

## LIQUID JET EJECTOR - VENTILATOR

### Suction of large volumes of gas

Liquid jet ejector ventilators are used to entrain and convey large volumes of air, gas, or steam.

Designed to operate by aspirating gas flows with small pressure differences, they are suitable for compression values between 1 and 20 mbar.

The vacuum is generated by the kinetic energy of the motive liquid, which, passing through a specially sized spiral nozzle, creates a depression of a few mbar in the suction chamber.

The gas is accelerated by the exchange of momentum with the motive liquid, and the mixture is sent to a separation tank located downstream of the ejector.

They are installed vertically with top-to-bottom flow.

Ideal for transporting gases without the aid of mechanical ventilators or blowers and for use in ATEX environments.

Liquid ejectors, also known as scrubbers, are widely used for industrial gas purification, particularly for:

- Removal of fine dust and particulate matter, fumes, and odours
- Treatment of corrosive and hazardous gases
- Removal of water-soluble substances and vapours
- Gas quenching
- Recovery of substances from gases

Particulate contaminants are removed by impact with the motive fluid droplets, which have a high velocity relative to the gas flow.

Gases and odours are eliminated by absorption and/or chemical reaction between the gases and the scrubbing fluid.

When properly matched to the application, these scrubbers are naturally able to withstand the high temperatures, heavy contaminant loads, and corrosive conditions encountered.

The standard construction materials are: PVC, PP, carbon steel, and stainless steel (special materials available upon request).



### Engine fluid consumption

The table below indicates, for each ejector size, the water consumption at three different driving pressure values: 2, 4 and 6 relative bar.

CONNECTIONS Motore- aspirazione-scarico	Motive pressure		
	2 bar g.	4 bar g.	6 bar g.
15 - 40 - 40	0.6	0.85	1.05
20 - 50 - 50	0.9	1.25	1.55
20 - 65 - 65	1.25	1.75	2.15
25 - 80 - 80	1.8	2.55	3.1
25 - 100 - 100	2.65	3.7	4.55
32 - 125 - 125	4.05	5.65	7
40 - 150 - 150	5.65	7.85	9.8
50 - 200 - 200	9.65	13.5	16.75



*Spray nozzle section view*

*Tab.1*

### Air suction volume

For each ejector size, the intake flow rates are shown, expressed in m<sup>3</sup>/h, as the driving pressure and compression vary.

The intake ratio, expressed in m<sup>3</sup> of gas per m<sup>3</sup> of water, is:

- independent of the density of the intake gases
- increases as the driving pressure increases.
- decreases as the required compression rate increases.

Motive Pressure	2 bar g.		4 bar g			6 bar g		
	2	5	4	8	12	6	12	18
Compression (mbar)								
15 - 40 - 40	44	21	65	41	18	83	49	22
20 - 50 - 50	72	33	106	67	31	136	80	36
20 - 65 - 65	110	51	162	102	46	208	123	55
25 - 80 - 80	157	73	232	145	66	297	174	79
25 - 100 - 100	243	114	360	225	103	461	272	123
32 - 125 - 125	389	182	576	360	164	738	435	196
40 - 150 - 150	535	249	792	495	226	1014	598	270
50 - 200 - 200	972	454	1440	900	411	1843	1087	490

*Tab.2*

*Example: A flow rate of 170 m<sup>3</sup>/h of air is required with a compression value of 12 mbar.*

*Table 2 shows that the 25-80-80 ejector meets the required flow rate at a driving pressure of 6 bar g.*

*The driving water consumption is 3.1 m<sup>3</sup>/h (Table 1).*