

# Flow Capacity Charts

## Vinylflow

### FRICITION LOSS PER 100 FT. P.S.I.

GPM	1-1/2"	2"	2-1/2"	3"	4"	6"	8"
20	1.2						
30	2.4						
40	5.1	1.1					
50	6.0						
60		2.4	1.4				
80		4.1	1.9	1.0			
90	17						
100		6.0	2.8	1.2			
120				1.8			
140				2.2			
160				2.6	0.6		
180				3.3	0.7		
200		22	7		0.8		
220					1.0		
240					1.1	0.2	
250				5			
260					1.3	0.2	
280					1.4	0.2	
300					1.8	0.2	
340						0.3	
350			22				
380						0.4	
420						0.5	
460						0.6	
500					4	0.7	
540						0.8	
580				22		0.9	
620						1.0	
660						1.1	

### Pipe Flow Capacity At 100 Feet

#### Flow Rate 4 PSI Lost Per 100'

1/2"	.....	3 GPM
3/4"	.....	7 GPM
1"	.....	14 GPM
1 1/4"	.....	28 GPM
1 1/2"	.....	40 GPM
2"	.....	80 GPM

#### Flow Rate 2 PSI Lost Per 100'

3"	.....	150 GPM
4"	.....	325 GPM
5"	.....	550 GPM
6"	.....	850 GPM
8"	.....	1800 GPM

### Row Spacing Plastic (INCHES) FEET PER ACRE

48"	.....	10,890'
52"	.....	10,052'
56"	.....	9,334'
58"	.....	9,012'
60"	.....	8,712'
62"	.....	8,431'
64"	.....	8,168'
66"	.....	7,920'
68"	.....	7,687'
70"	.....	7,467'
72"	.....	7,260'
76"	.....	6,876'
80"	.....	6,534'
84"	.....	6,223'
88"	.....	5,940'

### FRICITION LOSS OF ALUMINUM PIPE

#### PSI LOSS PER 100 FT.

GPM	2"	3"	4"	5"	6"	7"	8"
35...	1.47	.15					
40...	1.85	.24					
45...	2.25	.30					
50...	2.72	.36					
60.....		.51	.12				
70.....		.66	.16				
80.....		.85	.21				
90.....		1.04	.25				
100.....		1.25	.31				
120.....		1.73	.42				
140.....		2.29	.55	.16			
160.....		2.83	.70	.23			
180.....		3.54	.87	.29	.12		
200.....			1.04	.35	.15		
240.....			1.45	.48	.20		
260.....			1.60	.56	.24	.11	
300.....			2.30	.73	.30	.15	
350.....			2.82	.95	.39	.19	
400.....				1.20	.50	.24	.13
500.....				1.76	.74	.35	.19
600.....				2.46	1.01	.49	.26
700.....					1.34	.64	.34
800.....					1.72	.82	.43
900.....					2.16	1.01	.53
1000.....						1.23	.64
1200.....						1.72	.90



### G.P.M. PER ACRE @ 8 P.S.I.

ROW SPACING (INCHES)	FEET OF HOSE PER ACRE	FLOW							
		8"	8"	12"	12"	16"	16"	24"	
30	17,424	67	.34	.45	.22	.34	.17	.28	
32	18,335	117	59	78	38	59	30	49	
34	15,374	109	56	74	36	56	28	46	
36	14,520	103	52	69	34	52	26	43	
38	14,520	97	49	65	32	49	25	41	
40	13,756	92	47	62	30	47	23	39	
42	13,068	88	44	59	29	44	22	37	
44	12,446	83	42	56	27	42	21	35	
46	11,880	80	40	53	26	40	20	33	
48	11,363	76	38	51	25	39	19	32	
50	10,890	73	37	49	24	37	19	30	
52	10,454	70	36	47	23	36	18	29	
54	10,052	67	34	45	22	34	17	28	
56	9,880	65	33	44	21	33	16	27	
58	9,334	63	32	42	21	32	16	26	
60	9,012	60	31	41	20	31	15	25	
62	8,712	58	30	39	19	30	15	24	
64	8,431	56	29	38	19	29	14	24	
66	8,168	55	28	37	18	28	14	23	
68	7,920	53	27	36	17	27	13	22	
70	7,687	52	26	35	17	26	13	22	
72	7,467	50	25	34	16	25	13	21	
74	7,260	49	25	33	16	25	12	20	
76	7,064	47	24	32	16	24	12	20	
78	6,878	46	23	31	15	23	12	19	
80	6,702	45	23	30	15	23	11	19	
82	6,534	44	22	29	14	22	11	18	
84	6,375	43	22	29	14	22	11	18	
86	6,223	42	21	28	14	21	11	17	
88	6,078	41	21	27	13	21	10	17	
90	5,940	40	20	27	13	20	10	17	
92	5,808	39	20	26	13	20	10	16	
94	5,682	38	19	26	13	19	10	16	
96	5,561	37	19	25	12	19	9	16	
98	5,445	36	19	25	12	19	9	15	
100	5,334	36	18	24	12	18	9	15	
100	5,227	35	18	24	11	18	9	15	

### WATER SUPPLY NEEDED TO IRRIGATE CROP

CLIMATIC CONDITIONS DURING CROP	Suggested average Acre inches per day	Daily Pump Operation								
		G.P.M. PER ACRE								
		2 Hrs.	4 Hrs.	6 Hrs.	8 Hrs.	10 Hrs.	12 Hrs.	16 Hrs.	20 Hrs.	24 Hrs.
Cool & Humid	.20	45.3	22.6	15.1	11.3	9.1	7.5	5.7	4.5	3.8
Warm - Semi-Humid	.25	56.6	28.3	18.9	14.1	11.3	9.4	7.1	5.7	4.7
Warm - Dry	.20	67.9	33.9	22.6	17.0	13.6	11.3	8.5	6.8	5.7
Very Dry - Hot	.35	79.2	39.6	26.4	19.8	15.8	13.2	9.9	7.9	6.6
Very Dry - Hot Winds	.40	90.5	45.3	30.2	22.6	18.1	15.1	11.3	9.1	7.5

NOTE: Chart based on 7 day per week operation.

Fig. 5

For 6 day pump operation multiply G. P. M. per acre by 1.166  
For 5 day pump operation multiply G. P. M. per acre by 1.4