

VQ series High performance pump for mobile applications

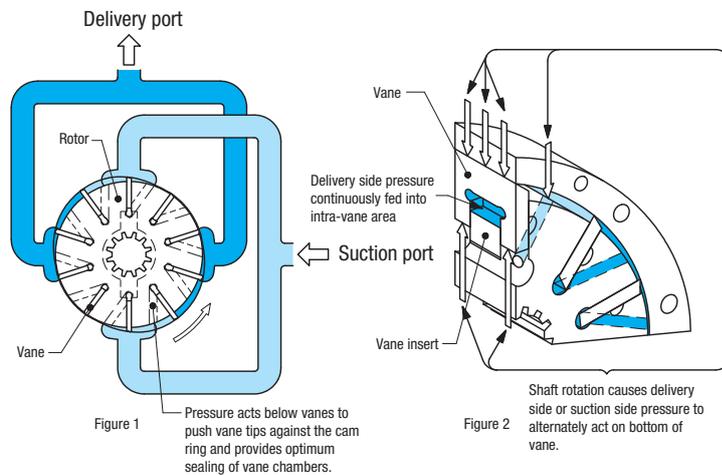
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Fixed Displacement Vane Pumps

The VQ Series high performance intravane pump is designed for mobile applications. The pump's flexible side plate mechanism provides higher volumetric efficiency compared to conventional vane pumps and provides high resistance to seizure during startups under hot or cold environment.

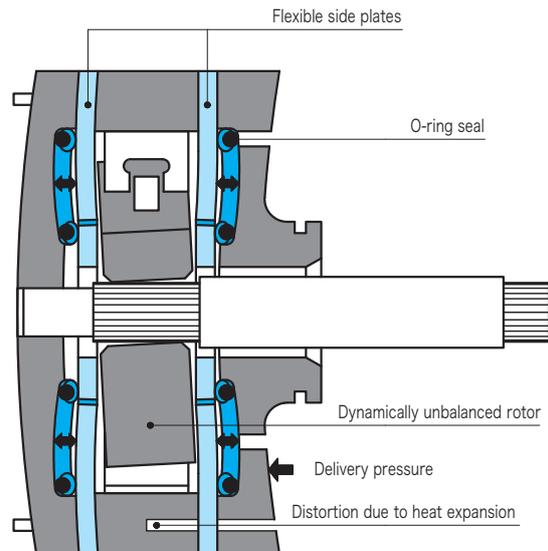
1. Stable operation at high pressures of 21 MPa and high speeds of 2700 min⁻¹. (For further details, refer to the specifications.)
2. Employs pressure balanced flexible side plates.
 - The clearance between the rotor and side plates is maintained automatically and correctly.
 - The instantaneous overload and thermal expansion spikes at pump startup are offset by these plates, and the resistance against seizure during high and low temperature starts has been improved.
3. Cartridge kit configuration of main rotating elements for ease in maintenance.
4. Single pump, (3 series, 11 types) and double pump (6 series, 95 types) configurations allow selection of optimum model to meet the application.

Intravane Mechanism



Flexible Side Plate Mechanism

The flexible side plates consist of thin bronze and steel plates. Seals located between both support plates and flexible side plates create pressure chambers. Pump delivery pressure fills these chambers and act to provide uniform force on the flexible sides plates toward the rotor. Rotation causes generation of countering flow pressure between the rotor and flexible side plates pushing the flexible side plates outward. These two forces are automatically balanced to maintain optimal clearance.



- Adjusts for unequal balance between flexible side plates and rotor and heat-caused swelling.
- Chambers pressurized by pump delivery to balance rotor and plates for optimal clearance.