

## Ventilators

Ventilators are jet pumps which work with the same principal of ejectors but are applicable to remove high amount of volume flow rates and to create small pressure difference between discharge and suction. The pressure energy of the motive medium in the motive nozzle converts to kinetic energy and it entrains the suction fluid. Motive medium of the ventilators, corresponding to the special application of equipment or available medium, can be steam, gas or liquid.

<u>General Usage</u>	<u>Typical Applications in Industries</u>
To convey large amount of suction gas against small pressure difference up to nearly 500 mbar.	<ul style="list-style-type: none"> <li>❖ Conveying different kinds of gases at small pressure difference in <u>Chemical Industry</u></li> <li>❖ <u>Boiler</u> burners ventilating</li> <li>❖ Emergency gas removal during power failures in <u>Steel Industry</u></li> <li>❖ Tank ventilating</li> <li>❖ A part of jet <u>scrubber</u> to remove the dust and absorb or cool the discharge gas</li> <li>❖ In <u>Chemical Factories</u> to deaerate reaction vessels, agitator vessels and other aggregates</li> <li>❖ In <u>leather, tobacco and textile industries</u> for the air circulation</li> </ul>

<u>Advantages</u>	
	<ul style="list-style-type: none"> <li>❖ No rotating part</li> <li>❖ Low maintenance cost</li> <li>❖ working with all types of fluids</li> <li>❖ Long lifetime</li> <li>❖ Safe and reliable operation</li> <li>❖ Manufactured from various materials</li> <li>❖ Simple Construction</li> </ul>

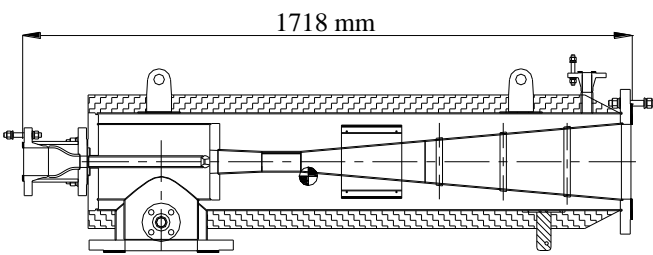
<u>Applicable Materials</u>	<u>Different Types</u>
<ul style="list-style-type: none"> <li>❖ Stainless Steel</li> <li>❖ Carbon Steel</li> <li>❖ PTFE</li> <li>❖ Special material such as Hastelloy</li> </ul>	<ul style="list-style-type: none"> <li>❖ <b>Steam-Gas Ventilator:</b> Steam as the motive medium removes gas in suction part.</li> <li>❖ <b>Gas-Gas Ventilator:</b> Gas is the motive medium to convey the suction gas.</li> <li>❖ <b>Liquid-Gas Ventilator:</b> High pressure liquid is applied as motive fluid to remove or convey the suction gas.</li> </ul>

<u>Design Codes/ Standards</u>	<u>Quality Assurance</u>
<ul style="list-style-type: none"> <li>❖ HEI Standard for Steam Jet Vacuum Systems</li> <li>❖ ASME Sec.VIII</li> <li>❖ ASME B.31.1</li> <li>❖ ASME B.31.3</li> </ul>	

<u>Kara Ventilators Advantages:</u>	
	<ul style="list-style-type: none"> <li>❖ Custom design</li> <li>❖ Performance Test at shop</li> </ul>

- ❖ Ability to produce with different types of materials proportional to corrosive/erosive medium or environment

### Specifications of one Type

Item	Steam Jet Ventilator		
Project	South Pars Gas Field Development Phase 17 & 18		
Purchaser	IPMI (Industrial Projects Management of Iran)		
Suction Flow Rate	Kg/hr	1044	
Pressure Rise	mbara	100	
Suction Connection	in	8''×10''	



### Previous Projects

Equipment photos / Operation photos / Applications photos