

**77000 Series**  
**Pressure Drop Tables**  
**(US) STANDARD**  
PP77000



January 2010

77000 Pressure Drop Tables (US)

Leakage: Per IEC 534-4 and ANSI/FCI 70.2 Class IV  
 Packing: Graphite

Valve Size (Inches)	Plug Travel (Inches)	Actuator Size	Actuator Travel (Inches)	Air to Open		Air to Close		
				Bench Range	Allowable Pressure Drop (PSI)	Allowable Pressure Drop (PSI)		
						Bench range ** Supply Pressure (PSI)		
30	35	40						
1	0.25	10	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	16	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	23	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	15	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	15	1.5	(1)	(1)	(1)	(1)	(1)
2	0.25	10	1.5	21-45	3058	2159	2899	3652
2	0.25	16	1.5	11-23	2551	3493	4681	5870
2	0.25	23	1.5	11-23	3696	5058	6768	7200
2	0.25	15	1.5	12-30	3101	3884	5203	6522
2	0.25	15	1.5	14-31	3565	3884	5203	6522
3	0.38	10	2.5	21-45	1725	1435	1638	2058
3	0.38	16	2.5	21-45	2783	1971	2652	3319
3	0.38	23	2.5	11-23	2087	2855	3826	4797
3	0.38	18	2.5	12-30	2522	3159	4232	5304
3	0.38	18	2.5	15-33	3159	3159	4232	5304
4	0.50	24	3.5	9-30	2290	3841	5145	6435
4	0.50	24	3.5	18-45	4623	3841	5145	6435
4	0.50	154	3.5	35-50	3246	1435	1884	2348
4	0.50	314	3.5	35-50	6652	2290	3232	4174
6	0.50	24	3.5	19-46	3594	2638	3536	4420
6	0.50	24	3.5	21-49	4275	2638	3536	4420
6	0.50	154	3.5	35-50	2232	1435	1435	1609
6	0.50	314	3.5	35-50	4580	1565	2217	2870
8	1.00	24	3.5	(1)	(1)	(1)	(1)	(1)
8	1.00	24	3.5	(1)	(1)	(1)	(1)	(1)
8	1.00	154	3.5	(1)	(1)	(1)	(1)	(1)
8	1.00	314	3.5	(1)	(1)	(1)	(1)	(1)

\*\* Spring Diaphragm 3-15  
 Piston Cylinder 154/10-14  
 Piston Cylinder 314/12-18

Note (1) Consult Factory

January 2010

77000 Pressure Drop Tables (US)

Leakage: Per IEC 534-4 and ANSI/FCI 70.2 Class V

Packing: Graphite

Valve Size (Inches)	Plug Travel (Inches)	Actuator Size	Actuator Travel (Inches)	Air to Open		Air to Close		
				Bench Range	Allowable Pressure Drop (PSI)	Allowable Pressure Drop (PSI)		
						Bench range ** Supply Pressure (PSI)		
30	35	40						
1	0.25	10	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	16	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	23	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	15	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	15	1.5	(1)	(1)	(1)	(1)	(1)
2	0.25	10	1.5	21-45	2841	1957	2696	3435
2	0.25	16	1.5	11-23	2333	3290	4478	5667
2	0.25	23	1.5	11-23	3478	4841	6551	7200
2	0.25	15	1.5	12-30	2884	3681	5000	6304
2	0.25	15	1.5	14-31	3348	3681	5000	6304
3	0.38	10	2.5	21-45	1551	1435	1464	1899
3	0.38	16	2.5	21-45	2623	1812	2478	3159
3	0.38	23	2.5	11-23	1913	2696	3667	4638
3	0.38	18	2.5	12-30	2348	3000	4072	5145
3	0.38	18	2.5	15-33	3000	3000	4072	5145
4	0.50	24	3.5	9-30	2159	3710	5000	6304
4	0.50	24	3.5	18-45	4478	3710	5000	6304
4	0.50	154	3.5	35-50	3101	1435	1754	2217
4	0.50	314	3.5	35-50	6522	2145	3087	4043
6	0.50	24	3.5	19-46	3478	2522	3420	4304
6	0.50	24	3.5	21-49	4159	2522	3420	4304
6	0.50	154	3.5	35-50	2116	1435	1435	1493
6	0.50	314	3.5	35-50	4464	1449	2101	2754
8	1.00	24	3.5	(1)	(1)	(1)	(1)	(1)
8	1.00	24	3.5	(1)	(1)	(1)	(1)	(1)
8	1.00	154	3.5	(1)	(1)	(1)	(1)	(1)
8	1.00	314	3.5	(1)	(1)	(1)	(1)	(1)

\*\* Spring Diaphragm 3-15  
Piston Cylinder 154/10-14  
Piston Cylinder 314/12-18

Note (1) Consult Factory

January 2010

77000 Pressure Drop Tables (US)

Leakage: Per IEC 534-4 and ANSI/FCI 70.2 Class IV  
 Packing: PTFE

Valve Size (Inches)	Plug Travel (Inches)	Actuator Size	Actuator Travel (Inches)	Air to Open		Air to Close		
				Bench Range	Allowable Pressure Drop (PSI)	Allowable Pressure Drop (PSI)		
						Bench range ** Supply Pressure (PSI)		
30	35	40						
1	0.25	10	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	16	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	23	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	15	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	15	1.5	(1)	(1)	(1)	(1)	(1)
2	0.25	10	1.5	21-45	4797	3406	4565	5725
2	0.25	16	1.5	11-23	4014	5493	7200	7200
2	0.25	23	1.5	11-23	5797	7200	7200	7200
2	0.25	15	1.5	12-30	4870	6116	7200	7200
2	0.25	15	1.5	14-31	5594	6116	7200	7200
3	0.38	10	2.5	21-45	2493	1768	2377	2986
3	0.38	16	2.5	21-45	4029	2855	3826	4812
3	0.38	23	2.5	11-23	3014	4145	5536	6942
3	0.38	18	2.5	12-30	3652	4580	6130	7200
3	0.38	18	2.5	15-33	4580	4580	6130	7200
4	0.50	24	3.5	9-30	3449	5797	7200	7200
4	0.50	24	3.5	18-45	6957	5797	7200	7200
4	0.50	154	3.5	35-50	4884	2159	2855	3551
4	0.50	314	3.5	35-50	7200	3449	4870	6290
6	0.50	24	3.5	19-46	4754	3493	4667	5841
6	0.50	24	3.5	21-49	5638	3493	4667	5841
6	0.50	154	3.5	35-50	2942	1435	1710	2130
6	0.50	314	3.5	35-50	6043	2072	2928	3783
8	1.00	24	3.5	(1)	(1)	(1)	(1)	(1)
8	1.00	24	3.5	(1)	(1)	(1)	(1)	(1)
8	1.00	154	3.5	(1)	(1)	(1)	(1)	(1)
8	1.00	314	3.5	(1)	(1)	(1)	(1)	(1)

\*\* Spring Diaphragm 3-15  
 Piston Cylinder 154/10-14  
 Piston Cylinder 314/12-18

Note (1) Consult Factory

77000 Pressure Drop Tables (US)

Leakage: Per IEC 534-4 and ANSI/FCI 70.2 Class V  
 Packing: PTFE

Valve Size (Inches)	Plug Travel (Inches)	Actuator Size	Actuator Travel (Inches)	Air to Open		Air to Close		
				Bench Range	Allowable Pressure Drop (PSI)	Allowable Pressure Drop (PSI)		
						Bench range ** Supply Pressure (PSI)		
30	35	40						
1	0.25	10	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	16	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	23	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	15	1.5	(1)	(1)	(1)	(1)	(1)
1	0.25	15	1.5	(1)	(1)	(1)	(1)	(1)
2	0.25	10	1.5	21-45	4464	3072	4232	5406
2	0.25	16	1.5	11-23	3681	5174	7029	7200
2	0.25	23	1.5	11-23	5478	7200	7200	7200
2	0.25	15	1.5	12-30	4536	5783	7200	7200
2	0.25	15	1.5	14-31	5261	5783	7200	7200
3	0.38	10	2.5	21-45	2246	1522	2130	2739
3	0.38	16	2.5	21-45	3783	2623	3594	4565
3	0.38	23	2.5	11-23	2783	3899	5304	6696
3	0.38	18	2.5	12-30	3406	4333	5884	7200
3	0.38	18	2.5	15-33	4333	4333	5884	7200
4	0.50	24	3.5	9-30	3246	5594	7200	7200
4	0.50	24	3.5	18-45	6754	5594	7200	7200
4	0.50	154	3.5	35-50	4681	1942	2652	3348
4	0.50	314	3.5	35-50	7200	3232	4667	6087
6	0.50	24	3.5	19-46	4594	3333	4507	5696
6	0.50	24	3.5	21-49	5478	3333	4507	5696
6	0.50	154	3.5	35-50	2783	1435	1565	1986
6	0.50	314	3.5	35-50	5899	1913	2783	3638
8	1.00	24	3.5	(1)	(1)	(1)	(1)	(1)
8	1.00	24	3.5	(1)	(1)	(1)	(1)	(1)
8	1.00	154	3.5	(1)	(1)	(1)	(1)	(1)
8	1.00	314	3.5	(1)	(1)	(1)	(1)	(1)

\*\* Spring Diaphragm 3-15  
 Piston Cylinder 154/10-14  
 Piston Cylinder 314/12-18

Note (1) Consult Factory

January 2010

**77000 Series**  
**Pressure Drop Tables**  
**(Metric) STANDARD**  
**PP77000**



January 2010

77000 Pressure Drop Tables (Metric)

Leakage: Per IEC 534-4 and ANSI/FCI 70.2 Class IV

Packing: Graphite

Valve Size (Inches)	Plug Travel (mm)	Actuator Size	Actuator Travel (mm)	Air to Open		Air to Close		
				Bench Range	Allowable Pressure Drop (Bar)	Allowable Pressure Drop (Bar)		
						Bench range ** Supply Pressure (Bar)		
2.1	2.4	2.8						
1	6	10	38	(1)	(1)	(1)	(1)	(1)
1	6	16	38	(1)	(1)	(1)	(1)	(1)
1	6	23	38	(1)	(1)	(1)	(1)	(1)
1	6	15	38	(1)	(1)	(1)	(1)	(1)
1	6	15	38	(1)	(1)	(1)	(1)	(1)
2	6	10	38	21-45	211	149	200	252
2	6	16	38	11-23	176	241	323	405
2	6	23	38	11-23	255	349	467	497
2	6	15	38	12-30	214	268	359	450
2	6	15	38	14-31	246	268	359	450
3	9	10	63	21-45	119	99	113	142
3	9	16	63	21-45	192	136	183	229
3	9	23	63	11-23	144	197	264	331
3	9	18	63	12-30	174	218	292	366
3	9	18	63	15-33	218	218	292	366
4	13	24	88	9-30	158	265	355	444
4	13	24	88	18-45	319	265	355	444
4	13	154	88	35-50	224	99	130	162
4	13	314	88	35-50	459	158	223	288
6	13	24	88	19-46	248	182	244	305
6	13	24	88	21-49	295	182	244	305
6	13	154	88	35-50	154	99	99	111
6	13	314	88	35-50	316	108	153	198
8	25	24	88	(1)	(1)	(1)	(1)	(1)
8	25	24	88	(1)	(1)	(1)	(1)	(1)
8	25	154	88	(1)	(1)	(1)	(1)	(1)
8	25	314	88	(1)	(1)	(1)	(1)	(1)

\*\* Spring Diaphragm 3-15  
Piston Cylinder 154/10-14  
Piston Cylinder 314/12-18

Note (1) Consult Factory

January 2010

77000 Pressure Drop Tables (Metric)

Leakage: Per IEC 534-4 and ANSI/FCI 70.2 Class V

Packing: Graphite

Valve Size (Inches)	Plug Travel (mm)	Actuator Size	Actuator Travel (mm)	Air to Open		Air to Close		
				Bench Range	Allowable Pressure Drop (Bar)	Allowable Pressure Drop (Bar)		
						Bench range ** Supply Pressure (Bar)		
2.1	2.4	2.8						
1	6	10	38	(1)	(1)	(1)	(1)	(1)
1	6	16	38	(1)	(1)	(1)	(1)	(1)
1	6	23	38	(1)	(1)	(1)	(1)	(1)
1	6	15	38	(1)	(1)	(1)	(1)	(1)
1	6	15	38	(1)	(1)	(1)	(1)	(1)
2	6	10	38	21-45	196	135	186	237
2	6	16	38	11-23	161	227	309	391
2	6	23	38	11-23	240	334	452	497
2	6	15	38	12-30	199	254	345	435
2	6	15	38	14-31	231	254	345	435
3	9	10	63	21-45	107	99	101	131
3	9	16	63	21-45	181	125	171	218
3	9	23	63	11-23	132	186	253	320
3	9	18	63	12-30	162	207	281	355
3	9	18	63	15-33	207	207	281	355
4	13	24	88	9-30	149	256	345	435
4	13	24	88	18-45	309	256	345	435
4	13	154	88	35-50	214	99	121	153
4	13	314	88	35-50	450	148	213	279
6	13	24	88	19-46	240	174	236	297
6	13	24	88	21-49	287	174	236	297
6	13	154	88	35-50	146	99	99	103
6	13	314	88	35-50	308	100	145	190
8	25	24	88	(1)	(1)	(1)	(1)	(1)
8	25	24	88	(1)	(1)	(1)	(1)	(1)
8	25	154	88	(1)	(1)	(1)	(1)	(1)
8	25	314	88	(1)	(1)	(1)	(1)	(1)

\*\* Spring Diaphragm 3-15  
Piston Cylinder 154/10-14  
Piston Cylinder 314/12-18

Note (1) Consult Factory

January 2010

77000 Pressure Drop Tables (Metric)

Leakage: Per IEC 534-4 and ANSI/FCI 70.2 Class IV

Packing: PTFE

Valve Size (Inches)	Plug Travel (mm)	Actuator Size	Actuator Travel (mm)	Air to Open		Air to Close		
				Bench Range	Allowable Pressure Drop (Bar)	Allowable Pressure Drop (Bar)		
						Bench range ** Supply Pressure (Bar)		
2.1	2.4	2.8						
1	6	10	38	(1)	(1)	(1)	(1)	(1)
1	6	16	38	(1)	(1)	(1)	(1)	(1)
1	6	23	38	(1)	(1)	(1)	(1)	(1)
1	6	15	38	(1)	(1)	(1)	(1)	(1)
1	6	15	38	(1)	(1)	(1)	(1)	(1)
2	6	10	38	21-45	331	235	315	395
2	6	16	38	11-23	277	379	497	497
2	6	23	38	11-23	400	497	497	497
2	6	15	38	12-30	336	422	497	497
2	6	15	38	14-31	386	422	497	497
3	9	10	63	21-45	172	122	164	206
3	9	16	63	21-45	278	197	264	332
3	9	23	63	11-23	208	286	382	479
3	9	18	63	12-30	252	316	423	497
3	9	18	63	15-33	316	316	423	497
4	13	24	88	9-30	238	400	497	497
4	13	24	88	18-45	480	400	497	497
4	13	154	88	35-50	337	149	197	245
4	13	314	88	35-50	497	238	336	434
6	13	24	88	19-46	328	241	322	403
6	13	24	88	21-49	389	241	322	403
6	13	154	88	35-50	203	99	118	147
6	13	314	88	35-50	417	143	202	261
8	25	24	88	(1)	(1)	(1)	(1)	(1)
8	25	24	88	(1)	(1)	(1)	(1)	(1)
8	25	154	88	(1)	(1)	(1)	(1)	(1)
8	25	314	88	(1)	(1)	(1)	(1)	(1)

\*\* Spring Diaphragm 3-15  
Piston Cylinder 154/10-14  
Piston Cylinder 314/12-18

Note (1) Consult Factory

January 2010

77000 Pressure Drop Tables (Metric)

Leakage: Per IEC 534-4 and ANSI/FCI 70.2 Class V

Packing: PTFE

Valve Size (Inches)	Plug Travel (mm)	Actuator Size	Actuator Travel (mm)	Air to Open		Air to Close		
				Bench Range	Allowable Pressure Drop (Bar)	Allowable Pressure Drop (Bar)		
						Bench range ** Supply Pressure (Bar)		
2.1	2.4	2.8						
1	6	10	38	(1)	(1)	(1)	(1)	(1)
1	6	16	38	(1)	(1)	(1)	(1)	(1)
1	6	23	38	(1)	(1)	(1)	(1)	(1)
1	6	15	38	(1)	(1)	(1)	(1)	(1)
1	6	15	38	(1)	(1)	(1)	(1)	(1)
2	6	10	38	21-45	308	212	292	373
2	6	16	38	11-23	254	357	485	497
2	6	23	38	11-23	378	497	497	497
2	6	15	38	12-30	313	399	497	497
2	6	15	38	14-31	363	399	497	497
3	9	10	63	21-45	155	105	147	189
3	9	16	63	21-45	261	181	248	315
3	9	23	63	11-23	192	269	366	462
3	9	18	63	12-30	235	299	406	497
3	9	18	63	15-33	299	299	406	497
4	13	24	88	9-30	224	386	497	497
4	13	24	88	18-45	466	386	497	497
4	13	154	88	35-50	323	134	183	231
4	13	314	88	35-50	497	223	322	420
6	13	24	88	19-46	317	230	311	393
6	13	24	88	21-49	378	230	311	393
6	13	154	88	35-50	192	99	108	137
6	13	314	88	35-50	407	132	192	251
8	25	24	88	(1)	(1)	(1)	(1)	(1)
8	25	24	88	(1)	(1)	(1)	(1)	(1)
8	25	154	88	(1)	(1)	(1)	(1)	(1)
8	25	314	88	(1)	(1)	(1)	(1)	(1)

\*\* Spring Diaphragm 3-15  
Piston Cylinder 154/10-14  
Piston Cylinder 314/12-18

Note (1) Consult Factory