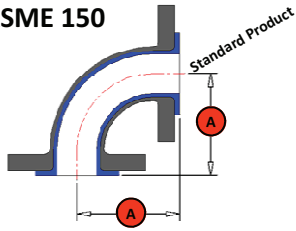
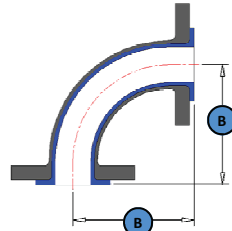


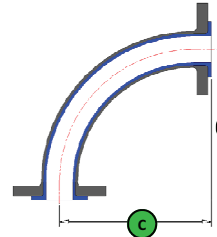
ASME 150



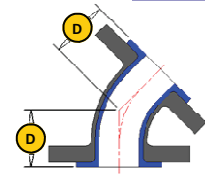
90 Degree Elbow



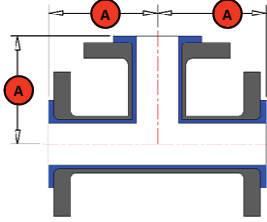
3D 90 Degree Elbow



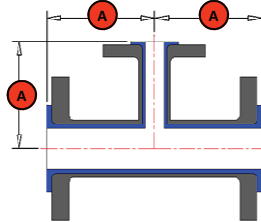
5D 90 Degree Elbow



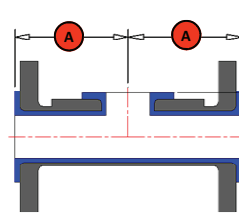
45 Degree Elbow



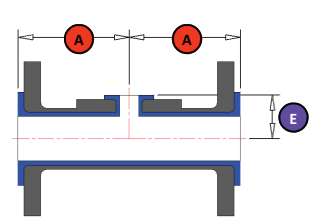
Equal Tee



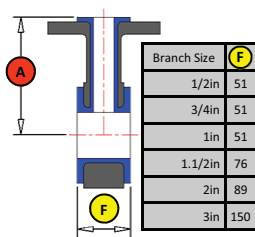
Reducing Tee



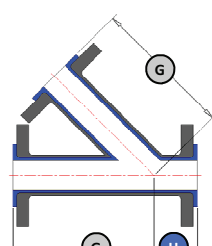
Short Stack Equal Tee



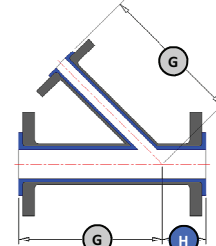
Short Stack Reducing Tee



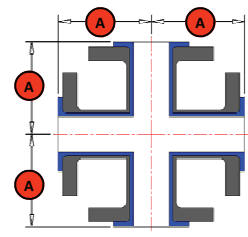
Instrument Tee



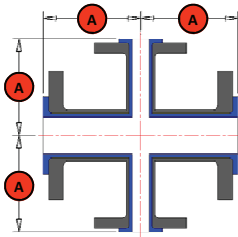
Equal Lateral Tee



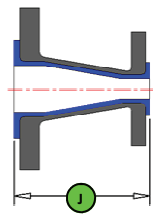
Reducing Lateral Tee



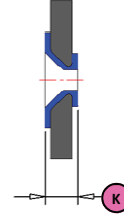
Equal Cross



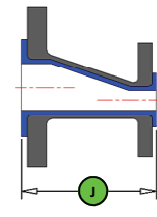
Reducing Cross



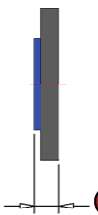
Concentric Reducer



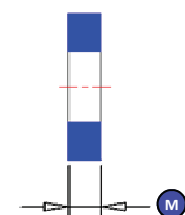
Reducing Flange



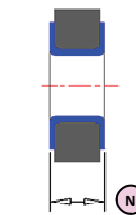
Eccentric Reducer



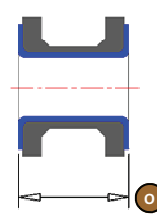
Blank Flange



Type 1 Spacer



Type 2 Spacer



Type 3 Spacer

Nominal Bore	DN	A	B	C	D	E	G	H	J	K	L	M Max.	N Max.	O Max.	Van Stone Spool Min.	Fixed/Rotating Spool Min.	Spool Max.
1/2 in	DN 15	65*									14	25	60	100	250	90	6000
3/4 in	DN 20	75								30	15	25	60	100	250	90	6000
1 in	DN 25	89	n/a	127	44	30	146	44		30	16	25	60	100	250	90	6000
1 1/2 in	DN 40	102	114	191	57	37	178	51	114	30	19	25	60	100	250	95	6000
2 in	DN 50	114	152	254	63	43	203	64	127	30	21	25	70	150	250	110	6000
3 in	DN 80	140	229	381	76	56	254	76	152	35	26	25	70	150	250	120	6000
4 in	DN 100	165	305	508	102	67	305	76	178	35	26	25	70	150	250	125	6000
6 in	DN 150	203	457	762	127	105	368	89	229	40	27	25	80	150	500	140	6000
8 in	DN 200	229	610	1016	140	125	444	114	279	40	31	25	80	200	500	150	3000
10 in	DN 250	279	762	1270	165	165	521	127	305	35	32	25	80	200	n/a	165	3000
12 in	DN 300	305	914	1524	190	190	622	140	356	40	34	25	80	200	n/a	170	3000
14 in	DN 350	356			190	210			406	40	37	25	80	200	n/a	190	3000

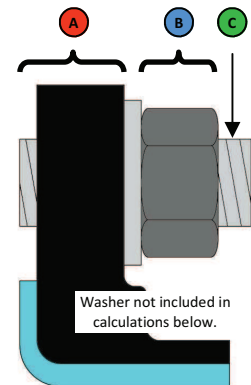
*Please note that 1/2in 90 Degree Elbow is 100mm. The Face to Face Dimension of reducing fittings is normally defined by the nominal bore of the larger size. Special dimensions are available on request. For further information go to our website at www.crp.co.uk or call us on +44(0)1706 756400. Please note, no warranties are given on the accuracy of the data, which may be subject to revision, for confirmation please refer to the appropriate standards documents. CRP's dimensions may vary from those of other manufacturers and not all components dimensioned are standard CRP products.



Bolting and Torque Details

Nominal Bore	DN	Flange Ø	Pitch Circle Ø	No. of Bolt Holes	Hole Ø	Bolts/Studs UNC	Bolts/Studs Metric	Torque Nm
1/2 in	DN 15	90	60.3	4	15.9	1/2"	M12	7
3/4 in	DN 20	98	69.9	4	15.9	1/2"	M12	15
1 in	DN 25	108	79.4	4	15.9	1/2"	M12	19
1 1/2 in	DN 40	127	98.4	4	15.9	1/2"	M12	27
2 in	DN 50	152	120.7	4	19.0	5/8"	M16	47
3 in	DN 80	190	152.4	4	19.0	5/8"	M16	73
4 in	DN 100	229	190.5	8	19.0	5/8"	M16	54
6 in	DN 150	279	241.3	8	22.2	3/4"	M20	108
8 in	DN 200	343	298.5	8	22.2	3/4"	M20	136
10 in	DN 250	406	362.0	12	25.4	7/8"	M24	127
12 in	DN 300	483	431.8	12	25.4	7/8"	M24	145
14 in	DN 350	533	476.3	12	28.6	1"	M27	182

Please refer to CRP User Guide for more information relating to making joints in PTFE/PFA lined equipment. Remember re-torquing is required after 24 hours or one process cycle.



Half Joint Calculator for ASME B16.5 Class 150 Joints for CRP Lined Equipment

Nominal Bore	DN	Component	Half Joint Total Thickness (A)
1 in	DN 25	Heavy Duty Van Stone Spool	20.5
1 1/2 in	DN 40	Heavy Duty Van Stone Spool	23.5
2 in	DN 50	Heavy Duty Van Stone Spool	25.5
3 in	DN 80	Heavy Duty Van Stone Spool	29.5
4 in	DN 100	Heavy Duty Van Stone Spool	33.0
6 in	DN 150	Heavy Duty Van Stone Spool	36.5
8 in	DN 200	Heavy Duty Van Stone Spool	42.0
8 in	DN 200	Standard Duty Van Stone Spool	41.0
1/2 in	DN 15	Heavy Duty Spool Fixed Flange	13.5
3/4 in	DN 20	Heavy Duty Spool Fixed Flange	14.5
1 in	DN 25	Heavy Duty Spool Fixed Flange	17.5
1 1/2 in	DN 40	Heavy Duty Spool Fixed Flange	20.5
2 in	DN 50	Heavy Duty Spool Fixed Flange	21.5
3 in	DN 80	Heavy Duty Spool Fixed Flange	26.5
4 in	DN 100	Heavy Duty Spool Fixed Flange	28.0
6 in	DN 150	Heavy Duty Spool Fixed Flange	31.0
8 in	DN 200	Heavy Duty Spool Fixed Flange	35.0
10 in	DN 250	Heavy Duty Spool Fixed Flange	38.0
12 in	DN 300	Heavy Duty Spool Fixed Flange	40.0
8 in	DN 200	Standard Duty Spool Fixed Flange	34.0
10 in	DN 250	Standard Duty Spool Fixed Flange	35.0
12 in	DN 300	Standard Duty Spool Fixed Flange	36.5
14 in	DN 350	Standard Duty Spool Fixed Flange	41.5
1/2 in	DN 15	Heavy Duty Spool Rotating Flange	23.5
3/4 in	DN 20	Heavy Duty Spool Rotating Flange	26.5
1 in	DN 25	Heavy Duty Spool Rotating Flange	29.5
1 1/2 in	DN 40	Heavy Duty Spool Rotating Flange	32.5
2 in	DN 50	Heavy Duty Spool Rotating Flange	35.5
3 in	DN 80	Heavy Duty Spool Rotating Flange	42.5
4 in	DN 100	Heavy Duty Spool Rotating Flange	44.0
6 in	DN 150	Heavy Duty Spool Rotating Flange	49.0
8 in	DN 200	Heavy Duty Spool Rotating Flange	55.0
10 in	DN 250	Heavy Duty Spool Rotating Flange	60.0
12 in	DN 300	Heavy Duty Spool Rotating Flange	62.0
8 in	DN 200	Standard Duty Spool Rotating Flange	54.0
10 in	DN 250	Standard Duty Spool Rotating Flange	57.0
12 in	DN 300	Standard Duty Spool Rotating Flange	58.5
14 in	DN 350	Standard Duty Spool Rotating Flange	65.5

Nominal Bore	DN	Component	Half Joint Total Thickness (A)
1/2 in	DN 15	Fitting Fixed Flange	12.5
3/4 in	DN 20	Fitting Fixed Flange	15.0
1 in	DN 25	Fitting Fixed Flange	17.0
1 1/2 in	DN 40	Fitting Fixed Flange	21.0
2 in	DN 50	Fitting Fixed Flange	23.0
3 in	DN 80	Fitting Fixed Flange	28.5
4 in	DN 100	Fitting Fixed Flange	29.5
6 in	DN 150	Fitting Fixed Flange	31.5
8 in	DN 200	Fitting Fixed Flange	36.5
10 in	DN 250	Fitting Fixed Flange	39.5
12 in	DN 300	Fitting Fixed Flange	41.0
14 in	DN 350	Fitting Fixed Flange	43.5
1/2 in	DN 15	Fitting Rotating Flange	22.5
3/4 in	DN 20	Fitting Rotating Flange	27.0
1 in	DN 25	Fitting Rotating Flange	29.0
1 1/2 in	DN 40	Fitting Rotating Flange	33.0
2 in	DN 50	Fitting Rotating Flange	37.0
3 in	DN 80	Fitting Rotating Flange	44.5
4 in	DN 100	Fitting Rotating Flange	45.5
6 in	DN 150	Fitting Rotating Flange	49.5
8 in	DN 200	Fitting Rotating Flange	56.5
10 in	DN 250	Fitting Rotating Flange	61.5
12 in	DN 300	Fitting Rotating Flange	63.0
14 in	DN 350	Fitting Rotating Flange	67.5

UNC Thread	Thread Pitch (C)	Nut Thickness * [mm] (B)	
		Ordinary	Heavy
1/2"	2.0	11	12
5/8"	2.3	14	16
3/4"	2.5	17	19
7/8"	2.8	19	22
1"	3.0	22	25
Metric Thread	Thread Pitch (C)	Nut Thickness [mm] (B)	
M12	1.75	10	
M16	2.0	13	
M20	2.5	16	
M24	3.0	19	
M27	3.0	22	

Please note that for certain sizes of product - particularly small 45 degree elbows, threaded holes and stud bolts are used, changing these calculations. For more information please see our website www.crp.co.uk

*Assuming nuts are faced one side