



WHIRL

MaxiPass™

Maximum Free Passage

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
- U.S. Patent

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°

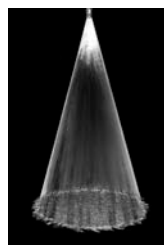
Flow rates: 2.75 to 3400 l/min

(Flow rates up to 17,000 l/min available; call BETE Applications Engineering for details.)

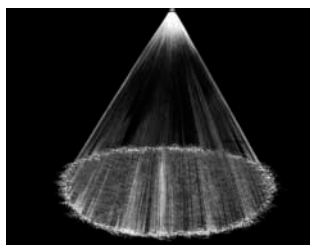


Wide Angle Metal

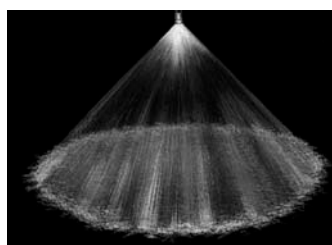
Design pressure 1.4 bar. Spray pattern data varies with pressure. Call BETE with any questions.



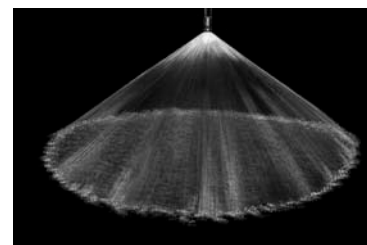
Full Cone 30° (NN)



Full Cone 60° (N)



Full Cone 90° (M)



Full Cone 120° (W)

Dimensions are approximate. Check with BETE for critical dimension applications.

MaxiPass Flow Rates and Dimensions

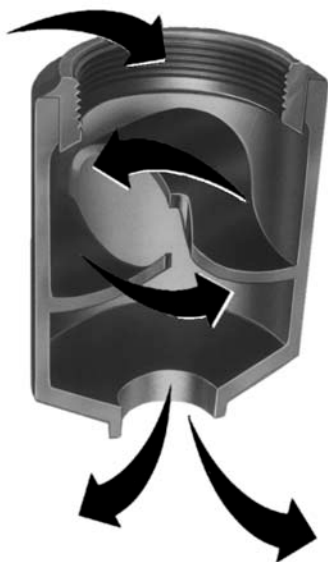
Full Cone, 30° (NN), 60° (N), 90° (M) and 120° (W) Spray Angles, 3/8" to 4" Pipe Sizes, BSP or NPT

Male or Female Pipe Size	Nozzle Number	K Factor	LITERS PER MINUTE @ BAR								Approx. Free Passage Dia. (mm)	Approx. Dimensions (mm) Overall Length					Wt.** (kg) Metal
			0.2 bar	0.3 bar	0.5 bar	0.7 bar	1 bar	2 bar	3 bar	5 bar		30° A	60° A	90° A	120° A	B	
3/8	MP125	5.53	2.60	3.14	3.99	4.68	5.53	7.66	9.27	11.8	3.18	76.2	38.1	38.1	38.1	22.2	0.09
	MP156	8.79	4.13	4.99	6.35	7.43	8.79	12.2	14.7	18.7	3.97						0.09
	MP187	12.7	5.96	7.21	9.17	10.7	12.7	17.6	21.3	27.1	4.76						0.07
1/2	MP187	12.7	5.96	7.21	9.17	10.7	12.7	17.6	21.3	27.1	4.76	102	47.6	47.6	47.6	25.4	0.13
	MP218	20.2	9.48	11.5	14.6	17.1	20.2	28.0	33.9	43.0	5.56						0.11
	MP250	22.7	10.7	12.9	16.4	19.2	22.7	31.4	38.0	48.4	6.35						0.11
3/4	MP281	27.9	13.1	15.8	20.1	23.6	27.9	38.6	46.8	59.4	7.14	102	63.5	60.3	63.5	31.8	0.23
	MP312	33.8	15.9	19.2	24.4	28.6	33.8	46.8	56.6	72.0	7.94						0.23
	MP343	41.4	19.4	23.5	29.9	35.0	41.4	57.3	69.4	88.2	8.73						0.20
	MP375	48.8	22.9	27.7	35.2	41.3	48.8	67.6	81.8	104	9.53						0.20
1	MP375	48.8	22.9	27.7	35.2	41.3	48.8	67.6	81.8	104	9.53	111	74.6	74.6	74.6	38.1	0.35
	MP406	58.5	27.5	33.2	42.2	49.2	58.5	81.0	98.0	125	10.3						0.33
	MP437	68.4	32.1	38.8	49.4	57.8	68.4	94.7	115	146	11.1						0.33
1 1/4	MP437	68.4	32.1	38.8	49.4	57.8	68.4	94.7	115	146	11.1	137	85.9	85.9	85.9	50.8	0.61
	MP500	87.9	41.3	49.9	63.5	74.3	87.9	122	148	187	12.7						0.61
	MP531	97.6	45.8	55.4	70.5	82.5	97.6	135	164	208	13.5						0.61
	MP562	107	50.2	60.8	77.3	90.5	107	148	179	228	14.3						0.61
1 1/2	MP562	107	50.2	60.8	77.3	90.5	107	148	179	228	13.97	173	111	111	111	57.2	0.91
	MP593	122	57.3	69.3	88.1	103	122	169	205	260	15.1						0.91
	MP625	130	61.0	73.8	93.9	110	130	180	218	277	15.9						0.91
	MP656	158	74.2	89.7	114	134	158	219	265	337	16.7						0.91
	MP687	166	77.9	94.3	120	140	166	230	278	354	17.5						0.91

Flow Rate (l/min) = K (bar)^{0.47} ** 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).

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



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

To correct flow for fluids with a Specific Gravity other than 1, use this formula:

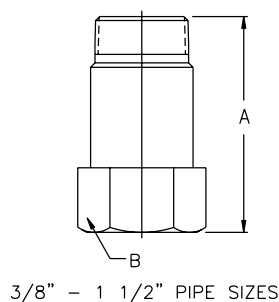
$$\left(\frac{Q_2}{Q_1}\right) = \sqrt{\frac{SG_1}{SG_2}}$$



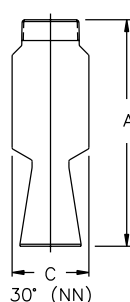
**MaxiPass™
Free Passage**

**Traditional Full Cone
Free Passage**

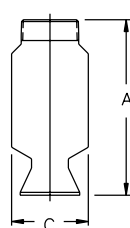
A comparison of the free passage available with the BETE MaxiPass nozzle compared to the free passage of a traditional full cone nozzle. The BETE MaxiPass is designed to pass solid particles that are 2-3 times larger in diameter than particles that will pass through a traditional full cone nozzle.



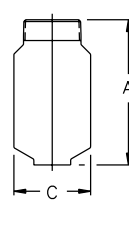
3/8" - 1 1/2" PIPE SIZES



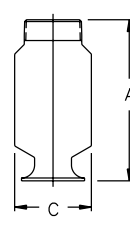
30° (NN)



60° (N)



90° (M)



120° (W)

For plastic dimensions, please call BETE Customer Service.

Dimensions are approximate. Check with BETE for critical dimension applications.

MaxiPass Flow Rates and Dimensions

Full Cone, 30°(NN), 60°(N), 90°(M) and 120°(W) Spray Angles, 3/8" to 4" Pipe Sizes, BSP or NPT

Male or Female Pipe Size	Nozzle Number	K Factor	LITERS PER MINUTE @ BAR								Approx. Free Passage Dia. (mm)	Approx. Dimensions (mm) Overall Length					Wt.** (kg) Metal
			0.2 bar	0.3 bar	0.5 bar	0.7 bar	1 bar	2 bar	3 bar	5 bar		30° A	60° A	90° A	120° A	C ¹	
2	MP750	202	94.8	115	146	171	202	280	339	430	19.1	210	178	146	159	66.8	1.59
	MP812	221	104	126	160	187	221	306	370	471	20.6	210	183	146	159	66.8	1.59
	MP875	273	129	155	197	231	273	378	458	582	22.2	210	183	146	159	66.8	1.59
	MP937	306	144	174	221	259	306	424	513	652	23.8	229	194	152	165	82.6	1.70
	MP1000	358	168	203	259	303	358	496	600	763	25.4	262	194	152	168	82.6	1.70
	MP1125	439	206	249	317	371	439	608	736	935	28.6	262	194	152	171	82.6	1.70
2 1/2	MP1000	358	168	203	259	303	358	496	600	763	25.4	262	194	152	168	82.6	2.04
	MP1125	439	206	249	317	371	439	608	736	935	28.6	267	213	165	178	82.6	2.04
	MP1250	527	247	299	381	446	527	730	883	1120	31.5	305	244	165	181	82.6	2.04
	MP1375	632	297	359	456	535	632	875	1060	1350	34.9	305	244	213	229	102	2.84
	MP1500	774	363	440	559	655	774	1070	1230	1650	38.1	330	267	213	229	102	2.84
3	MP1500	774	363	440	559	655	774	1070	1230	1650	37.1	343	279	229	248	121	3.29
	MP1625	911	428	517	658	770	911	1260	1530	1940	41.3	343	279	229	251	121	3.29
	MP1750	1040	488	591	751	880	1040	1440	1740	2220	44.5	343	279	229	251	121	3.29
4	MP1750	1040	488	591	751	880	1040	1440	1740	2220	44.5	406	356	225	248	121	3.63
	MP1875	1170	549	664	845	989	1170	1620	1960	2490	47.6	406	356	225	248	121	3.63
	MP2000	1370	643	778	989	1160	1370	1900	2300	2920	49.8	406	356	286	311	152	7.26
	MP2125	1530	718	869	1100	1290	1530	2120	2560	3260	54.0	406	356	286	311	152	7.26
	MP2250	1660	779	943	1200	1400	1660	2300	2780	3540	57.2	406	356	286	311	152	7.26

Flow Rate (l/min) = K (bar)^{0.47} ¹C dimension for 30° (NN) is larger **Weights given are for 60°, 90° and 120°

Standard Materials: Brass, 316 Stainless Steel, PVC, Polypropylene, and PTFE.

Spray angle performance varies with pressure. Contact BETE for specific data on critical applications.