

HT DIFFUSION PUMP

MAXIMISE YOUR PRODUCTIVITY AND PERFORMANCE



The HT high throughput series is the pinnacle of our diffusion pump knowledge with technology aimed specifically at industrial users. Edwards diffusion pump is designed for all light and heavy duty industrial applications. The robust construction gives high pumping speed at high pressure. The cast and machined aluminium interior provides consistent performance, while the stainless steel body prevents corrosion and ensures process cleanliness. These pumps are designed to give a high throughput (pressure multiplied by pumping speed) at 4×10^{-3} mbar making them ideal for industrial processes that involve large quantities of gases.



Features and Benefits

- Highest throughput of comparative sized pumps.
- Earliest crossover pressure of similar sized pumps.
- Excellent maximum backing line pressure and tolerance to gas surges.
- Comparative pumping speed to similar sized pumps.
- Integral cold cap for best performance and low back streaming.
- Self fractionating for low ultimate pressures.
- Easy change heater assembly.

Applications

- Vacuum metallurgy.
- Distillation, drying and degassing.
- Thin film coating and metalising.
- Large-scale research.

Pump Range

HT

- HT10
- HT16B
- HT20B

Performance Curves

HT10 Diffusion Pump

HT10



Comparative pumping speed

4650 ls^{-1}

AVS pumping speed

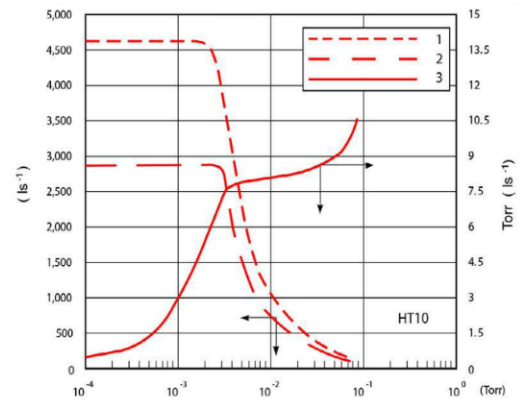
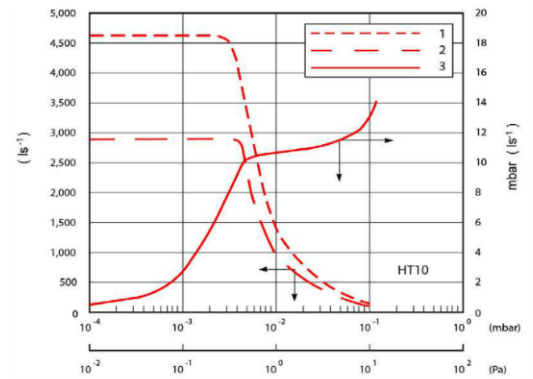
Nitrogen 2900 ls^{-1}

Helium 4900 ls^{-1}

Ordering information

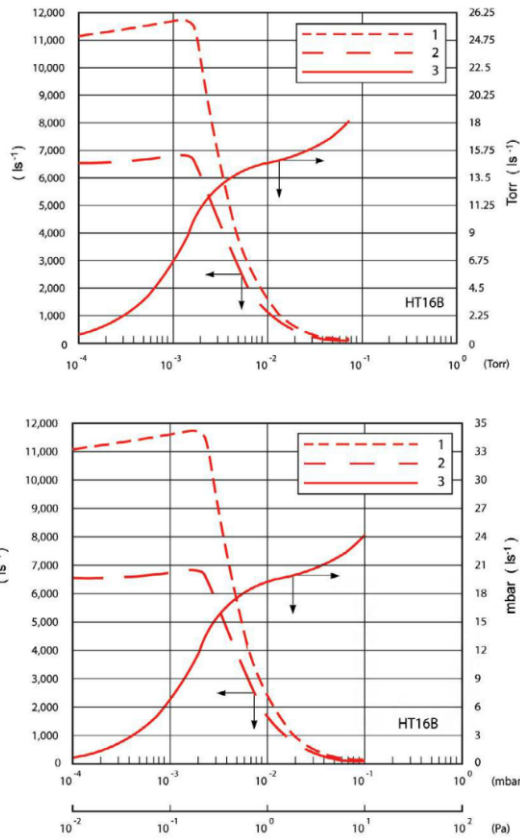
Product description	Order no:
HT10 ANSI10/ANSI2, 200 V	B31101200
HT10 ANSI10/ANSI2, 220 V	B31101220
HT10 ANSI10/ANSI2, 380 V	B31101380
HT10 ANSI10/ANSI2, 400 V	B31101400
HT10 ANSI10/ANSI2, 415 V	B31101415
HT10 ANSI10/ANSI2, 460 V	B31101460
HT10 ANSI10/ANSI2, 480 V	B31101480
HT10 EO12/EHVI130, 200 V	B31102200
HT10 EO12/EHVI130, 220 V	B31102220
HT10 EO12/EHVI130, 380 V	B31102380
HT10 EO12/EHVI130, 400 V	B31102400
HT10 EO12/EHVI130, 415 V	B31102415
HT10 ISO320/ISO63, 200 V	B31103200
HT10 ISO320/ISO63, 220 V	B31103220
HT10 ISO320/ISO63, 380 V	B31103380
HT10 ISO320/ISO63, 400 V	B31103400
HT10 ISO320/ISO63, 415 V	B31103415
HT10 ISO320/ISO63, 480 V	B31103480

HT10 Performance Curve



- 1 Comparative pumping speed from back to back testing
- 2 AVS pumping speed
- 3 Throughput curves

HT16B Performance Curve



Comparative pumping speed

11580 ls⁻¹

AVS pumping speed

Nitrogen 6700 ls⁻¹

Helium 8500 ls⁻¹



Ordering information

Product description	Order no:
HT16B ANSI16/ANSI3, 200 V	B31220200
HT16B ANSI16/ANSI3, 220 V	B31220220
HT16B ANSI16/ANSI3, 380 V	B31220380
HT16B ANSI16/ANSI3, 400 V	B31220400
HT16B ANSI16/ANSI3, 400 V	B31220415
HT16B ANSI16/ANSI3, 440 V	B31220440
HT16B ANSI16/ANSI3, 460 V	B31220460
HT16B ANSI16/ANSI3, 480 V	B31220480
HT16B ISO500/ISO100, 200 V	B31222200
HT16B ISO500/ISO100, 220 V	B31222220
HT16B ISO500/ISO100, 380 V	B31222380
HT16B ISO500/ISO100, 400 V	B31222400
HT16B ISO500/ISO100, 415 V	B31222415
HT16B ISO500/ISO100, 440 V	B31222440
HT16B ISO500/ISO100, 460 V	B31222460
HT16B ISO500/ISO100, 480 V	B31222480

- 1 Comparative pumping speed from back to back testing
- 2 AVS pumping speed
- 3 Throughput curves

Performance Curves

HT20B Diffusion Pump

HT20B



Comparative pumping speed

18000 ls^{-1}

AVS pumping speed

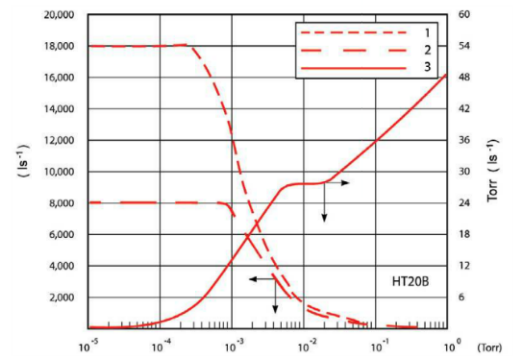
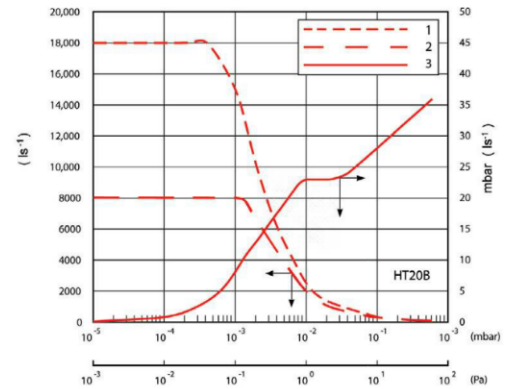
Nitrogen 8000 ls^{-1}

Helium 16000 ls^{-1}

Ordering information

Product description	Order no:
HT20B ANSI20/ANSI4, 200 V	B31420200
HT20B ANSI20/ANSI4, 220 V	B31420220
HT20B ANSI20/ANSI4, 380 V	B31420380
HT20B ANSI20/ANSI4, 400 V	B31420400
HT20B ANSI20/ANSI4, 415 V	B31420415
HT20B ANSI20/ANSI4, 440 V	B31420440
HT20B ANSI20/ANSI4, 460 V	B31420460
HT20B ANSI20/ANSI4, 480 V	B31420480
HT20B ISO630/ISO160, 200 V	B31422200
HT20B ISO630/ISO160, 220 V	B31422220
HT20B ISO630/ISO160, 380 V	B31422380
HT20B ISO630/ISO160, 400 V	B31422400
HT20B ISO630/ISO160, 415 V	B31422415
HT20B ISO630/ISO160, 440 V	B31422440
HT20B ISO630/ISO160, 460 V	B31422460
HT20B ISO630/ISO160, 480 V	B31422480

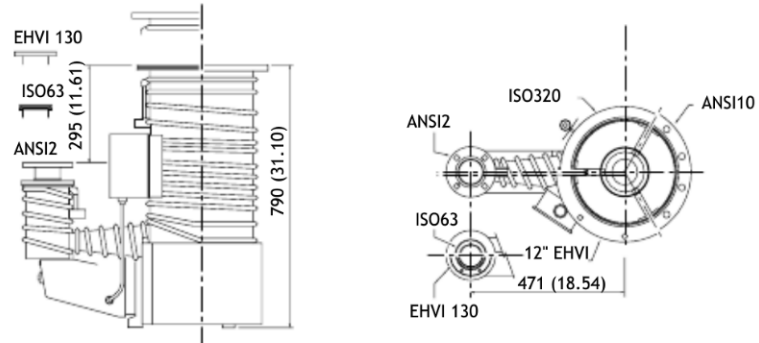
HT20B Performance Curve



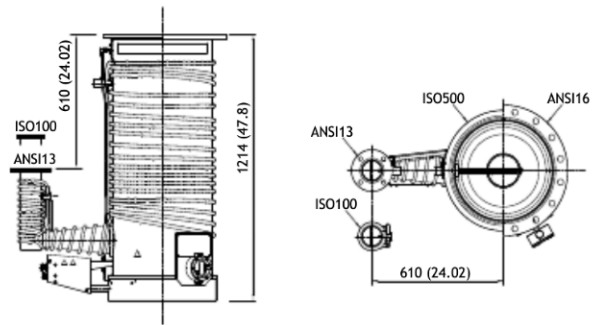
- 1 Comparative pumping speed from back to back testing
- 2 AVS pumping speed
- 3 Throughput curves

Dimensions

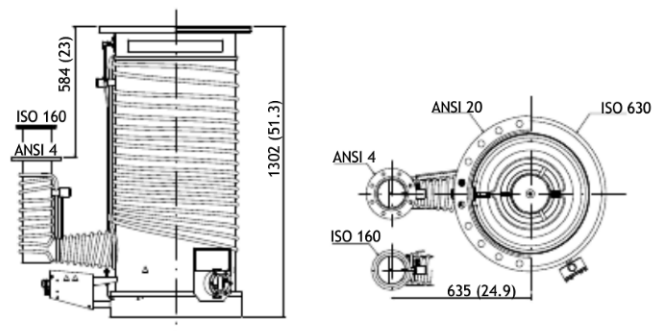
HT10 Dimensions



HT16B Dimensions



HT20B Dimensions



Technical data



	Units	HT10	HT16B	HT20B
Comparative pumping speed				
Nitrogen	ls ⁻¹	4650	11580	18000
ISO Pumping Speed at 10⁻³mbar				
Nitrogen	ls ⁻¹	2900	6700	8000
Helium	ls ⁻¹	4900	8500	16000
AVS pumping				
Nitrogen	ls ⁻¹	2900	6700	8000
Helium	ls ⁻¹	4900	8500	16000
Maximum throughput (Nitrogen)	mbar ls ⁻¹ / Torr ls ⁻¹	10/7.5	18/13.5	24/18
Critical backing pressure (with Edwards 704)	mbar/Torr	1.1/0.8	1.4/1	1.3/1
Minimum backing pump displacement for maximum throughput	m ³ h ⁻¹ /ft ³ min ⁻¹	60/35	94/55	135/80
Recommended backing pump‡		GV80, E2M80	GV80, GXS250, E2M175	GXS250, E2M175
Recommended fluid		Edwards 704	Edwards 704	Edwards 704
Fluid charge (dry)	ml/qt	1250/1.3	2400/2.5	3600/ 3.8
Inlet/backing connection		ANSI10/ANSI12 or EO12 inch/ EO130 mm or ISO320/ISO63	ANSI16/ANSI3 or ISO500/ISO100	ANSI20/ANSI4 or ISO630/ISO160
Water connection	inch NPT female		¾ inch NPT female	
Heater power	kW/hp	5.1/6.8	9/12	12.6/16.9
Warm up time	min	30	60	60
Minimum cooling water flow at 25 °C	l h ⁻¹	400	700	960
	US gal min ⁻¹	1.8	3.1	4.2
Pressure drop across cooling water supply	bar/psi		1/14.5	1.2/17.4
Weight	kg/lbs	80/176	185/408	275/605

‡ These are given for guidance, please contact Edwards for a recommendation of pump combinations best suited to your application.