

# Submittal Data

PROJECT:	UNIT TAG:	QUANTITY:
REPRESENTATIVE: _____	TYPE OF SERVICE:	DATE: _____
ENGINEER:	SUBMITTED BY:	DATE:
CONTRACTOR:	APPROVED BY:	DATE:
	ORDER NO.:	DATE:

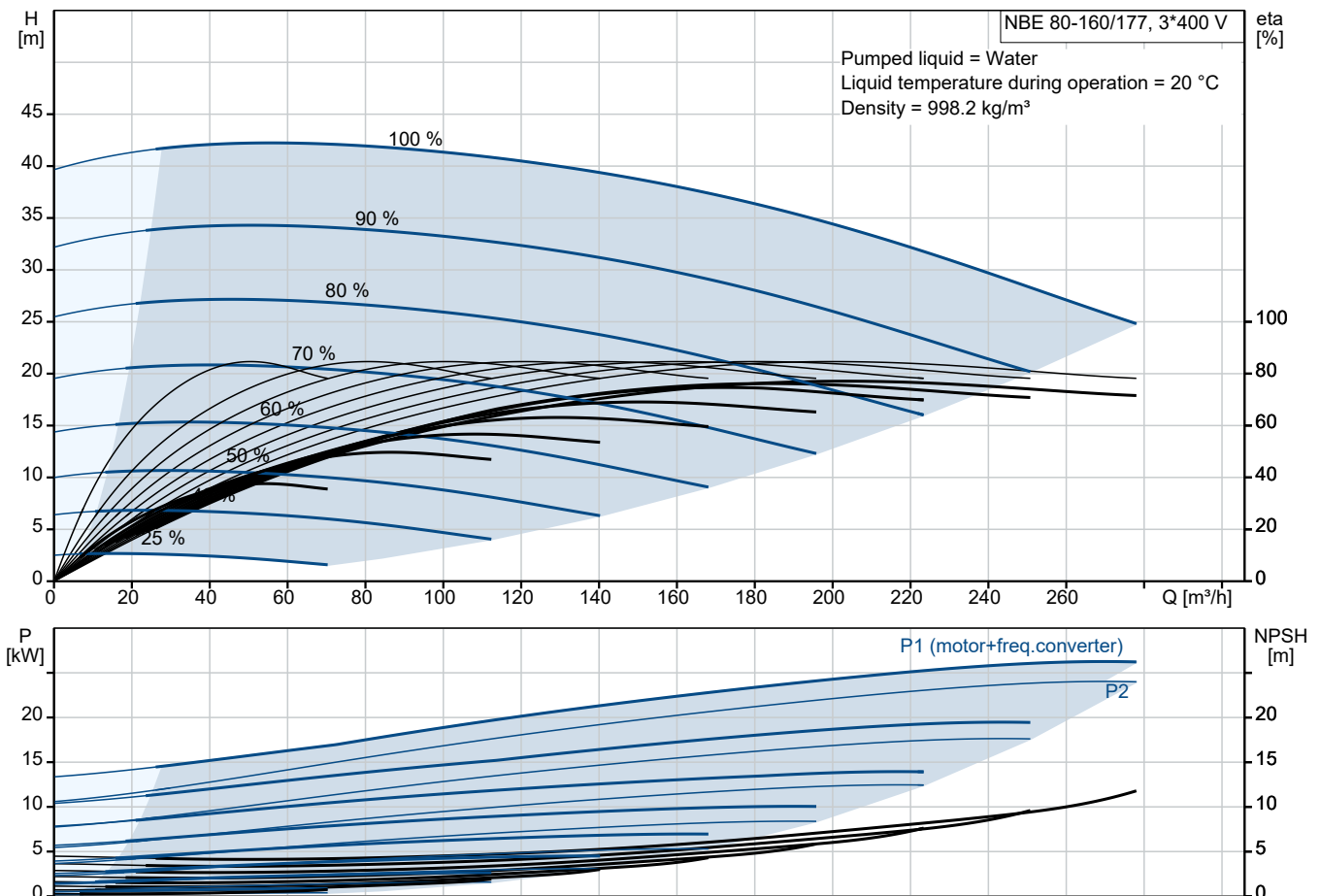


## NBE 80-160/177 AIAF2AESBQQERW1

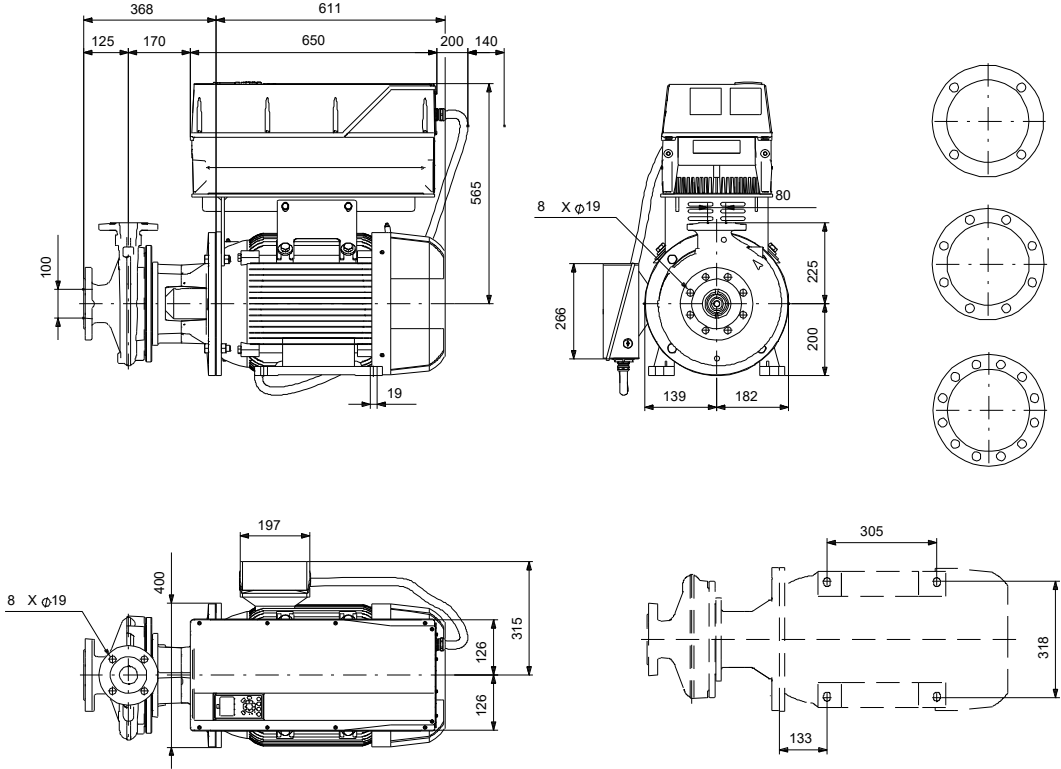
End-suction close-coupled pumps according to EN733 with frequency-controlled motors.

Note! Product picture may differ from actual product

Conditions of Service	Pump Data	Motor Data
Liquid: Water	Liquid temperature range: -25 .. 120 °C	Rated voltage: 380-420D/660-725Y V
Temperature: 20 °C	Maximum ambient temperature: 50 °C	Mains frequency: 50 Hz
Specific Gravity: 1.000	Shaft seal: BQQE	Enclosure class: IP55
	Product number: On request	Insulation class: F
		Motor protection: PTC
		Eta 1/1: 94.5 %



# Submittal Data



- Materials:**
- Pump housing: Cast iron
  - Pump housing: ASTM class 35
  - Impeller: Cast iron
  - Impeller: ASTM class 30
  - Impeller: EN-GJL-200
  - Material code: A
  - Code for rubber: E

Qty. Description

1 NBE 80-160/177 AIAF2AESBQQERW1



Note! Product picture may differ from actual product

Product No.: On request

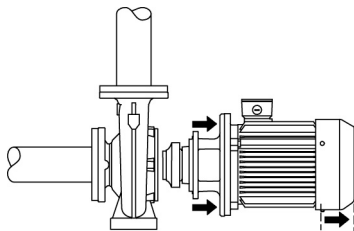
Non-self-priming, single-stage, centrifugal volute pump designed according to ISO 5199 with dimensions and rated performance according to EN 733 (10 bar). Flanges are PN 16 with dimensions according to EN 1092-2. The pump has an axial suction port, radial discharge port, horizontal shaft and a back pull-out 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 asynchronous motor.

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.

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

Motor stool and pump cover are made of cast iron (EN-GJL-250). Coupling guards are fitted to the motor stool.

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.

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 pump housing has no feet.

The language on the pump nameplate is English.

## Motor

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

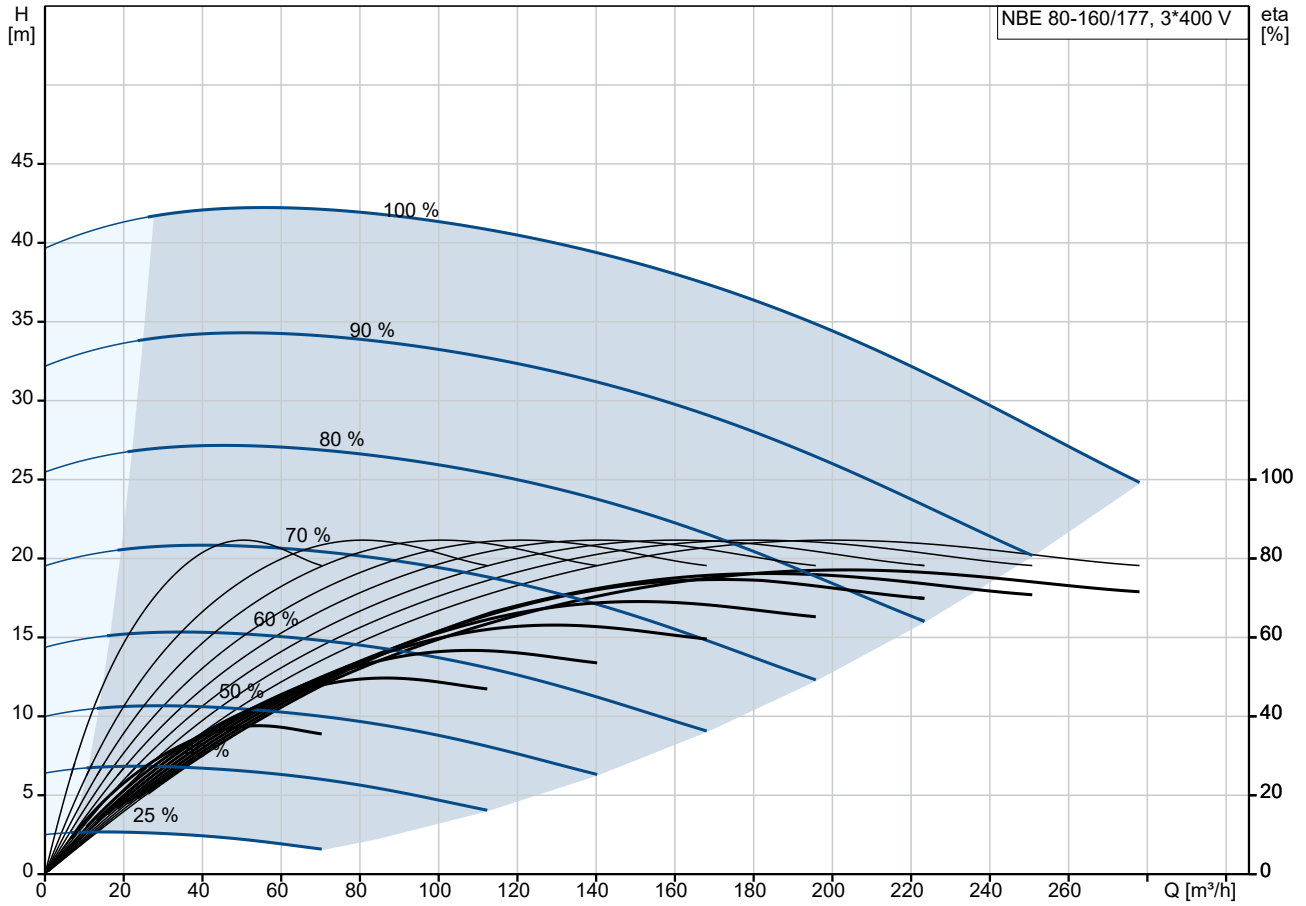
The motor efficiency is classified as IE4 in accordance with IEC 60034-30-1.

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.

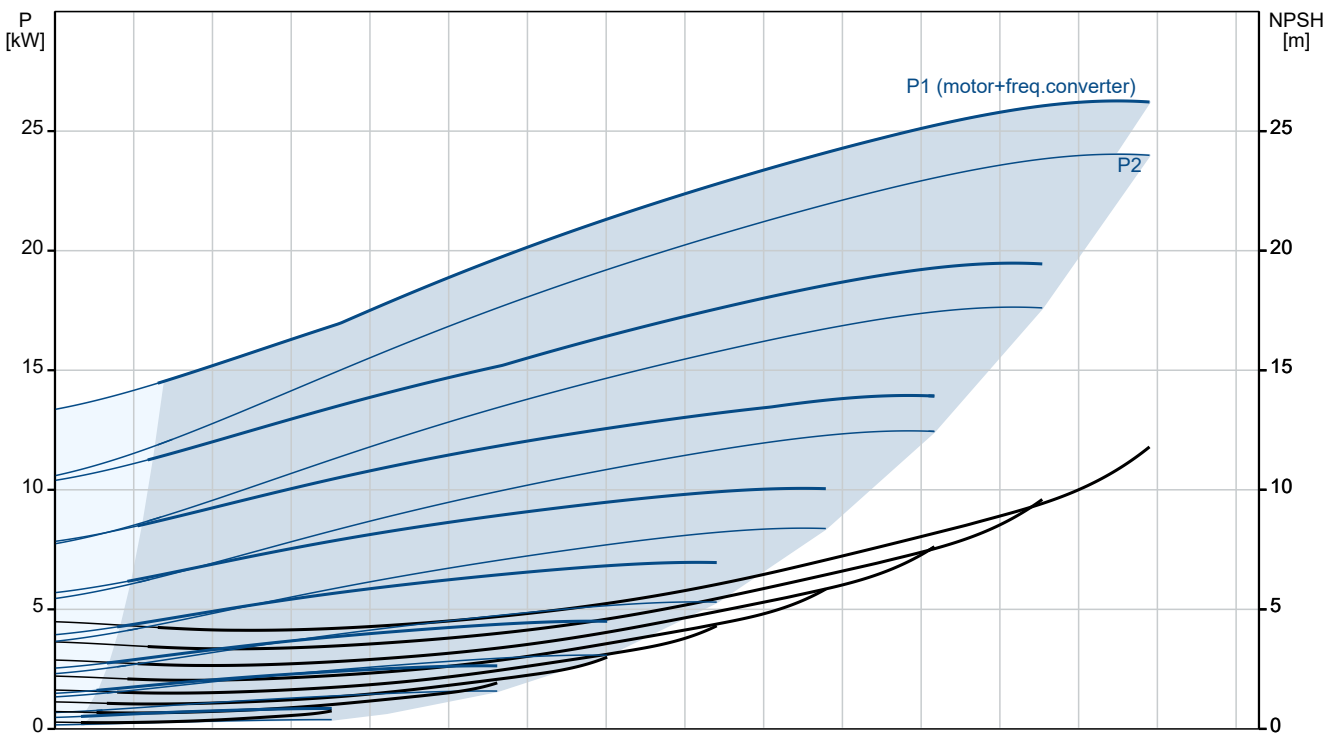
Qty.	Description
1	<p>Thermal switches must be connected to an external control circuit in a way which ensures that the automatic reset cannot cause accidents. The motors must be connected to a motor-protective circuit breaker according to local regulations.</p> <p>The motor requires no external motor protection. The motor control unit incorporates protection against slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.</p> <p><b>Further product details</b></p> <p>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><b>Technical data</b></p> <p>Controls:</p> <p>VFD product number: 99616823</p> <p>Frequency converter: Built-in</p> <p>Type of frequency converter: CUE 3X380-500V IP55 RUG 30KW</p> <p>Appr. for VFD: CE, CULUS, C-TICK</p> <p>Pressure sensor: N</p> <p>Liquid:</p> <p>Pumped liquid: Water</p> <p>Liquid temperature range: -25 .. 120 °C</p> <p>Selected liquid temperature: 20 °C</p> <p>Density: 998.2 kg/m<sup>3</sup></p> <p>Technical:</p> <p>Pump speed on which pump data are based: 2955 rpm</p> <p>Rated flow: 213 m<sup>3</sup>/h</p> <p>Rated head: 33.54 m</p> <p>Actual impeller diameter: 177 mm</p> <p>Nominal impeller diameter: 160</p> <p>Shaft seal arrangement: Single</p> <p>Code for shaft seal: BQQE</p> <p>Curve tolerance: ISO9906:2012 3B</p> <p>Bearing design: Standard</p> <p>Materials:</p> <p>Pump housing: Cast iron EN-GJL-250 ASTM class 35</p> <p>Wear ring: Brass</p> <p>Impeller: Cast iron EN-GJL-200 ASTM class 30</p> <p>Internal pump house coating: CED</p> <p>Shaft: Stainless steel EN 1.4301 AISI 304</p> <p>Installation:</p> <p>Range of ambient temperature: -10 .. 50 °C</p> <p>Maximum operating pressure: 16 bar</p> <p>Pipe connection standard: EN 1092-2</p> <p>Size of inlet connection: DN 100</p> <p>Size of outlet connection: DN 80</p>

Qty.	Description
1	<p>Pressure rating for connection: PN 16            Bearing lubrication: Grease            Pump housing with feet: No            Support block (Yes/No): N</p> <p>Electrical data:            Rated power - P2: 30 kW            Mains frequency: 50 Hz            Rated voltage: 3 x 380-420D/660-725Y V            Rated current: 54/31.5 A            Starting current: 790 %            Cos phi - power factor: 0.85            Rated speed: 2955 rpm            IE efficiency: IE4 94,5%            IE Efficiency class: IE4            Motor efficiency at full load: 94.5 %            Motor efficiency at 3/4 load: 94.8 %            Motor efficiency at 1/2 load: 94.4 %            Number of poles: 2            Enclosure class (IEC 34-5): IP55            Insulation class (IEC 85): F            Motor No: 92779349            Bearing insulation type N-end: COATED RING</p> <p>Others:            Minimum efficiency index, MEI ≥: 0.70            Net weight: 333 kg            Gross weight: 414 kg            Shipping volume: 1.6 m<sup>3</sup>            Country of origin: HU            Custom tariff no.: 84137051            Language on pump nameplate: GB</p>

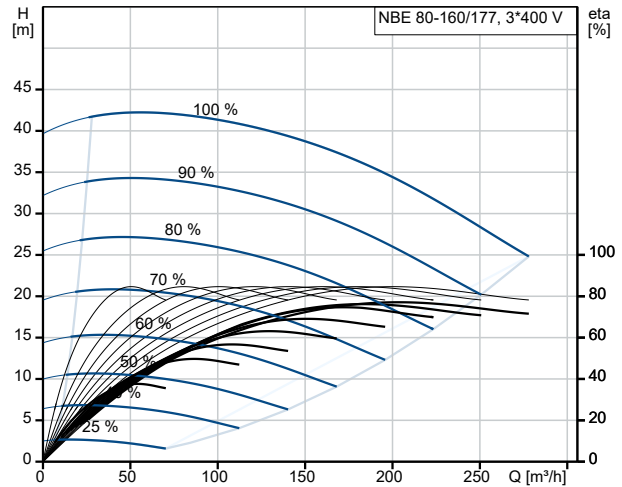
## On request NBE 80-160/177 AIAF2AESBQQERW1 50 Hz



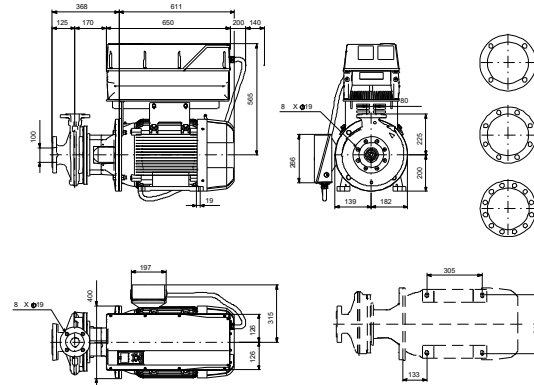
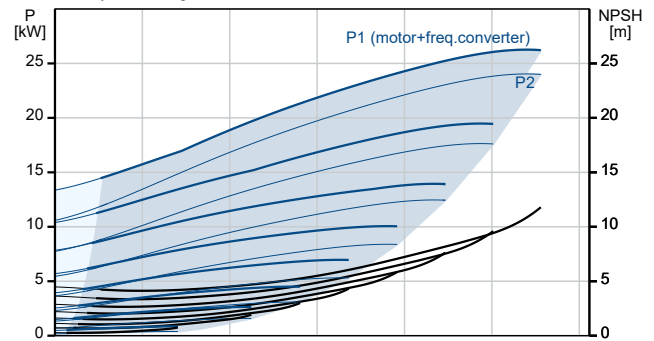
Pumped liquid = Water  
 Liquid temperature during operation = 20 °C  
 Density = 998.2 kg/m³



Description	Value
<b>General information:</b>	
Product name:	NBE 80-160/177 AIAF2AESBQQERW1
Product No:	On request
EAN number:	On request
<b>Technical:</b>	
Pump speed on which pump data are based:	2955 rpm
Rated flow:	213 m <sup>3</sup> /h
Rated head:	33.54 m
Actual impeller diameter:	177 mm
Nominal impeller diameter:	160
Shaft seal arrangement:	Single
Shaft diameter:	24 mm
Code for shaft seal:	BQQE
Curve tolerance:	ISO9906:2012 3B
Pump version:	A
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>	
Range of ambient temperature:	-10 .. 50 °C
Maximum operating pressure:	16 bar
Pipe connection standard:	EN 1092-2
Size of inlet connection:	DN 100
Size of outlet connection:	DN 80
Pressure rating for connection:	PN 16
Bearing lubrication:	Grease
Pump housing with feet:	No
Support block (Yes/No):	N
Connect code:	F2
<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>	
Rated power - P2:	30 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-420D/660-725Y V
Rated current:	54/31.5 A
Starting current:	790 %
Cos phi - power factor:	0.85
Rated speed:	2955 rpm
IE efficiency:	IE4 94,5%
IE Efficiency class:	IE4



Pumped liquid = Water  
Liquid temperature during operation = 20 °C  
Density = 998.2 kg/m<sup>3</sup>



IEC 60745-1:2014: THE MAIN PROTECTED PARTS OF THE ELECTRIFICATION ARE CONNECTED TO AN AMPLIFIER RELAY FOR CONTROL OF THE SUPPLY. THE REMAINDER ITC ACCORDING TO DIN 44282.



Company name:

Created by:

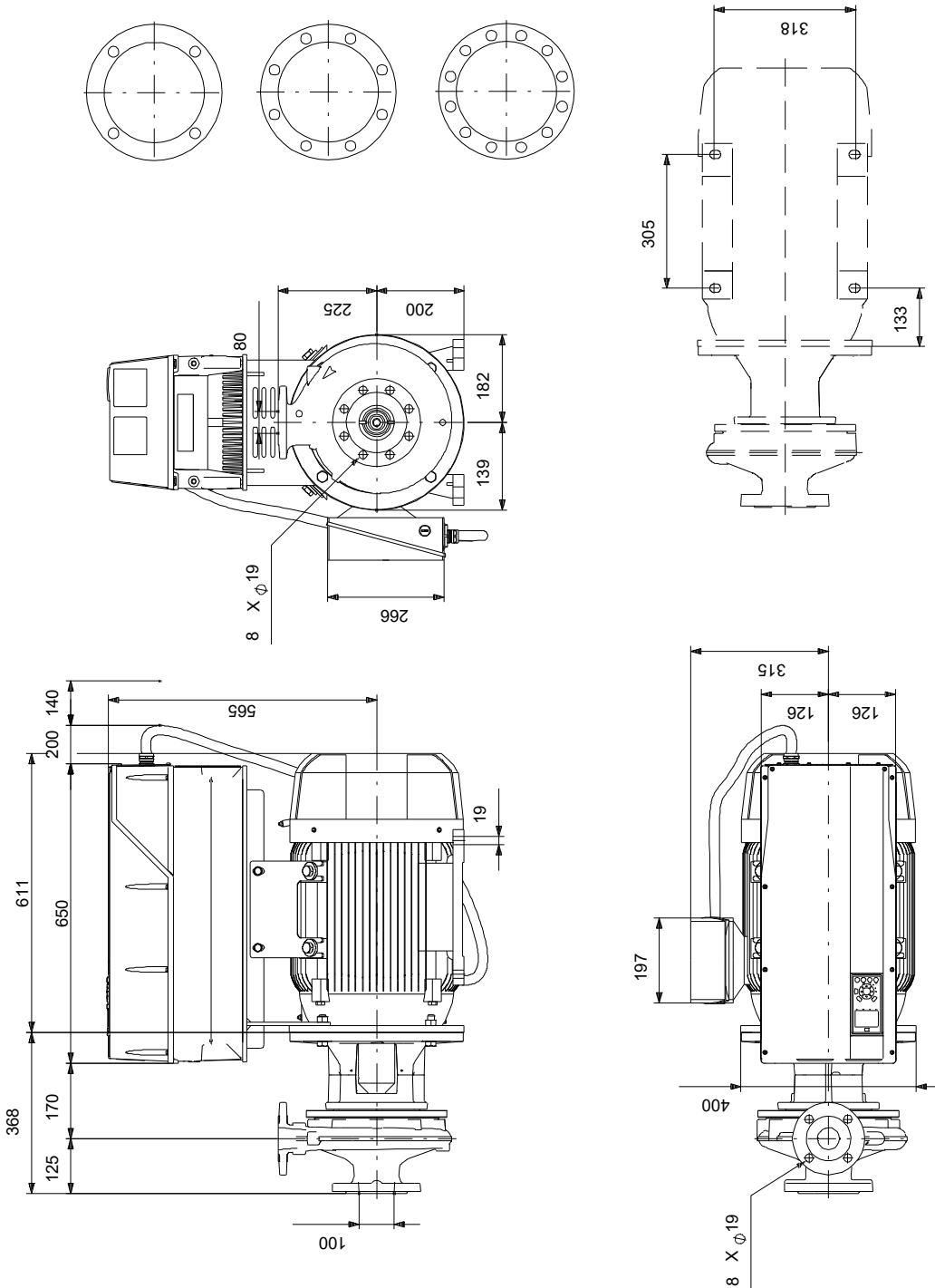
Phone:

Date:

22/10/2024

Description	Value
Motor efficiency at full load:	94.5 %
Motor efficiency at 3/4 load:	94.8 %
Motor efficiency at 1/2 load:	94.4 %
Number of poles:	2
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Built-in motor protection:	PTC
Motor No:	92779349
Mount. design. acc. IEC 34-7:	IM B35
Bearing insulation type N-end:	COATED RING
<b>Controls:</b>	
VFD product number:	99616823
Frequency converter:	Built-in
Type of frequency converter:	CUE 3X380-500V IP55 RUG 30KW
Appr. for VFD:	CE, CULUS, C-TICK
Pressure sensor:	N
<b>Others:</b>	
Minimum efficiency index, MEI ≥:	0.70
Net weight:	333 kg
Gross weight:	414 kg
Shipping volume:	1.6 m <sup>3</sup>
Country of origin:	HU
Custom tariff no.:	84137051
Language on pump nameplate:	GB

## On request NBE 80-160/177 AIAF2AESBQQERW1 50 Hz



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

## On request NBE 80-160/177 AIAF2AESBQQERW1 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.

