

Flows	
1 Gallon/Minute (U.S.)	.002228 cu. ft./Second
1 Gallon/Minute (U.S.)	.13368 cu. ft./Minute
1 Gallon/Minute (U.S.)	8.0208 cu. ft./Hour
1 Gallon/Minute (U.S.)	.06309 Liters/Second
1 Gallon/Minute (U.S.)	3.78533 Liters/Minute
1 Gallon/Minute (U.S.)	.0044192 Acre Ft./24 Hrs.
1 Cubic Ft. per Second	448.83 GPM
1 Liter per Second	15.85 GPM
1 Acre Inch per Hour	452.57 GPM
1 Acre Foot per Day	226.3 GPM
1,000,000 Gallons per Day	694.4 GPM
1 Cubic Ft. per Second	.992 Acre Inches/Hr.

Volume	
1728 Cubic Inches	1 Cubic Foot
231 Cubic Inches	1 Gallon
27 Cubic Feet	1 Cubic Yard
1 Cubic Foot	7.48052 Gallons (U.S.)
1 Cubic Yard	202 Gallons (U.S.)
16 Drams	1 Ounce
32 Ounces	1 Quart
4 Quarts	1 Gallon
1 Gallon	3.785 Liters
1 Gallon	.00379 Cubic Meters
1 Gallon	.833 Imperial Gallon
27.154 Gallons	1 Acre Inch
325,851 Gallons	1 Acre Foot
1,000,000 Gallons	3.0689 Acre Feet
1 Acre Foot	43,560 Cubic Feet
Volume of a Cube	Area of Base x Height
Volume of a Pyramid	1/3 Area of Base x Height
Volume of a Sphere	Diameter Cubed x .5236



Kibbutz Kfar charuv, 12932 Israel  
 Tel. 972-4-6761800 Fax. 972-4-6763402  
 Export dpt. Tel. 972-4-6761803  
<http://www.arivalves.com>

**A.R.I. FLOW CONTROL ACCESSORIES Ltd.**



<b>Weight of 100' of pipe filled with water</b>		
<b>Pipe Size</b>	<b>Plastic (125#)</b>	<b>Iron (Sch 40)</b>
1"	57 lbs.	206 lbs.
1¼"	97 lbs.	293 lbs.
1½"	130 lbs.	360 lbs.
2"	217 lbs.	512 lbs.

<b>Comparing Flow rate to Velocity</b> (in type 'L' copper)			
<b>Size (Nom)</b>	<b>@ 3.0'/Second</b>	<b>@ 3.5'/Second</b>	<b>Suggested Max. Flow Rate</b>
½"	2.2 gpm	2.64 gpm	2.2 gpm
¾"	4.5 gpm	5.40 gpm	4.8 gpm
1"	7.5 gpm	9.00 gpm	9.0 gpm
1¼"	12.0 gpm	14.40 gpm	14.4 gpm
1½"	17.0 gpm	20.40 gpm	20.4 gpm
2"	29.0 gpm	34.80 gpm	34.8 gpm



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### Head Loss per 100' - Type 'L' Copper Tubing

Size	Velocity (FPS)	GPM	Head Loss
1/2"	5	3.64	10.12
3/4"	5	7.54	6.59
1"	6	15.43	7.10
1 1/4"	6	23.50	5.30
1 1/2"	7	38.81	6.03
2"	7	67.52	4.17
2 1/2"	8	119.00	4.35
3"	8	170.00	3.54
4"	8	299.00	2.43

### Head Loss per 100' - Sch.40 PVC

<b>1/2"</b>	<b>GPM</b>	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5		
	<b>Head Loss</b>	0.40'	1.28'	2.58'	4.24'	6.25'	8.59'	11.25'	14.22'	17.50'	21.07'		
<b>3/4"</b>	<b>GPM</b>	1	2	3	4	5	6	7	8	9	10		
	<b>Head Loss</b>	0.35'	1.16'	2.34'	3.86'	5.71'	7.86'	10.32'	13.07'	16.10'	19.41'		
<b>1"</b>	<b>GPM</b>	2	3	4	5	6	7	8	9	10	12	14	
	<b>Head Loss</b>	0.35'	0.70'	1.14'	1.69'	2.32'	3.04'	3.85'	4.74'	5.71'	7.88'	10.36'	
<b>1 1/4"</b>	<b>GPM</b>	5	6	7	8	9	10	12	15	20	25	30	
	<b>Head Loss</b>	0.51'	0.70'	0.91'	1.15'	1.42'	1.71'	2.35'	3.49'	5.81'	8.65'	11.98'	
<b>1 1/2"</b>	<b>GPM</b>	8	9	10	12	15	20	25	30	35	40	45	
	<b>Head Loss</b>	0.55'	0.67'	0.81'	1.12'	1.65'	2.75'	4.09'	5.65'	7.45'	9.45'	11.68'	
<b>2"</b>	<b>GPM</b>	16	18	20	25	30	35	40	45	50	60	70	80
	<b>Head Loss</b>	0.55'	0.68'	0.82'	1.22'	1.68'	2.21'	2.80'	3.46'	4.17'	5.79'	7.63'	9.70'
<b>2 1/2"</b>	<b>GPM</b>	35	40	45	50	60	70	80	90	100	110	120	130
	<b>Head Loss</b>	0.88'	1.12'	1.38'	1.66'	2.30'	3.03'	3.85'	4.75'	5.74'	6.82'	7.98'	9.22'
<b>3"</b>	<b>GPM</b>	50	60	70	80	90	100	110	120	130	140	150	160
	<b>Head Loss</b>	0.63'	0.87'	1.15'	1.45'	1.80'	2.17'	2.57'	3.01'	3.47'	3.97'	4.50'	5.05'

The above is free as a courtesy - accuracy is not guaranteed.