

# Submittal Data

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

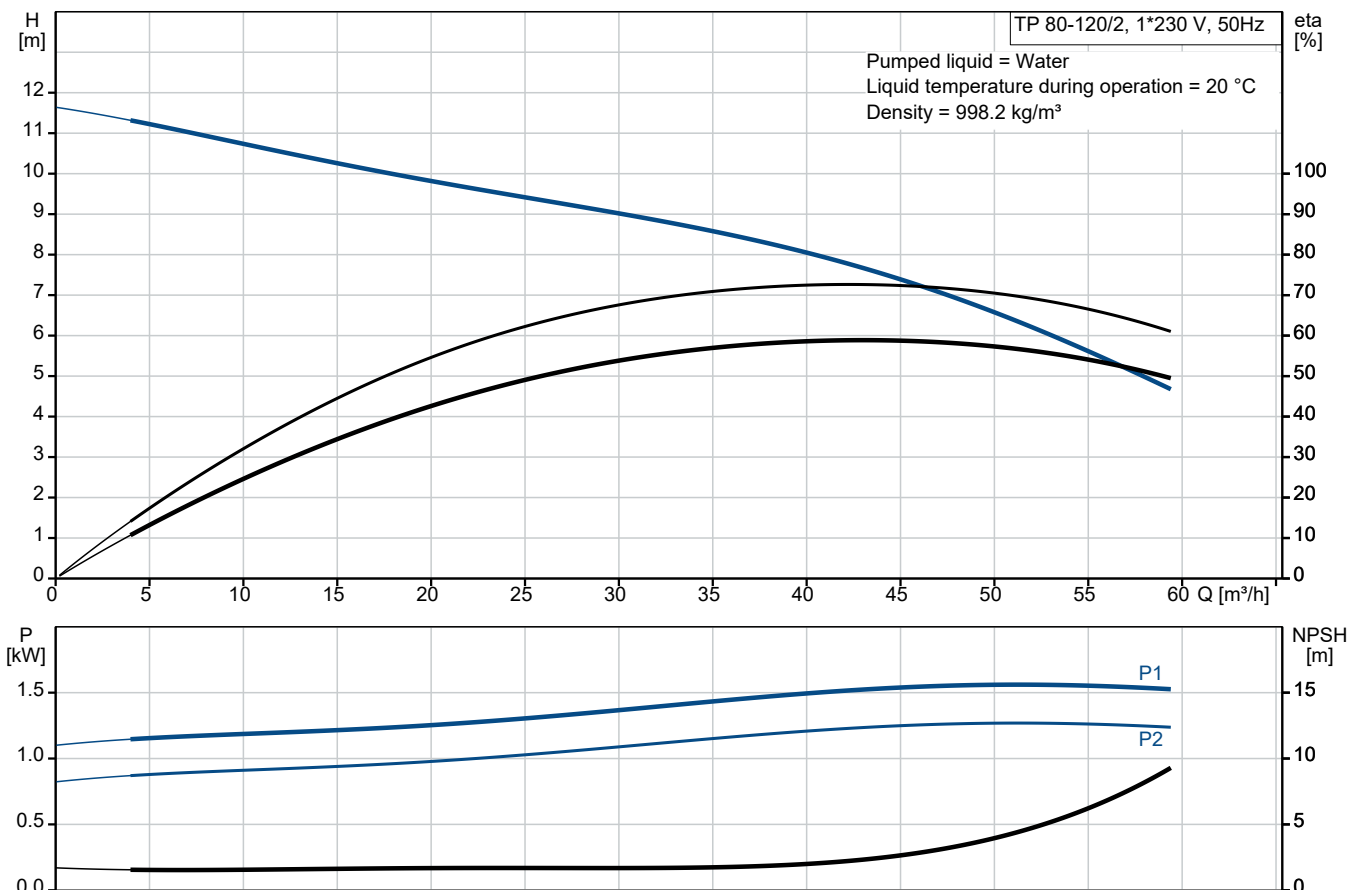


## TP 80-120/2 AI-F-Z-BQBE-HW1

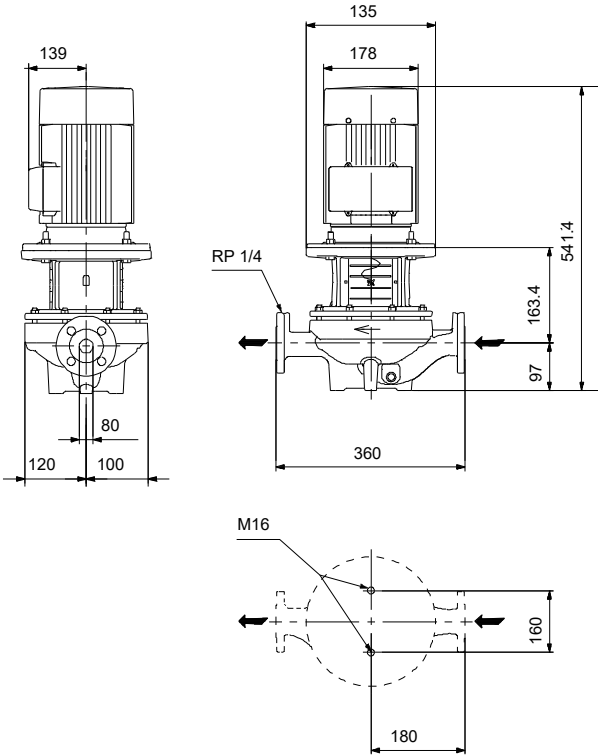
Grundfos TP (B), (I) pumps with pump housing in bronze or stainless steel and are single-stage, close-coupled in-line centrifugal pumps with mechanical shaft seal and primarily for applications such as hot water recirculation. The pumps are fitted with fixed speed motors.

Note! Product picture may differ from actual product

Conditions of Service	Pump Data	Motor Data
	Max pressure at stated temp: 6 bar / 140 °C	Rated voltage: 220-230 V
	Liquid temperature range: 0 .. 140 °C	Mains frequency: 50 Hz
	Maximum ambient temperature: 40 °C	Enclosure class: 55 Dust/Jetting
	Shaft seal: BQBE	Insulation class: F
	Product number: On request	Motor protection: PTO
		Motor type: 90SE
		Eta 1/1: 81.3-81.3 %



# Submittal Data



- Materials:**
- Pump housing: Bronze
  - Pump housing: ASTM B505
  - Impeller: Stainless steel
  - Impeller: AISI 304
  - Impeller: EN 1.4301
  - Material code: Z

**Qty. Description**

1 TP 80-120/2 AI-F-Z-BQBE-HW1



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

Product No.: On request

Single-stage, close-coupled, volute pump with in-line suction and discharge ports of identical diameter. The pump is of the top-pull-out design, i.e. the power head (motor, pump head and impeller) can be removed for maintenance or service while the pump housing remains in the pipework.

The pump is fitted with an unbalanced rubber bellows seal. The shaft seal is according to EN 12756. Pipework connection is via PN 6 DIN flanges (EN 1092-2 and ISO 7005-2).

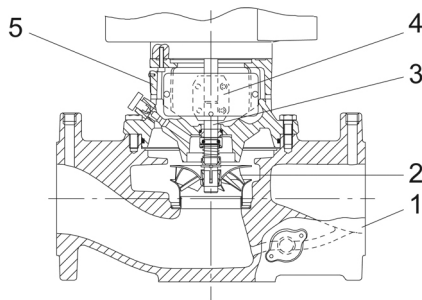
The pump is fitted with a fan-cooled asynchronous motor.

The bronze pump housing and stainless-steel impeller make the pump suitable for circulation of hot water.

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.

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**



1: Pump housing

2: Impeller

3: Shaft

4: Coupling

5: Pump head

The pump housing is provided with a replaceable stainless steel/PTFE neck ring to reduce the amount of liquid running from the discharge side of the impeller to the suction side.

The impeller is secured with a split cone with nut.

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: carbon graphite, resin-impregnated

This material pairing has a very good corrosion resistance and is especially suitable for water up to 90 °C.

The seal life will be reduced significantly at temperatures above 90 °C.

The material pairing is not recommended for liquids containing particles as this will result in heavy wear on the SiC face.

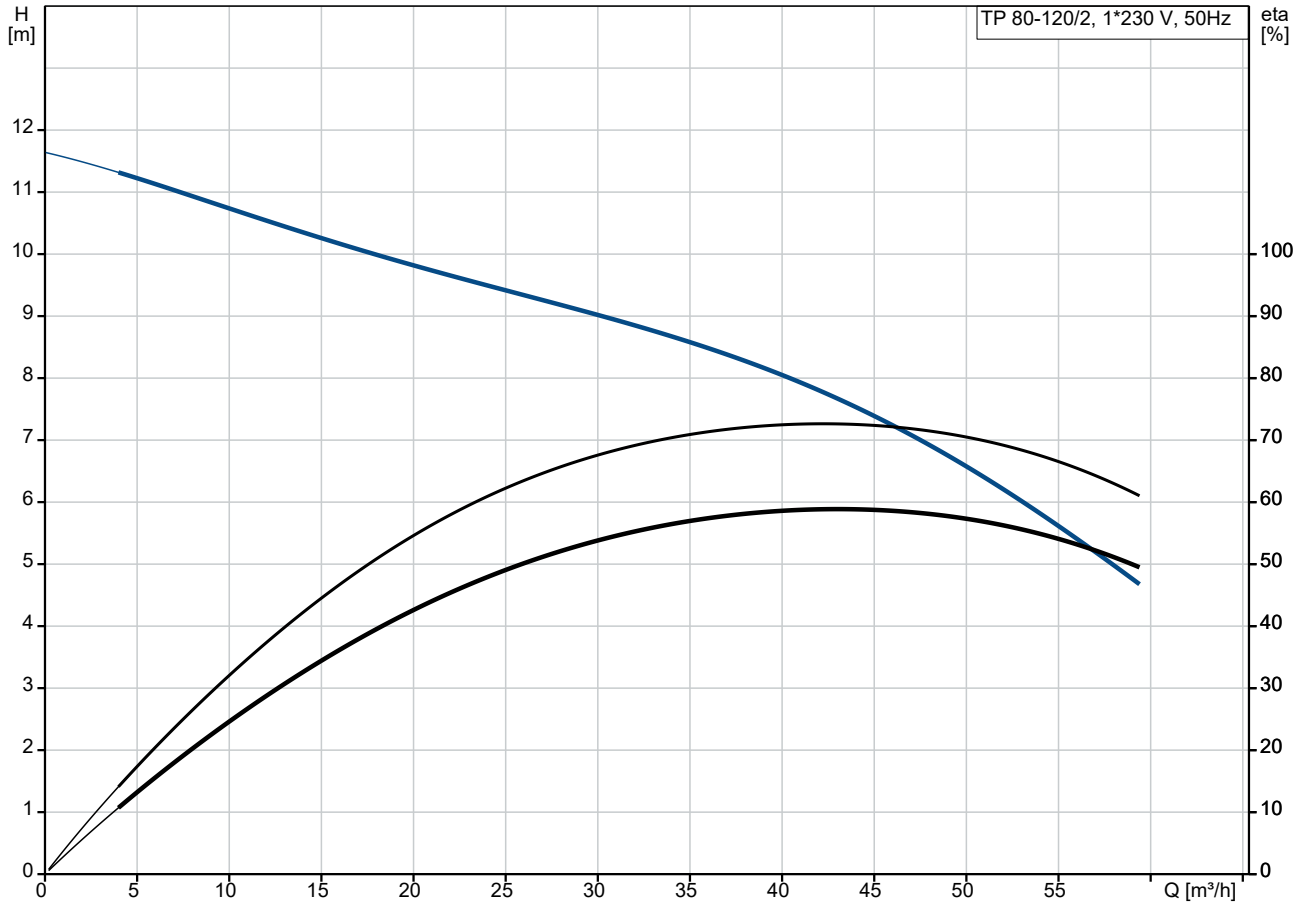
Secondary seal material: EPDM (ethylene-propylene rubber)

Qty.	Description
1	<p>EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.                      A circulation of liquid through the duct of the air vent screw ensures lubrication and cooling of the shaft seal.                      The flanges have tappings for mounting of pressure gauges.                      The motor stool forms connection between the pump housing and the motor, and is equipped with a manual air vent screw for venting of the pump housing and the shaft seal chamber. The sealing between motor stool and pump housing is an O-ring.                      The central part of the motor stool is provided with guards for protection against the shaft and coupling. Motor and pump shaft are connected via a shell coupling.</p> <p><b>Motor</b></p> <p>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 is flange-mounted with tapped-hole flange (FT).                      Motor-mounting designation in accordance with IEC 60034-7: IM B 14, IM V 18 (Code I) / IM 3601, IM 3611 (Code II).</p> <p>The motor efficiency is classified as IE2 in accordance with IEC 60034-30.                      The motor has built-in thermal protection (PTO current and temperature sensors) in accordance with IEC 60034-11 and requires no further motor protection. The protection reacts to both slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.                      As the thermal protection incorporates automatic reset, the motor must be connected in a way which ensures that the automatic reset cannot cause accidents.</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:                      Frequency converter:                      None</p> <p>Liquid:                      Liquid temperature range:              0 .. 140 °C</p> <p>Technical:                      Pump speed on which pump data are based:    2910 rpm                      Rated flow:                                      42.5 m<sup>3</sup>/h                      Rated head:                                      7.91 m                      Actual impeller diameter:                    95 mm                      Code for shaft seal:                          BQBE                      Curve tolerance:                                ISO9906:2012 3B2</p> <p>Materials:                      Pump housing:                                    Bronze                          CuSn10                          ASTM B505                      Impeller:    Stainless steel                          EN 1.4301                          AISI 304</p> <p>Installation:                      Range of ambient temperature:            -30 .. 40 °C                      Maximum operating pressure:              6 bar                      Max pressure at stated temp:              6 bar / 140 °C                      Type of connection:                          DIN                      Size of connection:                            DN 80</p>

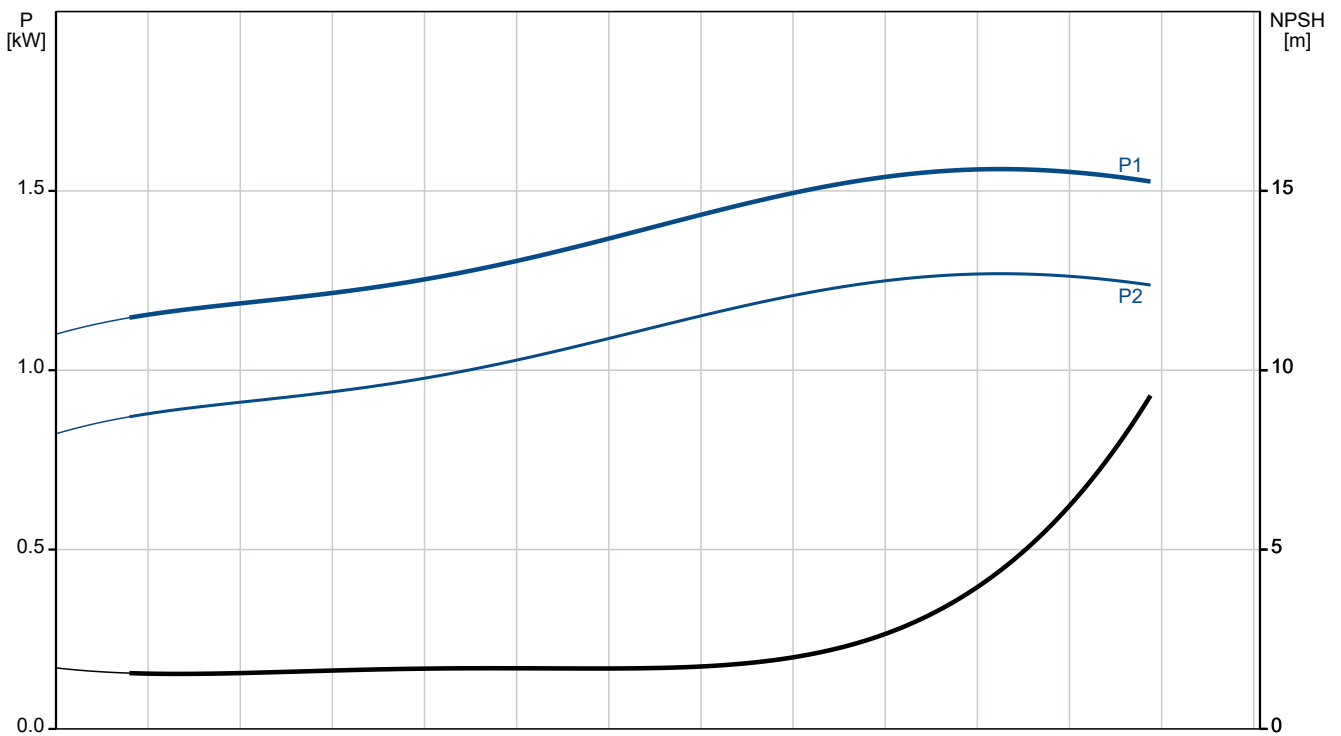
**Qty. Description**

1	<p>Pressure rating for connection: PN 6          Port-to-port length: 360 mm          Flange size for motor: FT115</p> <p>Electrical data:          Motor type: 90SE          Rated power - P2: 1.5 kW          Mains frequency: 50 Hz          Rated voltage: 1 x 220-230 V          Rated current: 9.1-8.75 A          Starting current: 480-540 %          Cos phi - power factor: 0.97-0.98          Rated speed: 2860-2880 rpm          IE Efficiency class: IE2          Motor efficiency at full load: 81.3-81.3 %          Motor efficiency at 3/4 load: 81.8-79.9 %          Motor efficiency at 1/2 load: 75.9-72.9 %          Number of poles: 2          Enclosure class (IEC 34-5): 55 Dust/Jetting          Insulation class (IEC 85): F          Motor No: 92722630</p> <p>Others:          Minimum efficiency index, MEI ≥: 0.70          Net weight: 53.3 kg          Gross weight: 61.9 kg          Shipping volume: 0.204 m<sup>3</sup>          Country of origin: HU          Custom tariff no.: 84137051</p>
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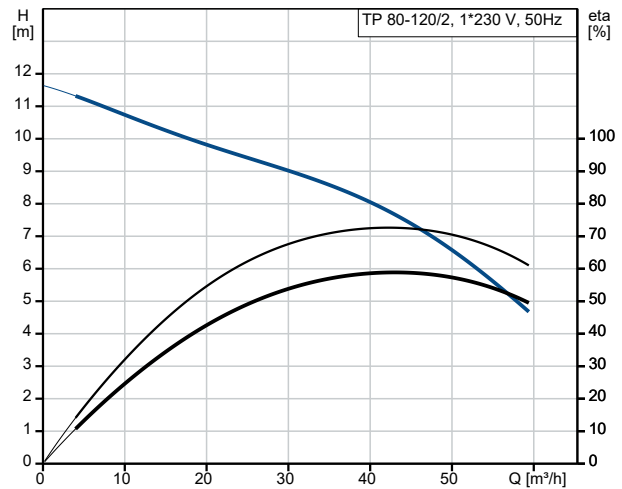
## On request TP 80-120/2 AI-F-Z-BQBE-HW1 50 Hz



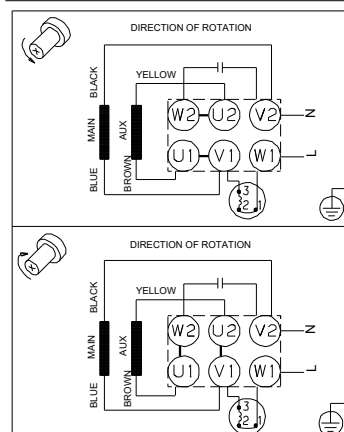
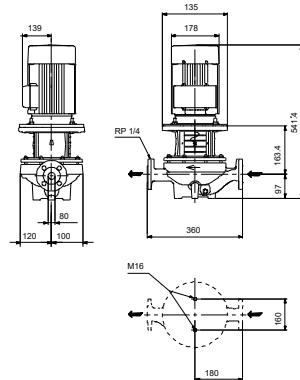
Pumped liquid = Water  
 Liquid temperature during operation = 20 °C  
 Density = 998.2 kg/m³



Description	Value
<b>General information:</b>	
Product name:	TP 80-120/2 AI-F-Z-BQBE-HW1
Product No:	On request
EAN number:	On request
<b>Technical:</b>	
Pump speed on which pump data are based:	2910 rpm
Rated flow:	42.5 m³/h
Rated head:	7.91 m
Maximum head:	120 dm
Actual impeller diameter:	95 mm
Code for shaft seal:	BQBE
Curve tolerance:	ISO9906:2012 3B2
Pump version:	AI
<b>Materials:</b>	
Pump housing:	Bronze
Pump housing:	CuSn10
Pump housing:	ASTM B505
Impeller:	Stainless steel
Impeller:	EN 1.4301
Impeller:	AISI 304
Material code:	Z
<b>Installation:</b>	
Range of ambient temperature:	-30 .. 40 °C
Maximum operating pressure:	6 bar
Max pressure at stated temp:	6 bar / 140 °C
Type of connection:	DIN
Size of connection:	DN 80
Pressure rating for connection:	PN 6
Port-to-port length:	360 mm
Flange size for motor:	FT115
Connect code:	F
<b>Liquid:</b>	
Liquid temperature range:	0 .. 140 °C
<b>Electrical data:</b>	
Motor type:	90SE
Rated power - P2:	1.5 kW
Mains frequency:	50 Hz
Rated voltage:	1 x 220-230 V
Rated current:	9.1-8.75 A
Starting current:	480-540 %
Cos phi - power factor:	0.97-0.98
Rated speed:	2860-2880 rpm
IE Efficiency class:	IE2
Motor efficiency at full load:	81.3-81.3 %
Motor efficiency at 3/4 load:	81.8-79.9 %
Motor efficiency at 1/2 load:	75.9-72.9 %
Number of poles:	2
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Built-in motor protection:	PTO
Motor No:	92722630
<b>Controls:</b>	
Frequency converter:	None
<b>Others:</b>	
Minimum efficiency index, MEI ≥:	0.70
Net weight:	53.3 kg



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





Company name:

Created by:

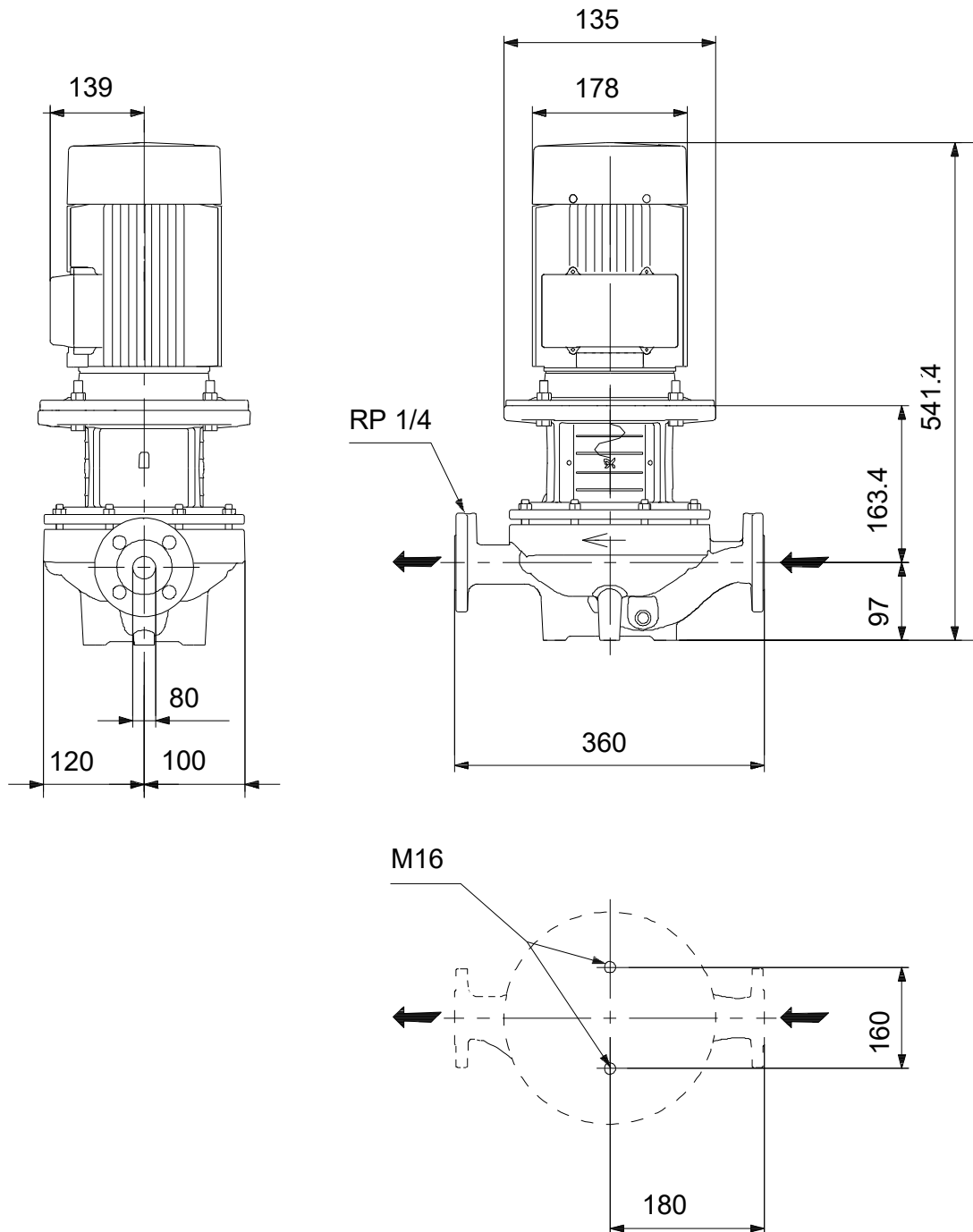
Phone:

Date:

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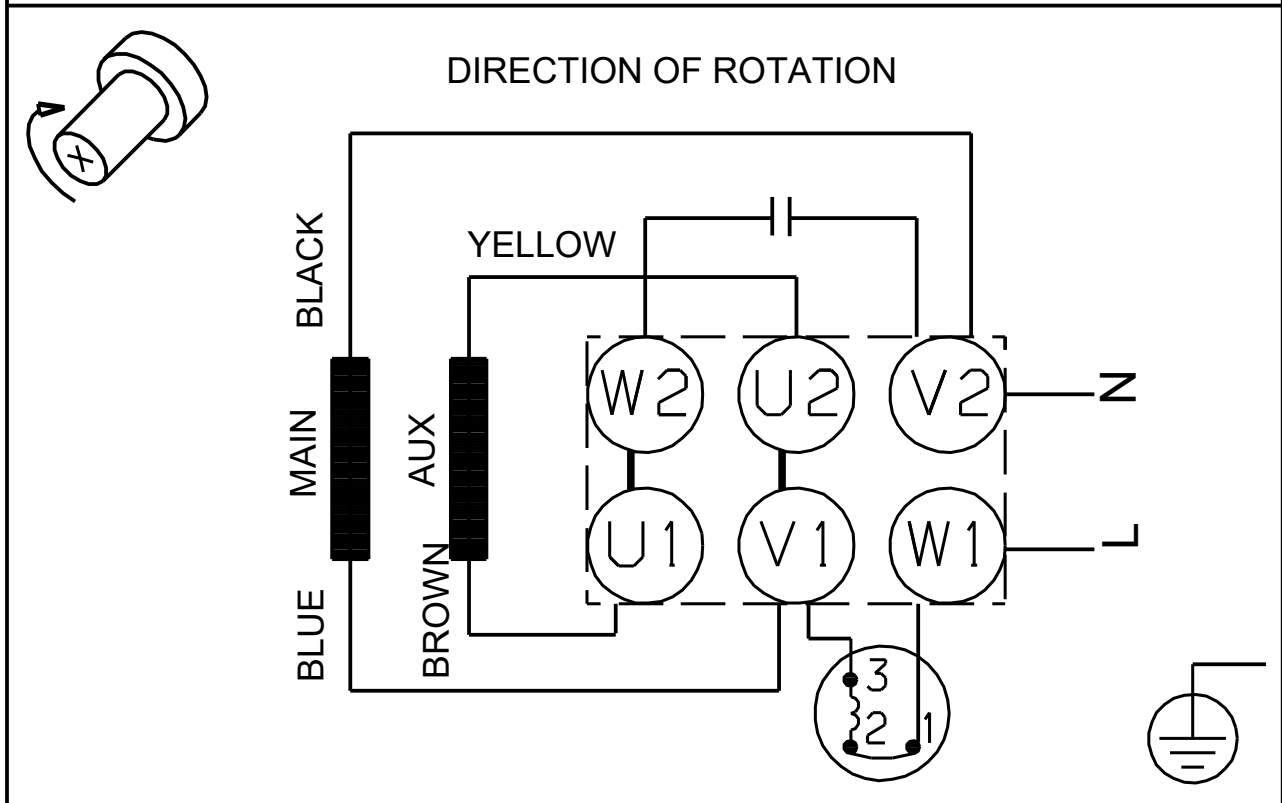
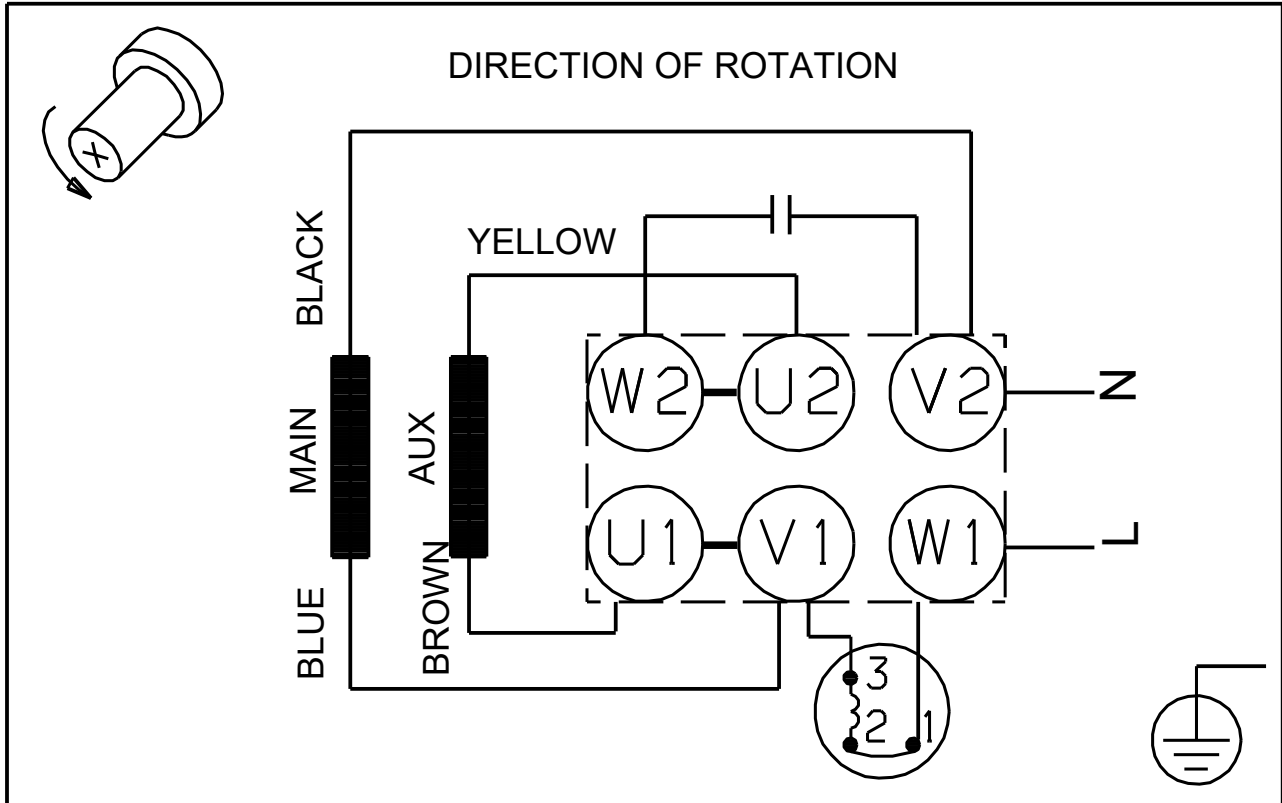
Description	Value
Gross weight:	61.9 kg
Shipping volume:	0.204 m <sup>3</sup>
Country of origin:	HU
Custom tariff no.:	84137051

## On request TP 80-120/2 AI-F-Z-BQBE-HW1 50 Hz



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

## On request TP 80-120/2 AI-F-Z-BQBE-HW1 50 Hz



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

