



“A Simplified Study In Filtration” - Part 8 of 10

Last time we left off with questions to ask when trying to properly fit a filter to a system. Let’s continue with this. To make sure the filter you want to provide is used with proper size pipe, please refer to the chart entitled, ‘Oil Flow Capacity of Pipes’ below courtesy of the Fluid Power Society’s *Fluid Power Data Book*. It will give you a basic understanding of pipe size/flow relationships. However, for a real fundamental lesson in pipe size/flow relationships you may recognize that pipe size should be selected on the basis of oil flow velocity. Please note the figures in the table are for standard Schedule 40 pipe. Schedule 80, schedule 160, etc, should be treated differently.

PIPE (NPT)	2 FT/ SEC	4 FT/ SEC	10 FT/ SEC	15 FT/ SEC	20 FT/ SEC	30 FT/ SEC
1/8	.36 GPM	.72 GPM	1.8 GPM	2.7 GPM	3.6 GPM	5.4 GPM
¼	.60	1.2	3.0	4.5	6.0	9.0
3/8	1.2	2.4	6.0	9.0	12.0	18.0
½	1.9	3.8	9.5	14.0	19.0	29.0
¾	3.4	6.6	16.0	25.0	33.0	50.0
1	5.5	11.0	27.0	41.0	55.0	83.0
1 ¼	9.4	19.0	47.0	70.0	94.0	140.0
1 ½	13.0	26.0	65.0	95.0	130.0	190.0
2	21.0	42.0	105.0	156.0	210.0	312.0
2 ½	30.0	60.0	120.0	222.0	300.0	444.0
3	45.0	92.0	225.0	345.0	450.0	690.0

In suction lines, the line size should be chosen which would keep oil velocity within the 2-4 feet per second range. In return lines, the oil velocity should be kept within the 10-15 feet per second range. Medium pressure lines carrying 500 to 2000 psi, flow should be kept to 15-20 feet per second. High pressure lines may be allowed to carry up to 30 feet per second in lines carrying 3000 to 5000 psi. These figures are very, very basic and can be used as a rough guide when making a determination in matching flow rate and pipe size. Like in most applications, this table should be used as a guideline and reference only. If you would like to talk specifics, talk to a filter specialist. We have been making filters for over 70 years and all of our filters are still made in the United States. Always have, always will.



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Pipe sizes range from 1/4” to 2” npt and various levels of micron sizes are available. We also have sources where we can obtain housings up to 24” flange, if needed. Most of the smaller sizes, however, up to 2” npt, are a stock item. Give us a call to see how we can solve your filtration problems.



Flow Ezy Filters is ISO Certified. We recognize the fact that in today’s business world, a management system needs to be in place. When looking for a business partner, always choose one that is certified.

P.O. Box 1749, Ann Arbor, MI 48103

phone (800)237-1165 or (734)665-8777; fax (800)252-1730 or (734)665-4332

E-mail: flowezy@flowezyfilters.com Web site: www.flowezyfilters.com