

Innervolve Chart: Research Control Valves

	Trim Size	Max Cv	Max Kv	Rangeability Linear	Rangeability Equal %	Orifice	Port Area In ²	Flow Characteristics
1/4"	P18	0.0000018	0.000001548	15:1	NA	0.042	0.0014	L, DT
	P17	0.0000027	0.000002322	15:1	NA	0.042	0.0014	L, DT
	P16	0.000004	0.00000344	15:1	NA	0.042	0.0014	L, DT
	P15	0.000006	0.00000516	15:1	NA	0.042	0.0014	L, DT
	P14	0.00001	0.0000086	15:1	NA	0.042	0.0014	L, DT
	P13	0.000016	0.00001376	15:1	NA	0.042	0.0014	L, DT
	P12	0.000024	0.00002064	15:1	NA	0.042	0.0014	L, DT
	P11	0.000036	0.00003096	15:1	NA	0.042	0.0014	L, DT
	P10	0.00005	0.000043	15:1	NA	0.042	0.0014	L, DT
1/4" & 1/2"	P9	0.00008	0.0000688	15:1	NA	0.0625	0.0031	L, DT
	P8	0.00012	0.0001032	15:1	NA	0.0625	0.0031	L, DT
	P7	0.00018	0.0001548	15:1	NA	0.0625	0.0031	L, DT
	P6	0.00027	0.0002322	15:1	NA	0.0625	0.0031	L, DT
	P5	0.0004	0.000344	15:1	NA	0.0625	0.0031	L, DT
	P4	0.0006	0.000516	15:1	NA	0.0625	0.0031	L, DT
	P3	0.001	0.00086	15:1	NA	0.0625	0.0031	L, DT
	P2	0.0013	0.001118	15:1	NA	0.0625	0.0031	L, DT
	P1	0.002	0.00172	15:1	NA	0.0625	0.0031	L, DT
1/4", 1/2", 3/4" & 1"	O	0.003	0.00258	25:1	NA	0.086	0.0058	FT, L, QO, DT
	N	0.006	0.00516	25:1	NA	0.086	0.0058	FT, L, QO, DT
	M	0.01	0.0086	25:1	NA	0.086	0.0058	FT, L, QO, DT
	L	0.02	0.0172	25:1	NA	0.086	0.0058	FT, L, QO, DT
	K	0.03	0.0258	25:1	NA	0.086	0.005	FT, L, QO, DT
	J	0.05	0.043	30:1	40:1	0.156	0.0191	MEP, L, QO, DT
	I	0.08	0.0688	30:1	40:1	0.156	0.0191	MEP, L, QO, DT
	H	0.13	0.1118	30:1	40:1	0.156	0.0191	MEP, L, QO, DT
	G	0.20	0.172	30:1	40:1	0.156	0.0191	EP, L, QO, DT
F	0.32	0.2752	30:1	40:1	0.156	0.0191	EP, L, QO, DT	
1/2", 3/4" & 1"	E	0.50	0.43	40:1	50:1	0.25	0.0491	EP, L, QO, DT
	D	0.80	0.688	40:1	50:1	0.25	0.0491	EP, L, QO, DT
	C	1.25	1.075	40:1	50:1	0.281	0.0621	EP, L, QO, DT
	B	2.00	1.72	40:1	50:1	0.375	0.1105	EP, L, QO, DT
	A	2.50	2.15	40:1	50:1	0.375	0.1105	EP, L, QO, DT
3/4" & 1"	3	3.0	2.58	50:1	60:1	0.375	0.1105	EP, L, QO, DT
	3.5	3.5	3.01	50:1	60:1	0.50	0.197	EP, L, QO, DT
	4	4.0	3.44	50:1	60:1	0.50	0.197	EP, L, QO, DT
1"	4.5	4.5	3.87	50:1	60:1	0.50	0.197	EP, L, QO, DT
	5	5.0	4.3	50:1	60:1	0.625	0.307	EP, L, QO, DT
	6	6.0	5.16	50:1	60:1	0.625	0.307	EP, L, QO, DT

Innervolve Charts - Flow Characteristics Key

EP - Equal Percentage; QO - Quick Open; FT - Flow Trims; L - Linear; MEP - Modified Equal Percentage; DT - Double Taper

Innervolve Chart: Model 9000 Process Control Valve

	Trim Size	Max Cv	Max Kv	Rangeability Linear	Rangeability Equal %	Orifice	Port Area In ²	Flow Characteristics
1"	1	0.02	0.0172	50:1	60:1	0.086	0.02	EP, L, QO, DT
	2	0.05	0.043	50:1	60:1	0.156	0.02	EP, L, QO, DT
	3	0.1	0.086	50:1	60:1	0.156	0.02	EP, L, QO, DT
	4	0.2	0.172	50:1	60:1	0.156	0.02	EP, L, QO, DT
	5	0.5	0.43	50:1	60:1	0.156	0.02	EP, L, QO, DT
	6	1.0	0.86	50:1	60:1	0.5	0.20	EP, L, QO, DT
	7	2.0	1.72	50:1	60:1	0.5	0.2	EP, L, QO, DT
	8	5.3	4.558	50:1	60:1	0.5	0.2	EP, L, QO, DT
	9	8.3	7.138	50:1	60:1	0.812	0.52	EP, L, QO, DT
1-1/2"	19	4.0	3.44	50:1	60:1	0.625	0.31	EP, L, QO, DT
	20	7.0	6.02	50:1	60:1	0.625	0.31	EP, L, QO, DT
	21	11.0	9.46	50:1	60:1	0.812	0.52	EP, L, QO, DT
	22	15.5	13.33	50:1	60:1	1.25	1.23	EP, L, QO, DT
2"	27	7.0	6.02	50:1	60:1	0.625	0.31	EP, L, QO, DT
	28	15.0	12.9	50:1	60:1	0.812	0.52	EP, L, QO, DT
	29	21.0	18.06	50:1	60:1	1.125	1.0	EP, L, QO, DT
	30	25.0	21.5	50:1	60:1	1.5	1.77	EP, L, QO, DT

Innervolve Chart: Model 9100 Process Control Valve

	Trim Size	Max Cv	Max Kv	Rangeability Linear	Rangeability Equal %	Orifice	Port Area In ²	Flow Characteristics
1/2" 3/4" & 1"	3	3.0	2.58	50:1	60:1	0.5	0.196	EP, L, QO, DT
	6	6.0	5.16	50:1	60:1	0.75	0.442	EP, L, QO, DT
3/4"	8	8.0	6.88	50:1	60:1	0.75	0.442	EP, L, QO, DT
	12	12.0	10.32	50:1	60:1	1.0	0.785	EP, L, QO, DT
1"	10	10.0	8.6	50:1	60:1	0.75	0.442	EP, L, QO, DT
	15	15.0	12.9	50:1	60:1	1.0	0.785	EP, L, QO, DT
1-1/4"	12	12.0	10.32	50:1	60:1	1.25	1.227	EP, L, QO, DT
	20	20.0	17.2	50:1	60:1	1.25	1.227	EP, L, QO, DT
	29	29.0	24.94	50:1	60:1	1.625	2.074	EP, L, QO, DT
1-1/2"	15	15.0	12.9	50:1	60:1	1.25	1.227	EP, L, QO, DT
	24	24.0	20.64	50:1	60:1	1.25	1.227	EP, L, QO, DT
	35	35.0	30.1	50:1	60:1	1.625	2.074	EP, L, QO, DT
2"	22	22.0	18.92	50:1	60:1	1.75	2.405	EP, L, QO, DT
	36	36.0	30.96	50:1	60:1	1.75	2.405	EP, L, QO, DT
	54	54.0	46.44	50:1	60:1	2.0	3.142	EP, L, QO, DT

Innervolve Charts - Flow Characteristics Key

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Innervolve Chart: Sanitary

	Trim Size	Max Cv	Max Kv	Rangeability Linear	Rangeability Equal %	Orifice	Port Area In ²	Flow Characteristics
1/2", 3/4", 1" & 1-1/2"	J	0.05	0.043	30:1	40:1	0.156	0.02	EP, L, QO, DT
	I	0.80	0.0688	30:1	40:1	0.156	0.02	EP, L, QO, DT
	H	0.13	0.1118	30:1	40:1	0.156	0.02	EP, L, QO, DT
	G	0.20	0.172	30:1	40:1	0.156	0.02	EP, L, QO, DT
	F	0.32	0.2752	30:1	40:1	0.156	0.02	EP, L, QO, DT
	E	0.50	0.43	40:1	60:1	0.375	0.11	EP, L, QO, DT
	D	0.80	0.688	40:1	60:1	0.375	0.11	EP, L, QO, DT
	C	1.25	1.075	40:1	60:1	0.375	0.11	EP, L, QO, DT
	A	2.0	1.72	40:1	60:1	0.375	0.11	EP, L, QO, DT
3/4", 1" & 1-1/2"	4	4.0	3.44	40:1	60:1	0.50	0.20	EP, L, QO, DT
	5	5.0	4.3	40:1	60:1	0.50	0.20	EP, L, QO, DT
1" & 1-1/2"	6	6.0	5.16	40:1	60:1	0.75	0.44	EP, L, QO, DT
	8	8.0	6.88	40:1	60:1	0.75	0.44	EP, L, QO, DT
	10	10.0	8.6	40:1	60:1	0.75	0.44	EP, L, QO, DT
1-1/2"	15	15.0	12.9	40:1	60:1	1.0	0.79	EP, L, QO, DT
	20	20.0	17.2	40:1	60:1	1.0	0.79	EP, L, QO, DT
2"	25	25	21.5	50:1	60:1	1.859	2.71	EP, L
	33	33	28.38	50:1	60:1	1.859	2.71	EP, L
	40	40	34.4	50:1	60:1	1.859	2.71	EP, L
	50	50	43.1	50:1	60:0	1.9	2.80	EP, L
	70	70	60.34	50:1	60:0	1.9	2.80	EP, L
3"	70	70	60.34	50:1	60:0	2.90	6.60	EP, L
	90	90	77.58	50:1	60:0	2.90	6.60	EP, L

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