# Atmospheric Air Ejectors

Transvac manufactures a comprehensive range of Atmospheric Air Jet Ejectors used to extend the operating range of Liquid Ring Vacuum Pumps.

Atmospheric Air Jet Ejector
in carbon steel

## Advantages

- Allows operation at higher vacuum than the liquid Ring Pump can achieve alone
- No additional energy costs (motive air is free)
- Custom designed to suit individual pump characteristics
- No moving parts in Ejector
- Ejector virtually maintenance free
- Ejector silent in operation
- Materials to suit process
- Robust design
- Simple operation

Atmospheric Air Jet Ejector
in stainless steel

The inlet pressure of a Liquid Ring Pump is limited to approximately 30 mbar abs because of the vapour pressure of its seal liquid (usually water). The addition of an Atmospheric Air Jet Ejector enables the Liquid Ring Vacuum Pump to operate outside its cavitation range allowing operation down to nearly 4 mbar abs.

## Operation

In operation an Atmospheric Air Jet Ejector uses the energy available from the expansion of atmospheric air to the Liquid Ring Pump inlet pressure to drive the Ejector. Atmospheric air enters the Ejector and passes through the nozzle where the pressure energy is converted into kinetic energy. On leaving the nozzle at high velocity a region of low pressure is created in the suction chamber which entrains the process fluid. The two streams then combine within the throat of the Ejector before being decelerated in the outlet cone to recover pressure to suit the Liquid Ring Pump inlet capability.

Transvac Systems Ltd., Monsal House, 1 Bramble Way, Alfreton, Derbyshire, DE55 4RH, England
**Telephone:** +44 (0) 1773 831100 **Facsimile:** +44 (0) 1773 831123 Registered in England No. 1526398
**Email:** sales@transvac.co.uk **Web:** www.transvac.co.uk

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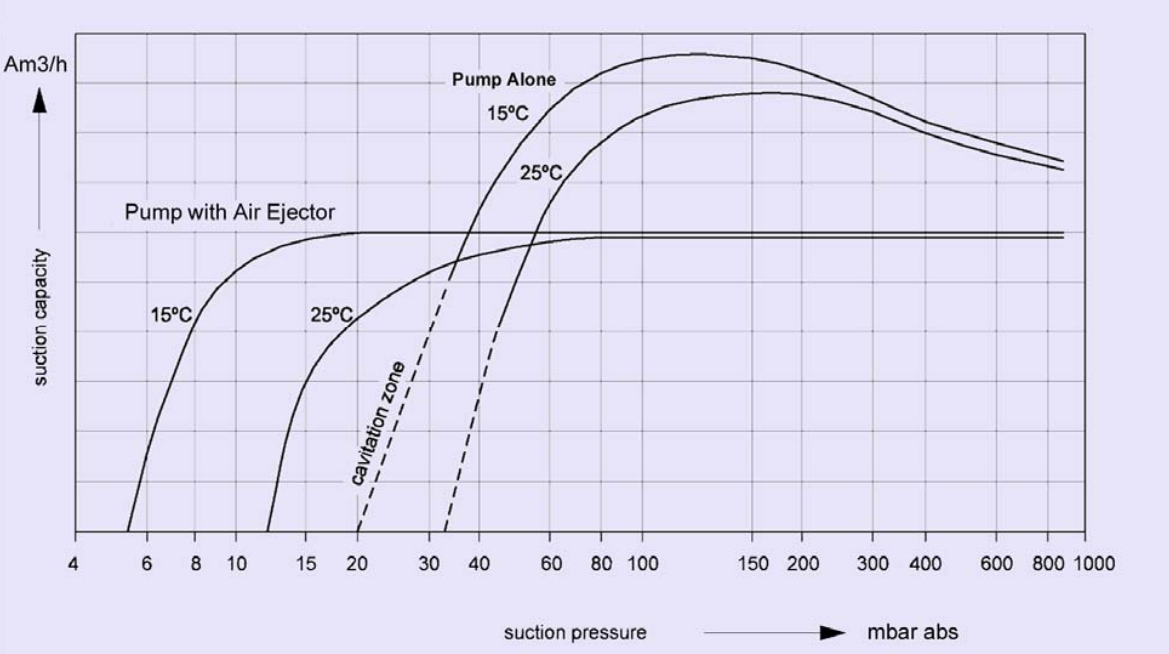
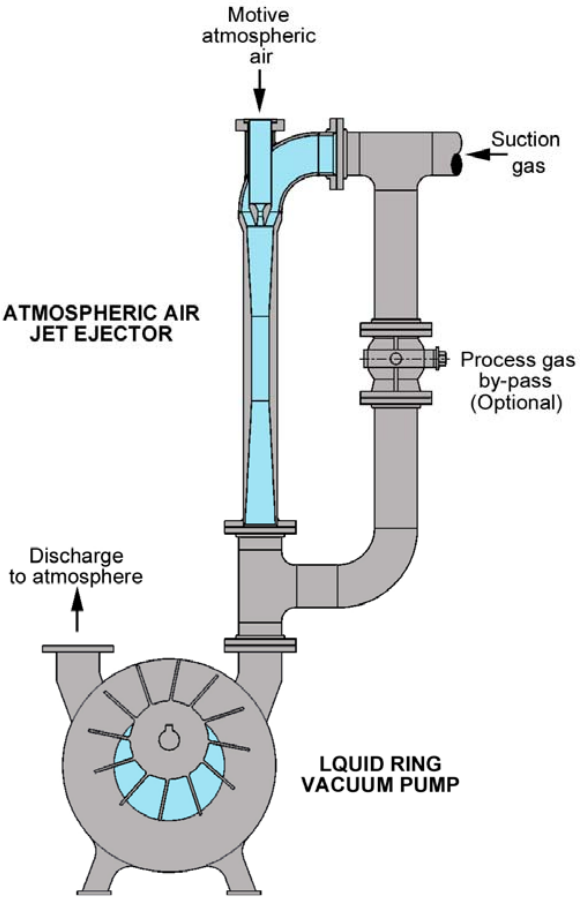



## Performance

The chart above shows the typical performance of a 2 stage Liquid Ring Pump operating alone with seal water at temperatures of 15$^0$C and 25$^0$C and when operating in combination with an Atmospheric Air Jet Ejector. A by-pass line can be installed around the Ejector when evacuation times are critical. All Transvac Ejectors are custom designed to suit each application to ensure maximum operating efficiency.




## Construction

Standard materials of construction include Carbon Steel, Stainless Steel, Polypropylene, PTFE and Titanium. Other materials are also available. Connections can be flanged or screwed. All of Transvac's design and manufacturing processes are designed to the latest European standards and quality assured and certified to BS EN ISO 9001:2015. Units are CE marked where applicable.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