

Oil Rotary Vacuum Pump [VS1501/VS2401]

VS series is a single-stage oil rotary vacuum pump coupled with a direct-driven motor. This simplified design gives this lightweight pump the features of compact size along with low vibration operation. The substantial reduction in vibration of this pump can help reduce the costs associated with having to perform special foundation work in facilities where vibration can be a problem. Additionally, enhancements in both the oil circulation and cooling systems results in increased stability of pumping performance at high inlet pressures. These VS series pumps are typically used in a wide range of applications, especially those having a large number of repetitive pumping steps that cycle from atmospheric pressure, such as in the automated leak testing of parts.



VS2401

Features

- ▶ **Low Vibration**
The special single-stage vane design used in this pump permits the use of a high-speed motor (1500 rpm at 50 Hz) that helps to significantly reduce vibration levels in the low frequency range of the spectrum, where the transmission of vibrations through buildings can be a problem. This pump can largely eliminate the need for special foundation work and can be more easily installed on the upper floors of most buildings.
- ▶ **Lightweight and Compact**
Compared to our standard oil rotary type pumps, the VS2401 is roughly 35 % lighter, requires roughly 20 % less floor space, and is only half as tall, making it extremely lightweight and compact.
- ▶ **Quiet-running Performance**
The use of a mechanism that reduces operating noise when pumping at ultimate pressure, allows noise levels to be reduced to 74 dB (characteristic A) for both the VS1501 and VS2401 models. (Values measured at ultimate pressure while using an oil mist trap at a distance of 1 meter to the side of the pump.)

- ▶ **Outstanding Ease of Maintenance**
Checking, adding, and changing oil are done at one side on the pump to facilitate greater ease in performing routine maintenance and inspection.
Amount of time between oil additions is extended for oil capacity is variable over a range of 8 to 10.5 liters.

Applications

- ▶ Evaporation, sputtering, and ion plating
- ▶ Vacuum packing, vacuum adsorption, and transport
- ▶ Vacuum molding and vacuum casting
- ▶ Vacuum heat treatment furnaces, sintering furnaces, and brazing furnaces
- ▶ Vacuum drying, freeze drying, and vacuum degassing
- ▶ Gas substitution, filling, and vacuum heat insulation
- ▶ Automated leak testing, etc.

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Specifications			
Model		VS1501	VS2401
Designed pumping speed	50Hz	150m ³ /h (2500 L/min)	240m ³ /h (4000 L/min)
	60Hz	180m ³ /h (3000 L/min)	288m ³ /h (4800 L/min)
Ultimate pressure *1		5.3 Pa	
Motor (number of poles) *2	Type	Totally Enclosed Fan Cooled Motor	
	kW (poles)	5.5 kW (4P)	7.5 kW (4P)
	Voltage/Frequency	200V/50, 60Hz 220V/60Hz	
Oil capacity		8.0 to 10.5 L	
Pump oil *3		ULVOIL R-7	
Cooling water	Pressure	0.5MPa (Gauge pressure)	
	Quantity	4 L/mim	5 L/mim
Suction port diameter		equivalent to VG80	
Exhaust port diameter		equivalent to VG50	
Weight *4		240kg	280kg
dimensions W×L×H		333mm×919mm×460 mm	333mm×1039mm×460 mm
Standard accessories		Motor, Oil for 1 pump, Operation manual	
Options		Oil mist trap, Gas ballast valve, Oil return mechanism	

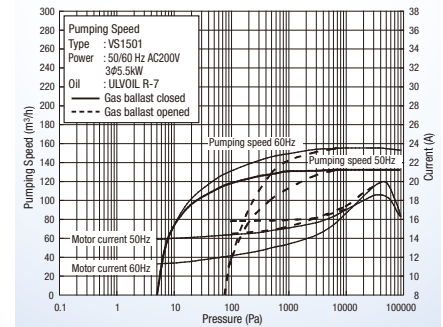
Note: SI units are used in this catalog. The following conversion can be used for non-SI units:

Ultimate pressure: 5.3Pa=4 × 10⁻² Torr. Cooling water pressure: 0.5MPa=5kg/cm²

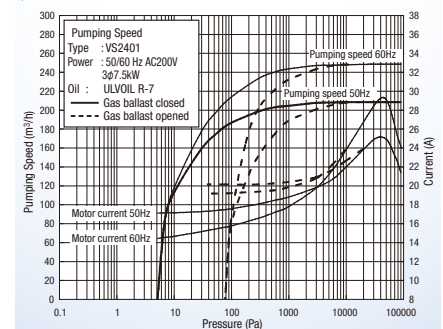
- *1 Measured with a Pirani gauge.
- *2 Options: The pump is also compatible with a increased safety explosion-resistant motor, and pressure proof explosion-resistant flange motor.
- *3 Other oil types are available upon request.
- *4 Values in parentheses indicate the weight of the pump unit only.

Pumping Speed Curves

VS1501

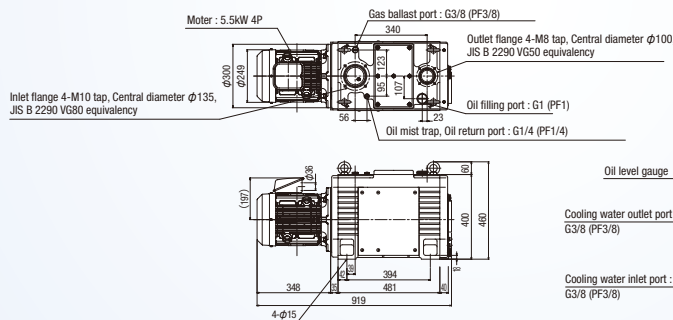


VS2401



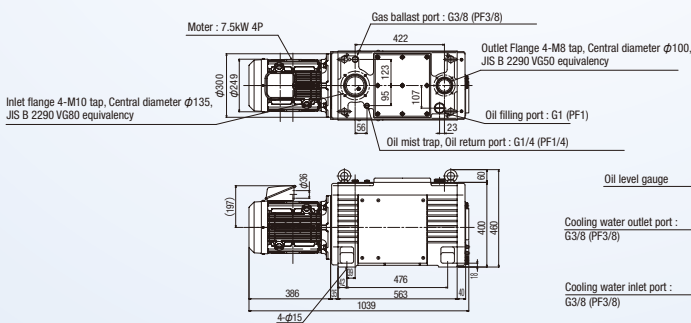
External Dimension Diagram

VS1501



Unit : mm

VS2401



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▶ This catalog is subject to change without notice to reflect performance improvements, etc.