



New Agilent TwisTorr 84 FS

Agilent Quality Assured

Data-Sheet

Technical Specifications



The 84 FS turbo pump combines TwisTorr drag stages and Agilent Floating Suspension to provide high reliability, low cost of ownership, superior vacuum performance and easy system integration. The Floating Suspension system reduces noise and vibration, extends operating life and assures stable performance over time.

Pumping speed		KF40	CFF 2.75"	ISO 63	CFF 4.5"
Ar	l/s	44	57	66	66
N ₂	l/s	49	56	67	67
He	l/s	38	46	63	63
H ₂	l/s	36	40	53	53

Gas throughput at full rotational speed (with recommended forepump)	Air cooling (35°C)	Water Cooling (25°C, 65 l/h)
	N ₂	100 sccm
Ar	70 sccm	70 sccm

Compression ratio & Foreline Tolerance	
Ar	> 1.0 x 10 ¹¹ >14 mbar
N ₂	≥ 1.0 x 10 ¹¹ >14 mbar
He	2.0 x 10 ⁸ >12 mbar
H ₂	5.0 x 10 ⁴ >4 mbar

Base pressure with recommended forepump (5 m ³ /h)	< 8 E-10 mbar (< 6.0 x 10 ⁻¹⁰ Torr)
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Inlet flange	CFF 4.5" O.D.	ISO 63
	CFF 2.75" O.D.	KF 40

Foreline flange	KF16 NW
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Rotational speed	81000 rpm (1350 Hz driving frequency)
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Start-up time	< 2 minutes
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Recommended forepump	mechanical:	Agilent DS 42 / DS 102
	dry pump:	Agilent SH 110 / IDP-3

Operating position	Any
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Operating ambient temperature	+5 °C to +35 °C
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Relative humidity of air	0 - 90 % (not condensing)
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Bakeout temperature	80°C for ISO (120°C for CFF) at inlet flange
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Lubricant	Permanent lubrication
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Cooling requirements

- Air Cooling	Air flow temperature +5°C to +35 °C
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- Water Cooling	Cooling water temperature: +15 °C to +25 °C Minimum flow: 65 l/h (0.30 GPM) Pressure: 2 to 4 bar (45 to 75 psi)
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Noise Pressure Level (at 1 mt at full speed)

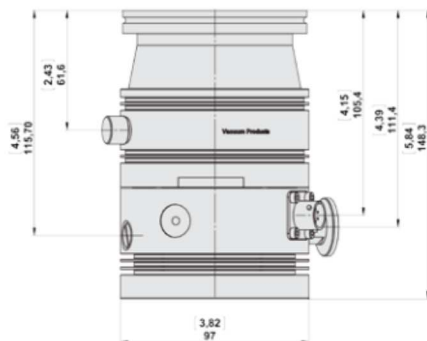
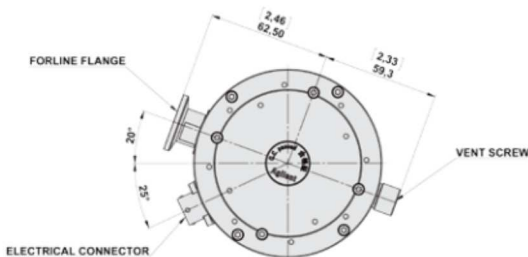
	40 dB(A) *
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Storage temperature	-40° C to +70° C
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Max altitude	3000 m
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Weight kg (lbs)	Pump ISO 63	kg 2.05
	Pump CFF 4.5"	kg 3.50
	Pump CFF 2.75"	kg 3.34
	Pump KF 40"	kg 2.37

*average value ± 4 dB(A) std deviation



Dimensions: millimeters [inches]

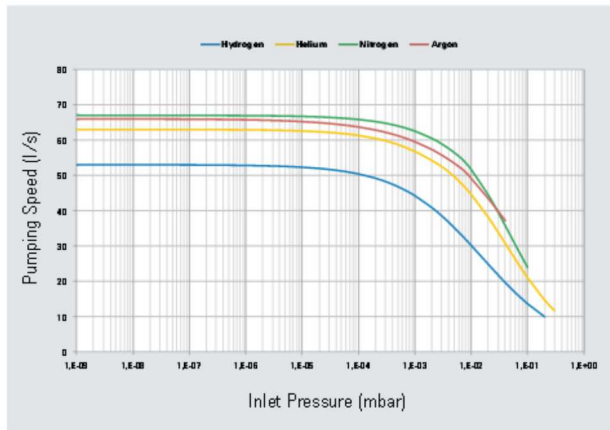


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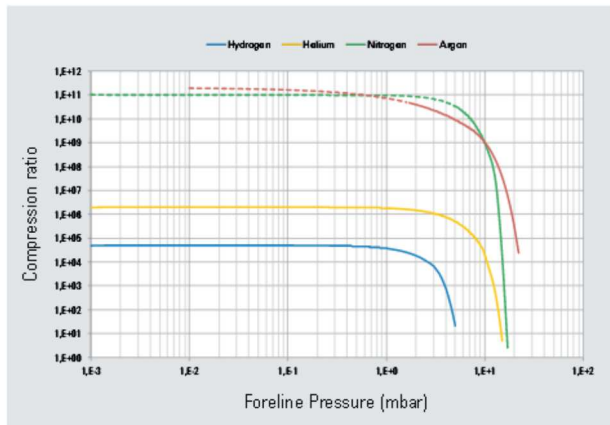
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Pumping Speed



Compression Ratio



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Ordering Information

Pumps	Part Numbers
TwisTorr 84FS ISO63	X3502-64000
TwisTorr 84FS KF40	X3502-64001
TwisTorr 84FS CFF4.5	X3502-64002
TwisTorr 84FS CFF2.75	X3502-64003

Controllers	Part Numbers
TwisTorr 84FS AG Rack controller RS232/485	X3508-64001
TwisTorr 84FS AG Rack controller Profibus	X3508-64002
TwisTorr 84FS on-board controller 110/220V	X3509-64000
TwisTorr 84FS on-board controller 24V	X3509-64001
TwisTorr 84FS PCB Controller	X3510-64000

Accessories	Part Numbers
Cables	
Mains cable NEMA plug, 3 m long	969-9958
Mains cable European plug, 3 m long	969-9957
Serial cable and T-plus software	969-9883
PCB cable	969-9869
Pump extension cable (3 m)	969-9942
Extension cable 5 m	969-9942M007
Extension cable 10 m	969-9942M006
Extension cable 15 m	969-9942M005
Extension cable 20 m	969-9942M004

Inlet screen	Part Numbers
Inlet screen ISO63	X3502-68001
Inlet screen CFF4.5"	X3502-68000
Inlet screen, KF40	969-9309
Inlet screen CFF 2.75"	969-9328

Cooling	Part Numbers
Metal Water Cooling Kit	X3502-68002
Plastic Water cooling kit	X3502-68003
Air cooling kit (0,5 m cable)	969-9290
Air cooling kit extension cable (5 m)	969-9940

Vibration isolator	Part Numbers
Vibration isolator ISO 63	969-9375
Vibration isolator CFF 4.5"	969-9376

Venting	Part Numbers
Vent Valve N.O. 0,5 mm orifice (0,5 m cable)	969-9844
Vent Valve extension cable (5 m)	969-9941
Vent Valve extension cable (10 m)	969-9941M003
Vent Valve extension cable (15 m)	969-9941M001
Vent Valve extension cable (20 m)	969-9941M005
Vent Screw M5	X3502-68005
Vent Adapter kit M5-M8	X1699-64039

Purge	Part Numbers
Purge Screw	X3502-68004
Purge valve 10 SCCM NW16KF - M12	969-9239
Purge valve 10 SCCM ¼ Swagelok - M12	969-9240
Purge valve 20 SCCM NW16KF - M12	969-9241
Purge valve 20 SCCM ¼ Swagelok - M12	969-9242
Purge valve 10 SCCM ¼ Swagelok - ¼ Swagelok	969-9232
Purge valve 20 SCCM ¼ Swagelok - ¼ Swagelok	969-9236

Mounting	Part Numbers
Controller side mounting bracket	X3502-68006
CFF4.5 Mounting kit	X3502-68007
Metric screws kit	X3502-68008
American screws kit	X3502-68009

Active Gauges	Part Numbers
FRG 700 Full Range Gauge	Ask Agilent for details
PVG 500 Pirani Vacuum Gauge	Ask Agilent for details
PCG 750 Pirani Capacitance Gauge	Ask Agilent for details
CDG-500 Capacitance Diaphragm Gauge	Ask Agilent for details

This information is subject to change without notice.

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