**Company name:**
**Created by:**
**Phone:**

**Date:** 10/11/2020

| Qty. | Description |
|---|---|
| 1 | **SP 160-2-A** |

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

Product No.: 200219A2

Submersible borehole pump, suitable for pumping clean water. Can be installed vertically or horizontally. All steel components are made in stainless steel, EN 1.4301 (AISI 304), that ensures high corrosive resistance. This pump carries drinking water approval.

The pump is fitted with a 22 kW MS6000 motor with sand shield, mechanical shaft seal, water-lubricated journal bearings and a volume compensating diaphragm. The motor is a canned type submersible motor offering good mechanical stability and high efficiency. Suitable for temperatures up to 40 °C.

The motor is fitted with the Grundfos Tempcon sensor that, by use of powerline communication together with a MP204 control panel, enables temperature monitoring.

The motor is for direct-on-line starting (DOL).

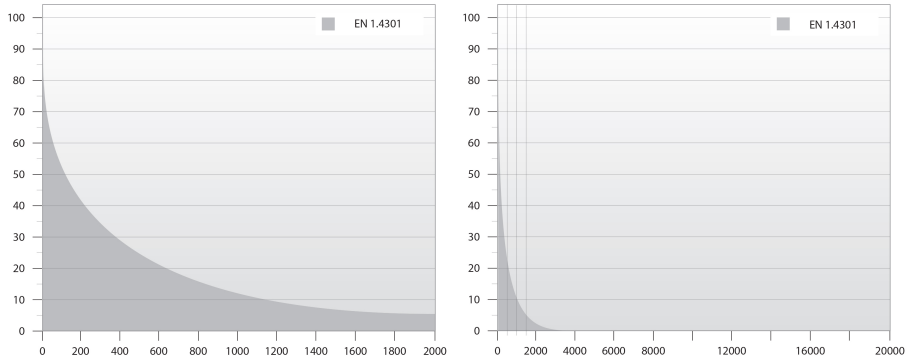
## Further product details

The pump is suitable for applications similar to the following:

- raw-water supply
- irrigation
- groundwater lowering
- pressure boosting
- fountain applications.

## Pump

All pump surfaces that are in contact with pumped liquids are made in stainless steel which makes them corrosion- and wear-resistant. The corrosion diagram below shows the capabilities of the pump and motor in relation to the temperature in Celsius (y-axis) and the concentration of chloride in ppm (x-axis).




The elastomer parts in the pump are made of NBR (Nitrile-Butadiene Rubber) which ensures good wear resistance and long service intervals.

In case the pump is used for pumping water with high content of hydrocarbons or solvents, Grundfos offers FKM rubber parts (Fluorocarbon) which are oil and temperature-resistant up to 90 °C.

The pump is built with octagonal bearings with sand flush channels that minimise wear. As wear of the pump is inevitable, the pump design allows for easy replacement of all internal wear parts (bearings, impeller, wear rings and seal rings) to maintain high performance and a long lifetime.

| Qty. | Description |
|---|---|

The suction interconnector is fitted with a strainer to prevent large particles from entering the pump. The suction interconnector is designed to comply with NEMA standards for motor mounting/dimensions.

## Motor

The stator is hermetically encapsulated in stainless steel and the windings are embedded in polymer compound. This results in high mechanical stability, optimum cooling and reduces the risk of short circuits in the windings.

The shaft seal faces are ceramic/carbon. The material combination provides good dry-running resistance. Together with the shaft seal housing, the sand shield forms a labyrinth seal, which during normal operating conditions prevents penetration of sand particles into the shaft seal.

The motor is fitted with the Grundfos Tempcon temperature sensor device that includes a NTC-resistor which senses the temperature. The resistor is built-in close to the winding. The temperature is converted into a high-frequency signal which is sent via the submersible drop cable and which can be converted into a temperature reading by means of Grundfos MP204.

The MP204 is an electronic motor protection device that also monitors the supply network quality to protect the submersible motor against supply network disturbances.

Liquid:

| | |
|---|---|
| Pumped liquid: | Water |
| Maximum liquid temperature: | 40 °C |
| Max liquid t at 0.15 m/sec: | 40 °C |
| Selected liquid temperature: | 20 °C |
| Density: | 998.2 kg/m³ |

Technical:

| | |
|---|---|
| Pump speed on which pump data are based: | 2900 rpm |
| Rated flow: | 160 m³/h |
| Rated head: | 34 m |
| Shaft seal for motor: | CER/CARNBR |
| Approvals on nameplate: | CE,GOST2 |
| Curve tolerance: | ISO9906:2012 3B |
| Motor version: | T40 |

Materials:

| | |
|---|---|
| Pump: | Stainless steel<br>EN 1.4301<br>AISI AISI 304 |
| Impeller: | Stainless steel<br>EN 1.4301<br>AISI AISI 304 |
| Motor: | Stainless steel<br>DIN W.-Nr. 1.4301<br>AISI 304 |

Installation:

| | |
|---|---|
| Pump outlet: | RP6 |
| Motor diameter: | 6 inch |

Electrical data:

| | |
|---|---|
| Motor type: | MS6000 |

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| Qty. | Description | |
|---|---|---|
| | Rated power - P2: | 22 kW |
| | Power (P2) required by pump: | 22 kW |
| | Mains frequency: | 50 Hz |
| | Rated voltage: | 3 x 380-400-415 V |
| | Rated current: | 49.5-47.5-46.5 A |
| | Starting current: | 480-530-560 % |
| | Cos phi - power factor: | 0.86-0.84-0.82 |
| | Rated speed: | 2850-2870-2880 rpm |
| | Start. method: | direct-on-line |
| | Enclosure class (IEC 34-5): | IP68 |
| | Insulation class (IEC 85): | F |
| | Built-in temp. transmitter: | yes |
| | Motor No: | 78195518 |
| | | |
| | Others: | |
| | Minimum efficiency index, MEI â‰¥: | -.-- |
| | ErP status: | EuP Standalone/Prod. |
| | Net weight: | 107 kg |
| | Gross weight: | 137 kg |
| | Shipping volume: | 0.232 m³ |
| | Danish VVS No.: | 388348321 |
| | Finnish LVI No.: | 4762789 |
| | Country of origin: | GB |
| | Custom tariff no.: | 84137029 |

**Company name:**
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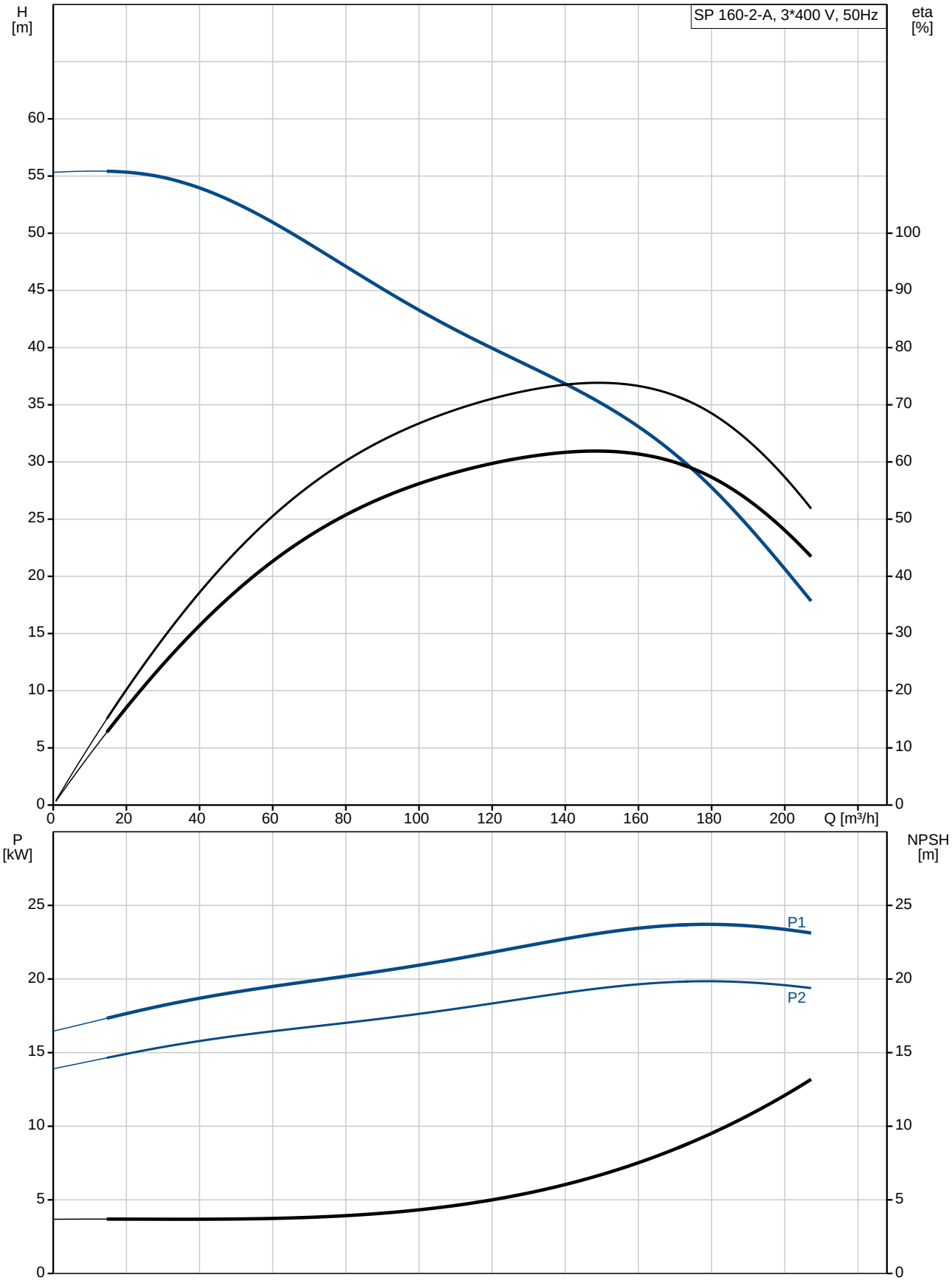
**Date:** 10/11/2020

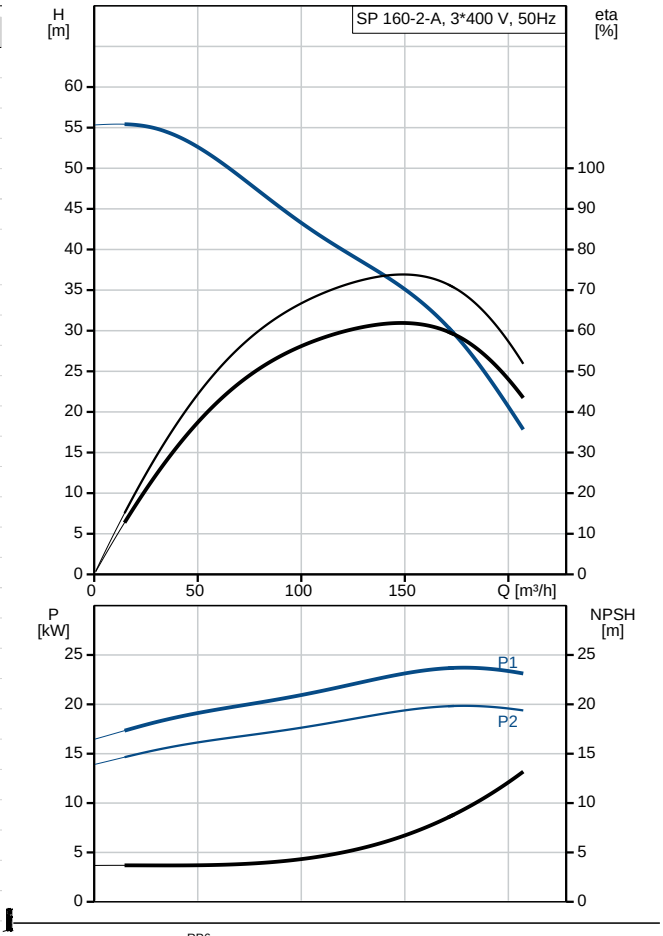
# 200219A2 SP 160-2-A 50 Hz

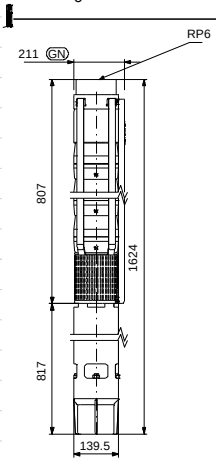


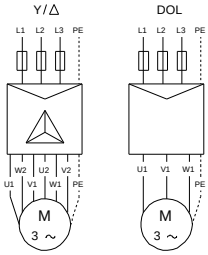
**Company name:**
**Created by:**
**Phone:**

**Date:** 10/11/2020

| Description | Value |
|---|---|
| **General information:** | |
| Product name: | SP 160-2-A |
| Product No: | 200219A2 |
| EAN number: | 5700391177743 |
| Price: | GBP 6953 |
| **Technical:** | |
| Pump speed on which pump data are based: | 2900 rpm |
| Rated flow: | 160 m³/h |
| Rated head: | 34 m |
| Stages: | 2 |
| Impeller reduc.: | A |
| Shaft seal for motor: | CER/CARNBR |
| Approvals on nameplate: | CE,GOST2 |
| Curve tolerance: | ISO9906:2012 3B |
| Model: | B |
| Valve: | YES |
| Motor version: | T40 |
| **Materials:** | |
| Pump: | Stainless steel |
| Pump: | EN 1.4301 |
| Pump: | AISI AISI 304 |
| Impeller: | Stainless steel |
| Impeller: | EN 1.4301 |
| Impeller: | AISI AISI 304 |
| Motor: | Stainless steel |
| Motor: | DIN W.-Nr. 1.4301 |
| Motor: | AISI 304 |
| **Installation:** | |
| Pump outlet: | RP6 |
| Motor diameter: | 6 inch |
| **Liquid:** | |
| Pumped liquid: | Water |
| Maximum liquid temperature: | 40 °C |
| Max liquid t at 0.15 m/sec: | 40 °C |
| Selected liquid temperature: | 20 °C |
| Density: | 998.2 kg/m³ |
| **Electrical data:** | |
| Motor type: | MS6000 |
| Applic. motor: | GRUNDFOS |
| Rated power - P2: | 22 kW |
| Power (P2) required by pump: | 22 kW |
| Mains frequency: | 50 Hz |
| Rated voltage: | 3 x 380-400-415 V |
| Rated current: | 49.5-47.5-46.5 A |
| Starting current: | 480-530-560 % |
| Cos phi - power factor: | 0.86-0.84-0.82 |
| Rated speed: | 2850-2870-2880 rpm |
| Start. method: | direct-on-line |
| Enclosure class (IEC 34-5): | IP68 |
| Insulation class (IEC 85): | F |
| Motor protec: | NONE |
| Thermal protec: | external |
| Built-in temp. transmitter: | yes |
| Motor No: | 78195518 |
| **Others:** | |
| Minimum efficiency index, MEI â‰¥: | -.-- |
| ErP status: | EuP Standalone/Prod. |




| | |
|---|---|
| U1, W2 | Brown |
| V1, U2 | Black |
| W1, V2 | Grey |

**Company name:**
**Created by:**
**Phone:**

**Date:** 10/11/2020

| Description | Value |
|---|---|
| Net weight: | 107 kg |
| Gross weight: | 137 kg |
| Shipping volume: | 0.232 m³ |
| Danish VVS No.: | 388348321 |
| Finnish LVI No.: | 4762789 |
| Country of origin: | GB |
| Custom tariff no.: | 84137029 |

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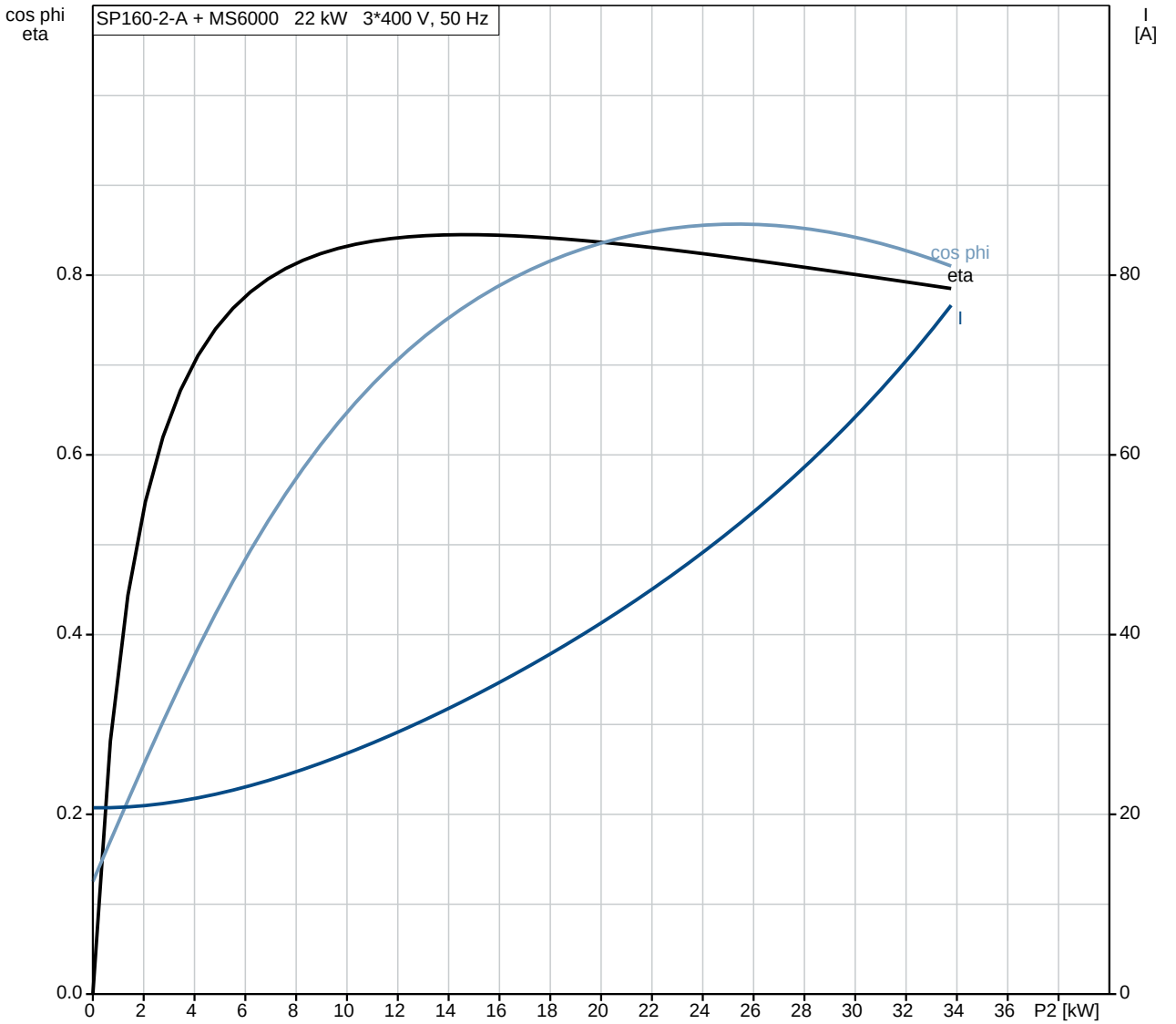
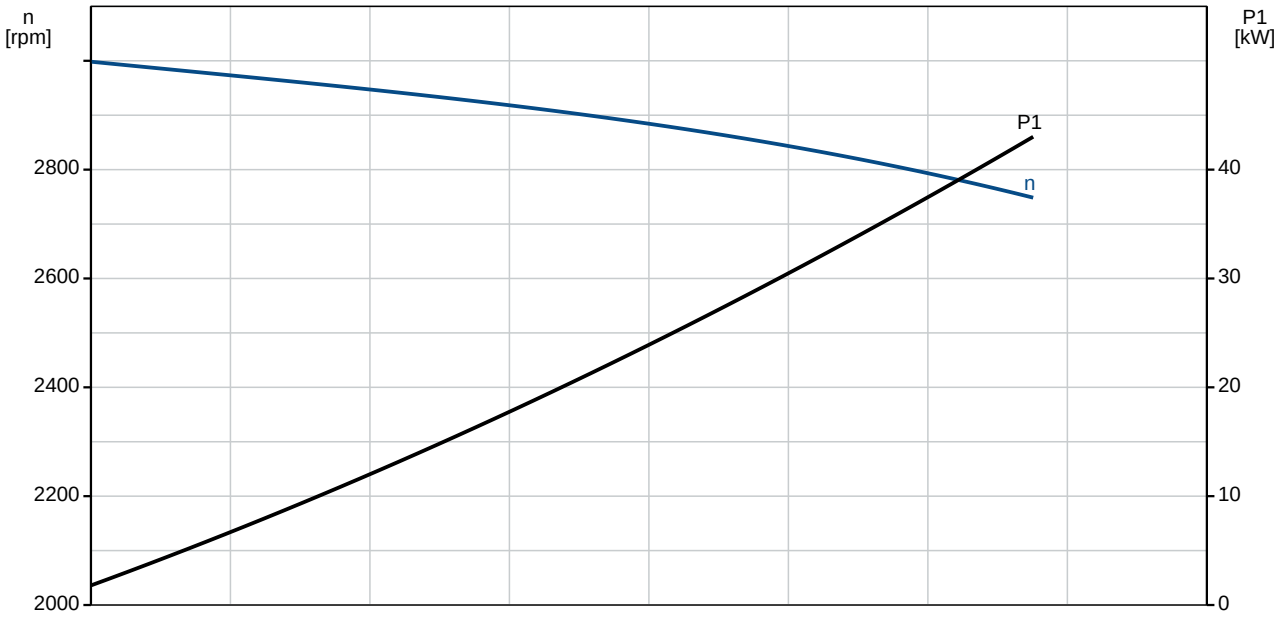
**Date:** 10/11/2020

# 200219A2 SP 160-2-A 50 Hz



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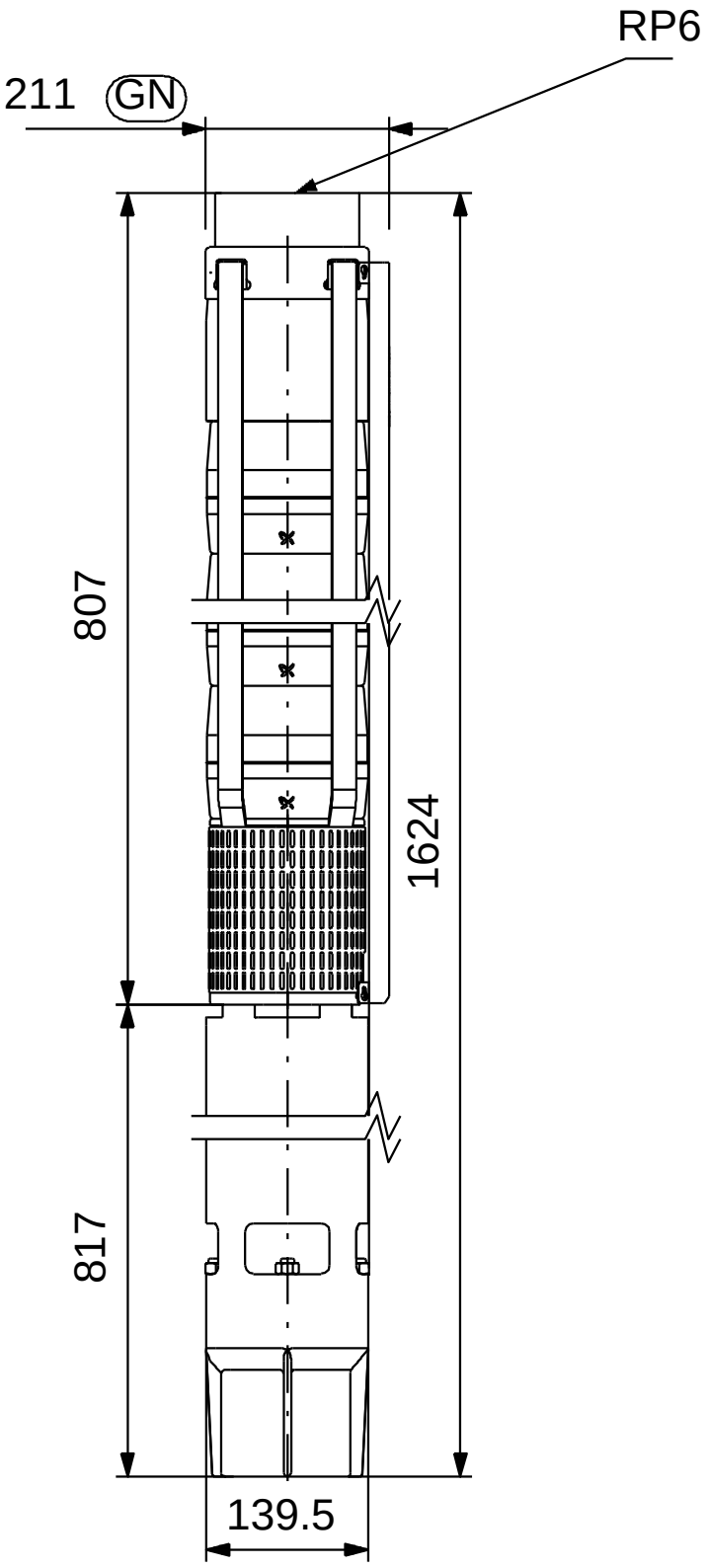
**Date:** 10/11/2020

# 200219A2 SP 160-2-A 50 Hz




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

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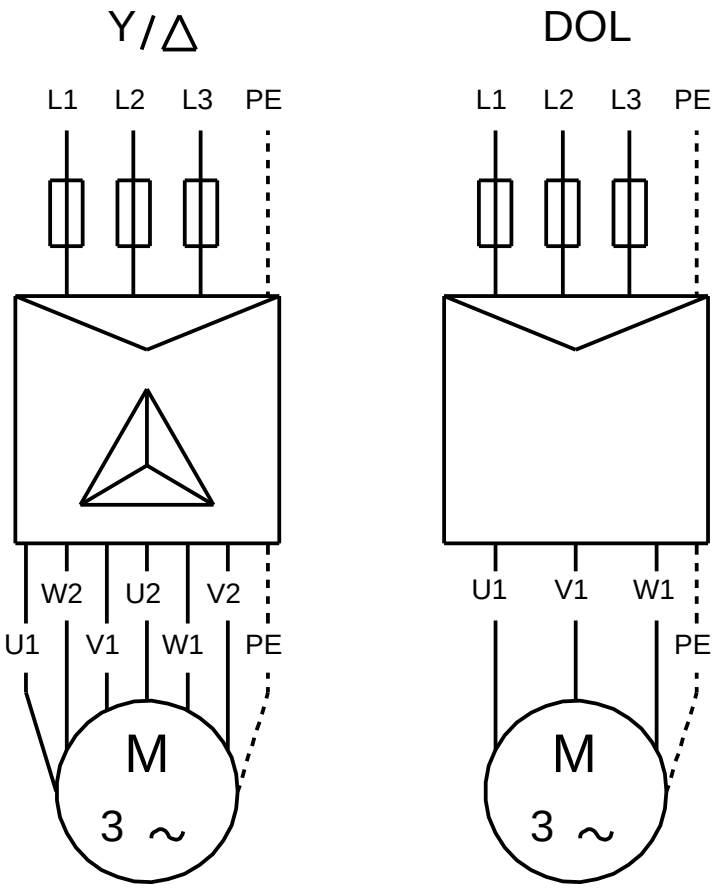
# 200219A2 SP 160-2-A 50 Hz




| | |
|---|---|
| U1, W2 | Brown |
| V1, U2 | Black |
| W1, V2 | Grey |

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