

Variable Vane Pump VHR Series

HOF

Features

- VHR is a variable vane pump. It is designed for high and adjustable pressure operation with stable performance up to 30 MPa. Special bias piston mechanism ensures an instantaneous, stable, high-precision operation. Together with quiet journal bearings and suction-discharge port design to help minimize operation noise. Silent, vibration-free operation is guaranteed, even in the high pressure range.



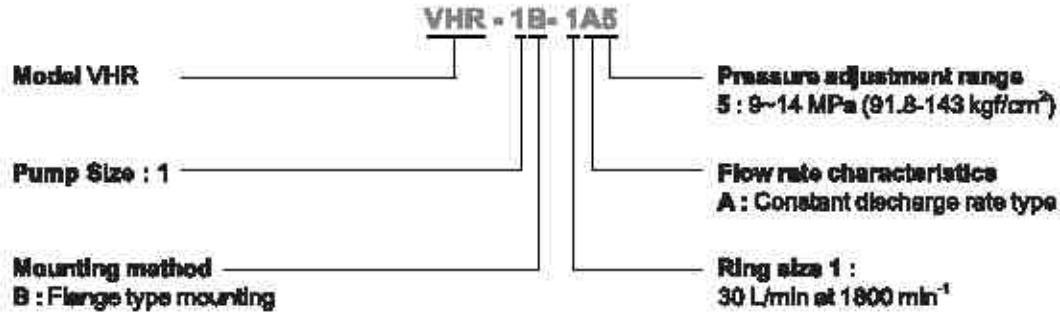
Handling

- For maximum service life, the pump should be protected from contamination. Filtering fluid before filling and during operation to maintain or exceed ISO cleanliness code 16/13. Appropriately size suction filter, with cold start bypass, of 149 micron absolute (100 mesh) and 10 micron absolute return line filter is recommended. Replaceable elements should be changed as filter supplier instructions.
- The drive shaft must align with the power source shaft. Avoiding shaft end thrust and applications that impose radial loading.
- The direction of rotation is always clockwise (rightward) when viewed from the shaft end.
- Pressure is decreased by clockwise rotation of the discharge rate adjusting screw and increase by counterclockwise (leftward) rotation.
- The start-up procedure should be as follows:
 - Check the rotation of power source to match with rotation of pump.
 - Check inlet and outlet ports to assure all connections are properly installed and check all mounting bolts and flanges to assure all are tight and properly aligned.
 - Fill pump with fluid through the outlet port if the pump is mounted above the fluid level. The spline shaft models also need to be lubricate with an anti-fracting grease or similar lubricant.
 - Place all controls in the neutral position so the pump is unloaded during initial start-up.
 - Prime the pump within a few second when the pump is started.
 - Bleed off entrapped air from outlet circuit until a steady output flow is observed.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change at any time without notice.

Ordering Code and Specifications

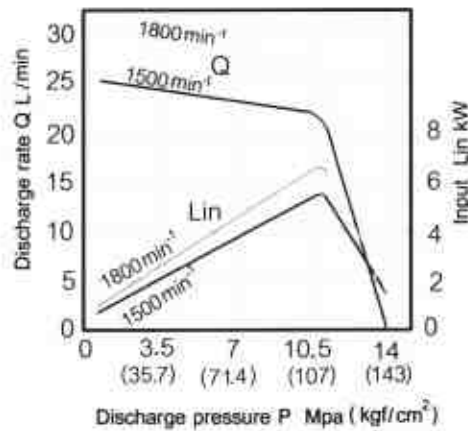
Single Pump



Model No.	Capacity cm ³ /rev	No -load Discharge Rate (L/min)				Pressure Adjustment Range Mpa (kgf/cm ²)	Allowable Peak Pressure Mpa (kgf/cm ²)	Revolution Speed min ⁻¹		Weight kg
		1000min ⁻¹	1200min ⁻¹	1500min ⁻¹	1800min ⁻¹			Min.	Max.	
VHR-1B-1A5	16.7	16.7	20	25	30	9-14 (91.8~143)	21 (214)	800	1800	9

Performance Characteristics

Based on viscosity 32 cSt (160 SSU) oil at 49°C (120°F) and pump Inlet at 0 PSIG (14.7 PSIA)

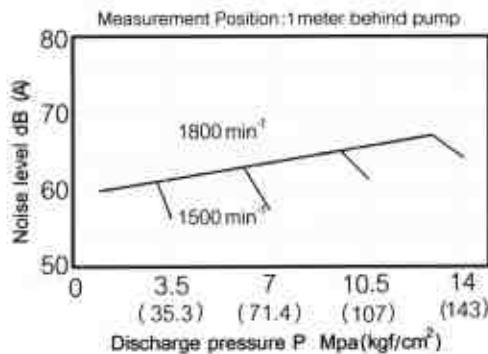


Use the formula below to calculate a pump's required drive force.

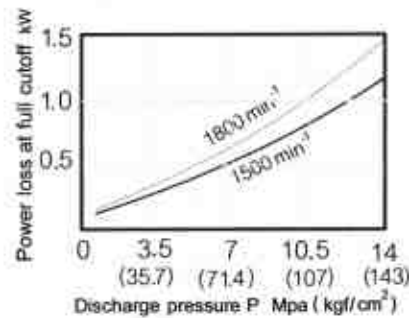
$$H = \frac{PQ}{60} + L$$

H : Input (kW)
 P : Pressure Mpa
 Q : Flow rate L/min
 L : Power loss kW

Noise Characteristics

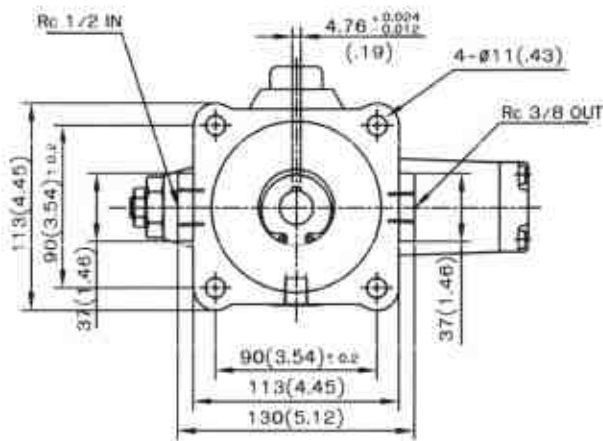
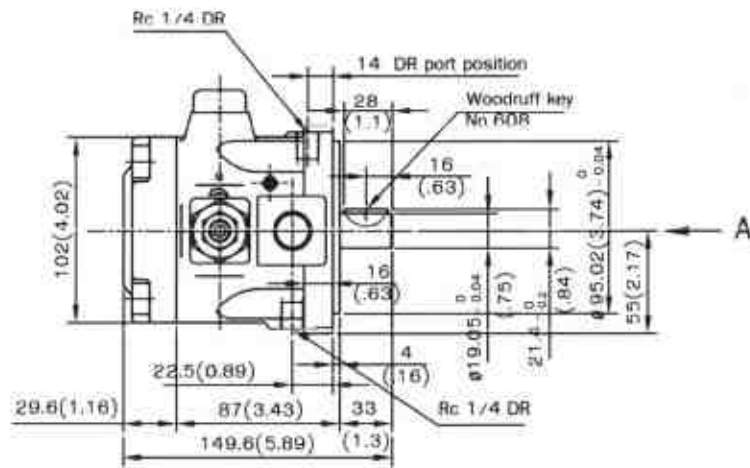
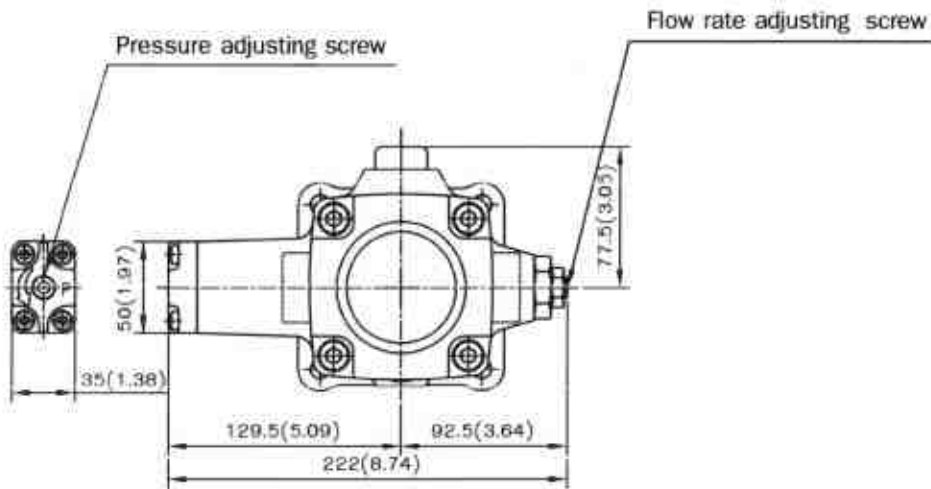


Power Loss Curve



Installation Dimensions mm (inch)

Variable Single Pump VHR



Auxiliary View A