## nEXT TURBOMOLECULAR PUMPS





## INNOVATION AND RELIABILITY

Edwards nEXT is the ultimate experience in turbomolecular pumps. nEXT turbomolecular pumps are built on decades of experience and are drawing from our tried and trusted EXT and STP ranges. nEXT pumps offer superior performance, reliability and end user serviceability, setting the benchmark for scientific turbomolecular pumps.

#### ADVANCED TECHNOLOGY

nEXT has been designed to combine all the latest technological advances in turbomolecular pumps with some new thinking in design for manufacture, delivering a truly class leading product.

The nEXT platform brings a high level of modularity to offer maximum flexibility for customer application and requirements. Each pump is available in different internal configurations to offer differing functionality and performance.

Our nEXT pumps come in different variants "D", "H", "T" and "Q".

The "D" variants offer superior pumping speed and compression across all gas species. Duplex comes with both turbomolecular and drag stages for improved tolerance to higher backing line pressures.

The "H" variant has been physically tuned to offer an improvement where an application has focus on light gas compression.

Triplex "T" variants feature turbomolecular, drag and Edwards unique regenerative pumping stages for the ultimate in compression ratio and boost technology for unique vacuum system rationalisation.

The "Q" variant uses the unique drag stage design offering high throughput specifically for Nitrogen and Argon gases.

#### **Superior performance**

Exceptional pumping speeds and compression ratios

#### Proven reliability for peace of mind

Huge install base of turbo pumps

#### Flexible solutions

Bespoke design service available

#### Ease of use

Integrated intelligent controls

## Extended lifetime and low cost of ownership

Fully end user serviceable

#### Large variety of standard variants

Enhanced customer choice

## APPLICATIONS & FLANGE SIZES

#### **Applications**

	nEXT55	nEXT85	nEXT240	nEXT300	nEXT400	nEXT730	nEXT930	nEXT123
Research & Development								
Chamber evacuation, coating systems, turbomolecular pump systems	•	1	1	1	•	1	•	1
High Energy Physics								
Beam lines, accelerators, mobile pump carts, turbomolecular pump backing, laser evacuation, medical systems	•	•	•	•	•	•	•	1
Mass Spectrometry								
GCMS, LCMS, ICPMS, MALDI, inorganic MS, RGA, surface science, leak detectors	•	1	1	1	•	1		
Electron Microscopy								
TEM, SEM, EPMA, SPM sample prep benches	•	1	•	•	•			
Industrial								
Glove boxes, coating systems, XRD/XRF systems, leak testing, energy, furnaces, medical technologies	•	•	•	•	•	1	•	•

<sup>\*</sup>You can be assured Edwards has the application expertise and vacuum solution to meet your needs.

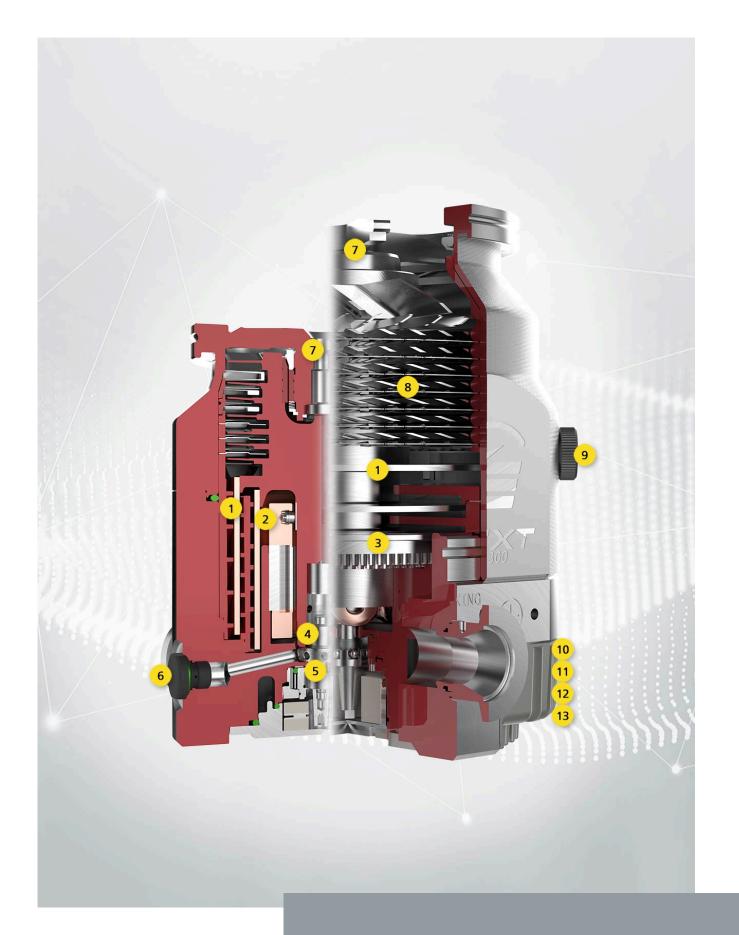
#### **Inlet flange sizes**

		NW40	DN63 ISO-K	DN63-ISO CF	DN100 ISO-K	DN100 ISO CF	DN160 ISO-K	DN160 ISO CF	DN200 ISO-K	DN200 ISO CF	DN200 ISO-F
nEXT55D		*	1	1	*						
nEXT85D	nEXT85H	•	•	•	✓						
nEXT240D	nEXT240T				1	•					
nEXT300D	nEXT300T				✓	•					
nEXT400D	nEXT400T						1	•			
nEXT730D	nEXT730H						•	•			
nEXT730Q							•				
nEXT930D									1	•	
nEXT930Q									1		

#### Inlet flange sizes

	NW40	DN63 ISO-K	DN63-ISO CF	DN100 ISO-K	DN100 ISO CF	DN160 ISO-K	DN160 ISO CF	DN200 ISO-K	DN200 ISO CF	DN200 ISO-F
nEXT1230H								•	•	•

<sup>\*</sup>Available by special order



## PERFORMANCE YOU CAN RELY ON

#### 1 - Multiple drag stages

For higher compression ratios and greater backing pressure tolerance

## 2 - Direct temperature measurements within the pump

Enables wider operating envelope (nEXT55-nEXT85)

#### 3 - Third regenerative stage

Enables boost port options and higher compression (nEXT240, 300, 400)

## 4 - Patented bearing suspension system

Minimises noise and vibration transmitted to vacuum (nEXT240, 300, 400)

#### 5 - User replaceable oil cartridge

For a speedy interim service and bearing cartridge for a quick low cost scheduled overhaul (nEXT55-400)

#### 6 - Purge port

For safe operation of pump with specialised gases

## 7 - Permanent magnet upper bearing

For a hydrocarbon free vacuum, reduced vibration and minimum wear

#### 8 - Advanced simulation tool

Derived rotor design to give better speed and compression performance

#### 9 - Manual vent port

With automatic valve accessories for rapid venting and quick cycle times

## 10 - Manual as well as serial setting of standby speed

For flexible system tuning

#### 11 - Simple parallel operation

Or more sophisticated serial control in both RS232 and RS485 protocols

## 12 - Automatic wide operating voltage range

From 24V to 48V d.c. for versatility in system integration (nEXT730-1230 48V)

#### 13 - Sensorless drive

For high efficiency and compactness with reduced stray magnetic fields



## nEXT55 AND nEXT85

The most compact pumps of the nEXT range with a significantly reduced height and improved performance in a smaller package. These pumps offer pumping speeds of 55 l/s and 85 l/s for nitrogen, they provide a high pumping density, greater than other pumps in its class, with almost double the pumping speed of similar sized turbo pumps.

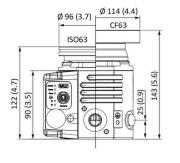
The rotor has been designed to optimise pump performance and achieve both higher speeds and higher compression while maintaining high levels of reliability and low risk to adopters. The same performance characteristics have been maintained in our any orientation variants that provides flexibility to the end user.

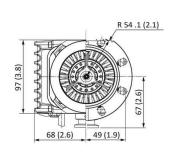
As with all the pumps in the nEXT range field maintenance is only required every 4 years of operation, and this including replacement of the bearing can be performed by the end user.

nEXT55 and nEXT85 bring with them the benefits of comprehensive communication and control options available, as well as a full set of accessories, the ideal choice in deployable instruments or portable applications where a compact footprint or lower weight are key factors.

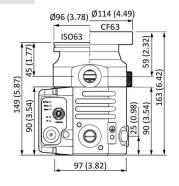
## **DIMENSIONS**

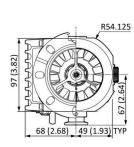




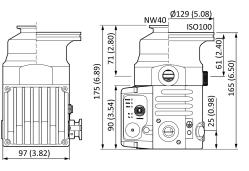


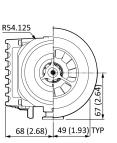
#### nEXT85



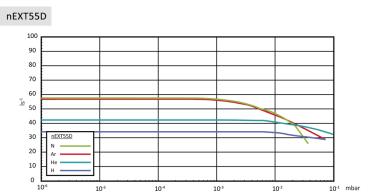


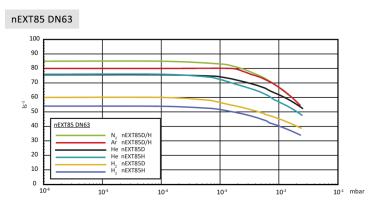
#### nEXT85

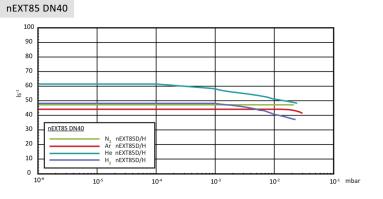




## PERFORMANCE









## nEXT240, nEXT300 & nEXT400

The innovative pumps, designed to provide high vacuum performance in a compact size.

#### A wide variety of sizes

Giving OEMs and end users a greater choice and the flexibility to tailor the most appropriate vacuum solution to meet their individual needs.

#### Each is available in two variants

- the D-Type combines turbo and drag stages;
- the T-Type adds Edwards unique fluid dynamic stages and the option of additional booster ports for increased system rationalisation.

  See Boost technology custom interface split flow variants are also available in three sizes for further vacuum system optimisation.

## Field replaceable oil cartridge and bearing assembly

The pumps feature a field replaceable oil cartridge and bearing assembly and the user is notified as to when service intervention is required. This enables easy maintenance as users can carry out servicing in-house, which reduces the cost of ownership.

## Low power consumption and standby mode

The efficient pumps have low power consumption and also feature a standby mode, which allow users to make further energy savings. nEXT240-300-400 pumps have extra low vibration and low magnetic field signature variants for sensitive electron microscope applications.

#### **Compact design**

The compact design means the pumps fit together neatly in high product density applications. They are easy to configure and have an intelligent control interface accepting a 24 to 48Vdc input power supply voltage range and can be controlled using a simple parallel control or serial communications in both RS232 or RS485 formats.

## **BOOST TECHNOLOGY**

For our Analytical Instrument Customers the "T" variants of nEXT240,300,400 employ a unique regenerative pumping stage which can be used to 'boost' the performance of the backing pump.

#### BOOST TECHNOLOGY

A much simplified vacuum solution with greatly improved pumping speeds and system power reduction

The examples below shows how boost can be used to either reduce the size of the primary pump or increase the gas flow into the instrument on a differentially pumped system.

It also illustrates how the number of turbo pumps required can be reduced from two discrete pumps to a single split flow pump with two inlets to achieve the same vacuum performance.

Customers in general laboratory and R&D applications will also benefit from the improved compression achieved with the "T" variant.

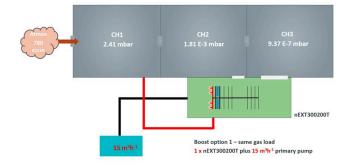
To take maximum advantage of boost technology, please contact Edwards.

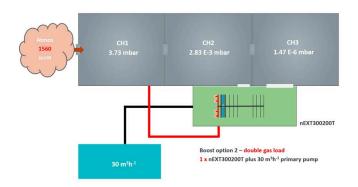
#### **Regenerative Stage**

# CH1 2.62 E-3 mbar 1.08 E-6 mbar 1.08 E-6 mbar 0.07 mext2400 0.07 minal System 2 x next2400 plus 30 m³h¹ primary pump

#### Original System

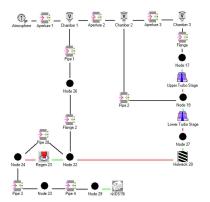
#### Boost Option 1





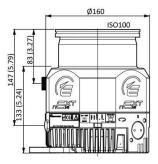
#### Boost Option 2

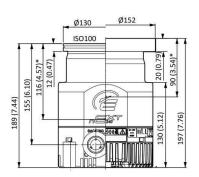
#### Screenshot taken from TransCalc HSM



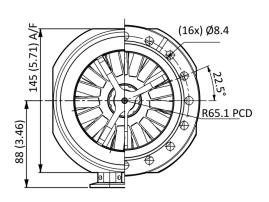
## **DIMENSIONS**



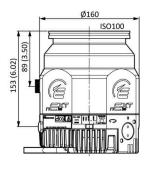


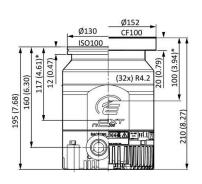


#### nEXT240D

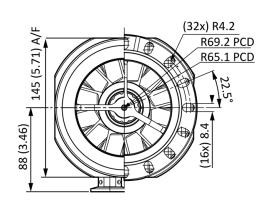


#### nEXT300D

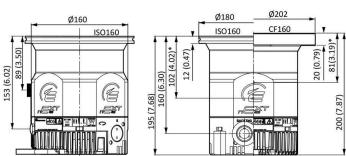


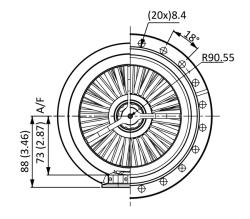


#### nEXT300D



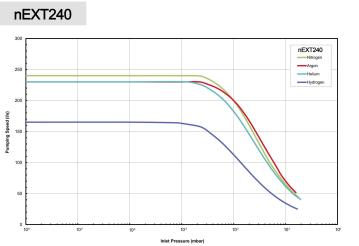
nEXT400D

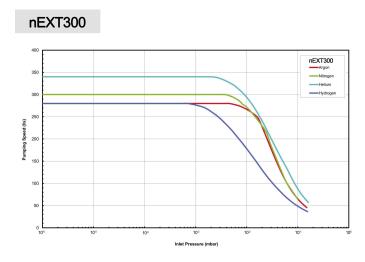


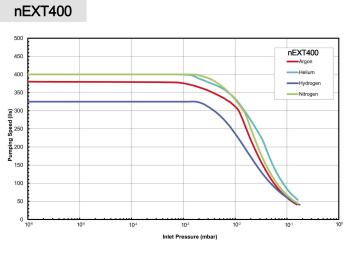


nEXT400D

## PERFORMANCE









## nEXT730, nEXT930 & nEXT1230

Larger pumps offering nitrogen pumping speeds of 730, 925 and 1250 l/s respectively.

## Designed to meet a wide range of requirements

As well as addressing the general R&D market, where high compression, faster pumping speeds are required, these pumps are also designed to meet the requirements of the coating market and other diffuse market sectors such as:

- Heat treatment
- Furnace applications
- E-beam welding
- Etch
- Ion implant
- Degassing
- Cylinder evacuation

## We match the specific applications of OEM

For our OEM customers derivative versions of these products can be developed, just like the existing nEXT pumps, and like the existing nEXT pumps split flow variants are possible. This will give benefits to our customers with larger instruments as well as the possibility to reduce the total number of pumps on existing instruments.

#### Operate in any orientation

These compact pumps are able to operate in any orientation\*, and are supported by a full range of accessories for cooling, venting, powering and control.

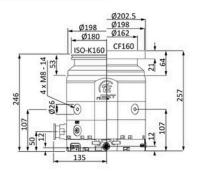
\* for nEXT1230, inverted option available

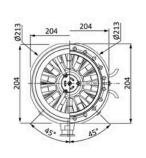
## The pumps feature bearings with a typical life time of at least 4 years with no maintenance.

When required, a bearing replacement can be undertaken by the customer themselves or they can take advantage of our other service support options.

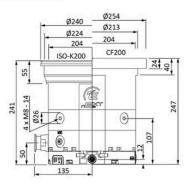
## **DIMENSIONS**

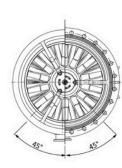
#### nEXT730Q/730D/730H



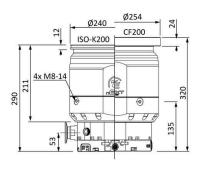


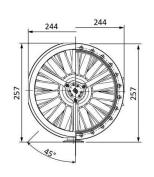
#### nEXT930Q/930D





nEXT1230H





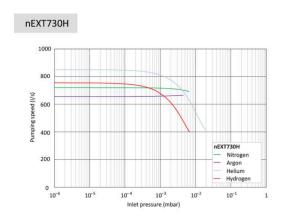
## **PERFORMANCE**

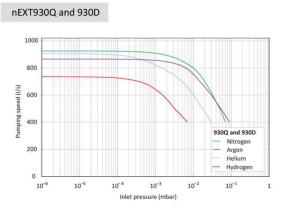
# 1000 800 730Q and 730D Nitrogen Argon Helium Hydrogen

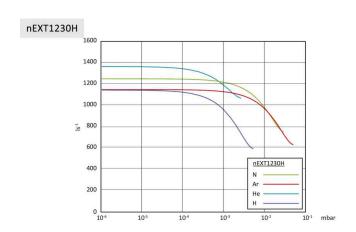
Inlet pressure (mbar)

nEXT730Q and 730D

10-6

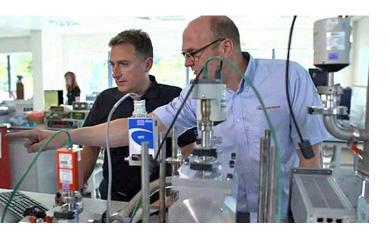






## CREATING THE PERFECT SOLUTION

With Edwards, you can quickly and accurately create the perfect vacuum solution for your needs.



#### A partnership approach to system design

When an off the shelf pump will not meet your requirements for space or performance, our Bespoke Product Development (BPD) team will develop a customised vacuum solution to turn your requirement into reality.

At Edwards, it all starts with a vacuum expert gathering your application details! We want to understand what pressures you wish to achieve, what gas flows you have, how much space is available etc. Our expert then uses a number of in-house and publicly available modelling tools at his disposal to optimise your vacuum system. Developed by our Analytical Services group, these tools are used to model complete vacuum systems from atmosphere down to ultra-high vacuum (UHV). This software has been developed to give rapid simulation of the behaviour of the proposed vacuum solution to ensure that it perfectly meets your requirements.

Accurate computer modelling offers you the chance to streamline your development cycle, avoiding a costly iterative approach and delivering a quicker time to market. Please contact Edwards to take advantage of this service.

#### TIC

#### **Turbo and Instrument Controller**

Automatically recognises and supports one turbomolecular pump from the nEXT range, one backing pump (nXDS or diaphragm) plus three Edwards active gauges on top of that cooling and vent valve support is provided directly from the controller. Backing pump power is provided for a compact 24V diaphragm pump (on 200W versions only), or where greater pumping speeds are required, nXDS and large XDS pumps can be controlled directly via the backing pump connector on a TIC 200 mains backing pumps (up to RV12) may be controlled via an optional relay box. The relay box can also be used to control a mains heater band and backing line isolation valve. 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 may be either rack or bench mounted and provides a useful hub for the flexible operation of a wide range of vacuum system configurations.





#### - TAG

#### **Turbo and Active Gauge**

A small, compact, low cost pumping system controller, which is suitable for a wide range of vacuum applications. It is a 24V controller that is compatible with all Edwards nEXT turbomolecular pumps. 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 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 benchtops or suitable mobile platforms.

### **SERVICE**

#### End user serviceability

## New technologies employed in nEXT have enabled the pumps to be serviced by the end user in the field.

An oil lubrication cartridge change can be performed where fitted, typically in less than 5 minutes. A full bearing change can also be performed by the end user in around 10 minutes on all nEXT pumps. Both with the minimum of specialist tooling. These simple interventions will, in many cases, mean that the pump never requires a full return to base service during its lifetime. nEXT turbomolecular pumps will advise the user when a service is due and what level of intervention is required.

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.





#### Prolonged peace of mind

Extending the new equipment warranty gives you a simple opportunity to add peace of mind to your purchase of new equipment

Should a fault occur as a result of a manufacturing defect, equipment is expressly repaired or replaced.

Cover is available on many of our products allowing the original factory warranty to be extended from 12 months to 2 years and beyond.

#### Your global partner

### We understand the importance of local support.

Edwards has a number of major service facilities located throughout the world, each location is supported by an extensive team of engineers and technicians to provide local, rapid response and great value service.

All our service operations are conducted at the highest international standards in accordance with ISO9001 (Quality), ISO14001 (Environmental), and OHSAS18001 (Workplace safety).



## TECHNICAL SPECIFICATIONS

#### nEXT55, nEXT85

			nEXT55		nEXT85				
Inlet flange		NW40	ISO-K 63/CF 63	NW40	DN63 ISO-K or DN63 CF	DN100 ISO-K			
	N <sub>2</sub>	35	55	47	84	86			
	Ar	35	55	44	80	84			
Inlet pumping speed Is <sup>-1</sup>	Не	26	41	61	78	80/78 (D/H)			
	H2	17	27	49/44 (D/H)	60/54 (D/H)	60/54 (D/H)			
	N <sub>2</sub> /Ar			>1	x 10 <sup>11</sup>				
Compression ratio (D)	Не		6.9 x 10 <sup>5</sup>		8 × 10 <sup>6</sup>				
	H <sub>2</sub>		2.9 x 10 <sup>4</sup>		2 × 10 <sup>5</sup>				
	N <sub>2</sub> /Ar		NA	>1 x 10 <sup>11</sup>					
Compression ratio (T/H)	Не	NA			2 x 10 <sup>7</sup>				
	H <sub>2</sub>		NA	5 x 10 <sup>5</sup>					
Backing/interstage/boost ports				N	NW16				
Vent/purge port				1/8 ir	nch BSPP				
Critical backing pressure (D/H)	mbar				18				
Critical backing pressure (T)	mbar				NA				
Bake out water cooled/forced air cooled max.	°C			12	0/115°				
Recommended backing pump*		nXDS6i							
Normal rotational speed (rpm)		90,000							
Start time to 90% speed (sec) D/H (T)		90							
Macc //cg\ D/LI /T\	ISO		2.47	2.9	3.0	3.2			
Mass (kg) D/H (T)	CF		3.5		4.4				

<sup>\*</sup>A smaller backing pump may be used depending on application.

#### nEXT240, nEXT300, nEXT400

		nEXT240	nEXT300	nEXT400
Inlet flange		DN100 ISO-K or DN100 CF	DN100 ISO-K or DN100 CF	DN160 ISO-K or DN160 CF
	N <sub>2</sub>	240	300	400
.1	Ar	230	280	380
Inlet pumping speed ls <sup>-1</sup>	He	230	340	390
	H <sub>2</sub>	165	280	325
	N <sub>2</sub> /Ar	>1 x 10 <sup>11</sup>	>1 x 10 <sup>11</sup>	>1 x 10 <sup>11</sup>
Compression ratio (D)	Не	3 x 10 <sup>5</sup>	1 x 10 <sup>6</sup>	1 x 10 <sup>8</sup>
	H <sub>2</sub>	1 × 10 <sup>4</sup>	5 x 10 <sup>4</sup>	5 x 10 <sup>5</sup>
	N <sub>2</sub> /Ar	>1 x 10 <sup>11</sup>	>1 x 10 <sup>11</sup>	>1 x 10 <sup>11</sup>
Compression ratio (T/H)	Не	1 × 10 <sup>6</sup>	3 x 10 <sup>6</sup>	>1 x 10 <sup>8</sup>
	H <sub>2</sub>	1.5 x 10 <sup>4</sup>	1 x 10 <sup>5</sup>	1 × 10 <sup>6</sup>
Backing/interstage/boost ports		NW25	NW25	NW25
Vent/purge port		1/8 inch BSPP	1/8 inch BSPP	1/8 inch BSPP
Critical backing pressure (D/H)	mbar	9.5	9.5	10
Critical backing pressure (T)	mbar	20	20	20
Bake out water cooled/forced air cooled max.	°C	120/115°	120/115°	120/115°
Recommended backing pump*		RV12/nXDS10i	RV12/nXDS10i	RV12/nXDS10i
Normal rotational speed (rpm)		60,000	60,000	60,000
Start time to 90% speed (sec) D/H (T)		115 (150)	145 (190)	180 (210)
Macc (kg) D/LL/T)	ISO	5.7 (6)	5.7 (6)	6.5 (6.8)
Mass (kg) D/H (T)	CF	8.8 (9.1)	8.5 (8.8)	9.5 (9.8)

<sup>\*</sup>A smaller backing pump may be used depending on application.

#### nEXT730Q, nEXT730D, nEXT730H

		nEXT730Q	nEXT730	DD	nEXT730H		
Inlet flange		DN 160 ISO-K	DN 160 ISO-K	DN 160 CF	DN 160 ISO-K	DN 160 CF	
	N <sub>2</sub>	730	730	690	720	680	
.1	Ar	665	665	620	655	610	
Inlet pumping speed ls <sup>-1</sup>	Не	820	820	760	850	790	
	H <sub>2</sub>	715	715	670	755	710	
Gas throughput mbar ls <sup>-1</sup>	N <sub>2</sub>	>40	14		4		

#### nEXT730Q, nEXT730D, nEXT730H

		nEXT730Q	nEX	T730D	nEX	T730H	
	Ar	6.8	3	3.5	:	2.6	
Gas throughput mbar Is <sup>-1</sup>	He	>50	:	21		7	
	H <sub>2</sub>	>50	>	•14		17	
	N <sub>2</sub>	>1x10 <sup>8</sup>	>1x10 <sup>11</sup>		>1:	×10 <sup>13</sup>	
Compression ratio***	Ar	>1x10 <sup>8</sup>	>1>	<10 <sup>11</sup>	>1:	×10 <sup>13</sup>	
Compression ratio	Не	1x10 <sup>5</sup>	1.2	2x10 <sup>8</sup>	5:	×10 <sup>9</sup>	
	H <sub>2</sub>	1×10 <sup>4</sup>	4.0	)x10 <sup>6</sup>	3	<10 <sup>8</sup>	
Ultimate pressure**	mbar	<1x10 <sup>-7</sup>	<7x10 <sup>-9</sup>	<3x10 <sup>-10</sup>	<7x10 <sup>-9</sup>	<1x10 <sup>-10</sup>	
Max. permissible backing pressure	mbar	6		15		12	
Normal rotational speed	rpm			49200			
Start time to 90% speed (sec)	min		2.5				
Max. power consumption	W	500 (default), 600 (max.)					
Power consumption at ultimate pressure	W		40				
Type of protection	IP		54				
Recommended cooling method		Water*		Conve	ection*		
Optional cooling		n/a		Airor	Water*		
Cooling water connection	inch	Plug	-in connectio	n for 6x1 hose/	alternative G	1/8	
Cooling water consumption	I/h			60			
Critical cooling water pressure	bar(g)			6			
Permissible cooling water temperature	°C			15 to 35			
Mass (kg)	kg	15.4	14.6	19.6	14.6	19.6	
Recommended backing pump*		nXRi, XDS35i, E2M28**					
Noise level with convection cooling with radial air cooler	dB(A)	<40 <40 n/a <55					
Water cooled/forced air cooled max. bake out	°C	n/a		10	00		
Purge gas flow	mbar · Is <sup>-1</sup> sccm			0.4 24			
Vent/purge port	inch			G 1/8			

<sup>\*</sup>Depending on the ambient temperature, the gas type and throughput, performance may be limited by the cooling method.

<sup>\*\*</sup>Please contact the supplier to discuss your specific system details and the achievement of ultimate pressure.

<sup>\*\*\*</sup>The compression ratio of a TMP describes the performance of the TMP design for the compression of a gas type at special conditions. The compression data were measured only using the CF flange variants.

#### nEXT930Q, nEXT930D

		nEXT930Q	nEXT930	D	
Inlet flange		DN 200 ISO-K	DN 200 ISO-K	DN 200 CF	
	N <sub>2</sub>	925	925	870	
,	Ar	865	865	810	
Inlet pumping speed ls <sup>-1</sup>	He	905	905	840	
	H <sub>2</sub>	735	735	690	
	N <sub>2</sub>	>40	14		
	Ar	6.8	3.5		
Gas throughput mbar Is <sup>-1</sup>	He	>50	21		
	H <sub>2</sub>	>50	>14		
	N <sub>2</sub>	>1x10 <sup>8</sup>	>1x10 <sup>1</sup>	1	
	Ar	>1x10 <sup>8</sup>	>1x10 <sup>1</sup>	1	
Compression Ratio***	He	1x10 <sup>5</sup>	1.2x10 <sup>8</sup>		
	H <sub>2</sub>	1x10 <sup>4</sup>	4.0x10 <sup>6</sup>	5	
Ultimate pressure**	mbar	<1x10 <sup>-7</sup>	<7x10 <sup>-9</sup>	<3x10 <sup>-10</sup>	
Max. permissible backing pressure	mbar	6	15		
Normal rotational speed	rpm		49200		
Start time to 90% speed (sec)	min		2.5		
Max. power consumption	w	50	00 (default), 600 (max.)		
Power consumption at ultimate pressure	w		40		
Type of protection	IP		54		
Recommended cooling method		Water*	Convection	on*	
Optional cooling		n/a	Air or Wat	er*	
Cooling water connection	inch	Plug-in connec	ction for 6x1 hose/alternati	ve G 1/8	
Cooling water consumption	I/h		60		
Critical cooling water pressure	bar(g)		6		
Permissible cooling water temperature	°C		15 to 35		
Mass (kg)	kg	15.4	15.4	21.7	
Recommended backing pump*		nXRi, XDS35i, E2M28**			
Noise level with convection cooling with radial air cooler	dB(A)	<40 n/a	<40 <55		
Water cooled/forced air cooled max. bake out	°C	n/a	100		
Purge gas flow	mbar · Is <sup>-1</sup> sccm		0.4 24		

#### nEXT930Q, nEXT930D

		nEXT930Q	nEXT930D
Vent/purge port	inch	G 1	./8

<sup>\*</sup>Depending on the ambient temperature, the gas type and throughput, performance may be limited by the cooling method.

#### nEXT1230H

			nEXT1230H					
Inlet flange		DN 200 CF	DN 200 ISO-F	DN 200 ISO-K				
	N <sub>2</sub>		1250					
	Ar		1150					
Inlet pumping speed ls <sup>-1</sup>	He							
	H <sub>2</sub>		1150					
	N <sub>2</sub>		9					
	Ar		3					
Gas throughput mbar ls <sup>-1</sup>	Не		>20					
	H <sub>2</sub>		>20					
	N <sub>2</sub>		>1 x 10 <sup>11</sup>					
	Ar	>1 x 10 <sup>11</sup>						
Compression ratio***	Не	4×10 <sup>8</sup>						
	H <sub>2</sub>	$1 \times 10^7$						
Ultimate pressure**	mbar	<5 x 10 <sup>-10</sup>	indicate higher pressu	ure for ISO-K and ISO-F				
Max. permissible backing pressure	mbar		15					
Normal rotational speed	rpm		42000					
Start time to 90% speed (sec) H	min		2.5					
Max. power consumption	W		660 (default), 800 (n	nax.)				
Power consumption at ultimate pressure	W		50					
Type of protection	IP		54					
Recommended cooling method			Water*					
Optional cooling		Forced air cooling*						
Cooling water connection	inch		Plug-in connection for 6x1 hose,	alternative G 1/8				
Cooling water consumption	I/h		60					
Critical cooling water pressure	bar(g)		15					

<sup>\*\*</sup>Please contact the supplier to discuss your specific system details and the achievement of ultimate pressure.

<sup>\*\*\*</sup>The compression ratio of a TMP describes the performance of the TMP design for the compression of a gas type at special conditions. The compression data were measured only using the CF flange variants.

#### nEXT1230H

			nEXT1230H	
Permissible cooling water temperature	°C		15 to 35	
Mass (kg) H	kg	32.6	24.9	23.7
Recommended backing pump*		nXRi, XDS35i, E2M28**		
Noise level with convection cooling with radial air cooler	dB(A)	<br <5		<44 <55
Water cooled/forced air cooled max. bake out	°C	100	n/	/a
Purge gas flow	mbar · Is <sup>-1</sup> sccm		0.4 24	
Vent/purge port	inch		G 1/8	

<sup>\*</sup>Depending on the ambient temperature, the gas type and throughput, performance may be limited by the cooling method.

<sup>\*\*</sup>Please contact the supplier to discuss your specific system details and the achievement of ultimate pressure.

<sup>\*\*\*</sup>The compression ratio of a TMP describes the performance of the TMP design for the compression of a gas type at special conditions. The compression data were measured only using the CF flange variants.

## ORDERING INFORMATION

#### **Pumps**

Product description	Order number
nEXT55D ISO63 NW16 80W AO	B8A210B01
nEXT55D CF63 NW16 80W AO	B8A210C01
nEXT55D ISO100 NW16 80W AO	B8A210101
nEXT55D NW40 NW16 80W AO	B8A210A01
nEXT55D NW40 NW16 80W	B8E210A01
nEXT55D CF63 NW16 80W	B8E210C01
nEXT55D ISO63 NW16 80W	B8E210B01
nEXT55D ISO100 NW16 80W	B8E210101
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
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
nEXT85iH CF63 NW16/16 80W	B8G411C01

#### **Pumps**

Product description	Order number
nEXT85H ISO100 NW16 80W	B8G410101
nEXT240D ISO-K100 160W	B81200100
nEXT240D CF100 160W	B81200200
nEXT240T ISO-K100 160W	B81300100
nEXT240T CF100 160W	B81300200
nEXT300D ISO-K100 160W	B82200100
nEXT300D CF100 160W	B82200200
nEXT300T ISO-K100 160W	B82300100
nEXT300T CF100 160W	B82300200
nEXT400D ISO-K160 160W	B83200300
nEXT400D CF160 160W	B83200400
nEXT400T ISO-K160 160W	B83300300
nEXT400T CF160 160W	B83300400
nEXT730Q ISO-K160 NW25	B8J100300
nEXT730D ISO-K160 NW25	B8J200300
nEXT730D CF160 NW25	B8J200400
nEXT730H ISO-K160 NW25	B8J400300
nEXT730H CF160 NW25	B8J400400
nEXT930Q ISO-K200 NW25	B8K100D00
nEXT930D ISO-K200 NW25	B8K200D00
nEXT930D CF200 NW25	B8K200F00
nEXT1230H CF200 NW40	B8N4A0F00
nEXT1230H ISO-F200 NW40	B8N4A0E00
nEXT1230H ISO-K200 NW40	B8N4A0D00
nEXT1230H CF200 NW40 INV	B8N4A0FU0
nEXT1230H ISO-F200 NW40 INV	B8N4A0EU0
nEXT1230H ISO-K200 NW40 INV	B8N4A0DU0

Other interstage port positions available upon request.

#### Accessories and spares nEXT55/85

Pump	Product description	Order number
Controller	TAG controller	D39592000
	TAG power supply	D39592800
	TIC 100 turbo and instrument controller	D39721000

#### Accessories and spares nEXT55/85

Pump	Product description	Order number
Cooling	WCX85 water cooling kit (4 position)	B8G200833
	ACX85 air cooler connector fitted	B8G200820
	N/O TAV5 vent valve connector fitted	B8G200834
Venting	N/C TAV5 vent valve connector fitted	B8G200835
Bakeout	CF63 flange heater 110 V	B8G200823
	CF63 flange heater 240 V	B8G200824
Service	Oil cartridge kit	B8G200828
	Bearing and oil cartridge kit	B8G200811
	Bearing replacement tool kit	B8G200845
Miscellaneous	Accessory Y adaptor	B8G200837
	Accessory cable 90 degree/extension	B8G200836
	Accessory connector bare wired	B8G200839
	nEXT85/EXT75DX base mounting adaptor	B8G200838

#### Accessories and spares nEXT240/300/400

Pump	Product description	Order number
Controller	TAG controller	D39592000
	TAG power supply	D39592800
	TIC200 turbo and instrument controller	D39722000
Cooling	nEXT radial air cooler	B58053175
	nEXT axial air cooler	B58053185
	nEXT water cooler	B80000815
Bakeout	CF100 flange heater 100-120 V	B58052773
	CF100 flange heater 200-240 V	B58052774
	CF160 flange heater 100-120 V	B58052775
	CF160 flange heater 200-240 V	B58052776
Venting	TAV5 solenoid operated vent valve	B58066010
Service	Oil cartridge tool kit	B80000812
	Bearing tool kit	B80000805
	Oil cartridge	B80000811
	Bearing and oil cartridge	B80000810

#### Accessories and spares nEXT730/930/1230

Pump	Product description	Order number
Controllers *	TAG controller	D39592000
	TAG power supply	D39592800
	TIC200 turbo and instrument controller	D39722000
	Air cooling radial nEXT730/930	B8J200800
Cooling	Air cooling radial nEXT1230H	B8J200801
	Water cooling nEXT730/930, 1/4 inch	B8J200820
	N/O TAV5 vent valve connector fitted	B8G200834
Venting	N/C TAV5 vent valve connector fitted	B8G200835
	Vent port adaptor	B58066011
	Center ring w. prot. screen DN200 ISO-K coarse	B8J200807
	Center ring w. prot. screen DN200 ISO-K fine	B8J200808
	Coarse inlet screen DN 200 CF	B8J200809
Inlat assesses	Fine inlet screen DN 200 CF	B8J200810
Inlet screens	CF160 coarse inlet screen	B80000823
	CF160 fine inlet screen	B80000824
	ISO160 coarse inlet screen	B80000825
	ISO160 fine inlet screen	B80000826
	Bearing replacement kit (for the nEXT730/930D)	B8J200827
Camina	Bearing replacement kit (for the nEXT1230H)	B8M200827
Service	Bearing replacement tooling (for the nEXT730/930D)	B8J200845
	Bearing replacement tooling (for the nEXT1230H)	B8M200845
	Mains input cable 3m EU	B8J200812
Mains input cable	Mains input cable 3m US	B8J200813
	Mains input cable 3m UK	B8J200814
	nEXT 3m open end cable	B8J200816
	nEXT 5m open end cable	B8J200817
Power supply to pump	EPS 800	B8J200819
	nEXT 3m extension cable for EPS 800	B8J200824
	nEXT 5m extension cable for the EPS 800	B8J200825
	2.5m EU EPS 800, IP54 protected	B8J200829
	2.5m US NEMA 5-15P 250V EPS 800, IP54 protected	B8J200830
	2.5m UK EPS 800, IP54 protected	B8J200831
	EPS 800 mount kit to place the power supply directly on the pump	B8J200832
Miccellance	Accessory cable 90 degree/extension	B8G200836
Miscellaneous	Accessory Y adaptor	B8G200837

#### Accessories and spares nEXT730/930/1230

Pump	Product description	Order number
Miscellaneous	Accessory connector bare wired	B8G200839

<sup>(\*)</sup> Denotes need second annotation nEXT730 and bigger pumps need their own power supply required accessory. Others optional depending on application.

#### **Accessories and spares**

Pump	Product description	Order number
Extension cables	1 m pump to controller cable	D39700835
	2 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
	TIC relay	D39711805

<sup>(\*)</sup> Denotes need second annotation nEXT730 and bigger pumps need their own power supply required accessory. Others optional depending on application.



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