

**Qty. Description**

1 **NK 100-250/229 BA2F2AESBQQEVW1**



**Note! Product picture may differ from actual product**

Product No.: [98973185](#)

Non-self-priming, single-stage, centrifugal pump designed according to ISO 5199 with dimensions and rated performance according to EN 733. Flanges are PN 16 with dimensions according to EN 1092-2. The pump has an axial suction port, a radial discharge port and horizontal shaft. It is of the back pull-out design enabling removal of the coupling, bearing bracket and impeller without disturbing the motor, pump housing or pipework.

The unbalanced rubber bellows seal is according to DIN EN 12756.

The pump is fitted with a foot-mounted, fan-cooled asynchronous motor. Pump and motor are mounted on a common base frame.

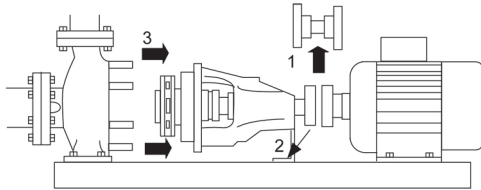
The product's minimum efficiency index (MEI) is greater or equal to 0.70. This is by the Commission Regulation (EU) considered as an indicative benchmark for best-performing water pump available on the market as from 1 January 2013.

Pump and motor are mounted on a common steel base frame in accordance with ISO 3661.

The back pull-out design together with a spacer coupling makes it possible to service the pump without dismantling the pump housing and motor from the base frame.

This saves realignment of pump and motor after service.

- 1) Remove coupling.
- 2) Remove the bolts in the bearing bracket support foot.
- 3) Remove the bearing bracket from the pump housing.



### Pump

The pump is fitted with an unbalanced rubber bellows seal with torque transmission across the spring and around the bellows. Due to the bellows, the seal does not wear the shaft, and the axial movement is not prevented by deposits on the shaft.

{IMG Filename: GRALON\_NB-NK-G\_SHAFTSEAL\_Bxxx.gif }

Seal faces:

- Rotating seal ring material: silicon carbide (SiC)
- Stationary seat material: silicon carbide (SiC)

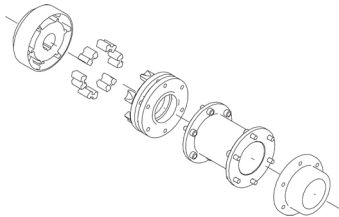
This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.

Secondary seal material: EPDM (ethylene-propylene rubber)

EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.

The shaft is made of stainless steel and has a diameter of 32 mm where the coupling is mounted.

The pump uses a spacer coupling between the pump and motor shaft.

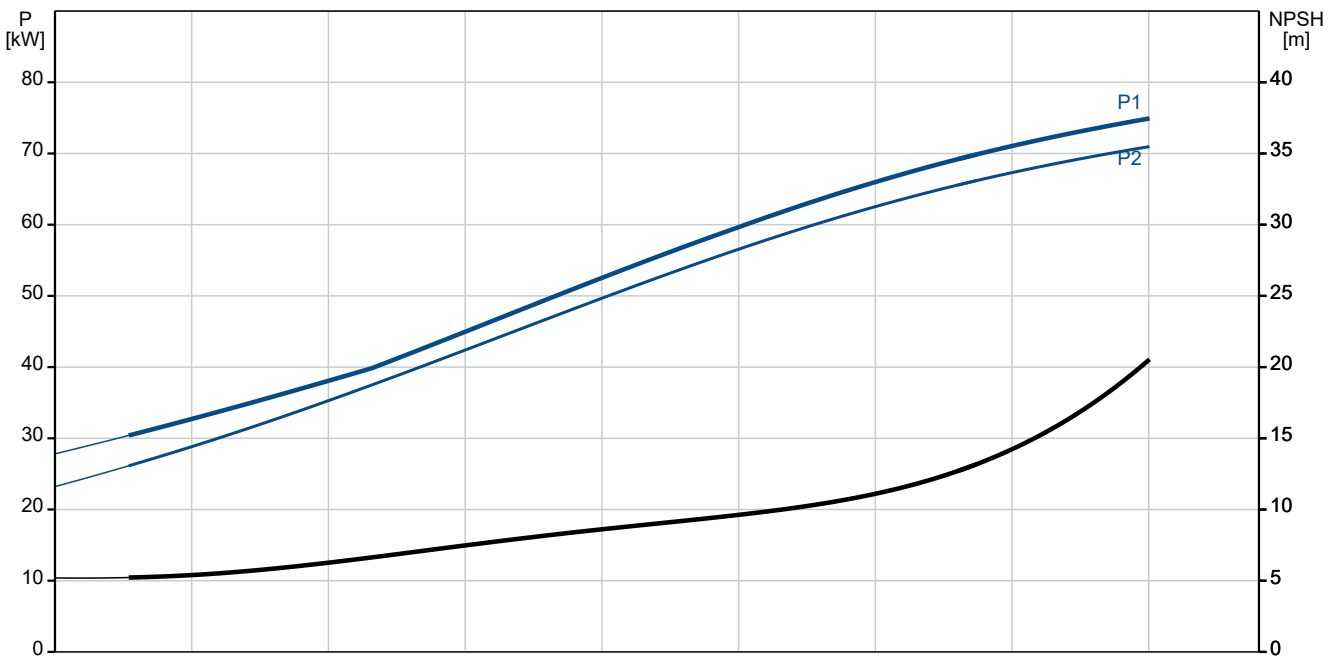
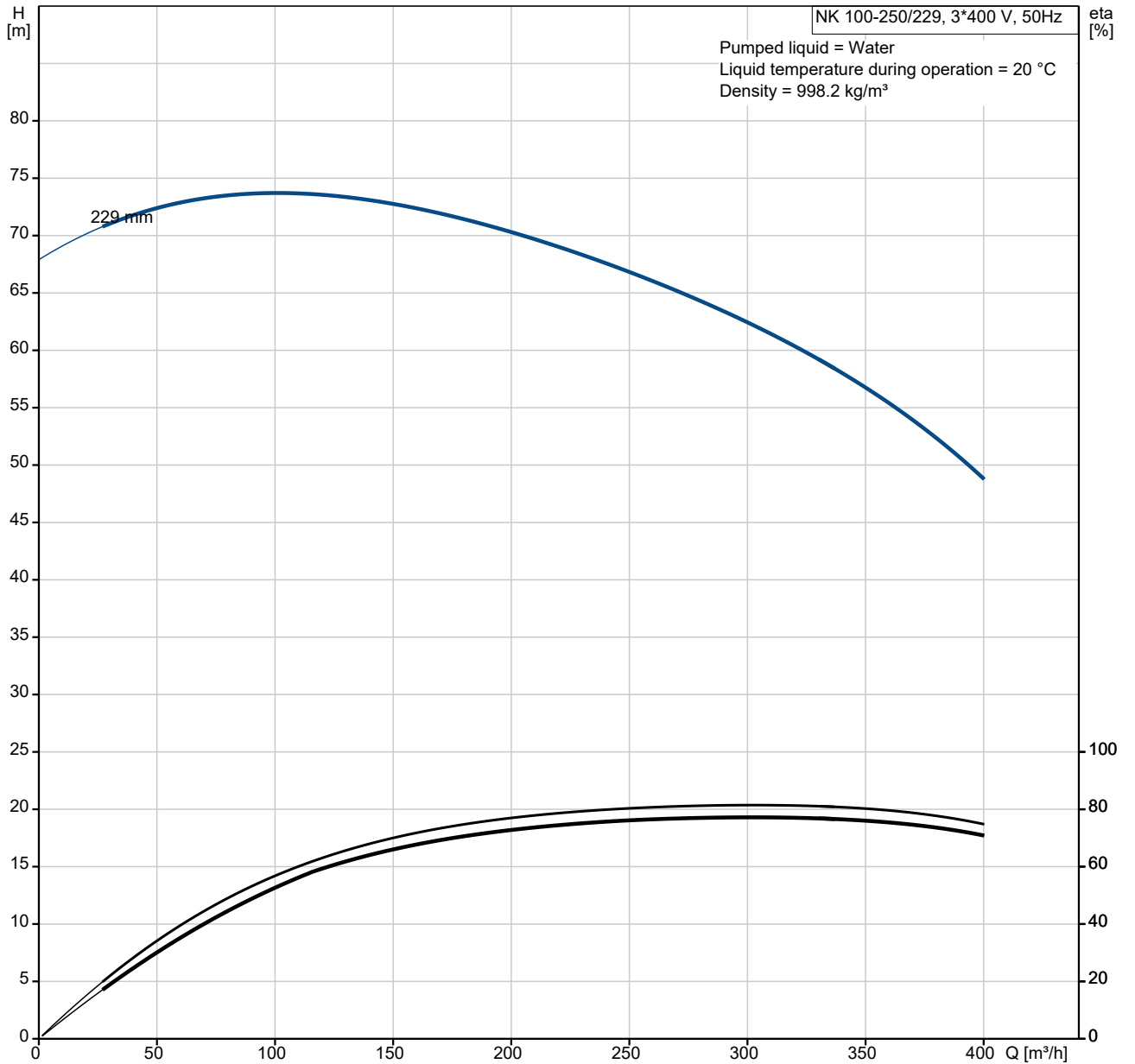


The base frame is prepared for grouting. Grouting improves the contact of the base frame with the foundation and stiffens the base frame construction. This changes the vibration level.

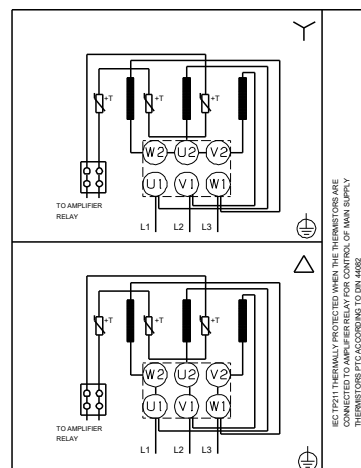
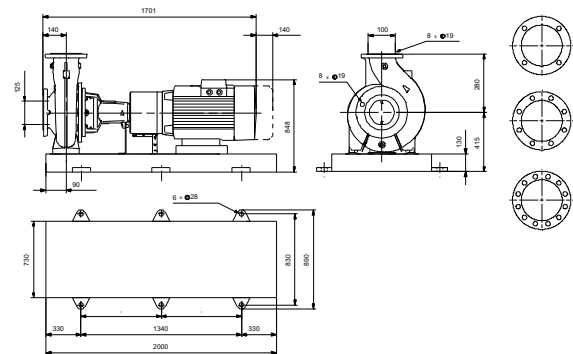
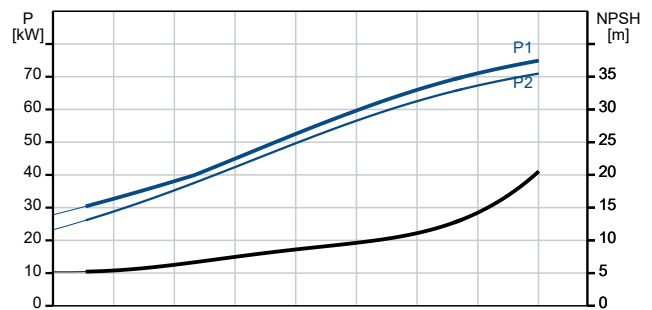
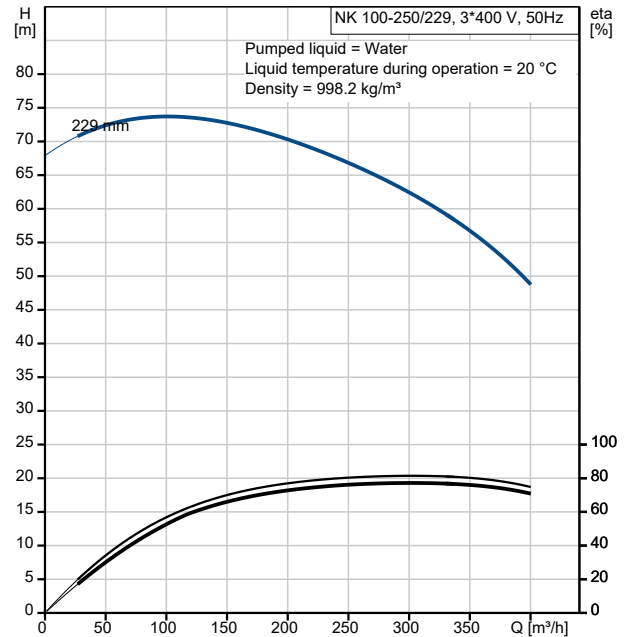
Qty.	Description																																																		
1	<p data-bbox="201 163 1422 237">Grouting is mandatory for all base frame types for all 2-pole pumps equal to and above 55 kW to fulfill the max vibration level requirements stated in standards. For other pump motor combinations grouting of the base frame is optional.</p> <p data-bbox="201 277 284 306"><b>Motor</b></p> <p data-bbox="201 315 1394 365">The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. Electrical tolerances comply with IEC 60034.</p> <p data-bbox="201 371 1015 400">The motor efficiency is classified as IE3 in accordance with IEC 60034-30-1.</p> <p data-bbox="201 407 1433 456">The motor has thermistors (PTC sensors) in the windings in accordance with DIN 44081/DIN 44082. The protection reacts to both slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.</p> <p data-bbox="201 463 1422 535">Thermal switches must be connected to an external control circuit in a way which ensures that the automatic reset cannot cause accidents. The motors must be connected to a motor-protective circuit breaker according to local regulations.</p> <p data-bbox="201 542 1382 591">A variable speed drive makes adjustment of pump performance to any duty point possible. If the motor is to be connected to a variable speed drive, the pump must be ordered with an electrically insulated motor bearing.</p> <p data-bbox="201 663 512 692"><b>Further product details</b></p> <p data-bbox="201 701 1453 772">Cast-iron parts have an epoxy-based coating made in a cathodic electro-deposition (CED) process. CED is a high-quality dip-painting process where an electrical field around the products ensures deposition of paint particles as a thin, well-controlled layer on the surface.</p> <p data-bbox="201 844 400 873"><b>Technical data</b></p> <p data-bbox="201 907 300 936">Controls:</p> <table data-bbox="201 938 638 992"> <tr> <td data-bbox="201 938 432 967">Frequency converter:</td> <td data-bbox="568 938 638 967">NONE</td> </tr> <tr> <td data-bbox="201 969 384 999">Pressure sensor:</td> <td data-bbox="568 969 587 999">N</td> </tr> </table> <p data-bbox="201 1025 276 1055">Liquid:</p> <table data-bbox="201 1057 703 1173"> <tr> <td data-bbox="201 1057 363 1086">Pumped liquid:</td> <td data-bbox="568 1057 635 1086">Water</td> </tr> <tr> <td data-bbox="201 1088 480 1117">Liquid temperature range:</td> <td data-bbox="568 1088 703 1117">-25 .. 120 °C</td> </tr> <tr> <td data-bbox="201 1120 504 1149">Selected liquid temperature:</td> <td data-bbox="568 1120 635 1149">20 °C</td> </tr> <tr> <td data-bbox="201 1151 292 1180">Density:</td> <td data-bbox="568 1151 695 1180">998.2 kg/m<sup>3</sup></td> </tr> </table> <p data-bbox="201 1207 316 1236">Technical:</p> <table data-bbox="201 1238 820 1529"> <tr> <td data-bbox="201 1238 687 1267">Pump speed on which pump data are based:</td> <td data-bbox="715 1238 820 1267">2975 rpm</td> </tr> <tr> <td data-bbox="201 1270 323 1299">Rated flow:</td> <td data-bbox="568 1270 683 1299">302.5 m<sup>3</sup>/h</td> </tr> <tr> <td data-bbox="201 1301 496 1330">Pump with motor (Yes/No):</td> <td data-bbox="568 1301 587 1330">Y</td> </tr> <tr> <td data-bbox="201 1332 336 1361">Rated head:</td> <td data-bbox="568 1332 655 1361">61.99 m</td> </tr> <tr> <td data-bbox="201 1364 472 1393">Actual impeller diameter:</td> <td data-bbox="568 1364 655 1393">229 mm</td> </tr> <tr> <td data-bbox="201 1395 488 1424">Nominal impeller diameter:</td> <td data-bbox="568 1395 611 1424">250</td> </tr> <tr> <td data-bbox="201 1426 416 1456">Code for shaft seal:</td> <td data-bbox="568 1426 639 1456">BQQE</td> </tr> <tr> <td data-bbox="201 1458 437 1487">Mechanical seal type:</td> <td data-bbox="568 1458 635 1487">Single</td> </tr> <tr> <td data-bbox="201 1489 379 1518">Curve tolerance:</td> <td data-bbox="568 1489 759 1518">ISO9906:2012 3B</td> </tr> <tr> <td data-bbox="201 1520 368 1550">Bearing design:</td> <td data-bbox="568 1520 667 1550">Standard</td> </tr> </table> <p data-bbox="201 1561 308 1590">Materials:</p> <table data-bbox="201 1592 730 1912"> <tr> <td data-bbox="201 1592 363 1621">Pump housing:</td> <td data-bbox="568 1592 730 1675">Cast iron EN-GJL-250 ASTM class 35</td> </tr> <tr> <td data-bbox="201 1677 316 1706">Wear ring:</td> <td data-bbox="568 1677 635 1706">Brass</td> </tr> <tr> <td data-bbox="201 1709 292 1738">Impeller:</td> <td data-bbox="568 1709 730 1792">Cast iron EN-GJL-200 ASTM class 30</td> </tr> <tr> <td data-bbox="201 1794 515 1823">Internal pump house coating:</td> <td data-bbox="568 1794 619 1823">CED</td> </tr> <tr> <td data-bbox="201 1825 268 1854">Shaft:</td> <td data-bbox="568 1825 724 1908">Stainless steel EN 1.4301 AISI 304</td> </tr> </table> <p data-bbox="201 1946 325 1975">Installation:</p> <table data-bbox="201 1977 683 2094"> <tr> <td data-bbox="201 1977 323 2007">t max amb:</td> <td data-bbox="568 1977 635 2007">55 °C</td> </tr> <tr> <td data-bbox="201 2009 523 2038">Maximum operating pressure:</td> <td data-bbox="568 2009 639 2038">16 bar</td> </tr> <tr> <td data-bbox="201 2040 483 2069">Pipe connection standard:</td> <td data-bbox="568 2040 683 2069">EN 1092-2</td> </tr> <tr> <td data-bbox="201 2072 467 2101">Type of inlet connection:</td> <td data-bbox="568 2072 611 2101">DIN</td> </tr> </table>	Frequency converter:	NONE	Pressure sensor:	N	Pumped liquid:	Water	Liquid temperature range:	-25 .. 120 °C	Selected liquid temperature:	20 °C	Density:	998.2 kg/m <sup>3</sup>	Pump speed on which pump data are based:	2975 rpm	Rated flow:	302.5 m <sup>3</sup> /h	Pump with motor (Yes/No):	Y	Rated head:	61.99 m	Actual impeller diameter:	229 mm	Nominal impeller diameter:	250	Code for shaft seal:	BQQE	Mechanical seal type:	Single	Curve tolerance:	ISO9906:2012 3B	Bearing design:	Standard	Pump housing:	Cast iron EN-GJL-250 ASTM class 35	Wear ring:	Brass	Impeller:	Cast iron EN-GJL-200 ASTM class 30	Internal pump house coating:	CED	Shaft:	Stainless steel EN 1.4301 AISI 304	t max amb:	55 °C	Maximum operating pressure:	16 bar	Pipe connection standard:	EN 1092-2	Type of inlet connection:	DIN
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Qty.	Description
1	<p>Type of outlet connection: DIN  Size of inlet connection: DN 125  Size of outlet connection: DN 100  Pressure rating for connection: PN 16  Coupling type: Flexible w/spacer  Base frame design: EN/ISO  Code for base frame: 10  Grouting (Yes/No): Y</p> <p>Electrical data:</p> <p>Motor type: SIEMENS  IE Efficiency class: IE3  Rated power - P2: 75 kW  Mains frequency: 50 Hz  Rated voltage: 3 x 380-420D/660-725Y V  Rated current: 128/74 A  Starting current: 680-680 %  Cos phi - power factor: 0.89  Rated speed: 2975 rpm  Efficiency: IE3 94,7%  Motor efficiency at full load: 94.7-94.7 %  Motor efficiency at 3/4 load: 94.8-94.8 %  Motor efficiency at 1/2 load: 94.1-94.1 %  Number of poles: 2  Enclosure class (IEC 34-5): IP55  Insulation class (IEC 85): F  Motor No: 98943376  Bearing insulation type N-end: STEEL BEARING</p> <p>Others:</p> <p>Minimum efficiency index, MEI ≥: 0.70  Net weight: 959 kg  Gross weight: 998 kg  Shipping volume: 2.13 m<sup>3</sup>  Country of origin: HU  Custom tariff no.: 84137059</p>

# 98973185 NK 100-250/229 BA2F2AESBQQEVW1 50 Hz

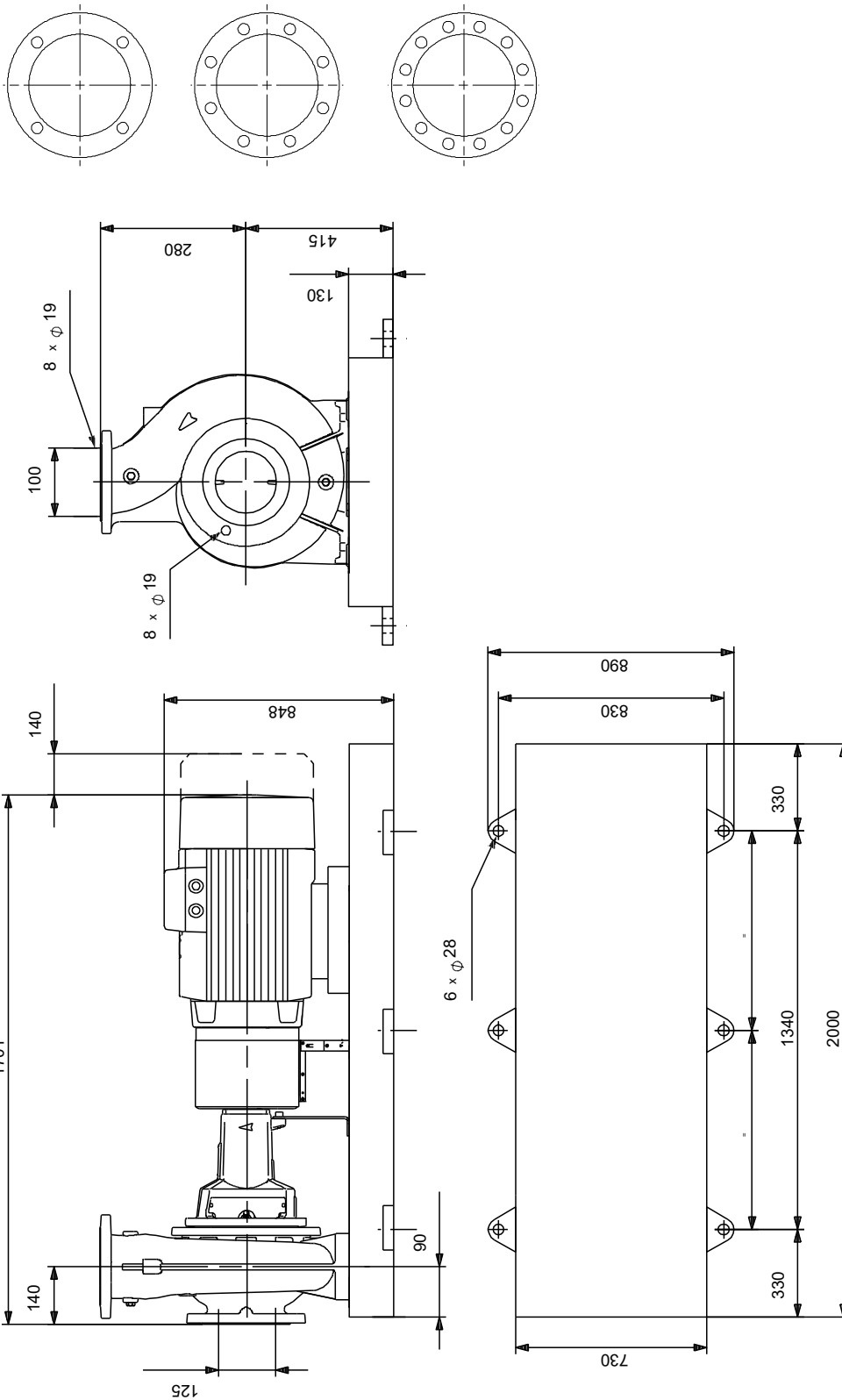


Description	Value
<b>General information:</b>	
Product name:	NK 100-250/229 BA2F2AESBQQEVW1
Product No:	98973185
EAN number:	5712604500293
<b>Technical:</b>	
Pump speed on which pump data are based:	2975 rpm
Rated flow:	302.5 m <sup>3</sup> /h
Pump with motor (Yes/No):	Y
Rated head:	61.99 m
Actual impeller diameter:	229 mm
Nominal impeller diameter:	250
Shaft diameter:	32 mm
Code for shaft seal:	BQQE
Mechanical seal type:	Single
Curve tolerance:	ISO9906:2012 3B
Pump version:	A2
Bearing design:	Standard
<b>Materials:</b>	
Pump housing:	Cast iron
Pump housing:	EN-GJL-250
Pump housing:	ASTM class 35
Wear ring:	Brass
Impeller:	Cast iron
Impeller:	EN-GJL-200
Impeller:	ASTM class 30
Internal pump house coating:	CED
Material code:	A
Code for rubber:	E
Shaft:	Stainless steel
Shaft:	EN 1.4301
Shaft:	AISI 304
<b>Installation:</b>	
t max amb:	55 °C
Maximum operating pressure:	16 bar
Pipe connection standard:	EN 1092-2
Type of inlet connection:	DIN
Type of outlet connection:	DIN
Size of inlet connection:	DN 125
Size of outlet connection:	DN 100
Pressure rating for connection:	PN 16
Coupling type:	Flexible w/spacer
Base frame design:	EN/ISO
Code for base frame:	10
Grouting (Yes/No):	Y
Connect code:	F
<b>Liquid:</b>	
Pumped liquid:	Water
Liquid temperature range:	-25 .. 120 °C
Selected liquid temperature:	20 °C
Density:	998.2 kg/m <sup>3</sup>
<b>Electrical data:</b>	
Motor type:	SIEMENS
IE Efficiency class:	IE3
Rated power - P2:	75 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-420D/660-725Y V
Rated current:	128/74 A
Starting current:	680-680 %
Cos phi - power factor:	0.89
Rated speed:	2975 rpm
Efficiency:	IE3 94,7%
Motor efficiency at full load:	94.7-94.7 %



Description	Value
Motor efficiency at 3/4 load:	94.8-94.8 %
Motor efficiency at 1/2 load:	94.1-94.1 %
Number of poles:	2
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Built-in motor protection:	PTC
Motor No:	98943376
Bearing insulation type N-end:	STEEL BEARING
<b>Controls:</b>	
Frequency converter:	NONE
Pressure sensor:	N
<b>Others:</b>	
Minimum efficiency index, MEI ≥:	0.70
Net weight:	959 kg
Gross weight:	998 kg
Shipping volume:	2.13 m <sup>3</sup>
Country of origin:	HU
Custom tariff no.:	84137059

# 98973185 NK 100-250/229 BA2F2AESBQQEVW1 50 Hz



Note! All units are in [mm] unless others are stated.  
 Disclaimer: This simplified dimensional drawing does not show all details.

98973185 NK 100-250/229 BA2F2AESBQQEVW1 50 Hz



IEC TP211 THERMALLY PROTECTED WHEN THE THERMISTORS ARE  
 CONNECTED TO AMPLIFIER RELAY FOR CONTROL OF MAIN SUPPLY  
 THERMISTORS PTC ACCORDING TO DIN 44082

Note! All units are in [mm] unless others are stated.



