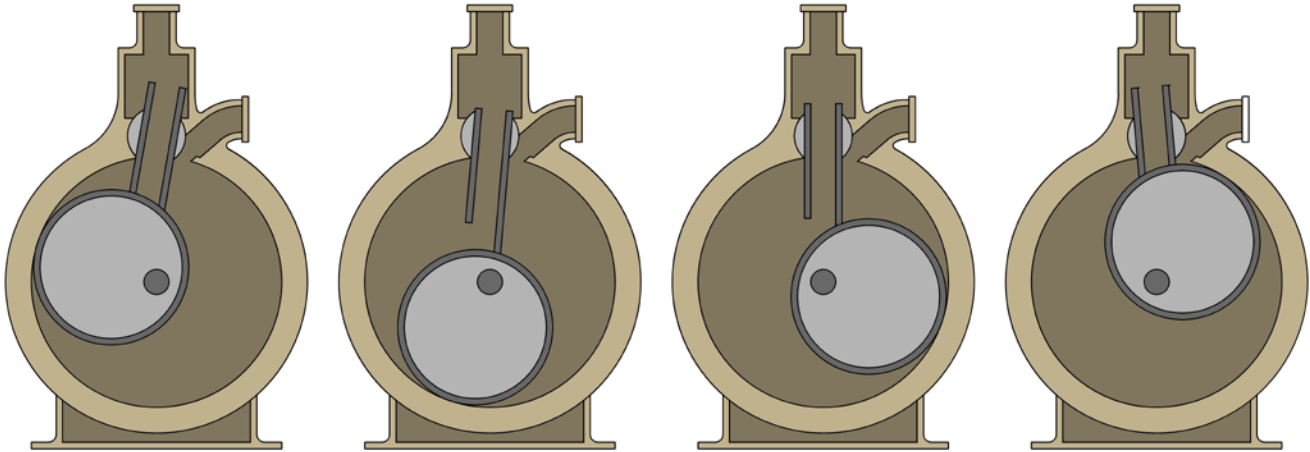


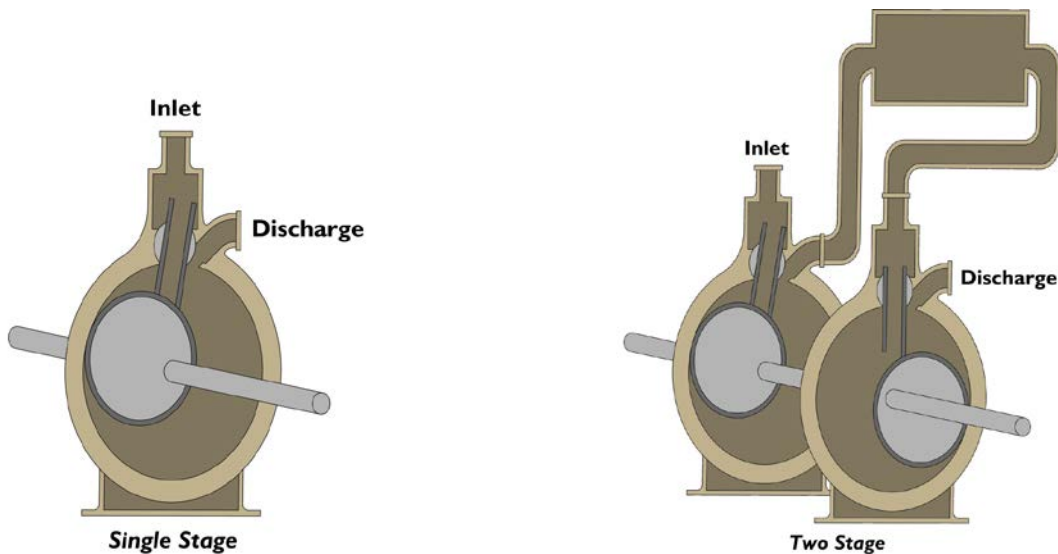
## ROTARY PISTON VACUUM PUMP

The standard single-stage rotary piston vacuum pump creates a vacuum with a piston that moves in a circular path. As it rotates, pressure is decreased on the inlet side and increased on the discharge side. A film of oil between the piston and the cylinder separates these two sides. Once the piston makes a complete cycle, the clearance volume is completely filled with oil, increasing the compression ratios within the pump. This design is what gives rotary piston pumps their deep vacuum levels and durability. Two-stage pump obtain a deeper vacuum level by utilizing two piston chambers in series.



**Intake Stroke**

**Discharge Stroke**



**Single Stage**

**Two Stage**

**Not suitable above 100 Torr**

**Not suitable above 10 Torr**

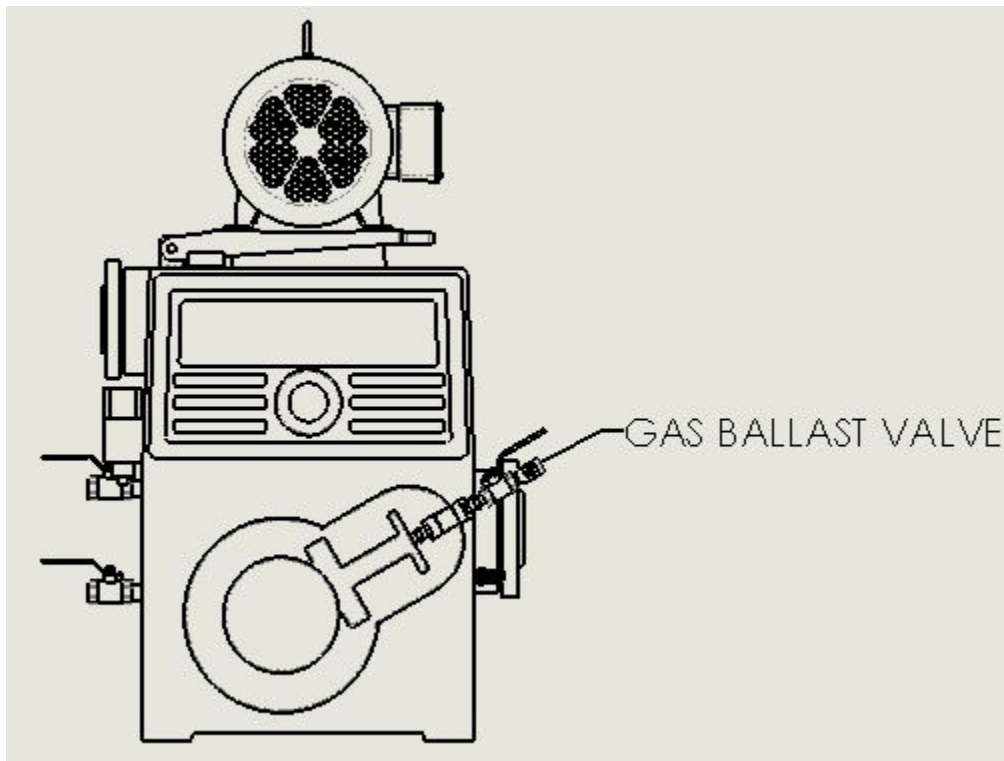


## **ROTARY PISTON VACUUM PUMP** (continued from page 1)

### **THE PRINCIPLE OF THE GAS BALLAST**

The purpose of the gas ballast is to enable condensable vapors to be discharged through the pump in order to prevent oil contamination by allowing ballast gas to mix with condensable vapors. Properly applied, it works well with water vapor and reasonably well with some other condensable vapors. The drawback of using the gas ballast is that it will limit the ultimate vacuum the pump can attain.

To engage, open the valve(s) depending on the degree of ballasting required to clear the condensable contamination from the oil supply. There will be a slight change in the sound of the pump and the base pressure will rise slightly. Excessive heat can be generated when the valve(s) are open and care must be given to ensure adequate ventilation/cooling water flow. Be sure the pump body temperature does not exceed 180° F as measured on the casting surface below the sight port.



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