
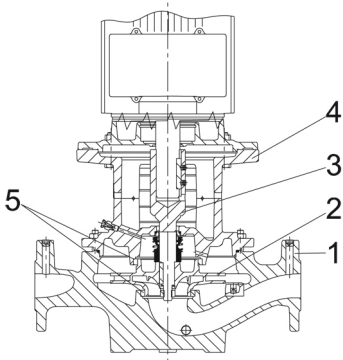
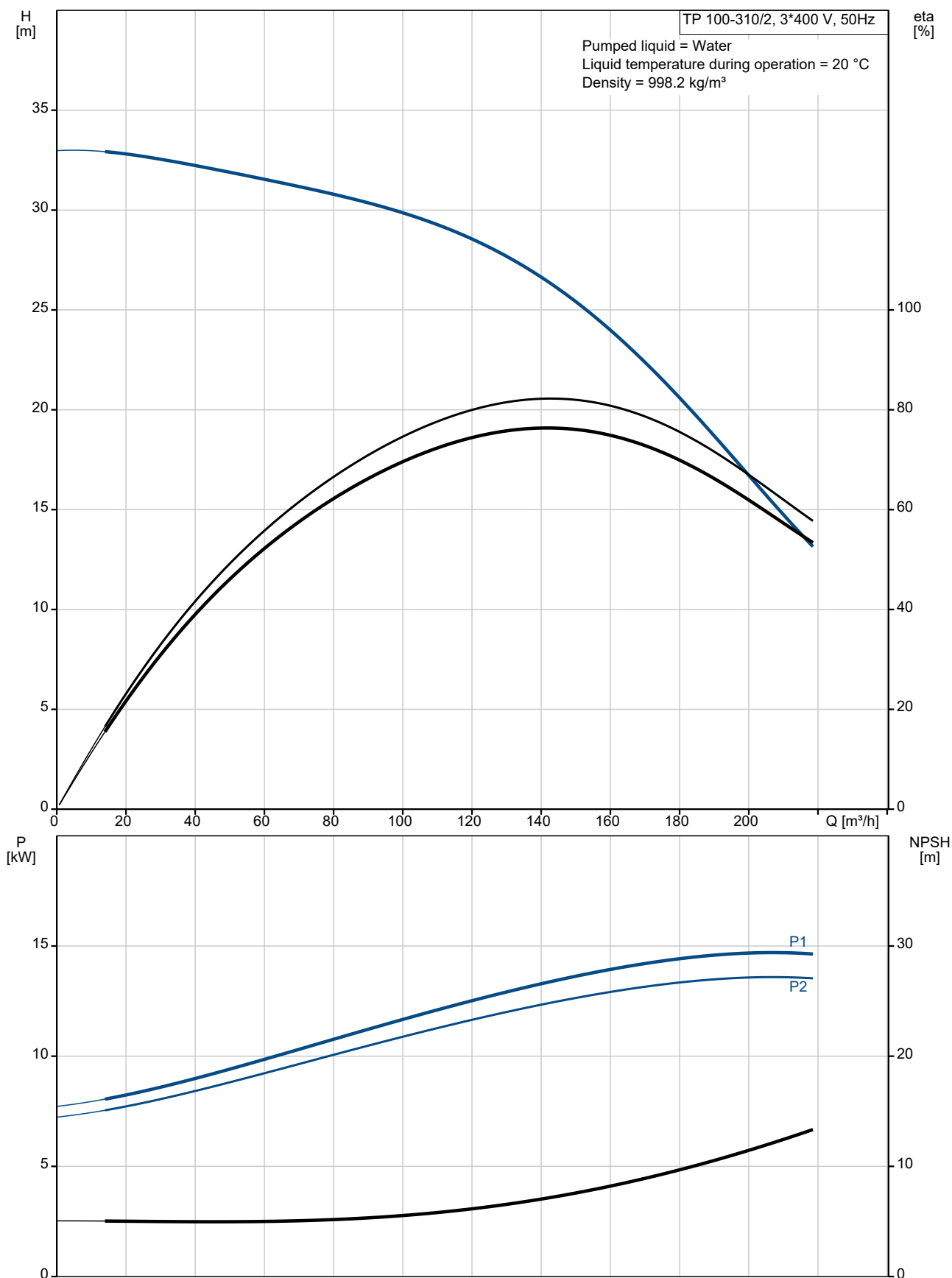


Qty.	Description
1	<p data-bbox="204 338 555 365"><b>TP 100-310/2 A-F-A-BQQE-OX1</b></p> <div data-bbox="292 383 496 701">  </div> <p data-bbox="595 685 1062 707">Note! Product picture may differ from actual product</p> <p data-bbox="204 719 464 741">Product No.: <a href="#">96109193</a></p> <p data-bbox="204 775 1458 920">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 16 DIN flanges (EN 1092-2 and ISO 7005-2).</p> <p data-bbox="204 954 1458 1144">The pump is fitted with 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. 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="204 1178 280 1211"><b>Pump</b></p> <div data-bbox="212 1227 555 1585">  </div> <p data-bbox="204 1626 480 1771">1: Pump housing 2: Impeller 3: Stub shaft 4: Pump head/motor stool 5: Wear rings</p> <p data-bbox="204 1776 1458 1933">The pump housing is provided with a replaceable brass neck ring to reduce the amount of liquid running from the outlet side of the impeller to the inlet side. The impeller is secured to the shaft with a 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.</p> <p data-bbox="204 1944 788 2033">Seal faces:</p> <ul style="list-style-type: none"> <li>• Rotating seal ring material: silicon carbide (SiC)</li> <li>• Stationary seat material: silicon carbide (SiC)</li> </ul> <p data-bbox="204 2033 1458 2089">This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.</p>

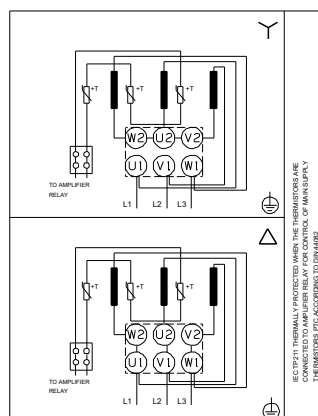
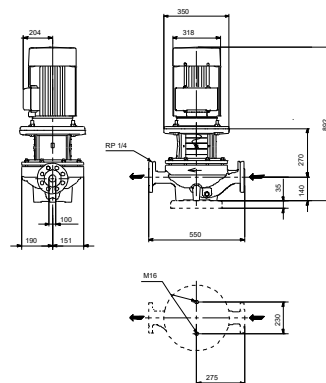
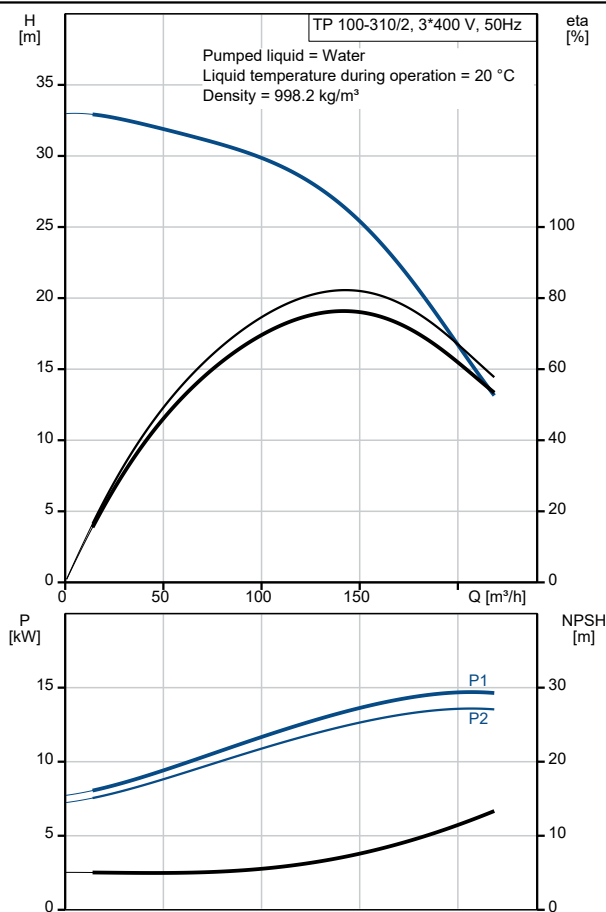
Qty.	Description
	<p>Secondary seal material: EPDM (ethylene-propylene rubber)  EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.  A circulation of liquid through the duct of the air vent screw ensures lubrication and cooling of the shaft seal.  The flanges have tapings 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. The pump shaft is fastened directly on the motor shaft with key and set screws.  The pump is mounted with a base plate.</p> <p><b>Motor</b>  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 free-hole flange (FF).  Motor-mounting designation in accordance with IEC 60034-7: IM B 5, IM V 1 (Code I) / IM 3001, IM 3011 (Code II).  The motor efficiency is classified as IE3 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.  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.  The motor can be connected to a variable speed drive for adjustment of pump performance to any duty point. Grundfos CUE offers a range of variable speed drives. Please find more information in Grundfos Product Center.</p> <p><b>Further product details</b>  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:  Pumped liquid: Water  Liquid temperature range: -25 .. 120 °C  Selected liquid temperature: 20 °C  Density: 998.2 kg/m<sup>3</sup></p> <p>Technical:  Pump speed on which pump data are based: 2945 rpm  Rated flow: 149 m<sup>3</sup>/h  Rated head: 26 m  Actual impeller diameter: 158 mm  Code for shaft seal: BQQE  Curve tolerance: ISO9906:2012 3B</p> <p>Materials:  Pump housing: Cast iron  EN-GJL-250  ASTM class 35  Impeller: Cast iron  EN-GJL-200  ASTM class 30</p>

Qty.	Description
	<p>Installation:</p> <p>Range of ambient temperature: -30 .. 60 °C</p> <p>Maximum operating pressure: 16 bar</p> <p>Max pressure at stated temp: 16 bar / 120 °C</p> <p>Type of connection: DIN</p> <p>Size of connection: DN 100</p> <p>Pressure rating for connection: PN 16</p> <p>Port-to-port length: 550 mm</p> <p>Flange size for motor: FF300</p> <p>Electrical data:</p> <p>Motor type: 160MD</p> <p>IE Efficiency class: IE3</p> <p>Rated power - P2: 15 kW</p> <p>Mains frequency: 50 Hz</p> <p>Rated voltage: 3 x 380-415D/660-690Y V</p> <p>Rated current: 28,0-26,0/16,2-15,6 A</p> <p>Starting current: 660-780 %</p> <p>Cos phi - power factor: 0.89-0.87</p> <p>Rated speed: 2930-2950 rpm</p> <p>Efficiency: IE3 91,9%</p> <p>Motor efficiency at full load: 91.9 %</p> <p>Motor efficiency at 3/4 load: 92.4 %</p> <p>Motor efficiency at 1/2 load: 92.4 %</p> <p>Number of poles: 2</p> <p>Enclosure class (IEC 34-5): 55 Dust/Jetting</p> <p>Insulation class (IEC 85): F</p> <p>Motor No: 87420022</p> <p>Others:</p> <p>Minimum efficiency index, MEI ≥: 0.70</p> <p>Net weight: 193 kg</p> <p>Gross weight: 230 kg</p> <p>Shipping volume: 0.56 m³</p> <p>Danish VVS No.: 381706310</p> <p>Finnish LVI No.: 4616125</p>

## 96109193 TP 100-310/2 A-F-A-BQQE-OX1 50 Hz



Description	Value
<b>General information:</b>	
Product name:	TP 100-310/2 A-F-A-BQQE-OX1
Product No:	96109193
EAN number:	5700396981703
<b>Technical:</b>	
Pump speed on which pump data are based:	2945 rpm
Rated flow:	149 m³/h
Rated head:	26 m
Maximum head:	310 dm
Actual impeller diameter:	158 mm
Code for shaft seal:	BQQE
Curve tolerance:	ISO9906:2012 3B
Pump version:	A
<b>Materials:</b>	
Pump housing:	Cast iron
Pump housing:	EN-GJL-250
Pump housing:	ASTM class 35
Impeller:	Cast iron
Impeller:	EN-GJL-200
Impeller:	ASTM class 30
Material code:	A
<b>Installation:</b>	
Range of ambient temperature:	-30 .. 60 °C
Maximum operating pressure:	16 bar
Max pressure at stated temp:	16 bar / 120 °C
Type of connection:	DIN
Size of connection:	DN 100
Pressure rating for connection:	PN 16
Port-to-port length:	550 mm
Flange size for motor:	FF300
Connect code:	F
<b>Liquid:</b>	
Pumped liquid:	Water
Liquid temperature range:	-25 .. 120 °C
Selected liquid temperature:	20 °C
Density:	998.2 kg/m³
<b>Electrical data:</b>	
Motor type:	160MD
IE Efficiency class:	IE3
Rated power - P2:	15 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-415D/660-690Y V
Rated current:	28,0-26,0/16,2-15,6 A
Starting current:	660-780 %
Cos phi - power factor:	0.89-0.87
Rated speed:	2930-2950 rpm
Efficiency:	IE3 91,9%
Motor efficiency at full load:	91.9 %
Motor efficiency at 3/4 load:	92.4 %
Motor efficiency at 1/2 load:	92.4 %
Number of poles:	2
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Built-in motor protection:	PTC
Motor No:	87420022
<b>Controls:</b>	
Frequency converter:	NONE





**Company name:** Pump Sales Direct

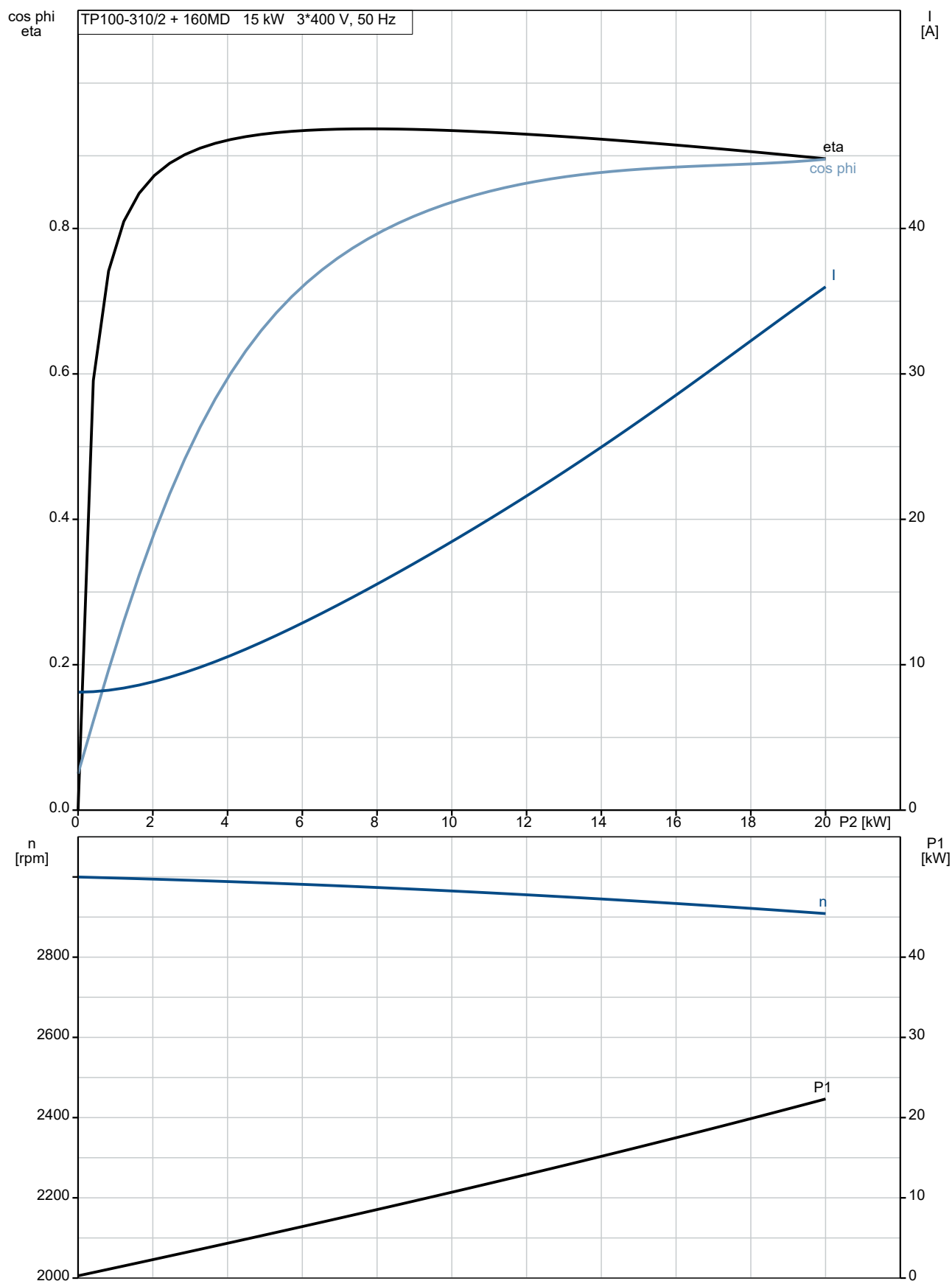
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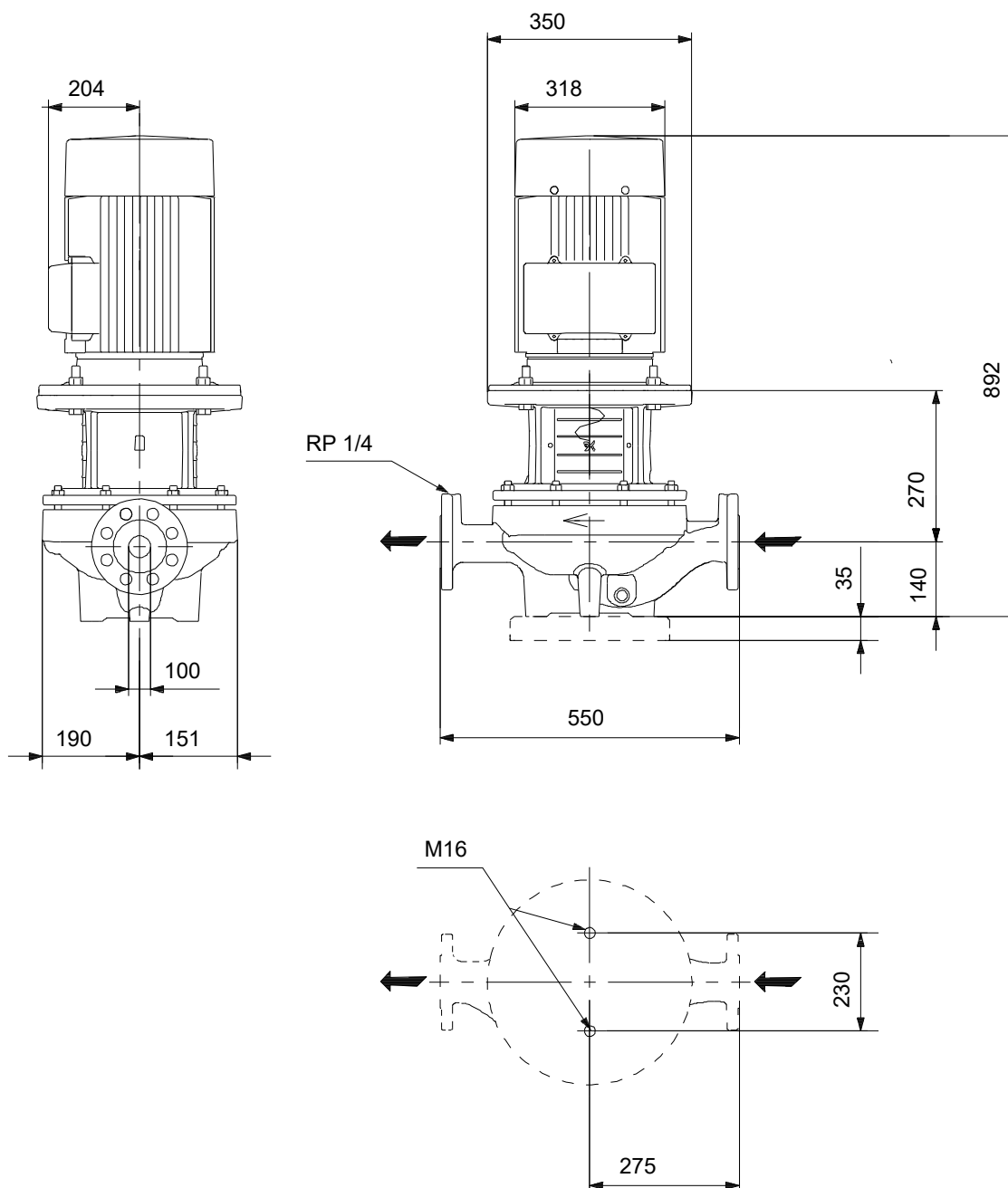
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Description	Value
<b>Others:</b>	
Minimum efficiency index, MEI ≥:	0.70
Net weight:	193 kg
Gross weight:	230 kg
Shipping volume:	0.56 m <sup>3</sup>
Danish VVS No.:	381706310
Finnish LVI No.:	4616125

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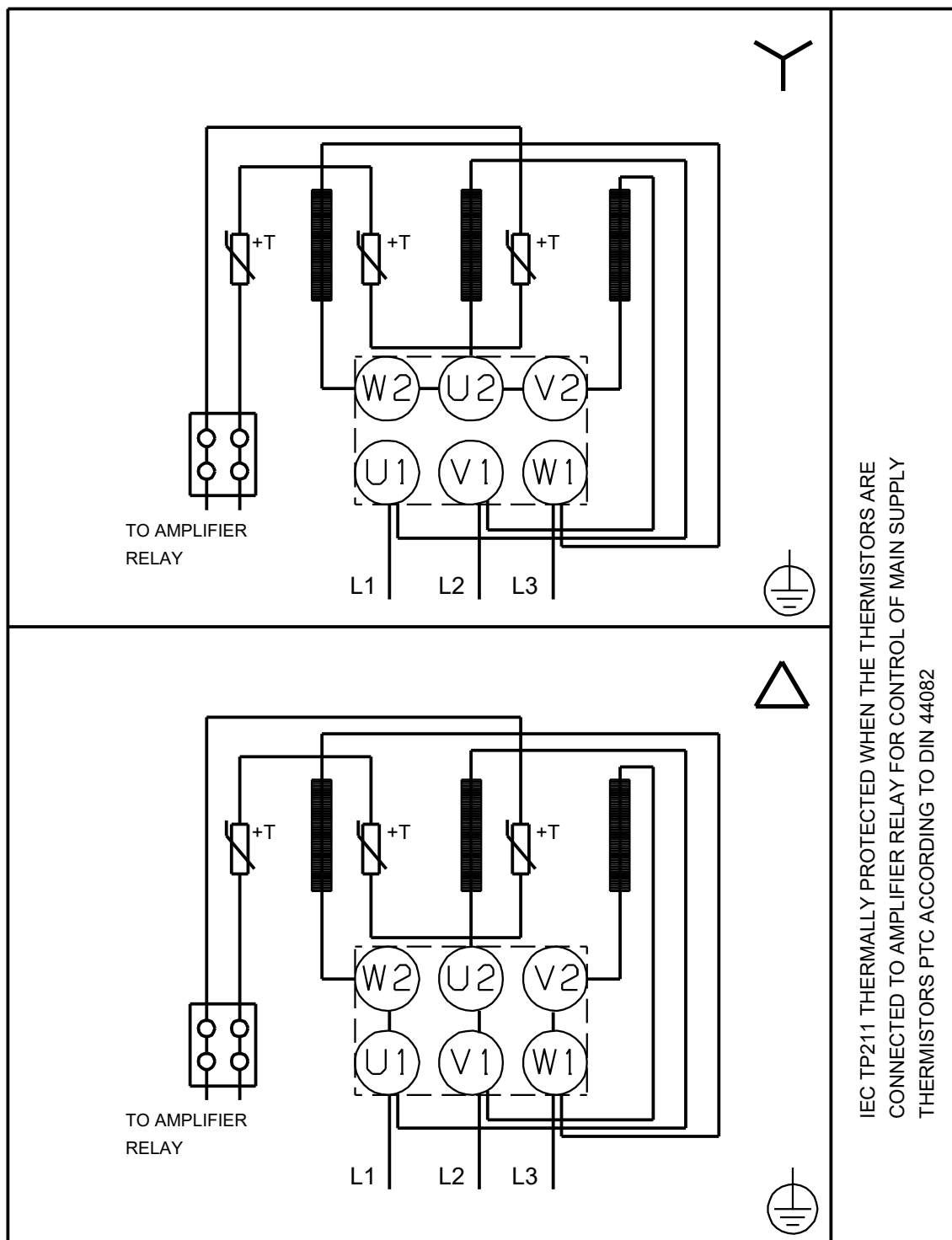


Note! All units are in [mm] unless others are stated.

Disclaimer: This simplified dimensional drawing does not show all details.



## 96109193 TP 100-310/2 A-F-A-BQQE-OX1 50 Hz



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



**Company name:** Pump Sales Direct

**Created by:**

**Phone:**

**Date:** 15/06/2022

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**Order Data:**

Product name: TP 100-310/2

Amount: 1

Product No: 96109193

Total: Price on request

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