Company name:
Created by:
Phone:

Date: 11/02/2021

Qty.	Description
1	**CRI 20-12 A-FGJ-A-V-HQQV**

Product No.: 96500616

Vertical, multistage centrifugal pump with inlet and outlet ports on same the level (inline). Pump materials in contact with the liquid are in stainless steel. A cartridge shaft seal ensures high reliability, safe handling, and easy access and service. Power transmission is via a rigid split coupling. Pipe connection is via combined DIN-ANSI-JIS flanges.

The pump is fitted with a 3-phase, fan-cooled asynchronous motor.

Further product details

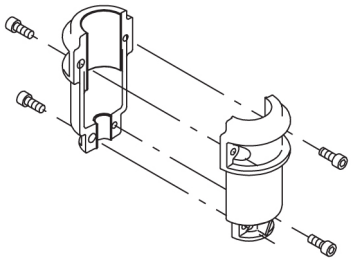
Steel, cast iron and aluminium components have an epoxy-based coating made in a cathodic electro-deposition (CED) process. CED is a high-quality dip-painting process where an electrical field around the products ensures deposition of paint particles as a thin, well-controlled layer on the surface. An integral part of the process is a pretreatment. The entire process consists of these elements:

1) Alkaline-based cleaning.
2) Zinc phosphating.
3) Cathodic electro-deposition.
4) Curing to a dry film thickness 18-22 my m.

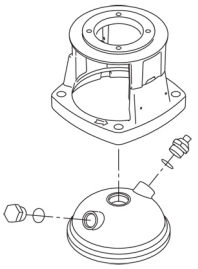
The colour code for the finished product is NCS 9000/RAL 9005.

Pump

A long split coupling connects the pump and motor shaft. It is enclosed in the motor stool by means of two coupling guards. The long coupling makes it possible to replace the shaft seal without removing the motor from the pump.



The pump head and flange for motor mounting is made in one piece (cast iron). The pump head cover is a separate component (stainless steel). The pump head has a combined 1/2" priming plug and vent screw.



Qty.	Description

The pump is fitted with a balanced O-ring seal unit with a rigid torque-transmission system. This seal type is assembled in a cartridge unit which makes replacement safe and easy. Due to the balancing, this seal type is suitable for high-pressure applications. The cartridge construction also protects the pump shaft from possible wear from a dynamic O-ring between pump shaft and shaft seal.

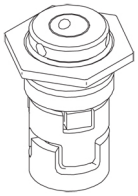
Primary seal:

- 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: FKM (fluorocarbon rubber)

FKM has excellent resistance to oils and chemicals. Above 90 °C, FKM should only be used in media without water.



The shaft seal is screwed into the pump head.

The chambers and impellers are made of stainless-steel sheet. The chambers are provided with a PTFE neck ring offering improved sealing and high efficiency. The impellers have smooth surfaces, and the shape of the blades ensure a high efficiency.

The pump has a stainless steel base mounted on a separate base plate. This base and base plate are kept in position by the tension of the staybolts which hold the pump together. The outlet side of the base has a combined drain plug and bypass valve. The pump is secured to the foundation by four bolts through the base plate. The flanges and base are cast in one piece and prepared for connection by means of DIN, ANSI or JIS.

Motor

The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. The motor is flange-mounted with free-hole flange (FF).

Motor-mounting designation in accordance with IEC 60034-7: IM B 5 (Code I) / IM 3001 (Code II).

Electrical tolerances comply with IEC 60034.

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.

Technical data

Liquid:

Pumped liquid:	Water
Liquid temperature range:	-20 .. 90 °C
Selected liquid temperature:	20 °C
Density:	998.2 kg/m³

Technical:

Pump speed on which pump data are based:	2923 rpm
Rated flow:	21 m³/h
Rated head:	142.7 m
Pump orientation:	Vertical
Shaft seal arrangement:	Single
Code for shaft seal:	HQQV
Approvals on nameplate:	CE, EAC

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Qty.	Description	
	Curve tolerance:	ISO9906:2012 3B
	Materials:	
	Base:	Stainless steel
		EN 1.4408
		AISI 316
	Impeller:	Stainless steel
		EN 1.4301
		AISI 304
	Bearing:	SIC
		SIC
	Installation:	
	Maximum ambient temperature:	60 °C
	Maximum operating pressure:	25 bar
	Max pressure at stated temp:	25 bar / 90 °C
		25 bar / -20 °C
	Type of connection:	DIN / ANSI / JIS
	Size of inlet connection:	DN 50
	Size of outlet connection:	DN 50
	Pressure rating for connection:	PN 25
	Flange rating inlet:	300 lb
	Flange size for motor:	FF300
	Electrical data:	
	Motor standard:	IEC
	Motor type:	160MD
	IE Efficiency class:	IE3
	Rated power - P2:	15 kW
	Power (P2) required by pump:	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:	91.9-91.9 %
	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
	Motor No:	85U17526
	Controls:	
	Frequency converter:	NONE
	Others:	
	Minimum efficiency index, MEI â‰¥:	0.70
	Net weight:	162 kg
	Gross weight:	190 kg
	Shipping volume:	0.488 m³

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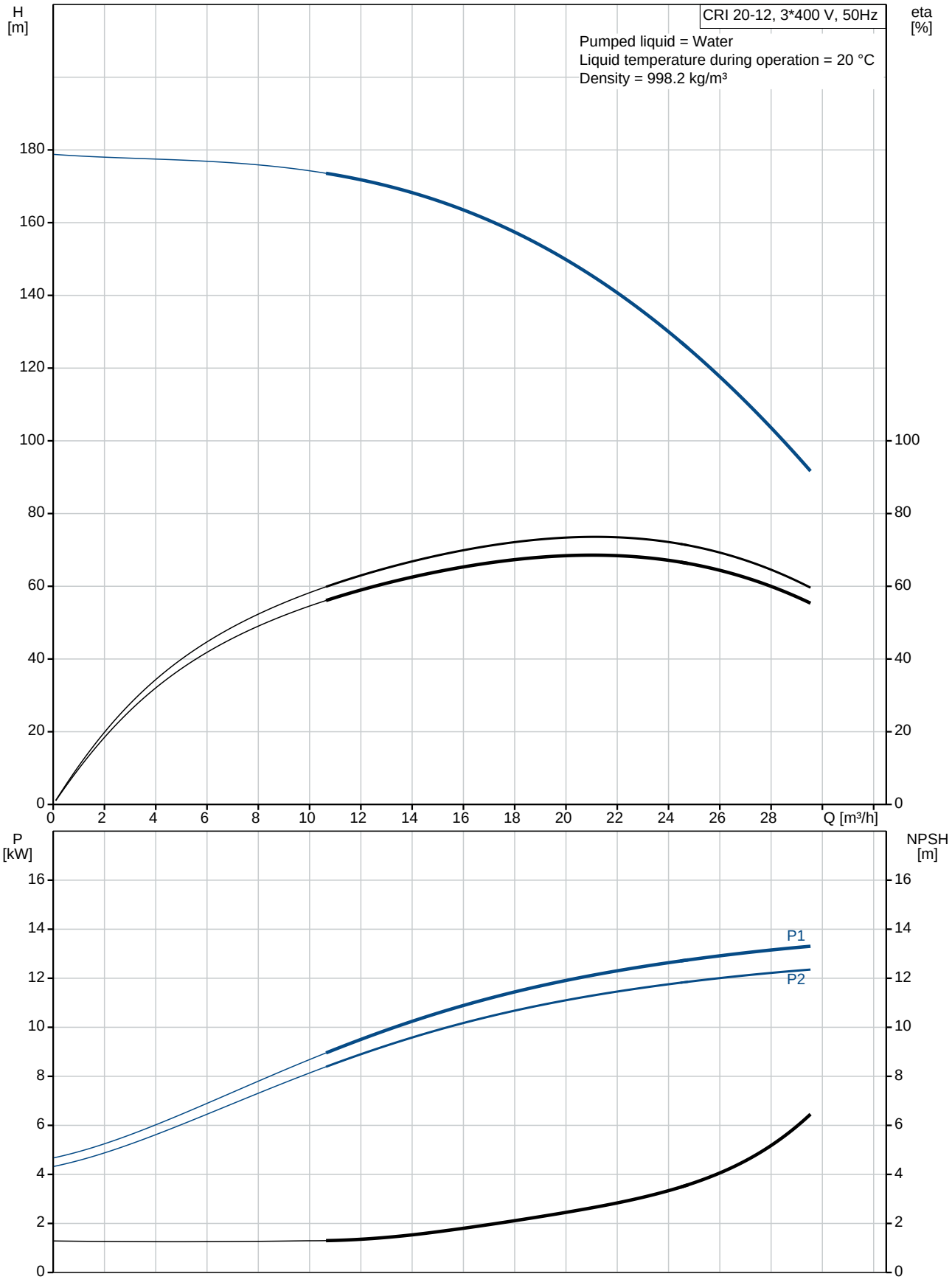
96500616 CRI 20-12 A-FGJ-A-V-HQQV 50 Hz



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Description	Value
General information:	
Product name:	CRI 20-12 A-FGJ-A-V-HQQV
Product No:	96500616
EAN number:	5700396205380
Price:	
Technical:	
Pump speed on which pump data are based:	2923 rpm
Rated flow:	21 m³/h
Rated head:	142.7 m
Maximum head:	178 m
Stages:	12
Impellers:	12
Number of reduced-diameter impellers:	0
Low NPSH:	N
Pump orientation:	Vertical
Shaft seal arrangement:	Single
Code for shaft seal:	HQQV
Approvals on nameplate:	CE, EAC
Curve tolerance:	ISO9906:2012 3B
Pump version:	A
Model:	A
Materials:	
Base:	Stainless steel
Base:	EN 1.4408
Base:	AISI 316
Impeller:	Stainless steel
Impeller:	EN 1.4301
Impeller:	AISI 304
Material code:	A
Code for rubber:	V
Bearing:	SIC
Bearing:	SIC
Installation:	
Maximum ambient temperature:	60 °C
Maximum operating pressure:	25 bar
Max pressure at stated temp:	25 bar / 90 °C
Max pressure at stated temp:	25 bar / -20 °C
Type of connection:	DIN / ANSI / JIS
Size of inlet connection:	DN 50
Size of outlet connection:	DN 50
Pressure rating for connection:	PN 25
Flange rating inlet:	300 lb
Flange size for motor:	FF300
Connect code:	FGJ
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-20 .. 90 °C
Selected liquid temperature:	20 °C
Density:	998.2 kg/m³
Electrical data:	
Motor standard:	IEC
Motor type:	160MD
IE Efficiency class:	IE3
Rated power - P2:	15 kW
Power (P2) required by pump:	15 kW
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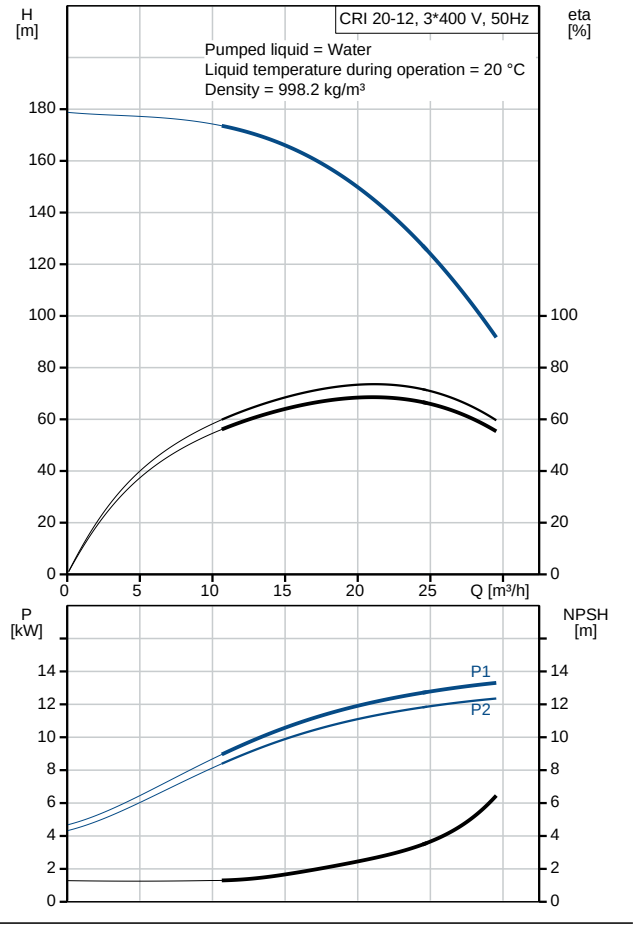

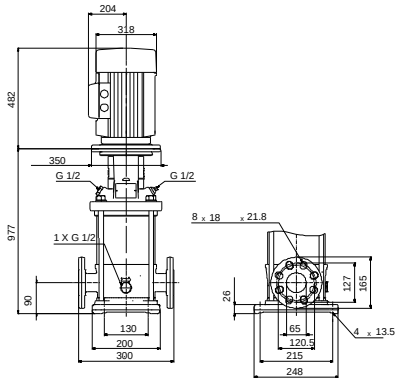

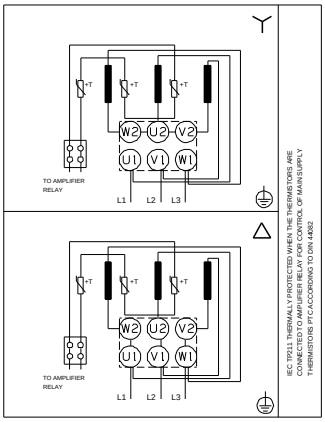

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Description	Value
Rated voltage:	3 x 380-415D/660-690Y V
Rated current:	28,0-26,0/16,2-15,6 A
Starting current:	660-780 %
Cos phi - power factor:	0.89-0.87
Rated speed:	2930-2950 rpm
Efficiency:	IE3 91,9%
Motor efficiency at full load:	91.9-91.9 %
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
Motor protec:	PTC
Motor No:	85U17526
Controls:	
Frequency converter:	NONE
Others:	
Minimum efficiency index, MEI â‰¥:	0.70
Net weight:	162 kg
Gross weight:	190 kg
Shipping volume:	0.488 m³

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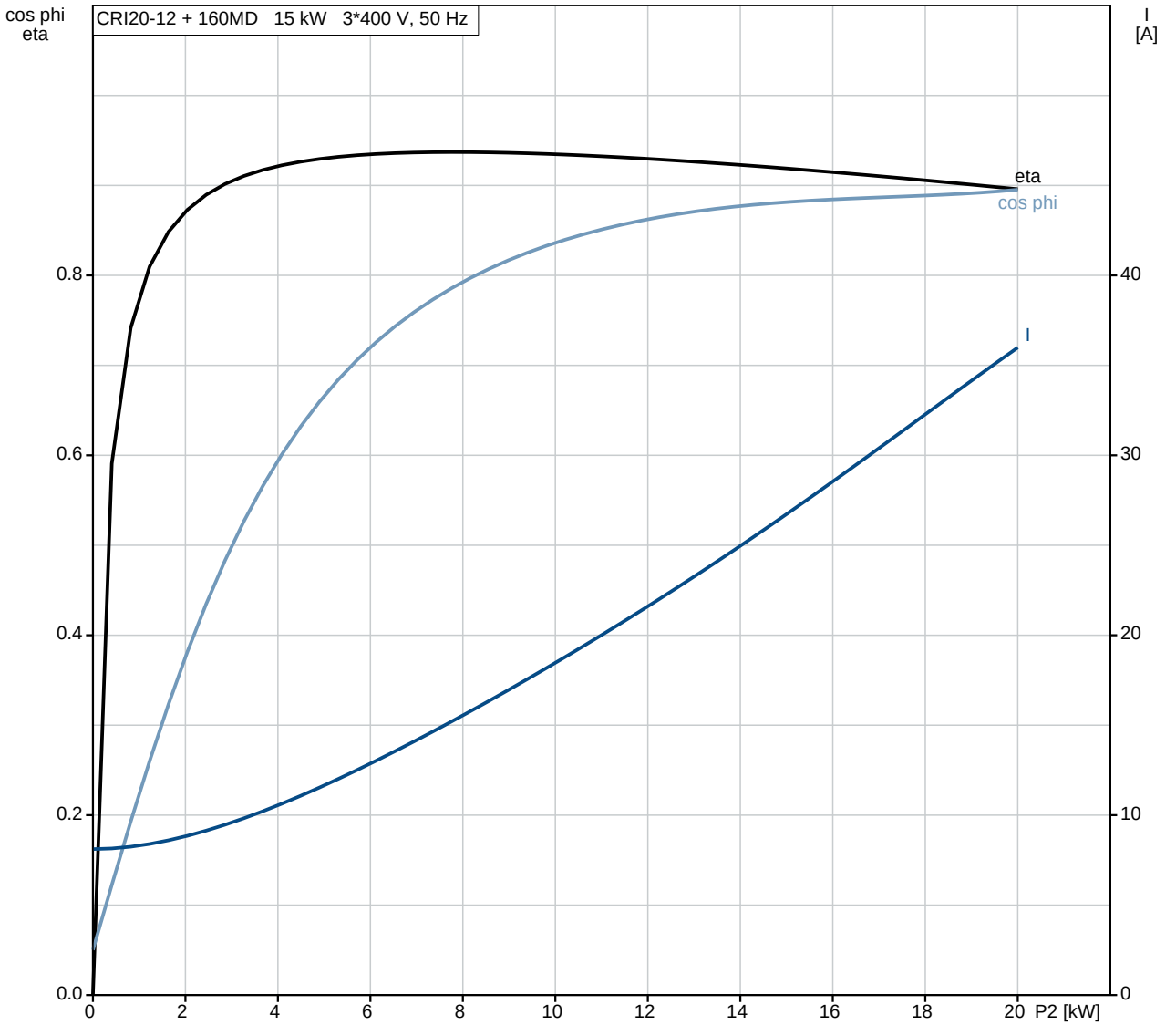
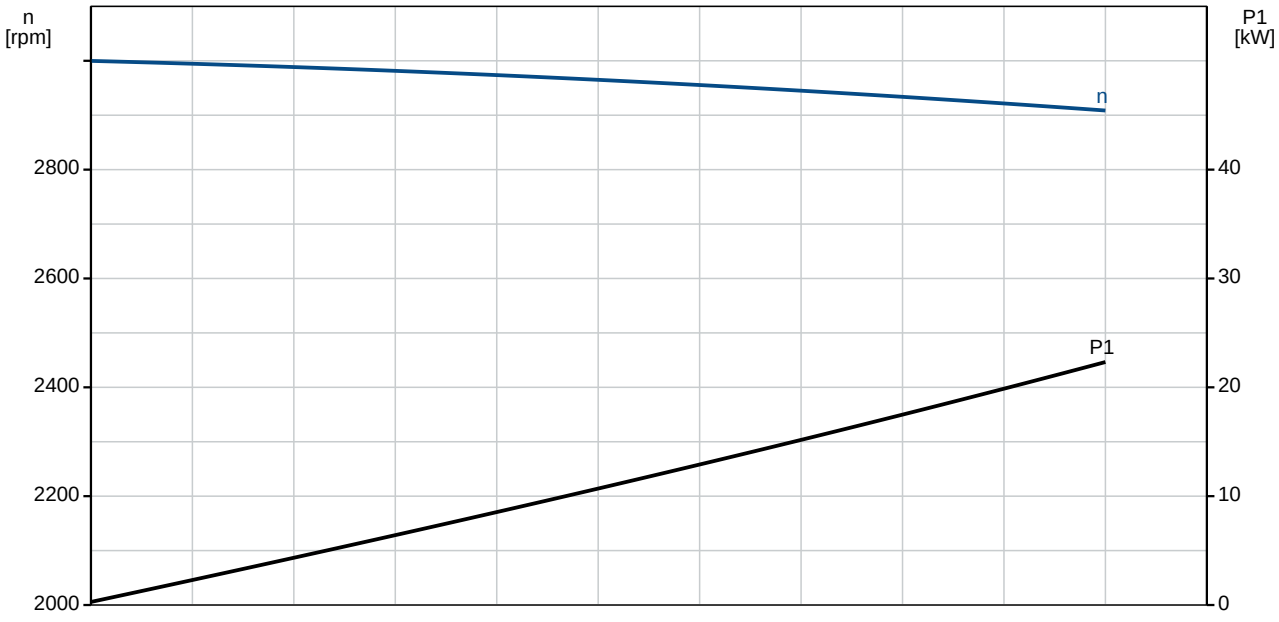
96500616 CRI 20-12 A-FGJ-A-V-HQQV 50 Hz





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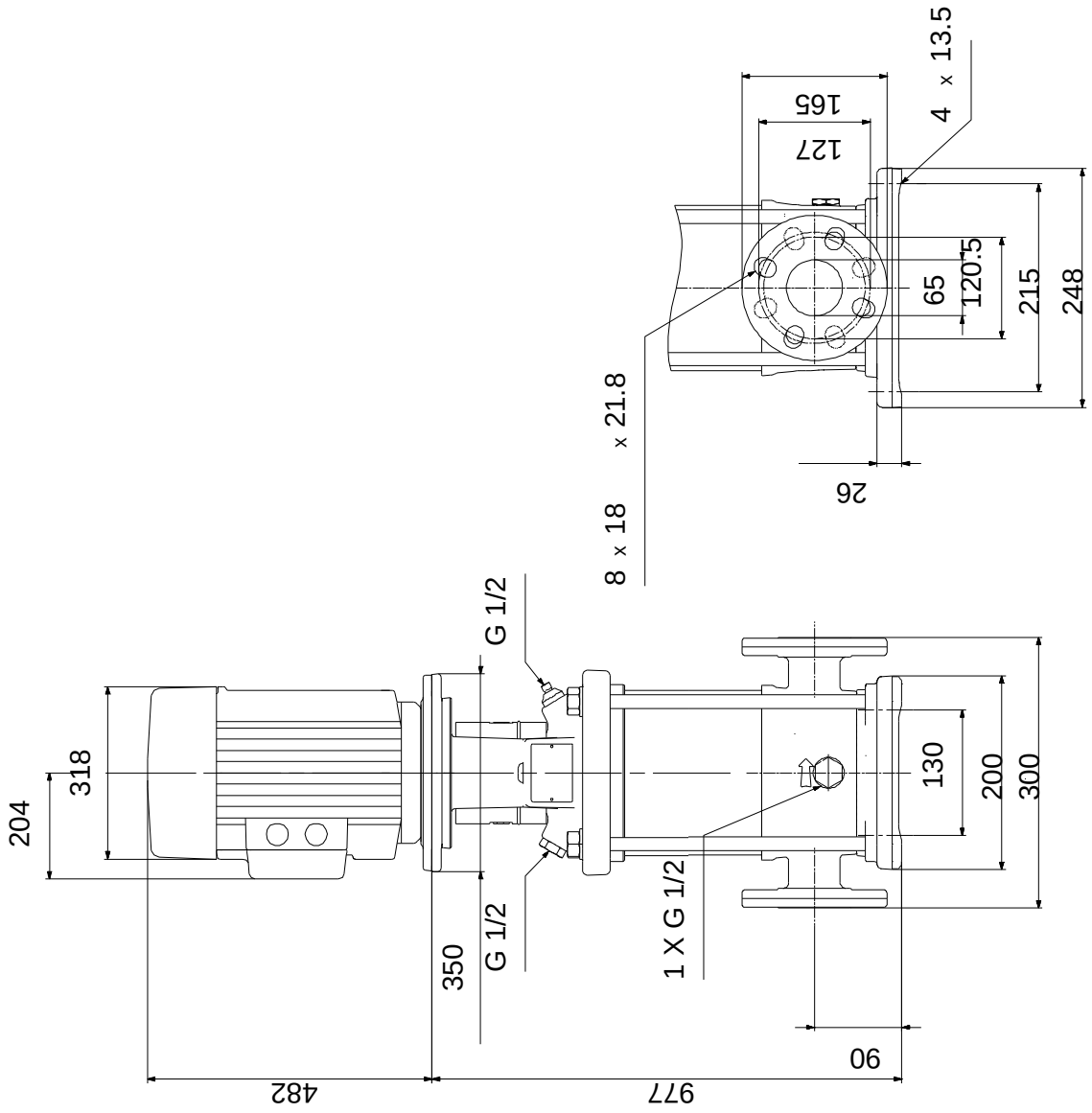
96500616 CRI 20-12 A-FGJ-A-V-HQQV 50 Hz



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

Company name:
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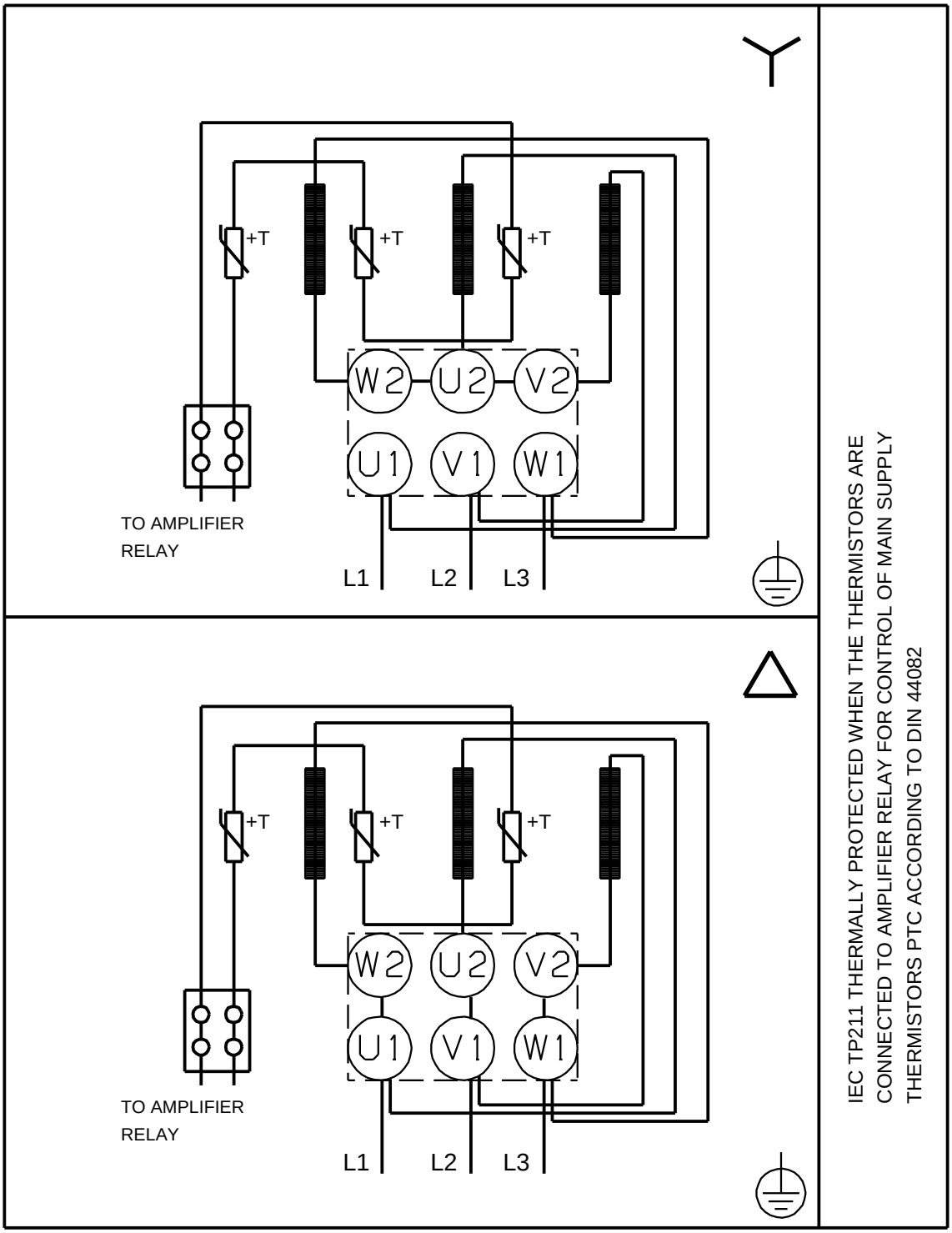
96500616 CRI 20-12 A-FGJ-A-V-HQQV 50 Hz



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