TurboMix™

TurboMix™ Eductor Mixing Nozzle

DESIGN FEATURES

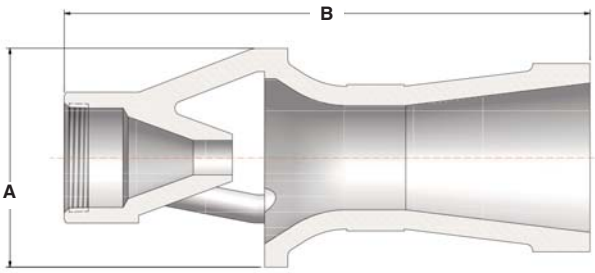
- Effective, economical way to circulate liquids in closed or open tanks
- No moving parts
- Inherently clog resistant
- Requires minimal maintenance
- Nozzle operation creates multiplying effect on fluid flow
- The volume of discharge liquid will be 3-5 times greater than the motive liquid pumped

SPRAY CHARACTERISTICS

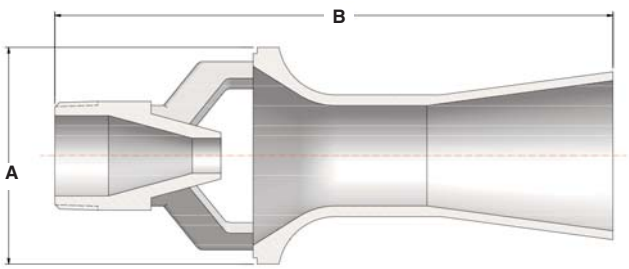
- Cone-shaped plume

Flow rates: 26.7 to 12000 l/min (motive)

Metal



Metal



Plastic

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

TurboMix™ *in Molded Plastic*

NPT or BSP Connection Size		TurboMix Number	K Factor	Motive Flow Rate LITERS PER MINUTE @ BAR* 0.7 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	3.5 bar	Dimensions (mm) A	B
Male	3/8	TM73	33.2	27.8	33.2	40.7	47	52.5	57.6	62.2	54	114
	1/2	TM120	54.3	45.4	54.3	66.5	76.7	85.8	94	101	64	165
	3/4	TM137	62.4	52.2	62.4	76.4	88.2	98.6	108	117	73	162
	1	TM240	109	90.8	108	133	153	172	188	203	89	241
	1 1/2	TM340	155	130	155	190	219	245	269	290	114	248

Standard Material: Glass-filled Polypropylene. ***BAR** = supply pressure at the TurboMix minus the pressure in the tank

TurboMix™ *in Metal*

NPT or BSP Connection Size		TurboMix Number	K Factor	Motive Flow Rate LITERS PER MINUTE @ BAR* 0.7 bar	1 bar	1.5 bar	2 bar	3 bar	5 bar	7 bar	Dimensions (mm) A	B
Male	3/8	TM70	31.9	26.7	31.9	39.1	45.1	55.3	71.4	84.4	43	108
	1/2	TM110	50.1	41.9	50.1	61.3	70.8	87.0	112	132	55	133
	3/4	TM150	68.4	57.2	68.4	83.7	96.7	118	153	181	67	159
	1	TM230	105	87.7	105	128	148	182	234	277	83	200
Female	1 1/2	TM320	146	122	146	179	206	253	326	386	97	233
	2	TM620	282	236	282	345	399	489	631	746	121	286
	3	TM1500	684	572	684	837	967	1180	1530	1810	146	492
Flanged (PN6)	4	TM2510	1130	950	1130	1390	1610	1970	2540	3000	213	864
	6	TM6010	2720	2270	2720	3330	3840	4710	6080	7190	321	1320
	8	TM10050	4550	3800	4550	5570	6430	7870	10200	12000	416	1730

Motive Flow Rate (l/min) = $K\sqrt{bar}$

Standard Materials: Brass, Carbon Steel, 316 Stainless Steel. *BAR = supply pressure at the TurboMix minus the pressure in the tank

TurboMix

Recent Applications

Fire protection water storage tanks

The water in these tanks is stagnant, often stays there for an extended period of time, and can form thermally stratified layers. Creating movement in the tank decreases bacterial growth. You can also use the nozzles for efficient adding and mixing of chlorine or other water additives. Mixing also reportedly decreases ice formation in winter by keeping the water moving.

Clearing sediment

A customer is pumping water from a river into a pond and wants to keep the area under and around the pump clear of sediment. TurboMix eductor nozzles are arranged to keep water flowing across these surfaces and hence keep silt from settling. A similar application in enclosed sump pits is frequent.

Clearing sludge

A customer has a tank in which sludge deposits on the bottom. The mechanical scraper system currently in use is prone to breakage and another removal system is desired. The customer is looking at banks of TurboMix eductor nozzles to push the sludge along the bottom into a removal trough. Using a fluid driven system over a mechanical system minimized downtime as the fluid system has no moving parts in the tank.

General particle agitation

Many applications are for the usual role of the TurboMix, which is to keep particles in suspension by essentially stirring the tank.

Material injection and mixing

A customer had the typical pump-around configuration to keep the liquid in the tank circulating. The situation also existed where they needed to inject a chemical into the tank to keep it within limits. They added an injection port into the pump-around line so that the sulfuric acid could be injected into the line and then mixed efficiently as it emitted through the TurboMix.

Breaking up a grease layer

A bio-fuel customer had a tank in which a layer of grease would form at the surface and harden. They set up a system with a sump pump and TurboMix eductor nozzles pointed at the surface to break up the grease layer and keep it from solidifying into a single mass.