



FLOW FACTOR

Flow Factor is specified in various units as under :

- kv** = 1 is a flow of 1 litre of water in 1 minute through a valve, when the pressure drop ΔP across the valve is 1 kg/cm²
- Cv** = 1 is a flow of 1 US Gallon of water in 1 minute through a valve, when the pressure drop ΔP across the valve is 1 psi
- KV** = 1 is a flow of 1 cubic meter (m³) of water in 1 hour through a valve, when the pressure drop ΔP across the valve is 1 kg/cm²
- f** = 1 is a flow of 1 imperial Gallon of water in 1 minute through a valve, when the pressure drop ΔP across the valve is 1 psi
- Qn** = 1 is a flow of 1 Nominal liter of air in 1 minute through a valve, when the pressure drop ΔP across the valve is 1 bar, and inlet pressure 6 bar

CONVERT	TO	MULTIPLY BY
FLOW FACTOR		
Cv	kv	14.3
Kv	kv	16.67
Qn	kv	0.0145
kv	Cv	0.07
f	Cv	1.206
Qn	Cv	0.001
kv	Kv	0.06
Cv	Qn	981.5
kv	Qn	68.65
Cv	f	0.829
FLOW		
Liter/ min.	UK gallon/ min.	0.22
Liter/ min.	US gallon/ min.	0.26
Liter/ min.	m ³ / hr.	0.06
Nm ³ / hr	Cfm	0.6
l/ min	Cfm	0.035
PRESSURE		
kg/ cm ²	Mpa	0.1
kg/ cm ²	mm of Hg	760
kg/ cm ²	mm of Water	10000
kg/ cm ²	PSI	14.3
kg/ cm ²	atm	1
kg/ cm ²	bar	1



Nedan tabell utgår ifrån sätesdiameter på magnetventiler med kan givetvis användas som riktlinje för alla sätesventiler.

Ventiler med rakt genomlopp som kulventiler, spjällventiler, kilslidsventiler mfl. Har ett högre flödesvärde generellt ca 1,5-2 gånger högre flödesvärde dvs lägre tryckfall över ventilen.

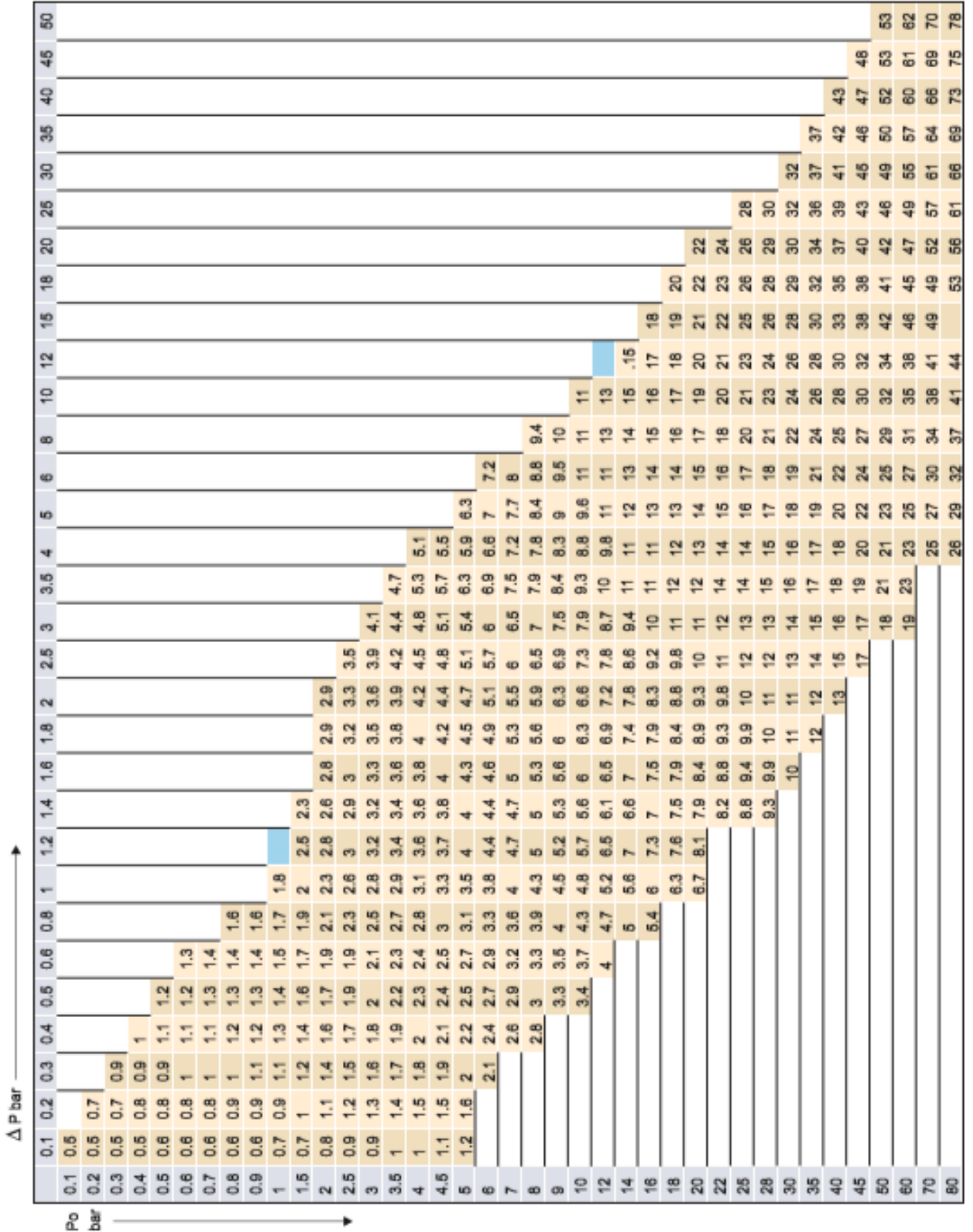
Relation between the various flow factors is as under :

ORIFICE	kv	KV	Cv	PORT CONNECTION
0.8	0.3	0.018	0.021	1/8" or 1/4"
1	0.5	0.03	0.035	1/8" or 1/4"
1.2	0.7	0.042	0.049	1/8" or 1/4"
1.6	1.4	0.084	0.098	1/8" or 1/4"
1.8	1.8	0.108	0.126	1/8" or 1/4"
2.2	2.5	0.15	0.175	1/8" or 1/4"
2.5	3.5	0.21	0.245	1/8" or 1/4"
3	4	0.24	0.28	1/8" or 1/4"
3.5	5	0.3	0.35	1/4"
4	7	0.42	0.49	1/4"
5	10	0.6	0.7	1/4"
6	12	0.72	0.84	1/4"
7	18	1.08	1.26	1/4", 3/8", 1/2"
8	20	1.2	1.4	1/4", 3/8", 1/2"
9	22	1.32	1.54	1/4", 3/8", 1/2"
10	38	2.28	2.66	3/8", 1/2"
12	50	3.6	4.2	1/2"
16	75	4.5	5.25	1/2"
20	110	6.6	7.7	3/4"
22	175	10.5	12.25	1"
25	185	11.1	12.95	3/8", 1"
32	375	22.5	26.25	1 1/4", 1 1/2"
40	410	24.6	28.7	1 1/2"
50	660	39.6	46.2	2"
65	850	50.9	59.5	2 1/2"
80	2000	119.9	140	3"



FLOW CHART FOR AIR

CHART 1 - FLOW RATE Q (Nm³/hr/kv) FOR AIR AT AMBIENT TEMPERATURE





FLOW CHART FOR WATER

FLOW RATE Q (l/min) FOR WATER

kv	Δ P bar																										
	0.1	0.2	0.4	0.6	0.8	1	1.5	2	3	4	5	6	8	10	12	15	18	20	25	30	40	50	75	100	150	200	250
1	0.3	0.44	0.6	0.77	0.9	1.2	1.4	1.7	2	2.2	2.4	2.8	3.1	3.4	3.8	4.2	4.4	5	5.5	6.3	7	8.6	10	12.2	14	16	
1.2	0.4	0.53	0.76	0.9	1.2	1.5	1.7	2	2.4	2.6	3	3.4	3.8	4.1	4.6	5	5.3	6	6.5	7.6	8.5	10.5	12	14.7	17	19	
1.5	0.5	0.67	0.95	1.1	1.3	1.5	1.8	2.1	2.6	3	3.3	3.6	4.2	4.7	5.2	5.8	6.3	6.7	7.5	8.2	9.5	10.6	13	15	18.7	21	24
2	0.6	0.9	1.2	1.5	1.8	2	2.5	2.8	3.5	4	4.4	5	5.6	6.3	7	7.7	8.5	9	10	11	12.6	14	17.3	20	24.5	28	32
3	0.9	1.35	1.9	2.3	2.7	3	3.7	4.2	5.2	6	6.7	7.3	8.5	9.5	10	11.6	12.7	13.4	15	16.4	19	21	26	30	36.7	42.5	48
4	1.2	1.8	2.5	3.1	3.6	4	4.9	5.6	7	8	9	9.8	11.3	12.6	13.8	15.5	17	18	20	22	25.7	28	34.5	40	49	56.5	63
5	1.6	2.2	3.1	3.9	4.5	5	6.1	7	8.6	10	11	12.5	14.2	15.8	17.3	19.3	21	22.4	25	27.4	31.6	35.4	43.5	50	61.3	70	79
6	1.9	2.7	3.8	4.6	5.3	6	7.3	8.5	10.4	12	13.4	14.7	17	19	20.8	23.2	25.4	27	30	33	38	42.4	52	60	73.5	85	95
8	2.5	3.6	5	6.2	7.1	8	9.8	11.3	13.8	16	18	19.6	22.6	25	27.7	31	34	36	40	43.8	50	56	70	80	98	113	128
10	3.1	4.5	6.3	7.7	9	10	12.2	14	17.3	20	22.3	24.5	28.3	31	34.6	38.7	42	45	50	55	63	70	86	100	122	141	158
12	3.7	5.3	7.6	9.3	10.7	12	14.7	17	21	24	26.8	29.4	34	38	41.5	46.5	51	54	60	65.6	76	85	104	120	147	171	190
14	4.3	6.2	8.8	10.8	12.5	14	17.1	20	24	28	31	34	39	44	48.5	54	59	63	70	76.6	88	99	121	140	171	198	221
16	5	7	10	12.4	14.3	16	19.6	22.6	27.7	32	36	39	45	50	55.5	62	68	71.5	80	87.5	101	113	138	160	196	226	253
18	5.6	8	11.4	14	16	18	22	25.4	31.2	36	40	44	51	57	62.5	70	76.5	81	90	98	114	127	156	180	220	264	294
20	6.2	9	12.6	15.5	18	20	24.5	28.3	35	40	44.6	49	56	63	70	77.5	85	90	100	109	126	141	173	200	245	283	316
25	7.8	11	15.8	20	22.4	25	30	35.4	43.4	50	56	61	65	79	86.5	97	106	112	125	137	156	177	216	250	306	354	385
30	9.3	13.4	19	23.2	27	30	37	42.5	52	60	67	73.5	85	95	104	116	127	134	150	164	190	212	260	300	367	425	475
35	11	15.6	22.5	27	31	35	43	50	60	70	78	85.7	99	110	121	135	148	156	175	192	222	248	303	350	429	495	554
40	12.4	17.8	25	31	36	40	49	56.5	69	80	90	98	113	126	138	155	170	179	200	219	257	283	346	400	490	565	632
45	14	20	28	35	40	45	55	64	78	90	100	110	127	142	156	174	191	201	225	246	285	318	390	450	552	637	712
50	15.5	22	31.6	39	45	50	61	70	86	100	112	125	142	158	173	193	212	224	250	274	316	354	433	500	613	707	790
60	18.6	27	38	46.5	54	60	73.5	85	104	120	134	147	170	190	208	232	254	268	300	328	380	424	520	600	735	850	950
70	21.7	31	44.3	54	63	70	86	99	121	140	156	171	198	221	242	270	297	313	350	384	443	495	606	700	857	990	110
80	25	35.7	50	62	71.5	80	98	113	138	160	179	196	228	253	277	310	340	368	400	438	505	566	693	800	980	1130	1285
90	28	40	57	70	80	90	110	127	156	180	200	220	254	285	312	348	381	402	450	483	570	637	780	900	1100	1270	1425
100	31.6	45	63	77	90	100	122	141	173	200	225	245	283	316	346	387	424	447	500	547	632	707	866	1000	1220	1410	1580

Specifications are subject to change without notice