



PTFE LINED PIPE & FITTINGS

PTFE Lined Products



YOUR PARTNER IN THE TRENCHES | HDPEINC.COM

PTFE LINED VALVES



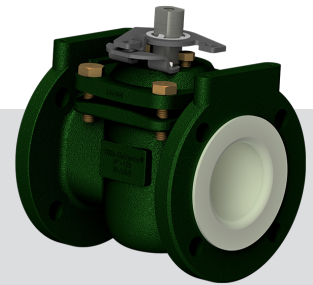
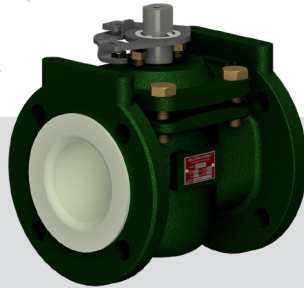
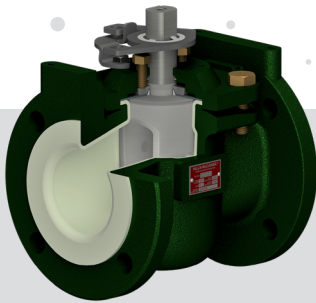
Hills-McCanna® Butterfly Valves
PTFE / PFA / UHMWPE Seats, PFA /
UHMWPE / Stainless / Titanium Discs
Size Range 2" to 24"



**45° Ball
Check Valve**



**Hills-McCanna® PFA Lined
Ball Check Valves**
Size Range 1" to 6"



Hills-McCanna® TFM / PFA Lined Plug Valves
Size Range 1" to 8"



**Hills-McCanna® PFA Lined
Full Port & Std. Port Ball Valves**
Size Range 1" to 6"



PTFE LINED PIPE ACCESSORIES



T-Line™ ETFE or PFA Lined Basket

Strainers with PTFE Basket
Size Range 2" to 8"



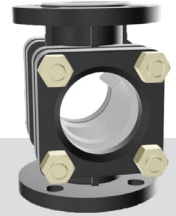
Hills-McCanna® ETFE / PVDF or Polypro Lined Diaphragm Valves

Size Range 1" to 8"



Hills-McCanna® 360° Sight Flow Indicators

PFA Lined Size Range 1" to 12"



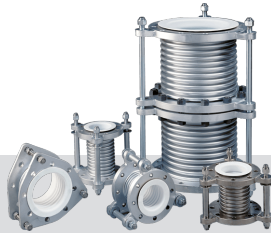
Hills-McCanna® Bullseye Sight Flow

Size Range 1" to 24"



Flexijoint® PTFE Expansion Joint

Size Range 1/2" to 42"
2 to 12 convolutions



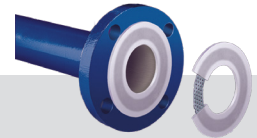
FlexArmor® PTFE Lined Metal Expansion Bellows

Size Range 1 1/2" to 24"



Custom Rotolining ETFE / PFA / PVDF / PE Linings, Fittings & Tanks

Size Range 1" to 142"
Range 1" to 12"



TASK-LINE® Gaskets

Size Range 1/2" to 36"



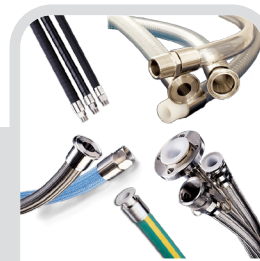
Ethylarmor® Dip Tubes & Spargers

Size Range 1" to 8" To 36 Feet Long



RamParts Pumps® Ultra Heavy Duty Diaphragm Pumps

Size Range 1 1/2" to 6"
Pass 3" Solids



PureFlex® PTFE / FEP / Silicone Lined Hoses & Fittings

Size Range 1/8" to 6"

CHEMTITE® DESIGN CHARACTERISTICS

Liner Polytetrafluoroethylene (PTFE) ASTM D4894

LINER MATERIAL PROPERTIES		
LINER PROPERTIES	TEST METHOD	PTFE
Service Temperature (°F)	-	(-)20 to 450 °F
Min. Tensile Strength at Break (psi)	ASTM D386	3000
Min. Elongation at Break (%)	ASTM D638	250
Izod Impact Strength @ - 40°F	ASTM D256	1.5
Izod Impact Strength @ - 75°F	ASTM D256	3
Hardness Durometer (Shore D)	ASTM D2240	55
Thermal Conductivity (Btu-in/h-ft ² -°F)	ASTM E1530	1.7
Dielectric Strength (V/mil)	ASTM D149	600
Surface Resistivity (Ω-sq.)	ASTM D257	>1018
Water Absorption (%)	ASTM D570	<0.01
Specific Gravity	-	2.14-2.19
Static Coefficient of Friction	-	0.05
Liner Color	-	White
Liner Identification Band	-	Black with White Lettering

*Optional Liners Available: PFA, PVDF, ETFE, Polypropylene or Polyethylene

Standard Exterior Coating

Ethylene ChemTite® lined piping products are coated standard with a two-part high solids, high build, polyamide epoxy primer. When used as an intermediate coat as part of a multi-coat system, additional coats may be applied up to a maximum of 1 year to pipe / fittings not installed.

Carbon / Stainless Steel

PIPE

Carbon Steel:

ASTM A53 Gr. B Seamless or ASTM A106

Stainless Steel: ASTM A312

- 1" - 8" : Schedule 40/40S
- 10" : Schedule 30
- 12" : Schedule 20

FITTINGS

Fabricated Carbon Steel:

ASTM A53, ASTM 513, ASTM A516 or ASTM A234 per ASME B16.9

Cast fittings: ASTM A395 Cast Ductile Iron or ASTM A216 Gr. WCB Cast Steel

Fabricated Stainless Steel:

ASTM A312, ASTM A240 or ASTM A403 Gr. WPS per ASME B16.9

FLANGES

Rotating Lap Joint Or Fixed Slip-On

- ASTM A105 Forged Carbon Steel per ASME B16.5,
- ASTM A182 Forged Stainless Steel per ASME B16.5

Fixed Threaded

- ASTM A395 Cast Ductile Iron per ASME B16.42
- ASTM A182 Forged Stainless Steel per ASME B16.5

TESTING

All qualifications per ASTM F1545 are conducted on representative samples including:

- Steam-cold water cycle product qualification testing
- High temperature product qualification testing
- Low temperature product qualification testing
- Vacuum product qualification testing
- All products are spark tested at 15 kV or hydrostatically tested at 1.5X design pressure prior to shipment

Pressure and Vacuum Ratings

Pressure / temperature ratings of ChemTite® PTFE lined pipe and fittings are based on the industry standard published ratings for flanges by material grade. In general, ChemTite® PTFE lined pipe and fitting are fully vacuum rated up to 450°F.

**CL300 option available. Consult Factory.*

MAXIMUM PRESSURE & VACUUM RATINGS		
TEMPERATURE	CL150	VACUUM
100 °F	285 psig	Full
150 °F	285 psig	Full
200 °F	260 psig	Full
300 °F	230 psig	Full
400 °F	200 psig	Full
450 °F	200 psig	Full

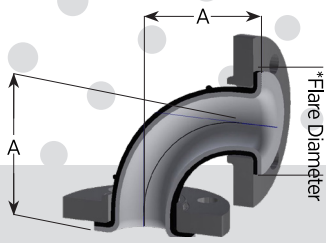
NOMINAL PIPE DIMENSIONS & PTFE LINER THICKNESS					
Nominal Pipe Size (in)	Nominal Outside Dia.(in)	Nominal Wall Thickness (in)			Nominal PTFE Liner Thickness (in)
		Sch. 40	Sch. 30	Sch. 20	
1	1.315	0.133	-	-	0.13
1 - 1/2	1.9	0.145	-	-	0.15
2	2.375	0.154	-	-	0.16
3	3.5	0.216	-	-	0.16
4	4.5	0.237	-	-	0.18
6	6.625	0.28	-	-	0.28
8	8.625	0.322	-	-	0.31
10	10.75	-	0.307	-	0.35
12	12.75	-	-	0.25	0.425

*Consult Factory for Sizes 14"-42"

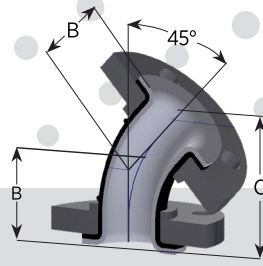
Flange & Pipe Dimensions, PTFE Liner Thickness

Note: Acceptable service temperature range is dependent on the process fluid.

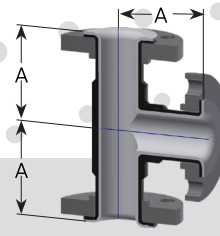
CHEMTITE® FITTINGS & DIMENSIONS



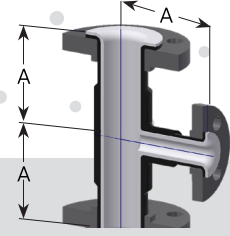
90° Elbow



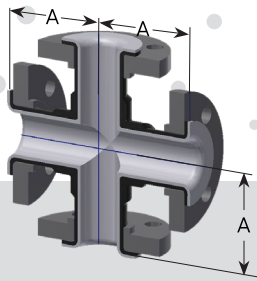
45° Elbow



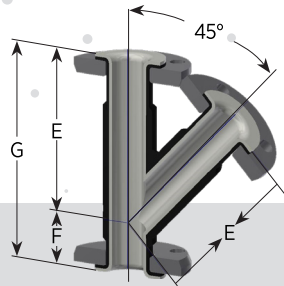
Equal Tee



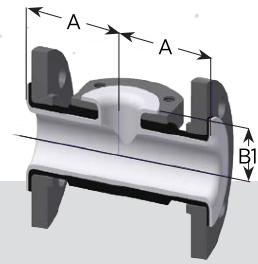
Reducing Tee



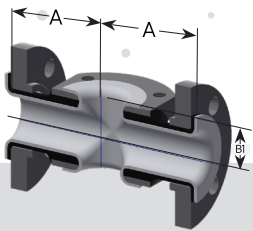
Equal Cross



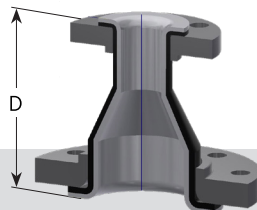
45° Lateral



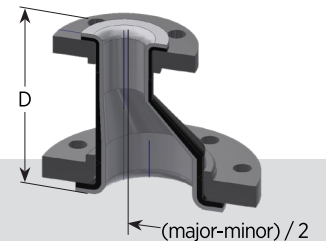
Short Stack Tee



Short Stack Cross

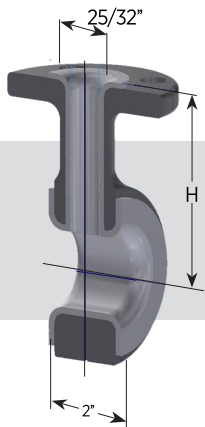


Concentric Reducer

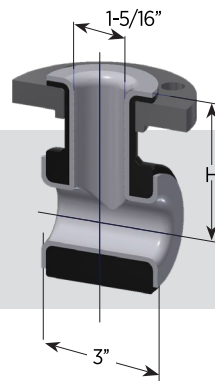


Eccentric Reducer

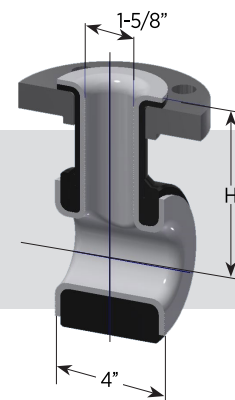
1" Branch Instrument Tee



1 1/2" Branch Instrument Tee



2" Branch Instrument Tee



* Fabricated Special Angle Elbows Available. Consult Factory.

ASME CL150 FLANGED FITTING DIMENSIONS (IN)

Size	A	B	C	D	E	F (G - E)	G	B1	H
1	3 - 1/2	1 - 3/4	3	4 - 1/2	5 - 3/4	1 - 3/4	7 - 1/2	1 - 1/4	3 - 1/2
1 - 1/2	4	2 - 1/4	3 - 27/32	4 - 1/2	7	2	9	1 - 1/2	4
2	4 - 1/2	2 - 1/2	4 - 1/4	5	8	2 - 1/2	10 - 1/2	1 - 3/4	4 - 1/2
3	5 - 1/2	3	5 - 1/8	6	10	3	13	2 - 3/4	5 - 1/2
4	6 - 1/2	4	6 - 13/16	7	12	3	15	3 - 1/4	6 - 1/2
6	8	5	8 - 9/16	9	14 - 1/2	3 - 1/2	18	4 - 1/4	8 - 1/16
8	9	5 - 1/2	9 - 3/8	11	17 - 1/2	4 - 1/2	22	5 - 1/4	9
10	11	6 - 1/2	11 - 1/8	12	-	-	-	6 - 1/4	10 - 3/8
12	12	7 - 1/2	12 - 13/16	14	-	-	-	7 - 5/16	11 - 7/8

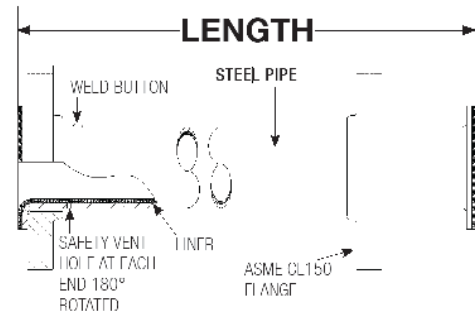
* Flare - All flare diameters on all pipe & fittings are per ASTM F1545

Notes:

1. Fittings are available with fixed & rotating flanges.
2. Fittings are also available with DIN flange dimensions.
3. ASME CL150 fittings are available with CL300 flange.
4. All dimensions are in inches and include the lining. (Tolerance +/- 1/8")
5. All fittings conform to ASME B16.42 or B16.5 dimensions after lining.

CHEMTITE® SPOOLS AND DIMENSIONS

Pipe Spools



*18" and shorter pipe spools have only one vent hole.

MIN / MAX PIPE SPOOL LENGTH

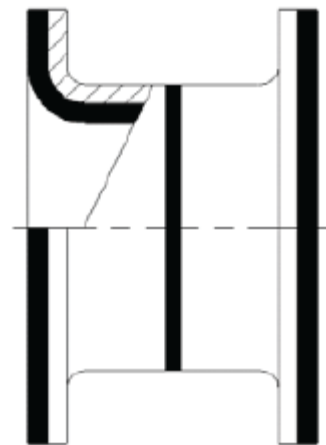
Size (in)	Max Length (ft)	Min Length (in)	With Vent Coupling or Grounding Studs (in)	CL150 Field Flare Threaded Flanges (in)
	CL150	CL150	CL150	
1	20	3	4 1/8	5 1/2
1 - 1/2	20	3 3/8	4 5/8	7
2	20	3 1/2	4 7/8	8
3	20	4	5 3/8	10 5/8
4	20	4 3/8	5 5/8	11
6	20	5 1/2	6 1/2	16 1/2
8	20	6 1/2	7	16 1/2
10	15	8 1/2	8 1/2	N/A
12	15	8 1/2	8 1/2	N/A

*Consult Factory for CL300 Pipe & Fittings | *Consult Factory for Sizes 14"-42"

Distance Pieces

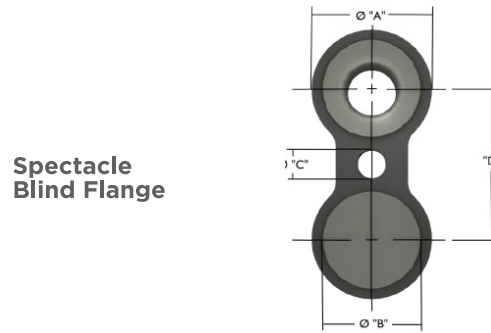
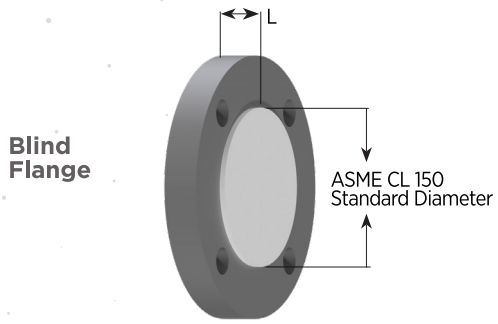
DISTANCE PIECES (IN)

SIZE	MIN LENGTH	MAX LENGTH
1	3	3
1 - 1/2	3	3
2	3	3 1/2
3	3	4
4	3	4 3/8
6	3	5 1/2
8	3	6 1/2
10	3	7 1/2
12	3	8 1/2



* Distance Pieces are used when more length than a spacer is required, but the bulk of flanges are undesirable. These are wafer components requiring longer studs to assemble.

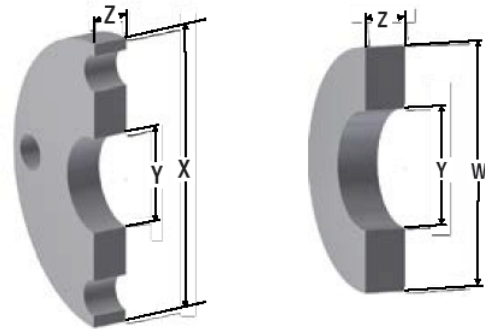
Blind & Spectacle Blind Flanges



BLIND & SPECTACLE BLIND FLANGES (IN)						
Size	L	A	B	C	D	M
1	11/16	2 - 1/2	2	5/8	3 - 1/8	3/4
1 - 1/2	13/16	3 - 1/4	2 - 7/8	5/8	3 - 7/8	7/8
2	7/8	4	3 - 5/8	3/4	4 - 3/4	7/8
3	1 - 1/16	5 - 1/4	5	3/4	6	1 - 1/8
4	1 - 1/16	6 - 3/4	6 - 3/16	3/4	7 - 1/2	1 - 1/8
6	1 - 1/8	8 - 5/8	8 - 1/2	7/8	9 - 1/2	1 - 1/8
8	1 - 1/4	10 - 7/8	10 - 5/8	7/8	11 - 3/4	1 - 1/4
10	1 - 5/16	13 - 1/4	12 - 3/4	1	14 - 1/4	1 - 3/8
12	1 - 3/8	16	15	1	17	1 - 3/8

Lined & Solid Ring Spacers

SOLID & FULL FACE RING SPACERS (IN)					
Size	W	X	Y	Z Min	Z Max
1	2 5/8	4 1/4	1	1/2	3
1 - 1/2	3 3/8	5	1 1/2		
2	4 1/8	6	2		
3	5 3/8	7 1/2	3		
4	6 7/8	9	4		
6	8 3/4	11	6		
8	11	13 1/2	8		
10	13 3/8	16	10		
12	16 1/8	19	12		

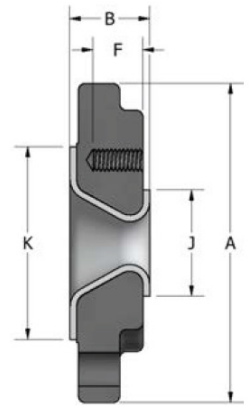
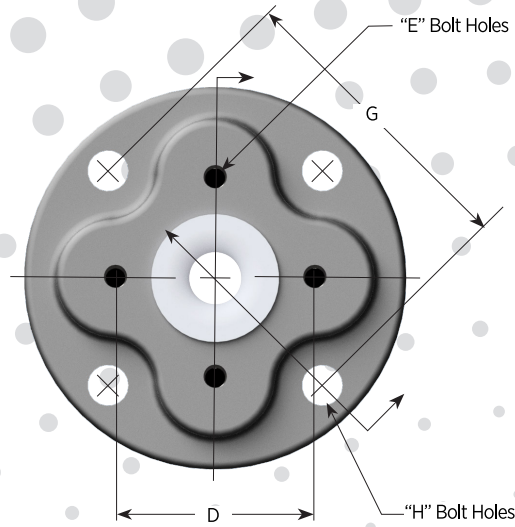


LINED RING SPACERS (IN)			
Size	R	S Min	S Max
1	2 5/8	1/2	3
1 - 1/2	3 3/8		
2	4 1/8		
3	5 3/8		
4	6 7/8		
6	8 3/4		
8	11	1	
10	13 3/8		
12	16 1/8		



*Tapered Spacers also available. Contact Factory for more information.

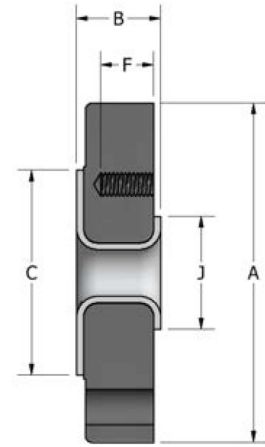
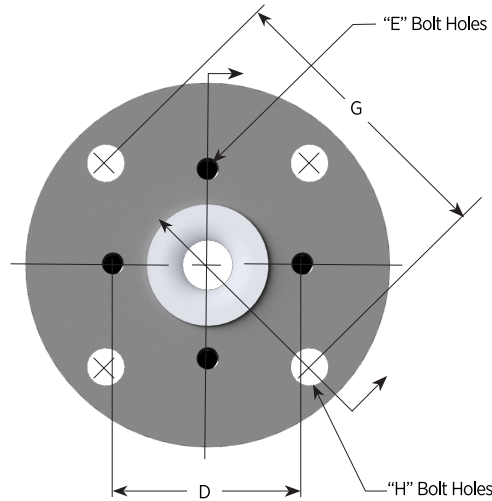
Tapered Reducing Flange



CL150 FLANGED (IN)

Major Size	Minor Size	Thickness B	OD A	H- Bolt Holes			E-Bolt Holes				Flare Dimensions		Bolt Hole Rotation
				No.	Size	Bolt Circle Dia. G	No.	Size.	Bolt Circle Dia. D	Depth F	K	J	
1-1/2	1	19/16	5	4	5/8	3 7/8	4	1/2 - 13	3 1/8	7/8	2 7/8	2	45
2	1	19/16	6	4	3/4	4 3/4	4	1/2 - 13	3 1/8	7/8	3 5/8	2	45
	1 1/2	19/16	6	4	3/4	4 3/4	4	1/2 - 13	3 7/8	7/8	5	2 7/8	45
3	1	15/8	7 1/2	4	3/4	6	4	1/2 - 13	3 1/8	3/4		2	45
	1 1/2	15/8	7 1/2	4	3/4	6	4	1/2 - 13	3 7/8	7/8		2 7/8	45
	2	13/4	7 1/2	4	3/4	6	4	5/8 - 11	4 3/4	7/8	6 3/16	3 5/8	45
4	1	17/8	9	8	3/4	7 1/2	4	1/2 - 13	3 1/8	11/16		2	none
	1 1/2	15/8	9	8	3/4	7 1/2	4	1/2 - 13	3 7/8	7/8		2 7/8	none
	2	2	9	8	3/4	7 1/2	4	5/8 - 11	4 3/4	7/8		3 5/8	none
	3	13/4	9	8	3/4	7 1/2	4	5/8 - 11	6	7/8	8 1/2	5	none
6	1 1/2	17/8	11	8	7/8	9 1/2	4	1/2 - 13	3 7/8	11/16		2 7/8	none
	2	17/8	11	8	7/8	9 1/2	4	5/8 - 11	4 3/4	3/4		3 5/8	none
	3	13/4	11	8	7/8	9 1/2	4	5/8 - 11	6	1		5	none
	4	2 1/8	11	8	7/8	9 1/2	8	5/8 - 11	7 1/2	7/8		6 3/16	none
8	4	2	13 1/2	8	7/8	11 3/4	8	5/8 - 11	7 1/2	7/8	10 5/8	6 3/16	22 1/2
	6	2	13 1/2	8	7/8	11 3/4	8	3/4 - 10	9 1/2	11/8		8 1/2	22 1/2
10	4	2 7/16	16	12	1	14 1/4	8	5/8 - 11	7 1/2	7/8	12 3/4	6 3/16	none
	6	2 7/16	16	12	1	14 1/4	8	3/4 - 10	9 1/2	1		8 1/2	none
	8	2 7/16	16	12	1	14 1/4	8	3/4 - 10	11 3/4	1		10 5/8	none

Full Bore Reducing Flange



CL150 FLANGED (IN)

Major Size	Minor Size	Thickness	OD	H- Bolt Holes			E-Bolt Holes				Flare Dimensions		Bolt Hole Rotation
		B	A	No.	Size	Bolt Circle Dia.	No.	Size.	Bolt Circle Dia.	Depth	C	J	
						G			D				
1 1/2	1	1 3/16	5	4	1/2 - 13	3 7/8	4	1/2 - 13	3 1/8	7/16	2 7/8	2	45
2	1	7/8	6	4	5/8 - 11	4 3/4	4	1/2 - 13	3 1/8	1/2	3 5/8	2	45
3	1	1 3/16	7 1/2	4	5/8 - 11	6	4	1/2 - 13	3 1/8	5/8	5	2	---
	1 1/2	1 5/16							3 7/8			2 7/8	
	2							5/8 - 11	4 3/4			3 5/8	45
4	1	1 5/16	9	8	3/4	7 1/2	4	1/2 - 13	3 1/8	11/16	6 3/16	2	---
	1 1/2								3 7/8	5/8		2 7/8	
	2							5/8 - 11	4 3/4			3 5/8	
	3				3/4 - 10				6			5	
6	1	1 3/8	11	8	7/8	9 1/2	4	1/2 - 13	3 1/8	5/8	8 1/2	2	---
	1 1/2								3 7/8			2 7/8	
	2				3/4 - 10			5/8 - 11	4 3/4			3 5/8	
	3								6			5	
	4						8		7 1/2			6 3/16	22.5
8	2	1 1/2	13 1/2	8	7/8	11 3/4	4	5/8 - 11	4 3/4	5/8	10 5/8	3 5/8	---
	3								6			5	
	4						8		7 1/2			6 3/16	
	6				3/4 - 10			3/4 - 10	9 1/2	3/4		8 1/2	22.5
10	2	1 9/16	16	12	1	14 1/4	4	5/8 - 11	4 3/4	7/8	12 3/4	3 5/8	---
	3								6				
	4						8		7 1/2			6 3/16	
	6							3/4 - 10	9 1/2			8 1/2	
	8				7/8 - 9				11 3/4			10 5/8	
12	4	1 5/8	19	12	1	17	8	5/8 - 11	7 1/2	7/8	15	6 3/16	---
	6							3/4 - 10	9 1/2			8 1/2	
	8								11 3/4			10 5/8	
	10				7/8 - 9		12	7/8 - 9	14 1/4			12 3/4	

Total Systems Turnkey™ Benefits to Our Customers

- Access to technical expertise for corrosive fluid handling
- Reduced complexity for product and material selections Increased performance and reliability of your operations
- One-stop selection and sourcing for multiple components
- Field services from same company that manufactures the products

Market Applications

Whether you are managing acids, solvents, or waste streams, we provide total systems built from durable materials and backed by decades of industry expertise. Our products and services are trusted in markets like chemical manufacturing, food & beverage, mining of metals & minerals (including lithium), natural gas distribution, pharmaceutical, power generation, pulp & paper, semiconductor, steel processing, and water & wastewater treatment (municipal and industrial) which often have demanding applications related to corrosion control.

Certifications and Standards

Our products meet a host of standards and quality certifications. Examples include ISO 9001:2015 for general quality, ASME RTP-1 for vessels & tanks, ASTM F1545 for plastic lined metal piping systems, and NSF for Polyvalve™ Poly-Water™ valves.

Standards and Quality Certifications

Andronaco has multiple manufacturing locations in Michigan and Texas with fabrication support in Louisiana and field services offices in Texas and Louisiana. Our multiple facilities allow end users to work with Andronaco to obtain certification documents for Made in USA and Build America, Buy America requirements.

