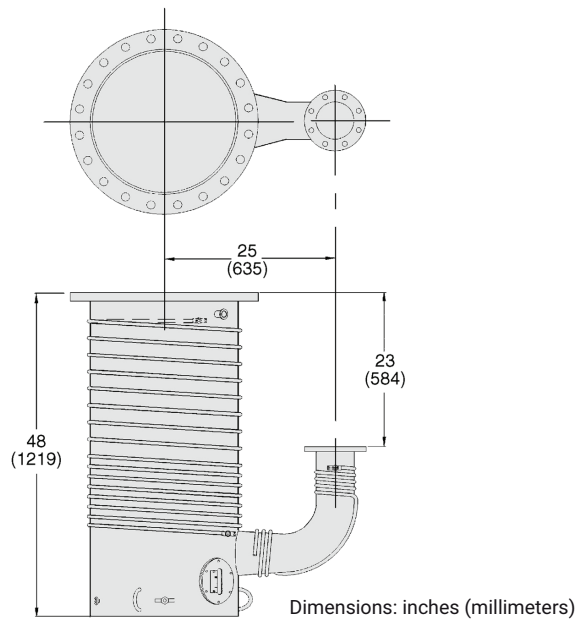


HS-20 Oil Diffusion Pump



[Download 3d drawings here.](#)

The Agilent HS-20 oil diffusion pump is a pump with a high throughput and high pumping speed of 10,000 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 20 in. ASA or DN 630 ISO-K inlet flange.

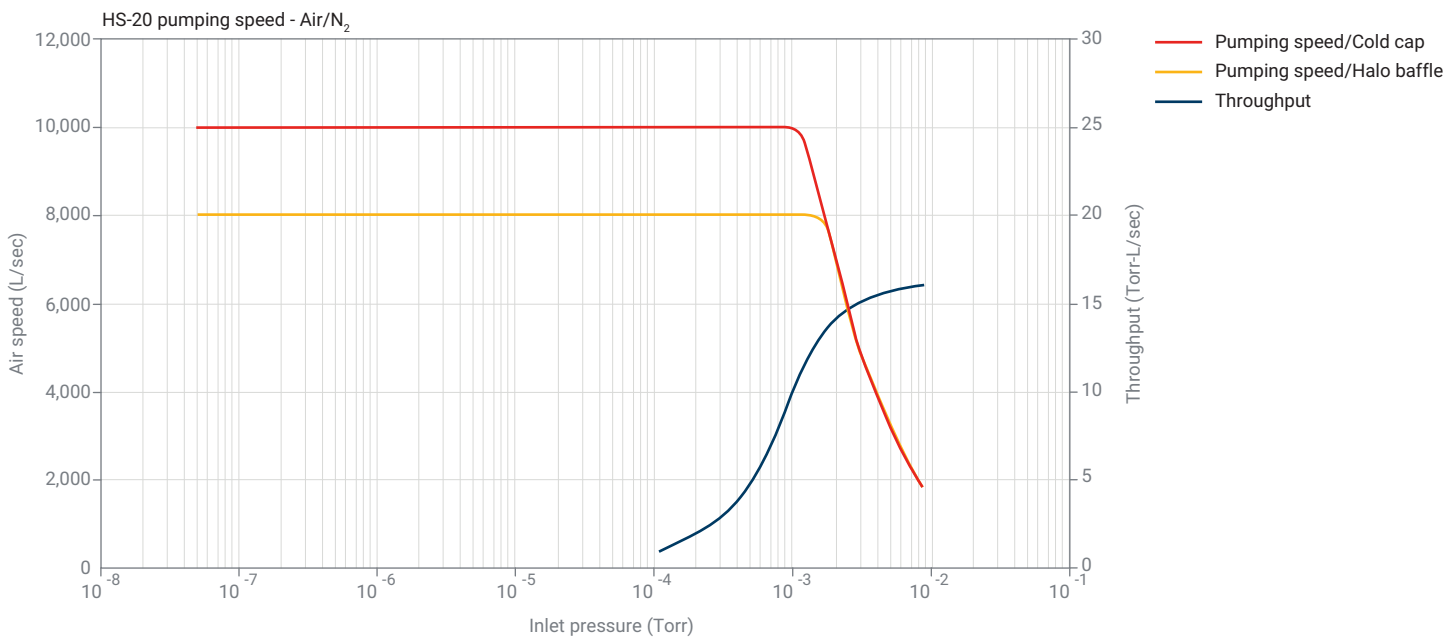
This diffusion pump is a perfect fit for industrial applications such as vacuum furnace, heat treatment, metallizing, and coating processes for optical lenses, electronics, and protective film layers.

Technical specifications

Pumping Speed, Operating Range	10,000 L/s air, 12,500 L/s He and H ₂
Pumping Speed, AVS 4.1 (1963)	17,500 L/s air
Maximum Throughput	12.5 T-L/s (16.7 mbar-L/s) in operating range, 18 T-L/s (23 mbar-L/s) at 0.01 Torr
Operating Range	1.3×10^{-3} to 5×10^{-8} Torr (1.7×10^{-3} to 6.5×10^{-8} mbar)
Maximum Forepressure	No load: 0.65 Torr (0.85 mbar) Full load: 0.55 Torr (0.72 mbar)
Recommended Backing Pump	≥ 100 cfm (170 m ³ /hr)
Backstreaming Rate, Standard Cold Cap	$< 1.5 \times 10^{-3}$ mg/cm ² /min
Warmup Time	45 minutes
Cooldown Time	85 minutes
Fluid Charge	5 quarts (4.7 L)
Electrical Requirements	3 ph, 50/60 Hz, 240/415/480 VAC
Pump Power	12,000 watts
Cooling Water Requirements	1.5 gpm (340 L/hr) at 60 to 80 °F (15 to 26 °C)
Water Connections	¼ in. FPT Tee
Recommended Fluid	DC-704 or equivalent
Thermowell	ISO 228 G 1/2 thread (with adapter M8x1 thread)
Recommended Holding Pump*	DS202 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	
HS-20 Pump			ASA	ISO
HS-20 with Standard Cold Cap	240 V	264.0 (580.0)	84341308	L5922308
HS-20 with Halo Baffle	240 V	264.0 (580.0)	84341318	L5922318
HS-20 with Standard Cold Cap	415 V	264.0 (580.0)	84341326	L5922326
HS-20 with Halo Baffle	415 V	264.0 (580.0)	84341336	L5922336
HS-20 with Standard Cold Cap	480 V	264.0 (580.0)	84341309	L5922309
HS-20 with Halo Baffle	480 V	264.0 (580.0)	84341319	L5922319

	Weight kg (lbs)	Part Number
Accessories		
Water-Cooled Halo Baffle	11.0 (25.0)	K1855320
Centering Ring for ISO Foreline Flange, 160K	0.5 (1.0)	IC160SV
Quick Cool Coil – Must Be Installed In The Factory		Factory Special
Adapter Kit, 1/4 FPT to ISO G 1/2 (Qty 4) Water Fittings		X3900-68009
Replacement Parts (Six Heaters Required Per Pump)		
Heater, 2000 W, 240 V/415 V with Leads	0.5 (1.0)	647320020
Heater, 2000 W, 480 V with Leads	0.5 (1.0)	647320030
Heater, 2000 W, 240 V/415 V no Leads – Used on Pumps Built Before May 1990	0.5 (1.0)	647320060
Heater, 2000 W, 480 V no Leads – Used on Pumps Built Before May 1990	0.5 (1.0)	647320070
Heater Crush Plate (Replace One with Each New Heater)	0.5 (1.0)	K7108001
Heater Clamping Plate (Six Required Per Pump)	4.0 (8.0)	K7107001
HS-16/20 Heater Wire, 10 AWG, 120 Inches (Two Per Heater Required)	1.0 (0.4)	X3900-68000
Heater Insulator (One Required Per Pump)	0.5 (1.0)	L6514001
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)	K0377165
Sight Glass 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 185 °F/85 °C)	0.5 (1.0)	K9050001
Lower (Boiler) Thermal Switch (Set at 390 °F/199 °C)	0.5 (1.0)	K9050002
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 20 in. ASA, foreline flange 4 in. ASA.
- Inlet flange DN 630 ISO-K, foreline flange DN 160 ISO-K.
- Not recommended for use with Santovac 5.
- Pumps with ASA flanges include O-rings for inlet and foreline flanges.
- Pumps with ISO flanges do not include centering rings required for foreline and inlet flanges.

www.agilent.com/en/product/vacuum-technologies/diffusion-pumps/large-diffusion-pumps/hs-20-diffusion-pump

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