



TECHNICAL INFORMATION

Manufacturing Standards

Our Flanges are manufactured in accordance with the following standards :

- SAE Flanges SAE J 518 C, ISO 6162
- Cetop Flanges CETOP RP 63H
- 4 Bolt Square ISO/DIS 6164

Pressure Ratings

For maximum flange pressure ratings, please refer to the tables below and the specific flange catalogue page.

Please note that the quoted pressure ratings are for a working temperature range of between -20°C to +90 °C.

For use outside of this temperature range please Consult Velock Technical Department :

Standard Pressure : Series 3000 psi

Size	Maximum Working Pressure	
	PSI	BAR
1/2"	5000	340
3/4"	5000	340
1"	5000	340
1 1/4"	4000	275
1 1/2"	3000	200
2"	3000	200
2 1/2"	2500	175
3"	2000	135
3 1/2"	510	35
4"	510	35

High Pressure : Series 6000 psi

Size	Maximum Working Pressure	
	PSI	BAR
3/8"	6000	420
3/4"	6000	420
1"	6000	420
1 1/4"	6000	420
1 1/2"	6000	420
2"	6000	420
2 1/2"	6000	420
3"	6000	420

Materials

For available flange material please refer to relevant page. If several materials are show, the choice of material used is at the discretion of the manufacturer.

Corrosion Protection

Unless otherwise stated on the product range all flanges are delivered in natural condition and coated with a rust inhibitor.

Flange Kits

All flange kits are supplied with relevant bolts and seals, as indicated on corresponding page.

Used Bolts

- SAE flanges metric bolts : DIN 912-8.8 (ISO 4762-8.8) or DIN 912-10.9 (ISO 4762-10.9)*
- UNC bolts : ASA B 18.3
- Gear pump flanges metric bolts : DIN 912-8.8 (ISO 4762-8.8)
- 4-bolt square flanges metric bolts : DIN 931/934-8.8 (ISO4014/4017-8.8) or DIN 931/934-10.9 (ISO 4014/4017-10.9)*
- Cetop flanges metric bolts : DIN 931/934-8.8 (ISO4014/4017-8.8) or DIN 931/934-10.9 (ISO 4014/4017-10.9)*

* The system pressure is determined by the wall thickness and the quality of the tube used.



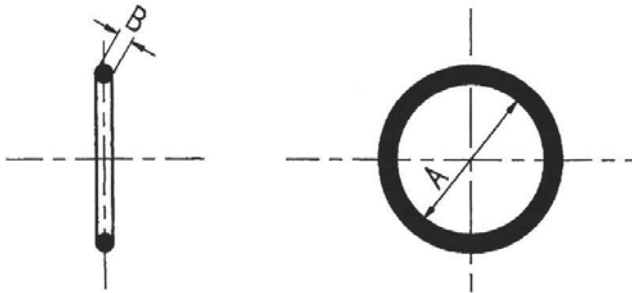
VE-LOCK

TECHNICAL INFORMATION

Seal Material

The standard o-ring seal material is Buna (90 shore). However Viton (85-90 shore) is available as an option on request. For all SAE Flanges and Cetop flanges the o-ring dimensions are according to the following table -

O-Rings for use with SAE Flanges



Size	A	B
3/8"	17.12	2.62
1/2"	18.66	3.53
3/4"	25.00	3.53
1"	32.92	3.53
1 1/4"	37.70	3.53
1 1/2"	47.22	3.53
2"	56.75	3.53
2 1/2"	69.45	3.53
3"	85.32	3.53
3 1/2"	98.02	3.53
4"	110.72	3.53
5"	136.12	3.53

Flange Tube Connections

We suggest that where applicable tubing to the following standards should be utilised

Seamless precision steel tube to DIN2391, material grade C, ST 37-4 or 52-4, Seamless boiler tube to DIN 2441 groups 1 & 2, material grade ST 37-4 or ST 52-4, Tubing according to ASA B36-10.

We suggest the use of tubing to the following dimensions :

Size	Tubes to DIN 2391					Tubes to DIN 2448		Tubes to ASA B 36-10			
	Series					Series		Series			
	100 bar	160 bar	250 bar	315 bar	400 bar	250 bar	400 bar	Schedule	250	Schedule	400
1/2"	15 x 1 18 x 1	18 x 1.5	16 x 2.0 20 x 2.5	16 x 2.5 20 x 3	16 x 3 20 x 3.5	21.3 x 2.6	21.3 x 3.2	40	21.3 x 2.8	80	21.3 x 3.7
3/4"	-	-	25 x 3	25 x 3.5	25 x 4	26.9 x 2.6	26.9 x 4	40	26.7 x 2.9	80	26.7 x 3.9
1"	28 x 2	-	28 x 3 30 x 4	30 x 5	30 x 6	33.7 x 4	33.7 x 6.3	40	33.7 x 4.8	160	33.7 x 6.4
1 1/4"	35 x 2	-	35 x 4 38 x 5	38 x 6	30 x 7	42.4 x 5	42.4 x 6.3	80	42.4 x 4.8	160	42.4 x 6.4
1 1/2"	42 x 3	-	42 x 5 50 x 6	50 x 8	50 x 9	48.3 x 5	48.3 x 8	80	48.3 x 5.1	160	48.3 x 7.1
2"	-	-	-	65 x 8	65 x 10	60.3 x 6.3	60.3 x 10	160	60.3 x 8.7	200	60.3 x 11.1
	-	-	-	80 x 10	80 x 12.5	76.1 x 8	76.1 x 12.5	160	73 x 9.5	200	73 x 14
3"	-	-	-	-	-	88.9 x 10	88.9 x 16	160	88.9 x 11.1	200	88.9 x 15.2
	-	-	-	-	-	101.6 x 10	101.6 x 16	-	-	-	-
4"	-	-	-	-	-	114.3 x 12.5	114.3 x 20	160	114.3 x 13.5	200	114.3 x 17.1



A. S. A. SCHEDULE PIPE SIZES

A. S. A. SCHEDULE PIPE SIZES														
Nominal Bore	O.D. mm	Schedule												
		10	20	30	STD & 40S	40	60	XS & 80S	80	100	120	140	160	XXS
1/8"	10.3				1.73	1.73		2.41	2.41					
1/4"	13.7				2.24	2.24		3.02	3.02					
3/8"	17.1				2.31	2.31		3.20	3.20					
1/2"	21.3				2.77	2.77		3.73	3.73				4.78	7.47
3/4"	26.7				2.87	2.87		3.91	3.91				5.56	7.82
1"	33.4				3.38	3.38		4.55	4.55				6.35	9.09
1 1/4"	42.2				3.56	3.56		4.85	4.85				6.35	9.07
1 1/2"	48.3				3.68	3.68		5.08	5.08				7.14	10.16
2"	60.3				3.91	3.91		5.54	5.54				8.74	11.07
2 1/2"	73.0				5.16	5.16		7.01	7.01				9.52	14.02
3"	88.9				5.49	5.49		7.62	7.62				11.13	15.24
3 1/2"	101.6				5.74	5.74		8.08	8.08					
4"	114.3				6.02	6.02		8.56	8.56		11.13		14.49	17.12
5"	141.3				6.55	6.55		9.52	9.52		12.70		15.88	19.05
6"	168.3		6.35	7.04	7.11	7.11		10.97	10.97		14.27		18.26	21.95
8"	219.1		6.35	7.80	8.18	8.18	10.31	12.70	12.70	15.09	18.26	20.62	23.01	22.22
10"	273.0		6.35	8.38	9.27	9.27	12.70	12.70	15.09	18.26	21.44	25.40	28.58	25.40
12"	323.9		7.92	9.52	9.52	10.31	14.27	12.70	17.47	21.44	25.40	28.58	33.34	25.40
14"	355.6	6.35	7.92	9.52	9.52	11.13	15.09	12.70	19.05	23.82	27.79	31.75	35.71	
16"	406.4	6.35	7.92	11.13	9.52	12.70	16.64	12.70	21.44	26.19	30.96	36.52	40.49	
18"	457.2	6.35	9.52	12.70	9.52	14.27	19.05	12.70	23.82	29.36	34.92	39.69	45.24	
20"	508.0	6.35	9.52	12.70	9.52	15.09	20.62	12.70	26.19	32.54	38.10	44.45	50.01	
22"	558.8	6.35	9.52	14.27	9.52	15.88	22.22	12.70	28.58	34.92	41.28	47.62	53.98	
24"	609.6	6.35	12.70		9.52	17.48	24.61	12.70	30.96	38.89	46.02	52.39	59.54	
26"	660.4	7.92	12.70	15.88	9.52			12.70						
28"	711.2	7.92	12.70	15.88	9.52			12.70						
30"	762.8	7.92	12.70	15.88	9.52			12.70						
32"	812.8	7.92	12.70	15.88	9.52	17.48		12.70						
34"	863.6	7.92	12.70	15.88	9.52	17.48		12.70						
36"	914.4	7.92	12.70	15.88	9.52	19.05		12.70						