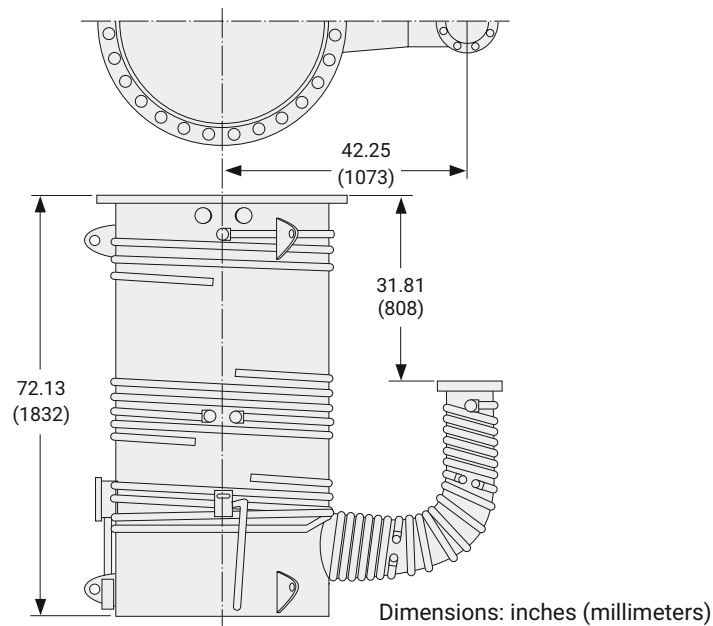


## NHS-35 Oil Diffusion Pump



Download 3d drawings [here](#).

The Agilent NHS-35 oil diffusion pump provides high throughput and high pumping speed of 28,000 L/s. With its fully optimized vapor jet, robust boiler design, and thermal protection switches, the pump will run without any maintenance for many years. This pump includes a standard sight glass and fill and drain assembly. It is available with a 35 in. ASA or DN 1000 ISO-F (bolted) inlet flange.

This diffusion pump is a perfect fit for industrial applications such as vacuum furnace, heat treatment, metallizing, and coating processes for optical lenses, electronics, and protective film layers.





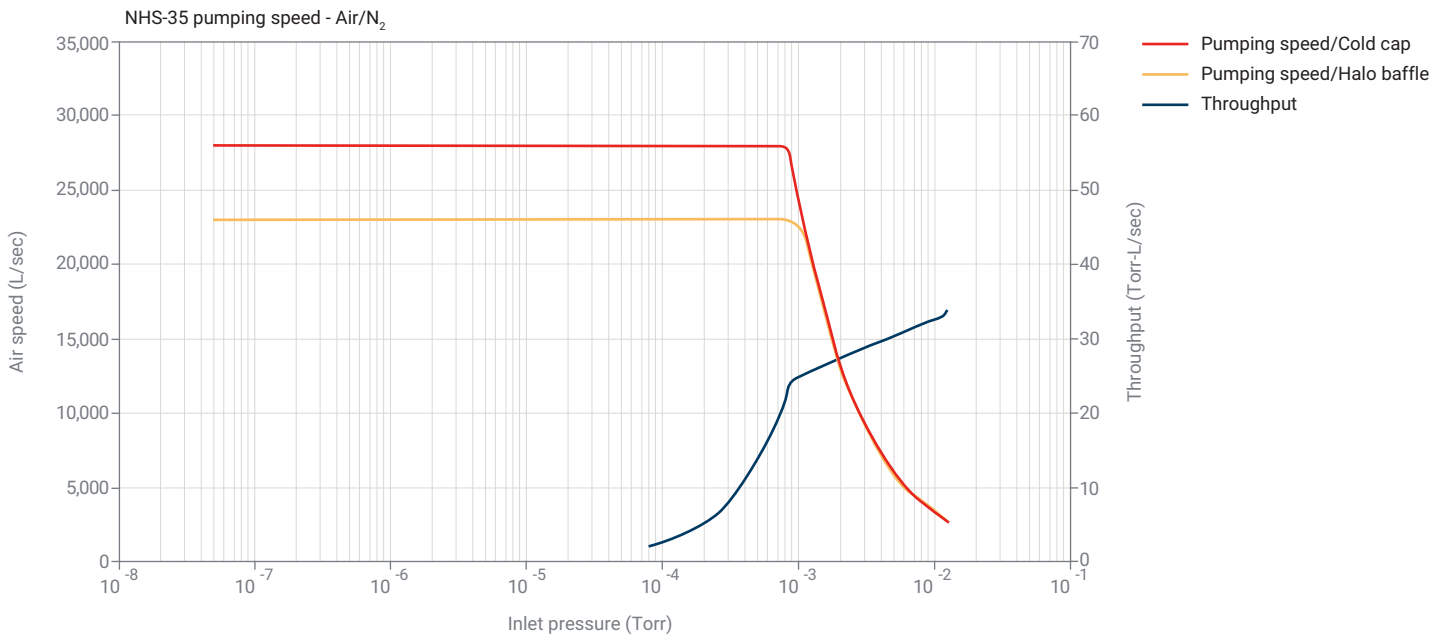
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## Technical specifications

Pumping Speed, Operating Range	28,000 L/s air, 35,000 L/s He and H <sub>2</sub>
Pumping Speed, AVS 4.1 (1963)	50,000 L/s air
Maximum Throughput	25 T-L/s (33 mbar L/s) in operating range, 35 T-L/s (45 mbar-L/s) at 0.01 Torr
Operating Range	$9 \times 10^{-4}$ to $<5 \times 10^{-8}$ Torr ( $1.2 \times 10^{-3}$ to $<6.5 \times 10^{-8}$ mbar)
Maximum Forepressure	No load: 0.55 Torr (0.71 mbar) Full load: 0.40 Torr (0.52 mbar)
Recommended Backing Pump	$\geq 300$ cfm (510 m <sup>3</sup> /hr)
Backstreaming Rate, Standard Cold Cap	$<5 \times 10^{-4}$ mg/cm <sup>2</sup> /min
Warmup Time	60 minutes
Cooldown Time	180 minutes (60 min with optional quick cool coil)
Fluid Charge	3 U.S. gallons (11.3 liters)
Electrical Requirements	3 ph, 50/60 Hz, 240/415/480 VAC
Pump Power	24,000 watts
Cooling Water Requirements	4 gpm (800 L/hr) at 60 to 80 °F (15 to 26 °C)
Recommended Fluid	DC-704 or equivalent
Thermowell	ISO 228 1/2 thread (with adapter M8x1 thread)
Recommended Holding Pump*	DS302 Rotary Vane Pump

\* Recommended holding pump sizes are based on estimates; assuming good vacuum practice in system design and operation.  
Results may vary from system to system.

Performance specifications based on tests done with DC704.



## Ordering information

Description	Voltage	Weight kg (lb)	Part Number	
			Flange Type	
NHS-35 Pump			ASA	ISO
NHS-35 with Standard Cold Cap	240 V	680.0 (1,550.0)	F1730308	L5924308
NHS-35 with Halo Baffle	240 V	680.0 (1,550.0)	F1730318	L5924318
NHS-35 with Standard Cold Cap	415 V	680.0 (1,550.0)	F1730326	L5924326
NHS-35 with Halo Baffle	415 V	680.0 (1,550.0)	F1730336	L5924336
NHS-35 with Standard Cold Cap	480 V	680.0 (1,550.0)	F1730309	L5924309
NHS-35 with Halo Baffle	480 V	680.0 (1,550.0)	F1730319	L5924319

Accessories	Weight kg (lb)	Part Number
Water-Cooled Halo Baffle	20.0 (45.0)	K1857335
Quick Cool Coil – Must Be Installed in the Factory, Can Not Ship Separately		Factory Special
Centering Ring for ISO Foreline Flange, 200K	0.5 (1.0)	IC200SV
O-ring, ISO Inlet Flange	0.5 (1.0)	78536002
Water Fittings Adapter Kit, 3/8 FPT to G 1/2		X3900-68011
Replacement Parts (Six Heaters Required Per Pump)		
Heater 4000 W, 240 V/480 V with Leads	0.5 (1.0)	647335010
Heater 4000 W, 240 V/480 V no Leads – Used on Pumps Built Before May 1990	0.5 (1.0)	647235248
Heater, 4000 W, 200 V	0.5 (1.0)	647335020
Heater, 4000 W, 400 V	0.5 (1.0)	L6383010
Heater, 4000 W, 440 V	0.5 (1.0)	L6383011
Heat Shield (Reusable)	0.5 (1.0)	L6370001
Heater Clamping Plate (Six Required Per Pump)	4.0 (8.0)	F1749001
HS-32/35 Heater Wire, 10 AWG, 196 Inches (Two Per Heater Required)	1.0 (0.4)	X3900-68003
Heater Insulator (One Required Per Pump)	0.5 (1.0)	L9699001
Replacement O-Ring Kit for ASA Pumps (Kit Contains: 1 Inlet Flange O-Ring), 1 Foreline Flange O-Ring, Sight Glass O-Ring and Gasket, 8 Fill and Drain O-Rings)	0.5 (1.0)	K0377169
Sightglass Service Kit (Pumps Built Before Oct. 1995)	1.5 (3.0)	F6097301
Sight Glass (Pumps Built After Oct. 1995)		L9223001
Upper (Water) Thermal Switch (Set at 200 °F/93 °C)	0.5 (1.0)	K9050005
Lower (Boiler) Thermal Switch (Set at 600 °F/316 °C)	0.5 (1.0)	K9050006
Cold Cap Gasket/Grommet (Kit of Four)	0.5 (1.0)	L8839301
Cold Cap Nut And Follower (Two Each)	0.5 (1.0)	L8840301

- Inlet flange 35 in. ASA, foreline flange 6 in. ASA.
- Inlet flange DN 1000 ISO-F, foreline flange ISO DN 200 ISO-K.
- Not recommended for use with Santovac 5.
- ASA pump versions include O-rings for both inlet and foreline flanges.
- ISO pump versions include inlet flange O-ring, but does not include foreline flange centering ring.

Please note that this item is controlled for export by the Nuclear Suppliers Group. Accordingly, you may be required to obtain export licenses, including from US government authorities prior to exporting this diffusion pump from the United States. Please contact Agilent Vacuum Products, and the U.S. Export Administration regulations ECCN 2B231 for further guidance.

[www.agilent.com/en/product/vacuum-technologies/diffusion-pumps/large-diffusion-pumps/nhs-35-diffusion-pump](http://www.agilent.com/en/product/vacuum-technologies/diffusion-pumps/large-diffusion-pumps/nhs-35-diffusion-pump)

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Trusted Answers