

TwisTorr 305 SF, 305-IC SF, 305 SF SEM



Technical Specifications

Technical Specifications		
Pumping speed	Main Flange (ISO 100K)	Side Port (KF40)
N ₂	250 L/s	11 L/s
He	255 L/s	15 L/s
H ₂	220 L/s	14.5 L/s
Max gas flow rate:		
	TwisTorr 305 SF	TwisTorr 305-IC SF
N ₂	450 sccm	380 sccm
H ₂	500 sccm	500 sccm
He	500 sccm	500 sccm
Note: value refer to water-cooling pump version with: nwater temperature between 15°C and 20°C (non condensing) nbacking pump with pumping speed equal or above 5 m ³ /h		
Compression ratio	Total	Foreline/Side Port
N ₂	2 x 10 ⁸	2.1 x 10 ²
He	1 x 10 ⁸	1.4 x 10 ²
H ₂	2 x 10 ⁴	1 x 10 ²
Max foreline pressure tolerance N 16 mbar		
Note: foreline tolerance defined as the pressure at which the turbopump still produces a compression of 100. For continuous operation, water cooling recommended (water temperature between 15°C and 20°C)		
Base pressure with recommended forepump < 1 x 10 ⁻¹⁰ mbar (< 1 x 10 ⁻¹⁰ Torr)		
(According to standard DIN 28 428, the base pressure is that measured in a leak-free test dome, 48 hours after the completion of test dome bake-out, with a Turbopump fitted with a ConFlat flange and using the recommended pre-vacuum pump)		
Inlet flange	ISO 100 K	
Foreline flange	KF16 NW (KF25 – optional)	
Max Rotation Speed	60600 rpm (1010 Hz driving frequency)	
Start-up time	< 3 minutes	
Recommended forepump	Mechanical pump: Agilent DS 102, DS 302 Dry Pump: Agilent IDP-3 (no gas flow), IDP-7, IDP-10	
Operating position	Any	
Operating ambient temperature	+5°C ÷ +35°C	
Relative humidity of air	From graph in Figure 1 (non condensing)	
Bakeout temperature	ISO flange: 75°C at inlet flange max Note: Measure a point close to the sealing element.	
Lubricant	Permanent lubrication	
Air cooling requirements	Natural convection (only with no gas load) Forced air (5÷35°C ambient temperature)	

Coolant water	Minimum flow: 50 L/h (0.22 GPM) Maximum flow: 150 L/h (0.66 GPM) Temperature: +15 °C to +30°C Max pressure: 5 bar (75 psi)
Noise Pressure level at 1 m, at full speed	41 dB(A)
Note: kc l t jscq qcb ml qgelg a rgtc q knjc p lb L , compression ratio estimated); standard deviation per test: pumping speed: below ± 7%; noise pressure level ± 10%" (only pump)	

Technical Specifications	
Installation category	II
Pollution degree	2
Storage temperature	-40° C to +70° C
Weight kg (lbs): Pump ISO 100 K	305 SF 5.84 (12.87) 305-IC SF 5.74 (12.65) Note: versions with water cooling kit
Remote Controller Voltage Frequency Power Fuse	100 - 240 Vac (voltage fluctuation +/- 10%) 50 to 60 Hz 450 VA 2 x T4 A (slow blow) 250 V
Power supply (24 Vdc) Max input power: Pump stand-by average power: Pump max operating power:	300 VA 10 W 150 W
Max operating altitude	3000 m
The maximum magnetic field strengths allowed for Agilent turbo pumps are:	3. E sqq 3 kR gl rfc rp lqtcp j bgpcargml ./. E sqq /. kR gl rfc vg j bgpcargml
Compliance with:	CL 4/././+/ CL 4/104+/ CL ././0+0 CL ./0/.. EN 50581 Machinery Directive 2006/42/EC Electromagnetic Compatibility Directive 2014/30/EU Directive 2011/65/EU

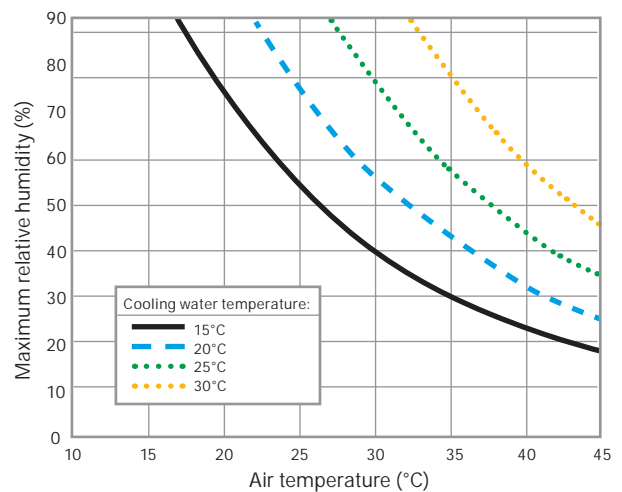
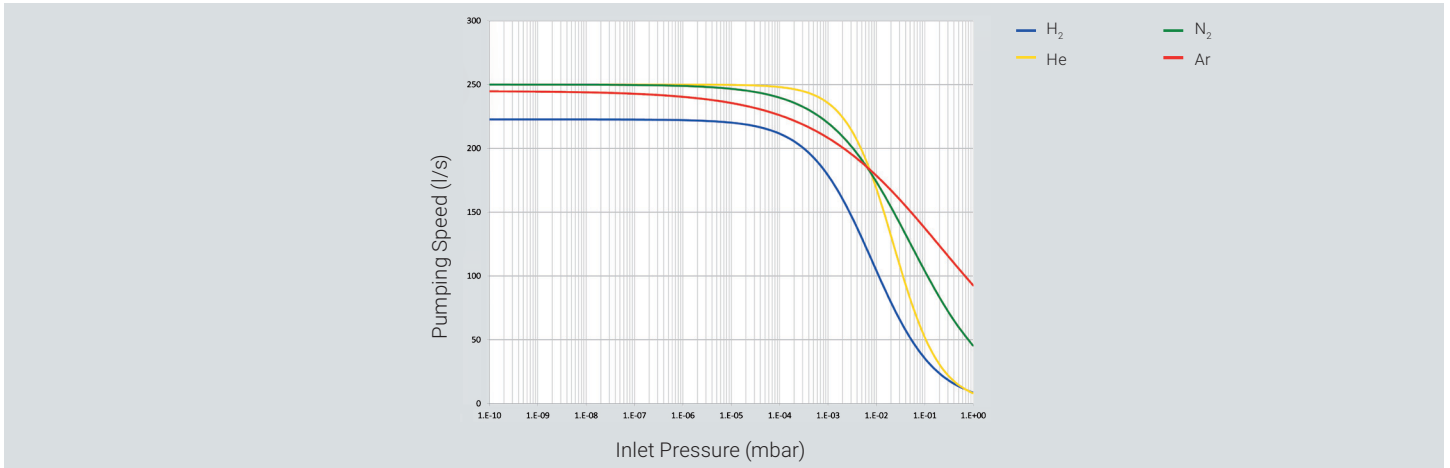
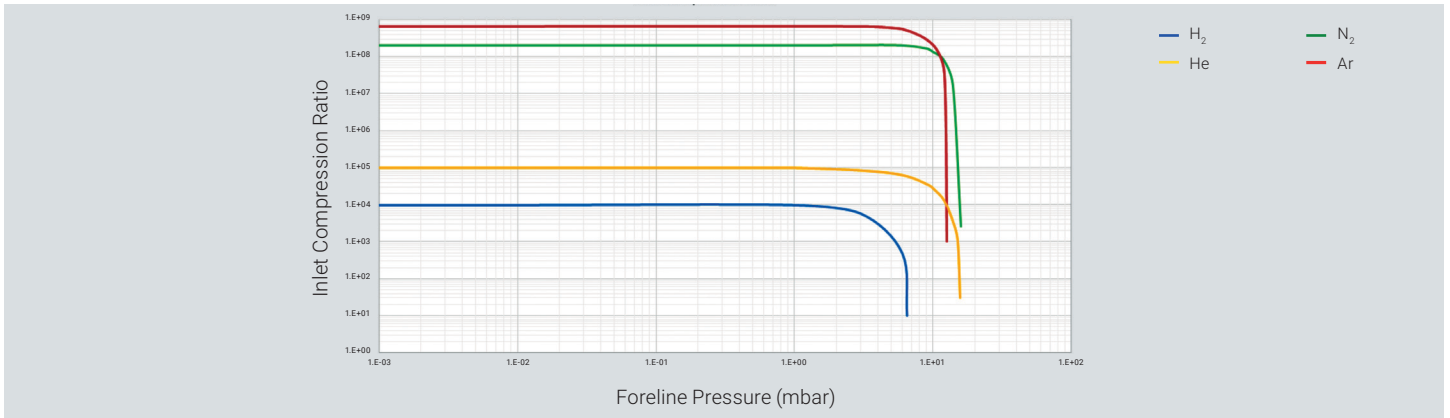


Fig. 1: Maximum allowed relative humidity as a function of the air temperature for each cooling-water temperature.

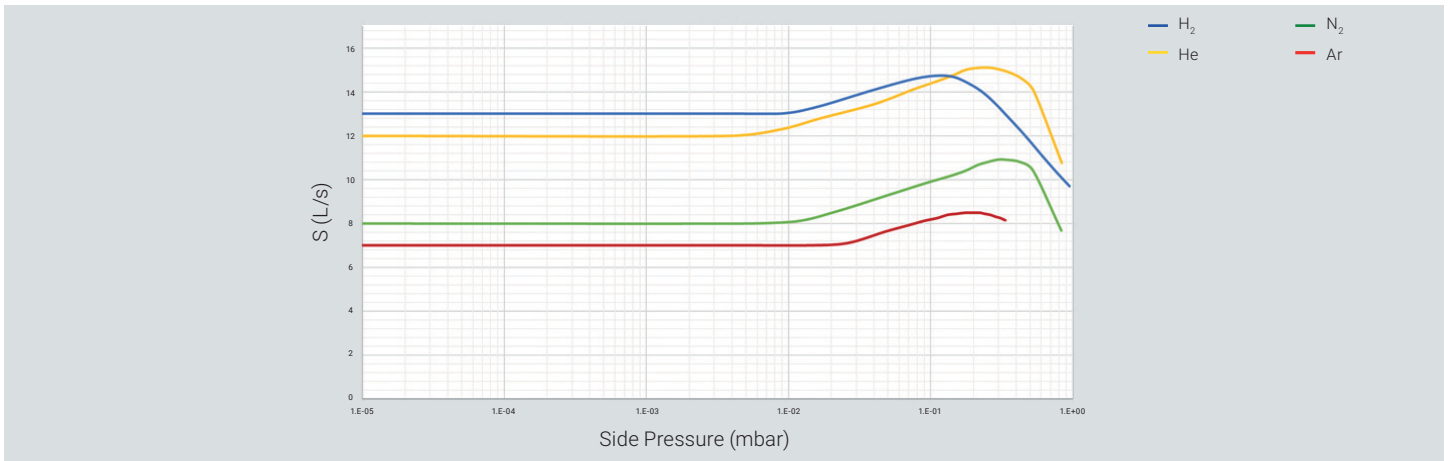
Pumping Speed - TwisTorr 305 SF, 305-IC SF, 305 SF SEM



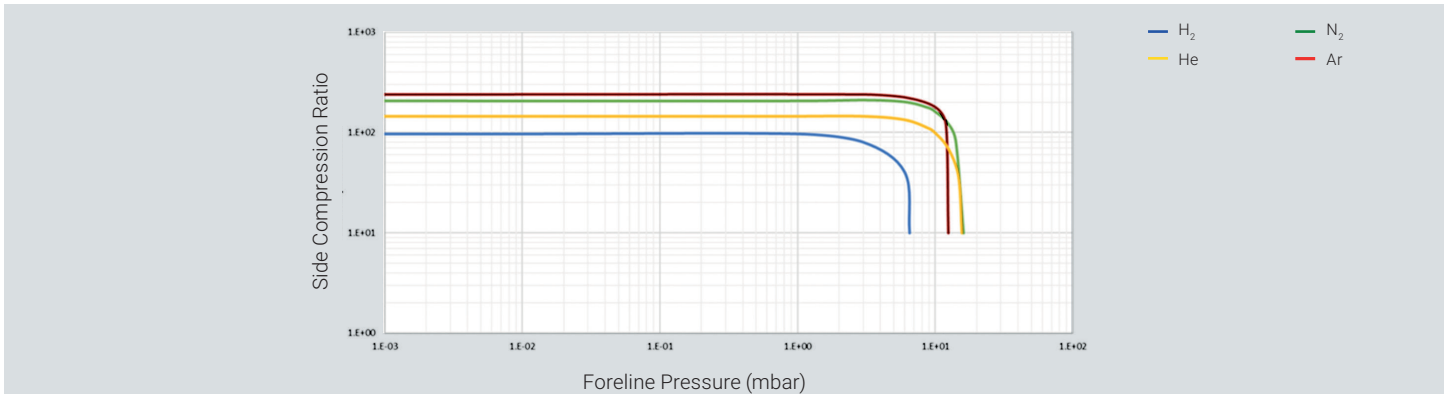
Compression Ratio - TwisTorr 305 SF, 305-IC SF, 305 SF SEM



Pumping Speed - TwisTorr 305 SF, 305-IC SF - Side Port, 305 SF SEM



Compression Ratio - TwisTorr 305 SF, 305-IC SF - Side Port, 305 SF SEM



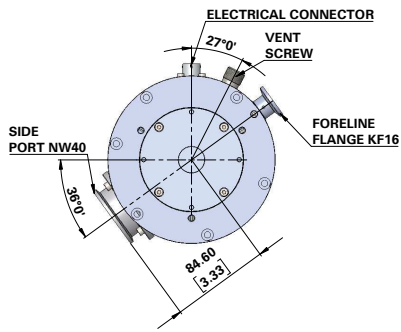
Ordering Information TwisTorr 305 SF, 305-IC SF, 305 SF SEM

Pumps	Part Number	Inlet Flange	Cooling	Material
TwisTorr 305 SF	X3513-64066	ISO100K	Air	Aluminum
TwisTorr 305-IC SF, RS 485	X3513-64067	ISO100K	Air	Aluminum
TwisTorr 305 SF SEM	X3513-64167	ISO100K	Air	Aluminum
Controllers				
TwisTorr 305 FS Remote Controller 232-485			X3506-64130	
TwisTorr 305 FS Remote Controller Profibus			X3506-64131	

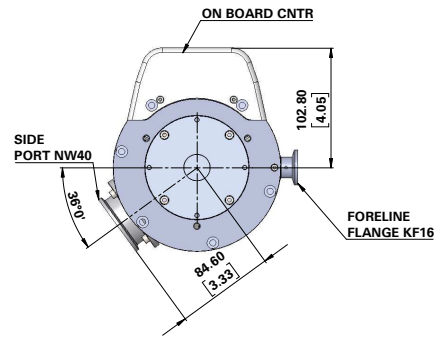
* For TwisTorr 305 SF

** For TwisTorr 305-IC SF

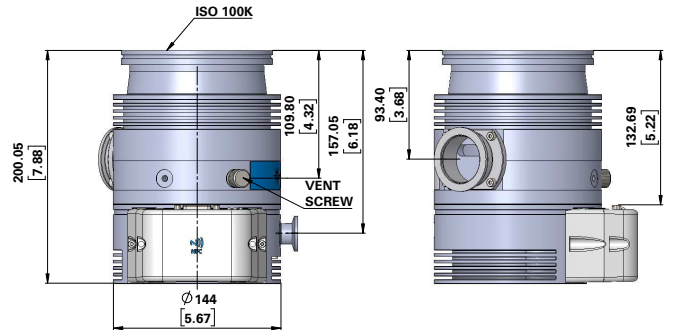
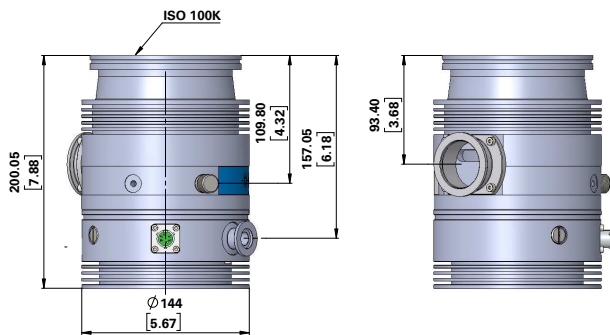
Outline Drawings Agilent TwisTorr 305 SF



Outline Drawings Agilent TwisTorr 305-IC SF

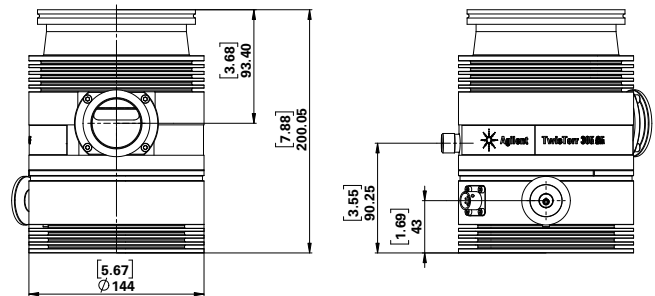
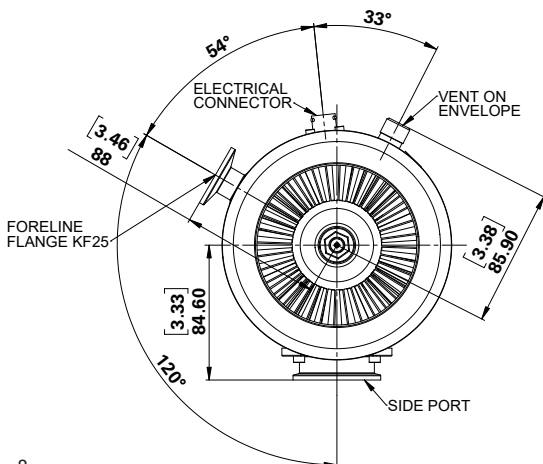


Dimensions: millimeters [inches]



3D Drawings available for download

Outline Drawings TwisTorr 305 SF SEM



Dimensions: millimeters [inches]

www.agilent.com/chem/twistorr305

United States and Canada

Toll free: +1 800 882 7426
vpl-customer care@agilent.com

Europe

Toll free: 00 800 234 234 00
vpt-customer care@agilent.com

China

Toll free: 400 8206778 (mobile)
Toll free: 800 8206778 (landline)
contacts.vacuum@agilent.com

This information is subject to change without notice.

DE28466842

© Agilent Technologies, Inc. 2022
Published in the USA, June 15, 2022
5994-4859EN

