounting pad and flange mounting makes automation simple even with the valve in service. The 459 series valves are 1/2 the weight of competitors ceramic valves, offers maximum corrosion resistance, the virtual elimination of product entrapment and provides the ultimate in flexibility and value.

Flow Control Options



Knoop Hardness Comparison



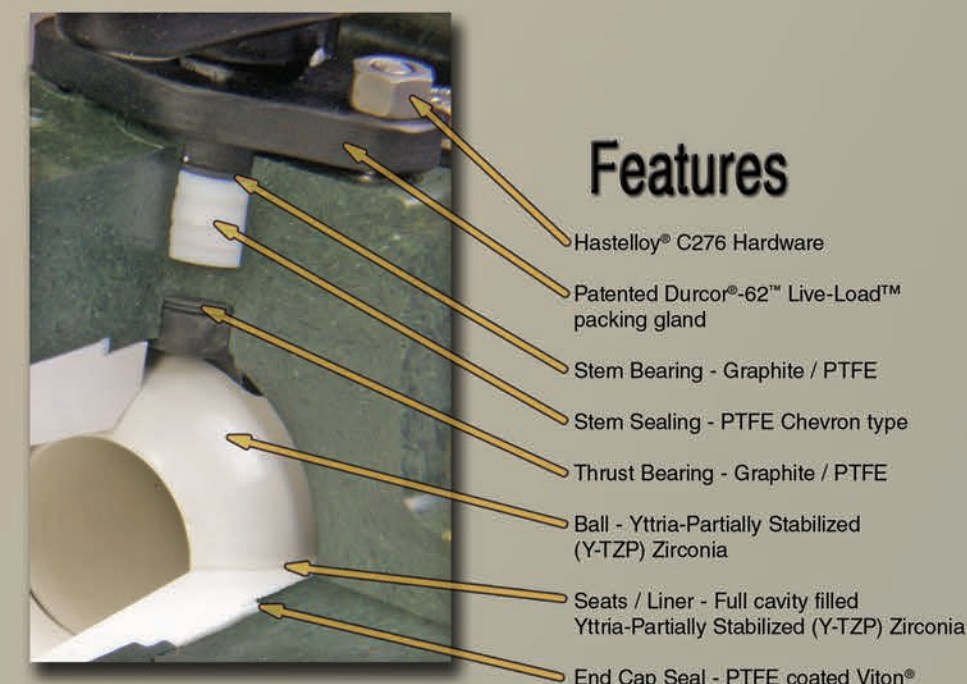
Independent locking wrench stop and ISO-5211 universal mounting pad for actuation



Locking wrench manufactured from Durcor®-62™ vinyl ester and is virtually unbreakable

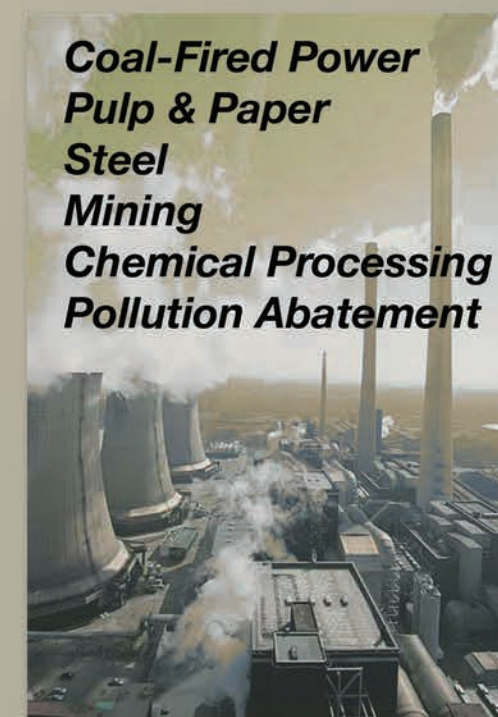
**Strong
Light Weight
Zero Corrosion**

Features



Industries Served

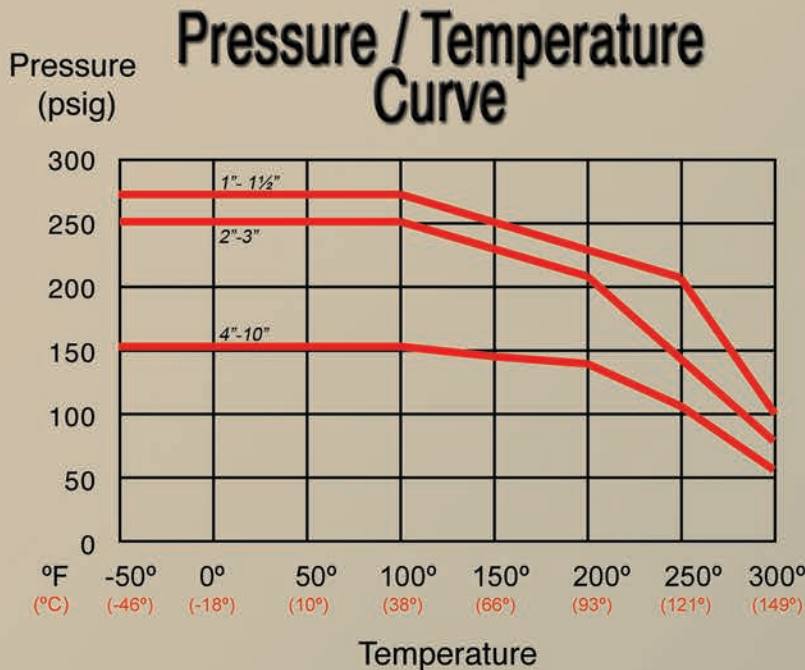
**Coal-Fired Power
Pulp & Paper
Steel
Mining
Chemical Processing
Pollution Abatement**



Applications

**Desulfurization
Corrosive Pulps
Iron Ore Tailings
Titanium Dioxide Slurry
Fly Ash
Lime Slurry
Calcium Chloride Brine
Scrubber Liquor
Fume Scrubber
Sand Slurry
Pump Cavitation
Valve Throttling**

Technical Data



Cv Data

VALVE SIZE	FULL OPEN CV
1"	45
1 1/2"	120
2"	165
3"	350
4"	550
6"	1245
8"	2150
10"	2500

Actuator Sizing

VALVE SIZE	TORQUES @ MAX. DIFF. PSI
1"	70 in.-lbs.
1 1/2"	160 in.-lbs.
2"	180 in.-lbs.
3"	440 in.-lbs.
4"	920 in.-lbs.
6"	1745 in.-lbs.
8"	2650 in.-lbs.
10"	3900 in.-lbs.

Valve Data

SIZE RANGE: 1" TO 10"

CERAMIC: YTTRIA-PARTIALLY STABILIZED ZIRCONIA

PRESSURE RANGE: FULL VACUUM TO 275psi

MAXIMUM SHOCK: INSTANTANEOUS THERMAL = 200°F

TEMPERATURE RATINGS: (-)50°F TO 275°F

(PROCESS FLUID MAY EFFECT TEMPERATURE LIMIT, PLEASE CONSULT PUREFLEX CHEMICAL GUIDE)

FLOW: BI-DIRECTIONAL

CONFORMANCE: CONFORMS TO ALL APPLICABLE

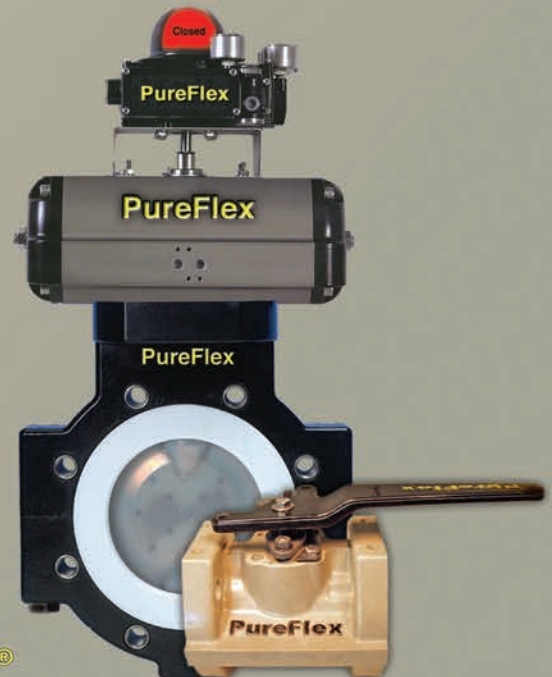
STANDARDS OF ANSI / ASME B16.10, API-598,

MSS-SP72 AND ISO-5211

FLANGE ADAPTABILITY: ANSI B16.5 CLASS 150 (STD)

DIN, JIS AND BS AVAILABILITY

SHUT OFF: EXCEEDS ANSI/FCI 70-2 CLASS IV



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PureFlex®
 an ANDRONACO INDUSTRIES company

4855 Broadmoor Ave.
 Kentwood, MI. 49512 USA

459-0705-0414-006

8900

SERIES

Large Diameter
14"-42"



The worlds **FIRST** all-composite butterfly valve
in sizes 14" and larger

PureFlex[™]
INC.

890 SERIES

**Large Diameter
14"-42"**

**VALVE BODY
CORROSION RESISTANT**

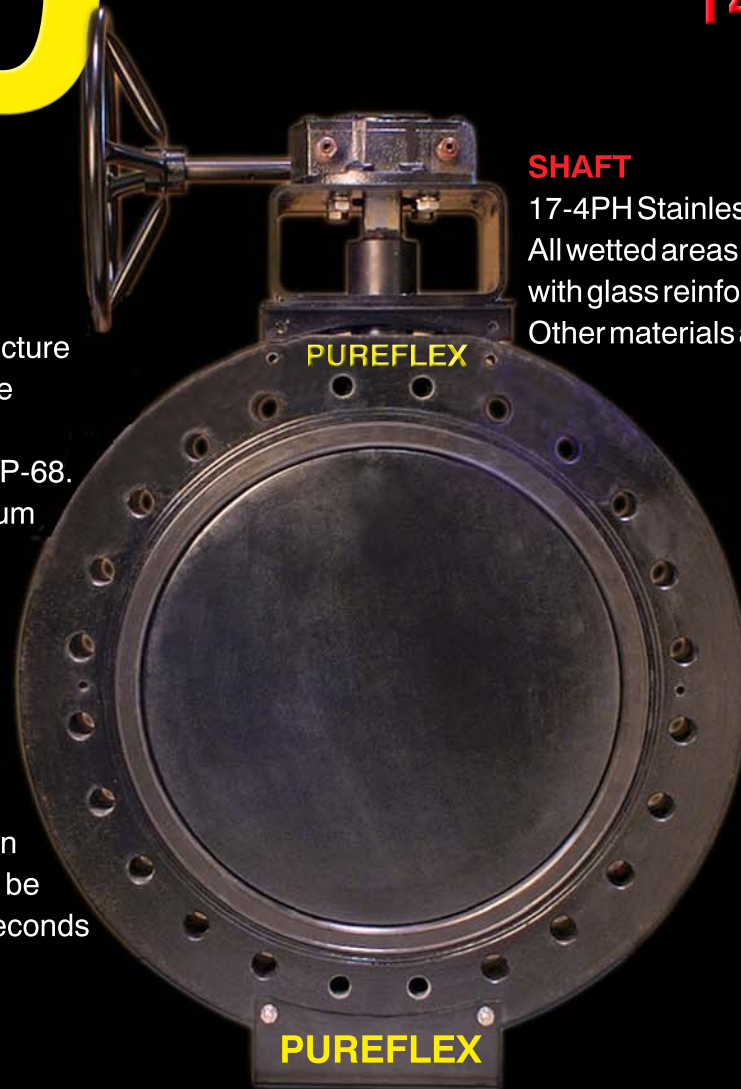
Virtually indestructible glass fiber reinforced Derakane 411 resin structure with double synthetic veil Derakane 470 corrosion liner. Valve body rated to 150 psig, tested per MSS SP-68. Shell safety factor over 20x maximum rated working pressure.

SEAT

Double offset Viton seat retainer. Can be replaced in (60) seconds

SHAFT

17-4PH Stainless - Double "D"
All wetted areas are fully encapsulated with glass reinforced Derakane 470 resin. Other materials available.



Typical Services

Chlorinated Brine
Chlorine Dioxide
Chlorinated Water
Wet Chlorine Gas
Sodium Chlorate
Sulfuric Acid
Phosphoric Acid
Hydrobromic Acid
Hydrochloric Acid
Plating Solutions
Pesticides
Flue Gas Scrubbers

*PureFlex 890 series valve is designed
for extended service life
in hostile, demanding applications
where expensive heavy alloy and lined valves fail.*

860

SERIES

**RESILIENT
SEATED**

PureFlex

PUREFLEX
COMPOSITE GROUP

860 VALVE BODY

SERIES

**Strong
Light Weight
Zero Corrosion**

The 860 series valve body is manufactured from Durcor-62™, PureFlex proprietary advanced fiber reinforced composite. Durcor-62™ has tensile and compressive strengths that rival steel along with outstanding impact resistance that is unmatched in the industry. Its reinforcing fibers are long and interlocked, this interlocked reinforcement system transfers loads throughout the fiber matrix, making the 860 series valve body virtually indestructible. The strength of Durcor-62™ enables the 860 series valve to maintain ANSI face to face dimensions, be direct threaded for lug design and allows it to be installed in any type of piping system without the need for special considerations. Durcor-62™ excels in temperatures from (-)60°F to 250°F and has only .001" of thermal expansion across its full temperature range.

- Tensile strength of 50,000psi per ASTM D-638 or 358 Mpa
- Notched Izod impact strength of 30 ft.. lb/inch per ASTM D-256 or 1760 J/M are achieved.

Tensile strength comparison

Steel 60,000psi

Durcor-62™ 50,000psi

FRP 12,000psi



Durcor-62™ vinyl ester resin backbone provides excellent protection when exposed to aggressive chemicals and hostile atmospheres such as acid sprays, bleach, salt water and high chlorides. The 860 series valve body out performs ductile iron valves not only in corrosive environments but non-corrosive as well. Its lightweight advantage reduces the need for heavier support structures for hanging, eliminates the need for extra equipment and personnel for valve installation and reduces pipe strain once installed. The 860 series "valve body" is so dependable and maintenance free that we offer the industries first 5 year warranty against failure. Contact PureFlex or your local distributor for details.



**The strongest, lightest, most chemically resistant
valve body in the world**

FEATURES



PureFlex 860 series valves take resilient seated butterfly valve technology to the next generation in reliability. The valve is bubble tight at full rated pressure of 150psi, has triple stem seals for unmatched leak free dependability and it can operate at temperatures between (-)60°F to 250°F (Consult factory for higher temperature applications). The 860 fiber reinforced vinyl ester valve body has a zero corrosion rate, the strength of steel with only 1/2 the weight, and is virtually indestructible. The 860 series is used for shut-off, throttling and transfer of many corrosive and erosive fluids and has the purity required for ultra-pure and food applications.



Double "D" machined stem

ISO 5211 compliant actuator mounting flange

Atmospheric stem seal

PTFE composite bearing (top & bottom) is self lubricating, reduces turning torque and is maintenance free

304 s.s. tapered ring compresses resilient seat onto Locking barbs located on disc stem to provide tortuous no leak path, part of triple stem seal design

Disc & Stem are one piece cast design (no welding) with thin profile for higher Cv flow rates. Disc is metal alloy or Encapsulated with food grade EPDM or Hypalon

Seat is thick elastomer in either food grade EPDM meeting FDA regulation 21CFR177.2600 or Hypalon

Durcor-62™ body virtually indestructible, light weight & corrosion resistant

Disc Choices

- EPDM / Plated DCI
- Hypalon / Plated DCI
- 316 s.s.
- Titanium Gr. C-2
- UHMWPE/S.S.

How to Order & Specify

EXAMPLE:

6" WAFER STYLE VALVE WITH EPDM SEAT, 316 S.S. DISC,
B7 ZINC PLATED FASTENERS, 10 POSITION D.I. WRENCH
PART NUMBER: **86006WO12P02**



STEP 1 STEP 2 STEP 3 STEP 4 STEP 5 STEP 6 STEP 7
860 - **06** - **WO** - **1** - **2** - **P** - **02**

STEP 1

860 = BUTTERFLY VALVE

STEP 2

DETERMINE VALVE SIZE

02 = 2" (50MM)
03 = 3" (80MM)
04 = 4" (100MM)
06 = 6" (150MM)
08 = 8" (200MM)
10 = 10" (250MM)
12 = 12" (300MM)

STEP 3

DETERMINE VALVE
BODY STYLE

WO = FLANGED WAFER (STD.)
LC = LUG COMPOSITE THREADS

STEP 4

DETERMINE SEAT MATERIAL

1 = EPDM FOOD GRADE
2 = HYPALON

STEP 5

DETERMINE DISC MATERIAL

1 = EPDM COVERED
NICKEL PLATED D.I.
2 = 316 STAINLESS
3 = UHMWPE COVERED S.S.
4 = TITANIUM GRADE C-2
5 = HYPALON COVERED
6 = SPECIAL

STEP 6

DETERMINE BODY
BOLT MATERIAL

P = GRADE B7 ZINC PLATED (STD)
S = GRADE B8M STAINLESS
T = GRADE B7 PTFE COATED
Z = SPECIAL

STEP 7

DETERMINE VALVE OPERATOR

01 = BARE STEM (STD.)
02 = 10 POSITION DI WRENCH
S2 = 10 POSITION S.S. WRENCH
03 = WORM GEAR CAST IRON
S3 = WORM GEAR STAINLESS
04 = PADLOCKING GEAR CAST IRON
S4 = PADLOCKING GEAR STAINLESS
05 = AIR ACTUATED
06 = ELECTRIC ACTUATED
ZZ = SPECIAL

1. Scope

- 1.1 The following product specification applies to resilient seated butterfly valves for food, pharmaceutical, semiconductor, chemical and/or abrasive services. Valve shall be rated for 150 psi continuous operation and have temperature rating of (-)60°F to +260°F. Valves must be bubble tight and provide (5) year valve body warranty.
- 1.2 It is recommended that you check the chemical compatibility with your material selection

2. Valve Body

- 2.1 Valve body shall be manufactured from vinyl ester and Fiberglass composite. The valve body shall be full-face flange wafer or lug style for end of the line service. Valve body shall be capable of direct threading for lug style and threads shall have nominal pullout strength of 250ft lbs.
- 2.2 Valve body composite shall have a nominal tensile strength of 50,000psi as per ASTM D-256
- 2.3 Valve body composite shall have a nominal notched izod impact strength of 30ft lb. per inch or 1760 J/M
- 2.4 Valve shall be equipped with operator mounting flange that is compliant to ISO 5211 and flange fasteners shall not be pressure retaining

3. Valve seat and energizer

- 3.1 Valve seat shall be molded food grade EPDM or Hypalon elastomer depending on service conditions, and shall be capable of full vacuum service.
- 3.2 Valve seating face of the seat shall be recessed into valve body to eliminate liner cold flow (creep).
- 3.3 Valve seat shall be mechanically retained to valve body to control movement and retention during installation.

4. Valve disc and stem

- 4.1 Disc and stem shall be one-piece blowout resistant investment casting and stem shall be double "D" machined where operator is attached. Two piece stem and disc and exposed fasteners on disc shall not be allowed. Welded stem to disc shall not be allowed.

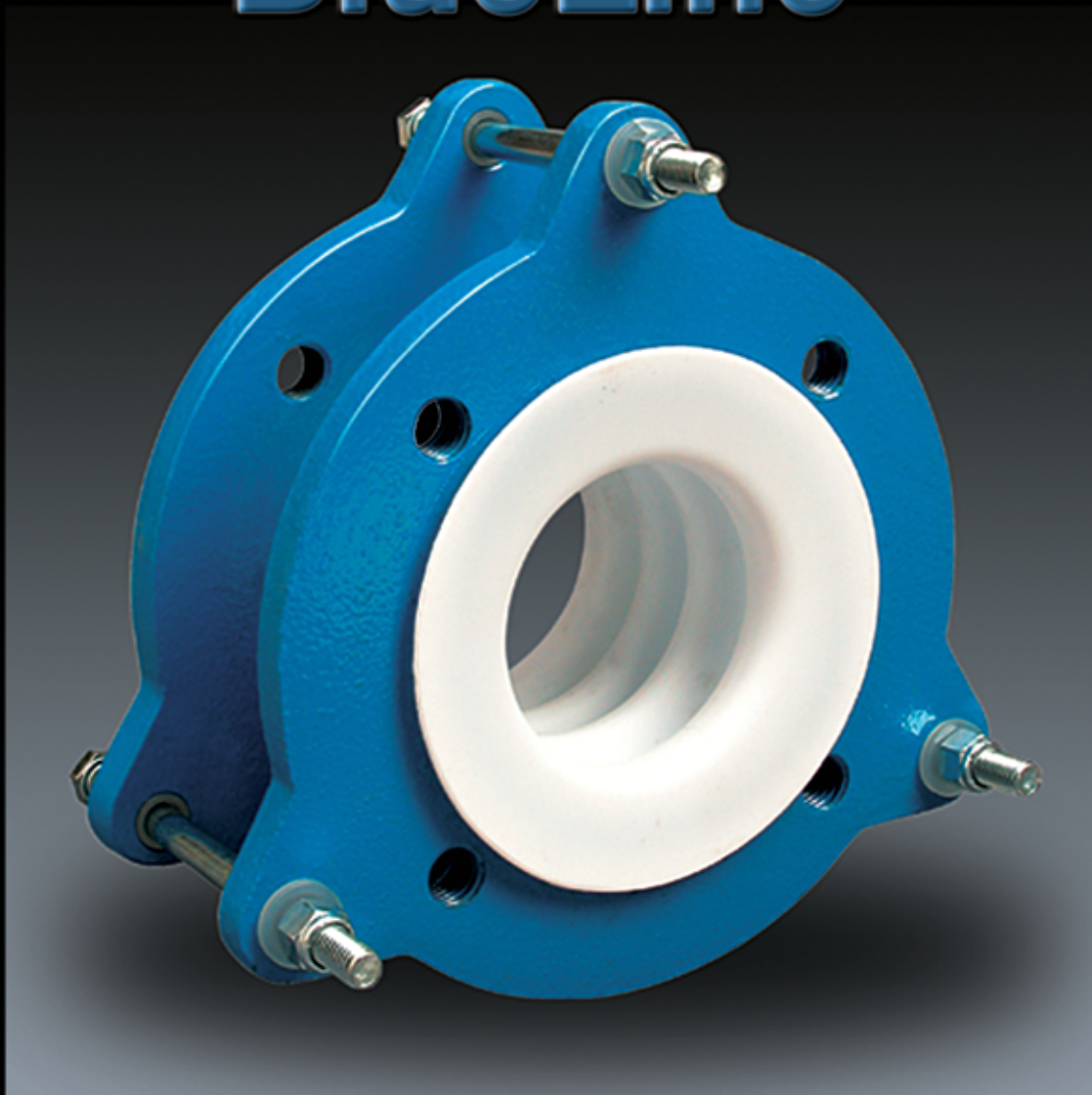
- 4.2 Disc shall be lined or unlined. Lined disc shall have an electroless-nickel plated ductile iron core encapsulated with food grade EPDM meeting FDA food contact regulation 21CFR177.2600 or commercial Hypalon and have a nominal liner thickness of .125". Unlined disc shall be 316/316L stainless steel, Hastelloy C276, or commercially pure Titanium. Disc material shall be determined by service conditions.
- 4.3 Stem shall have machined locking barbs at both ends of disc to provide torturous no leak path with valve seat.
- 4.4 Valve stem shall have top and bottom PTFE composite stem bearings
5. Valve triple stem seals
 - 5.1 Valve shall have matching radii molded seat and disc (ball and socket)
 - 5.2 Valve shall have tight compression around stem maintained by resilient energizer against valve seat.
 - 5.3 Valve shall have stainless steel tapered rings on top and bottom of disc that compress elastomeric valve seat onto locking barbs on the stem to provide a minimum of (3) sealing grooves.
 - 5.4 Valve shall have Viton atmospheric seal
6. Valve fasteners
 - 6.1 Valve body fasteners shall be hex head cap screws and nuts.
 - 6.2 Fasteners shall be zinc dichromate plated B7 Per ASTM A193 standard material. B840 stainless steel optional.
7. Valve testing
 - 7.1 Valve seat shall meet testing criteria of MSS-SP67. Valve shall be seat seal tested with 150 psi nitrogen and stem seals tested to 165 psi nitrogen with no allowable leakage. All valves shall be tagged per MSS-SP25 for identification and shall have a unique serial number.
8. Valve manufacturer
 - 8.1 Valve shall be manufactured by PureFlex, Inc., 4617 East Paris Ave., Kentwood, Michigan 49512. Phone 616.554-1100, fax 616.554-3633, www.pureflex.com

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BlueLine™



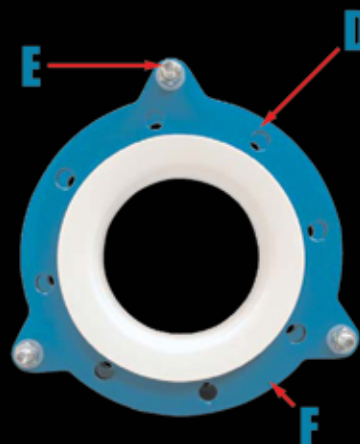
PTFE Expansion Joints

PureFlex®
an ANDRONACO INDUSTRIES company

BlueLine™ flanges are ductile iron, drilled and tapped per ANSI B16.5 for Class 150 piping systems. Limitbolts are zinc-plated steel mounted through plastic grommets.

DUCTILE IRON FLANGE DATA

Flange Size	D Class 150#			E Limit Bolt		F Flange	
	Holes	Thread	B.C.	Dia.	B.C.	Dia.	Thk.
1"	4	1/2-13	3-1/8"	1/4"	5-1/16"	4-1/4"	5/16"
1-1/2"	4	1/2-13	3-7/8"	1/4"	5-13/16"	5"	3/8"
2"	4	5/8-11	4-3/4"	3/8"	7-1/16"	6"	1/2"
2-1/2"	4	5/8-11	5-1/2"	3/8"	8-1/16"	7"	1/2"
3"	4	5/8-11	6"	3/8"	8-9/16"	7-1/2"	3/16"
4"	8	5/8-11	7-1/2"	3/8"	10-1/16"	9"	5/8"
5"	8	3/4-10	8-1/2"	1/2"	11-5/16"	10"	11/16"
6"	8	3/4-10	9-1/2"	1/2"	12-5/16"	11"	11/16"
8"	8	3/4-10	11-3/4"	1/2"	14-13/16"	13-1/2"	3/4"
10"	12	7/8-9	14-1/4"	5/8"	17-1/2"	16"	13/16"
12"	12	7/8-9	17"	5/8"	20-1/2"	19"	7/8"



BlueLine™ HP - High Purity PFA
(Note: PFA does not have the Flex-life of PTFE)

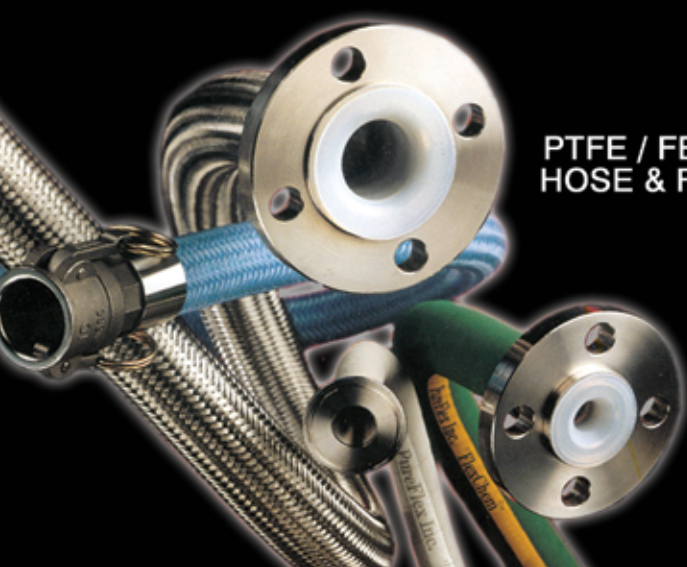
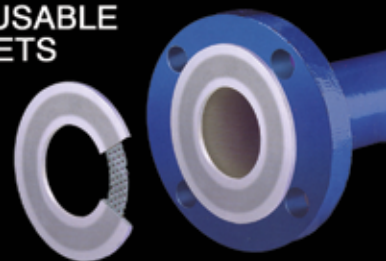
BlueLine™ PTFE flexible products can be used in full vacuum applications to the following Temperatures

Size	Flexible Coupling (2) Convolutions	Expansion Joint (3) Convolutions	Bellows (5) Convolutions
1"	450°F	450°F	425°F
1-1/2"	450°F	450°F	425°F
2"	450°F	450°F	425°F
2-1/2"	425°F	425°F	400°F
3"	425°F	425°F	350°F
4"	400°F	400°F	300°F
5"	400°F	350°F	250°F
6"	320°F	300°F	200°F
8"	250°F	200°F	150°F
10"	200°F	200°F	100°F
12"	150°F	120°F	CF

CF = Consult Factory



TASK-LINE® REUSABLE PTFE GASKETS



**PTFE / FEP / PFA
HOSE & FITTINGS**

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