



Agilent TwisTorr 704FS

Technical Specifications

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Pumping speed	ISO 160 / CF 8"	
N ₂	660 L/s	
He	640 L/s	
H ₂	480 L/s	
Ar	625 L/s	
Max Gas Throughput (*)	Air Cooling (25°C ambient temperature)	Water Cooling (15°C water temp. / 25°C ambient temp.)
N ₂	4.3 mbar L/s 255 SCCM	6.2 mbar L/s 367 SCCM
He	7.9 mbar L/s 467 SCCM	10.4 mbar L/s 615 SCCM
Ar	1.5 mbar L/s 89 SCCM	3.3 mbar L/s 195 SCCM
(*) Backing pump 11.6 m ³ /hr		
Compression ratio and foreline tolerance (**)		
N ₂	> 1 x 10 ¹¹	10 mbar
He	2 x 10 ⁸	10 mbar
H ₂	3 x 10 ⁶	>4 mbar
Ar	> 1 x 10 ¹¹	8.5 mbar
(**) Foreline Tolerance defined as the pressure at which the turbopump still produce a compression of 100 and estimated in water cooling mode		
Base pressure with recomm. forepump	< 1 x 10 ⁻¹⁰ mbar (< 1 x 10 ⁻¹⁰ Torr)	
Inlet flange	ISO 160K, ISO 160F, CFF 8"	
Foreline flange	NW25 (NW40 as option)	
Rotational speed	Auto setting from 40'800 RPM to 49'500 RPM	
Start-up time	< 5 minutes	

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Recommended forepump	Agilent DS302 Rotary Vane Pump Agilent IDP-10 Dry Scroll Pump Agilent IDP-15 Dry Scroll Pump	
Operating position	Any	
Oper. ambient temp.	+5 °C to +35 °C	
Rel. humidity of air	0 - 90 % (not condensing)	
Bakeout temp.	ISO pump: 80 °C at inlet flange CFF pump: 120 °C at inlet flange	
Lubricant	Permanent lubrication	
Cooling requirements		
Air cooling	Air temperature from +5°C to 35°C	
Water cooling	Water temperature from +15°C to +25°C Water flow min. 100L/h	
Noise Pressure Level (at 1m at full speed)	43dB(A)	
Storage temp.	-40°C to +70°C	
Max altitude	3000 m	
Weight kg (lbs)	ISO160K	20.6 kg (45.3)
	ISO160F	22.6 kg (49.7)
	CFF 8"	22 kg (48.4)

Conformity to Norms	
EMC (Control Units)	61326-1
Safety (CE/CSA)	61010-1
Machinery Directive	DIR 2006/42/CE
Low Voltage Directive	DIR 2014/35/EU
EMC Directive (Control Units)	DIR 2014/30/EU
ROHS	DIR 2011/65/EU



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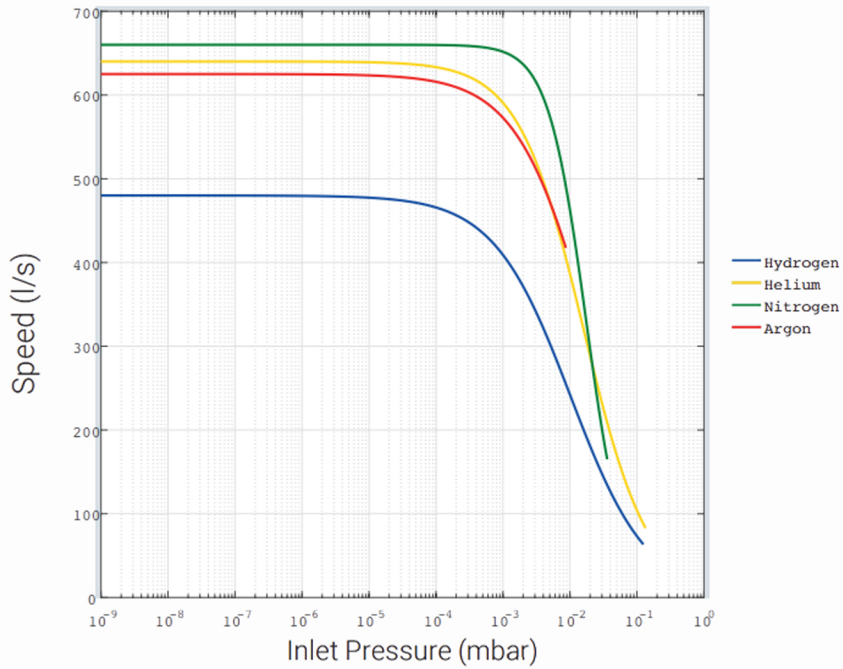
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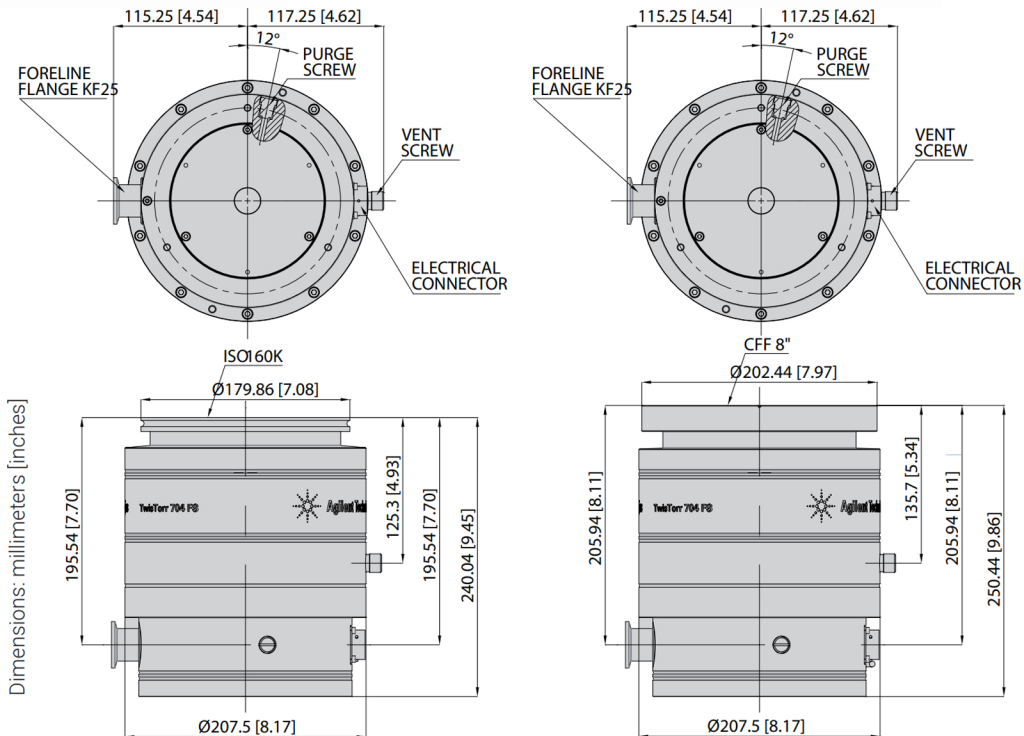
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Agilent TwisTorr 704FS Pumping Curves



Dimensions





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Features & Benefits

- reduced cost of ownership and system down-time
- highest pumping speed for gases
- compact, reliable, energy efficient
- plug & play
- floating suspension
- operation in any position
- quiet and low vibration
- oil free, permanent lubrication
- ceramic ball bearings
- suitable for high gas load applications
- thermal efficiency & temperature control



Applications

- academic research • surface analysis • electron microscopes • analytical instruments • industrial • semiconductor • mass spectrometry