

THE ROTARY VANE VACUUM PUMP

This pump is used as a high vacuum device and low pressure air system. The oil flooded variety needs expensive separation systems (filtration) in the discharge system and oil contamination can easily occur. The pump is quiet in operation, compact, and delivers a smooth flow of relatively clean compressed air, but is sensitive to suction contamination.

PRINCIPLE OF OPERATION

This type of pump consists of an eccentrically mounted rotor slotted to receive sliding blades which sub-divide the crescent shaped space between the rotor and cylinder into a number of compartments.

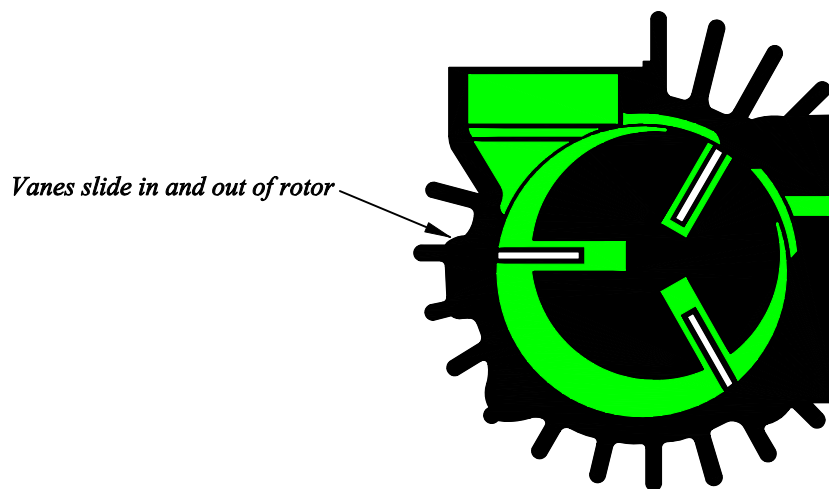
When the rotor is revolving, centrifugal force drives the blades out to contact the cylinder walls which trap the gas load at maximum volume position. The gas is gradually compressed during the rotation of the blades and finally discharges at the required compression ratio.

(See figure below)

The shaft and rotor assembly is supported at both ends by double row spherical bearings and is axially located by an angular contact ball thrust bearing which maintains the running clearances necessary for high volumetric efficiency.

Lubrication of the pump is accomplished by a direct couple lubricator which supplies oil to the bearings, glands and blades.

A non-return valve protects the pump against the reversal of air flow when stopped or running unloaded.



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