



ABRASIVE FLOW SOLUTIONS

fpv fpv^{II} KLOP WPV

FLANGE DRILLING Guide

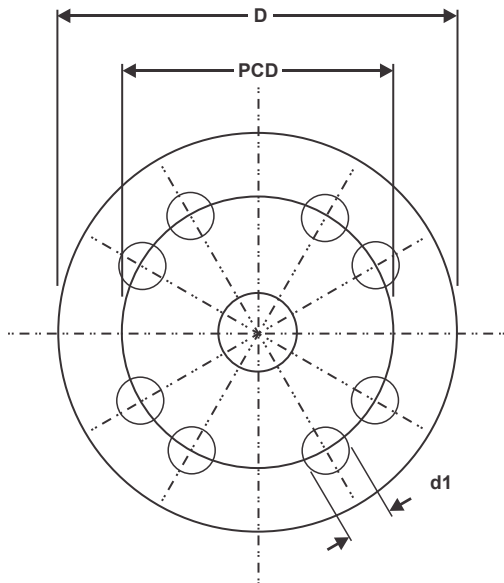


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DIAGRAM



D	Flange Diameter
PCD	Pitch Circle Diameter
d1	Diameter of Holes

This diagram illustrates the arrangement but not necessarily the correct number of bolt holes. Refer to the different flanges for the actual number.

Whilst every care has been taken in the preparation of this guide, no responsibility can be taken for any errors or omissions.

NOMINAL SIZE 25MM

	Table/Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN					
10	10/16	115	85	4 x M12	14
BS	25/40	115	85	4 x M12	14
4504	64/100/160	140	100	4 x M16	18
SABS					
1123	1000	115	85	4 x M12	14
	1600	115	85	4 x M12	14
	2500	115	85	4 x M12	14
	4000	115	85	4 x M12	14
ASME					
B16.5	150	108	79.5	4 X 1/2"	16
	300/600	124	89.0	4 X 5/8"	19
	900/1500	149	101.5	4 X 7/8"	25
BS 10					
	D/E	114	82.5	4 x M12	14
	F/H/J	121	87.5	4 x M16	18
	R	127	95.0	4 x M16	18
	S	140	101.5	4 x M20	22
	T	146	108.0	4 x M20	22

NOMINAL SIZE 40MM

	Table/Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN					
10	10/16	150	110	4 x M16	18
BS	25/40	150	110	4 x M16	18
4504	64/100/160	170	125	4 x M20	22
SABS					
1123	1000	150	110	4 x M16	18
	1600	150	110	4 x M16	18
	2500	150	110	4 x M16	18
	4000	150	110	4 x M16	18
ASME					
B16.5	150	127	98.5	4 X 1/2"	16
	300/600	156	114.5	4 X 3/4"	22
	900/1500	178	124.0	4 X 1"	29
BS 10					
	D/E	133	98.5	4 x M12	14
	F/H/J	140	105.0	4 x M16	18
	R	152	114.5	4 x M20	22
	S	159	120.5	4 x M20	22
	T	171	133.0	4 x M20	22

NOMINAL SIZE 50MM

	Table/Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN					
10	10/16	165	125	4 x M16	18
BS	25/40	165	125	4 x M16	18
4504	64	180	135	4 x M20	22
	100/160	195	145	4 x M24	26
SABS					
1123	1000	165	125	4 x M16	18
	1600	165	125	4 x M16	18
	2500	165	125	4 x M16	18
	4000	165	125	4 x M16	18
ASME					
B16.5	150	152	120.5	4 X 5/8"	19
	300/600	165	127.0	8 X 5/8"	19
	900/1500	216	165.0	8 X 7/8"	25
BS 10					
	D/E	152	114.5	4 x M16	18
	F/H	165	127.0	4 x M16	18
	J	165	127.0	4 x M20	22
	R	165	127.0	4 x M16	18
	S	171	133.5	4 x M20	22
	T	184	146.0	4 x M20	22

NOMINAL SIZE 65MM

	Table/Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN					
10	10/16	185	145	4 x M16	18
BS	25/40	185	145	8 x M16	18
4504	64	205	160	8 x M20	22
	100/160	220	170	8 x M24	26
SABS					
1123	1000	185	145	4 x M16	18
	1600	185	145	4 x M16	18
	2500	185	145	8 x M16	18
	4000	185	145	8 x M16	18
ASME					
B16.5	150	178	139.5	4 X 5/8"	19
	300/600	190	149.0	8 X 3/4"	22
	900/1500	244	190.5	8 X 1"	29
BS 10					
	D/E	165	127.0	4 x M16	18
	F/H	184	146.0	8 x M16	18
	J/R/S	184	146.0	8 x M20	22
	T	203	165.0	8 x M22	25

NOMINAL SIZE 80MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10/16	200	160	8 x M16	18
	25/40	200	160	8 x M16	18
	64	215	170	8 x M20	22
	100/160	230	180	8 x M24	26
SABS 1123	1000	200	160	8 x M16	18
	1600	200	160	8 x M16	18
	2500	200	160	8 x M16	18
	4000	200	160	8 x M16	18
ASME B16.5	150	190	152.5	4 X 5/8"	19
	300/600	210	168.5	8 X 3/4"	22
	900	241	190.5	8 X 7/8"	25
	1500	267	203.0	4 x 1 1/8"	32
BS 10	D/E	184	146.0	4 x M16	18
	F/H	203	165.1	8 x M16	18
	J/R	203	165.1	8 x M20	22
	S	203	135.1	8 x M22	25
	T	235	190.5	8 x M27	29

NOMINAL SIZE 100MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10/16	220	180	8 x M16	18
	25/40	235	190	8 x M20	22
	64	250	200	8 x M24	26
	100/160	265	210	8 x M27	30
SABS 1123	1000	220	180	8 x M16	18
	1600	220	180	8 x M16	18
	2500	235	190	8 x M20	22
	4000	235	190	8 x M20	22
ASME B16.5	150	229	190.5	8 x 5/8"	19
	300	254	200.0	8 x 3/4"	22
	600	273	216.0	8 x 7/8"	25
	900	292	235.0	8 x 1 1/8"	32
	1500	311	241.5	8 x 1 1/4"	35
BS 10	D	216	177.8	4 x M16	18
	E	216	177.8	8 x M16	18
	F/H	229	190.5	8 x M16	18
	J	229	190.5	8 x M20	22
	R	241	196.8	8 x M22	25
	S	248	203.2	8 x M27	29
	T	286	234.9	8 x M30	32

NOMINAL SIZE 125MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10/16	250	210	8 x M16	18
	25/40	270	220	8 x M24	26
	64	295	240	8 x M27	30
	100/160	315	250	8 x M30	33
SABS 1123	1000	250	210	8 x M16	18
	1600	250	210	8 x M16	18
	2500	270	220	8 x M24	26
	4000	270	220	8 x M24	26
ASME B16.5	150	254	216.0	8 X 3/4"	22
	300	279	235.0	8 X 3/4"	22
	600	330	267.0	8 X 1"	29
	900	349	279.5	8 x 1 1/4"	35
	1500	375	292.0	8 x 1 1/2"	41
BS 10	D/E	254	209.5	8 x M16	18
	F/H	279	234.9	8 x M20	22
	J	279	234.9	8 x M22	25
	R	279	234.9	12 x M22	25
	S	286	234.9	12 x M22	25
	T	324	273.0	12 x M30	32

NOMINAL SIZE 150MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10/16	285	240	8 x M20	22
	25/40	300	250	8 x M24	26
	64	345	280	8 x M30	33
	100/160	355	290	12 x M30	33
SABS 1123	1000	285	240	8 x M20	22
	1600	285	240	8 x M20	22
	2500	300	250	8 x M24	26
	4000	300	250	8 x M24	26
ASME B16.5	150	279	241.5	8 x 3/4"	22
	300	318	270.0	12 x 3/4"	22
	600	356	292.0	12 x 1"	29
	900	381	317.5	12 x 1 1/8"	32
	1500	394	317.5	12 x 1 3/8"	38
BS 10	D	279	234.9	8 x M16	18
	E	279	234.9	8 x M20	22
	F/H	305	260.3	12 x M20	22
	J/R	305	260.3	12 x M22	25
	S	324	273.0	12 x M27	29
	T	275	317.5	12 x M33	35

NOMINAL SIZE 200MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10	340	295	8 x M20	22
	16	340	295	12 x M20	22
	25	360	310	12 x M24	26
	40	375	320	12 x M27	30
	64	415	345	12 x M33	36
	100/160	430	360	12 x M33	36
SABS 1123	1000	340	295	8 x M20	22
	1600	340	295	12 x M20	22
	2500	360	310	12 x M24	26
	4000	375	320	12 x M24	26
ASME B16.5	150	343	298.5	8 X 3/4"	22
	300	381	330.0	12 X 7/8"	25
	600	419	349.0	12 X 1 1/8"	32
	900	470	393.5	12 x 1 3/8"	38
	1500	483	393.5	12 x 1 5/8"	44
BS 10	D	337	292.1	8 x M16	18
	E	337	292.1	8 x M20	22
	F/H	368	323.8	12 x M20	22
	J	368	323.8	12 x M22	25
	R	368	323.8	12 x M27	29
	S	413	355.6	12 x M33	35
	T	476	406.4	12 x M39	41

NOMINAL SIZE 250MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10	395	350	12 x M20	22
	16	405	355	12 x M24	26
	25	425	370	12 x M27	30
	40	450	385	12 x M30	33
	64	470	400	12 x M33	36
	100	505	430	12 x M36	39
	160	515	430	12 x M39	42
SABS 1123	1000	395	350	12 x M20	22
	1600	405	355	12 x M24	26
	2500	425	370	12 x M24	26
	4000	450	385	12 x M30	33
ASME B16.5	150	406	362.0	12 x 7/8"	25
	300	445	387.5	16 x 1"	29
	600	508	432.0	16 x 1 1/4"	35
	900	546	470.0	16 x 1 3/8"	38
	1500	584	482.5	12 x 1 7/8"	51
BS 10	D	406	355.6	8 x M20	22
	E	406	355.6	12 x M20	22
	F/H	432	381.0	12 x M22	25
	J	432	381.0	12 x M27	29
	R	432	387.3	16 x M27	29
	S	483	425.4	16 x M33	35
	T	559	488.9	16 x M39	41

NOMINAL SIZE 300MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10	445	400	12 x M20	22
	16	460	410	12 x M24	26
	25	485	430	16 x M27	30
	40	515	450	16 x M30	33
	64	530	460	16 x M33	36
	100/160	585	500	16 x M39	42
SABS 1123	1000	445	400	12 x M20	22
	1600	460	410	12 x M24	26
	2500	485	430	16 x M24	26
	4000	515	450	16 x M30	33
ASME B16.5	150	483	432.0	12 X 7/8"	25
	300	521	451.0	16 X 1 1/8"	32
	600	559	489.0	20 x 1 1/4"	35
	900	610	533.5	20 x 1 3/8"	38
	1500	673	571.5	16 x 2"	54
BS 10	D	457	406.4	12 x M20	22
	E	457	406.4	12 x M22	25
	F/H	489	438.1	16 x M22	25
	J	489	438.1	16 x M27	29
	R	508	457.2	16 x M30	32
	S	578	508.0	16 x M39	41
	T	654	571.5	16 x M45	48

NOMINAL SIZE 350MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10	505	460	16 x M20	22
	16	520	470	16 x M24	26
	25	555	490	16 x M30	33
	40	580	510	16 x M33	36
	64	600	525	16 x M36	39
	100	655	560	16 x M45	48
SABS 1123	1000	505	460	16 x M20	22
	1600	520	470	16 x M24	26
	2500	555	490	16 x M30	33
	4000	580	510	16 x M30	33
ASME B16.5	150	533	476.0	12 x 1"	29
	300	584	514.5	20 x 1 1/8"	32
	600	603	527.0	20 x 1 3/8"	38
	900	641	559.0	20 x 1 1/2"	41
	1500	749	635.0	16 x 2 1/4"	60
BS 10	D/E	527	469.9	12 x M22	25
	F/H	552	495.3	16 x M27	29
	J	552	495.3	16 x M30	32
	R	584	527.0	16 x M33	35
	S	648	577.8	20 x M39	41

NOMINAL SIZE 400MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10	565	515	16 x M24	26
	16	580	525	16 x M27	30
	25	620	550	16 x M33	36
	40	660	585	16 x M36	39
	64	670	585	16 x M39	42
	100	715	620	16 x M45	48
SABS 1123	1000	565	515	16 x M24	26
	1600	580	525	16 x M24	26
	2500	620	550	16 x M30	33
	4000	660	585	16 x M36	39
ASME B16.5	150	597	540.0	16 X 1"	29
	300	648	571.5	20 X 1 1/4"	35
	600	686	603.0	20 x 1 1/2"	41
	900	705	616.0	20 x 1 5/8"	44
	1500	826	705.0	16 x 2 1/2"	67
BS 10	D/E	578	520.7	12 x M22	25
	F/H	610	552.4	20 x M27	29
	J	610	552.4	20 x M30	32
	R	641	584.2	20 x M33	35
	S	743	660.4	20 x M45	48

NOMINAL SIZE 450MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10	615	565	20 x M24	26
	16	640	585	20 x M27	30
	25	670	600	20 x M33	36
	40	685	610	20 x M36	39
SABS 1123	1000	615	565	20 x M24	26
	1600	640	585	20 x M24	26
	2500	670	600	20 x M30	33
	4000	685	610	20 x M36	39
ASME B16.5	150	635	578.0	16 x 1 1/8"	32
	300	711	628.5	24 x 1 1/4"	35
	600	743	654.0	20 x 1 5/8"	44
	900	787	686.0	20 x 1 7/8"	51
	1500	914	774.5	16 x 2 3/4"	73
BS 10	D	614	584.2	12 x M22	25
	E	614	584.2	16 x M22	25
	F/H	673	609.6	20 x M30	32
	J	673	609.6	20 x M33	35
	R	737	673.1	20 x M36	38

NOMINAL SIZE 500MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10	670	620	20 x M24	26
	16	715	650	20 x M30	33
	25	730	660	20 x M33	36
	40	755	670	20 x M39	42
	64	800	705	20 x M45	48
	100	870	760	20 x M52	56
SABS 1123	1000	670	620	20 x M24	26
	1600	715	650	20 x M30	33
	2500	730	660	20 x M30	33
	4000	755	670	20 x M36	39
ASME B16.5	150	699	635.0	20 X 1 1/8"	32
	300	775	686.0	24 X 1 1/4"	35
	600	813	724.0	24 x 1 5/8"	44
	900	857	749.5	20 x 2"	54
	1500	984	832.0	16 x 3"	79
BS 10	D/E	705	641.3	16 x M22	25
	F/H	737	673.1	24 x M30	32
	J	737	673.1	24 x M33	35
	R	806	730.2	20 x M33	41

NOMINAL SIZE 600MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10	780	725	20 x M27	30
	16	840	770	20 x M33	36
	25	845	770	20 x M36	39
	40	890	795	20 x M45	48
	64	930	820	20 x M52	56
	100	990	875	20 x M56	62
SABS 1123	1000	780	725	20 x M24	26
	1600	840	770	20 x M30	33
	2500	845	770	20 x M36	39
ASME B16.5	150	813	749.5	20 x 1 1/4"	35
	300	915	813.0	24 x 1 1/2"	41
	600	940	838.0	24 x 1 7/8"	51
	900	1041	901.5	20 x 2 1/2"	67
	1500	1168	990.5	16 x 3 1/2"	92
BS 10	D	826	755.6	16 x M27	29
	E	826	755.6	16 x M30	32
	F/H	851	781.0	24 x M33	35
	J	851	781.0	24 x M36	38

NOMINAL SIZE 700MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10	895	840	24 x M27	30
	16	910	840	24 x M33	36
	25	960	875	24 x M39	42
	40	995	900	24 x M45	48
SABS 1123	1000	895	840	24 x M24	26
	1600	910	840	24 x M30	33
	2500	960	875	24 x M39	42
	4000	995	900	24 x M45	48
ASME B16.5	150	-	-	-	-
	300	-	-	-	-
	600	-	-	-	-
	900	-	-	-	-
	1500	-	-	-	-
BS 10	D	908.1	844,6	20 x M24	28,6
	E	908.1	844,6	20 x M30	31,8

NOMINAL SIZE 800MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10	1015	950	24 x M30	33
	16	1025	950	24 x M36	39
	25	1085	990	24 x M45	48
	40	1140	1030	24 x M52	56
SABS 1123	1000	1015	950	24 x M30	33
	1600	1025	950	24 x M36	39
	2500	1085	990	24 x M45	48
	4000	1140	1030	24 x M52	56
ASME B16.5	150	-	-	-	-
	300	-	-	-	-
	600	-	-	-	-
	900	-	-	-	-
	1500	-	-	-	-
BS 10	D	-	-	-	-
	E	-	-	-	-

NOMINAL SIZE 900MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10	1115	1050	28 x M30	33
	16	1125	1050	28 x M36	39
	25	1185	1090	28 x M45	48
	40	1250	1140	28 x M52	56
SABS 1123	1000	1115	1050	28 x M33	33
	1600	1125	1050	28 x M39	39
	2500	1185	1090	28 x M48	48
	4000	1250	1140	28 x M56	56
ASME B16.5	150	-	-	-	-
	300	-	-	-	-
	600	-	-	-	-
	900	-	-	-	-
	1500	-	-	-	-
BS 10	D	1174,7	1092,2	24 x M30	35
	E	1174,7	1092,2	24 x M30	35

NOMINAL SIZE 1000MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10	1230	1160	28 x M33	36
	16	1255	1170	28 x M39	42
	25	1320	1210	28 x M52	56
	40	1360	1250	28 x M52	56
SABS 1123	1000	1230	1160	28 x M30	33
	1600	1255	1170	28 x M36	39
	2500	1320	1210	28 x M52	56
	4000	1360	1250	28 x M52	56
ASME B16.5	150	-	-	-	-
	300	-	-	-	-
	600	-	-	-	-
	900	-	-	-	-
	1500	-	-	-	-
BS 10	D	1257.3	1174.7	24 x M30	35
	E	1257.3	1174.7	24 x M36	38.1

NOMINAL SIZE 1200MM

	Table/ Class	Flange Diameter mm (D)	Pitch Circle Diameter mm (PCD)	Number & Diameter of Bolts	Diameter of Holes mm (d1)
DIN 10 BS 4504	10	1455	1380	32 x 36	39
	16	1485	1390	32 x 45	48
	25	1530	1420	32 x 52	56
	40	1575	1460	32 x 56	62
SABS 1123	1000	1455	1380	32 x M36	39
	1600	1485	1390	32 x M42	45
	2500	1530	1420	32 x M52	56
	4000	1575	1460	32 x M56	62
ASME B16.5	150	-	-	-	-
	300	-	-	-	-
	600	-	-	-	-
	900	-	-	-	-
	1500	-	-	-	-
BS 10	D	1492,2	1409.7	32 x M30	35
	E	1492,2	1409.7	32 x M36	38.1

BAR TO PSI TABLE

Bar (Bar)	Pascal (Pa)	Kilopascal (Kpa)	Pounds Per Square Inch (Psi)
0.25	25,000	25	3.63
0.5	50,000	50	7.25
0.75	75,000	75	10.88
1	100,000	100	14.5
1.25	125,000	125	18.13
1.5	150,000	150	21.76
1.75	175,000	175	25.38
2	200,000	200	29.01
2.25	225,000	225	32.63
2.5	250,000	250	36.26
2.75	275,000	275	39.89
3	300,000	300	43.51
3.25	325,000	325	47.14
3.5	350,000	350	50.76
3.75	375,000	375	54.39
4	400,000	400	58.02
4.25	425,000	425	61.64
4.5	450,000	450	65.27
4.75	475,000	475	68.89
5	500,000	500	72.52
5.25	525,000	525	76.14
5.5	550,000	550	79.77
5.75	575,000	575	83.4

BAR TO PSI TABLE (CONTINUED...)

Bar (Bar)	Pascal (Pa)	Kilopascal (Kpa)	Pounds Per Square Inch (Psi)
6	600,000	600	87.02
6.25	625,000	625	90.65
6.5	650,000	650	94.27
6.75	675,000	675	97.9
7	700,000	700	101.53
7.25	725,000	725	105.15
7.5	750,000	750	108.78
7.75	775,000	775	112.4
8	800,000	800	116.03
8.25	825,000	825	119.66
8.5	850,000	850	123.28
8.75	875,000	875	126.91
9	900,000	900	130.53
9.25	925,000	925	134.16
9.5	950,000	950	137.79
9.75	975,000	975	141.41
10	1,000,000	1,000	145.04
10.25	1,025,000	1,025	148.66
10.5	1,050,000	1,050	152.29
10.75	1,075,000	1,075	155.92
11	1,100,000	1,100	159.54
11.25	1,125,000	1,125	163.17
11.5	1,150,000	1,150	166.79

BAR TO PSI TABLE (CONTINUED...)

Bar (Bar)	Pascal (Pa)	Kilopascal (Kpa)	Pounds Per Square Inch (Psi)
11.75	1,175,000	1,175	170.42
12	1,200,000	1,200	174.05
12.25	1,225,000	1,225	177.67
12.5	1,250,000	1,250	181.3
12.75	1,275,000	1,275	184.92
13	1,300,000	1,300	188.55
13.25	1,325,000	1,325	192.18
13.5	1,350,000	1,350	195.8
13.75	1,375,000	1,375	199.43
14	1,400,000	1,400	203.05
14.25	1,425,000	1,425	206.68
14.5	1,450,000	1,450	210.3
14.75	1,475,000	1,475	213.93
15	1,500,000	1,500	217.56
15.25	1,525,000	1,525	221.18
15.5	1,550,000	1,550	224.81
15.75	1,575,000	1,575	228.43
16	1,600,000	1,600	232.06
16.25	1,625,000	1,625	235.69
16.5	1,650,000	1,650	239.31
16.75	1,675,000	1,675	242.94
17	1,700,000	1,700	246.56
17.25	1,725,000	1,725	250.19

BAR TO PSI TABLE (CONTINUED...)

Bar (Bar)	Pascal (Pa)	Kilopascal (Kpa)	Pounds Per Square Inch (Psi)
17.5	1,750,000	1,750	253.82
17.75	1,775,000	1,775	257.44
18	1,800,000	1,800	261.07
18.25	1,825,000	1,825	264.69
18.5	1,850,000	1,850	268.32
18.75	1,875,000	1,875	271.95
19	1,900,000	1,900	275.57
19.25	1,925,000	1,925	279.2
19.5	1,950,000	1,950	282.82
19.75	1,975,000	1,975	286.45
20	2,000,000	2,000	290.08
20.25	2,025,000	2,025	293.7
20.5	2,050,000	2,050	297.33
20.75	2,075,000	2,075	300.95
21	2,100,000	2,100	304.58
21.25	2,125,000	2,125	308.21
21.5	2,150,000	2,150	311.83
21.75	2,175,000	2,175	315.46
22	2,200,000	2,200	319.08
22.25	2,225,000	2,225	322.71
22.5	2,250,000	2,250	326.33
22.75	2,275,000	2,275	329.96
23	2,300,000	2,300	333.59

BAR TO PSI TABLE (CONTINUED...)

Bar (Bar)	Pascal (Pa)	Kilopascal (Kpa)	Pounds Per Square Inch (Psi)
17.5	1,750,000	1,750	253.82
17.75	1,775,000	1,775	257.44
18	1,800,000	1,800	261.07
18.25	1,825,000	1,825	264.69
18.5	1,850,000	1,850	268.32
18.75	1,875,000	1,875	271.95
19	1,900,000	1,900	275.57
19.25	1,925,000	1,925	279.2
19.5	1,950,000	1,950	282.82
19.75	1,975,000	1,975	286.45
20	2,000,000	2,000	290.08
20.25	2,025,000	2,025	293.7
20.5	2,050,000	2,050	297.33
20.75	2,075,000	2,075	300.95
21	2,100,000	2,100	304.58
21.25	2,125,000	2,125	308.21
21.5	2,150,000	2,150	311.83
21.75	2,175,000	2,175	315.46
22	2,200,000	2,200	319.08
22.25	2,225,000	2,225	322.71
22.5	2,250,000	2,250	326.33
22.75	2,275,000	2,275	329.96
23	2,300,000	2,300	333.59

BAR TO PSI TABLE (CONTINUED...)

Bar (Bar)	Pascal (Pa)	Kilopascal (Kpa)	Pounds Per Square Inch (Psi)
23.25	2,325,000	2,325	337.21
23.5	2,350,000	2,350	340.84
23.75	2,375,000	2,375	344.46
24	2,400,000	2,400	348.09
24.25	2,425,000	2,425	351.72
24.5	2,450,000	2,450	355.34
24.75	2,475,000	2,475	358.97
25	2,500,000	2,500	362.59
25.25	2,525,000	2,525	366.22
25.5	2,550,000	2,550	369.85
25.75	2,575,000	2,575	373.47
26	2,600,000	2,600	377.1
26.25	2,625,000	2,625	380.72
26.5	2,650,000	2,650	384.35
26.75	2,675,000	2,675	387.98
27	2,700,000	2,700	391.6
27.25	2,725,000	2,725	395.23
27.5	2,750,000	2,750	398.85
27.75	2,775,000	2,775	402.48
28	2,800,000	2,800	406.11
28.25	2,825,000	2,825	409.73
28.5	2,850,000	2,850	413.36
28.75	2,875,000	2,875	416.98

BAR TO PSI TABLE (CONTINUED...)

Bar (Bar)	Pascal (Pa)	Kilopascal (Kpa)	Pounds Per Square Inch (Psi)
29	2,900,000	2,900	420.61
29.25	2,925,000	2,925	424.24
29.5	2,950,000	2,950	427.86
29.75	2,975,000	2,975	431.49
30	3,000,000	3,000	435.11
30.25	3,025,000	3,025	438.74
30.5	3,050,000	3,050	442.37
30.75	3,075,000	3,075	445.99
31	3,100,000	3,100	449.62
31.25	3,125,000	3,125	453.24
31.5	3,150,000	3,150	456.87
31.75	3,175,000	3,175	460.49
32	3,200,000	3,200	464.12
32.25	3,225,000	3,225	467.75
32.5	3,250,000	3,250	471.37
32.75	3,275,000	3,275	475
33	3,300,000	3,300	478.62
33.25	3,325,000	3,325	482.25
33.5	3,350,000	3,350	485.88
33.75	3,375,000	3,375	489.5
34	3,400,000	3,400	493.13
34.25	3,425,000	3,425	496.75
34.5	3,450,000	3,450	500.38

BAR TO PSI TABLE (CONTINUED...)

Bar (Bar)	Pascal (Pa)	Kilopascal (Kpa)	Pounds Per Square Inch (Psi)
34.75	3,475,000	3,475	504.01
35	3,500,000	3,500	507.63
35.25	3,525,000	3,525	511.26
35.5	3,550,000	3,550	514.88
35.75	3,575,000	3,575	518.51
36	3,600,000	3,600	522.14
36.25	3,625,000	3,625	525.76
36.5	3,650,000	3,650	529.39
36.75	3,675,000	3,675	533.01
37	3,700,000	3,700	536.64
37.25	3,725,000	3,725	540.27
37.5	3,750,000	3,750	543.89
37.75	3,775,000	3,775	547.52
38	3,800,000	3,800	551.14
38.25	3,825,000	3,825	554.77
38.5	3,850,000	3,850	558.4
38.75	3,875,000	3,875	562.02
39	3,900,000	3,900	565.65
39.25	3,925,000	3,925	569.27
39.5	3,950,000	3,950	572.9
39.75	3,975,000	3,975	576.53
40	4,000,000	4,000	580.15
40.25	4,025,000	4,025	583.78

BAR TO PSI TABLE (CONTINUED...)

Bar (Bar)	Pascal (Pa)	Kilopascal (Kpa)	Pounds Per Square Inch (Psi)
40.5	4,050,000	4,050	587.4
40.75	4,075,000	4,075	591.03
41	4,100,000	4,100	594.65
41.25	4,125,000	4,125	598.28
41.5	4,150,000	4,150	601.91
41.75	4,175,000	4,175	605.53
42	4,200,000	4,200	609.16
42.25	4,225,000	4,225	612.78
42.5	4,250,000	4,250	616.41
42.75	4,275,000	4,275	620.04
43	4,300,000	4,300	623.66
43.25	4,325,000	4,325	627.29
43.5	4,350,000	4,350	630.91
43.75	4,375,000	4,375	634.54
44	4,400,000	4,400	638.17
44.25	4,425,000	4,425	641.79
44.5	4,450,000	4,450	645.42
44.75	4,475,000	4,475	649.04
45	4,500,000	4,500	652.67
45.25	4,525,000	4,525	656.3
45.5	4,550,000	4,550	659.92
45.75	4,575,000	4,575	663.55
46	4,600,000	4,600	667.17

BAR TO PSI TABLE (CONTINUED...)

Bar (Bar)	Pascal (Pa)	Kilopascal (Kpa)	Pounds Per Square Inch (Psi)
46.25	4,625,000	4,625	670.8
46.5	4,650,000	4,650	674.43
46.75	4,675,000	4,675	678.05
47	4,700,000	4,700	681.68
47.25	4,725,000	4,725	685.3
47.5	4,750,000	4,750	688.93
47.75	4,775,000	4,775	692.56
48	4,800,000	4,800	696.18
48.25	4,825,000	4,825	699.81
48.5	4,850,000	4,850	703.43
48.75	4,875,000	4,875	707.06
49	4,900,000	4,900	710.68
49.25	4,925,000	4,925	714.31
49.5	4,950,000	4,950	717.94
49.75	4,975,000	4,975	721.56
50	5,000,000	5,000	725.19

PN & CLASS CONVERSION TABLE

PRESSURE CLASS	NOMINAL PRESSURE (PN)
150	16
300	40
400	64
600	100
900	160
1500	250
2500	400
4500	700

FLOW CO-EFFICIENTS OF STRAIGHT-THROUGH TYPE DIAPHRAGM VALVES

25mm				
Body Material / Lining	Cast Iron		Rubber Lined	
Enclosed %	Cv	Kv	Cv	Kv
0	0	0	0	0
10	4.50	3.86	3.70	3.20
20	9.10	7.80	7.30	6.30
30	14.00	12.00	11.30	9.70
40	18.90	16.20	15.30	13.10
50	22.70	19.50	18.40	15.78
60	26.50	22.71	21.40	18.40
70	29.10	24.94	23.60	20.20
80	32.10	27.51	26.04	22.32
90	35.10	30.10	28.40	24.30
100	37.80	32.40	30.60	26.20

Cv is flow in US gpm through valve at ΔP of 1 psi.

Kv is flow in m³/hr through valve at ΔP of 1 bar.

For sizes DN 15, 32 and 40, please contact AFS directly.

FLOW CO-EFFICIENTS OF STRAIGHT-THROUGH TYPE DIAPHRAGM VALVES

50mm				
Body Material / Lining	Cast Iron		Rubber Lined	
Enclosed %	Cv	Kv	Cv	Kv
0	0	0	0	0
10	15.00	12.86	12.80	11.00
20	31.00	27.00	26.00	22.00
30	47.00	40.00	40.00	34.00
40	64.00	55.00	53.00	45.00
50	77.00	66.00	64.00	55.00
60	90.00	77.00	75.00	64.00
70	99.00	85.00	82.00	70.00
80	109.00	93.00	91.00	78.00
90	119.00	102.00	99.00	85.00
100	128.00	110.00	107.00	91.70

FLOW CO-EFFICIENTS OF STRAIGHT-THROUGH TYPE DIAPHRAGM VALVES

65mm				
Body Material / Lining	Cast Iron		Rubber Lined	
Enclosed %	Cv	Kv	Cv	Kv
0	0	0	0	0
10	29	25	23	19
20	57	49	47	40
30	88	75	72	62
40	119	102	97	83
50	143	123	117	100
60	167	143	136	117
70	183	157	150	129
80	202	173	166	142
90	221	289	181	155
100	238	204	195	167

FLOW CO-EFFICIENTS OF STRAIGHT-THROUGH TYPE DIAPHRAGM VALVES

80mm				
Body Material / Lining	Cast Iron		Rubber Lined	
Enclosed %	Cv	Kv	Cv	Kv
0	0	0	0	0
10	40	34	32	27
20	79	68	63	54
30	122	105	98	84
40	165	141	132	113
50	198	170	159	136
60	231	198	185	159
70	254	218	203	174
80	281	241	224	192
90	307	263	246	211
100	330	293	264	226

FLOW CO-EFFICIENTS OF STRAIGHT-THROUGH TYPE DIAPHRAGM VALVES

100mm				
Body Material / Lining	Cast Iron		Rubber Lined	
Enclosed %	Cv	Kv	Cv	Kv
0	0	0	0	0
10	71	61	58	50
20	141	121	115	99
30	218	187	178	153
40	294	252	240	206
50	353	303	288	247
60	412	353	336	288
70	453	388	370	317
80	500	429	408	350
90	547	469	446	382
100	588	504	480	411

FLOW CO-EFFICIENTS OF STRAIGHT-THROUGH TYPE DIAPHRAGM VALVES

125mm				
Body Material / Lining	Cast Iron		Rubber Lined	
Enclosed %	Cv	Kv	Cv	Kv
0	0	0	0	0
10	111	95	86	74
20	222	190	173	148
30	342	293	266	228
40	462	396	360	309
50	555	475	432	370
60	647	555	504	432
70	711	609	554	475
80	785	673	612	525
90	859	736	670	574
100	924	792	720	617

FLOW CO-EFFICIENTS OF STRAIGHT-THROUGH TYPE DIAPHRAGM VALVES

150mm				
Body Material / Lining	Cast Iron		Rubber Lined	
Enclosed %	Cv	Kv	Cv	Kv
0	0	0	0	0
10	202	173	151	129
20	403	345	302	259
30	622	533	466	399
40	840	720	630	540
50	1008	864	756	647
60	1176	1008	882	756
70	1294	1109	970	831
80	1428	1224	1071	918
90	1562	1339	1172	1005
100	1680	1440	1260	1080

FLOW CO-EFFICIENTS OF STRAIGHT-THROUGH TYPE DIAPHRAGM VALVES

200mm				
Body Material / Lining	Cast Iron		Rubber Lined	
Enclosed %	Cv	Kv	Cv	Kv
0	0	0	0	0
10	310	266	264	226
20	619	531	527	452
30	955	819	813	697
40	1290	1106	1098	941
50	1548	1327	1318	1130
60	1806	1548	1537	1318
70	1987	1703	1691	1449
80	2193	1880	1867	1600
90	2399	2056	2042	1750
100	2580	2211	2196	1882

FLOW CO-EFFICIENTS OF WEIR TYPE DIAPHRAGM VALVES

15mm		
Body Material / Lining	Cast Iron	
Enclosed %	Cv	Kv
0	0	0
10	0.77	0.66
20	1.54	1.32
30	2.30	1.97
40	3.08	2.62
50	3.84	3.29
60	4.61	3.95
70	4.83	4.14
80	5.06	4.33
90	5.28	4.53
100	5.50	4.71

FLOW CO-EFFICIENTS OF WEIR TYPE DIAPHRAGM VALVES

20mm				
Body Material / Lining	Cast Iron		Rubber Lined	
Enclosed %	Cv	Kv	Cv	Kv
0	0	0	0	0
10	1.60	1.37	1.00	0.86
20	3.21	2.75	2.50	2.14
30	4.83	4.14	4.10	3.51
40	6.43	5.51	5.50	4.71
50	8.05	6.90	6.70	5.74
60	9.66	8.28	7.70	6.60
70	10.12	8.67	8.40	7.20
80	10.57	9.06	8.80	7.54
90	11.03	9.45	9.00	7.71
100	11.50	9.96	9.20	7.89

FLOW CO-EFFICIENTS OF WEIR TYPE DIAPHRAGM VALVES

25mm				
Body Material / Lining	Cast Iron		Rubber Lined	
Enclosed %	Cv	Kv	Cv	Kv
0	0	0	0	0
10	2.46	2.11	1.50	1.29
20	4.92	4.22	3.80	3.25
30	7.39	6.33	6.30	5.40
40	9.85	8.44	8.40	7.20
50	12.32	10.56	10.20	8.74
60	14.78	12.67	11.60	9.94
70	15.48	13.26	12.70	10.89
80	16.19	12.88	13.40	11.49
90	16.29	13.96	13.70	11.74
100	17.60	15.09	14.00	12.00

FLOW CO-EFFICIENTS OF WEIR TYPE DIAPHRAGM VALVES

32mm				
Body Material / Lining	Cast Iron		Rubber Lined	
Enclosed %	Cv	Kv	Cv	Kv
0	0	0	0	0
10	3.84	3.29	3.08	2.62
20	7.69	6.59	6.16	5.38
30	11.54	9.89	9.23	7.91
40	15.39	13.19	12.32	10.57
50	19.25	16.50	15.39	13.19
60	23.09	19.79	18.47	15.83
70	24.20	20.74	19.35	16.59
80	25.29	21.68	20.24	17.35
90	26.39	22.61	21.12	18.10
100	27.50	23.57	22.00	18.86

FLOW CO-EFFICIENTS OF WEIR TYPE DIAPHRAGM VALVES

40mm				
Body Material / Lining	Cast Iron		Rubber Lined	
Enclosed %	Cv	Kv	Cv	Kv
0	0	0	0	0
10	6.01	5.15	3.9	3.34
20	12.03	10.31	9.5	8.14
30	18.05	15.47	16.00	13.68
40	24.07	20.63	21.00	18.00
50	30.10	25.81	26.00	22.28
60	36.11	30.95	29.00	24.86
70	37.84	32.43	32.00	27.43
80	39.56	33.91	33.60	28.80
90	41.28	35.40	34.00	29.14
100	43.00	36.86	35.00	30.00

FLOW CO-EFFICIENTS OF WEIR TYPE DIAPHRAGM VALVES

50mm				
Body Material / Lining	Cast Iron		Rubber Lined	
Enclosed %	Cv	Kv	Cv	Kv
0	0	0	0	0
10	11.19	9.60	7.00	6.00
20	22.39	19.19	17.00	14.57
30	33.59	28.79	29.00	24.86
40	44.79	38.39	38.00	32.57
50	56.00	48.03	47.00	40.29
60	67.19	57.62	53.00	45.43
70	70.40	60.37	58.00	49.71
80	73.59	63.11	61.00	52.31
90	76.80	65.86	63.00	54.03
100	80.00	68.61	64.00	54.89

FLOW CO-EFFICIENTS OF WEIR TYPE DIAPHRAGM VALVES

65mm				
Body Material / Lining	Cast Iron		Rubber Lined	
Enclosed %	Cv	Kv	Cv	Kv
0	0	0	0	0
10	17.78	15.20	14.30	12.20
20	35.56	30.50	28.60	24.50
30	53.33	45.70	42.80	36.70
40	71.12	60.90	57.10	48.90
50	88.90	76.20	71.40	61.20
60	106.00	90.90	85.70	73.40
70	111.00	95.10	89.80	76.90
80	116.00	99.40	93.80	80.40
90	121.00	103.70	97.90	83.90
100	127.00	108.80	102.00	87.40

FLOW CO-EFFICIENTS OF WEIR TYPE DIAPHRAGM VALVES

80mm				
Body Material / Lining	Cast Iron		Rubber Lined	
Enclosed %	Cv	Kv	Cv	Kv
0	0	0	0	0
10	25.90	22.20	16.00	13.70
20	51.80	44.40	40.00	34.30
30	77.70	66.60	67.00	48.90
40	103.00	88.30	89.00	76.30
50	129.00	110.60	108.00	92.60
60	155.00	132.90	123.00	105.40
70	162.00	138.90	135.00	115.70
80	170.00	145.70	142.00	121.70
90	177.00	151.70	145.00	124.30
100	185.00	158.60	148.00	126.90



Tel: +27 11 955 1119

afssales@afsvalves.com

www.abrasiveflowsolutions.com