

DS-402



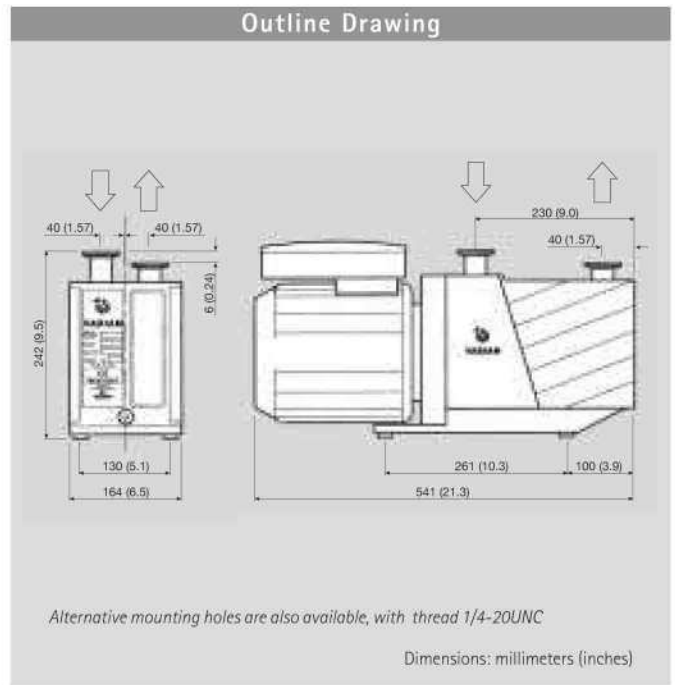
VARIAN

\$3,145.00

A Reliable Line of Pumps to Cover the Most Demanding Industrial and Scientific Applications

Varian Vacuum Technologies' new DS line of Rotary Vane Pumps are designed and manufactured to meet the demanding requirements of various industrial and scientific applications.

Thanks to a very simple and highly reliable design, these field



proven rotary vane pumps provide excellent vacuum performance. Varian's quality and manufacturing standards ensure that the DS Rotary Vane Pumps provide high pumping stability for light gases, low noise, minimal oil backstreaming, and a long operating life.

Varian's DS Rotary Vane Pumps conform with CE requirements, and all pump motors are UL and CSA approved. Varian's world class technical support organization makes the DS Rotary Vane Pump cost-effective and well suited for a wide range of applications.

Technical Specifications

Free air displacement	60 Hz: 410 l/min (14.5 cfm)	50 Hz: 342 l/min (20.5 m ³ /h)
Pumping speed*	60 Hz: 12.3 cfm	50 Hz: 17.4 m ³ /h
Ultimate partial pressure*		10 ⁻⁴ mbar
Ultimate total pressure*		2 x 10 ⁻³ mbar
Ultimate total pressure with gas ballast*		1 x 10 ⁻² mbar
Water vapor tolerance		30 mbar
Water vapor capacity		350 g/h
Oil capacity min/max		0.5/1 l
Motor rating 1ph	60 Hz: 0.90 kW	50 Hz: 0.75 kW
Motor rating 3ph	60 Hz: 0.90 kW	50 Hz: 0.75 kW
Nominal rotation speed	60 Hz: 1800 rpm	50 Hz: 1500 rpm
Weight kg (lbs)		35 (77)
Inlet flange		25KF DN
Exhaust flange		25KF DN

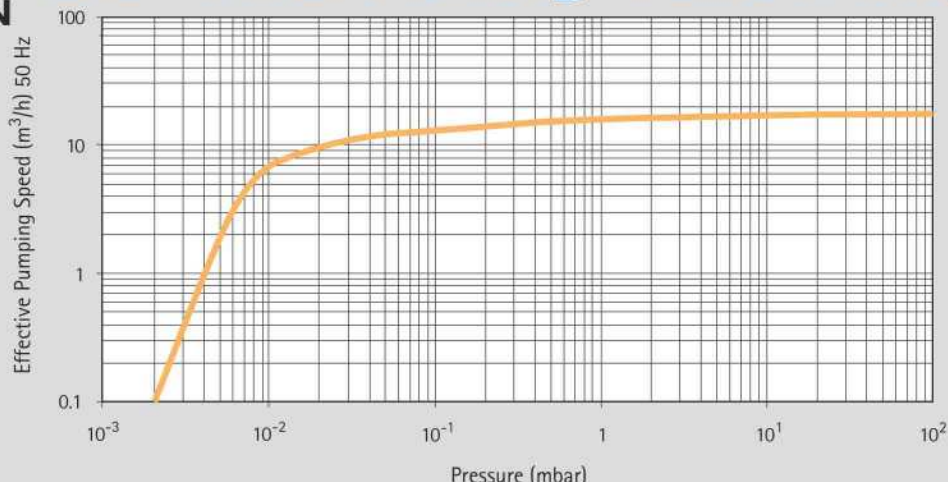
*According to PNEUROP 6602



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DS-402 Rotary Vane Pump



• Industrial Vacuum Processes

Vacuum coatings, Metallurgy Vacuum Furnaces, Lamps and TV Tube manufacture, Sterilizers, Freeze Dryers, Glove Boxes, High Speed Centrifuges, and Flywheels (for energy storage) represent the main Industrial applications for Dual Stage Rotary Vane pumps. In the first four fields of application the Rotary Pumps are used as roughing and backing pumps for High Vacuum Turbo or Diffusion pumps, while in the others the Rotary Pumps are typically the only vacuum pumps on the system.

• High Energy Physics and Research Laboratories

In these applications the Rotary Vane pumps are mainly used in combination with Turbo pumps. The combination is typically used to rough and pump High Vacuum experimental chambers or to start Ion Pumps in ultra high vacuum systems.

• Analytical Instruments

Dual Stage Rotary Vane Pumps are practically the only primary vacuum pumps used on GC-MS, LC-MS, ICP-MS, and MALDI-TOF Instruments.

GC-MS typically uses our smallest pump, the DS102; the pump is needed to rough the system and back the high vacuum Turbo or Diffusion pump.

LC-MS and ICP-MS use a medium capacity pump on the sample injection/system interface, typically a DS402 or a DS602, and a smaller pump to back the system Turbo pumps.

MALDI-TOF depending on system size, uses the DS102 to the DS602 as roughing or interface pumps.

Mass Spectrometry

The new HS 452 and HS 652 address all the requirements of LC-MS and ICP-MS applications:

- Large pumping capacity
- Consistent worldwide performance
- Single phase
- Universal voltage and frequency compatibility
- Low power requirements
- Remote control and diagnostic
- Adjustable performance

Ordering Information

Dual Stage Rotary Vane Pump	Part Number
DS 402 with 1 phase worldwide motor*	9499330
DS 402 with 3 phase worldwide motor**	9499331

* 1 phase motors (100-120 / 200-240) V ±10%, 50/60 Hz.

** 3 phase motors (200-220 / 380-415) V ±10% at 50 Hz or (200-230 / 460) V ±10% at 60 Hz.

All motors comply with CE and UL/CSA standards.

Minor Maintenance Kit	Part Number
Contains all the valves, O-rings and seals to refurbish the pump to vacuum integrity	9499371

Major Maintenance Kit	Part Number
Includes all the items of the minor kit plus the vanes	9499382

Oil and Accessories	Part Number
Rotary vane fluid, GP type, 1 liter	9499390
Rotary vane fluid, GP type, 1 liter (USA)*	K7516301
Rotary vane fluid, GP type, 2 liters	9499391
Rotary vane fluid, GP type, 1 gallon (USA)	K7516302
Oil mist eliminator	9499395
Oil mist replacement cartridge (pkg. of 2)	9499394
NW 25 oil exhaust filter	9499392
NW 25 oil exhaust replacement cartridge	9499342



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