

Турбомолекулярные вакуумные насосы nEXT

Технические характеристики

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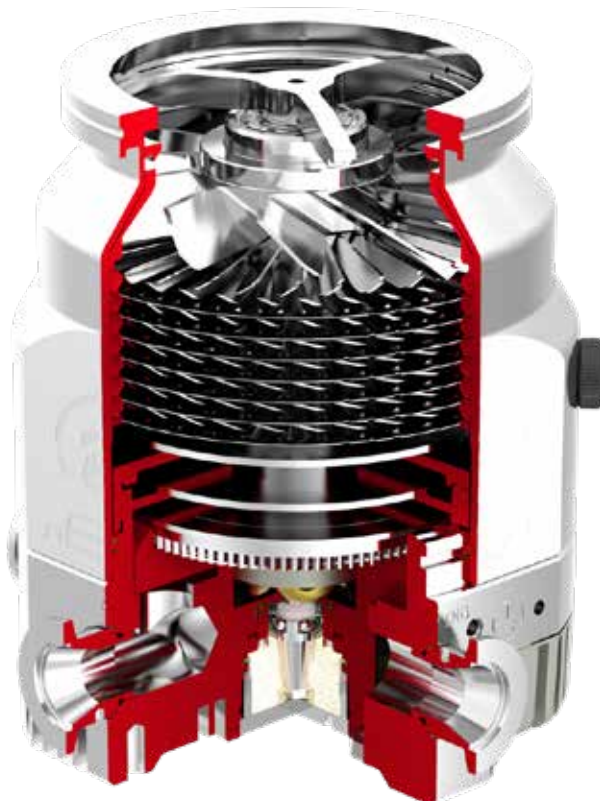
эл.почта: ewc@nt-rt.ru || сайт: <https://edwards.nt-rt.ru/>

nEXT TURBOMOLECULAR PUMPS



nEXT turbomolecular pumps are hybrid bearing pumps with a compound drag stage and integrated controllers for pumping speeds from 47 to 400 ls^{-1} . They all feature a permanent magnetic upper bearing, which eliminates hydrocarbons at the top of the rotor and an oil lubricated lower bearing for reliable high speed operation.

The on-board controller allows direct control via I/O or RS232/485 serial communications for easy integration with a PLC controller or alternatively it interfaces directly with our TIC and TAG controllers.



nEXT300 turbomolecular pump shown

PRODUCT FEATURES

INTEGRATED CONTROLLER

offers direct I/O or serial control or can be connected to one of our TAG or TIC controllers for easy systemisation.

FULLY USER-SERVICEABLE

oil cartridge and bearings can be changed in the field with minimal tooling.

UPPER MAGNETIC BEARING

ensures clean vacuum, low power and low vibration.

INLET SCREEN

supplied as standard (not shown).

OPTIMISED ROTOR DESIGNS

deliver high speeds and high compression.

RANGE OF VARIANTS SUITABLE FOR MANY APPLICATIONS

D = standard nEXT pump variant.

H = optimised rotor design for high light gas compression

T = additional regenerative stage for increased compression and higher backing pressure capability.

MANUAL VENT VALVE

offers a safe place to vent system with no risk of damage to pump and can be replaced with a solenoid valve for fully automated venting.

Technical data

		Units	nEXT85 DN40	nEXT85 DN63	nEXT85 DN100	nEXT240	nEXT300	nEXT400
Vacuum data								
Peak pumping speed	N ₂	ls ⁻¹	47	84	86	240	300	400
	Ar		44	80	84	230	280	380
	He		61	78	80/78 (D/H)	230	340	390
	H ₂		49/44 (D/H)	60/54 (D/H)	60/54 (D/H)	165	280	325
Compression ratio	N ₂		> 10 ¹¹			> 10 ¹¹ (D&T)		
	Ar		> 10 ¹¹			> 10 ¹¹ (D&T)		
	He		8 x 10 ⁶ /2 x 10 ⁷ (D/H)			3 x 10 ⁵ /10 ⁶ (D/T)	10 ⁶ /3 x 10 ⁶ (D/T)	10 ⁸ / ^{>} 10 ⁸ (D/T)
	H ₂		2 x 10 ⁵ /5 x 10 ⁵ (D/H)			10 ⁴ /10 ⁵ (D/T)	5 x 10 ⁴ /10 ⁵ (D/T)	5 x 10 ⁵ /10 ⁶ (D/T)
Ultimate vacuum (CF)		mbar	<5 x 10 ⁻¹⁰					
Maximum backing pressure	N ₂	mbar	18			9.5/20 (D/T)		
Interstage pumping speed	N ₂	ls-1	3.5/3 (D/H)			13		
	He		6/4.5 (D/H)			13		
	H ₂		7/5 (D/H)			11		
Peak boost port pumping speed (nitrogen)	RV12	m ³ h ⁻¹	N/A			26		
	nXDS10i					24		
Motor data								
Maximum power consumption		W	80 (range 50 - 120)			160 (range 50 - 200)		
Operating voltage		V d.c.	24 - 48					
Nominal rotational speed		rpm	90,000			60,000		
Physical data								
Weight (ISO/CF)		kg	3	3/4.5		6/9		7/10
Inlet connection			NW40	ISO63 or CF63	ISO100	ISO100 or CF100		ISO160 or CF160
Backing connection			NW16			NW25		
Interstage/Boost port connection			NW16			NW25		
Magnetic field tolerance		mT	5					
Run-up time		secs	115				145	175
Orientation of installation			Flange upright through to horizontal +/- 2°					
Cooling method			Ambient/Air/Water					
Maximum system flange temperature during bakeout (CF only)			Water cooled/forced air cooled 120/115°C					
Bearing technology			Permanent magnetic upper; oil lubricated ceramic lower					
User-serviceable bearings			Yes					
Controller type			Integrated					
Interfaces			RS232, 485, I/O					
Optional interfaces			External Profibus					



nEXT85



nEXT240

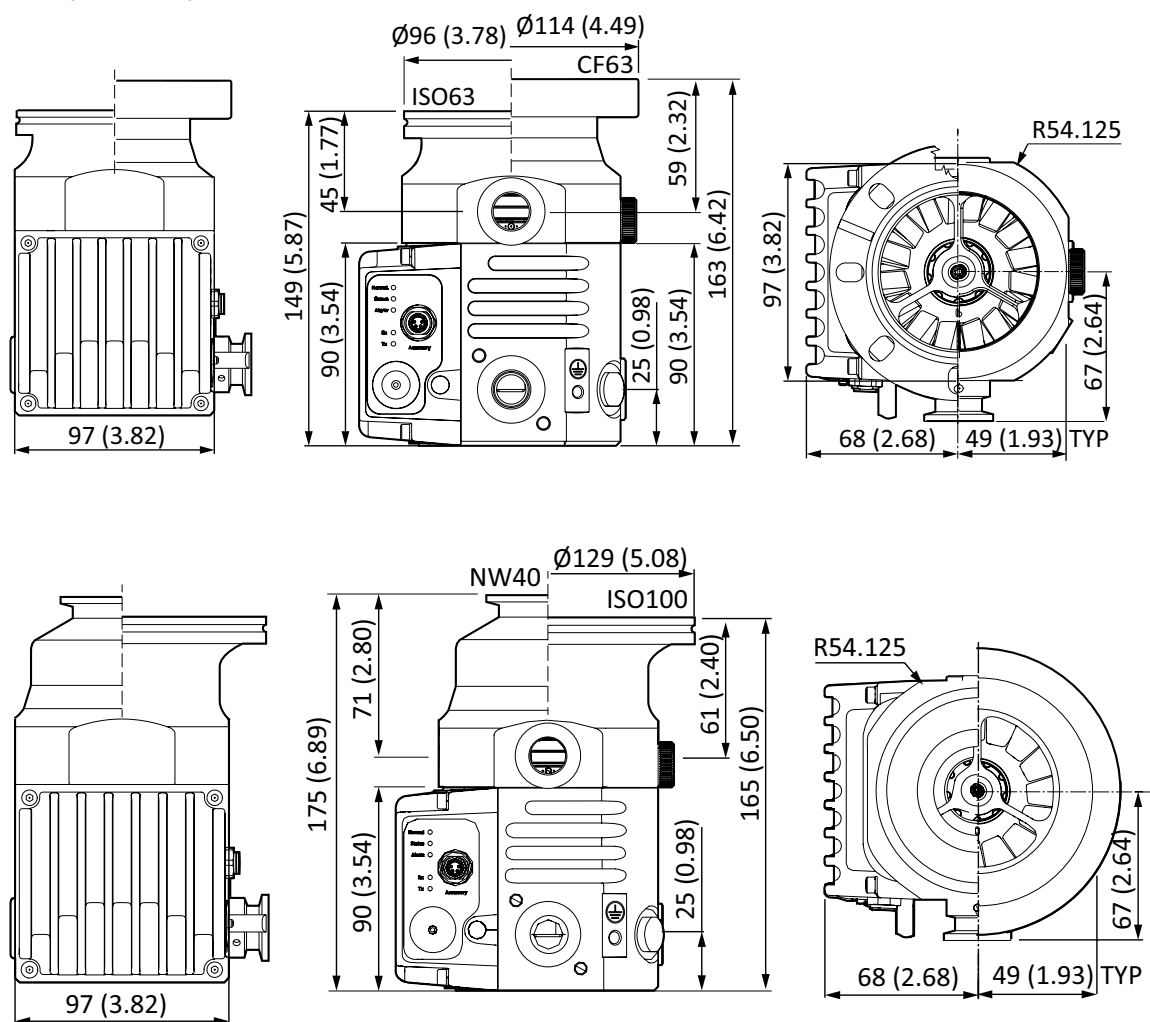


nEXT300

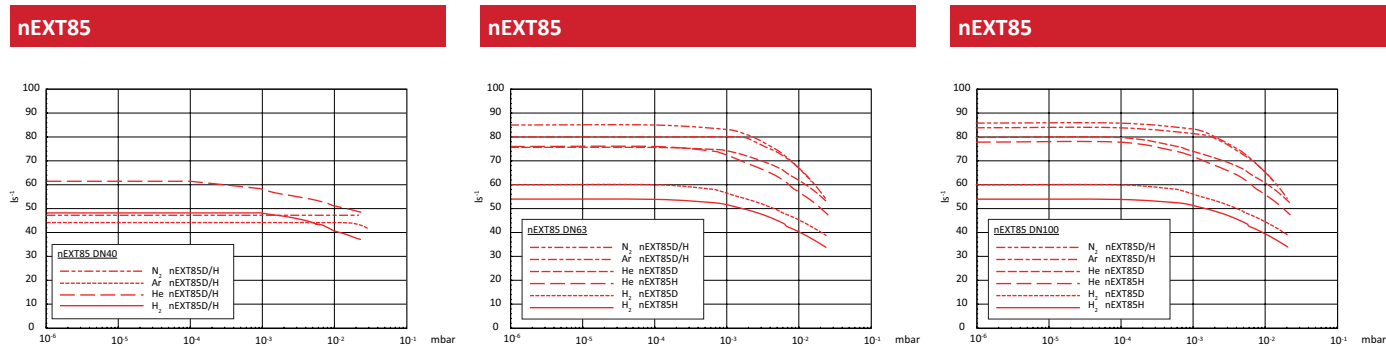


nEXT400

Dimensions (nEXT85)



Performance (nEXT85)



Ordering information (nEXT85)

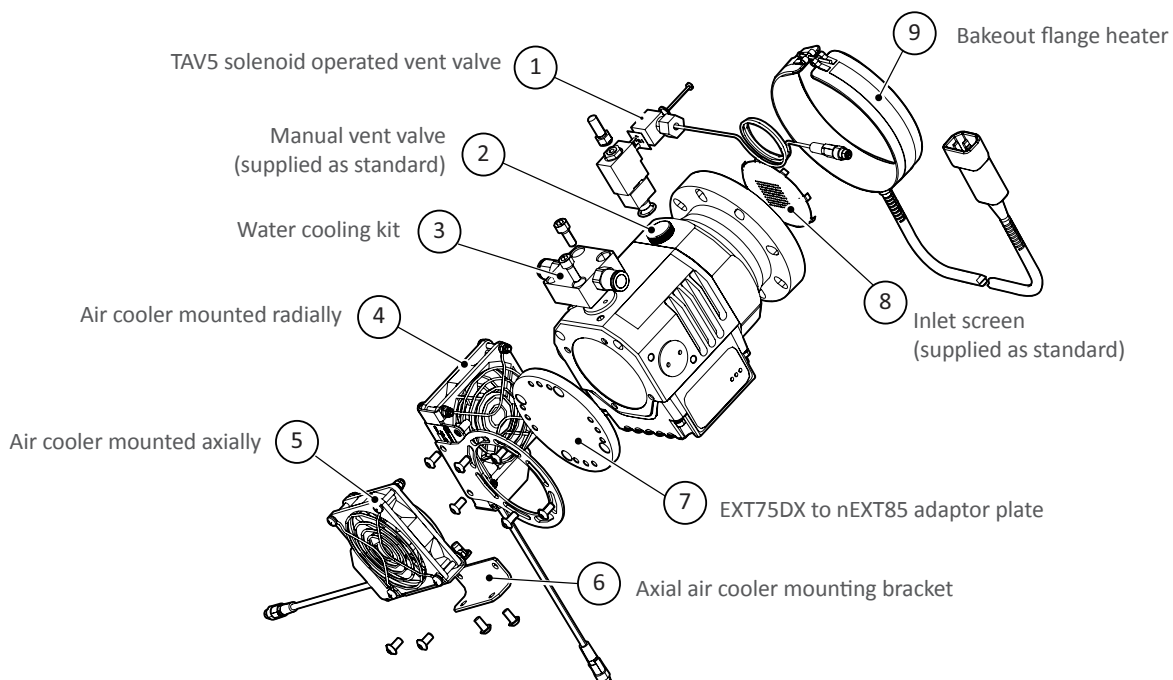
Pumps:

Product description	Order no.
nEXT85D NW40	B8G210A01
nEXT85D ISO63	B8G210B01
nEXT85D CF63	B8G210C01
nEXT85D ISO100	B8G210I01
nEXT85D ISO100 NW25 BACKING	B8G240I01
nEXT85ID ISO63 NW16 INTERSTAGE	B8G211B01
nEXT85ID ISO63 NW25 INTERSTAGE	B8G214B01
nEXT85H NW40	B8G410A01
nEXT85H ISO63	B8G410B01
nEXT85H CF63	B8G410C01
nEXT85H ISO100	B8G410I01
nEXT85IH CF63 NW16 INTERSTAGE	B8G411C01

Backing port NW16 unless stated otherwise

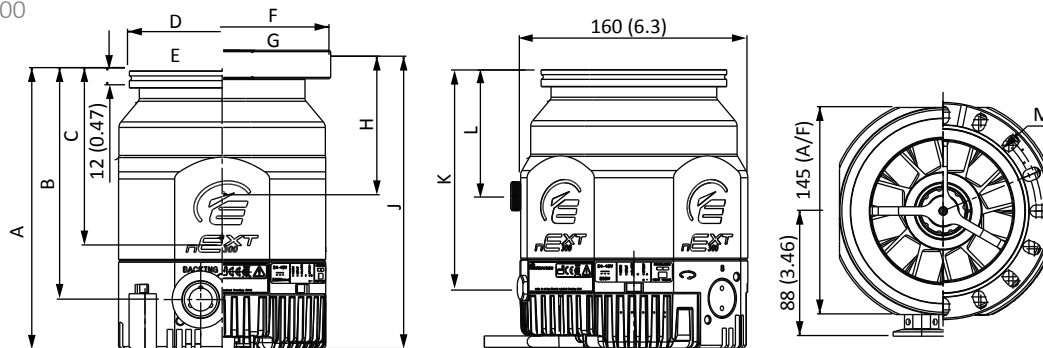
Accessories and spares:

	Product description	Order no.
Cooling	WCX85 water cooling kit (4 position)	B8G200833
	ACX85 air cooler connector fitted	B8G200820
Venting	N/O TAV5 vent valve connector fitted	B8G200834
	N/C TAV5 vent valve connector fitted	B8G200835
Vibration Isolators	ISO63	B58115000
	CF63	B58101000
Bakeout	CF63 flange heater 110 V	B8G200823
	CF63 flange heater 240 V	B8G200824
Controller	TAG controller	D39592000
	TAG power supply	D39592800
	TIC100 turbo and instrument controller	D39721000
Extension cables	1 m pump to controller cable	D39700835
	3 m pump to controller cable	D39700836
	5 m pump to controller cable	D39700837
Power cables	2 m electrical supply cable UK plug	D40013025
	2 m electrical supply cable EU plug	D40013030
	2 m electrical supply cable US plug	D40013120
Miscellaneous	Accessory "Y" adaptor	B8G200837
	Accessory extension	B8G200836
	Vent port adaptor	B58066011
	PRX10 purge restrictor	B58065001
	nEXT85 base mount to adapt from EXT75DX	B8G200838
	Bearing replacement kit	B8G200827
Service	Oil cartridge kit	B8G200828
	Bearing and oil cartridge kit	B8G200811
	Bearing replacement tool kit	B8G200845



Dimensions (nEXT240/300/400)

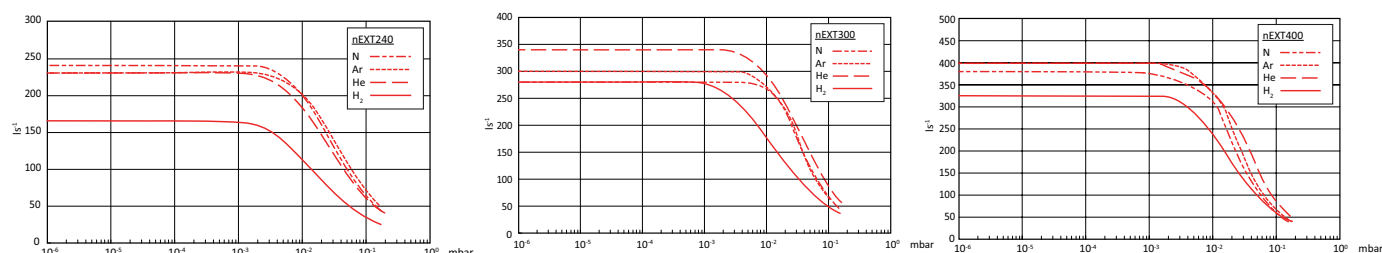
nEXT240/300/400



	nEXT240	nEXT300	nEXT400
A	189	195	195
B	155	160	160
C (C of G)	116	117	102
D	130	130	180
E	ISO100	ISO100	ISO160
F	152	152	202

	nEXT240	nEXT300	nEXT400
G	CF100	CF100	CF160
H (C of G)	90	100	81
J	197	210	200
K	147	153	153
L	83	87	89
M	(16)Ø8.4	(16)Ø8.4	(20)Ø8.4

Performance (nEXT240/300/400)



Boost technology (nEXT240/300/400)

For our Analytica Instrument Customers the “T” variants of nEXT 240,300,400 employ a unique viscous pumping stage which can be used to ‘boost’ the performance of the backing pump. This offers a much simplified vacuum solution with greatly improved pumping speeds and system power reduction. The example in the image below shows how the boost ports can be used to replace a primary pump on a differentially pumped system.

Customers in general laboratory and R&D applications will also benefit from the improved compression achieved with the “T” variant. To take maximum advantage of boost technology, please contact Edwards.



Ordering information (nEXT240/300/400)

Pumps:

Product description	Order no.
nEXT240D ISO100 80W	B81200101
nEXT240D CF100 80W	B81200201
nEXT240D ISO100 160W	B81200100
nEXT240D CF100 160W	B81200200
nEXT240T B90 ISO100 160W	B81321100
nEXT240T B180 ISO100 160W	B81322100
nEXT300D ISO100 80W	B82200101
nEXT300D CF100 80W	B82200201
nEXT300D ISO100 160W	B82200100
nEXT300D CF100 160W	B82200200
nEXT300ID I225 ISO100 160W	B82212100
nEXT300T B90 ISO100 160W	B82321100
nEXT300T B90 CF100 160W	B82321200
nEXT300T B180 ISO100 160W	B82322100
nEXT300T B180 CF100 160W	B82322200
nEXT300IT I225 B90 ISO100 160W	B82345100
nEXT400D ISO160 80W	B83200301
nEXT400D CF160 80W	B83200401
nEXT400D ISO160 160W	B83200300
nEXT400D CF160 160W	B83200400
nEXT400T B90 ISO160 160W	B83321300
nEXT400T B90 CF160 160W	B83321400
nEXT400T B180 ISO160 160W	B83322300

Number after B indicates Boost port location relative to backing port
Number after I indicates Interstage port location relative to backing port

Accessories and spares:

	Product description	Order no.
Cooling	nEXT radial air cooler	B58053175
	nEXT axial air cooler	B58053185
	nEXT water cooler	B80000815
Venting	TAV5 solenoid operated vent valve	B58066010
Vibration Isolators	ISO100	B58120000
	CF100	B58105000
	CF160	B58110000
Bakeout	CF100 100-120 V flange heater	B58052773
	CF100 200-240 V flange heater	B58052774
	CF160 100-120 V flange heater	B58052775
	CF160 200-240 V flange heater	B58052776
Controller	TAG controller	D39592000
	TAG power supply	D39592800
	TIC200 turbo and instrument controller	D39722000
Extension cables	1 m pump to controller cable	D39700835
	3 m pump to controller cable	D39700836
	5 m pump to controller cable	D39700837
Power cables	2 m electrical supply cable UK plug	D40013025
	2 m electrical supply cable EU plug	D40013030
	2 m electrical supply cable US plug	D40013120
Miscellaneous	Vent port adaptor	B58066011
	PRX10 purge restrictor	B58065001
Service	Oil cartridge tool kit	B80000812
	Bearing tool kit	B80000805
	Oil cartridge	B80000811
	Bearing and oil cartridge	B80000810



nEXT85 TURBOMOLECULAR PUMP

nEXT85, one of the smaller members of our nEXT turbomolecular pump family, has been extended to include variants that can be mounted in any orientation.

These variants deliver the same performance characteristics and reliability as our current pumps, but also provide further flexibility for applications where it is required.

In addition to enhanced performance nEXT85 benefits from the same service and operational functionalities from the larger nEXT range, including field serviceability and in-built intelligence, for a truly class leading product.

FEATURES AND BENEFITS

- Any orientation for flexibility of use
- Class leading performance in a reduced footprint
- Enhanced customer choice with standard and compression focused variants
- Increased operating envelope maximised by Edwards' patented direct impeller temperature measurement technology
- The bearing and oil cartridge in the nEXT85 are fully end-user serviceable
- Intelligent pumps with included micro USB port and Edwards nST software allowing pump monitoring, control and configuration
- Full suite of tailored accessories

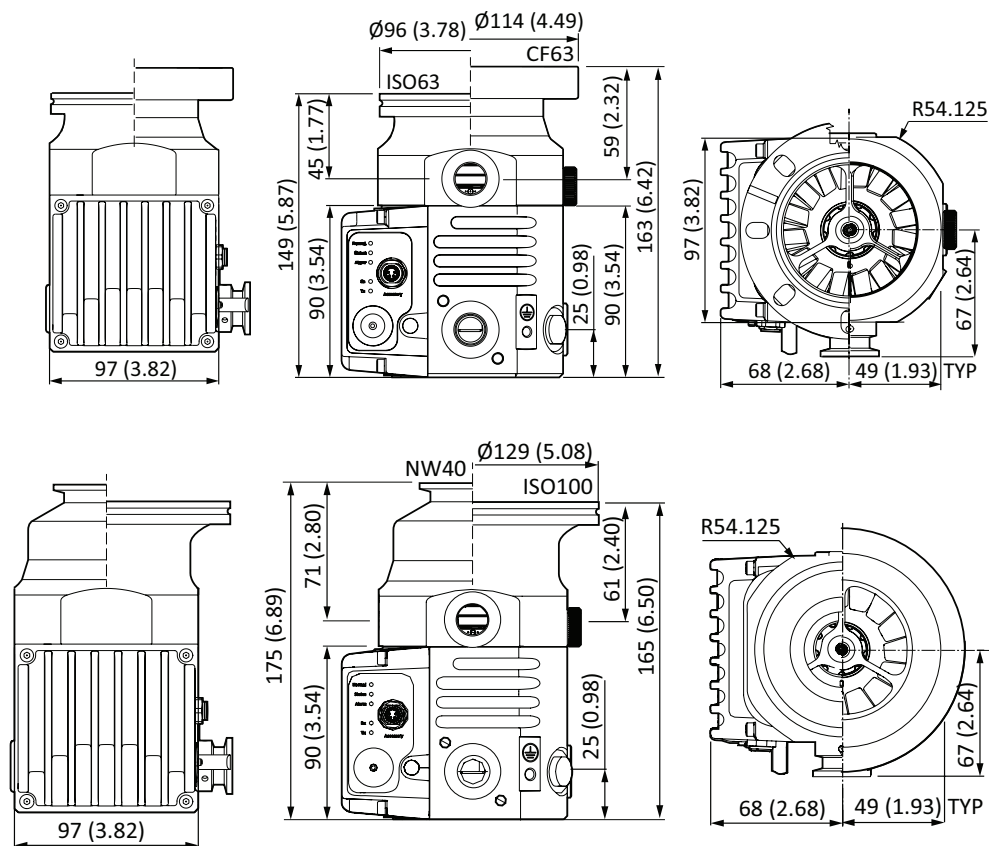


TECHNICAL DATA

	nEXT85D NW40	nEXT85H NW40	nEXT85D ISO63	nEXT85H ISO63	nEXT85D CF63	nEXT85H CF63	nEXT85D ISO100	nEXT85H ISO100
Main inlet pumping speed								
N ₂ ls ⁻¹	47	47	84	84	84	84	86	86
He ls ⁻¹	61	61	78	78	78	78	80	78
H ₂ ls ⁻¹	49	44	60	54	60	54	60	54
Ar ls ⁻¹	44	44	80	80	80	80	84	84
Peak compression ratio from the backing port to the main inlet port								
N ₂	>10 ¹¹	>10 ¹¹	>10 ¹¹	>10 ¹¹	>10 ¹¹	>10 ¹¹	>10 ¹¹	>10 ¹¹
He	8x10 ⁶	2x10 ⁷	8x10 ⁶	2x10 ⁷	8x10 ⁶	2x10 ⁷	8x10 ⁶	2x10 ⁷
H ₂	2x10 ⁵	5x10 ⁵	2x10 ⁵	5x10 ⁵	2x10 ⁵	5x10 ⁵	2x10 ⁵	5x10 ⁵
Ar	>10 ¹¹	>10 ¹¹	>10 ¹¹	>10 ¹¹	>10 ¹¹	>10 ¹¹	>10 ¹¹	>10 ¹¹
Ultimate pressure (mbar) (Torr)	<5x10 ⁻⁹ <3.8x10 ⁻⁹	<5x10 ⁻⁹ <3.8x10 ⁻⁹	<5x10 ⁻⁹ <3.8x10 ⁻⁹	<5x10 ⁻⁹ <3.8x10 ⁻⁹	<5x10 ⁻¹⁰ <3.8x10 ⁻¹⁰	<5x10 ⁻¹⁰ <3.8x10 ⁻¹⁰	<5x10 ⁻⁹ <3.8x10 ⁻⁹	<5x10 ⁻⁹ <3.8x10 ⁻⁹
Mass	2.9 Kg	2.9 Kg	3.0Kg	3.0Kg	4.4Kg	4.4Kg	3.2Kg	3.2Kg
	Forced air cooling (20°C Ambient)		Natural convection (35°C Ambient)		Forced air cooling (40°C Ambient)		Water cooling (40°C Ambient)	
Maximum continuous backing pressure at ultimate inlet pressure (mbar)								
Nitrogen	18		10		11		17	
Maximum input flow sccm:								
Nitrogen	60		22		25		42	
Argon	21		7		7		15	
Helium	232		96		128		191	
Operation attitude	Vertical and upright to horizontal ± 2°							



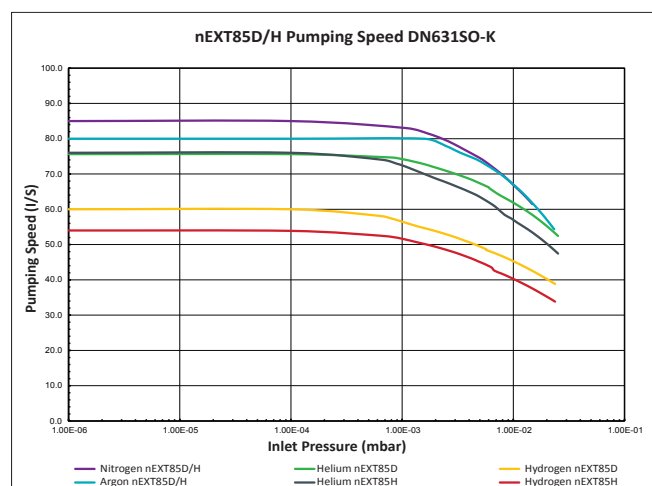
DIMENSIONS



ORDER INFORMATION

nEXT85 Product description	Order number
nEXT85D ISO63 NW16 80W	B8G210B01
nEXT85D CF63 NW16 80W	B8G210C01
nEXT85D ISO100 NW16 80W	B8G210101
nEXT85D NW40 NW16 80W	B8G210A01
nEXT85D ISO100 NW25 80W	B8G240101
nEXT85ID ISO63 NW16/16 80W	B8G211B01
nEXT85ID ISO63 NW16/25 80W	B8G214B01
nEXT85H ISO63 NW16 80W	B8G410B01
nEXT85H CF63 NW16 80W	B8G410C01
nEXT85H NW40 NW16 80W	B8G410A01
nEXT85H ISO100 NW16 80W	B8G410101
nEXT85IH CF63 NW16/16 80W	B8G411C01
nEXT85D ISO63 NW16 80W AO	B8C210B01
nEXT85D CF63 NW16 80W AO	B8C210C01
nEXT85D ISO100 NW16 80W AO	B8C210101
nEXT85D NW40 NW16 80W AO	B8C210A01
nEXT85H ISO63 NW16 80W AO	B8C410B01
nEXT85H CF63 NW16 80W AO	B8C410C01
nEXT85H ISO100 NW16 80W AO	B8C410101
nEXT85H NW40 NW16 80W AO	B8C410A01

PERFORMANCE GRAPH



ORDER INFORMATION

Accessories and spares	Product description	Order number
Controller	TAG controller	D39592000
	TAG power supply	D39592800
	TIC100 turbo and instrument controller	D39721000
Extension cables	1m pump to controller cable	D39700835
	3m pump to controller cable	D39700836
	5m pump to controller cable	D39700837
Power cables	2m electrical supply cable UK plug	D40013025
	2m electrical supply cable EU plug	D40013030
	2m electrical supply cable US plug	D40013120
Cooling	WCX85 water cooling kit (4 position)	B8G200833
	AXC85 air cooler connector fitted	B8G200820
	AXC85 air cooler bare wired	B8G200821
Venting	N/O TAV5 vent valve connector fitted	B8G200834
	N/C TAV5 vent valve connector fitted	B8G200835
	N/O TAV5 vent valve bare wired	B58066010
	N/C TAV5 vent valve bare wired	B58066040
	Vent port adaptor	B58066011
Bakeout	CF63 flange heater 110V	B8G200823
	CF63 flange heater 240V	B8G200824
Service	Bearing exchange tool kit	B8G200827
	Bearing exchange tool kit AO	B8E200485
	Oil cartridge kit	B8G200828
	Oil cartridge kit AO	B8C200828
	Bearing and oil cartridge kit	B8G200811
	Bearing and oil cartridge kit AO	B8C200811
	Bearing replacement tool kit	B8G200840
Miscellaneous	PRX10 purge restrictor	B58065001
	Accessory "Y" adaptor	B8G200837
	Accessory cable 90 degree / extension	B8G200836
	Accessory connector bare wired	B8G200839
	nEXT85 / EXT75DX base mounting adaptor	B8G200838



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