

TP 110°/ 80° 15" TIP SPACING

ALL VALUES BASED ON WATER FOR OTHER LIQUIDS SEE USEFUL FORMULAS AND CONVERSIONS

mph		4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	
psi gpm																			
8001VS	20	0.07	7.0	6.2	5.6	5.1	4.7	4.3	4.0	3.7	3.5	3.3	3.1	3.0	2.8	2.7	2.6	2.4	2.3
	30	0.09	8.6	7.7	6.9	6.3	5.7	5.3	4.9	4.6	4.3	4.1	3.8	3.6	3.4	3.3	3.1	3.0	2.9
11001VS	40	0.10	9.9	8.8	7.9	7.2	6.6	6.1	5.7	5.3	5.0	4.7	4.4	4.2	4.0	3.8	3.6	3.4	3.3
100 MESH	50	0.11	11.1	9.9	8.9	8.1	7.4	6.8	6.3	5.9	5.5	5.2	4.9	4.7	4.4	4.2	4.0	3.9	3.7
ORANGE	60	0.12	12.1	10.7	9.7	8.8	8.1	7.4	6.9	6.4	6.0	5.7	5.4	5.1	4.8	4.6	4.4	4.2	4.0
80015VS	20	0.11	10.5	9.3	8.4	7.6	7.0	6.5	6.0	5.6	5.2	4.9	4.7	4.4	4.2	4.0	3.8	3.7	3.5
	30	0.13	12.9	11.4	10.3	9.4	8.6	7.9	7.4	6.9	6.4	6.1	5.7	5.4	5.1	4.9	4.7	4.5	4.3
110015VS	40	0.15	14.9	13.2	11.9	10.8	9.9	9.1	8.5	7.9	7.4	7.0	6.6	6.3	5.9	5.7	5.4	5.2	5.0
100 MESH	50	0.17	16.6	14.8	13.3	12.1	11.1	10.2	9.5	8.9	8.3	7.8	7.4	7.0	6.7	6.3	6.0	5.8	5.5
GREEN	60	0.18	18.2	16.2	14.6	13.2	12.1	11.2	10.4	9.7	9.1	8.6	8.1	7.7	7.3	6.9	6.6	6.3	6.1
8002VS	20	0.14	14.0	12.4	11.2	10.2	9.3	8.6	8.0	7.4	7.0	6.6	6.2	5.9	5.6	5.3	5.1	4.9	4.7
	30	0.17	17.1	15.2	13.7	12.5	11.4	10.5	9.8	9.1	8.6	8.1	7.6	7.2	6.9	6.5	6.2	6.0	5.7
11002VS	40	0.20	19.8	17.6	15.8	14.4	13.2	12.2	11.3	10.6	9.9	9.3	8.8	8.3	7.9	7.5	7.2	6.9	6.6
50 MESH	50	0.22	22.2	19.7	17.7	16.1	14.8	13.6	12.7	11.8	11.1	10.4	9.9	9.3	8.9	8.4	8.1	7.7	7.4
YELLOW	60	0.25	24.3	21.6	19.4	17.6	16.2	14.9	13.9	12.9	12.1	11.4	10.8	10.2	9.7	9.2	8.8	8.4	8.1
8003VS	20	0.21	21.0	18.7	16.8	15.3	14.0	12.9	12.0	11.2	10.5	9.9	9.3	8.8	8.4	8.0	7.6	7.3	7.0
	30	0.26	25.7	22.9	20.6	18.7	17.2	15.8	14.7	13.7	12.9	12.1	11.4	10.8	10.3	9.8	9.4	9.0	8.6
11003VS	40	0.30	29.7	26.4	23.8	21.6	19.8	18.3	17.0	15.8	14.9	14.0	13.2	12.5	11.9	11.3	10.8	10.3	9.9
50 MESH	50	0.34	33.2	29.5	26.5	24.1	22.1	20.4	19.0	17.7	16.6	15.6	14.7	14.0	13.3	12.6	12.1	11.5	11.1
BLUE	60	0.37	36.3	32.3	29.1	26.4	24.2	22.4	20.8	19.4	18.2	17.1	16.1	15.3	14.5	13.8	13.2	12.6	12.1
8004VS	20	0.28	28.0	24.9	22.4	20.4	18.7	17.2	16.0	14.9	14.0	13.2	12.5	11.8	11.2	10.7	10.2	9.7	9.3
	30	0.35	34.3	30.4	27.4	24.9	22.8	21.1	19.6	18.3	17.1	16.1	15.2	14.4	13.7	13.0	12.5	11.9	11.4
11004VS	40	0.40	39.6	35.2	31.7	28.8	26.4	24.4	22.6	21.1	19.8	18.6	17.6	16.7	15.8	15.1	14.4	13.8	13.2
50 MESH	50	0.45	44.3	39.3	35.4	32.2	29.5	27.2	25.3	23.6	22.1	20.8	19.7	18.6	17.7	16.9	16.1	15.4	14.8
RED	60	0.49	48.5	43.1	38.8	35.3	32.3	29.9	27.7	25.9	24.3	22.8	21.6	20.4	19.4	18.5	17.6	16.9	16.2
8005VS	20	0.35	35.0	31.2	28.0	25.5	23.4	21.6	20.0	18.7	17.5	16.5	15.6	14.8	14.0	13.4	12.7	12.2	11.7
	30	0.43	42.9	38.1	34.3	31.2	28.6	26.4	24.5	22.9	21.4	20.2	19.1	18.0	17.1	16.3	15.6	14.9	14.3
11005VS	40	0.50	49.5	44.0	39.6	36.0	33.0	30.5	28.3	26.4	24.8	23.3	22.0	20.8	19.8	18.9	18.0	17.2	16.5
50 MESH	50	0.56	55.3	49.2	44.3	40.2	36.9	34.1	31.6	29.5	27.7	26.0	24.6	23.3	22.1	21.1	20.1	19.2	18.4
BROWN	60	0.61	60.6	53.9	48.5	44.1	40.4	37.3	34.6	32.3	30.3	28.5	26.9	25.5	24.2	23.1	22.0	21.1	20.2

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mph		4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	
8006VS	20	0.42	42.0	37.3	33.6	30.5	28.0	25.8	24.0	22.4	21.0	19.8	18.7	17.7	16.8	16.0	15.3	14.6	14.0
	30	0.52	51.5	45.8	41.2	37.4	34.3	31.7	29.4	27.5	25.7	24.2	22.9	21.7	20.6	19.6	18.7	17.9	17.2
11006VS	40	0.60	59.4	52.8	47.5	43.2	39.6	36.6	33.9	31.7	29.7	28.0	26.4	25.0	23.8	22.6	21.6	20.7	19.8
	50	0.67	66.4	59.0	53.1	48.3	44.3	40.9	38.0	35.4	33.2	31.3	29.5	28.0	26.6	25.3	24.2	23.1	22.1
50 MESH GRAY	60	0.74	72.8	64.7	58.2	52.9	48.5	44.8	41.6	38.8	36.4	34.2	32.3	30.6	29.1	27.7	26.5	25.3	24.3
	20	0.63	62.6	55.6	50.1	45.5	41.7	38.5	35.8	33.4	31.3	29.4	27.8	26.3	25.0	23.8	22.8	21.8	20.9
8008VS	30	0.69	68.6	61.0	54.9	49.9	45.7	42.2	39.2	36.6	34.3	32.3	30.5	28.9	27.4	26.1	24.9	23.9	22.9
	40	0.80	79.2	70.4	63.4	57.6	52.8	48.7	45.3	42.2	39.6	37.3	35.2	33.3	31.7	30.2	28.8	27.5	26.4
11008VS	50	0.89	88.5	78.7	70.8	64.4	59.0	54.5	50.6	47.2	44.3	41.6	39.3	37.3	35.4	33.7	32.2	30.8	29.5
	60	0.98	97.0	86.2	77.6	70.6	64.7	59.7	55.4	51.7	48.5	45.7	43.1	40.9	38.8	37.0	35.3	33.7	32.3
8010SS	20	0.71	70.0	62.2	56.0	50.9	46.7	43.1	40.0	37.3	35.0	32.9	31.1	29.5	28.0	26.7	25.5	24.3	23.3
	30	0.87	85.7	76.2	68.6	62.4	57.2	52.8	49.0	45.7	42.9	40.3	38.1	36.1	34.3	32.7	31.2	29.8	28.6
11010SS	40	1.00	99.0	88.0	79.2	72.0	66.0	60.9	56.6	52.8	49.5	46.6	44.0	41.7	39.6	37.7	36.0	34.4	33.0
	50	1.12	110.7	98.4	88.5	80.5	73.8	68.1	63.2	59.0	55.3	52.1	49.2	46.6	44.3	42.2	40.2	38.5	36.9
50 MESH	60	1.23	121.3	107.8	97.0	88.2	80.9	74.6	69.3	64.7	60.6	57.1	53.9	51.1	48.5	46.2	44.1	42.2	40.4
	20	1.06	105.0	93.4	84.0	76.4	70.0	64.6	60.0	56.0	52.5	49.4	46.7	44.2	42.0	40.0	38.2	36.5	35.0
8015SS	30	1.30	128.6	114.3	102.9	93.5	85.7	79.1	73.5	68.6	64.3	60.5	57.2	54.1	51.4	49.0	46.8	44.7	42.9
	40	1.50	148.5	132.0	118.8	108.0	99.0	91.4	84.9	79.2	74.3	69.9	66.0	62.5	59.4	56.6	54.0	51.7	49.5
11015SS	50	1.68	166.0	147.6	132.8	120.7	110.7	102.2	94.9	88.5	83.0	78.1	73.8	69.9	66.4	63.2	60.4	57.7	55.3
	60	1.84	181.9	161.7	145.5	132.3	121.2	111.9	103.9	97.0	90.9	85.6	80.8	76.6	72.7	69.3	66.1	63.3	60.6
8020SS	20	1.41	140.0	124.4	112.0	101.8	93.3	86.1	80.0	74.7	70.0	65.9	62.2	58.9	56.0	53.3	50.9	48.7	46.7
	30	1.73	171.5	152.4	137.2	124.7	114.3	105.5	98.0	91.4	85.7	80.7	76.2	72.2	68.6	65.3	62.4	59.6	57.2
11020SS	40	2.00	198.0	176.0	158.4	144.0	132.0	121.8	113.1	105.6	99.0	93.2	88.0	83.4	79.2	75.4	72.0	68.9	66.0
	50	2.24	221.4	196.8	177.1	161.0	147.6	136.2	126.5	118.1	110.7	104.2	98.4	93.2	88.5	84.3	80.5	77.0	73.8
50 MESH	60	2.45	242.5	215.5	194.0	176.3	161.6	149.2	138.5	129.3	121.2	114.1	107.8	102.1	97.0	92.4	88.2	84.3	80.8

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																mph				
12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0			gpm	psi	
2.2	2.2	2.1	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4	0.07	20	8001VS		
2.8	2.7	2.6	2.5	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.8	1.8	1.7	0.09	30	11001VS		
3.2	3.0	2.9	2.8	2.7	2.6	2.6	2.5	2.4	2.3	2.3	2.2	2.1	2.1	2.0	2.0	0.10	40	100 MESH		
3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.5	2.4	2.3	2.3	2.2	0.11	50	ORANGE		
3.9	3.7	3.6	3.5	3.3	3.2	3.1	3.0	2.9	2.8	2.8	2.7	2.6	2.5	2.5	2.4	0.12	60			
3.4	3.2	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.5	2.4	2.3	2.3	2.2	2.2	2.1	0.11	20	80015VS		
4.1	4.0	3.8	3.7	3.6	3.4	3.3	3.2	3.1	3.0	2.9	2.9	2.8	2.7	2.6	2.6	0.13	30	110015VS		
4.8	4.6	4.4	4.2	4.1	4.0	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.1	3.0	3.0	0.15	40	100 MESH		
5.3	5.1	4.9	4.8	4.6	4.4	4.3	4.2	4.0	3.9	3.8	3.7	3.6	3.5	3.4	3.3	0.17	50	GREEN		
5.8	5.6	5.4	5.2	5.0	4.9	4.7	4.6	4.4	4.3	4.2	4.0	3.9	3.8	3.7	3.6	0.18	60			
4.5	4.3	4.1	4.0	3.9	3.7	3.6	3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.9	2.8	0.14	20	8002VS		
5.5	5.3	5.1	4.9	4.7	4.6	4.4	4.3	4.2	4.0	3.9	3.8	3.7	3.6	3.5	3.4	0.17	30	11002VS		
6.3	6.1	5.9	5.7	5.5	5.3	5.1	5.0	4.8	4.7	4.5	4.4	4.3	4.2	4.1	4.0	0.20	40	50 MESH		
7.1	6.8	6.6	6.3	6.1	5.9	5.7	5.5	5.4	5.2	5.1	4.9	4.8	4.7	4.5	4.4	0.22	50	YELLOW		
7.8	7.5	7.2	6.9	6.7	6.5	6.3	6.1	5.9	5.7	5.5	5.4	5.2	5.1	5.0	4.9	0.25	60			
6.7	6.5	6.2	6.0	5.8	5.6	5.4	5.2	5.1	4.9	4.8	4.7	4.5	4.4	4.3	4.2	0.21	20	8003VS		
8.2	7.9	7.6	7.4	7.1	6.9	6.6	6.4	6.2	6.1	5.9	5.7	5.6	5.4	5.3	5.1	0.26	30	11003VS		
9.5	9.1	8.8	8.5	8.2	7.9	7.7	7.4	7.2	7.0	6.8	6.6	6.4	6.3	6.1	5.9	0.30	40	50 MESH		
10.6	10.2	9.8	9.5	9.1	8.8	8.6	8.3	8.0	7.8	7.6	7.4	7.2	7.0	6.8	6.6	0.34	50	BLUE		
11.6	11.2	10.8	10.4	10.0	9.7	9.4	9.1	8.8	8.5	8.3	8.1	7.9	7.6	7.5	7.3	0.37	60			
9.0	8.6	8.3	8.0	7.7	7.5	7.2	7.0	6.8	6.6	6.4	6.2	6.1	5.9	5.7	5.6	0.28	20	8004VS		
11.0	10.5	10.1	9.8	9.4	9.1	8.8	8.6	8.3	8.1	7.8	7.6	7.4	7.2	7.0	6.9	0.35	30	11004VS		
12.7	12.2	11.7	11.3	10.9	10.6	10.2	9.9	9.6	9.3	9.1	8.8	8.6	8.3	8.1	7.9	0.40	40	50 MESH		
14.2	13.6	13.1	12.6	12.2	11.8	11.4	11.1	10.7	10.4	10.1	9.8	9.6	9.3	9.1	8.9	0.45	50	RED		
15.5	14.9	14.4	13.9	13.4	12.9	12.5	12.1	11.8	11.4	11.1	10.8	10.5	10.2	10.0	9.7	0.49	60			
11.2	10.8	10.4	10.0	9.7	9.3	9.0	8.8	8.5	8.2	8.0	7.8	7.6	7.4	7.2	7.0	0.35	20	8005VS		
13.7	13.2	12.7	12.2	11.8	11.4	11.1	10.7	10.4	10.1	9.8	9.5	9.3	9.0	8.8	8.6	0.43	30	11005VS		
15.8	15.2	14.7	14.1	13.7	13.2	12.8	12.4	12.0	11.6	11.3	11.0	10.7	10.4	10.2	9.9	0.50	40	50 MESH		
17.7	17.0	16.4	15.8	15.3	14.8	14.3	13.8	13.4	13.0	12.6	12.3	12.0	11.7	11.4	11.1	0.56	50	BROWN		
19.4	18.6	18.0	17.3	16.7	16.2	15.6	15.1	14.7	14.3	13.8	13.5	13.1	12.8	12.4	12.1	0.61	60			

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12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	mph		
13.4	12.9	12.4	12.0	11.6	11.2	10.8	10.5	10.2	9.9	9.6	9.3	9.1	8.8	8.6	8.4	0.42	20	8006VS 11006VS 50 MESH GRAY
16.5	15.8	15.3	14.7	14.2	13.7	13.3	12.9	12.5	12.1	11.8	11.4	11.1	10.8	10.6	10.3	0.52	30	
19.0	18.3	17.6	17.0	16.4	15.8	15.3	14.9	14.4	14.0	13.6	13.2	12.8	12.5	12.2	11.9	0.60	40	
21.3	20.4	19.7	19.0	18.3	17.7	17.1	16.6	16.1	15.6	15.2	14.8	14.4	14.0	13.6	13.3	0.67	50	
23.3	22.4	21.6	20.8	20.1	19.4	18.8	18.2	17.6	17.1	16.6	16.2	15.7	15.3	14.9	14.6	0.74	60	
20.0	19.3	18.5	17.9	17.3	16.7	16.1	15.6	15.2	14.7	14.3	13.9	13.5	13.2	12.8	12.5	0.63	20	8008VS 11008VS 50 MESH WHITE
22.0	21.1	20.3	19.6	18.9	18.3	17.7	17.2	16.6	16.1	15.7	15.2	14.8	14.4	14.1	13.7	0.69	30	
25.3	24.4	23.5	22.6	21.8	21.1	20.4	19.8	19.2	18.6	18.1	17.6	17.1	16.7	16.2	15.8	0.80	40	
28.3	27.2	26.2	25.3	24.4	23.6	22.8	22.1	21.5	20.8	20.2	19.7	19.1	18.6	18.2	17.7	0.89	50	
31.0	29.9	28.7	27.7	26.8	25.9	25.0	24.3	23.5	22.8	22.2	21.6	21.0	20.4	19.9	19.4	0.98	60	
22.4	21.5	20.7	20.0	19.3	18.7	18.1	17.5	17.0	16.5	16.0	15.6	15.1	14.7	14.4	14.0	0.71	20	8010SS 11010SS 50 MESH
27.4	26.4	25.4	24.5	23.7	22.9	22.1	21.4	20.8	20.2	19.6	19.1	18.5	18.0	17.6	17.1	0.87	30	
31.7	30.5	29.3	28.3	27.3	26.4	25.5	24.8	24.0	23.3	22.6	22.0	21.4	20.8	20.3	19.8	1.00	40	
35.4	34.1	32.8	31.6	30.5	29.5	28.6	27.7	26.8	26.0	25.3	24.6	23.9	23.3	22.7	22.1	1.12	50	
38.8	37.3	35.9	34.7	33.5	32.3	31.3	30.3	29.4	28.5	27.7	27.0	26.2	25.5	24.9	24.3	1.23	60	
33.6	32.3	31.1	30.0	29.0	28.0	27.1	26.3	25.5	24.7	24.0	23.3	22.7	22.1	21.5	21.0	1.06	20	8015SS 11015SS 50 MESH
41.2	39.6	38.1	36.7	35.5	34.3	33.2	32.2	31.2	30.3	29.4	28.6	27.8	27.1	26.4	25.7	1.30	30	
47.5	45.7	44.0	42.4	41.0	39.6	38.3	37.1	36.0	34.9	33.9	33.0	32.1	31.3	30.5	29.7	1.50	40	
53.1	51.1	49.2	47.4	45.8	44.3	42.8	41.5	40.2	39.1	37.9	36.9	35.9	35.0	34.1	33.2	1.68	50	
58.2	56.0	53.9	52.0	50.2	48.5	46.9	45.5	44.1	42.8	41.6	40.4	39.3	38.3	37.3	36.4	1.84	60	
44.8	43.1	41.5	40.0	38.6	37.3	36.1	35.0	33.9	32.9	32.0	31.1	30.3	29.5	28.7	28.0	1.41	20	8020SS 11020SS 50 MESH
54.9	52.8	50.8	49.0	47.3	45.7	44.2	42.9	41.6	40.3	39.2	38.1	37.1	36.1	35.2	34.3	1.73	30	
63.4	60.9	58.7	56.6	54.6	52.8	51.1	49.5	48.0	46.6	45.3	44.0	42.8	41.7	40.6	39.6	2.00	40	
70.8	68.1	65.6	63.2	61.1	59.0	57.1	55.3	53.7	52.1	50.6	49.2	47.9	46.6	45.4	44.3	2.24	50	
77.6	74.6	71.8	69.3	66.9	64.7	62.6	60.6	58.8	57.0	55.4	53.9	52.4	51.0	49.7	48.5	2.45	60	