1-888-PVC-FLEX

flexpvc.com/Reference/WaterFlowBasedOnPipeSize.shtml

"If there be any among us who [disagree], let them stand undisturbed as monuments of the safety with which error of opinion may be tolerated, where reason is left free to combat it."
Thomas Jefferson, March 4, 1801

Water Flow Chart #1 The chart below takes into consideration the potential damage from hydraulic hammer (shock) and noise considerations due to excessive fluid velocity. For more detailed information click here for our pipe selection based on pipe size and flow requirement Nomograph. You can flow more than what is shown in the chart (see **Chart #2** below) however, you may run into problems if you do.
IMPORTANT: The flow ratings in the charts below are for Rigid PVC Pipe. Reduce flow by 3% (Multiply by .97) for flow going through Flexible PVC Pipe.

			Assume Gravity to Low Pressure. About 6f/s flow velocity, also suction side of pump		Assume Average Pressure. (20-100PSI) About 12f/s flow velocity		Assume "High Pressure" PEAK flow. About 18f/s flow velocity*	
Sch 40 Pipe Size	ID (range)	OD	**GPM** (with minimal pressure loss & noise)	**GPH** (with minimal pressure loss & noise)	**GPM** (with minimal pressure loss & noise)	**GPH** (with minimal pressure loss & noise)	**GPM** (with significant pressure loss & noise)	**GPH** (with significant pressure loss & noise)
1/2"	.50-.60"	.85"	7 gpm	420 gph	14 gpm	840 gph	21 gpm	1,260 gph
3/4"	.75-.85"	1.06"	11 gpm	660 gph	23 gpm	1,410 gph	36 gpm	2,160 gph
1"	1.00-1.03"	1.33"	16 gpm	960 gph	37 gpm	2,220 gph	58 gpm	3,510 gph
1.25"	1.25-1.36"	1.67"	25 gpm	1,500 gph	62 gpm	3,750 gph	100 gpm	5,940 gph
1.5"	1.50-1.60"	1.90"	35 gpm	2100 gph	81 gpm	4,830 gph	126 gpm	7,560 gph

2"	1.95-2.05"	2.38"	55 gpm	3300 gph	127 gpm	7,650 gph	200 gpm	12,000 gph
2.5"	2.35-2.45"	2.89"	80 gpm	4800 gph	190 gpm	11,400 gph	300 gpm	17,550 gph
3"	2.90-3.05"	3.50"	140 gpm	8400 gph	273 gpm	16,350 gph	425 gpm	25,650 gph
4"	3.85-3.95"	4.50"	240 gpm	14,400 gph	480 gpm	28,800 gph	700 gpm	42,000 gph
5"	4.95-5.05"	5.563"	380 gpm	22,800 gph	750 gpm	45,000 gph	1100 gpm	66,000 gph
6"	5.85-5.95"	6.61"	550 gpm	33,000 gph	1100 gpm	66,000 gph	1700 gpm	102,000 gph
8"	7.96"	8.625"	950 gpm	57,000 gph	1900 gpm	114,000 gph	2800 gpm	168,000 gph

Water Flow Chart #2
Here is a set of data predicting the amount of flow through an **orifice** based on pressure on one side of the **orifice**. Note: This is through an **orifice**, not a pipe. Adding pipe and fittings will drop this flow significantly. In other words, this would be the theoretical maximum amount of water through a **hole** based on the pressure above it. The table above is more "real world" information.

Pressure	Flow in GPM through a hole diameter measured in inches							
PSI	1"	1.25"	1.5"	2"	2.5"	3"	4"	5"
20	26	47	76	161	290	468	997	2895
30	32	58	94	200	360	582	1240	3603
40	38	68	110	234	421	680	1449	4209
50	43	77	124	264	475	767	1635	4748
60	47	85	137	291	524	846	1804	5239
75	53	95	153	329	591	955	2035	5910
100	62	112	180	384	690	1115	2377	6904
125	70	126	203	433	779	1258	2681	7788
150	77	139	224	478	859	1388	2958	8593
200	90	162	262	558	1004	1621	3455	10038

Water Flow Chart #3
This chart predicts how much flow you will get across a stainless metal ball valve of the diameter & length specified with a 1PSI pressure drop from one side of the valve assuming about 100psi

on one side of the valve.

Size (ID, inches)	Length (inches)	Flow (GPM)
1/2	4.25	26
3/4	4.62	50
1	5.00	94
1-1/2	6.50	260
2	7.00	480
2-1/2	7.50	750
3	8.00	1300
4	9.00	2300
6	15.50	5400

Note: The data is for water through the valve only, and does not take into account the rest of the system. It does not give flow velocity, so there is some question as to the applicability of the data. The data comes from a book for industrial piping and probably assumes a massive pump, high flow velocities and metallic pipes. (Ie, where water hammer and noise are less of a concern than with PVC pipe.) As always, "you mileage may vary."