

# EDUCTORS



## EDUCTOR PRINCIPLES:

BEX eductors use a unique venturi design which enables smaller pumps to circulate large volumes of tank solution. The eductor will circulate four to five litres of solution for each litre pumped.

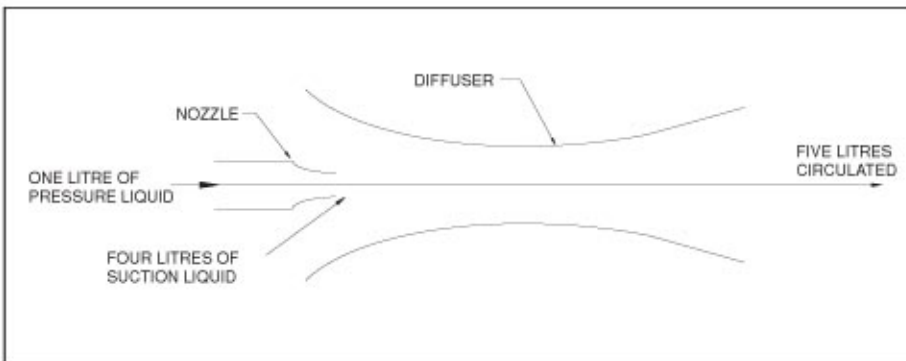
BEX eductors are used for mixing chemicals, suspending solids, adjusting pH, "sweeping" debris or sludge toward a filter intake and many other useful applications.

## CONSTRUCTION:

Standard materials are cast iron, 316 SS, PVDF (Kynar®) and glass-filled polypropylene. Other materials are available upon request.

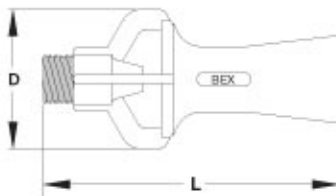
## TYPICAL APPLICATIONS:

- Plating Tanks
- Cleaning Tanks
- Phosphating Tanks
- E-coat Tanks
- Fertilizer Tanks
- Pulp Tanks
- Sludge Tanks
- Paint Booths
- Anodizing Tanks
- Cooling Towers
- Decorative Fountains



Sizes from 1/4" to 3" BSPT (NPT models also available)

## MOLDED PLASTIC MODELS



### DIMENSIONS

MODEL NUMBER	Pipe Size	Dim. L (cm)	Dim. D (cm)
T00MP	1/4 BSPT Male	7.9	3.8
T0MP	3/8 BSPT Male	11.4	5.4
T2MP	3/4 BSPT Male	16.2	7.6
T3MP	1 BSPT Male	21.6	9.5
T4MP	1 1/2 BSPT Male	25.1	11.7

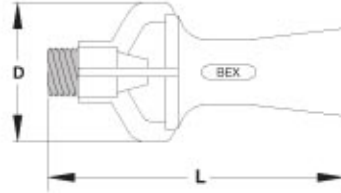
MODEL NUMBER	MAXIMUM FREE PASSAGE (mm)	NOZZLE FLOW (L/min) AT VARIOUS PRESSURES (bar)							
		0.7 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	3.5 bar	4 bar
T00MP	4.78	12.1	14.4	17.8	20.3	22.8	24.9	27.0	28.9
T0MP	7.32	28.6	34	42	48	54	59	64	68.4
T2MP	9.80	51	62	75	87	97	107	115	123
T3MP	12.2	80	96	117	135	151	166	179	191
T4MP	15.5	126	150	184	213	238	261	281	301

## EDUCTOR CIRCULATION RATIO OF SUPPLY TO DISCHARGE IS 1:5

The capacity table provides the flow of water through the nozzle orifice. To determine circulation, multiply this value by five (5).

**AVAILABLE IN GLASS REINFORCED POLYPROPYLENE AND PVDF (KYNAR®)**

## BEX 316SS INVESTMENT CAST TANK MIXING EDUCTORS



### CONSTRUCTION:

These precision investment cast models are available in 316 stainless steel.

The capacity table provides the flow of water through the nozzle orifice. To determine discharge, multiply this value by five (5).

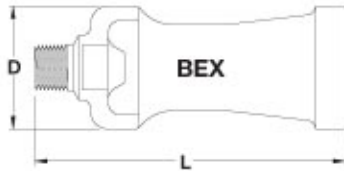
### DIMENSIONS

MODEL NUMBER	Pipe Size	Dim. L (cm)	Dim. D (cm)
T0M	3/8 BSPT Male	11.4	5.4
T2M	3/4 BSPT Male	16.2	10.2
T3M	1 BSPT Male	21.6	9.5
T4M	1 1/2 BSPT Male	25.1	11.7

MODEL NUMBER	MAXIMUM FREE PASSAGE (mm)	NOZZLE FLOW (L/min) AT VARIOUS PRESSURES (bar)							
		0.7 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	3.5 bar	4 bar
T0M	7.32	29	34	42	48	54	59	64	68
T2M	9.80	51	62	75	87	97	107	115	123
T3M	12.2	80	96	117	135	151	166	179	191
T4M	15.5	126	150	184	213	238	261	281	301

## BEX CAST IRON & SPECIAL "SAND CAST" ALLOYS

Includes 2" & 3" 316SS models



Sand cast models include cast iron, alloy 20 and larger (2" and 3") 316SS models. Special alloys may be available upon request.

The capacity table provides the flow of water through the nozzle orifice. To determine discharge, multiply this value by four (4).

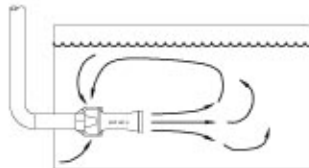
### DIMENSIONS

MODEL NUMBER	Pipe Size	Dim. L (cm)	Dim. D (cm)
T0M	3/8 BSPT Male	11.4	4.5
T2M	3/4 BSPT Male	17.2	6.0
T22M	3/4 BSPT Male	17.2	6.0
T3M	1" BSPT Male	19.4	7.3
T4	1 1/2 BSPT Female	24.1	9.5
T5	2" BSPT Female	31.1	12.4
T6	3" BSPT Female	43.5	19.1

MODEL NUMBER	MAXIMUM FREE PASSAGE (mm)	NOZZLE FLOW (L/min) AT VARIOUS PRESSURES (bar)							
		0.7 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	3.5 bar	4 bar
T0M	7.32	28.6	34	42	48	54	59	64	68
T2M	9.80	51	62	75	87	97	107	115	123
T22M	10.7	62	74	90	104	117	128	138	148
T3M	12.2	80	96	117	135	151	166	179	191
T4M	15.5	126	150	184	213	238	261	281	301
T4	15.5	126	150	184	213	238	261	281	301
T5	19.8	210	251	307	355	396	434	469	501
T6	30.2	480	574	703	812	908	995	1074	1149

## USING BEX EDUCTORS AS STEAM SPARGERS

(for 1", 1 1/4", 1 1/2" and 2" pipe)



### APPLICATIONS:

BEX Steam Spargers heat water and other liquids quickly and efficiently by direct injection of steam. They are designed for tank immersion and eliminate water hammer noise.

### SELECTING THE RIGHT EDUCTOR:

(1) Calculate the required steam flow rate from the following equation:

$$\text{Steam Required (kg/hr)} = \frac{\text{Temp. increase of water (}^{\circ}\text{C)} \times \text{weight of water (kg)} \times \text{Time allowed to heat tank (hrs.)} \times 556}{1000}$$

(2) Knowing the steam flow rate and the steam pressure available at the sparger, choose the sparger(s) from the table below. Using several small spargers may be advisable to using one large sparger.

(3) To help eliminate steam hammer, ensure that the minimum absolute pressure of the eductor is at least twice the absolute pressure inside the tank, at eductor depth.

Note:

- 1 litre of water = 1 kg
- 1 cubic metre of water = 1000 kg

MODEL NUMBER	MAXIMUM FREE PASSAGE (mm)	STEAM CAPACITIES (kg/hr) AT VARIOUS STEAM PRESSURES (bar)							
		1.5 bar	2 bar	3 bar	4 bar	5 bar	6 bar	8 bar	10 bar
T0M	7.32	62	64	68	72	76	79	87	95
T2M	9.80	97	100	106	112	118	124	136	148
T3M	12.2	161	166	176	186	196	206	226	245
T4	15.5	270	278	295	312	328	345	378	411
T5	19.8	410	422	448	473	498	524	574	625
T6	30.2	903	931	987	1043	1099	1154	1266	1377