

## 3. Technical data

### 3.1 General technical data

*Table 1 General data*

General items	Reference data
Performance	Refer to <a href="#">Table: nEXT 240 pumps technical data</a> , <a href="#">Table: nEXT 300 pumps technical data</a> and <a href="#">Table: nEXT 400 pumps technical data</a> , <a href="#">Figure: nEXT240 performance curve</a> , <a href="#">Figure: nEXT300 performance curve</a> and <a href="#">Figure: nEXT400 performance curve</a> .
Dimensions	Refer to <a href="#">Figure: nEXT 240 dimensions (mm)</a> , <a href="#">Figure: nEXT 300 dimensions (mm)</a> and <a href="#">Figure: nEXT 400 dimensions (mm)</a> .
Maximum inlet flange temperature	
nEXT240	75 °C
nEXT300	80 °C
nEXT400	70 °C
Maximum permitted external magnetic field	5 mT Radial*
Pollution degree	EN61010 Pollution degree 2
Equipment type	Fixed equipment, for indoor use only
Enclosure protection (installed)	IP40

\* Reduce gas load when operating in magnetic the field.

*Table 2 nEXT 240 pumps technical data*

Parameter	nEXT240D ISO100	nEXT240D CF100	nEXT240T ISO100	nEXT240T CF100
Mass	5.7 kg	8.7 kg	6.0 kg	9.0 kg
Inlet flange	DN100ISO-K	DN100CF	DN100ISO-K	DN100CF
Outlet flange	DN25NW	DN25NW	DN25NW	DN25NW
Vent port	1/8 inch BSPP	1/8 inch BSPP	1/8 inch BSPP	1/8 inch BSPP
Purge port	1/8 inch BSPP	1/8 inch BSPP	1/8 inch BSPP	1/8 inch BSPP
Interstage port	DN25NW	DN25NW	DN25NW	DN25NW
Booster port	DN25NW	DN25NW	DN25NW	DN25NW
Inlet pumping speed				
N <sub>2</sub>	240 l/s	240 l/s	240 l/s	240 l/s
He	230 l/s	230 l/s	230 l/s	230 l/s
H <sub>2</sub>	165 l/s	165 l/s	165 l/s	165 l/s

Parameter	nEXT240D ISO100	nEXT240D CF100	nEXT240T ISO100	nEXT240T CF100
Inlet compression ratio				
N <sub>2</sub>	>1 x 10 <sup>11</sup>	>1 x 10 <sup>11</sup>	>1 x 10 <sup>11</sup>	>1 x 10 <sup>11</sup>
He	3 x 10 <sup>5</sup>	3 x 10 <sup>5</sup>	1 x 10 <sup>6</sup>	1 x 10 <sup>6</sup>
H <sub>2</sub>	1 x 10 <sup>4</sup>	1 x 10 <sup>4</sup>	1.5 x 10 <sup>4</sup>	1.5 x 10 <sup>4</sup>
Interstage pumping speed				
N <sub>2</sub>	13 l/s	13 l/s	13 l/s	13 l/s
He	13 l/s	13 l/s	13 l/s	13 l/s
H <sub>2</sub>	11 l/s	11 l/s	11 l/s	11 l/s
Peak booster pumping speed (nitrogen)				
RV12 backing pump	-	-	26 m <sup>3</sup> h <sup>-1</sup>	26 m <sup>3</sup> h <sup>-1</sup>
XDS10 backing pump			24 m <sup>3</sup> h <sup>-1</sup>	24 m <sup>3</sup> h <sup>-1</sup>
Ultimate pressure*	<6 x 10 <sup>-8</sup> mbar	<5 x 10 <sup>-10</sup> mbar	<6 x 10 <sup>-8</sup> mbar	<5 x 10 <sup>-10</sup> mbar

\* Contact the supplier to discuss your specific system details and the achievement of ultimate pressure.

 **Note:**

Pumping speeds given are without an inlet screen.

**Table 3 nEXT 300 pumps technical data**

Parameter	nEXT300D ISO100	nEXT300D CF100	nEXT300T ISO100	nEXT300T CF100
Mass	5.8 kg	8.5 kg	6.1 kg	8.8 kg
Inlet flange	DN100ISO-K	DN100CF	DN100ISO-K	DN100CF
Outlet flange	DN25NW	DN25NW	DN25NW	DN25NW
Vent port	½ inch BSPP	½ inch BSPP	½ inch BSPP	½ inch BSPP
Purge port	½ inch BSPP	½ inch BSPP	½ inch BSPP	½ inch BSPP
Interstage port	DN25NW	DN25NW	DN25NW	DN25NW
Booster port	DN25NW	DN25NW	DN25NW	DN25NW
Inlet pumping speed				
N <sub>2</sub>	300 l/s	300 l/s	300 l/s	300 l/s
He	340 l/s	340 l/s	340 l/s	340 l/s
H <sub>2</sub>	280 l/s	280 l/s	280 l/s	280 l/s
Inlet compression ratio				
N <sub>2</sub>	>1 x 10 <sup>11</sup>	>1 x 10 <sup>11</sup>	>1 x 10 <sup>11</sup>	>1 x 10 <sup>11</sup>
He	1 x 10 <sup>6</sup>	1 x 10 <sup>6</sup>	3 x 10 <sup>6</sup>	3 x 10 <sup>6</sup>
H <sub>2</sub>	5 x 10 <sup>4</sup>	5 x 10 <sup>4</sup>	1 x 10 <sup>5</sup>	1 x 10 <sup>5</sup>

Parameter	nEXT300D ISO100	nEXT300D CF100	nEXT300T ISO100	nEXT300T CF100
Interstage pumping speed				
N <sub>2</sub>	13 l/s	13 l/s	13 l/s	13 l/s
He	13 l/s	13 l/s	13 l/s	13 l/s
H <sub>2</sub>	11 l/s	11 l/s	11 l/s	11 l/s
Peak booster Pumping speed (nitrogen)				
RV12 backing pump	-	-	26 m <sup>3</sup> h <sup>-1</sup>	26 m <sup>3</sup> h <sup>-1</sup>
XDS10 backing pump			24 m <sup>3</sup> h <sup>-1</sup>	24 m <sup>3</sup> h <sup>-1</sup>
Ultimate pressure*	<6 x 10 <sup>-8</sup> mbar	<5 x 10 <sup>-10</sup> mbar	<6 x 10 <sup>-8</sup> mbar	<5 x 10 <sup>-10</sup> mbar

\* Contact the supplier to discuss your specific system details and the achievement of ultimate pressure.

 **Note:**

*Pumping speeds given are without an inlet screen.*

**Table 4 nEXT 400 pumps technical data**

Parameter	nEXT400D ISO160	nEXT400D CF160	nEXT400T ISO160	nEXT400T CF160
Mass	6.2 kg	10.0 kg	6.5 kg	10.3 kg
Inlet flange	DN160ISO-K	DN160CF	DN160ISO-K	DN160CF
Outlet flange	DN25NW	DN25NW	DN25NW	DN25NW
Vent port	½ inch BSPP	½ inch BSPP	½ inch BSPP	½ inch BSPP
Purge port	½ inch BSPP	½ inch BSPP	½ inch BSPP	½ inch BSPP
Interstage port	DN25NW	DN25NW	DN25NW	DN25NW
Booster port	DN25NW	DN25NW	DN25NW	DN25NW
Inlet pumping speed				
N <sub>2</sub>	400 l/s	400 l/s	400 l/s	400 l/s
He	400 l/s	400 l/s	400 l/s	400 l/s
H <sub>2</sub>	325 l/s	325 l/s	325 l/s	325 l/s
Inlet compression ratio				
N <sub>2</sub>	>1 x 10 <sup>11</sup>	>1 x 10 <sup>11</sup>	>1 x 10 <sup>11</sup>	>1 x 10 <sup>11</sup>
He	1 x 10 <sup>8</sup>	1 x 10 <sup>8</sup>	>1 x 10 <sup>8</sup>	>1 x 10 <sup>8</sup>
H <sub>2</sub>	5 x 10 <sup>5</sup>	5 x 10 <sup>5</sup>	1 x 10 <sup>6</sup>	1 x 10 <sup>6</sup>
Interstage pumping speed				
N <sub>2</sub>	13 l/s	13 l/s	13 l/s	13 l/s
He	13 l/s	13 l/s	13 l/s	13 l/s
H <sub>2</sub>	11 l/s	11 l/s	11 l/s	11 l/s

Parameter	nEXT400D ISO160	nEXT400D CF160	nEXT400T ISO160	nEXT400T CF160
Peak booster	-	-		
Pumping speed (nitrogen)				
RV12 backing pump			26 m <sup>3</sup> h <sup>-1</sup>	26 m <sup>3</sup> h <sup>-1</sup>
XDS10 backing pump			24 m <sup>3</sup> h <sup>-1</sup>	24 m <sup>3</sup> h <sup>-1</sup>
Ultimate pressure*	<1 x 10 <sup>-8</sup> mbar	<1 x 10 <sup>-10</sup> mbar	<1 x 10 <sup>-8</sup> mbar	<1 x 10 <sup>-10</sup> mbar

\* Contact the supplier to discuss your specific system details and the achievement of ultimate pressure.

 **Note:**

*Pumping speeds given are without an inlet screen.*

**Table 5 nEXT pumps technical data**

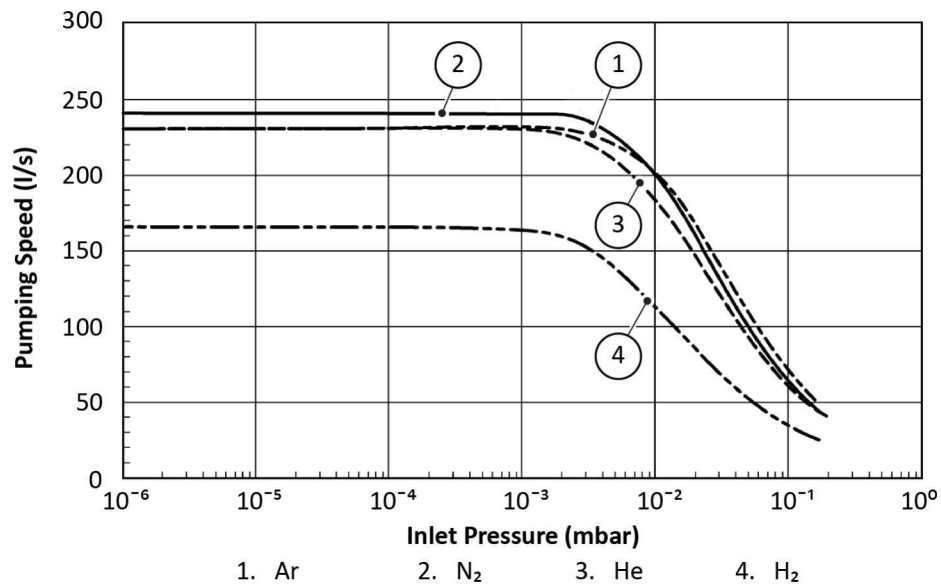
Parameter	nEXT240D	nEXT240T	nEXT300D	nEXT300T	nEXT400D	nEXT400T
Critical backing pressure N <sub>2</sub>	9.5 mbar	20 mbar	9.5 mbar	20 mbar	10 mbar	20 mbar
Critical backing pressure He	7 mbar	8.5 mbar	7.5 mbar	8.5 mbar	8.5 mbar	8.5 mbar
Critical backing pressure H <sub>2</sub>	2.5 mbar	3 mbar	2.9 mbar	3 mbar	3 mbar	3 mbar
Maximum continuous inlet flow (at ultimate backing pressure)*						
Nitrogen:						
Water cooling (40 °C Ambient)†	45 sccm	55 sccm	95 sccm	65 sccm	105 sccm	50 sccm
Force air cooling (35 °C Ambient)	30 sccm	50 sccm	115 sccm	100 sccm	90 sccm	105 sccm
Natural convection (30 °C Ambient)	10 sccm	10 sccm	35 sccm	25 sccm	45 sccm	25 sccm
Argon:						
Water cooling (40 °C Ambient)	35 sccm	35 sccm	63 sccm	42 sccm	70 sccm	49 sccm
Force air cooling (35 °C Ambient)	20 sccm	28 sccm	76 sccm	70 sccm	70 sccm	77 sccm
Natural convection (30 °C Ambient)	7 sccm	7 sccm	20 sccm	20 sccm	28 sccm	20 sccm
Maximum continuous backing pressure (at ultimate inlet pressure)*						
Nitrogen:						
Water cooling (40 °C Ambient)†	6 mbar	2.75 mbar	6.75 mbar	4.75 mbar	7.5 mbar	4 mbar
Force air cooling (35 °C Ambient)	4.75 mbar	2.75 mbar	7 mbar	8 mbar	7.5 mbar	9 mbar
Natural convection (30 °C Ambient)	1 mbar	0.4 mbar	2.75 mbar	1 mbar	4 mbar	1.25 mbar
Argon:						
Water cooling (40 °C Ambient)	4.75 mbar	2.75 mbar	6 mbar	3.75 mbar	6.5 mbar	4 mbar
Force air cooling (35 °C Ambient)	3 mbar	1.5 mbar	6.5 mbar	7 mbar	6.5 mbar	8 mbar

Parameter	nEXT240D	nEXT240T	nEXT300D	nEXT300T	nEXT400D	nEXT400T
Natural convection (30 °C Ambient)	0.5 mbar	0.2 mbar	2 mbar	0.75 mbar	3 mbar	1.2 mbar
Recommended backing pump	RV12/XDS10					
Operation attitude	Vertical and upright to horizontal $\pm 2^\circ$					
	Vertical only for 'nL' variant pumps					
Normal rotational speed	60,000 revolutions per minute					
Starting Time to 90% Speed (160 W)	115 sec	140 sec	155 sec	175 sec	175 sec	200 sec
Starting Time to 90% Speed (200 W)	95 sec	120 sec	135 sec	150 sec	150 sec	170 sec
Sound pressure level (1 metre away)	<45 dB(A) $\pm$ 3dB(A) Declared dual number noise emission values in accordance with ISO4871					

\* Values for the maximum continuous inlet pressure taken using a RV12 backing pump at sea level in negligible magnetic field. Values for the maximum continuous backing pressure taken under no flow conditions at sea level in negligible magnetic field. Refer to [Vent options, vent valve connection and control](#) on page 58 for cooling conditions. At pressures above these, the rotational speed decreases below nominal.

† Cooling water temperature 15 °C at a flow rate of 30 l hr<sup>-1</sup>.

Figure 2 nEXT240 performance curve



GE/9571/6