edwardsvacuum.com

nEXT730 AND nEXT930 TURBOMOLECULAR PUMPS

EDWARDS

EDWARDS
THE PARTNER OF CHOICE

Edwards is a world leader in the design, technology and manufacture of vacuum pumps, with over 100 years' history and more than 80 years' manufacturing experience.

We believe in delivering results that bring value to our customers by using our breadth of industry experience to identify and apply solutions to your problems. Using the most innovative and up-to-date modelling techniques and know-how, we can optimise the pumping configuration to achieve the maximum performance in the most reliable and cost-effective way.

nEXT BY DESIGN

Edwards nEXT730 and nEXT930 turbomolecular pumps are the latest addition to the Edwards nEXT family, offering class leading performance along with high reliability and low cost of ownership. With over 80,000 tried and trusted nEXT pumps produced we are now bringing higher pumping speeds and increased flexibility to new, more demanding sectors and applications. These new models extend nEXT's capability with inlet flange options of ISO / CF 160 and ISO / CF 200, giving pumping speeds of over 900 l/s.

FEATURES AND BENEFITS

- Class leading pumping speeds over 900 l/s
- Broad range of applications including new applications for nEXT
- End user service capability including end user bearing change
- Ease of installation and integration

APPLICATIONS

As well as being well suited to the current range of applications for nEXT, these new larger pumps open up new application opportunities for the nEXT family.

Current applications supported

R&D
Chamber evacuation, coating systems, turbomolecular pumps, UHV research applications

HIGH ENERGY PHYSICS
Beam lines, accelerators, mobile pump carts, turbomolecular pump backing, laser evacuation, medical systems

MASS SPECTROMETRY
GCMS, LSMS, ICMS, MALDI, inorganic MS, RGA, surface science, leak detectors

ELECTRON MICROSCOPY
TEM, SEM, EPMA, sample prep benches

INDUSTRIAL
Glove boxes, coating systems, XRD/XRF systems, lamp evacuation

New application opportunities

INDUSTRIAL
Heat treatment
Furnace application
Ebeam welding
Degassing
Cylinder evacuation

COATING
Lab coating
Decrotive Coating
Roll Coating
Metalising
CD/DVD

LOAD LOCKING
General load lock applications

You can be assured Edwards has the application expertise and vacuum solution to enable you to achieve your goals.

PERFORMANCE BY DESIGN

Performance is assured with the nEXT family of turbomolecular pumps which now includes the new 730 l/s and 930 l/s variants, providing fast pump down and improved cycle times with reduced operational pressures. When looking for a turbomolecular pump with outstanding compression ratios look no further than the Edwards nEXT, the cost-efficient pumping package enables low ultimate pressure to be achieved making them suitable for a range of coating and light industrial applications.

For scientific OEM customers who are already benefitting from the range of bespoke and tailored nEXT solutions, similar solutions based on these larger pumps are now available. These include multi inlet split flow pumps and cartridge pumps. Now larger instruments can benefit from higher pumping speeds, and existing configurations could run on a reduced pump count.

Features and benefits

- Class leading pumping speeds
- Outstanding compression ratios

DEPENDABLE BY DESIGN

Edwards nEXT has been proven across a range of applications, and the extensive internal test programme and high reliability ensures the best pump performance of any turbomolecular pump.

There is no need to compromise with nEXT730 and nEXT930, these new turbomolecular pumps from Edwards will deliver extended operation and long maintenance intervals, and with our in-built intelligence you are able to plan any maintenance and minimise downtime.

Features and benefits

- Assured reliability
- Maximised uptime
- End user service capability

FLEXIBLE BY DESIGN

Edwards nEXT730 and nEXT930 variants can be installed in any orientation for flexibility of use, and with the compact design and integrated controller installation has never been easier.

Edwards nEXT is suitable across many applications; providing higher pumping speeds and compression, IP54 classification, purge and high throughput, all backed by Edwards experience.

Where your application requires customised products, our dedicated team of engineers work with the most advanced modelling tools to design customer specific solutions and split flow variants to meet a wide range of needs.

Features and benefits

- Ease of integration and installation
- Designed for customer specific variants
- Broad range of applications

EDWARDS BY DESIGN

The new Edwards nEXT730 and nEXT930 share a common communication interface with the rest of the nEXT family for ease of control and monitoring.

Systemisation is easy with nEXT as it is compatible with Edwards TIC and TAG controllers to continue the functionality throughout the range.

We are the experts in the field of vacuum, with decades of vacuum knowledge, and are innovators in the design of vacuum products, always helping you to make the right choice.

Features and benefits

- Standard nEXT communication interface
- Continuing the family feel and functionality
- Application know-how and expertise

CONTROLLERS AND ACCESSORIES

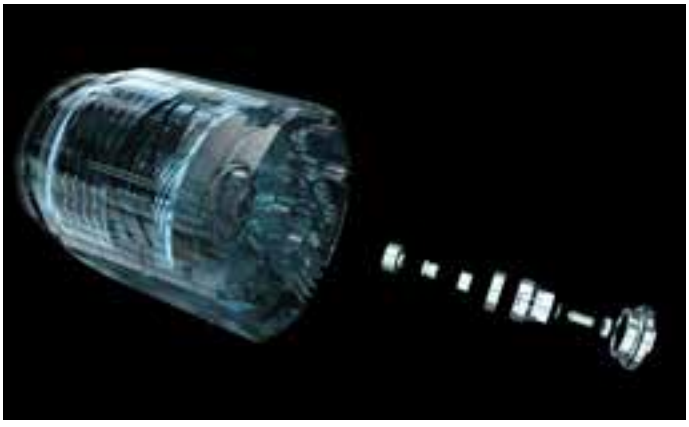
nEXT730 and nEXT930 pumps require a separate 500W 48V DC power supply to power the pumps. This can be provided by Edwards or a customer supply can be used.

The TIC (Turbo and Instrument Controller) automatically recognises and supports the nEXT730 and nEXT930, plus up to three Edwards active gauges. Cooling and vent valve support is provided directly from the controller. The TIC controllers also control backing pumps, either directly or via the relay box. Time delays and normal speed signals may be used to control events such as turbo start and there is a comprehensive selection of protection and safety interlock features. The TIC turbo controller can either be rack or bench mounted and provides a useful hub for the flexible operation of a wide range of vacuum system configurations.

The TAG (Turbo and Active Gauge) controller is a small, compact, low cost pumping system controller, which is suitable for a wide range of vacuum applications. It is compatible with the nEXT730 and nEXT930 pumps. A separate 24V controller is required to power the TAG controller and connected Gauge. In addition to a turbomolecular pump it can control a backing pump, a vent valve, an air cooler and an Edwards active gauge. The TAG controller is controlled by an easy to use interface. A large clear LED display shows the pump speed or vacuum pressure. The compact size of the controller is ideal for use on bench-tops or suitable mobile platforms.

END USER SERVICEABILITY

Advanced technologies employed in nEXT730 and nEXT930 have enabled the pumps to be fully serviced by the end user in the field. The bearing is sealed for life, and a full bearing change can also be performed by the end user without formal training in around 15 minutes both with simple laboratory tooling, and a small kit of bespoke tools. These simple interventions will, in many cases, mean that the pump never requires a full return to base service during its lifetime.



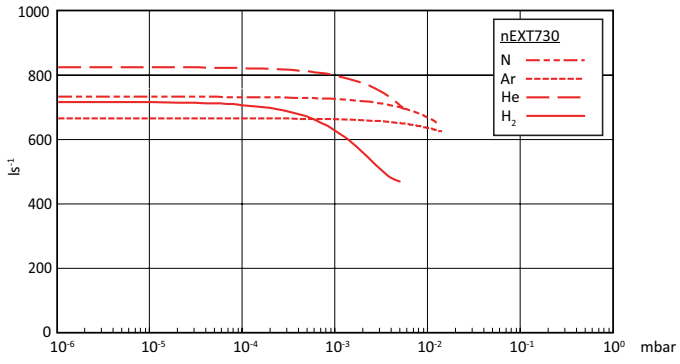
nEXT730 and nEXT930 turbomolecular pumps will advise the user when a service is due. The user is alerted to a service request by a simple flashing LED sequence on the pumps and by serial comms notification. Flexibility is again key as these simple services can be performed either by the end user, on site by an Edwards field service technician, or the pump can be returned to an Edwards service hub. Using remote diagnostics, a user can interrogate the pump to determine how long it is to the next service so that a proactive approach to preventative maintenance can be planned.

TECHNICAL SPECIFICATIONS

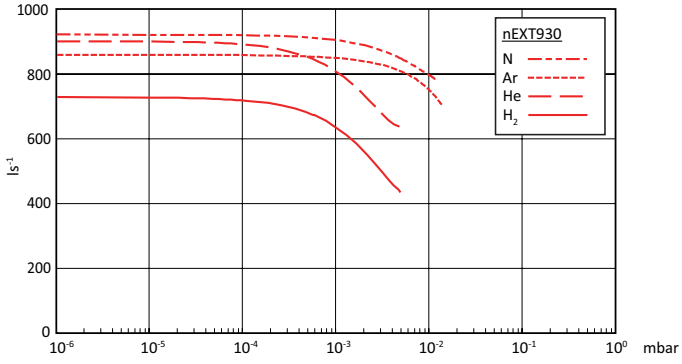
		nEXT730D		nEXT930D	
Main inlet pumping speed	**Units**	ISO-K 160	CF 160	ISO-K 200	CF 200
N_2	l/s	730		925	
He	l/s	820		905	
H_2	l/s	715		735	
Ar	l/s	665		865	
Peak compression ratio from the backing port to the main inlet port					
N_2		$>10^{11}$		$>10^{11}$	
He		$1.2X10^{8}$		$1.2X10^{8}$	
H_2		$4X10^{6}$		$4X10^{6}$	
Ar		$>10^{11}$		$>10^{11}$	
Ultimate pressure (mbar) (CF)		$3.0X10^{-10}$		$3.0X10^{-10}$	
Weight (kg)		14.6	19.6	15.4	21.7
Throughput at full speed					
N_2	mbar l/s	14		14	
He	mbar l/s	21		21	
H_2	mbar l/s	>15		>15	
Ar	mbar l/s	3.5		3.5	

PERFORMANCE CURVES

nEXT730D

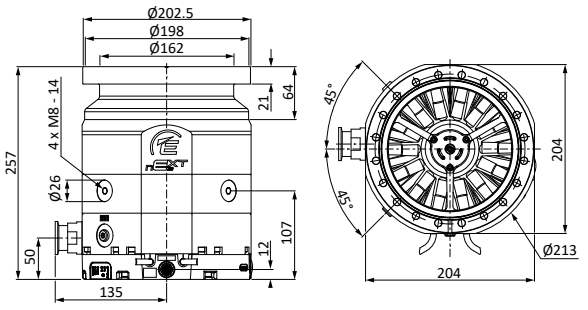


nEXT930D

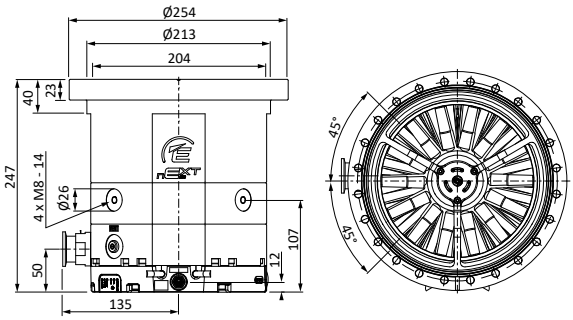


DIMENSIONS

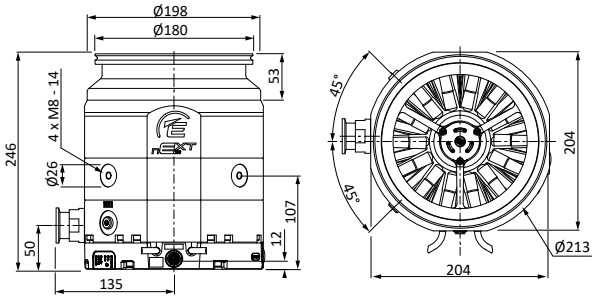
nEXT730D **CF160**



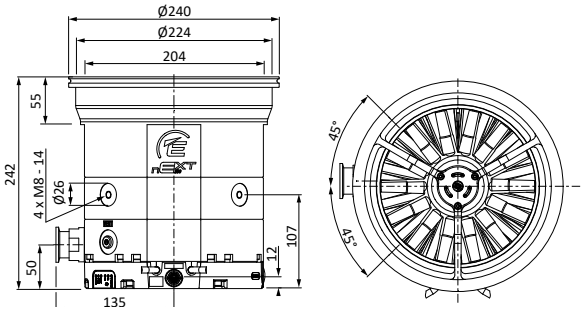
nEXT930D **CF200**



nEXT730D **ISO-K160**



nEXT930D **ISO-K200**



ORDERING INFORMATION

Part Number	Accessories
B8J200300	nEXT730D ISO-K160 NW25
B8J200400	nEXT730D CF160 NW25
B8K200D00	nEXT930D ISO-K200 NW25
B8K200F00	nEXT930D CF200 NW25
D39592000	TAG controller
D39592800	TAG power supply
D39721000	TIC100 turbo and instrument controller
B8J200800	Air cooling nEXT 730/930 radial
B8J200820	Water cooling nEXT 730/930, 1/4"
B8G200834	N/O TAV5 vent valve connector fitted
B8G200835	N/C TAV5 vent valve connector fitted
B58066011	Vent port adaptor
B8J200807	Center ring w. prot. screen DN200 ISO-K coarse
B8J200808	Center ring w. prot. screen DN200 ISO-K fine
B8J200809	Coarse inlet screen DN 200 CF
B8J200810	Fine inlet screen DN 200 CF
B80000823	CF160 coarse inlet screen
B80000824	CF160 fine inlet screen
B80000825	ISO160 coarse inlet screen

Part Number	Accessories
B80000826	ISO160 fine inlet screen
B8J200827	Bearing replacement kit
B8J200845	Bearing replacement tooling
B8J200814	Mains input cable 3m UK
B8J200812	Mains input cable 3m EU
B8J200813	Mains input cable 3m US
D39700835	1 m pump to controller cable
D39700836	3 m pump to controller cable
D39700837	5 m pump to controller cable
B8J200811	EPS 500 – power supply 500
B8J200821	Cable nEXT supply 48VDC 1m
B8J200822	Cable nEXT supply 48VDC 3m
B8J200823	Cable nEXT supply 48VDC 5m
B8J200815	Cable nEXT supply 48VDC open end 1m
B8J200816	Cable nEXT supply 48VDC open end 3m
B8J200817	Cable nEXT supply 48VDC open end 5m
B8G200837	Accessory "Y" adaptor
B8G200836	Accessory cable 90 degree / extension
B8G200839	Accessory connector bare wired

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Publication Number: 3601 0640 01

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