

Oil Rotary Vacuum Pump [VS1501/VS2401]

VS series is a single-stage oil rotary vacuum pump coupled with a direct-drive motor. ULVAC's simplified design gives this lightweight pump the features of compact size, along with low vibration operation. The substantial reduction in vibration of the VS series pump can help reduce the costs associated with having to perform special foundation work in facilities where vibration can be problematic. Additionally, enhancements in both the oil circulation and cooling systems result 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, as well as numerous other industrial applications.



VS2401

Features

- ▶ **Low Vibration**
The unique single-stage vane design used in the VS pumps permit the use of a high-speed motor (1500 rpm at 50 Hz, 1800 rpm at 60 Hz) that help to significantly reduce vibration levels in the low frequency range. 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 industrial 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**
ULVAC incorporates the use of a mechanism reducing operating noise when pumping at ultimate pressure. Noise levels are 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.)

- ▶ **Easy Maintenance**
Checking, adding, and changing oil are conducted at one end of the VS pump.
Amount of time between oil additions can be extended. The VS oil capacity is variable over a range of 8 (min) to 10.5 (max) 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

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Specifications

Model		VS1501	VS2401
Designed pumping speed	50Hz	m ³ /hr	150
		L/min	2500
		CFM	88.29
	60Hz	m ³ /hr	180
		L/min	3000
		CFM	105.94
Ultimate pressure *1	Pa	5.3	4000
	Torr	4×10 ⁻²	141.26
	mbar	5.3×10 ⁻²	288
Motor *2	Type	Totally Enclosed Fan Cooled Motor	
	kW (number of poles)	5.5 (4)	7.5 (4)
	HP (number of poles)	7.47 (4)	10 (4)
	Voltage/Frequency *3	200V/50Hz, 200V/60Hz, 220V/60Hz	
Oil *4		ULVOIL R-7	
Oil capacity	L	8.0 to 10.5	
Cooling method		Water cooled	
Cooling water	Primary side Pressure	MPa	≤ 0.5 (Gauge pressure)
		Psi	≤ 72.5 (Gauge pressure)
	Flow rate	L/min	4
	Temperature	°C	5 to 30
		°F	41 to 86
Inset JIS B2290		VG80 equivalency	
Outlet JIS B2290		VF50 equivalency	
Weight	kg	240	280
External dimensions W×L×H	mm	333×919×460	333×1039×460
Certification		CE (Option)	
Options		Oil mist trap, Gas vallast valve, Oil return mechanism	

*1 Measured with a Pirani gauge.

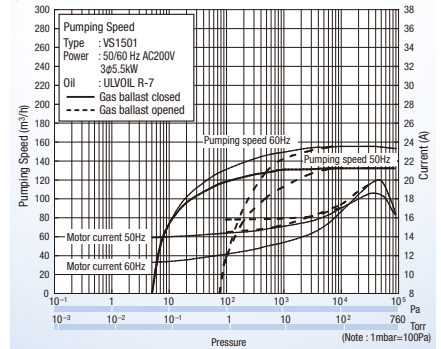
*2 The pump is also compatible with a increased safety explosion-resistant motor, and pressure resistant explosion-resistant flange motor.

*3 Other voltage is available, upon request.

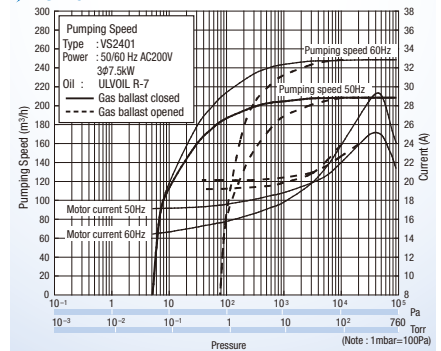
*4 Other oil types are available, upon request.

Pumping Speed Curves

▶ VS1501

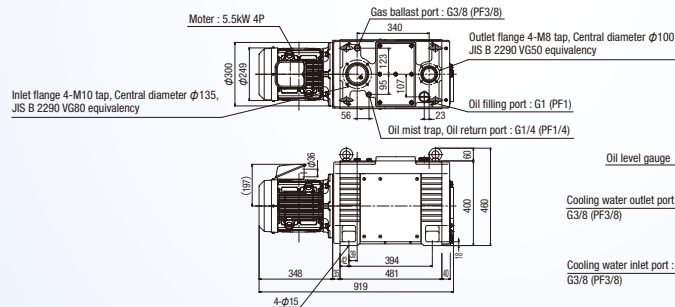


▶ VS2401



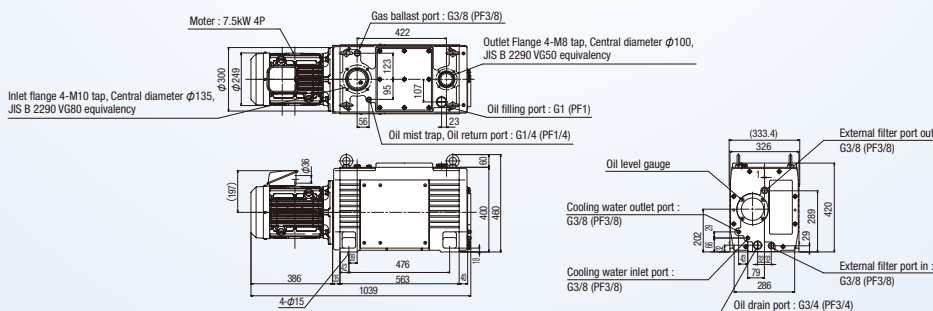
External Dimension Diagram

VS1501



Unit : mm

VS2401



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