R5 Series Vacuum Pump

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The various designs and ultimate pressures of R 5 type vacuum pumps allow the pumps to be easily and optimally adapted for any process. R 5 type vacuum pumps are designed for continuous operation and have been successfully used for many years in various applications.

Reliable
High quality materials and computerized manufacturing processes ensure high standards of quality in the product. The units incorporate direct drive by a standard motor. The inlet flange with integrated check valve prevents air admittance into the vacuum chamber.
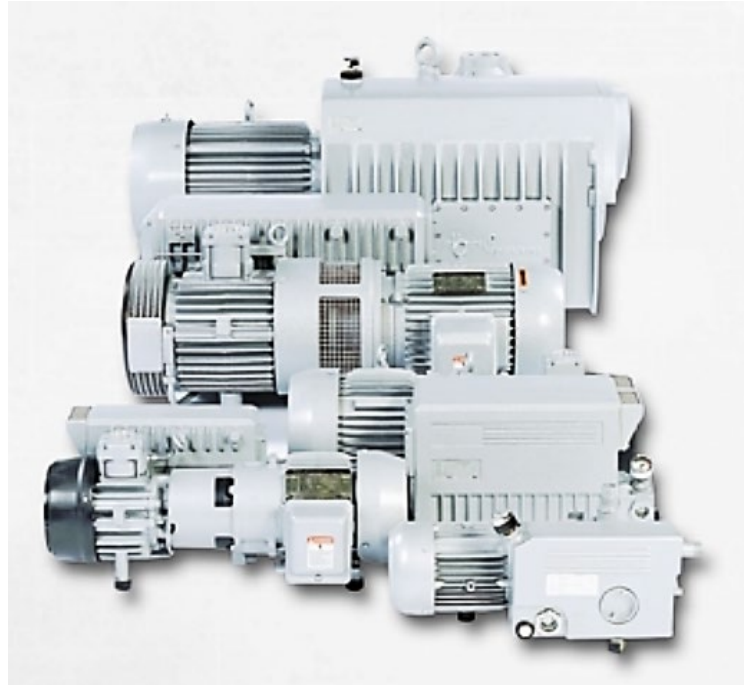
Easy to service
Compact design, air cooling and easy access allows rapid and simple maintenance with long periods between services. No preventative maintenance apart from routine oil changes is required.
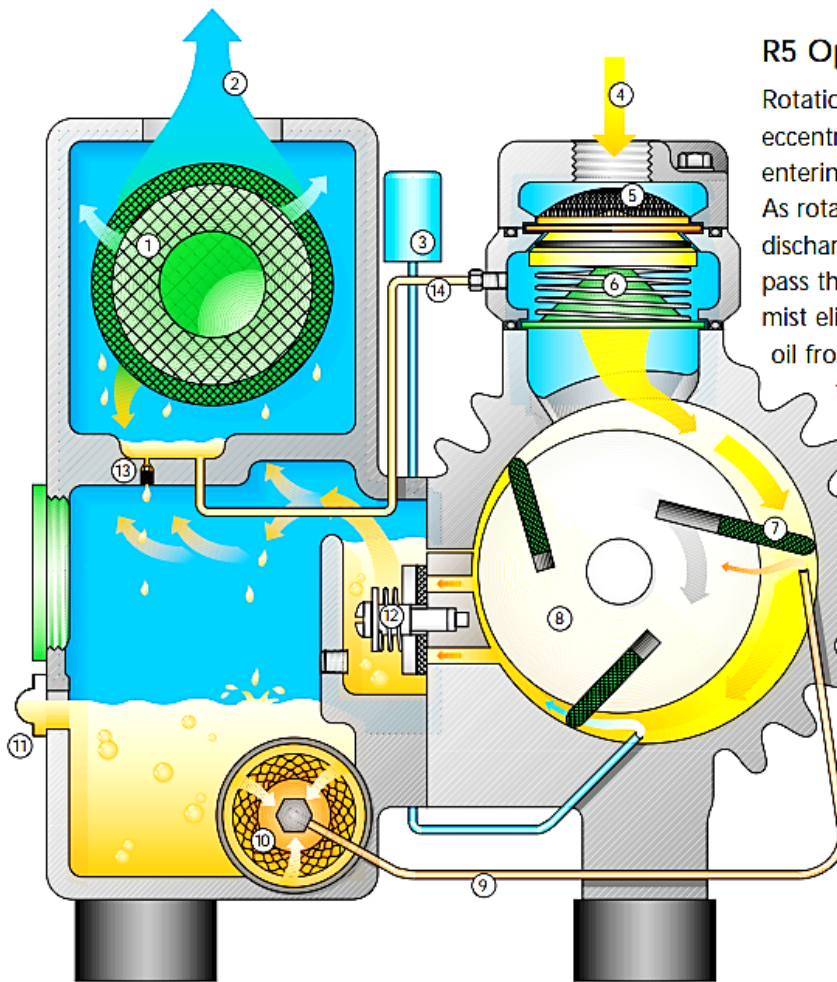
Environmentally friendly
Air cooling, internal oil recirculation, integral oil mist separator for oil-free exhaust air, low vibration and low noise level allows this pump to be used in any environment.

Principle of operation
These pumps work according to the rotary vane principle. An eccentrically installed rotor (8) rotates in the cylinder. The centrifugal force of the rotation pushes the vanes (7), which glide in slots in the rotor, towards the cylinder wall. The vanes separate the sickle-shaped space between rotor and cylinder into chambers. When the chambers are connected with the inlet channel, gas is sucked in, compressed by the next rotation and pushed into the oil separator. Differential pressure constantly causes oil to be passed into the compression chambers. The oil and medium are then discharged into the oil separator and there separated from the exhaust air by gravity and the exhaust filter (9). Oil collects on the bottom of the oil separator and is passed into the compression chamber again (oil circulation). (See diagram on following page)

R5 Operating Principle

Rotation of the pump rotor, which is mounted eccentrically in the pump cylinder, traps entering vapor between rotor vane segments. As rotation continues, vapor is compressed and discharged into the exhaust box. Vapors then pass through several stages of internal oil and mist eliminators to remove 99.9% of lubricating oil from the exhaust. Oil is then returned to the oil reservoir. Additional features include an automotive type spin-on oil filter, and a built-in inlet anti-suckback valve that prevents the pump from rotating backwards. A built-in gas ballast is available on the RA version, which permits pumping with high water vapor loads.

1. Oil Mist Eliminator	8. Rotor
2. Exhaust	9. Main Oil Feed Line
3. Gas Ballast (RA)	10. Spin-On Oil Filter
4. Inlet	11. Oil Sight Glass
5. Inlet Screen	12. Exhaust Valve (RA)
6. Anti-Suckback Valve	13. Oil Return Valve (RA)
7. Vane	14. Oil Return Line (RC)

RC Models

RA and RB Models