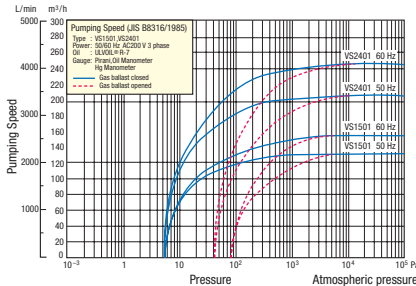


■ 排気速度曲線 / Pumping Speed Curves

● VS1501/VS2401



VSシリーズは、1段式ベーン型（回転翼型）の採用により構造の単純化と高速化をはかり、小型、軽量、低振動を達成したモータ直結の油回転真空ポンプです。振動を大幅に低減したことで、工場建屋の基礎工事などのポンプ設置にともなうご負担を軽減することができます。また、油循環系統と冷却系統の強化により、高吸入圧での排気性能が安定しますので、繰り返し排気が多いプロセスなどをはじめとして幅広い用途で使用いただけます。

The VS Series of oil rotary vacuum pumps uses a single-stage design in the pumping system, coupled with a direct-drive 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 employed 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.3



■ 用途 / Applications

- 蒸着、スパッタリング、イオンプレーティング
Evaporation, sputtering, ion plating
- 真空包装、真空吸着・搬送、真空成形、真空鋳造
Vacuum packing, vacuum adsorption and transport
- 真空含浸、真空鋳造
Vacuum molding and vacuum casting
- 真空熱処理炉、焼結炉、ろう付炉
Vacuum heat treatment furnaces, sintering furnaces, and brazing furnaces
- 真空乾燥、凍結乾燥、真空脱気
Vacuum drying, freeze drying, and vacuum degassing
- ガス置換、充てん、真空断熱
Gas substitution, filling and vacuum heat insulation
- リークテスト装置、その他
Automated Leak testing and others

■ 特長

- 低振動
ベーン型構造により高速化 (50Hz:1500rpm) を達成。振動伝達の大きい低周波領域の振動を大幅に低減。大規模な基礎工事が不要になり、工場建屋内の2階、3階への設置が容易。[当社比 回転数3倍 振幅70%低減]
- 軽量・コンパクト
当社同クラスのPKS-030ポンプに比べ、VS2401は質量で約35 (40) %減、所要床スペースで約20 (30) %減、全高では約50%減と軽量・コンパクト。()内はVS1501
- 全圧力領域での連続運転に対応 (特許出願中)
高吸入圧でも安定した運転ができるように強制給油方式とシリンダー水冷方式を採用。オプションのオイルミストトラップ、油戻し機構、耐熱仕様を追加することにより、大気圧以下の全圧力領域での連続運転が可能。
- 低騒音を実現
到達圧力時の運転音を低減する機構を採用することにより、74dB (A特性) と低騒音化を達成。(到達圧力時、オイルミストトラップ有、ポンプ側方1mでの測定値)
- 優れたメンテナンス性
日常点検がしやすいように油確認、油補充、油交換の方向を統一。油の補充期間を延長するために8~10.5Lの可変油量式を採用

■ Features

- Low vibration
The special single-stage vane design employed 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.
- Compatible with continuous operation at high pressures (patent pending)
A forced oil circulation system inside the pump allows stable operation even at high inlet pressures. When equipped with the optional oil mist trap and oil return mechanism, these heat-resistant pumps can run continuously at pressures equal to or below atmospheric pressure.
- 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 the same location on the pump to facilitate greater ease in performing routine maintenance and inspection.
A variable oil capacity system allows oil capacity to be changed over a range of 8 to 10.5 liters to extend the amount of time between oil additions.

油回転真空ポンプ VS1501/VS2401

Oil Rotary Vacuum Pump VS1501/VS2401

仕様 / Specifications

諸元Item	型式 Model	VS1501	VS2401
設計排気速度 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)
到達圧力*1 Ultimate pressure		5.3 Pa	
モータ(極数)*2 Motor (number of poles)	型式 Type	防滴保護型フランジモータ Drip-proof protected motor	
	kW (極数 poles)	5.5 kW (4P)	7.5 kW (4P)
	電圧/周波数 Voltage/Frequency	200V/50,60Hz 220V/60Hz	
所要油量 Oil capacity		8.0-10.5 L	
使用油*3 Pump oil		ULVOIL® R-7	
冷却水 Cooling water	水圧 Pressure	≤0.3Mpa (ゲージ圧) 0.3MPa (Gauge pressure) or higher	
	水量 Quantity	4 L/min	5 L/min
吸気口径 JIS B 2290 Suction port diameter		VG80相当 Corresponds to VG80	
排気口径 JIS B 2290 Exhaust port diameter		VG50相当 Corresponds to VG50	
質量*3 Weight		240kg	280kg
外形寸法 dimensions W×L×H*5		352×940×460 mm	352×1062×460 mm
標準付属品 Standard accessories		モータ(組付済)、油 1 台分、取扱説明書 1 部 Motor, Oil for 1 pump, Operation manual	
オプション Options		オイルミストトラップ、ガスバラストバルブ、油戻し機構、耐熱仕様 Oil mist trap, Gas ballast valve, Oil return mechanism, Heat-resistant specifications	

注) 本カタログは、SI単位系を採用しています。非SI単位系との換算は次のようになります。到達圧力：5.3 Pa=4×10⁻² Torr、冷却水圧：0.3MPa=3kg/cm²

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: 0.3Mpa=3kg/cm²

- *1 : ピラニ真空計にて測定
Measured with a Pirani gauge.
- *2 : オプションにて、全閉外扇型、安全増防爆型、耐圧防爆型フランジモータも対応できます。Options: The pump is also compatible with a fully sealed external fan motor, increased safety explosion-resistant motor, and pressure resistant explosion-resistant flange motor.
- *3 : 他の油の種類の内用もありますので、お問い合わせください。
Other oil types are available upon request.
- *4 : 防滴保護型モータ組付時の質量です。Values in parentheses indicate the weight of the pump unit only.
- *5 : W=width, L=length, H=height

外形寸法図 / External Dimension Diagram

単位：mm / unit : mm

