

# MP

## Maximum Free Passage



Wide Angle Metal

WHIRL

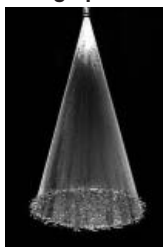
### DESIGN FEATURES

- Ultimate clog-resistant design with largest free passage available in a full cone nozzle
- Two unique S-shaped internal vanes allow free passage of particles
- High energy efficiency
- Easily handles dirty, lumpy liquids
- Male and female connections
- Flanged connection available

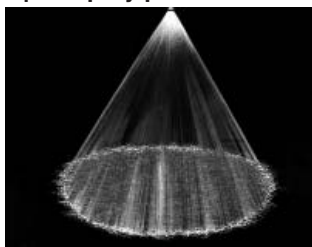
### SPRAY CHARACTERISTICS

- High reliability spray performance under the most difficult conditions
- Spray pattern:** Full Cone\*  
(Square patterns to special order)
- Spray angles:** 30°, 60°, 90°, and 120°
- Flow rates:** 0.7 to 938 gpm  
(Flow rates up to 4500 gpm available; call our Engineering Department for details.)

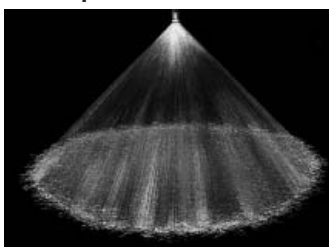
Design pressure 20 psi. Spray pattern data varies with pressure. Call BETE with any questions.



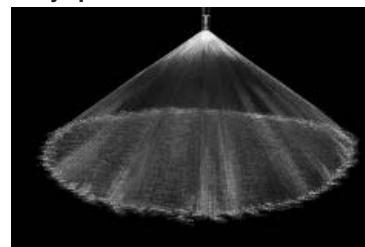
Full Cone 30° (NN)



Full Cone 60° (N)



Full Cone 90° (M)



Full Cone 120° (W)

### MP Flow Rates and Dimensions

Full Cone, Extra Narrow 30° (NN), Narrow 60° (N), Medium 90° (M) and Wide 120° (W) Spray Angles, 3/8" to 4" Pipe Sizes

Male or Female Pipe Size	Nozzle Number	K Factor	GALLONS PER MINUTE @ PSI										Approx. Free Passage Dia. (in.)	Approx. Dimensions (in.) Overall length					Wt.* (lbs.) Metal
			3 PSI	5 PSI	7 PSI	10 PSI	15 PSI	20 PSI	30 PSI	40 PSI	60 PSI	80 PSI		30° A	60° A	90° A	120° A	B	
3/8	MP125	0.416	0.70	0.89	1.04	1.23	1.49	1.70	2.06	2.35	2.85	3.26	0.125						0.19
	MP156	0.661	1.11	1.41	1.65	1.95	2.36	2.70	3.27	3.74	4.52	5.18	0.156	3.00	1.50	1.50	1.50	0.88	0.19
	MP187	0.954	1.60	2.03	2.38	2.82	3.41	3.90	4.72	5.40	6.54	7.48	0.188						0.16
1/2	MP187	0.954	1.60	2.03	2.38	2.82	3.41	3.90	4.72	5.40	6.54	7.48	0.188						0.28
	MP218	1.517	2.54	3.23	3.79	4.48	5.42	6.20	7.50	8.59	10.39	11.89	0.219	4.00	1.88	1.88	1.88	1.00	0.25
	MP250	1.712	2.87	3.65	4.27	5.05	6.11	7.00	8.47	9.70	11.73	13.43	0.250						0.25
3/4	MP281	2.104	3.53	4.48	5.25	6.21	7.51	8.60	10.41	11.91	14.41	16.50	0.281						0.50
	MP312	2.544	4.26	5.42	6.35	7.51	9.08	10.40	12.58	14.41	17.43	19.95	0.313	4.00	2.50	2.38	2.50	1.25	0.50
	MP343	3.107	5.21	6.62	7.75	9.17	11.09	12.70	15.37	17.59	21.28	24.37	0.344						0.44
	MP375	3.670	6.15	7.82	9.16	10.83	13.10	15.00	18.15	20.78	25.14	28.78	0.375						0.44
1	MP375	3.670	6.15	7.82	9.16	10.83	13.10	15.00	18.15	20.78	25.14	28.78	0.375						0.78
	MP406	4.403	7.38	9.38	10.99	13.00	15.72	18.00	21.78	24.93	30.17	34.53	0.406	4.38	2.94	2.94	2.94	1.50	0.72
	MP437	5.137	8.61	10.95	12.82	15.16	18.34	21.00	25.41	29.09	35.19	40.29	0.438						0.72
1 1/4	MP437	5.137	8.61	10.95	12.82	15.16	18.34	21.00	25.41	29.09	35.19	40.29	0.438	5.38	3.38	3.38	3.38	2.00	1.34
	MP500	6.605	11.07	14.07	16.48	19.49	23.59	27.00	32.67	37.40	45.25	51.80	0.500	6.44	3.38	3.38	3.38	2.00	1.34
	MP531	7.339	12.30	15.64	18.32	21.66	26.21	30.00	36.30	41.55	50.28	57.56	0.531	6.44	3.38	3.38	3.38	2.00	1.34
	MP562	8.073	13.53	17.20	20.15	23.82	28.83	33.00	39.93	45.71	55.30	63.31	0.562	6.44	3.38	3.38	3.38	2.00	1.34
1 1/2	MP562	8.073	13.53	17.20	20.15	23.82	28.83	33.00	39.93	45.71	55.30	63.31	0.563	6.81	4.38	4.38	4.38	2.25	2.00
	MP593	9.174	15.37	19.55	22.90	27.07	32.76	37.50	45.37	51.94	62.85	71.94	0.594	7.25	4.38	4.38	4.38	2.25	2.00
	MP625	9.785	16.40	20.85	24.42	28.88	34.94	40.00	48.40	55.40	67.04	76.74	0.625	7.25	4.38	4.38	4.38	2.25	2.00
	MP656	11.865	19.88	25.28	29.61	35.02	42.37	48.50	58.68	67.18	81.28	93.05	0.656	7.25	4.38	4.38	4.38	2.25	2.00
	MP687	12.476	20.91	26.58	31.14	36.82	44.55	51.00	61.71	70.64	85.47	97.84	0.688	7.25	4.38	4.38	4.38	2.25	2.00

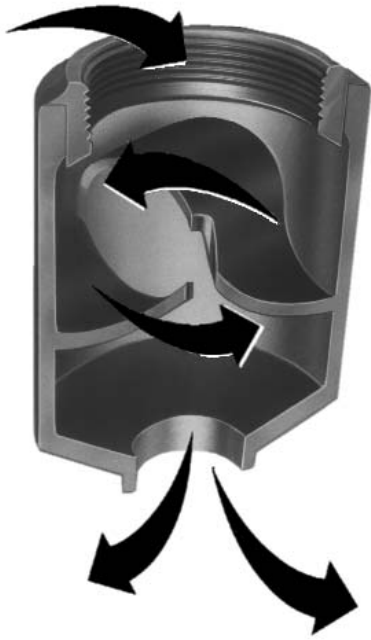
Flow Rate (GPM) = K (PSI)<sup>0.47</sup>

\* Weights given are for 60°, 90° and 120°

Standard Materials: Brass, 316 Stainless Steel, PVC, Polypropylene, and PTFE. (PTFE not available in 3/8" and 1/2" sizes). See chart on page 21 for complete list.

\*The spray angle of wide and medium angle whirl nozzles is affected by increasing pressure. Contact BETE Applications Engineering when using the MP above 3 bar (40 PSI).

TO ORDER: specify pipe size, connection type, nozzle number, spray angle, and material.



A cutaway view of the MP nozzle showing the S-shaped vanes which enable the nozzle to successfully handle large particles without clogging.

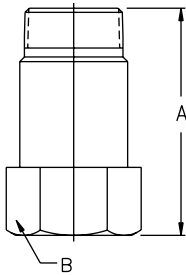


**MaxiPass™  
Free Passage**

**Traditional Full Cone  
Free Passage**

A comparison of the free passage available with the BETE MP nozzle compared to the free passage of a traditional full cone nozzle. The BETE MP is designed to pass solid particles which are 2-3 times larger in diameter than particles that will pass through a traditional full cone nozzle.

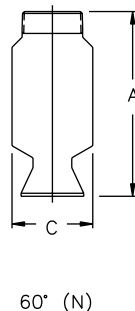
**Note: For plastic dimensions, please call customer service.**



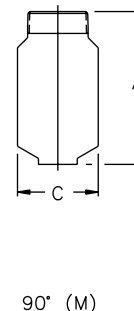
3/8" – 1 1/2" PIPE SIZES



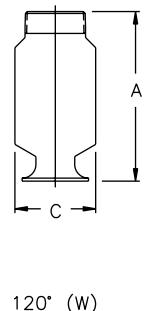
30° (NN)



60° (N)



90° (M)



120° (W)

**MP Flow Rates and Dimensions**

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			3 PSI	5 PSI	7 PSI	10 PSI	15 PSI	20 PSI	30 PSI	40 PSI	60 PSI	80 PSI		30° A	60° A	90° A	120° A	C <sup>1</sup>	
2	MP750	15.167	25.42	32.32	37.85	44.76	54.16	62.00	75.02	85.88	103.91	118.95	0.750	8.25	7.19	5.75	6.25	2.63	3.50
	MP812	16.635	27.88	35.44	41.52	49.09	59.40	68.00	82.28	94.19	113.96	130.46	0.813	8.25	7.19	5.75	6.25	2.63	3.50
	MP875	20.549	34.44	43.78	51.29	60.65	73.38	84.00	101.63	116.35	140.78	161.16	0.875	8.25	7.19	5.75	6.25	2.63	3.50
	MP937	22.996	38.54	49.00	57.39	67.86	82.11	94.00	113.73	130.20	157.53	180.34	0.938	9.00	7.63	6.00	6.50	3.25	3.75
	MP1000	26.910	45.10	57.34	67.16	79.42	96.09	110.00	133.09	152.36	184.35	211.04	1.00	10.3	7.63	6.00	6.63	3.25	3.75
	MP1125	33.026	55.35	70.37	82.42	97.47	117.93	135.00	163.34	186.99	226.25	259.00	1.12	10.3	7.63	6.00	6.75	3.25	3.75
2 1/2	MP1125	33.026	55.35	70.37	82.42	97.47	117.93	135.00	163.34	186.99	226.25	259.00	1.12	10.5	8.38	6.50	7.00	3.25	4.50
	MP1250	39.631	66.42	84.44	98.91	116.96	141.51	162.00	196.01	224.39	271.50	310.80	1.25	12.0	9.63	6.50	7.13	3.25	4.50
	MP1375	47.459	79.54	101.12	118.44	140.06	169.47	194.00	234.73	268.71	325.12	372.19	1.37	12.0	9.63	8.38	9.00	4.00	6.25
	MP1500	58.223	97.58	124.05	145.31	171.83	207.90	238.00	287.97	329.66	398.86	456.61	1.50	13.0	10.5	8.38	9.00	4.00	6.25
3	MP1500	58.223	97.58	124.05	145.31	171.83	207.90	238.00	287.97	329.66	398.86	456.61	1.50	13.5	11.0	9.00	9.75	4.75	7.25
	MP1625	68.497	114.79	145.95	170.95	202.15	244.59	280.00	338.78	387.83	469.25	537.19	1.62	13.5	11.0	9.00	9.88	4.75	7.25
	MP1750	78.283	131.19	166.79	195.37	231.03	279.53	320.00	387.18	443.24	536.29	613.93	1.75	13.5	11.0	9.00	9.88	4.75	7.25
4	MP1750	78.283	131.19	166.79	195.37	231.03	279.53	320.00	387.18	443.24	536.29	613.93	1.75	16.0	14.0	8.88	9.75	4.75	8.00
	MP1875	88.068	147.59	187.64	219.79	259.91	314.47	360.00	435.58	498.64	603.32	690.67	1.87	16.0	14	8.88	9.75	4.75	8.00
	MP2000	103.235	173.01	219.96	257.65	304.67	368.63	422.00	510.59	584.52	707.23	809.62	2.00	16.0	14	11.2	12.2	6.00	16.0
	MP2125	114.978	192.69	244.98	286.95	339.32	410.56	470.00	568.67	651.00	787.67	901.71	2.12	16.0	14.0	11.2	12.2	6.00	16.0
	MP2250	124.763	209.09	265.83	311.37	368.20	445.50	510.00	617.07	706.41	854.71	978.45	2.25	16.0	14.0	11.2	12.2	6.00	16.0

Flow Rate (GPM) = K (PSI)<sup>0.47</sup>

<sup>1</sup> C dimension for 30° (NN) is larger \* Weights given are for 60°, 90° and 120°

**Standard Materials: Brass, 316 Stainless Steel, PVC, Polypropylene, and PTFE.** See chart on page 21 for complete list.

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