



# Agilent Twistorr 304 FS

## Data sheet

中山共享光电真空技术有限公司

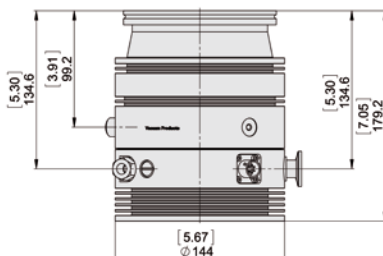
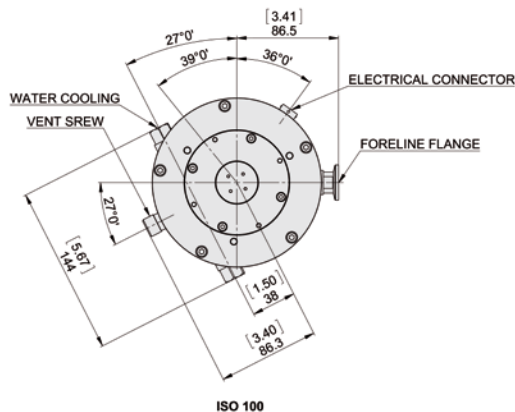


The TWISTORR 304 FS is the new generation 300 l/s Turbo Pump with Agilent Floating Suspension

● Agilent Floating Suspension, the breakthrough bearing technology that reduces

acoustical noise and vibration

- Proven best performance on the market, with new TwisTorr stages optimized for H<sub>2</sub> Compression Ratio
- Ideal for demanding instrumentation, academic and research applications



Dimensions: millimeters [inches]

### Technical Specifications

Pumping speed	ISO 100 / CF 6"	ISO 160 / CF 8"
N <sub>2</sub>	250 l/s	250 l/s
He	255 l/s	255 l/s
H <sub>2</sub>	220 l/s	220 l/s
Ar	250 l/s	250 l/s

Gas throughput at full rotational speed (with recommended forepump)	Ambient Temp. (25°C)	Water Temp. (25°C, 50 l/h)
N <sub>2</sub>	170 sccm	170 sccm
Ar	110 sccm	110 sccm

Compression ratio & Foreline Tolerance		
N <sub>2</sub>	> 1 x 10 <sup>11</sup>	>10 mbar
He	> 1 x 10 <sup>8</sup>	>10 mbar
H <sub>2</sub>	1.5 x 10 <sup>6</sup>	>4 mbar
Ar	> 1 x 10 <sup>11</sup>	>10 mbar

Base pressure with recommended forepump (5 m <sup>3</sup> /h)	
	< 1 x 10 <sup>-10</sup> mbar (< 1 x 10 <sup>-10</sup> Torr)

Inlet flange	
	CFF 8" O.D. ISO 160 CFF 6" O.D. ISO 100

Foreline flange	
	KF16 NW (KF25 - optional)

Rotational speed	
	60000 rpm (1010 Hz driving frequency)

Start-up time	
	< 3 minutes

Recommended forepump	mechanical:	Agilent DS 102
	dry pump:	Agilent SH 110

Operating position	
	Any

Operating ambient temperature	
	+5 °C to +35 °C

Relative humidity of air	
	0 - 90 % (not condensing)

Bakeout temperature	
	80 °C at inlet flange max (ISO flange) 120 °C at inlet flange max (CFF flange)

Lubricant	
	Permanent lubrication

Cooling requirements	
	Forced air (5- 35 °C ambient temperature) Water (mandatory if ambient temperature > 35 °C)

Coolant water	
	Minimum flow: 50 l/h (0.89 GPM) Temperature: +15 °C to +30 °C Pressure: 3 to 5 bar (45 to 75 psi)

Noise Pressure level	
	< 50 dB(A) at 1 meter

Storage temperature	
	-40° C to +70° C

Max altitude	
	3000 m

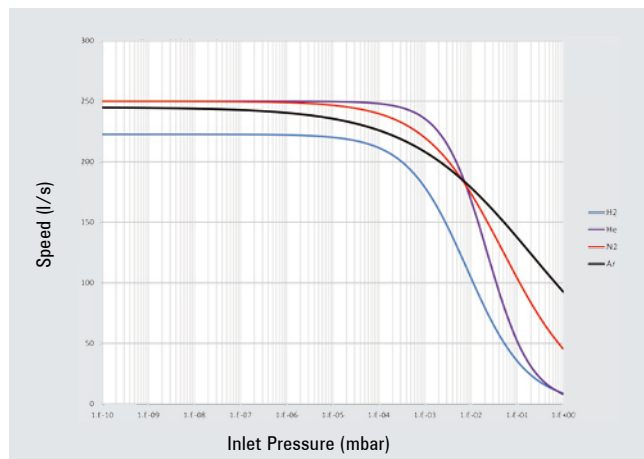
Weight kg (lbs)	Pump ISO 100	5.5 kg (12.3)
	Pump CFF 6"	7.5 kg (16.5)
	Pump ISO 160	5.7 kg (12.6)
	Pump CFF 8"	9.7 kg (20.9)



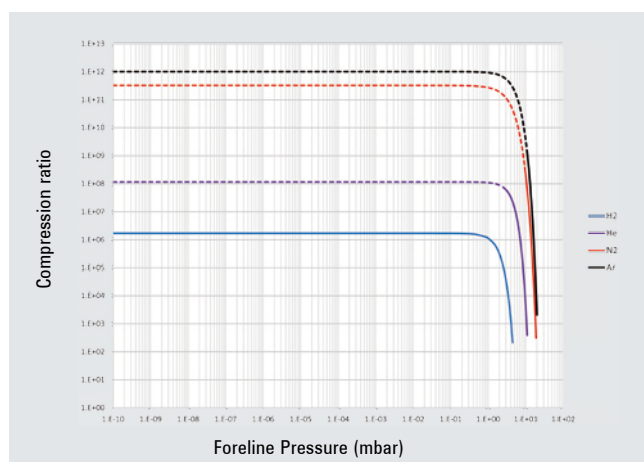
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### Pumping Speed



### Compression Ratio



### Ordering Information

Pumps	Configuration Options
TwisTorr 304 FS ISO100 w/ water cooling	X3500#11#20
TwisTorr 304 FS CF6'' w/ water cooling	X3500#11#21
TwisTorr 304 FS ISO160 w/ water cooling	X3500#11#22
TwisTorr 304 FS CF8'' w/ water cooling	X3500#11#23
TwisTorr 304 FS ISO100 w/o water cooling	X3500#10#20
TwisTorr 304 SF CF6'' w/o water cooling	X3500#10#21
TwisTorr 304 FS ISO160 w/o water cooling	X3500#10#22
TwisTorr 304 FS CF8'' w/o water cooling	X3500#10#23
TwisTorr 304 FS ISO100 SF w/ water cooling	X3500#11#24

Controllers	Part Numbers
TwisTorr 304 FS on board controller 24 Vdc	X3507-64002
TwisTorr 304 FS on board controller 100-240 Vac	X3507-64003
TwisTorr 304 FS AG rack controller with RS232/485	X3506-64002
TwisTorr 304 FS AG rack controller with Profibus	X3506-64003

Accessories	Part Numbers
Mains cable NEMA plug, 3 m long	9699958
Mains cable European plug, 3 m long	9699957
Serial cable and T-plus Software	9699883
Inlet Screen ISO100	X3500-68000
Inlet Screen CFF 6''	9699302
Inlet Screen ISO160	X3500-68001
Inlet Screen CFF 8''	9699304

Accessories	Part Numbers
Water cooling kit	9699337
Plastic water cooling kit	9699347
Air cooling kit for On board controller	X3500-68010
Fan extension cable for On board controller	9699949
Air cooling kit for rack AG controller	X3500-68011
Fan extension cable for rack AG controller	9699940
Bracket for On board controller side mounting	X3500-68012
Vibration isolator ISO 100	9699344
Vibration isolator CF 6''	9699334
Vibration isolator ISO 160	9699345
Vibration isolator CF 8''	9699335
Vibration isolator ISO 100 IDX	9699396
Vent flange, NW 10 KF / M8	9699108
Delay vent valve 1.2 mm orifice	X3505-68000
Delay vent valve 0.5 mm orifice	X3505-68001
Vent valve N.O. for rack AG controller (0.5 mm)	9699844
Vent valve for on-board controller (1.2 mm)	9699834
Vent valve for on-board controller (0.5 mm)	9699834M006
Purge valve 10 SCCM NW16KF - M12	9699239
Purge valve 10 SCCM ¼ Swagelok - M12	9699240
Purge valve 20 SCCM NW16KF - M12	9699241
Purge valve 20 SCCM ¼ Swagelok - M12	9699242
Purge valve 10 SCCM ¼ Swagelok - ¼ Swagelok	9699232
Purge valve 20 SCCM ¼ Swagelok - ¼ Swagelok	9699236
Foreline flange KF25 ¼ gas	9699130
Active Gauges	Ask Agilent for details

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