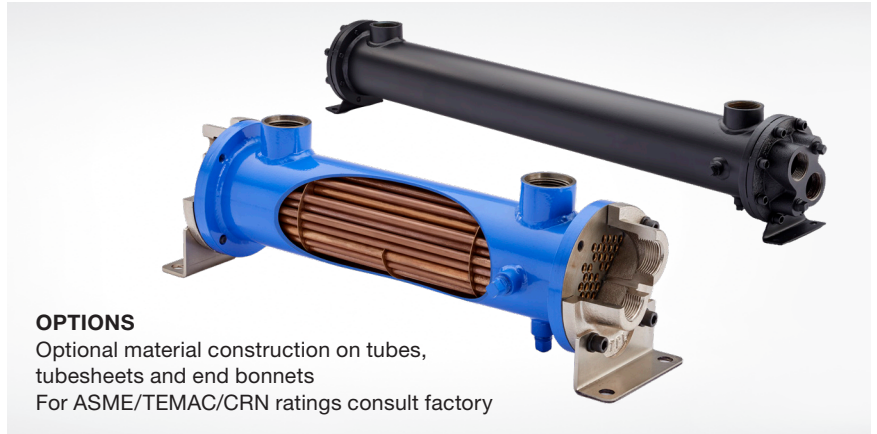


HCS Series – Bare Tube Bundle Shell & Tube Water to Oil Cooling

The HC Series shell & tube style offers the widest variety of options for utilizing multiple cooling water requirements for oil or compressed air cooling. It remains the industry standard in ultimate value and long-term reliability. The proven fixed tubesheet design shell and tube heat exchanger offers the cost effectiveness that comes with having a highly standard design, while easily providing for various options to meet specific application requirements. Multiple material options are available as well.



OPTIONS

Optional material construction on tubes, tubesheets and end bonnets
For ASME/TEMAC/CRN ratings consult factory

How to Order

Model Series

HCS = SAE ORB Shell Side Connectons x NPT Tube Side Connections

Model Size Selected

614, 624, 814, 824, 836, 1014, 1024, 1036, 1224, 1236, 1248, 1260, 1724, 1736, 1748, 1760, 1772

Baffle Spacing

1.3, 1.7, 2, 2.5, 3, 3.5, 4, 5, 6, 8.4

(Baffle spacing is dependent on applicable sizes found in sizing charts on page 3 or can be determined by using **XSelector**™ sizing program)

Tube Diameter Code

4 - 1/4" (600 & 800 Series)
6 - 3/8" (1000, 1200 & 1700 Series)

Tubeside Passes

O - One Pass
T - Two Pass
F - Four Pass

Cooling Tube Material

Blank - Copper
CN - Copper Nickel
SS - Stainless Steel
AD - Admiralty Brass

End Bonnet Material

Blank - Cast Iron
B - Bronze
SB - Stainless Steel

Tubesheet Material

Blank - Carbon Steel
W - Copper Nickel
S - Stainless Steel

Zinc Anodes

Blank - None
Z - Zinc

Features

Interchangeable with TTP C Series

Cooling Tube Material Options

- Standard Steel
- Copper Nickel
- Stainless Steel
- Bronze
- Admiralty Brass

Multiple Connection Options

- NPT x NPT
- SAE x NPT
- SAE Code 61 x NPT
- BSPP x BSPP
- 150# ASME RF Flanges x NPT

End Bonnets Removable for Servicing

Mounting Feet Included (May be rotated in 90° increments)

Materials

Tubes Copper/Copper Nickel/Stainless Steel/Admiralty Brass

Tubesheet Carbon Steel/Copper Nickel/Stainless Steel

Shell Carbon Steel

Baffles Carbon Steel

End Bonnets Cast Iron/Bronze/Stainless Steel

Mounting Brackets Carbon Steel

Gaskets Nitrile Rubber/Cellulose Fiber

Nameplate Aluminum Foil

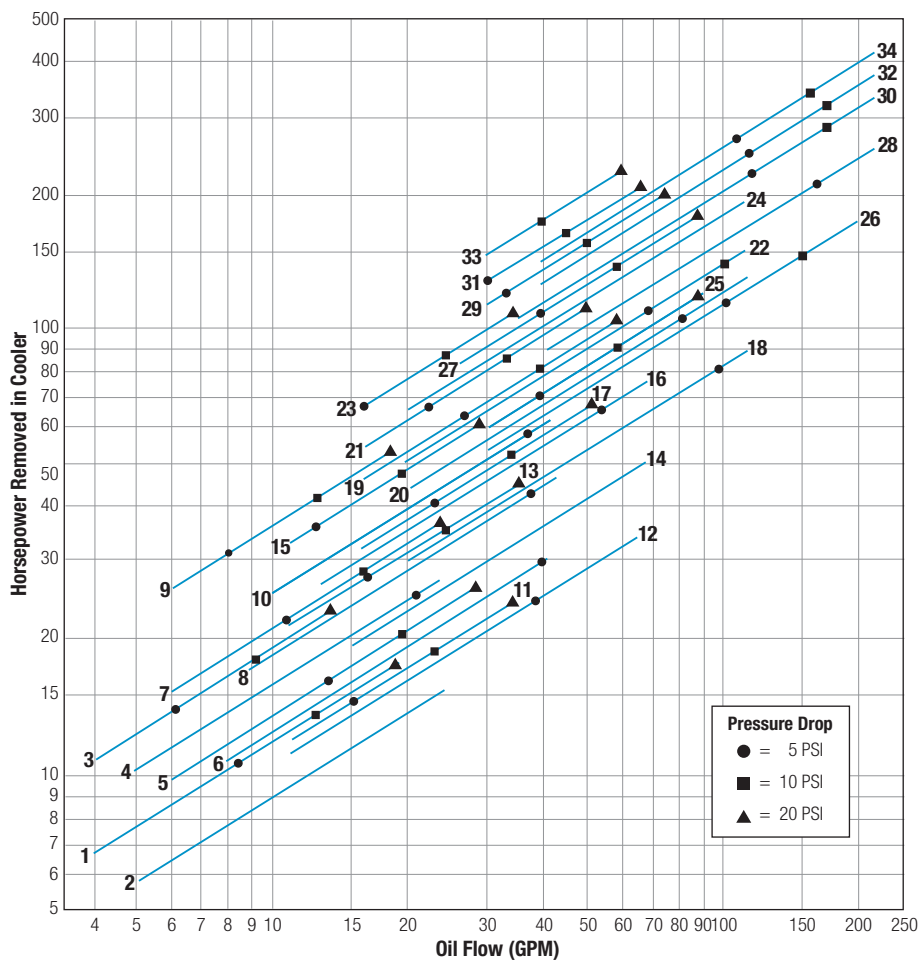
Ratings

Maximum Operating Pressure - Shell Side
300 PSI

Maximum Operating Pressure - Tube Side
150 PSI

Maximum Operating Temperature
300°F

Performance Curves

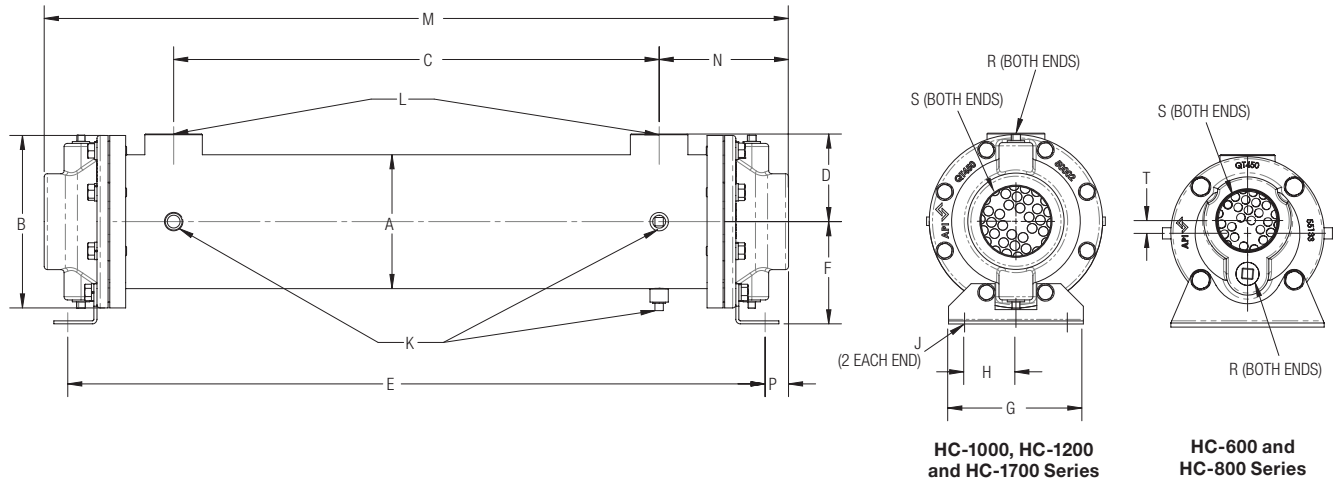


Curve Number	Model	Shipping Weight (LBS)
1	HC-614-1.3-4-F	17
2	HC-614-3-4-F	17
3	HC-624-1.3-4-F	24
4	HC-624-3-4-F	24
5	HC-814-1.7-4-F	32
6	HC-814-4-4-F	32
7	HC-824-1.7-4-F	41
8	HC-824-4-4-F	41
9	HC-836-1.7-4-F	53
10	HC-836-4-4-F	53
11	HC-1014-2-6-F	43
12	HC-1014-5-6-F	43
13	HC-1024-2-6-F	57
14	HC-1024-5-6-F	57
15	HC-1036-2-6-F	72
16	HC-1036-5-6-F	72
17	HC-1224-2.5-6-F	85
18	HC-1224-6-6-F	85
19	HC-1236-2.5-6-F	110
20	HC-1236-6-6-F	110
21	HC-1248-2.5-6-F	135
22	HC-1248-6-6-F	135
23	HC-1260-2.5-6-F	160
24	HC-1260-6-6-F	160
25	HC-1724-3.5-6-F	140
26	HC-1724-8.4-6-F	140
27	HC-1736-3.5-6-F	180
28	HC-1736-8.4-6-F	180
29	HC-1748-3.5-6-F	220
30	HC-1748-8.4-6-F	220
31	HC-1760-3.5-6-F	260
32	HC-1760-8.4-6-F	260
33	HC-1772-3.5-6-F	300
34	HC-1772-8.4-6-F	300

Shipping weights are approximate.

Dimensions

One Pass

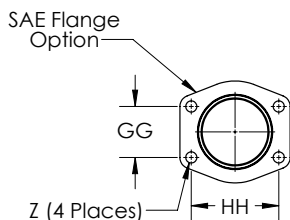


**HC-1000, HC-1200
and HC-1700 Series**

**HC-600 and
HC-800 Series**

Model	A	B	C	D	E	F	G	H	J	K NPT	L		M	N	P	R NPT	S NPT	T
											NPT/ BSPP	SAE						
614	3.27	4.50	10.00	2.31	16.37	2.75	4.50	1.63	0.44	¼	1	-16 - 1 ¼-12	17.31	3.66	0.47	¾ (2)	1 ½	0.38
624	3.27	4.50	20.00	2.31	26.37	2.75	4.50	1.63	0.44	¼	1	-16 - 1 ¼-12	27.31	3.66	0.47	¾ (2)	1 ½	0.38
814	4.25	6.00	9.00	3.13	16.69	3.50	4.25	1.75	.44 x .63	¼	1 ½	-24 - 1 ⅞-12	17.88	4.44	0.59	¾ (2)	2	—
824	4.25	6.00	19.00	3.13	26.69	3.50	4.25	1.75	.44 x .63	¼	1 ½	-24 - 1 ⅞-12	27.88	4.44	0.59	¾ (2)	2	—
836	4.25	6.00	31.00	3.13	38.69	3.50	4.25	1.75	.44 x .63	¼	1 ½	-24 - 1 ⅞-12	39.88	4.44	0.59	¾ (2)	2	—
1014	5.24	6.75	9.00	3.43	17.29	4.00	5.25	2.00	.50 x .75	¼	1 ½	-24 - 1 ⅞-12	19.13	5.06	0.92	¾ (4)	2	—
1024	5.24	6.75	19.00	3.43	27.29	4.00	5.25	2.00	.50 x .75	¼	1 ½	-24 - 1 ⅞-12	29.13	5.06	0.92	¾ (4)	2	—
1036	5.24	6.75	31.00	3.43	39.29	4.00	5.25	2.00	.50 x .75	¼	1 ½	-24 - 1 ⅞-12	41.13	5.06	0.92	¾ (4)	2	—
1224	6.26	7.75	18.25	4.06	27.00	4.50	6.25	2.50	.50 x .75	¾	2	-32 - 2 ½-12	29.63	5.69	1.31	½ (4)	3	—
1236	6.26	7.75	30.25	4.06	39.00	4.50	6.25	2.50	.50 x .75	¾	2	-32 - 2 ½-12	41.63	5.69	1.31	½ (4)	3	—
1248	6.26	7.75	42.25	4.06	51.00	4.50	6.25	2.50	.50 x .75	¾	2	-32 - 2 ½-12	53.63	5.69	1.31	½ (4)	3	—
1260	6.26	7.75	54.25	4.06	63.00	4.50	6.25	2.50	.50 x .75	¾	2	-32 - 2 ½-12	65.63	5.69	1.31	½ (4)	3	—
1724	8.62	10.50	17.00	5.43	27.25	5.75	8.25	3.50	.63 x .88	¾	3	-32 - 2 ½-12	31.75	7.38	2.25	½ (4)	4	—
1736	8.62	10.50	29.00	5.43	39.25	5.75	8.25	3.50	.63 x .88	¾	3	-32 - 2 ½-12	43.75	7.38	2.25	½ (4)	4	—
1748	8.62	10.50	41.00	5.43	51.25	5.75	8.25	3.50	.63 x .88	¾	3	-32 - 2 ½-12	55.75	7.38	2.25	½ (4)	4	—
1760	8.62	10.50	53.00	5.43	63.25	5.75	8.25	3.50	.63 x .88	¾	3	-32 - 2 ½-12	67.75	7.38	2.25	½ (4)	4	—
1772	8.62	10.50	65.00	5.43	75.25	5.75	8.25	3.50	.63 x .88	¾	3	-32 - 2 ½-12	79.75	7.38	2.25	½ (4)	4	—

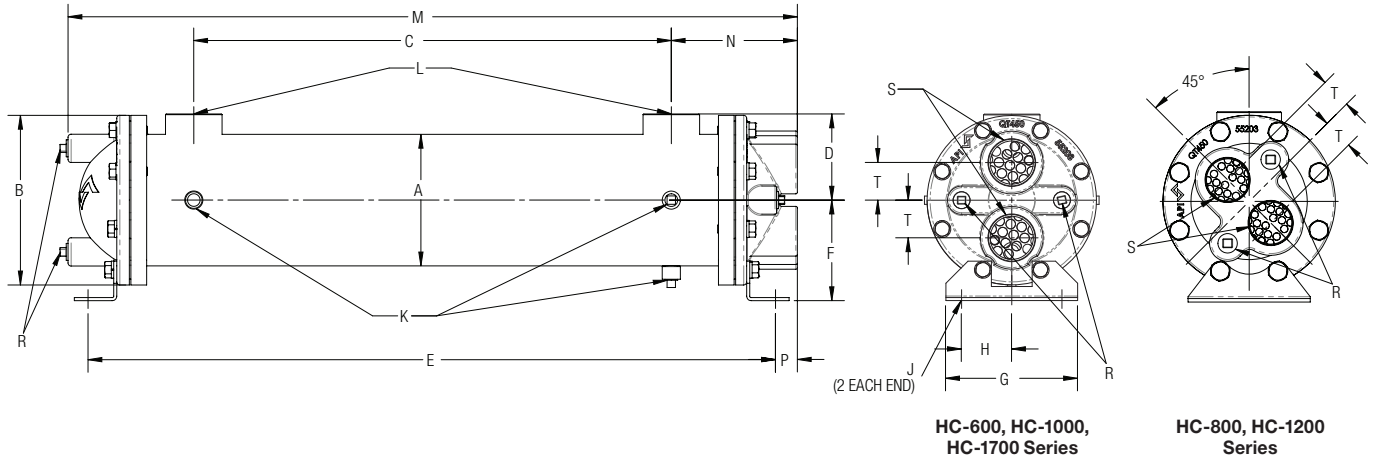
HCF/HCFM Code 61 Flange



Flange Size	Code 61 Flange			
	GG	HH	Z - HCF	Z - HCFM
1	1.03	2.06	3/8 - 16 UNC	M-10
1.50	1.41	2.75	1/2 - 13 UNC	M-12
2	1.69	3.06	1/2 - 13 UNC	M-12
3	2.44	4.19	5/8 - 11 UNC	M-16

Dimensions

Two Pass

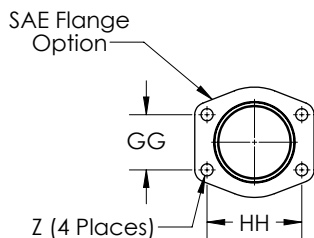


HC-600, HC-1000,
HC-1700 Series

HC-800, HC-1200
Series

Model	A	B	C	D	E	F	G	H	J	K NPT	L		M	N	P	R NPT	S NPT	T
											NPT/ BSPP	SAE						
614	3.27	4.50	10.00	2.31	16.37	2.75	4.50	1.63	0.44	¼	1	-16 - 1 5/16-12	17.20	3.64	0.45	¾ (4)	1	1.00
624	3.27	4.50	20.00	2.31	26.37	2.75	4.50	1.63	0.44	¼	1	-16 - 1 5/16-12	27.20	3.64	0.45	¾ (4)	1	1.00
814	4.25	6.00	9.00	3.13	16.75	3.50	4.25	1.75	.44 x .63	¼	1 ½	-24 - 1 7/8-12	17.88	4.44	0.59	¾ (4)	1 ¼	1.06
824	4.25	6.00	19.00	3.13	26.75	3.50	4.25	1.75	.44 x .63	¼	1 ½	-24 - 1 7/8-12	27.88	4.44	0.59	¾ (4)	1 ¼	1.06
836	4.25	6.00	31.00	3.13	38.75	3.50	4.25	1.75	.44 x .63	¼	1 ½	-24 - 1 7/8-12	39.88	4.44	0.59	¾ (4)	1 ¼	1.06
1014	5.24	6.75	9.00	3.43	17.35	4.00	5.25	2.00	.50 x .75	¼	1 ½	-24 - 1 7/8-12	19.02	5.02	0.87	¾ (4)	1 ½	1.50
1024	5.24	6.75	19.00	3.43	27.35	4.00	5.25	2.00	.50 x .75	¼	1 ½	-24 - 1 7/8-12	29.02	5.02	0.87	¾ (4)	1 ½	1.50
1036	5.24	6.75	31.00	3.43	39.35	4.00	5.25	2.00	.50 x .75	¼	1 ½	-24 - 1 7/8-12	41.02	5.02	0.87	¾ (4)	1 ½	1.50
1224	6.26	7.75	18.25	4.06	27.06	4.50	6.25	2.50	.50 x .75	¾	2	-32 - 2 1/2-12	28.94	5.25	0.88	½ (4)	2	1.56
1236	6.26	7.75	30.25	4.06	39.06	4.50	6.25	2.50	.50 x .75	¾	2	-32 - 2 1/2-12	40.94	5.25	0.88	½ (4)	2	1.56
1248	6.26	7.75	42.25	4.06	51.06	4.50	6.25	2.50	.50 x .75	¾	2	-32 - 2 1/2-12	52.94	5.25	0.88	½ (4)	2	1.56
1260	6.26	7.75	54.25	4.06	63.06	4.50	6.25	2.50	.50 x .75	¾	2	-32 - 2 1/2-12	64.94	5.25	0.88	½ (4)	2	1.56
1724	8.62	10.50	17.00	5.43	27.31	5.75	8.25	3.50	.63 x .88	¾	3	-32 - 2 1/2-12	30.70	7.20	2.08	½ (4)	2 ½	2.25
1736	8.62	10.50	29.00	5.43	39.31	5.75	8.25	3.50	.63 x .88	¾	3	-32 - 2 1/2-12	42.70	7.20	2.08	½ (4)	2 ½	2.25
1748	8.62	10.50	41.00	5.43	51.31	5.75	8.25	3.50	.63 x .88	¾	3	-32 - 2 1/2-12	54.70	7.20	2.08	½ (4)	2 ½	2.25
1760	8.62	10.50	53.00	5.43	63.31	5.75	8.25	3.50	.63 x .88	¾	3	-32 - 2 1/2-12	66.70	7.20	2.08	½ (4)	2 ½	2.25
1772	8.62	10.50	65.00	5.43	75.31	5.75	8.25	3.50	.63 x .88	¾	3	-32 - 2 1/2-12	78.70	7.20	2.08	½ (4)	2 ½	2.25

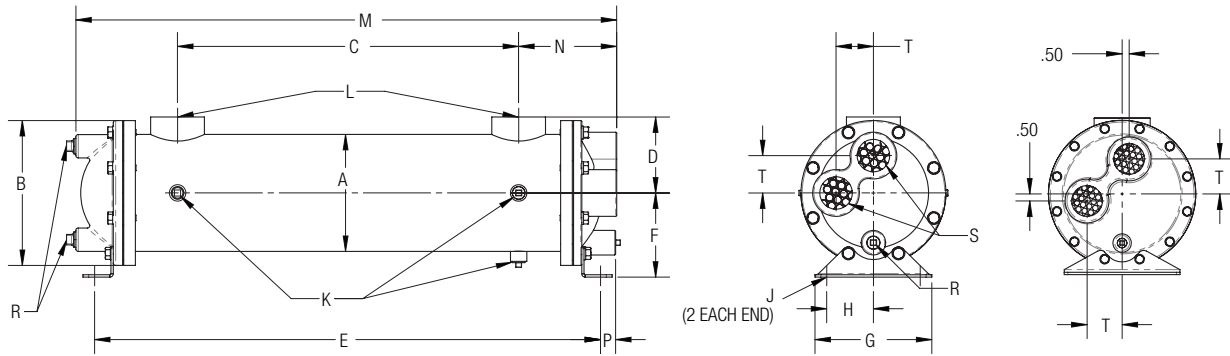
HCF/HCFM Code 61 Flange



Flange Size	GG	HH	Z - HCF	Z - HCFM
1	1.03	2.06	3/8 - 16 UNC	M-10
1.50	1.41	2.75	1/2 - 13 UNC	M-12
2	1.69	3.06	1/2 - 13 UNC	M-12
3	2.44	4.19	5/8 - 11 UNC	M-16

Dimensions

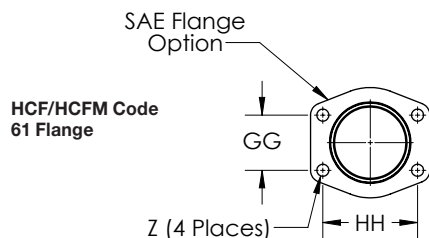
Four Pass



All models except
HC-1700 Series

HC-1700 Series

Model	A	B	C	D	E	F	G	H	J	K NPT	L		M	N	P	R NPT	S NPT	T
											NPT/ BSPP	SAE						
614	3.27	4.50	10.00	2.31	16.37	2.75	4.50	1.63	0.44	¼	1	-16 - 1 ½-12	17.19	3.62	0.44	¾ (2)	¾	1.00
624	3.27	4.50	20.00	2.31	26.37	2.75	4.50	1.63	0.44	¼	1	-16 - 1 ½-12	27.19	3.62	0.44	¾ (2)	¾	1.00
814	4.25	6.00	9.00	3.13	16.75	3.50	4.25	1.75	.44 x .63	¼	1 ½	-24 - 1 ⅞-12	17.87	4.44	0.59	¾ (2)	¾	1.25
824	4.25	6.00	19.00	3.13	26.75	3.50	4.25	1.75	.44 x .63	¼	1 ½	-24 - 1 ⅞-12	27.87	4.44	0.59	¾ (2)	¾	1.25
836	4.25	6.00	31.00	3.13	38.75	3.50	4.25	1.75	.44 x .63	¼	1 ½	-24 - 1 ⅞-12	39.87	4.44	0.59	¾ (2)	¾	1.25
1014	5.24	6.75	9.00	3.43	17.35	4.00	5.25	2.00	.50 x .75	¼	1 ½	-24 - 1 ⅞-12	18.83	4.83	0.69	¾ (2)	1	1.69
1024	5.24	6.75	19.00	3.43	27.35	4.00	5.25	2.00	.50 x .75	¼	1 ½	-24 - 1 ⅞-12	28.83	4.83	0.69	¾ (2)	1	1.69
1036	5.24	6.75	31.00	3.43	39.35	4.00	5.25	2.00	.50 x .75	¼	1 ½	-24 - 1 ⅞-12	40.83	4.83	0.69	¾ (2)	1	1.69
1224	6.26	7.75	18.25	4.06	27.07	4.50	6.25	2.50	.50 x .75	¾	2	-32 - 2 ½-12	28.94	5.25	0.87	¾ (1 - I/O) ½ (2 - RET)	1 ½	2.00
1236	6.26	7.75	30.25	4.06	39.07	4.50	6.25	2.50	.50 x .75	¾	2	-32 - 2 ½-12	40.94	5.25	0.87	¾ (1 - I/O) ½ (2 - RET)	1 ½	2.00
1248	6.26	7.75	42.25	4.06	51.07	4.50	6.25	2.50	.50 x .75	¾	2	-32 - 2 ½-12	52.94	5.25	0.87	¾ (1 - I/O) ½ (2 - RET)	1 ½	2.00
1260	6.26	7.75	54.25	4.06	63.07	4.50	6.25	2.50	.50 x .75	¾	2	-32 - 2 ½-12	64.94	5.25	0.87	¾ (1 - I/O) ½ (2 - RET)	1 ½	2.00
1724	8.62	10.50	17.00	5.43	27.31	5.75	8.25	3.50	.63 x .88	¾	3	-32 - 2 ½-12	30.47	7.20	2.08	¾ (1 - I/O) ½ (2 - RET)	2	2.50
1736	8.62	10.50	29.00	5.43	39.31	5.75	8.25	3.50	.63 x .88	¾	3	-32 - 2 ½-12	42.47	7.20	2.08	¾ (1 - I/O) ½ (2 - RET)	2	2.50
1748	8.62	10.50	41.00	5.43	51.31	5.75	8.25	3.50	.63 x .88	¾	3	-32 - 2 ½-12	54.47	7.20	2.08	¾ (1 - I/O) ½ (2 - RET)	2	2.50
1760	8.62	10.50	53.00	5.43	63.31	5.75	8.25	3.50	.63 x .88	¾	3	-32 - 2 ½-12	66.47	7.20	2.08	¾ (1 - I/O) ½ (2 - RET)	2	2.50
1772	8.62	10.50	65.00	5.43	75.31	5.75	8.25	3.50	.63 x .88	¾	3	-32 - 2 ½-12	78.47	7.20	2.08	¾ (1 - I/O) ½ (2 - RET)	2	2.50



Flange Size	GG	HH	Z - HCF	Z - HCFM
1	1.03	2.06	3/8 - 16 UNC	M-10
1.50	1.41	2.75	1/2 - 13 UNC	M-12
2	1.69	3.06	1/2 - 13 UNC	M-12
3	2.44	4.19	5/8 - 11 UNC	M-16