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Company name: Created by: Phone:

Date: 29/10/2020 Qty. Description NBE 32-200.1/196 AF2ABQQE Note! Product picture may differ from actual product Product No.: 98609256 Non-self-priming, single-stage, centrifugal volute pump designed according to ISO 5199 with dimensions and rated performance according to EN 733 (10 bar). Flanges are PN 16 with dimensions according to EN 1092-2. The pump has an axial suction port, radial discharge port, horizontal shaft and a back pull-out design enabling removal of the motor, motor stool, cover and impeller without disturbing the pump housing or pipework. The unbalanced rubber bellows seal is according to DIN EN 12756. The pump is close-coupled to a fan-cooled, permanent-magnet synchronous motor. The motor includes a frequency converter and PI controller in the motor terminal box. This enables continuously variable control of the motor speed, which again enables adaptation of the performance to a given requirement. 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. An external sensor can be connected if controlled pump operation is required for flow, differential pressure or temperature control. An operating panel on the motor terminal box enables setting of required setpoint as well as setting of pump to "Min." or "Max." operation or to "Stop". The Grundfos Eye indicator on the operating panel provides visual indication of pump status: "Power on": Motor is running (rotating green indicator lights) or not running (permanently green indicator lights) "Warning": Motor is still running (rotating yellow indicator lights) or has stopped (permanently yellow indicator lights) "Alarm": Motor has stopped (flashing red indicator lights). Communication with the pump is possible by means of Grundfos GO Remote (accessory). The remote control enables further settings as well as reading out of a number of parameters such as "Actual value", "Speed", "Power input" and total "Power consumption". The back pull-out design means that the pump can be serviced by a single person without disturbing the pump housing or pipes. 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. Pump The pump housing has both a priming and a drain hole closed by plugs. The impeller is a closed impeller with

double-curved blades with smooth surfaces. The impeller is statically balanced according to ISO 1940-1 class G6.3 and hydraulically balanced to compensate for axial thrust.

Wear rings used in pump housing and for impeller are made of bronze/brass or cast iron.



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#### Qty. | Description

Motor stool and pump cover are made of cast iron (EN-GJL-250). Coupling guards are fitted to the motor stool. The pump cover is provided with a manual air vent screw for venting of the pump housing and the shaft seal chamber.

Date:

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.

Primary seal:

- 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 pump housing has feet.

## Motor

The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. Electrical tolerances comply with IEC 60034.

The motor efficiency is classified as IE5 in accordance with IEC 60034-30-2.

The motor requires no external motor protection. The motor control unit incorporates protection against slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.

The terminal box holds terminals for these connections:

- one dedicated digital input
- two analog inputs, 0(4)-20 mA, 0-5 V, 0-10 V, 0.5 3.5 V
- 5 V voltage supply to potentiometer and sensor
- one configurable digital input or open-collector output
- Grundfos Digital Sensor input and output
- 24 V voltage supply for sensors
- two signal-relay outputs (potential-free contacts)
- GENIbus connection
- interface for Grundfos CIM fieldbus module.

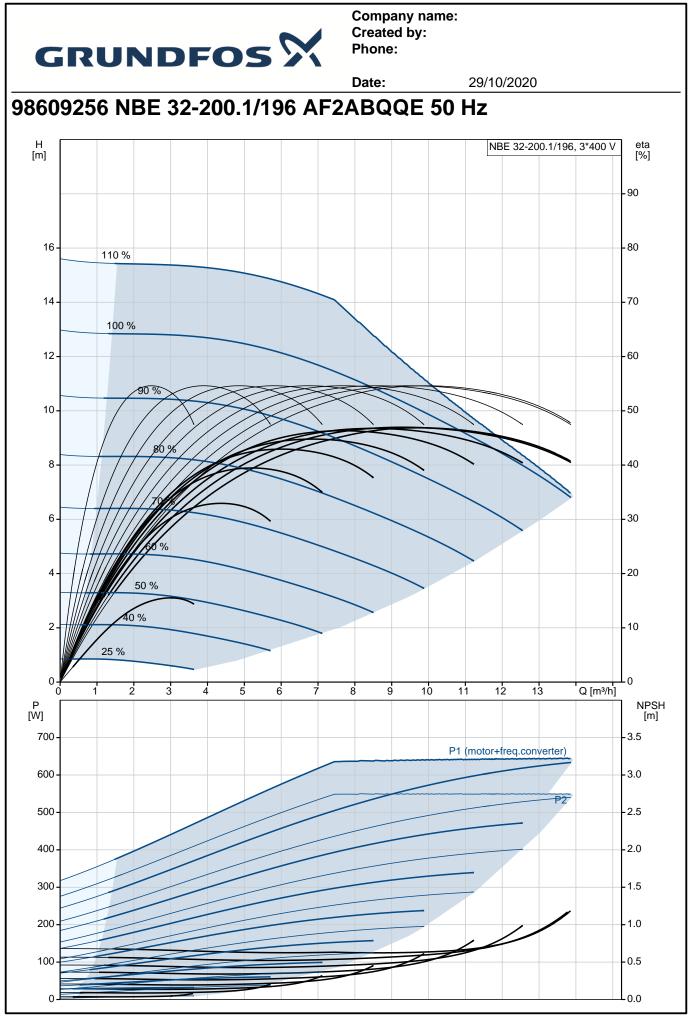
## Further product details

#### **Technical data**

Controls: Frequency converter:	Built-in
Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density:	Water -25 120 °C 20 °C 998.2 kg/m³
Technical: Pump speed on which pump dat Rated flow: Rated head: Actual impeller diameter: Nominal impeller diameter: Shaft seal arrangement: Code for shaft seal: Curve tolerance: Bearing design:	a are based: 1450 rpm 10.9 m³/h 9.7 m 196 mm 200.1 Single BQQE ISO9906:2012 3B2 Standard
Materials: Pump housing:	Cast iron EN-GJL-250 ASTM class 35



			Date:	29/10/2020	
	Description				
	Wear ring:	Brass			
	Impeller:	Cast iron			
		EN-GJL-200			
		ASTM class 30			
	Shaft:	Stainless steel			
		EN 1.4301			
		AISI 304			
	Installation:				
	Maximum ambient temperature:	50 °C			
	Maximum operating pressure:	16 bar			
	Pipe connection standard:	EN 1092-2			
	Size of inlet connection:	DN 50			
	Size of outlet connection:	DN 32			
	Pipe connection standard:	EN 1092-2			
	Pressure rating for connection:				
	Pump housing with feet:	Yes			
	Support block:	N			
	Electrical data:				
	IE Efficiency class:	IE5			
	Rated power - P2:	0.55 kW			
	Mains frequency:	50 Hz			
	Rated voltage:	3 x 380-500 V			
	Rated current:	1.30-1.25 A			
	Cos phi - power factor:	0.80-0.64			
	Rated speed:	180-2000 rpm			
	Efficiency:	84.6%			
	Motor efficiency at full load:	84.6 %			
	Number of poles:	4			
	Enclosure class (IEC 34-5):	IP55			
	Insulation class (IEC 85):	F			
	Motor No:	99305806			
	0.4				
	Others:	~ ~ ~ ~ ~			
	Minimum efficiency index, MEI â				
	Net weight:	44 kg			
	Gross weight:	54 kg			
	Shipping volume:	0.134 m³			
	Country of origin:	HU			
	Custom tariff no.:	84137051			
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		Date:	29/10/2020	
Description	Value	H [m]	NBE 32-200.1/196, 3*400 V	et [%
General information:				- 90
Product name:	NBE 32-200.1/196 AF2ABQQE	16 - 110	0/	- 80
Product No:	98609256	16-110	%	- 00
EAN number:	5711498158740	14 -		- 70
Price:	GBP 2354	100	0%	-
Technical:	001 2001	12 -		- 60
Pump speed on which pump data ar	e		90%	
based:	1450 Ipm	10-		- 50
Rated flow:	10.9 m³/h	8	80%	- 40
Rated head:	9.7 m			- 40
Actual impeller diameter:	196 mm	6-		- 30
Nominal impeller diameter:	200.1		60%	
Shaft seal arrangement:	Single	4 -		- 20
Shaft diameter:	24 mm		50 %	
Code for shaft seal:	BQQE	2-	0%	- 10
Curve tolerance:	ISO9906:2012 3B2	25 %	6	
Pump version:	А	0		Lo
Bearing design:	Standard	0 2	4 6 8 10 12 Q [m³/h]	
Materials:		P [W]		N
Pump housing:	Cast iron		P1 (motor+freq.converter)	Γ
Pump housing:	EN-GJL-250	600 -		- 3.0
Pump housing:	ASTM class 35	500 -	P2	- 2.5
Wear ring:	Brass	400 -		-2.0
Impeller:	Cast iron			
Impeller:	EN-GJL-200	300 -		- 1.5
Impeller:	ASTM class 30	200 -		- 1.0
Shaft:	Stainless steel	100-		- 0.5
Shaft:	EN 1.4301	0		L <sub>0.0</sub>
Shaft:	AISI 304			- 0.0
Material code:	A A			
Code for rubber:	E	80		_
Installation:	L			$(\uparrow \uparrow$
Maximum ambient temperature:	50 °C			\$
Maximum operating pressure:	16 bar			(A)
Pipe connection standard:	EN 1092-2			S.
Size of inlet connection:	DN 50			000
Size of outlet connection:				000
	DN 32	200		
Pipe connection standard:	EN 1092-2	<u>+ ו19</u> _ 51 31.		
Pressure rating for connection:	PN 16			
Pump housing with feet:	Yes			
Support block:	N	-		
Connect code:	F2		k <u>− 232</u>	
Liquid:				
Pumped liquid:	Water			
Liquid temperature range:	-25 120 °C		the no	
Selected liquid temperature:	20 °C			
Density:	998.2 kg/m³	PE	Ø€	
Electrical data:				
IE Efficiency class:	IE5			
Rated power - P2:	0.55 kW	Ö		
Mains frequency:	50 Hz	<u>ചം</u> ക്ഷം ക്ഷ		
Rated voltage:	3 x 380-500 V			
Rated current:	1.30-1.25 A	ð		
Cos phi - power factor:	0.80-0.64			
Rated speed:	180-2000 rpm			
Efficiency:	84.6%			
Motor efficiency at full load:	84.6 %			
Number of poles:	4	*******************************		

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		Date:	29/10/2020
Description	Value		
Enclosure class (IEC 34-5):	IP55		
Insulation class (IEC 85):	F		
Motor protec:	ELEC		
Motor No:	99305806		
Mount. design. acc. IEC 34-7:	IM V1/B5		
Controls:			
Control panel:	HMI300 - Graphical		
Function Module:	FM300 - Advanced		
Frequency converter:	Built-in		
Others:			
Minimum efficiency index, MEI ≥:	0.70		
Net weight:	44 kg		
Gross weight:	54 kg		
Shipping volume:	0.134 m³		
Country of origin:	HU		
Custom tariff no.:	84137051		

