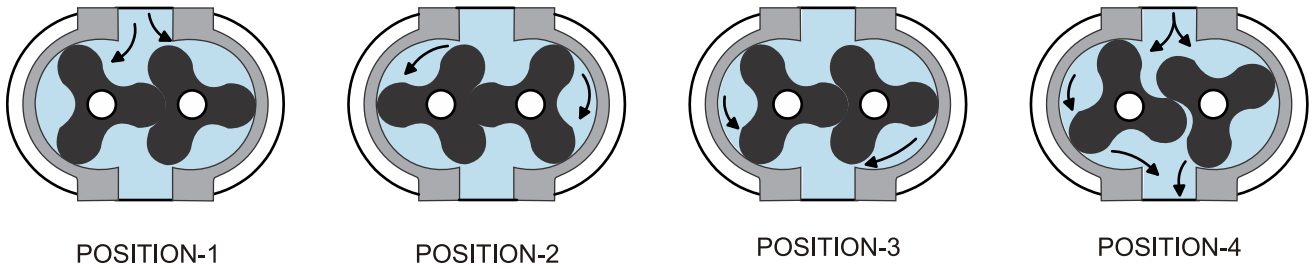


## EVEREST TRI LOBE ROTARY AIR BLOWER WORKING PRINCIPLE



Everest Tri-lobe Rotary Compressors/Blowers are positive displacement units, whose pumping capacity is determined by size, operating speed and pressure conditions. It employs two Tri-lobe impellers mounted on parallel shafts, rotating in opposite direction within a casing closed at the ends by side plates. As the impellers rotate, air is drawn into one side of the casing and forced out of the opposite side against the existing pressures. The differential pressure developed, therefore, depends upon the resistance of the connected system. The Blowers, being positive displacement type, do not develop pressure within the casing but the discharge pressure depends upon the system resistance / back pressure. Effective sealing of the compressor inlet area from the discharge area is accomplished by use of very small operational clearance, eliminating the need of any internal lubrication of the lobes. A pair of accurately machined alloy steel, hardened and ground timing gears maintain clearances between the impellers, during rotation. The air, thus delivered, is **100% OIL FREE**.

The pumping capacity of a lobe compressor, operating at constant speed remains relatively independent of inlet and discharge pressure variations. These Blowers are constant volume machines, which deliver a fixed discharge against the system back pressure. It is, therefore, essential to ensure that minimum pipeline restrictions, at the inlet and discharge, are imposed.

Adequate size piping and large radius bends ensure minimum line losses resulting in higher efficiency and low power consumption. Sudden change in pipeline cross section should also be avoided.

To change capacity, it is necessary either to change speed (energy saving) or vent some of the air into atmosphere (not energy saving). The air must not be recirculated from the discharge to suction as it may result in over heating. No attempt should ever be made to control the capacity of compressor by means of throttle valves in the intake or discharge piping. This increases the power load on the motor and may seriously damage the compressor. There is an increase in the discharge air temperature due to heat of compression. As a thumb rule the discharge air temperature increases @ 10 °C for every 0.1 Kg/cm<sup>2</sup> of  $\Delta P$  above the inlet temperature.

Our technology is so flexible, we can custom manufacture **Special Blowers, Vacuum Pumps & Systems** by alloying and cross linking diverse designs to suit individual requirements and import substitutes.



EVEREST PRODUCT RANGE Roots Blowers | Mechanical Vacuum Boosters | Dry Screw Vacuum Pumps | Acoustic Hoods | Industrial Vacuum Systems

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