



# TE Series Eductor Mixing Nozzle

## DESIGN FEATURES

- Effective, economical way to circulate liquids in closed or open tanks
- No moving parts
- Non clog
- No maintenance
- Ventury multiplying effect

## SPRAY CHARACTERISTICS

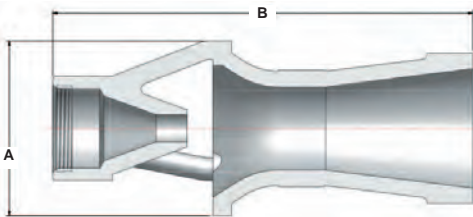
- Cone-shaped plume
- Flow rates:** 26.7 to 12000 l/min
- The volume of discharge liquid will be 3-5 times greater than the motive liquid pumped



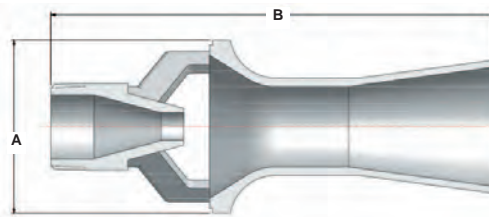
Plastic



Stainless steel



Metal



Plastic

## POLYPROPYLENE MOULDED PLASTIC

Connection Size	NPT	Part Number	K Factor	LITERS PER MINUTE @ BAR							Dimensions (mm.)	
				0.7 BAR	1 BAR	1.5 BAR	2 BAR	2.5 BAR	3 BAR	3.5 BAR	A	B
Male	3/8	TE73	33.2	Motive 27.8 Discharge 139	33.2 166	40.7 204	47 235	52.5 263	57.6 288	62.2 311	54	114
	1/2	TE120	54.3	Motive 45.4 Discharge 227	54.3 272	66.5 333	76.7 384	85.8 429	94 470	101 508	64	140
	3/4	TE137	62.4	Motive 52.2 Discharge 261	62.4 312	76.4 382	88.2 441	98.6 493	108 540	117 585	73	162
	1	TE240	109	Motive 90.8 Discharge 454	108 543	133 665	153 768	172 858	188 940	203 1015	89	191
	1 1/2	TE340	155	Motive 130 Discharge 649	155 775	190 950	219 1095	245 1225	269 1345	290 1450	114	248

Material: Glass-Filled Polypropylene.

## METAL

Connection Size	NPT	Part Number	K Factor	LITERS PER MINUTE @ BAR							Dimensions (mm)	
				0.7 BAR	1.5 BAR	2 BAR	2.5 BAR	3 BAR	5 BAR	7 BAR	A	B
Male	3/8	TE70	31.9	Motive 26.7 Discharge 107	31.9 128	39.1 156	45.1 180	55.3 221	71.4 286	84.4 338	44	114
	1/2	TE110	50.1	Motive 41.9 Discharge 168	50.1 200	61.3 245	70.8 283	87 348	112 448	132 528	51	127
	3/4	TE150	68.4	Motive 57.2 Discharge 229	68.4 274	83.7 335	96.7 387	118 472	153 612	181 724	57	152
	1	TE230	105	Motive 87.7 Discharge 351	105 419	128 514	148 593	182 728	234 936	277 1108	70	165
Female	1 1/2	TE320	146	Motive 122 Discharge 488	146 584	179 716	206 824	253 1010	326 1300	386 1540	76	184
	2	TE620	282	Motive 236 Discharge 944	282 1130	345 1380	399 1600	489 1960	631 2520	746 2990	108	286
	3	TE1500	684	Motive 572 Discharge 2290	684 2740	837 3350	967 3970	1180 4740	1530 6120	1810 7240	165	492
150# Flange (PN6)	4	TE2510	1130	Motive 950 Discharge 3800	1130 4540	1390 5560	1610 6420	1970 7870	2540 10200	3000 12000	213	864
	6	TE6010	2720	Motive 2270 Discharge 9100	2720 10900	3330 13300	3840 15400	4710 18800	6080 24300	7190 28800	321	1321
	8	TE10050	4550	Motive 3800 Discharge 15200	4550 18200	5570 22300	6430 25700	7870 31500	10200 40700	12000 48000	416	1727

Motive Flow Rate (LPM) =  $K \sqrt{\text{BAR}}$

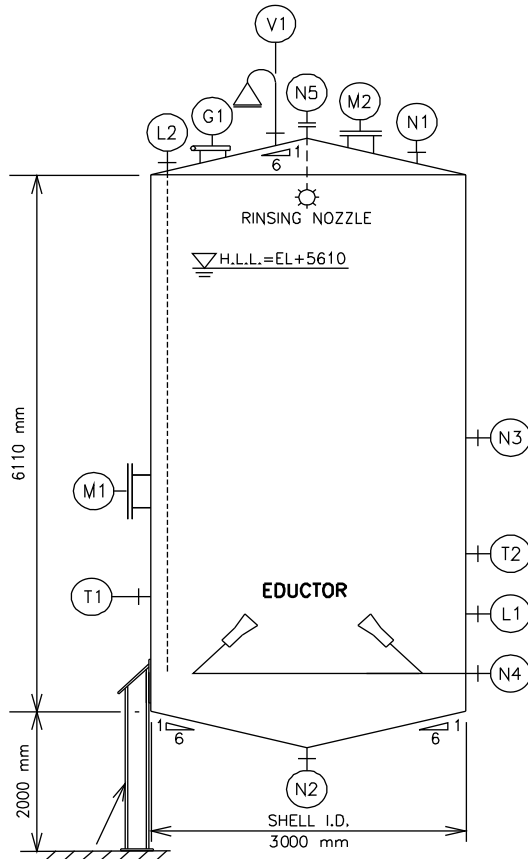
Material: 316 Stainless Steel





# EDUCTOR CALCULATION

## SAMPLE EDUCTOR CALCULATION



A hydraulic oil (S.G. = 1.21), preheat tank is 6.1m high and 3.0m in diameter (Approx. 44,420 Liter).  
Two (2) eductors in opposing direction are installed for a 10 minutes circulation to ensure homogenous mixing

- 1) The static discharge pressure to overcome is:  
 $6.1 \times 1.21 = 7.31 \text{ m of water}$   
 $= 0.738 \text{ Bar}$
- 2) Total required recirculation flowrate is:  
 $44,420 / 10 = 4,420 \text{ liter/min}$
- 3) Model : TE6010 eductor has a circulated flowrate of 2,270 liter/min @0.7 Bar is selected  
 Model : TE6010  
 Size : 6 inch 150# Flange (PN6)  
 Motive flow : 2,270 liter/min @0.7 Bar  
 Material : 316 stainless steel  
 Qty : 2 pieces in opposing direction

Therefore, **total (2 qty) Model TE6010** is used with 4,540 liter/min @ 0.7 bar at 10 minutes circulation

### NOZZLES & MANHOLES

MARK	QTY	SIZE	RATING AND FACING	SERVICE	NOTES	REMARKS
N1	1	4" (HOLD)	ASME 150# RF	Inlet Nozzle	NOTE M-11	W/ Riser Pipe
N2	1	4" (HOLD)	ASME 150# RF	Outlet Nozzle		
N3	1	3" (HOLD)	ASME 150# RF	Pres. Bal. Inlet Nozzle	NOTE M-11	W/ Riser Pipe
N4	MR	MR / 3" (HOLD)	ASME 150# RF	Eductor Inlet	ATTACHMENT-2 & NOTE M-8	With Eductor
N5	1	4"(HOLD)	ASME 150# RF	Rinsing Nozzle Inlet	NOTE M-8 & M-11	W/ Riser Pipe
V1	1	2"	ASME 150# RF	Vent	NOTE M-9	
L1	1	3"	ASME 150# RF	Level Transmitter	NOTE P-2 & M-10	
L2	1	4"	ASME 150# RF	Level Switch	NOTE P-3, M-8, M-10 & M-16	With Stilling Well
T1	1	1-1/2"	ASME 150# RF	Temp Transmitter	NOTE M-10 & M-20	
T2	1	1-1/2"	ASME 150# RF	Thermowell	NOTE M-10 & M-20	
G1	1	6"	ASME 150# RF	Gauge Hatch	NOTE M-5 & M-6	With cover
M1	1	24"	API 650	Shell Manhole	NOTE M-5	With cover and davit
M2	1	20"	API 650	Roof Manhole	NOTE M-5	With cover and davit