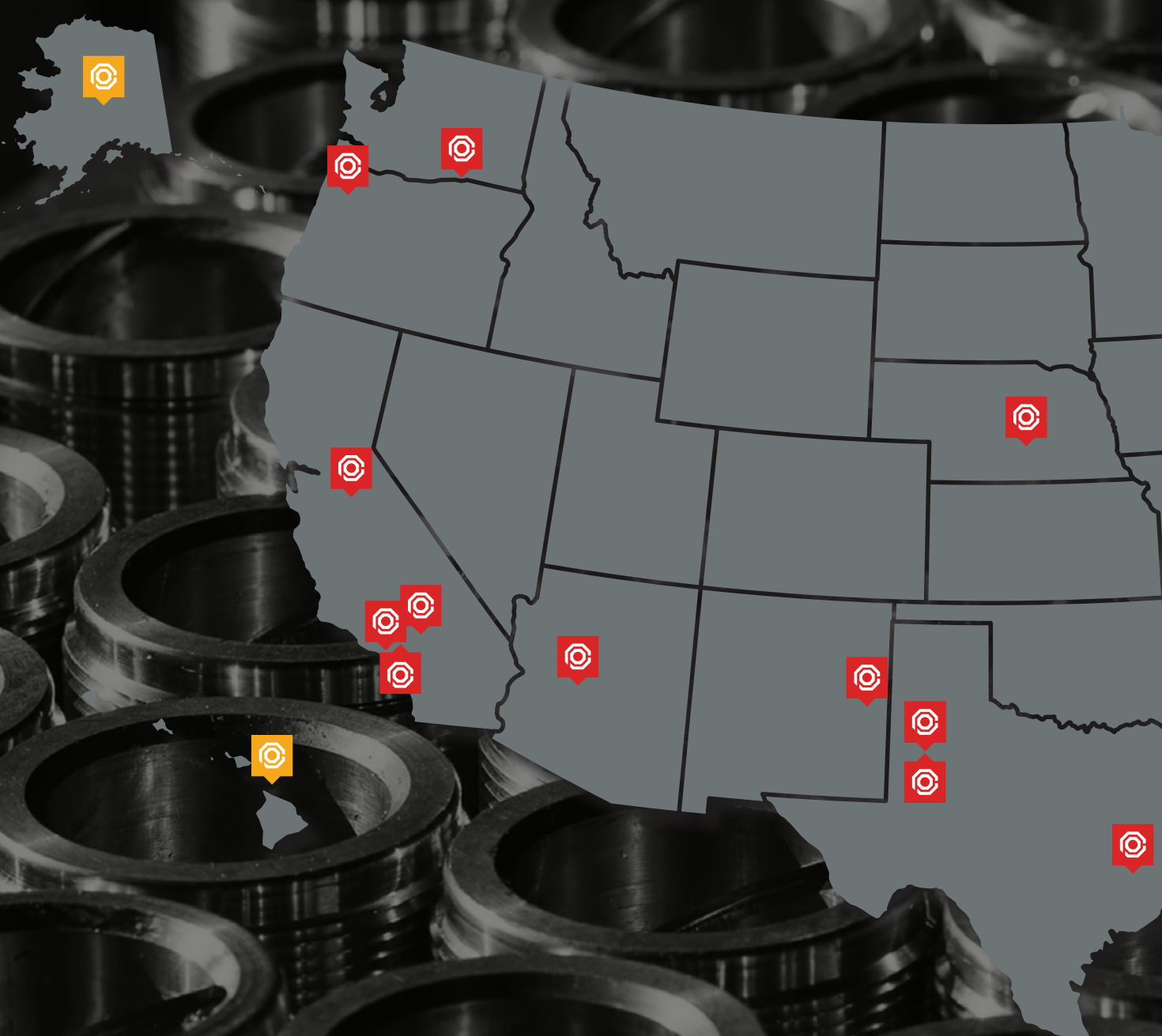
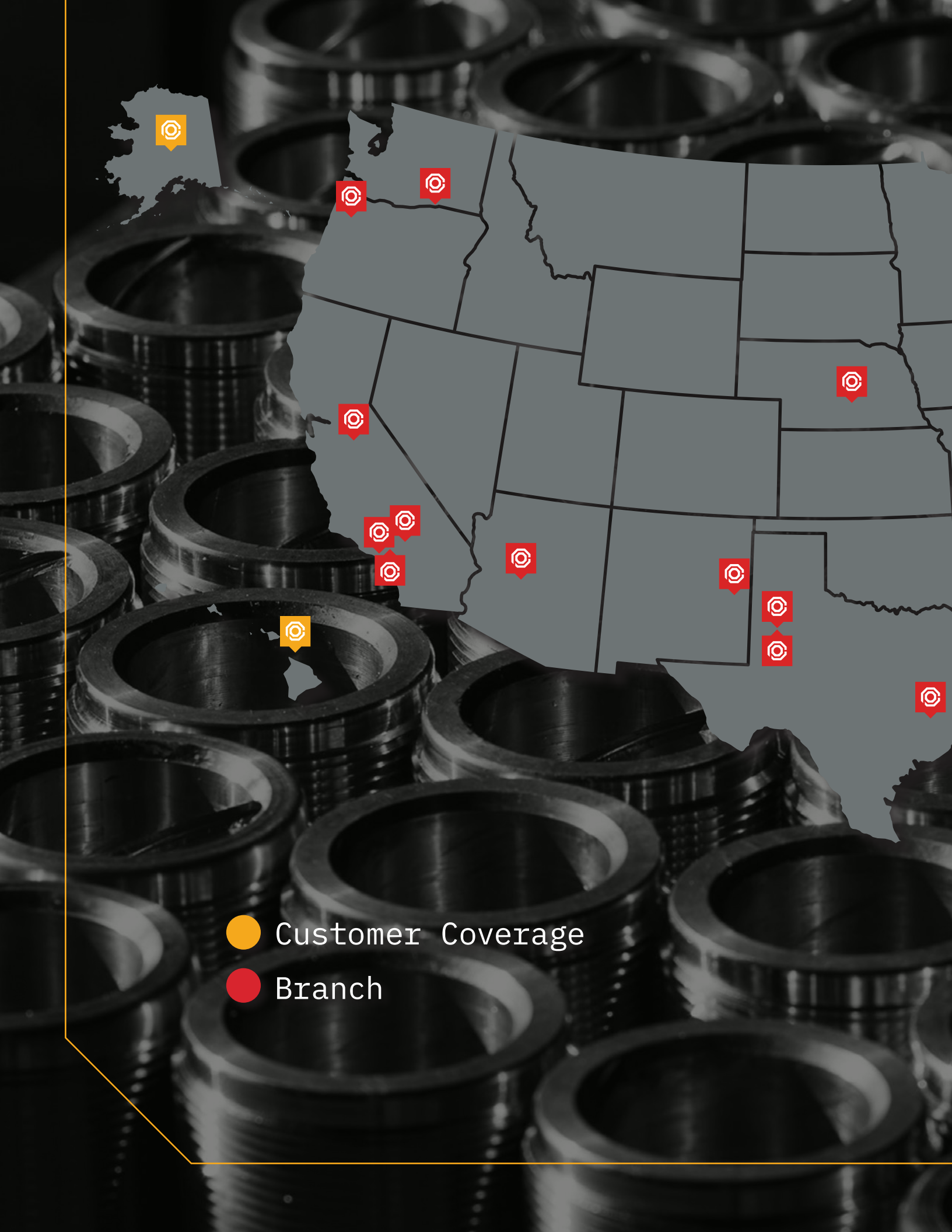




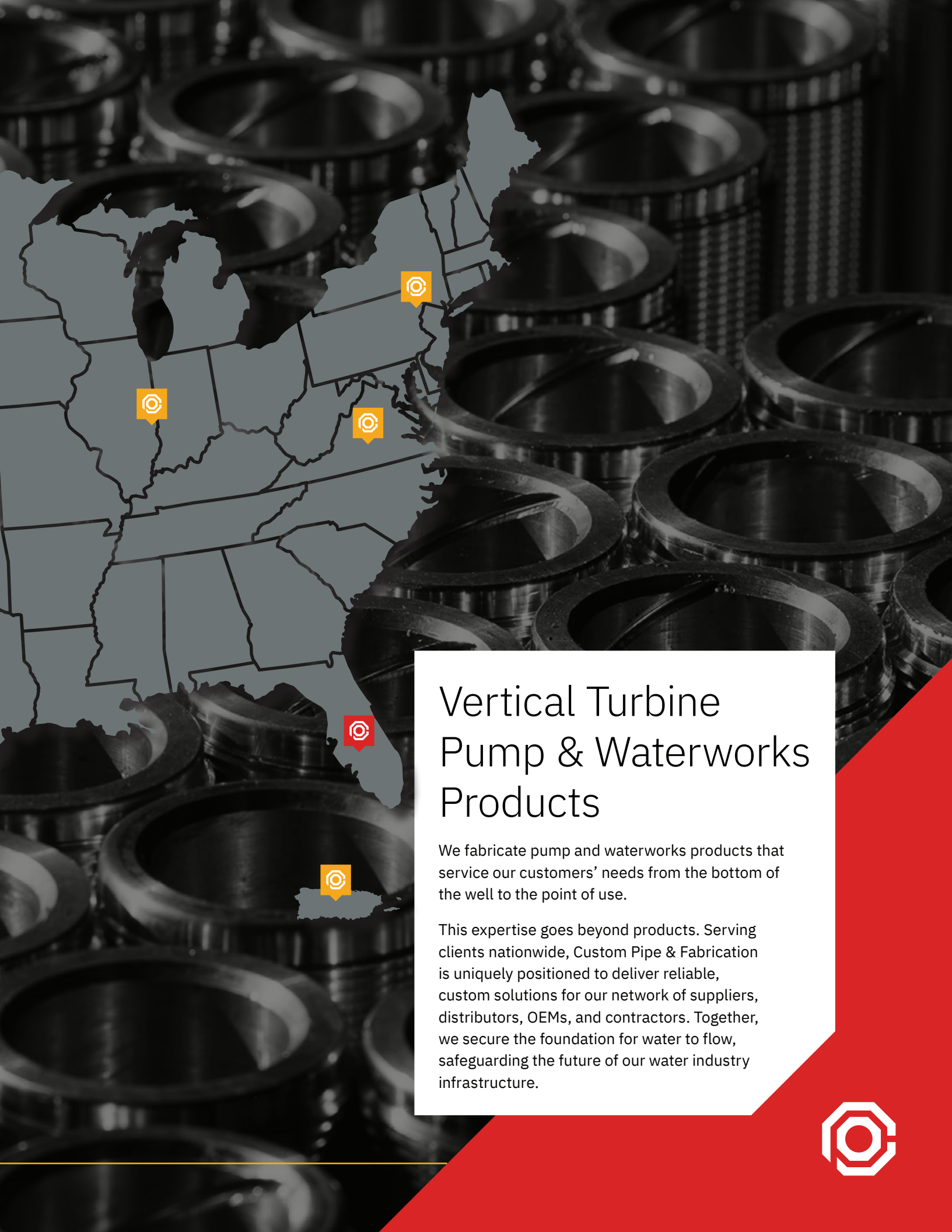
CUSTOM PIPE
FABRICATION

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 ⅛	1 ¼	1 ½	1 ⅝	1 ¾	1 ⅞	2	2 ⅛	2 ¼	
American-Marsh	12RH 12LH 1.373	12RH 12LH 1.623	12RH 12LH 2.062	12RH 12LH 2.494	12RH 12LH 3.062	12RH 12LH 3.495	16 2 ½		12 2 ¼	12 2 ½		12 3 ⅝	12 3 ⅝	12 4 ⅝		12 4 ⅝		12 5 ½	8 7
American Turbine	12LH 1.395	12LH 1.610	12LH 2.049	12LH 2.437	12LH 3.016	12LH 3.500	16 2 ½		14 2 ½	10 3 ½	10 3 ¼		10 3 ½	10 4	10	10 5	10	10 5 ½	8 5 ½
Berkeley	12LH 1.408	12LH 1.640	12LH 2.090	12LH 2.457	12LH 3.033		16 2 ½		10 2 ½	10 3 ½		8 3 ¾		8 4 ¾		8 5 ½		8 5 ½	8 6
Byron Jackson	12LH 1.420	12LH 1.625	10LH 2.090	8LH 2.531	8LH 3.109	8LH 3.562	10 2		10 2 ½	8 2 ¾		8 3 ¾		8 4 ¾		8 5 ½		8 5 ½	8 6
	12RH 1.633	12RH 1.633	10RH 2.098	8RH 2.545	8RH 3.115	8RH 3.573													
Fairbanks	14LH 1.38	14LH 1.62	12LH 2.078	12LH 2.522	12LH 3.108	12LH 3.522	16 2 ½		14 2 ½	12 3 ½	10 3 ¼	12 4	10 3 ½	10 4 ½		10 5		10 5 ½	10 6
Floway	12LH 1.395	12LH 1.610	12LH 2.049	12LH 2.437	12LH 3.016	12LH 3.500	16 2 ½		14 2 ½	10 3 ½	10 3 ¼	12 4	10 3 ½	10 4	10	10 5	10	10 5 ½	8 5 ½
Flowserve		12LH 1.600 12RH 1.575	12LH 2.080 12RH 2.075	12LH 2.524 12RH 12.575	12RH 3.125	12RH 3.5751 2LH 3.576			14 2 ¾		12 3 ½		12 4	10 4		10 5		10	
Hydroflo	14LH 1.475	14LH 1.633	14 2.057	12LH 2.524 10RH 2.619	10LH 3.130	10LH 3.560	16 2 ½		12 3	12 3	12 3 ½		10 3 ½	10 4		10 5		10 5 ½	10 6
Jacuzzi	12RH 1.373	12RH 1.623	12RH 2.062	12RH 2.494	12RH 3.062	12RH 3.495	16 2 ½		12 2 ¼	12 2 ½		12 3 ⅝	12 3 ⅝	12 3 ⅝	12 4 ⅝	12 4 ⅝		12 5 ½	8 7
Johnston	14LH 1.475	14LH 1.633	14LH 2.057	12LH 2.534 10LH 2.619 (OLD)	10LH 3.130	10LH 3.560	16 2 ½		12 3	12 3	12 3 ¼	10 3 ½	10 3 ½	10 4		10 5		10 5 ½	10 6
Layne & Bowler	16RH 1.406	12RH 1.675	10RH 2.090	10RH 2.500	10RH 3.062	10RH 3.562	16 2 ½		10 3	10 3 ½			10 3 ½	10 4 ½		10 5 ½		8 5 ½	8 6
Layne of Memphis		12RH	10RH	10RH	10RH	10RH 3.562	16	12	12	8		8	8		8		8	8	
		1.685 12RH	2.096 10RH	8RH 2.518	8RH 3.118	8RH 3.623	3	3	3	4		4	5		6		6	7	
Peerless	12RH 1.403	14RH 1.654	12RH 2.090	10RH 2.482	10RH 3.050	10RH 3.554	16 2 ½	14 2 ¼	14 2 ½	10 3 ½			10 3 ½	10 4		10 5		10 5 ½	8 6
Robbco		14LH	14LH	10LH	10LH	10LH			12 3	12 3			10 3 ½	10 4		10 5		10 5 ½	10 6
Xylem/Goulds	14H 1.480	14LH 1.638	14LH 2.062	10LH 2.625	10LH 3.136	10LH 3.562	16 2 ½		12 3	12 3			10 3 ½	10 4		10 5		10 5 ½	10 6
WD Worthington	12LH 1.401	12LH 1.623	12LH 2.125	12LH 2.494	12LH 3.119	12LH 3.562	12 2 ½		12 3		8 3 ½	12	8 4	10 4 ½	8	10 5 ½	8	10 5 ½	8 6
Western Land Roller		12LH 1.600 12RH 1.575	12LH 2.080 2.075	12LH 2.524 2.575	12LH 3.125				14 2 ¾		12 3 ½		12 4	12 4		10 5		10	

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 1 ½"	78	156	2.25
1 ⅝" x 1 ½"	104	208	4
2 ⅜"	133	266	5
2 ⅞"	165	330	6

HSLA Steel Column Pipe

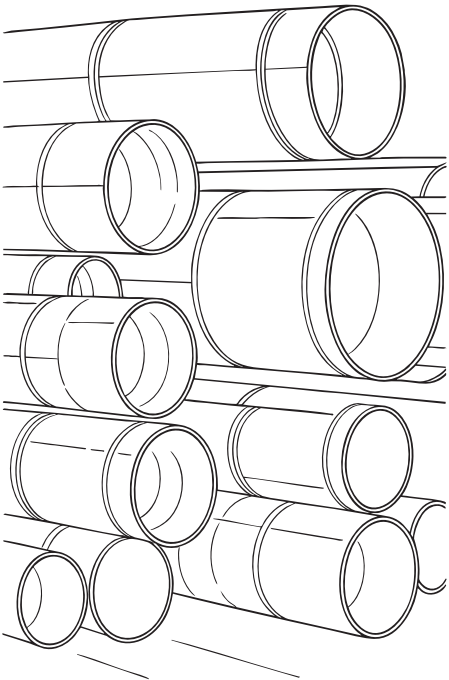
HSLA Steel

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

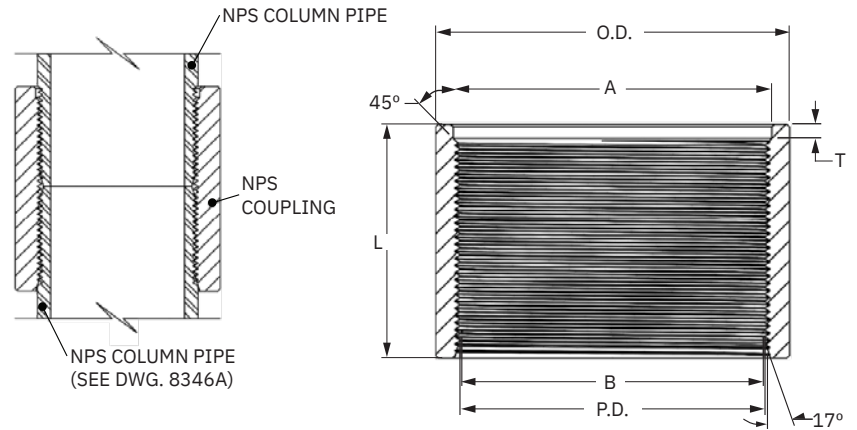
Straight Butt Thread				
Pipe Diameter	Wall Thickness	Threads Per Inch	A	Minor Diameter B
6.625	0.250	8	6.700	6.454–6.440
	0.312			
8.625	0.312	8	8.700	8.454–8.440
	0.375			
10.750	0.312	8	10.812	10.580–10.566
	0.375			
12.750	0.375	8	12.812	12.554–12.542

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

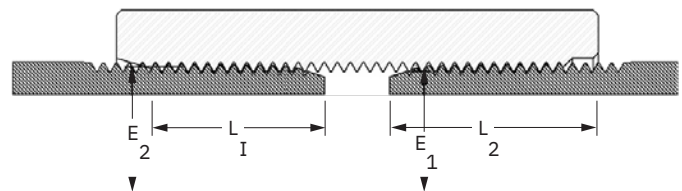
Effective Thread Diameter E ₂	Wrench Make Up	Thread Overall Length L ₂
6.625	6.540	1.946
8.625	8.540	2.146
10.750	10.665	2.358
12.750	12.665	2.558



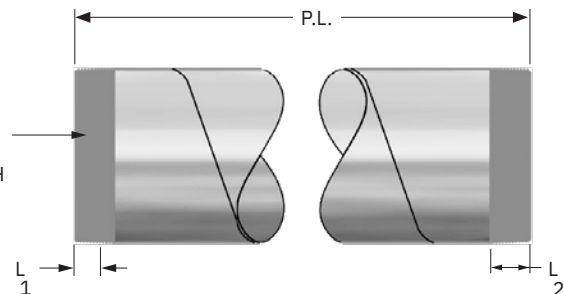
Load Values

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

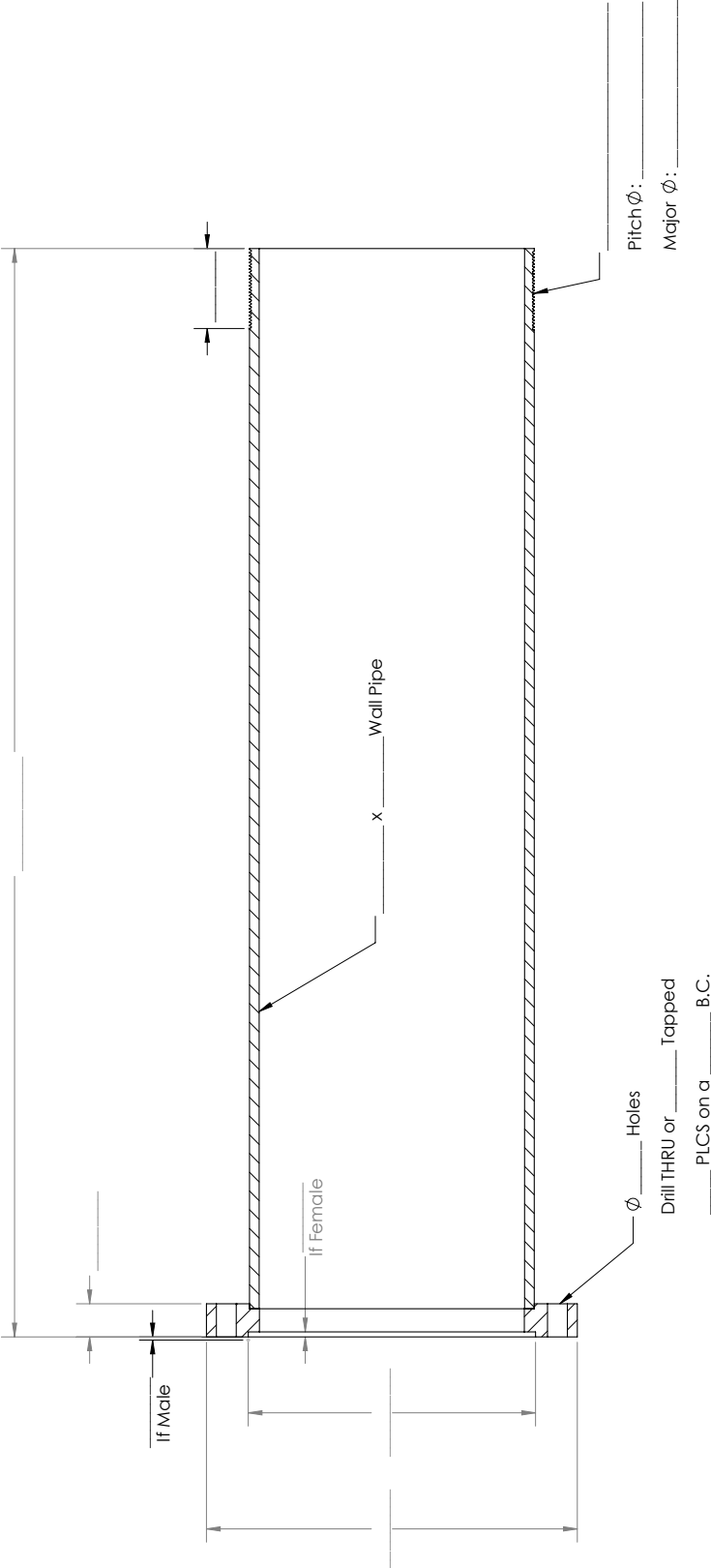
NPS	Load Capacity (lbs)
6	80,000
8	140,000
10	160,000
12	160,000



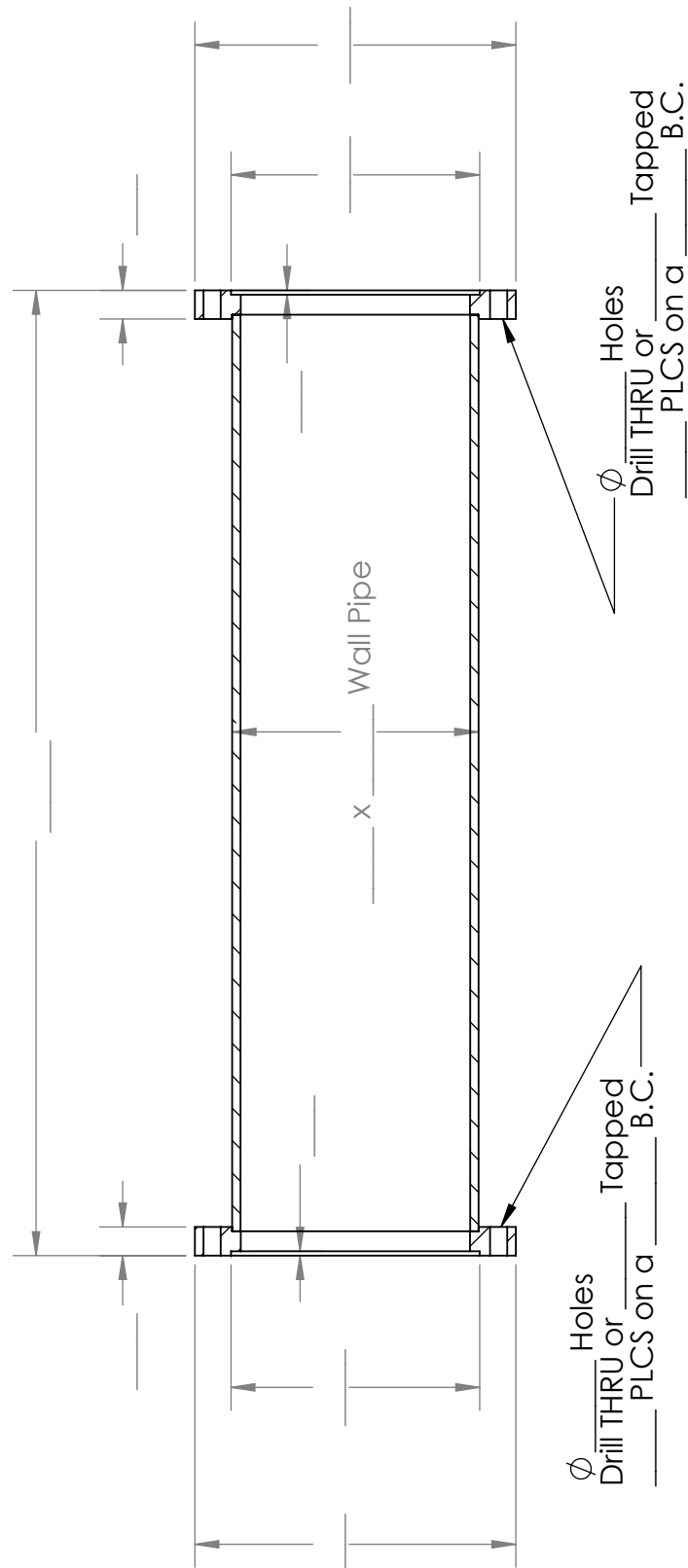
TAPER OF THREAD, ON DIAMETER, IS 3/4-INCH PER FOOT. ANGLE OF TAPER WITH CENTER LINE IS 1° 47' 24"



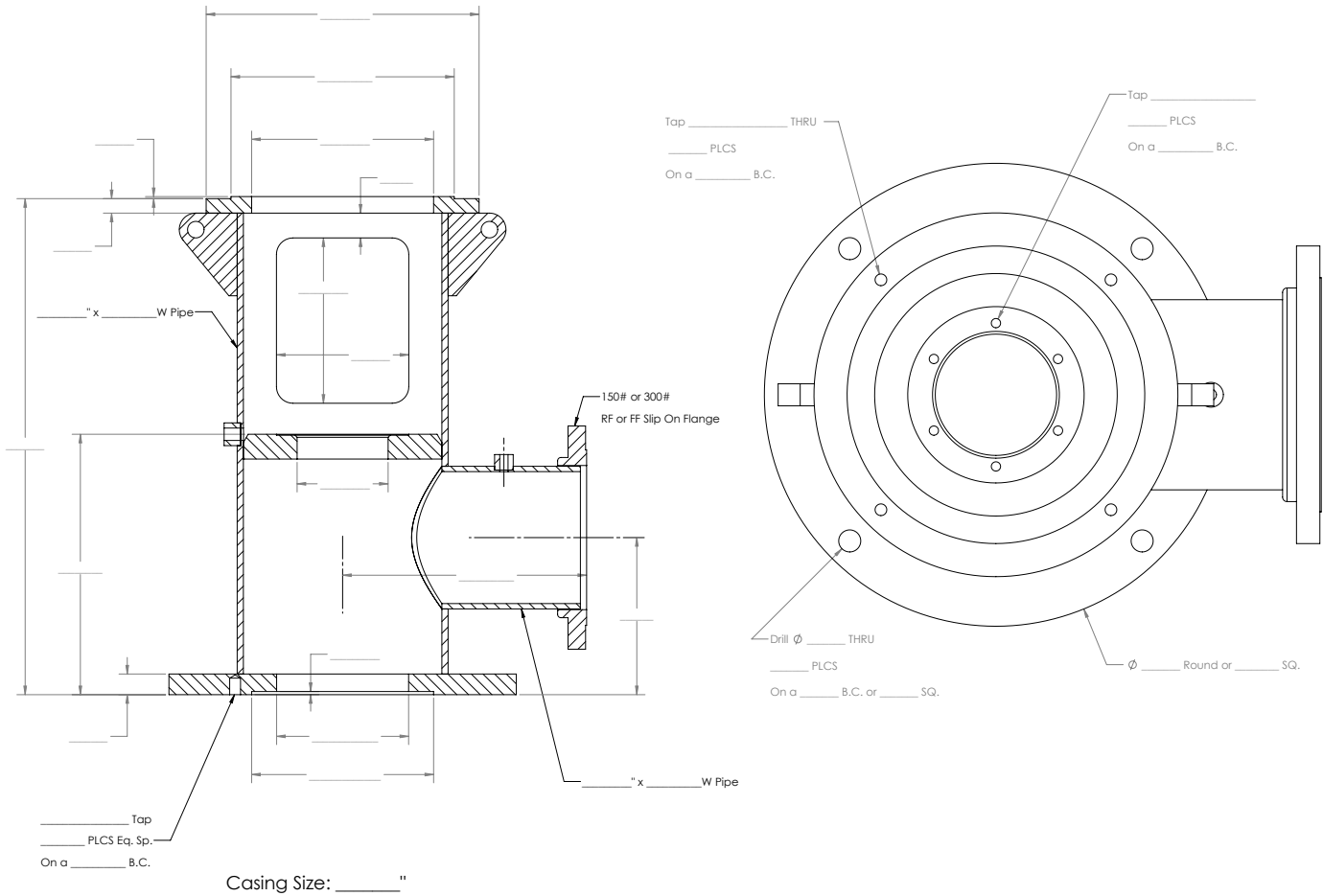
Column Pipe FXT



Column Pipe Female-Male

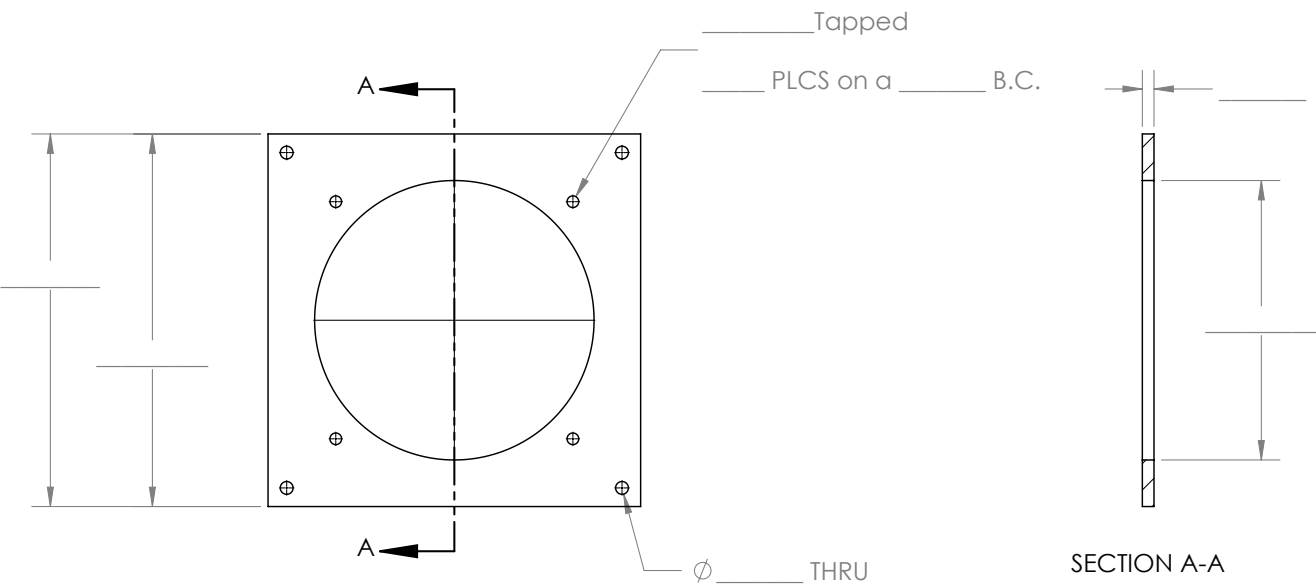


Pump Head

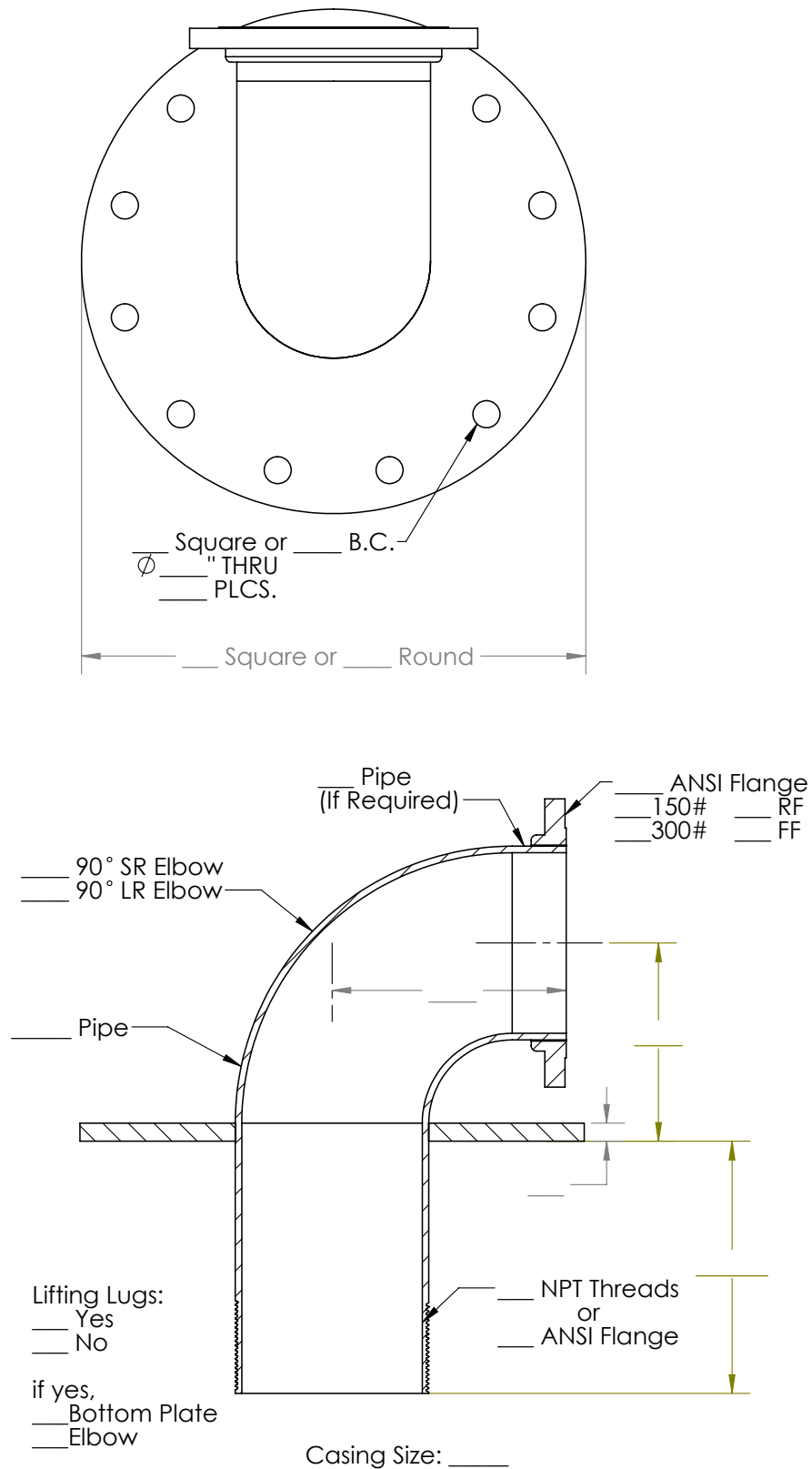




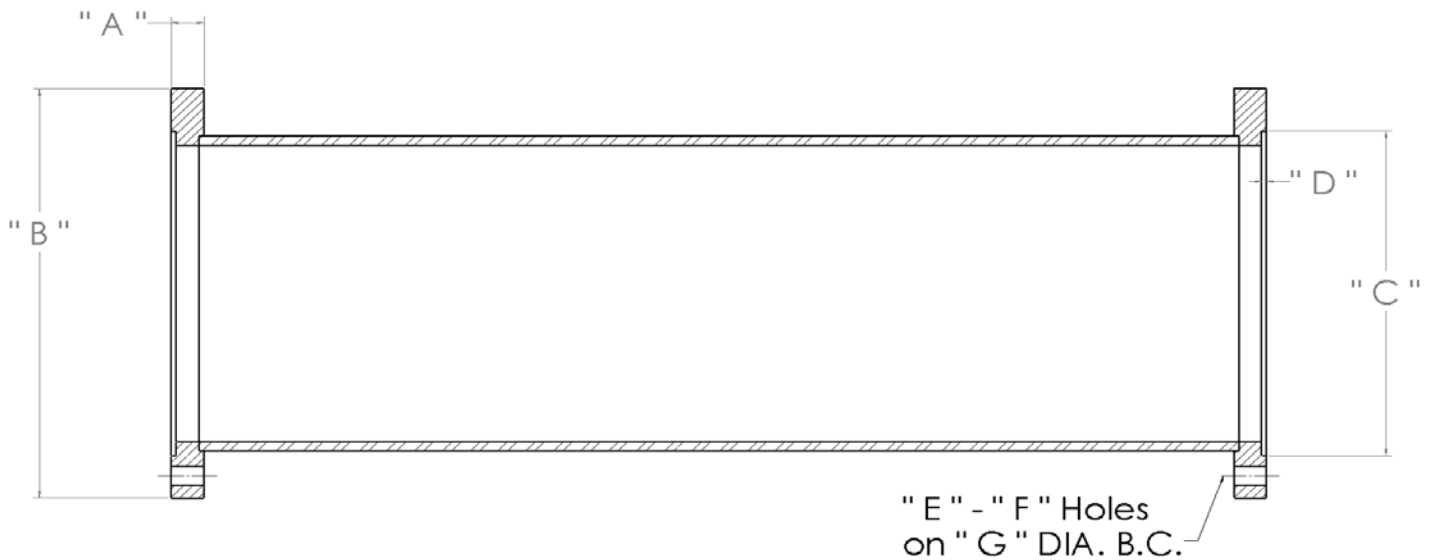
Sole Plate



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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