PRODUCT DATA SHEET

nEXT730, 930 AND 1230 TURBOMOLECULAR PUMP

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Edwards are proud to offer the nEXT730, nEXT930 and nEXT1230 turbomolecular pumps, these larger pumps offer choices for customers requiring higher pumping speeds from 730 up to 1250 l/s for nitrogen.

As well as addressing the 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, Ebeam welding, Etch, Ion implant, Degassing and Cylinder evacuation.

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 for our customers with larger instruments as well as the possibility to reduce the total number of pumps on existing instruments.

The new products offer market leading performance for pumps of their class, and in a compact footprint. The pumps feature bearings with a typical life time of at least 4 years with no maintenance, which can then be replaced simply and economically by the customer themselves when required or customers may choose from our other service support offerings.

The 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

FEATURES AND BENEFITS

- Class leading pumping speeds
- Outstanding compression ratios
- Ease of integration and installation
- Assured reliability
- End user service capability
- Full nEXT established communication interface

TECHNICAL DATA

		nEXT730Q	nEXT730D		nEXT730H	
Inlet flange		DN 160 ISO-K	DN 160 ISO-K	DN 160 CF	DN 160 ISO-K	DN 160 CF
Main inlet pumping speed						
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						
Gas throughput mbar ls^{-1}	N_2	>40	14		4	
	Ar	6.8	3.5		2.6	
	He	>50	21		7	
	H_2	>50	>> 14		17	
Peak compression ratio backing port to main inlet port						
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	$<1x10^{-7}$	$< 3.5x10^{-9}$	$< 6x10^{-10}$	$<7x10^{-9}$	$<1x10^{-10}$
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				
Critial 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 ration 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.*

TECHNICAL DATA

		nEXT930Q	nEXT930D	
Inlet flange		DN 200 ISO-K	DN 200 ISO-K	DN 200 CF
Main inlet pumping speed				
Inlet pumping speed ls^{-1}	N_2	925	925	720
	Ar	865	865	810
	He	905	905	840
	H_2	735	735	690
Gas throughput				
Gas throughput mbar ls^{-1}	N_2	>40	14	
	Ar	6.8	3.5	
	He	>50	21	
	H_2	>50	>> 14	
Peak compression ratio backing port to main inlet port				
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	$<1x10^{-7}$	$< 3.5x10^{-9}$	$< 6x10^{-10}$
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		
Critial 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		
Vent/purge port	inch	G 1/8		

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

		nEXT1230H		
Inlet flange		DN 200 CF	DN 200 ISO-F	DN 200 ISO-K
Main inlet pumping speed				
Inlet pumping speed ls^{-1}	N_2	1250		
	Ar	1150		
	He	1350		
	H_2	1150		
Gas throughput				
Gas throughput mbar ls^{-1}	N_2	9		
	Ar	3		
	He	>20		
	H_2	>20		
Peak compression ratio backing port to main inlet port				
Compression ratio***	N_2	> $1x10^{11}$		
	Ar	> $1x10^{11}$		
	He	$4x10^{8}$		
	H_2	$1x10^{7}$		
Ultimate pressure**	mbar	<$5x10^{-10}$	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		
Critial cooling water pressure	bar(g)	15		
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.
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Publication Number: 3601 0623 01