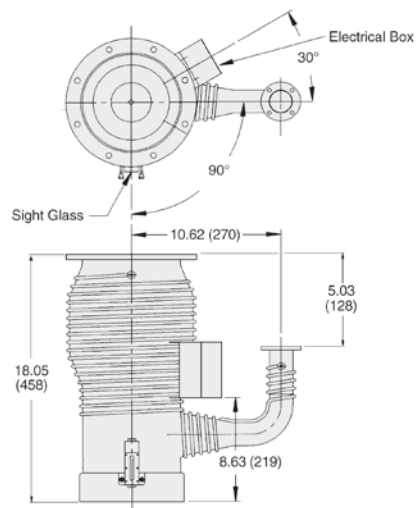


## PUMP MODELS

### ▶ Agilent VHS-4



Dimensions: inches (millimeters)

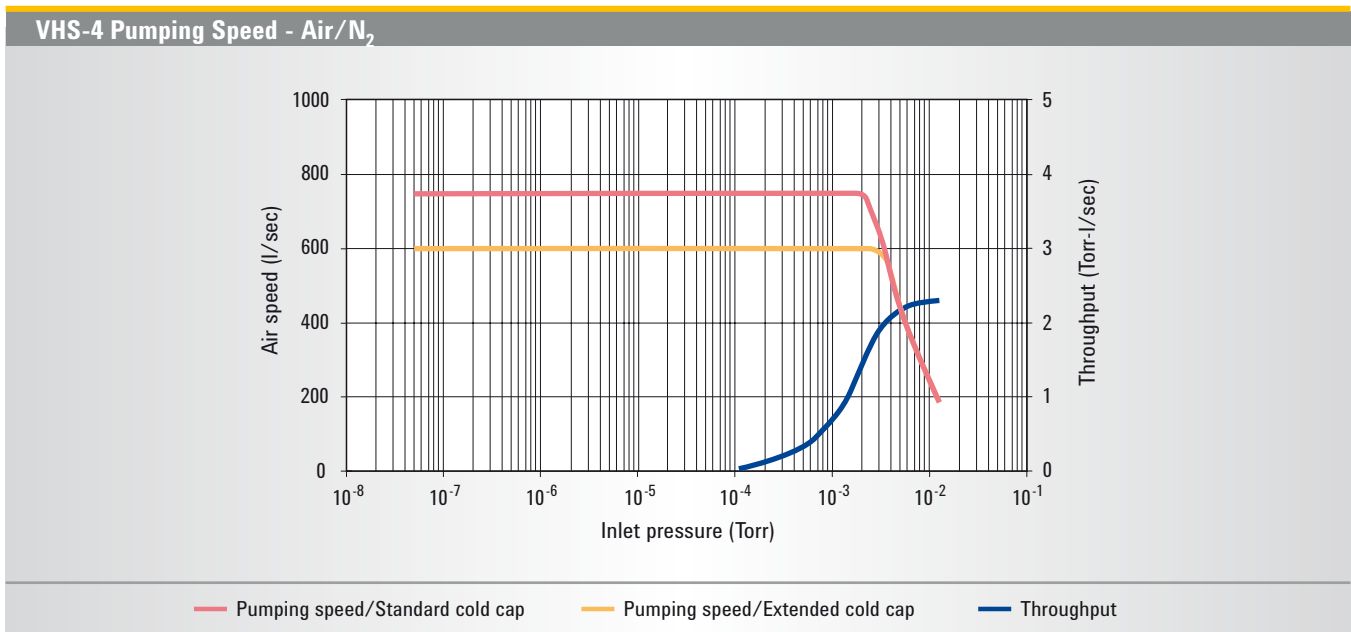
### Technical Specifications

<b>Pumping speed*, operating range</b>	750 l/s air, 940 l/s He/H <sub>2</sub>
<b>Pumping speed*, AVS 4.1 (1963)</b>	1,200 l/s air
<b>Maximum throughput</b>	1.5 T-l/s (2.0 mbar-l/s) in operating range, 2.5 T-l/s (3.2 mbar-l/s) @ 0.01 Torr
<b>Operating range</b>	$2 \times 10^{-3}$ to $<5 \times 10^{-9}$ Torr ( $2.7 \times 10^{-3}$ to $<6.5 \times 10^{-9}$ mbar)
<b>Maximum forepressure</b>	No load: 0.65 Torr (0.86 mbar) Full load: 0.55 Torr (0.73 mbar)
<b>Recommended backing pump</b>	$\geq 10$ cfm (17 m <sup>3</sup> /hr)
<b>Backstreaming rate**, standard cold cap</b>	$<5 \times 10^{-4}$ mg/cm <sup>2</sup> /min
<b>Warmup time</b>	10 minutes
<b>Cooldown time</b>	10 minutes (with quick cool coil)
<b>Fluid charge</b>	300 cc
<b>Electrical requirements</b>	1 ph, 50/60 Hz, 120/208/240 VAC
<b>Pump power</b>	1450 watts
<b>Cooling water requirements</b>	0.15 gpm (30 l/hr) at 60-80 °F (15-26 °C)
<b>Water connections</b>	1/8 in. FPT Tee

\* For an explanation of pumping speed measurements, please see page 34.

\*\* Refer to page 32 for a description of test methods.

# DIFFUSION PUMPS



## Ordering Information

Description	Voltage	Weight kg (lbs)	Part Number	
			Flange Type	ISO
<b>VHS-4 Pump</b>			<b>ASA</b>	<b>ISO</b>
VHS-4 with standard cold cap	120 V	25.0 (55.0)	86460301	L6256301
VHS-4 with extended cold cap	120 V	25.0 (55.0)	86460311	L6256311
VHS-4 with standard cold cap	208 V	25.0 (55.0)	86460306	L6256306
VHS-4 with extended cold cap	208 V	25.0 (55.0)	86460316	L6256316
VHS-4 with standard cold cap	240 V	25.0 (55.0)	86460302	L6256302
VHS-4 with extended cold cap	240 V	25.0 (55.0)	86460312	L6256312
<b>Accessories</b>				
Page	Weight kg (lbs)	Part Number		
Water-cooled baffle with ASA flanges	31	4.5 (10.0)	F8286304	
Water-cooled baffle with ISO flanges	31	4.5 (10.0)	F8286305	
Centering ring for ISO inlet flange, 160K		0.5 (1.0)	IC160SV	
Centering ring for ISO foreline flange, KF40		0.2 (0.5)	KC40SV	
Santovac 5 diffusion pump fluid, 500 cc	30	1.1 (2.5)	695405005	
Installation and Operation Manual (download from <a href="http://www.agilent.com/chem/vacuum">www.agilent.com/chem/vacuum</a> )			699901021	
<b>Replacement Parts (one heater required per pump)</b>				
1450 W, 120 V heater		0.5 (1.0)	647304205	
1450 W, 208 V heater		0.5 (1.0)	647304210	
1450 W, 240 V heater		0.5 (1.0)	647304250	
Heater clamp (one required per pump)		1.0 (2.0)	88164301	
VHS-4 heater wire, 10 AWG, 24 inches (3 per pump required)		0.5 (0.2)	X3901-68001	
Replacement o-ring kit (kit contains: 3 inlet flange o-rings (butyl 2-258), 10 fill and drain o-rings (Viton 2-113), sight glass o-ring and gasket)		0.5 (1.0)	K0377183	
Thermal switch (set at 300 °F – 147 °C)		0.5 (1.0)	642906025	
Extended cold cap	31	0.5 (1.0)	F6898301	
Sight glass repair kit			L8908301	

**NOTE**

- Inlet flange 4 in. ASA , foreline flange KF40
- Inlet flange ISO 160K, foreline flange ISO KF40
- Pumps with ISO flanges do not include required centering rings