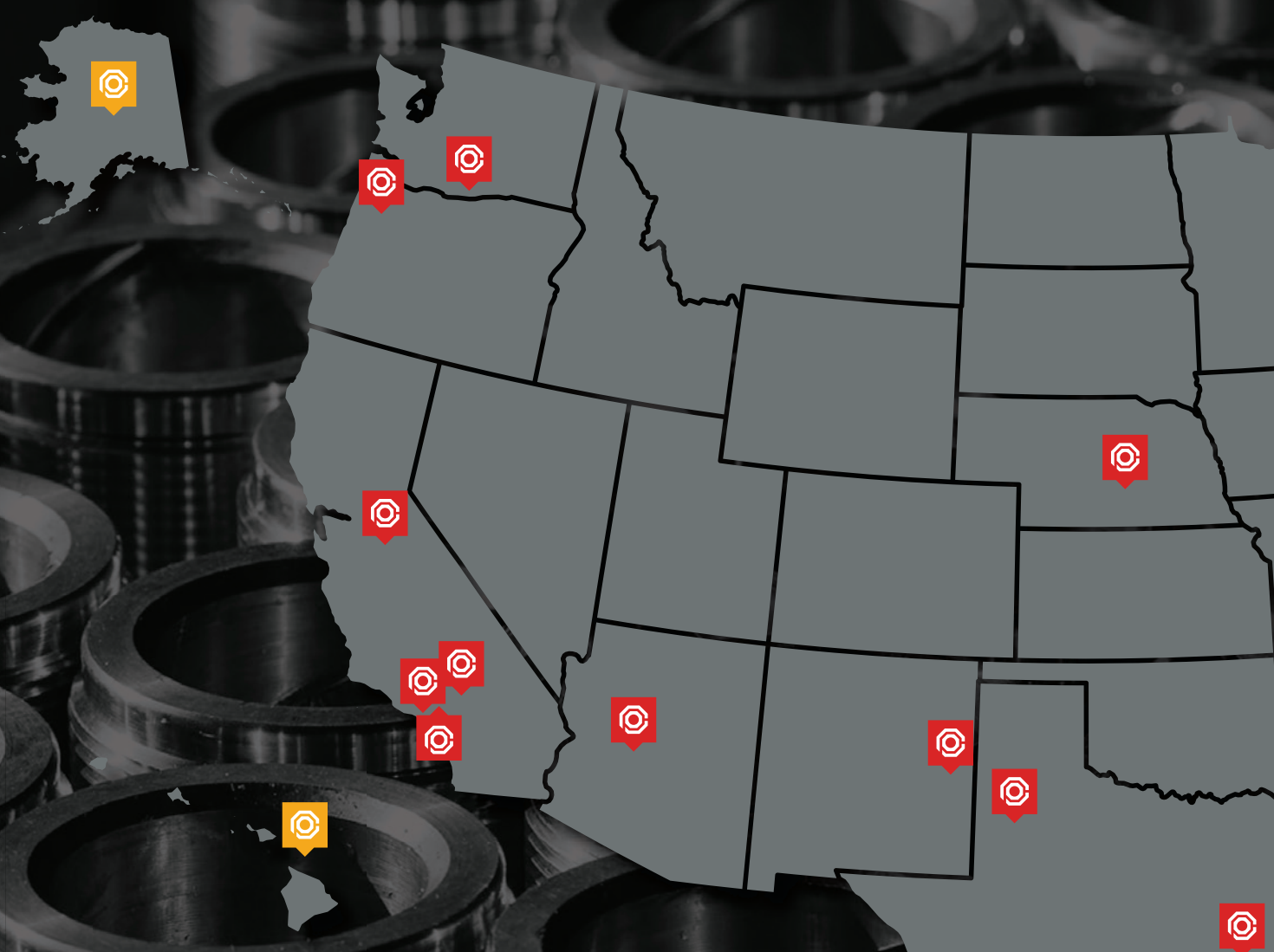
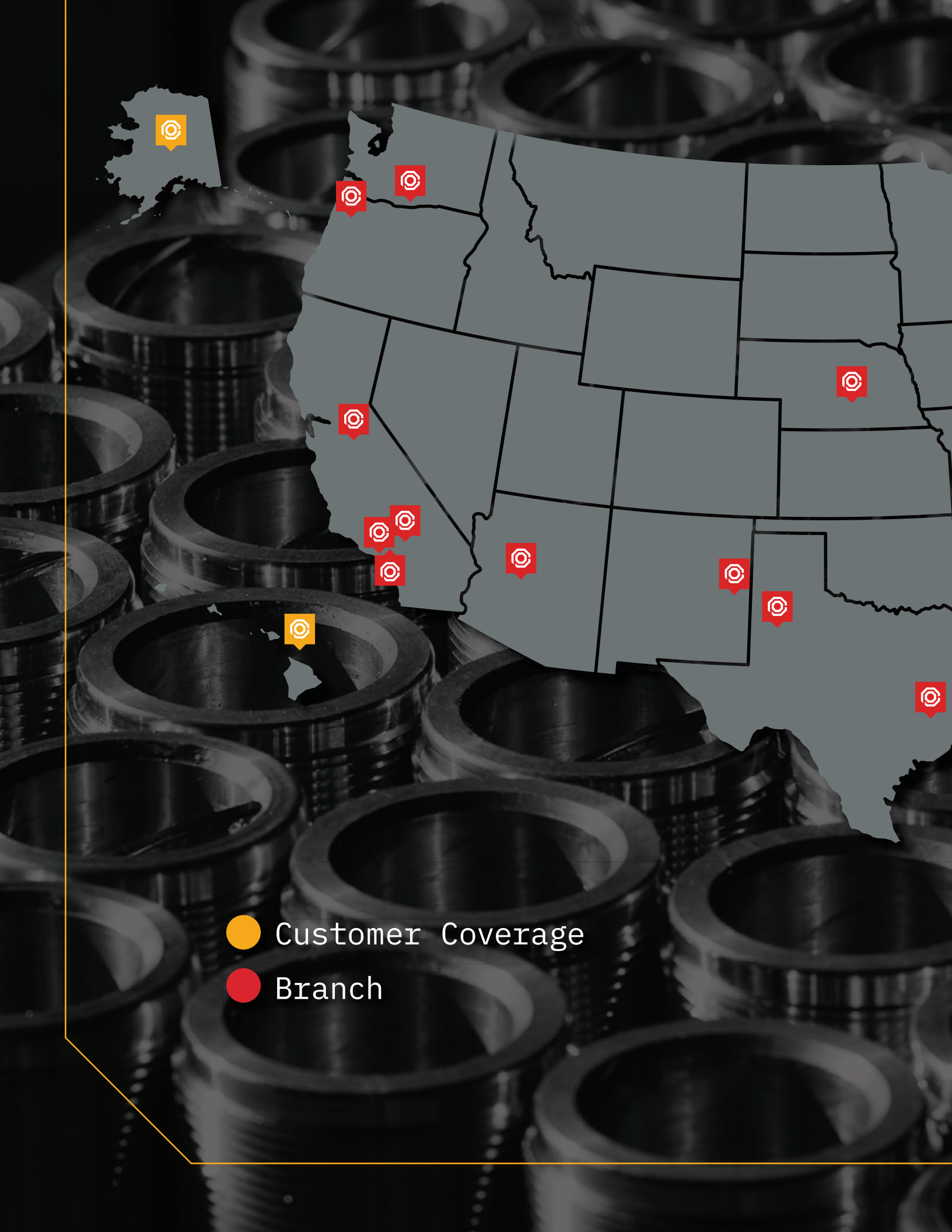




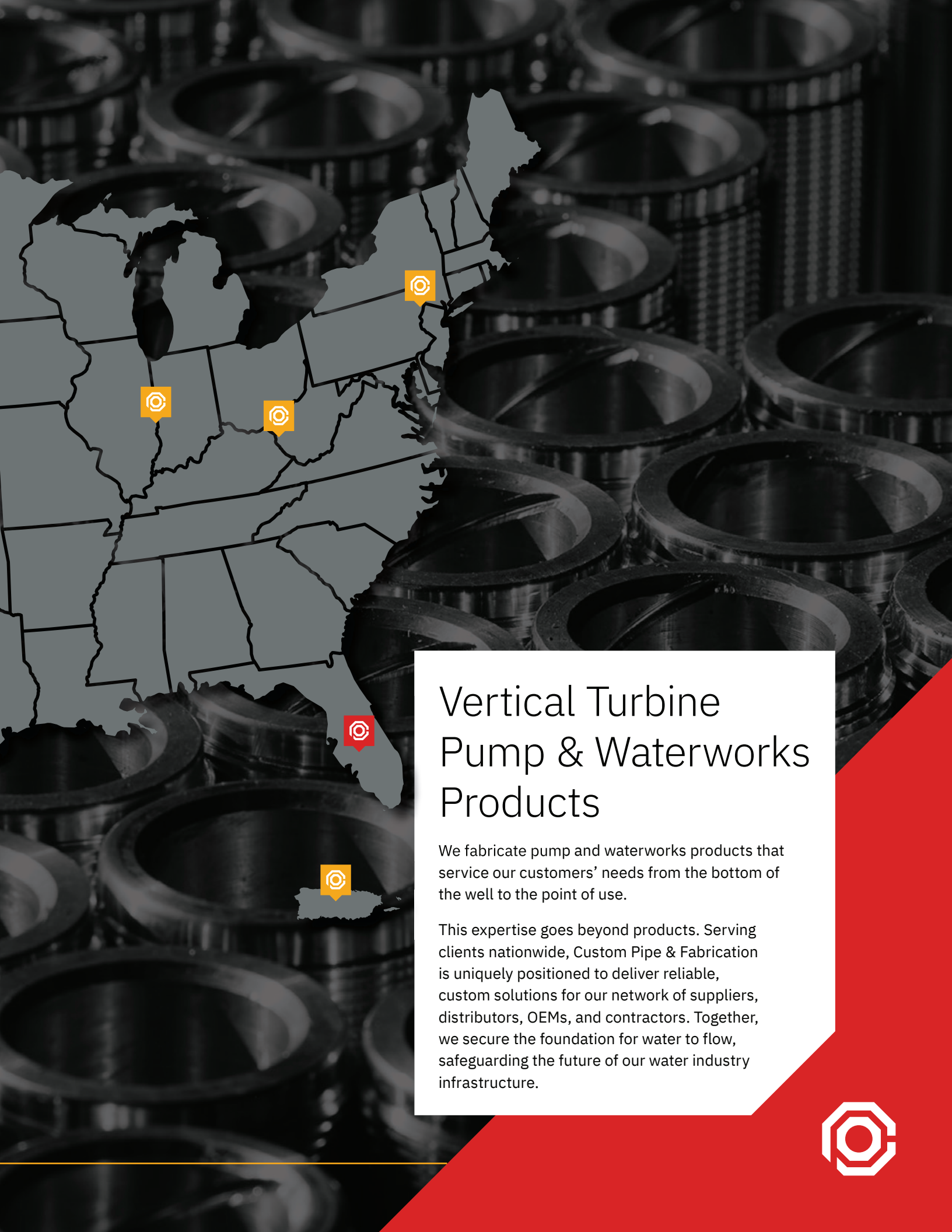
CUSTOM PIPE
FABRICATION

VERTICAL TURBINE PUMP PRODUCTS

Technical Product Guide



- Customer Coverage
- Branch



Vertical Turbine Pump & Waterworks Products

We fabricate pump and waterworks products that service our customers' needs from the bottom of the well to the point of use.

This expertise goes beyond products. Serving clients nationwide, Custom Pipe & Fabrication is uniquely positioned to deliver reliable, custom solutions for our network of suppliers, distributors, OEMs, and contractors. Together, we secure the foundation for water to flow, safeguarding the future of our water industry infrastructure.



Vertical Turbine Pump Overview

Column Pipe + Inner Column

Threaded Column Pipe

- + Turbine Column Pipe and Submersible Drop Pipe
- + Size: 2.50" – 14"
- + Material: A53 Grade B, 316SS, 304SS, and Galvanized Pipe
- + Oil Lube and Water Lube

Inner Column

- + Enclosing Tubes: A53 Grade B, 316SS, 304SS, Galvanized, and 416SS
- + All OEM Specifications
- + Oil Lube, Water Lube, and Water Flush
- + Shafting: C-1045, 416SS, 316SS, and 17-4
- + Bearings: Alloy 844 and Vesconite
- + Shaft Couplings: 1215, 1141, 416SS, 316SS, and 304SS

Pump Fabrication

- + Flange Column: 4" – 36"
- + Fabricated Discharge Heads
- + Fabricated Pump Cans and Barrels
- + Sole Plates, Motor Stands, Etc. (Can Be Manufactured)
- + Material: A53 Grade B, 316SS, and 304SS
- + In-House Coating: Epoxy and 3M™ Scotchkote™

Water Well Casing

- + Sizes: 4" – 36"
- + Casing: Beveled and Threaded
- + Slotted Casing
- + Johnson Well Screen: Industrial, Municipal, and Agricultural
- + Material: A53 Grade B, 316SS, 304SS, and Galvanized

Pump Parts

- + Bowl Bushings
- + Casing Alignment Clamps
- + Collet Knockers
- + Column Couplings
- + Column Reducing Bushings
- + Custom Coatings
- + Head Nuts
- + Impeller Collets
- + Line Shaft Bearings
- + Sand Collars
- + Shaft and Shaft Couplings
- + Stuffing Box Bushings
- + Tension Assemblies
- + Tension Bearings
- + Tube Adapters
- + Wear Rings

HSLA Column Pipe

Vertical and Submersible Turbine Pumps

Contact us to learn more about our NSF Certified Products.

Vertical Turbine Pumps

Vertical turbine pumps are available in multiple configurations to fit different application needs including:

- + Open or Enclosed Line Shaft
- + Various Materials of Construction
- + Threaded or Flanged Column Assembly
- + Above or Below Ground Discharge
- + Packed or Mechanically Sealed



Submersible Turbine Pumps

Submersible turbine pumps are available in different materials of construction. Our one-stop-shop can supply accessories like submersible discharge head, drop pipe, cable wire and submersible motor so you can get your job done on time.



Material Options

Shafting: **416SS, 316SS, or 17-4 HH**

Impellers: **Bronze or Stainless Steel**

Bushings: **Bronze, Rubber, Vesconite, or Marine**

Spiders: **Lead-Free Bronze or Stainless Steel**

Threaded or Flanged Column Pipe: **Steel or Fiberglass**



Threading Specifications

Manufacturer	Tube and Thread Bearing OD						Shaft Pitch and Coupling Length												
	1 ¼	1 ½	2	2 ½	3	3 ½	¾	7⁄8	1	1 1⁄16	1 ¼	1 1⁄8	1 ½	1 13⁄16	1 ¾	1 15⁄16	2	2 3⁄16	2 7⁄16
American-Marsh	12RH	12RH	12RH	12RH	12RH	12RH	16		12	12		12	12	12		12		12	8
	12LH	12LH	12LH	12LH	12LH	12LH	2 3⁄8		2 ¼	2 ½		3 3⁄8	3 3⁄8	4 3⁄8		4 3⁄8		5 ½	7
	1.373	1.623	2.062	2.494	3.062	3.495													
American Turbine	12LH	12LH	12LH	12LH	12LH	12LH	16		14	10	10		10	10	10	10	10	10	8
	1.395	1.610	2.049	2.437	3.016	3.500	2 3⁄8		2 ½	3 ½	3 ¾		3 ½	4		5	10	5 ½	5 ½
Berkeley	12LH	12LH	12LH	12LH	12LH		16		10	10		8		8		8		8	8
	1.408	1.640	2.090	2.457	3.033		2 3⁄8		2 ½	3 ½		3 ¾		4 ¾		5 ½		5 ½	6
Byron Jackson	12LH	12LH	10LH	8LH	8LH	8LH	10		10	8		8		8		8		8	8
	1.420	1.625	2.090	2.531	3.109	3.562	2		2 ½	2 ¾		3 ¾		4 ¾		5 ½		5 ½	6
	12RH	12RH	10RH	8RH	8RH	8RH													
		1.633	2.098	2.545	3.115	3.573													
Fairbanks	14LH	14LH	12LH	12LH	12LH	12LH	16		14	12	10	12	10	10		10		10	10
	1.38	1.62	2.078	2.522	3.108	3.522	2 3⁄8		2 ½	3 ½	3 ¾	4	3 ½	4 ½		5		5 ½	6
Floway	12LH	12LH	12LH	12LH	12LH	12LH	16		14	10	10	12	10	10	10	10	10	10	8
	1.395	1.610	2.049	2.437	3.016	3.500	2 ½		2 ½	3 ½	3 ¾	4	3 ½	4		5	10	5 ½	5 ½
Flowserve		12LH	12LH	12LH	12RH	12RH			14	12		12	10		10		10		
		1.600	2.080	2.524	3.125	3.5751			2 ¾	3 ½		4	4		5				
		12RH	12RH	12RH	2LH	2LH													
		1.575	2.075	2.575	3.125	3.576													
Hydroflo	14LH	14LH	14	12LH	10LH	10LH	16		12	12	12		10	10		10		10	10
	1.475	1.633	2.057	2.524	3.130	3.560	2 3⁄8		3	3	3 ½		3 ½	4		5		5 ½	6
				10RH															
				2.619															
Jacuzzi	12RH	12RH	12RH	12RH	12RH	12RH	16		12	12		12	12	12	12	12		12	8
	1.373	1.623	2.062	2.494	3.062	3.495	2 3⁄8		2 ¼	2 ½		3 3⁄8	3 3⁄8	3 3⁄8	4 3⁄8	4 3⁄8		5 ½	7
Johnston	14LH	14LH	14LH	12LH	10LH	10LH	16		12	12	12	10	10	10		10		10	10
	1.475	1.633	2.057	2.534	3.130	3.560	2 3⁄8		3	3	3 ¾	3 ½	3 ½	4		5		5 ½	6
				10LH															
				2.619															
				(OLD)															
Layne & Bowler	16RH	12RH	10RH	10RH	10RH	10RH	16		10	10		10	10		10		8	8	8
	1.406	1.675	2.090	2.500	3.062	3.562	2 3⁄8		3	3 ½		3 ½	4 ½		5 ½		5 ½	6	6
Layne of Memphis		12RH	10RH	10RH	10RH	10RH	16	12	12	8		8	8		8		8	8	8
		1.685	2.096	8RH	8RH	8RH	3	3	3	4		4	5		6		6	7	7
		12RH	10RH	2.518	3.118	3.623													
Peerless	12RH	14RH	12RH	10RH	10RH	10RH	16	14	14	10		10	10		10		10	8	8
	1.403	1.654	2.090	2.482	3.050	3.554	2 3⁄8	2 ¾	2 ½	3 ½		3 ½	4		5		5 ½	6	6
Robbco		14LH	14LH	10LH	10LH	10LH			12	12		10	10		10		10	10	10
									3	3		3 ½	4		5		5 ½	6	6
Xylem/Goulds	14H	14LH	14LH	10LH	10LH	10LH	16		12	12		10	10		10		10	10	10
	1.480	1.638	2.062	2.625	3.136	3.562	2 3⁄8		3	3		3 ½	4		5		5 ½	6	6
WD Worthington	12LH	12LH	12LH	12LH	12LH	12LH	12		12		8	12	8	10	8	10	8	10	8
	1.401	1.623	2.125	2.494	3.119	3.562	2 3⁄8		3		3 ½		4	4 ½		5 ½		5 ½	6
Western Land Roller		12LH	12LH	12LH	12LH				14	12		12	12		10		10		
		1.600	2.080	2.524	3.125				2 ¾	3 ½		4	4		5				
		12RH	12RH	12RH															
		1.575	2.075	2.575															

Pipe Weight Chart

Size	PE lbs / ft	5'		10'		20'		CPLG.
		TBE	T&C	TBE	T&C	TBE	T&C	
4" .237W	10.80	54	59	108	113	216	221	5
5" .258W	14.63	74	83	148	157	296	305	9
6" .250W	17.04	85	93	170	181	340	351	11
6" .280W	18.99	95	106	190	201	380	391	11
6" .423W	28.60	143	154	286	297	572	583	11
8" .219W	19.68	98	116	196	214	392	410	18
8" .250W	22.38	112	130	224	242	448	466	18
8" .277W	24.72	124	142	248	266	496	514	18
8" .322W	28.58	143	161	286	304	572	590	18
8" .500W	43.43	217	235	434	452	868	886	18
10" .250W	28.06	140	173	280	313	560	593	33
10" .279W	31.23	156	189	312	345	624	657	33
10" .365W	40.52	203	236	406	439	812	845	33
10" .500W	54.79	274	307	548	581	1096	1129	33
12" .330W	43.81	219	231	438	480	876	918	42
12" .375W	49.61	248	290	496	538	992	1034	42
14" .375W	54.52	273	328	546	601	1092	1147	55

Tube & Shaft Weight Chart (Nominal Weights)		
Size	10'	20'
1" x 1 ½"	67	134
1 ⅜" x 2"	95	178
1 ¼" x 2"	99	198
1 ⅞" x 2 ½"	142	283
1 ½" x 2 ½"	146	285
1 ⅜" x 2 ½"	162	322
1 ⅜" x 3"	189	376
1 ⅝" x 3"	222	444
2 ⅜" x 3 ½"	275	595
2 ⅞" x 3 ½"	356	700

Shaft Weight Chart			
Size	10' T&C	20' T&C	CPLG.
¾"	16	32	0.5
1"	27	54	0.5
1 ⅜"	39	78	1.5
1 ¼"	44	88	1.75
1 ⅞"	57	114	2
1 ½"	62	124	2
1 ⅜" x 3"	78	156	2.25
1 ⅝" x 3"	104	208	4
2 ⅜"	133	266	5
2 ⅞"	165	330	6

HSLA Steel Column Pipe

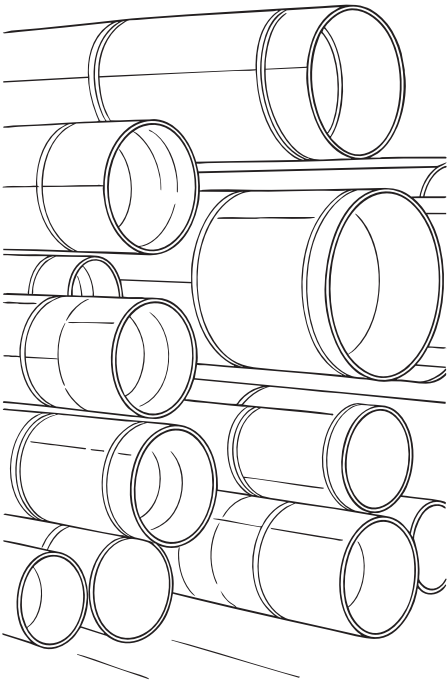
HSLA Steel

Technical Data

- + Steel adhering to ASTM A606 Type 4 is commonly referred to as High-Strength, Low-Alloy (HSLA).
- + Developed by U.S. steel mills in the 1940s for use in the water well industry.
- + Minimum yield strength of 50,000 PSI compared to 35,000 PSI for mild steel.
- + 9x more corrosion resistant than mild steel based on field and laboratory analysis.

Key Advantages

- + Higher Strength
- + Corrosion Resistance
- + NSF 61 Independently Certified*
- + AIS Domestic
- + Eliminates Need for Epoxy Coating



The Evolution of Pipe

Not Your Grandfather’s Pipe

Typical % Composition By Weight (Strength in PSI)									
Time Period	Steel Type	CU	CR	NI	SI	P	G101 Corrosion Index	Yield	Tensile
1900 - 1940	Hard Red	0.20	0.00	0.00	0.00	0.01	4.11	55,000	70,000
1940-1980	COR-TEN	0.41	0.84	0.28	0.48	0.09	8.35	50,000	70,000
	Kai-Well	0.27	0.00	0.09	0.09	0.04	5.36	55,000	70,000
	USS Well Casing	0.26	0.00	0.00	0.08	0.03	5.06	50,000	70,000
1980 -Present	HSLA ASTM A606 Type 4	0.31	0.72	0.26	0.29	0.02	6.87	55,000	75,000
	Copper Bearing	0.20	0.02	0.01	0.00	0.03	3.91	44,000	68,000
	Mild Steel	0.00	0.00	0.00	0.00	0.00	0.00	35,000	50,000

*Contact us to learn more about our NSF Certified Products.





HSLA Steel Column Pipe

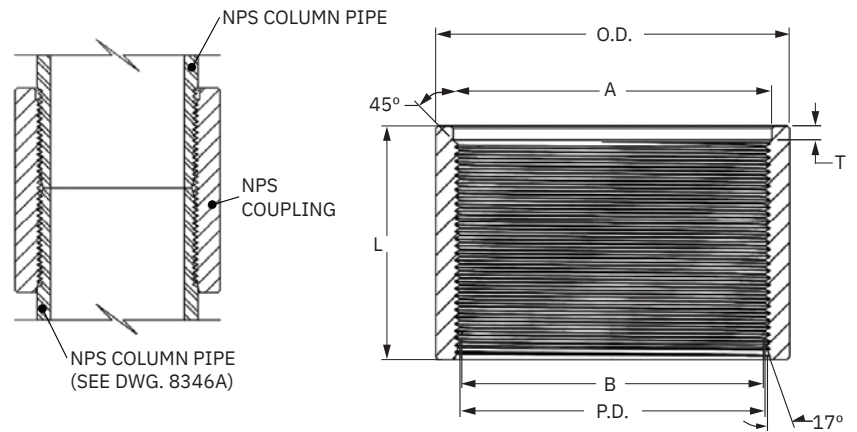
Straight Butt Thread				
Pipe Diameter	Wall Thickness	Threads Per Inch	A	Minor Diameter B
6.625	0.250	8	6.700	6.454–6.440
	0.312			
8.625	0.312	8	8.700	8.454–8.440
	0.375			
10.750	0.312	8	10.812	10.580–10.566
	0.375			
12.750	0.375	8	12.812	12.554–12.542

Coupling OD	Length (L)	Pitch Diameter	T
7.312	4.125	6.527–6.517	0.250
9.625	4.624	8.529–8.517	0.250
11.750	6.125	10.652–10.642	0.250
13.937	6.125	12.652–12.642	0.250

Values listed in inches. Additional Wall Thicknesses available.

Tapered Thread (NPT)			
Pipe Diameter	Wall Thickness	Length L ₁	Diameter E ₁
6.625	0.250	0.958	6.505
	0.312		
8.625	0.312	1.063	8.500
	0.375		
10.750	0.312	1.210	10.620
	0.375		
12.750	0.375	1.360	12.617

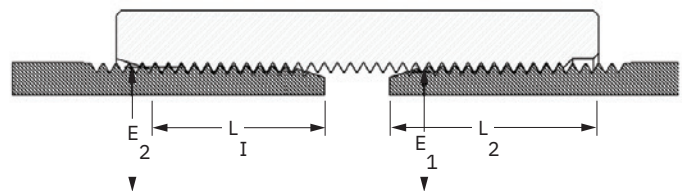
Effective Thread Diameter E ₂	Wrench Make Up	Thread Overall Length L ₂
6.625	6.540	1.946
8.625	8.540	2.146
10.750	10.665	2.358
12.750	12.665	2.558



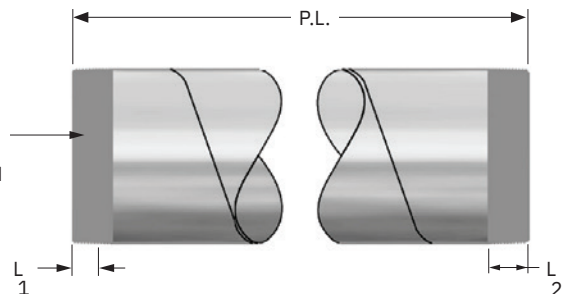
Load Values

Load values calculated for Straight Butt-Threaded, Oil Lubed joints. For NPT and Water-Lubed joints, load values could be slightly less.

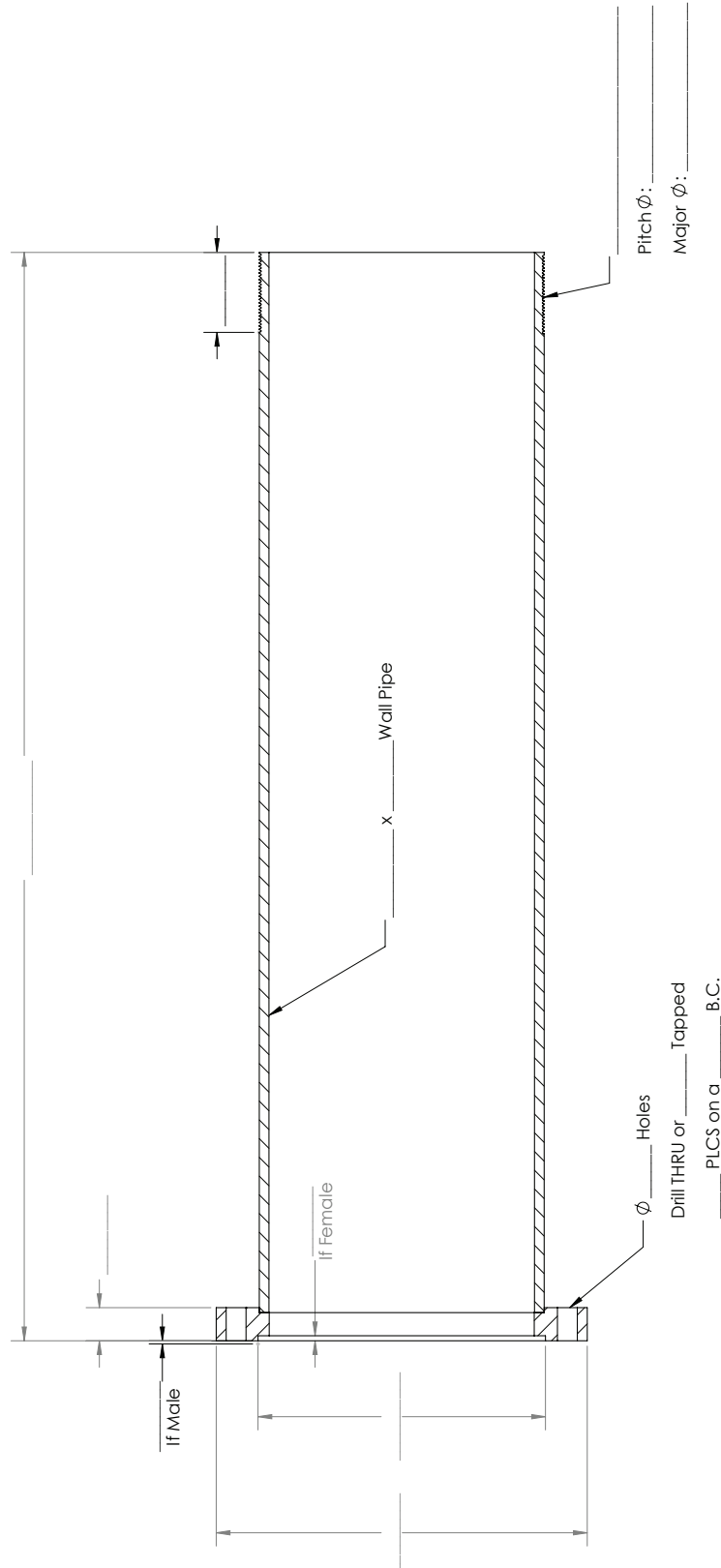
NPS	Load Capacity (lbs)
6	80,000
8	140,000
10	160,000
12	160,000



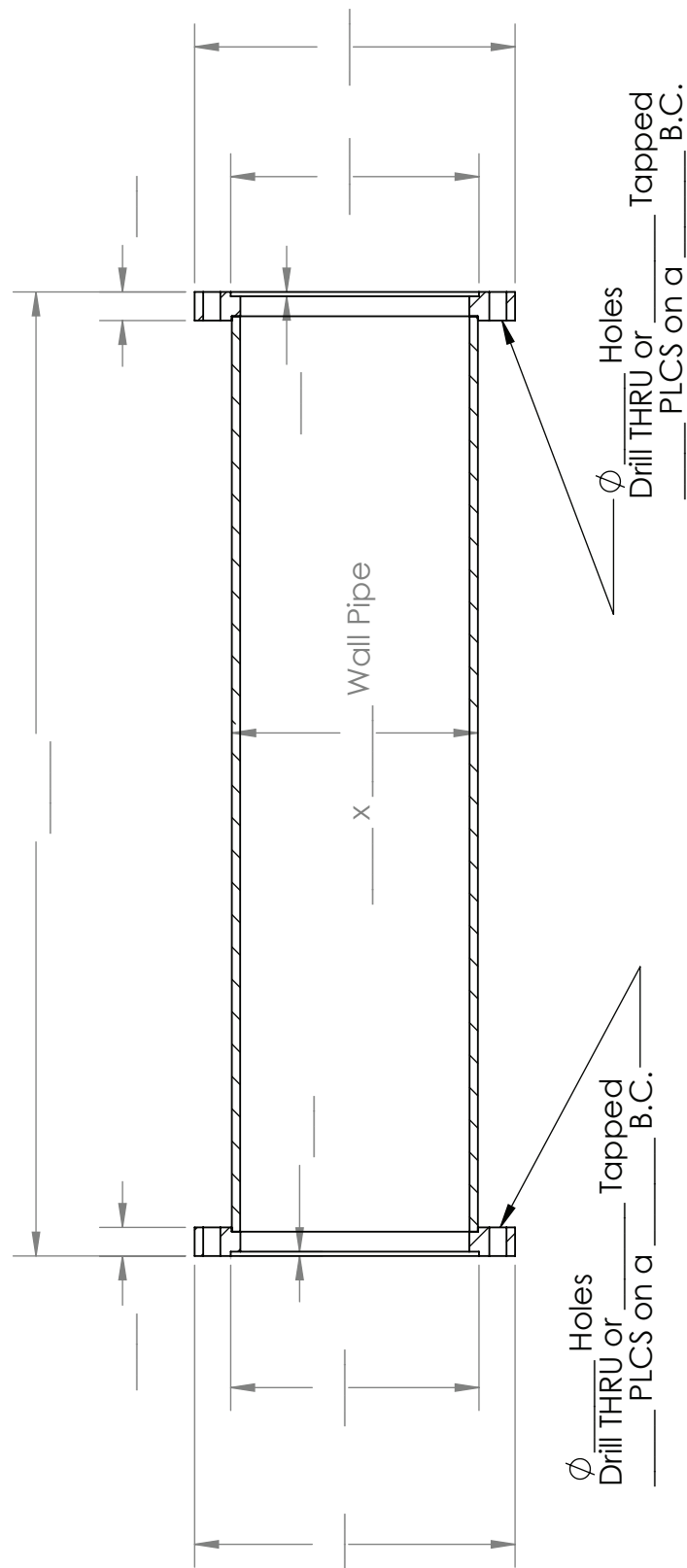
TAPER OF THREAD, ON DIAMETER, IS 3/4-INCH PER FOOT. ANGLE OF TAPER WITH CENTER LINE IS 1° 47' 24"



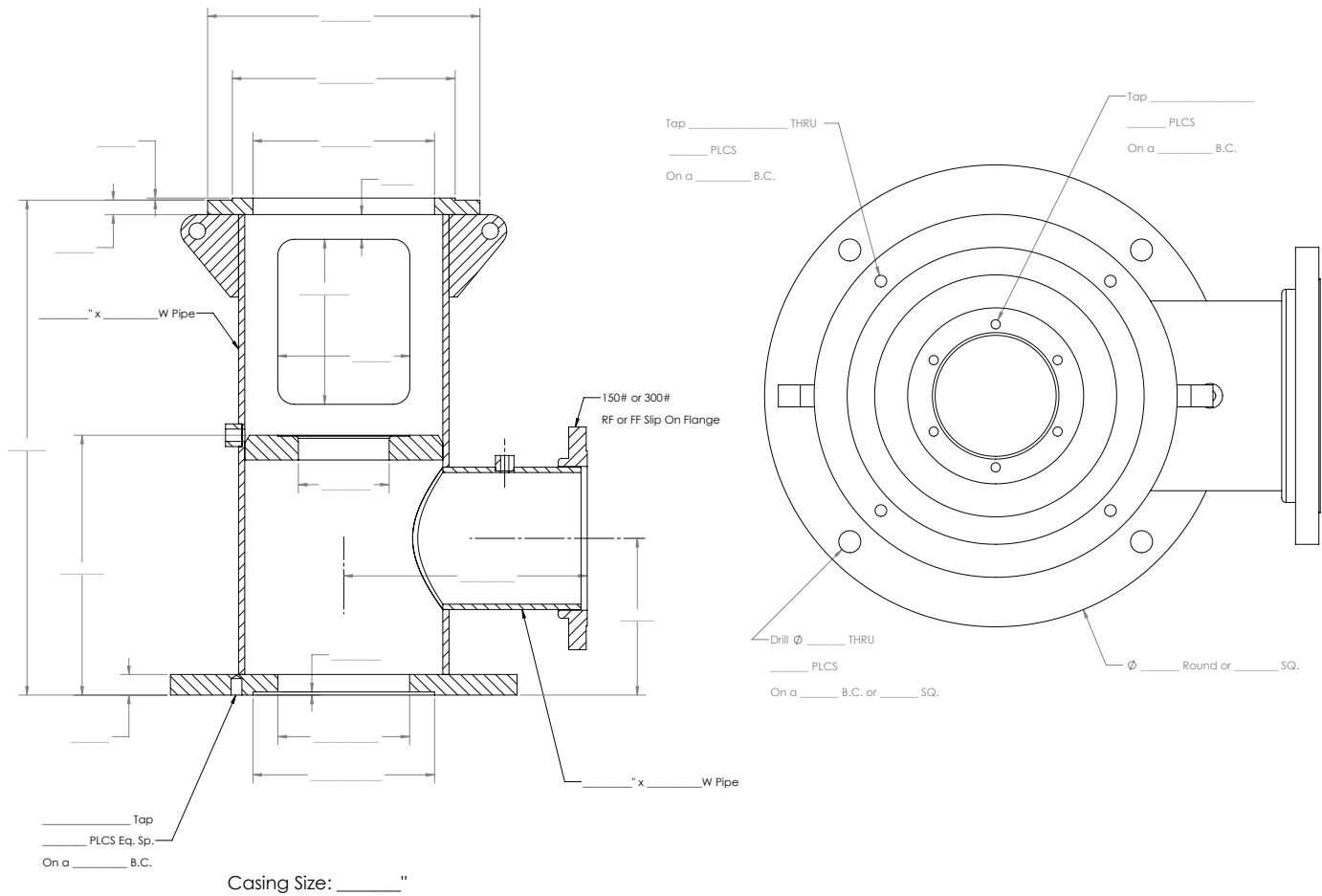
Column Pipe FXT



Column Pipe Female-Male

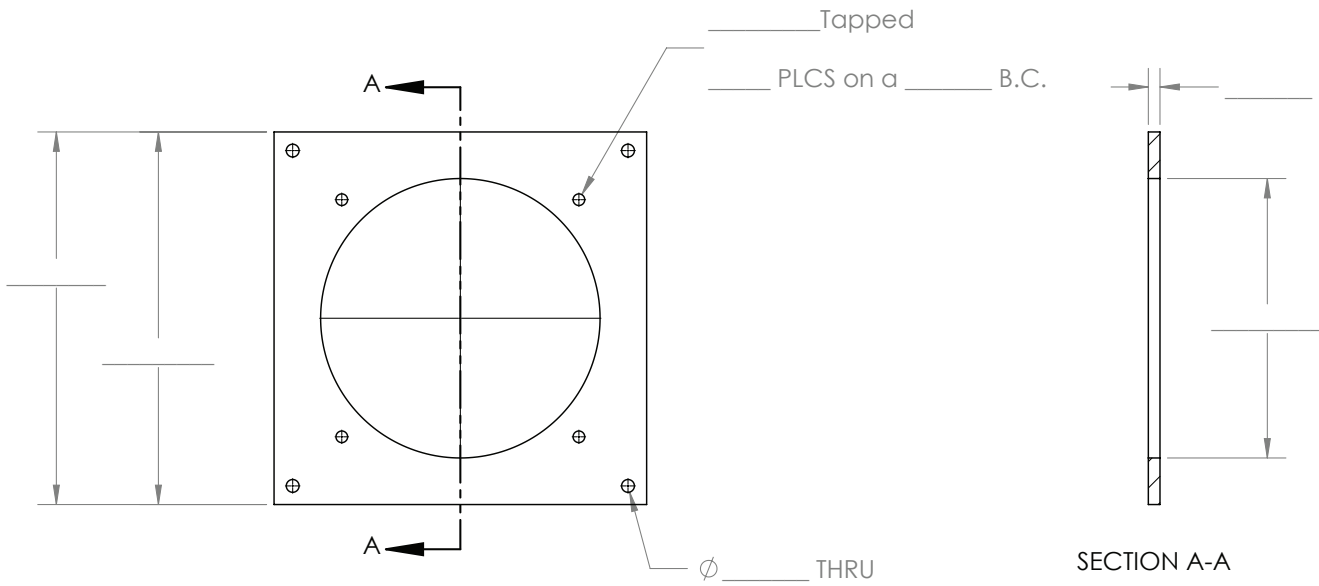


Pump Head

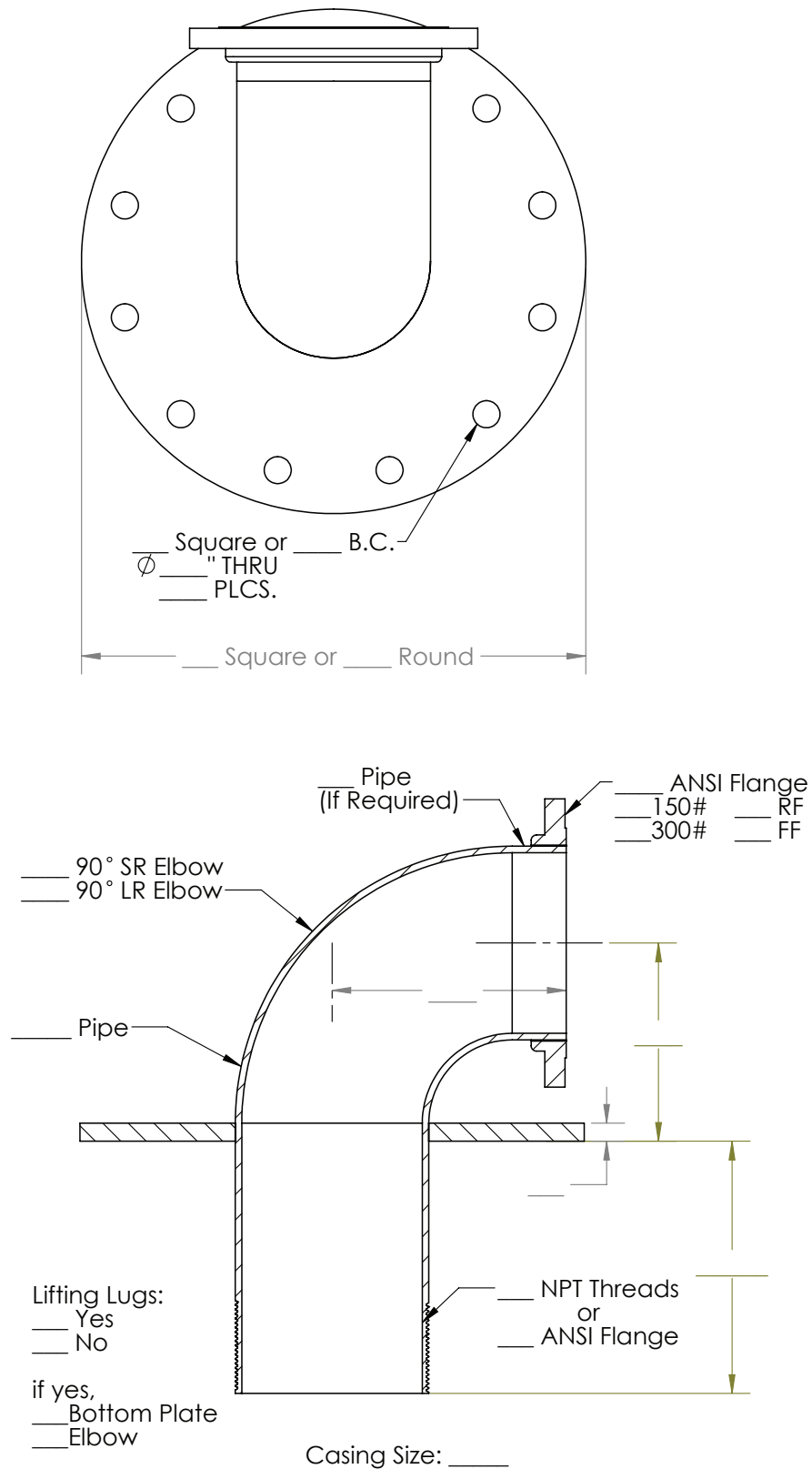




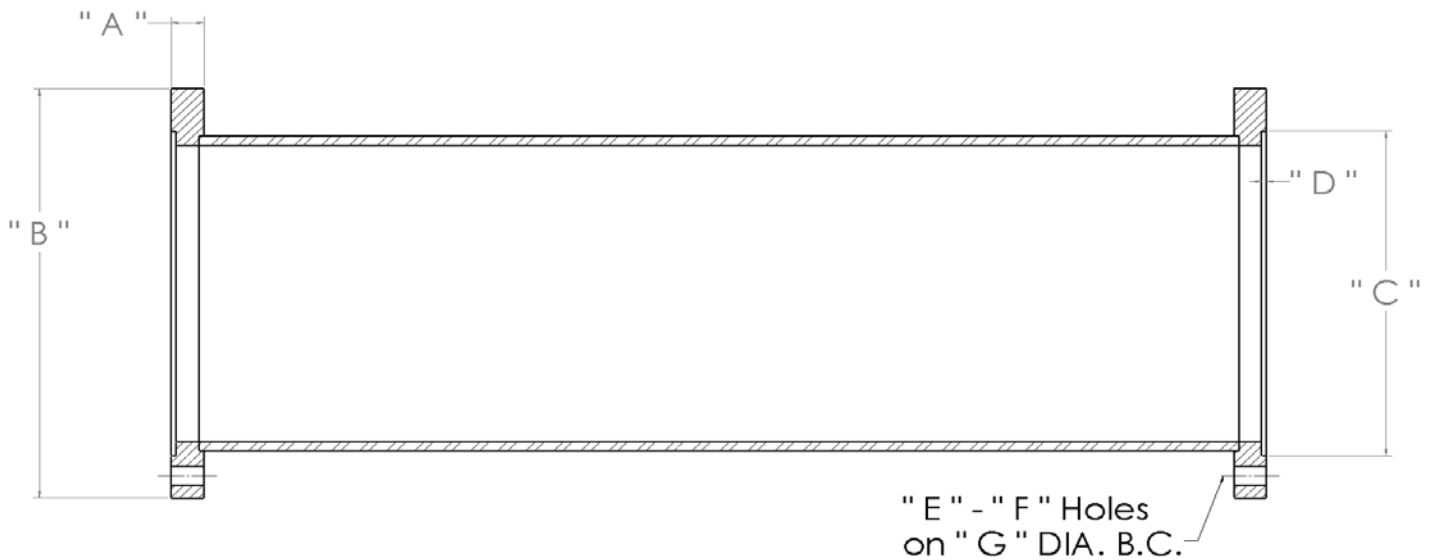
Sole Plate



Submersible Elbow



Flanged Column Pipe Dimension Chart



Pipe Size	A	B	C	D	E	F	G	Bolts Size & Length
3	3/4"	5 5/8"	3.310 / 3.315	0.240 / 0.245	6	9/16"	4 3/4"	1/2" - N.C. x 2 3/4"
4	3/4"	7 1/2"	4.312 / 4.315	0.240 / 0.245	8	3/4"	6 1/4"	5/8" - N.C. x 2 3/4"
5	7/8"	8 1/4"	5.375 / 5.378	0.365 / 0.370	8	3/4"	7 1/8"	5/8" - N.C. x 3"
6	1"	10"	6.435 / 6.443	0.365 / 0.370	8	7/8"	8 5/8"	3/4" - N.C. x 3 1/2"
8	1"	12"	8.435 / 8.443	0.365 / 0.370	8	7/8"	10 5/8"	3/4" - N.C. x 3 1/2"
10	1 1/8"	14 5/8"	10.561 / 10.569	0.365 / 0.370	12	1"	13"	7/8" - N.C. x 3 3/4"
12	1 1/4"	16 5/8"	12.537 / 12.545	0.365 / 0.370	12	1"	15"	7/8" - N.C. x 4"
14	1 3/8"	18 1/2"	13.787 / 13.795	0.365 / 0.370	12	1"	16 3/4"	7/8" - N.C. x 4"
16	1 3/8"	21 1/2"	15.787 / 15.795	0.365 / 0.370	12	1 1/4"	18 3/4"	1 1/8" - N.C. x 4 1/2"
18	1 5/8"	23"	17.787 / 17.790	0.19	12	1 1/4"	21"	1 1/8" - N.C. x 5"
20	1 5/8"	25"	19.787 / 19.790	0.19	16	1 1/4"	23"	1 1/8" - N.C. x 5"





For more information,
please contact your
sales representative or
visit our website

+ custompipe.com



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