

APPLICATIONS & FLANGE SIZES

Applications

	nEXT55	nEXT85	nEXT240	nEXT300	nEXT400	nEXT730	nEXT930	nEXT1230
Research & Development								
Chamber evacuation, coating systems, turbomolecular pump systems	✓	✓	✓	✓	✓	✓	✓	✓
High Energy Physics								
Beam lines, accelerators, mobile pump carts, turbomolecular pump backing, laser evacuation, medical systems	✓	✓	✓	✓	✓	✓	✓	✓
Mass Spectrometry								
GCMS, LCMS, ICPMS, MALDI, inorganic MS, RGA, surface science, leak detectors	✓	✓	✓	✓	✓	✓		
Electron Microscopy								
TEM, SEM, EPMA, SPM sample prep benches	✓	✓	✓	✓	✓			
Industrial								
Glove boxes, coating systems, XRD/XRF systems, leak testing, energy, furnaces, medical technologies	✓	✓	✓	✓	✓	✓	✓	✓

*You can be assured Edwards has the application expertise and vacuum solution to meet your needs.

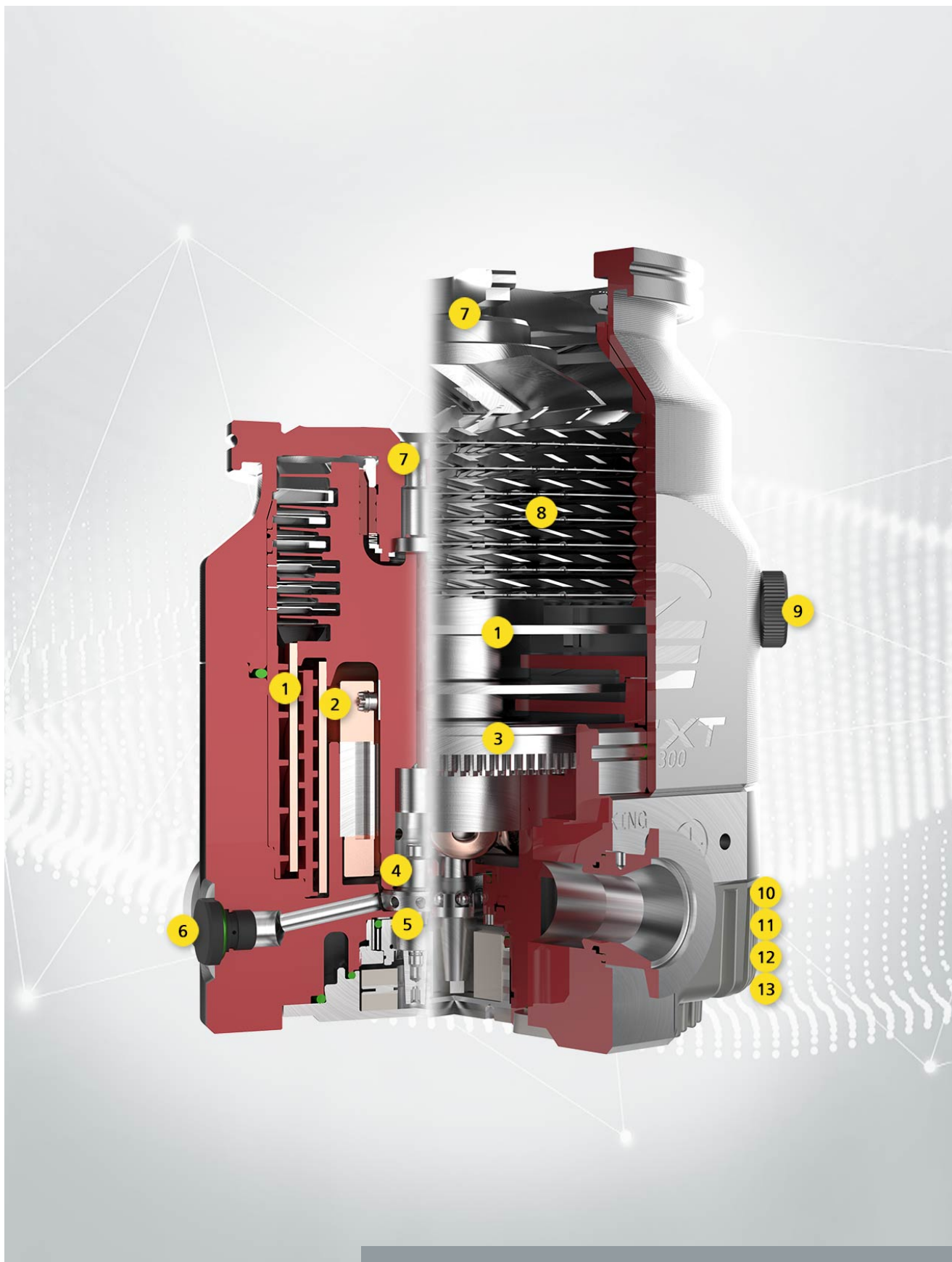
Inlet flange sizes

	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	*	✓	✓	*						
nEXT85D	nEXT85H	✓	✓	✓						
nEXT240D	nEXT240T			✓	✓					
nEXT300D	nEXT300T			✓	✓					
nEXT400D	nEXT400T					✓	✓			
nEXT730D	nEXT730H					✓	✓			
nEXT730Q						✓				
nEXT930D								✓	✓	
nEXT930Q								✓		

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								✓	✓	✓

*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

TECHNICAL SPECIFICATIONS

nEXT55, nEXT85

		nEXT55		nEXT85		
Inlet flange		NW40	ISO-K 63/CF 63	NW40	DN63 ISO-K or DN63 CF	DN100 ISO-K
Inlet pumping speed ls ⁻¹	N ₂	35	55	47	84	86
	Ar	35	55	44	80	84
	He	26	41	61	78	80/78 (D/H)
	H2	17	27	49/44 (D/H)	60/54 (D/H)	60/54 (D/H)
Compression ratio (D)	N ₂ /Ar	>1 x 10 ¹¹				
	He	6.9 x 10 ⁵		8 x 10 ⁶		
	H ₂	2.9 x 10 ⁴		2 x 10 ⁵		
Compression ratio (T/H)	N ₂ /Ar	NA		>1 x 10 ¹¹		
	He	NA		2 x 10 ⁷		
	H ₂	NA		5 x 10 ⁵		
Backing/interstage/boost ports		NW16				
Vent/purge port		1/8 inch BSPP				
Critical backing pressure (D/H)	mbar	18				
Critical backing pressure (T)	mbar	NA				
Bake out water cooled/forced air cooled max.	°C	120/115°				
Recommended backing pump*		nXDS6i				
Normal rotational speed (rpm)		90,000				
Start time to 90% speed (sec) D/H (T)		90				
Mass (kg) D/H (T)	ISO	2.47	2.9	3.0		3.2
	CF	3.5		4.4		

*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
Inlet pumping speed ls ⁻¹	N ₂	240	300	400
	Ar	230	280	380
	He	230	340	390
	H ₂	165	280	325
Compression ratio (D)	N ₂ /Ar	>1 x 10 ¹¹	>1 x 10 ¹¹	>1 x 10 ¹¹
	He	3 x 10 ⁵	1 x 10 ⁶	1 x 10 ⁸
	H ₂	1 x 10 ⁴	5 x 10 ⁴	5 x 10 ⁵
Compression ratio (T/H)	N ₂ /Ar	>1 x 10 ¹¹	>1 x 10 ¹¹	>1 x 10 ¹¹
	He	1 x 10 ⁶	3 x 10 ⁶	>1 x 10 ⁸
	H ₂	1.5 x 10 ⁴	1 x 10 ⁵	1 x 10 ⁶
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)
Mass (kg) D/H (T)	ISO	5.7 (6)	5.7 (6)	6.5 (6.8)
	CF	8.8 (9.1)	8.5 (8.8)	9.5 (9.8)

*A smaller backing pump may be used depending on application.

nEXT730Q, nEXT730D, nEXT730H

		nEXT730Q	nEXT730D		nEXT730H	
Inlet flange		DN 160 ISO-K	DN 160 ISO-K	DN 160 CF	DN 160 ISO-K	DN 160 CF
Inlet pumping speed ls ⁻¹	N ₂	730	730	690	720	680
	Ar	665	665	620	655	610
	He	820	820	760	850	790
	H ₂	715	715	670	755	710
Gas throughput mbar ls ⁻¹	N ₂	>40	14		4	

nEXT730Q, nEXT730D, nEXT730H

		nEXT730Q	nEXT730D		nEXT730H	
Gas throughput mbar ls ⁻¹	Ar	6.8	3.5		2.6	
	He	>50	21		7	
	H ₂	>50	>14		17	
Compression ratio***	N ₂	>1x10 ⁸	>1x10 ¹¹		>1x10 ¹³	
	Ar	>1x10 ⁸	>1x10 ¹¹		>1x10 ¹³	
	He	1x10 ⁵	1.2x10 ⁸		5x10 ⁹	
	H ₂	1x10 ⁴	4.0x10 ⁶		3x10 ⁸	
Ultimate pressure**	mbar	<1x10 ⁻⁷	<7x10 ⁻⁹	<3x10 ⁻¹⁰	<7x10 ⁻⁹	<1x10 ⁻¹⁰
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*	Convection*			
Optional cooling		n/a	Air or Water*			
Cooling water connection	inch	Plug-in connection for 6x1 hose/alternative G 1/8				
Cooling water consumption	l/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 n/a	<40 <55			
Water cooled/forced air cooled max. bake out	°C	n/a	100			
Purge gas flow	mbar · ls ⁻¹ sccm	0.4 24				
Vent/purge port	inch	G 1/8				

*Depending on the ambient temperature, the gas type and throughput, performance may be limited by the cooling method.

**Please contact the supplier to discuss your specific system details and the achievement of ultimate pressure.

***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	nEXT930D	
Inlet flange		DN 200 ISO-K	DN 200 ISO-K	DN 200 CF
Inlet pumping speed ls ⁻¹	N ₂	925	925	870
	Ar	865	865	810
	He	905	905	840
	H ₂	735	735	690
Gas throughput mbar ls ⁻¹	N ₂	>40	14	
	Ar	6.8	3.5	
	He	>50	21	
	H ₂	>50	>14	
Compression Ratio***	N ₂	>1x10 ⁸	>1x10 ¹¹	
	Ar	>1x10 ⁸	>1x10 ¹¹	
	He	1x10 ⁵	1.2x10 ⁸	
	H ₂	1x10 ⁴	4.0x10 ⁶	
Ultimate pressure**	mbar	<1x10 ⁻⁷	<7x10 ⁻⁹	<3x10 ⁻¹⁰
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	500 (default), 600 (max.)		
Power consumption at ultimate pressure	W	40		
Type of protection	IP	54		
Recommended cooling method		Water*	Convection*	
Optional cooling		n/a	Air or Water*	
Cooling water connection	inch	Plug-in connection for 6x1 hose/alternative G 1/8		
Cooling water consumption	l/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 · ls ⁻¹ sccm	0.4 24		

nEXT930Q, nEXT930D

		nEXT930Q	nEXT930D
Vent/purge port	inch	G 1/8	

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nEXT1230H

		nEXT1230H		
Inlet flange		DN 200 CF	DN 200 ISO-F	DN 200 ISO-K
Inlet pumping speed ls ⁻¹	N ₂		1250	
	Ar		1150	
	He		1350	
	H ₂		1150	
Gas throughput mbar ls ⁻¹	N ₂		9	
	Ar		3	
	He		>20	
	H ₂		>20	
Compression ratio***	N ₂		>1 x 10 ¹¹	
	Ar		>1 x 10 ¹¹	
	He		4 x 10 ⁸	
	H ₂		1 x 10 ⁷	
Ultimate pressure**	mbar	<5 x 10 ⁻¹⁰	indicate higher pressure 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 (max.)	
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	l/h		60	
Critical cooling water pressure	bar(g)		15	

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)	<44 <55		<44 <55
Water cooled/forced air cooled max. bake out	°C	100	n/a	
Purge gas flow	mbar · ls ⁻¹ sccm		0.4 24	
Vent/purge port	inch	G 1/8		

*Depending on the ambient temperature, the gas type and throughput, performance may be limited by the cooling method.

**Please contact the supplier to discuss your specific system details and the achievement of ultimate pressure.

***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
Venting	N/O TAV5 vent valve connector fitted	B8G200834
	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
Cooling	Air cooling radial nEXT730/930	B8J200800
	Air cooling radial nEXT1230H	B8J200801
	Water cooling nEXT730/930, 1/4 inch	B8J200820
Venting	N/O TAV5 vent valve connector fitted	B8G200834
	N/C TAV5 vent valve connector fitted	B8G200835
	Vent port adaptor	B58066011
Inlet screens	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
	Fine inlet screen DN 200 CF	B8J200810
	CF160 coarse inlet screen	B80000823
	CF160 fine inlet screen	B80000824
	ISO160 coarse inlet screen	B80000825
	ISO160 fine inlet screen	B80000826
Service	Bearing replacement kit (for the nEXT730/930D)	B8J200827
	Bearing replacement kit (for the nEXT1230H)	B8M200827
	Bearing replacement tooling (for the nEXT730/930D)	B8J200845
	Bearing replacement tooling (for the nEXT1230H)	B8M200845
Mains input cable	Mains input cable 3m EU	B8J200812
	Mains input cable 3m US	B8J200813
	Mains input cable 3m UK	B8J200814
Power supply to pump	nEXT 3m open end cable	B8J200816
	nEXT 5m open end cable	B8J200817
	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
Miscellaneous	Accessory cable 90 degree/extension	B8G200836
	Accessory Y adaptor	B8G200837

Accessories and spares nEXT730/930/1230

Pump	Product description	Order number
Miscellaneous	Accessory connector bare wired	B8G200839

(*) 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

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