

|                 |                    |                  |                              |           |       |
|-----------------|--------------------|------------------|------------------------------|-----------|-------|
| PROJECT:        | Magna-3            | UNIT TAG:        | _____                        | QUANTITY: | 1     |
| REPRESENTATIVE: | Hurley Engineering | TYPE OF SERVICE: | Cast Iron Pump Configuration | DATE:     | _____ |
| ENGINEER:       | TBD                | SUBMITTED BY:    | Devin Carle                  | DATE:     | _____ |
| CONTRACTOR:     | TBD                | APPROVED BY:     | _____                        | DATE:     | _____ |
|                 |                    | ORDER NO.:       | _____                        | DATE:     | _____ |

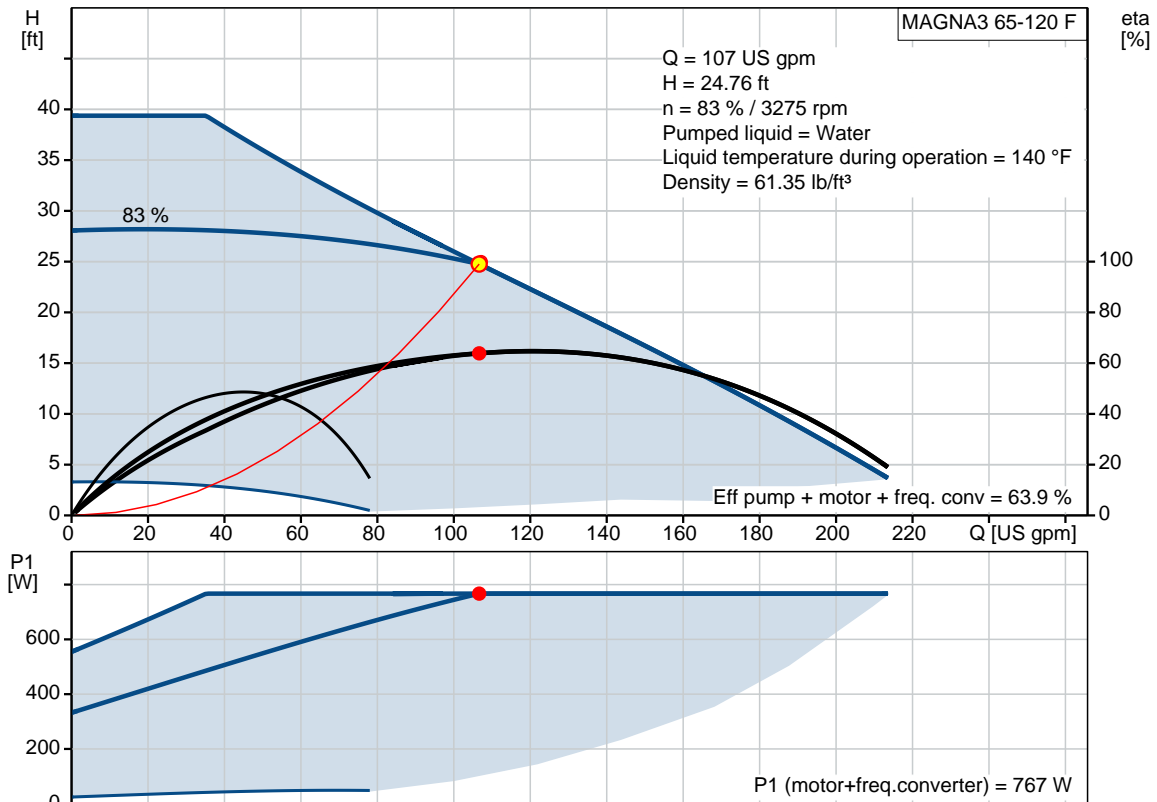


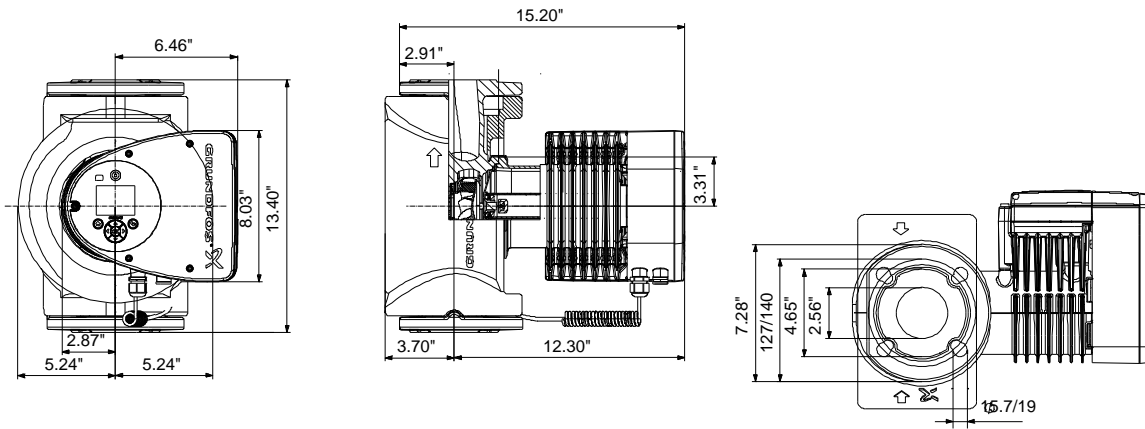
### MAGNA3 65-120 F

Full range of intelligent, high-efficiency circulators for heating, cooling, ground source heat pump systems and domestic hot water applications

Product photo could vary from the actual product

| Conditions of Service |            | Pump Data                    |              | Motor Data        |               |
|-----------------------|------------|------------------------------|--------------|-------------------|---------------|
| Flow:                 | 107 US gpm | Maximum operating pressure:  | 174.05 psi   | P1 max:           | 20.5 .. 767 W |
| Head:                 | 24.76 ft   | Liquid temperature range:    | 14 .. 230 °F | Rated voltage:    | 115 V         |
| Efficiency:           | 63.9 %     | Maximum ambient temperature: | 104 °F       | Main frequency:   | 60 Hz         |
| Liquid:               | Water      | Approvals:                   | 98544605     | Enclosure class:  | X4D           |
| Temperature:          | 140 °F     | Flange standard:             | GF           | Insulation class: | F             |
| NPSH required:        | ft         | Pipe connection:             | GF53/65      |                   |               |
| Viscosity:            | _____      | Product number:              | 98124696     |                   |               |
| Specific Gravity:     | 0.985      |                              |              |                   |               |





**Materials:**

Pump housing: Cast iron  
 EN-GJL-250  
 ASTM A48-250B

Impeller: PES 30%GF



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Date: 3/19/2020

| Count | Description   |
|-------|---|
| 1     | <p><b>MAGNA3 65-120 F</b></p> <p>Product No.: <a href="#">98124696</a></p> <p>MAGNA3 – More than a pump<br/>With its unrivalled efficiency, all-encompassing range and built-in communication capabilities plus functionalities replacing system components, the MAGNA3 is ideal for engineers and specifiers looking to create high-performance systems for buildings.</p> <p>This pump in the Grundfos Master Class will fit both heating and cooling applications perfectly, making it the obvious choice for almost any building project – old or new.</p> <p>The MAGNA3 is of the canned-rotor type, i.e. pump and motor form an integral unit without shaft seal and with only two gaskets for sealing. The bearings are lubricated by the pumped liquid. The innovative clamp with only one screw enables easy repositioning of the pump head. The MAGNA3 is a pump with no maintenance requirements and with extremely low Life Cycle Cost.</p> <p>The pump is characterised by the following:</p> <ul style="list-style-type: none"><li>• controller integrated in the control box</li><li>• control panel with TFT display on the control box</li><li>• control box prepared for optional CIM modules</li><li>• built-in differential-pressure and temperature sensor</li><li>• cast-iron pump housing (depending on model)</li><li>• carbon-fiber-reinforced composite rotor can</li><li>• stainless-steel bearing plate and rotor cladding</li><li>• aluminium alloy stator housing</li><li>• air-cooled power electronics</li></ul> <p>The MAGNA3 is a single-phase pump.</p> <p>Characteristic features</p> <ul style="list-style-type: none"><li>• AUTOADAPT.</li><li>• FLOWADAPT and FLOWLIMIT (more than a pump function as it reduces the need for pump throttling valves).</li><li>• Proportional-pressure control.</li><li>• Constant-pressure control.</li><li>• Constant-temperature control.</li><li>• Constant-curve duty.</li><li>• Max. or min. curve duty.</li><li>• Automatic Night Setback.</li><li>• No external motor protection required.</li><li>• Insulating shells supplied with single-head pumps for heating systems.</li><li>• Large temperature range where the liquid temperature and the ambient temperature are independent of each other.</li></ul> <p>Communication<br/>The MAGNA3 enables communication via the following:</p> |



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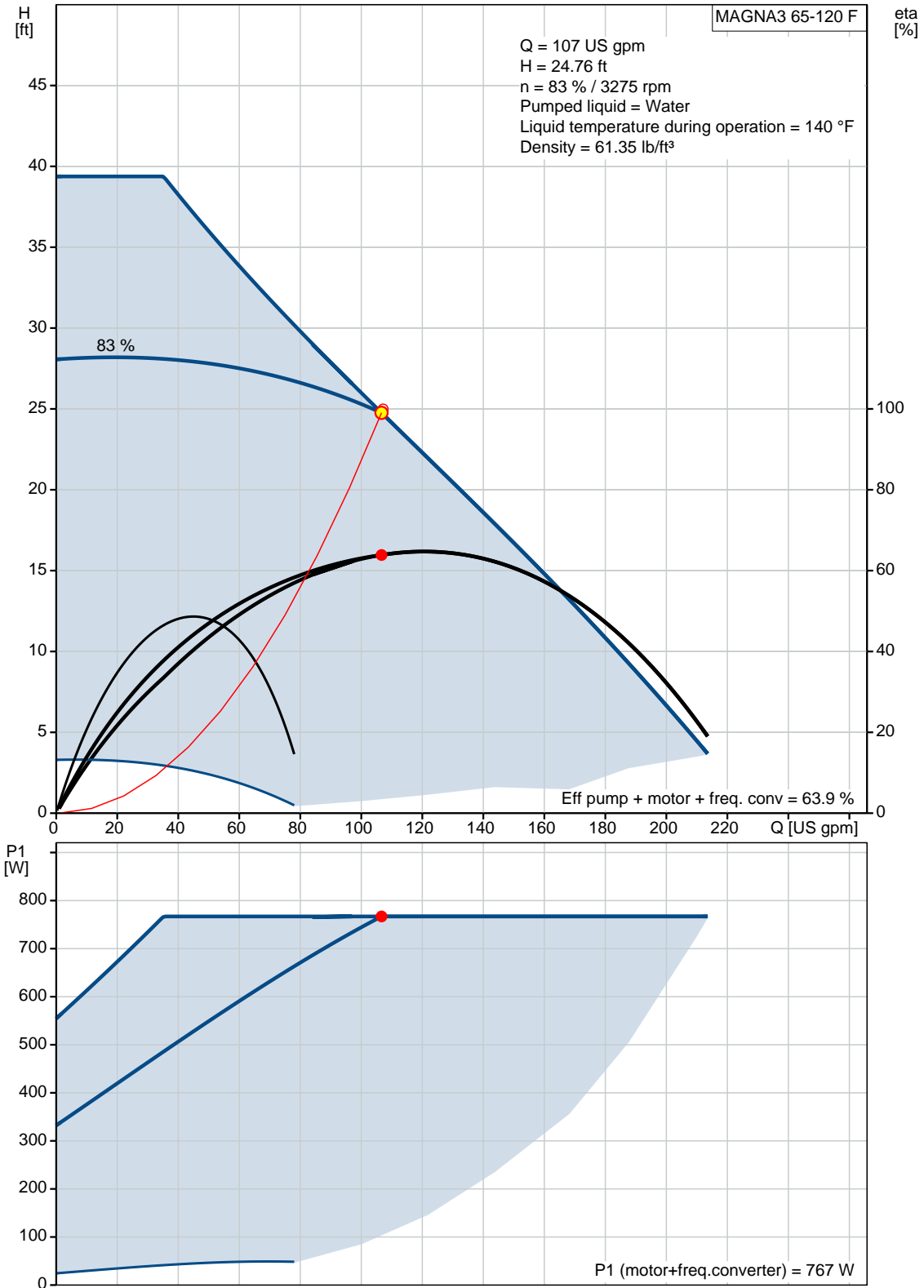
| Count | Description  |
|-------|--|
|       | <ul style="list-style-type: none"><li>• wireless Grundfos GO Remote</li><li>• fieldbus communication via CIM modules</li><li>• digital inputs</li><li>• relay outputs</li><li>• analog input (more than a pump function as heat energy meter)</li></ul> <p>Motor and electronic controller<br/>The MAGNA3 incorporates a 4-pole synchronous, permanent-magnet motor (PM motor). This motor type is characterised by higher efficiency than a conventional asynchronous squirrel-cage motor.<br/>The pump speed is controlled by an integrated frequency converter.<br/>A differential-pressure and temperature sensor is incorporated in the pump.</p> <p><b>Liquid:</b><br/>Pumped liquid: Water<br/>Liquid temperature range: 14 .. 230 °F<br/>Selected liquid temperature: 140 °F<br/>Density: 61.35 lb/ft³</p> <p><b>Technical:</b><br/>Actual calculated flow: 107 US gpm<br/>Resulting head of the pump: 24.76 ft<br/>TF class: 110<br/>Approvals on nameplate: 98544605</p> <p><b>Materials:</b><br/>Pump housing: Cast iron<br/>EN-GJL-250<br/>ASTM A48-250B<br/>Impeller: PES 30%GF</p> <p><b>Installation:</b><br/>Range of ambient temperature: 32 .. 104 °F<br/>Maximum operating pressure: 174.05 psi<br/>Flange standard: GF<br/>Pipe connection: GF53/65<br/>Pressure stage: PN12<br/>Port-to-port length: 13 7/16 in</p> <p><b>Electrical data:</b><br/>Power input - P1: 20.5 .. 767 W<br/>Main frequency: 60 Hz<br/>Rated voltage: 1 x 115 V<br/>Maximum current consumption: 0.36 .. 6.75 A<br/>Enclosure class (IEC 34-5): X4D<br/>Insulation class (IEC 85): F</p> <p><b>Others:</b><br/>Energy (EEI): 0.17<br/>Net weight: 49.4 lb<br/>Gross weight: 54.4 lb<br/>Shipping volume: 1950 ft³<br/>Country of origin: US<br/>Custom tariff no.: 8413.70.2015</p> |



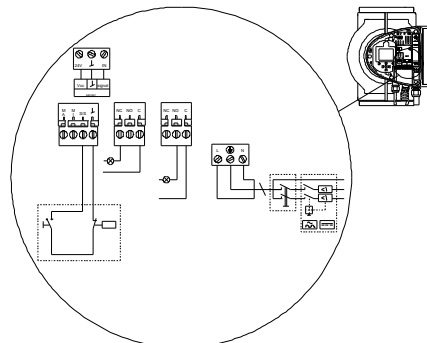
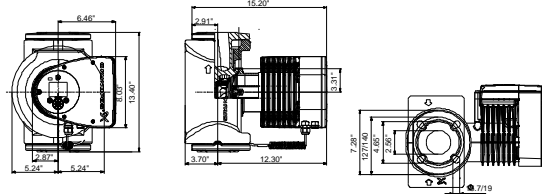
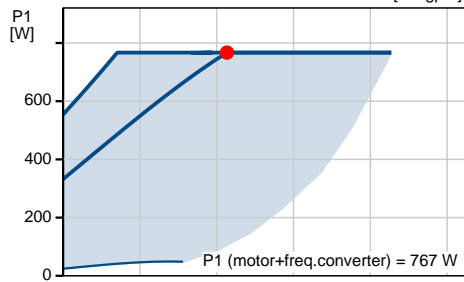
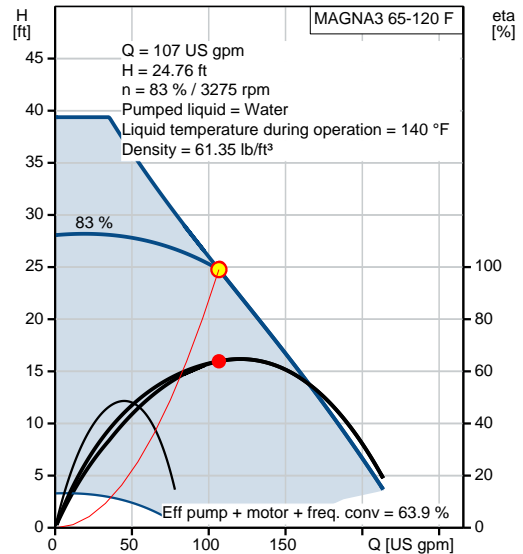
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### 98124696 MAGNA3 65-120 F 60 Hz



| Description                   | Value                    |
|-------------------------------|--------------------------|
| <b>General information:</b>   |                          |
| Product name:                 | MAGNA3 65-120 F          |
| Product No.:                  | 98124696                 |
| EAN:                          | 5710629449481            |
|                               | 5710629449481            |
| <b>Technical:</b>             |                          |
| Actual calculated flow:       | 107 US gpm               |
| Resulting head of the pump:   | 24.76 ft                 |
| Head max:                     | 39.37 ft                 |
| TF class:                     | 110                      |
| Approvals on nameplate:       | 98544605                 |
| Model:                        | D                        |
| <b>Materials:</b>             |                          |
| Pump housing:                 | Cast iron                |
|                               | EN-GJL-250               |
|                               | ASTM A48-250B            |
| Impeller:                     | PES 30%GF                |
| <b>Installation:</b>          |                          |
| Range of ambient temperature: | 32 .. 104 °F             |
| Maximum operating pressure:   | 174.05 psi               |
| Flange standard:              | GF                       |
| Pipe connection:              | GF53/65                  |
| Pressure stage:               | PN12                     |
| Port-to-port length:          | 13 7/16 in               |
| <b>Liquid:</b>                |                          |
| Pumped liquid:                | Water                    |
| Liquid temperature range:     | 14 .. 230 °F             |
| Selected liquid temperature:  | 140 °F                   |
| Density:                      | 61.35 lb/ft <sup>3</sup> |
| <b>Electrical data:</b>       |                          |
| Power input - P1:             | 20.5 .. 767 W            |
| Main frequency:               | 60 Hz                    |
| Rated voltage:                | 1 x 115 V                |
| Maximum current consumption:  | 0.36 .. 6.75 A           |
| Enclosure class (IEC 34-5):   | X4D                      |
| Insulation class (IEC 85):    | F                        |
| <b>Others:</b>                |                          |
| Energy (EEI):                 | 0.17                     |
| Net weight:                   | 49.4 lb                  |
| Gross weight:                 | 54.4 lb                  |
| Shipping volume:              | 1950 ft <sup>3</sup>     |
| Country of origin:            | US                       |
| Custom tariff no.:            | 8413.70.2015             |

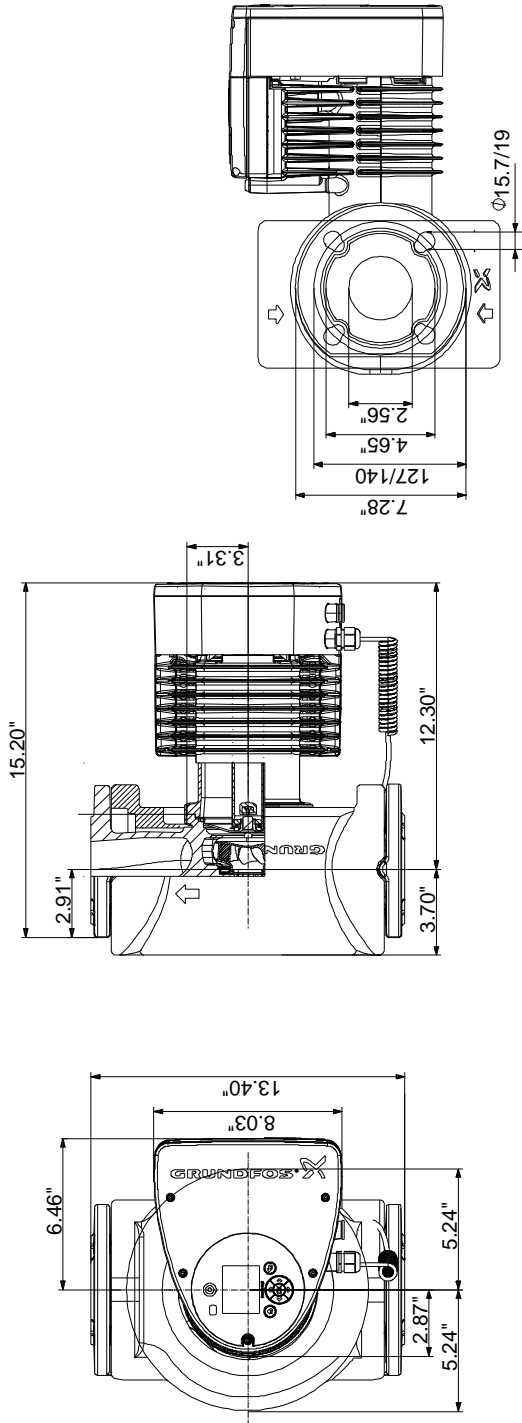




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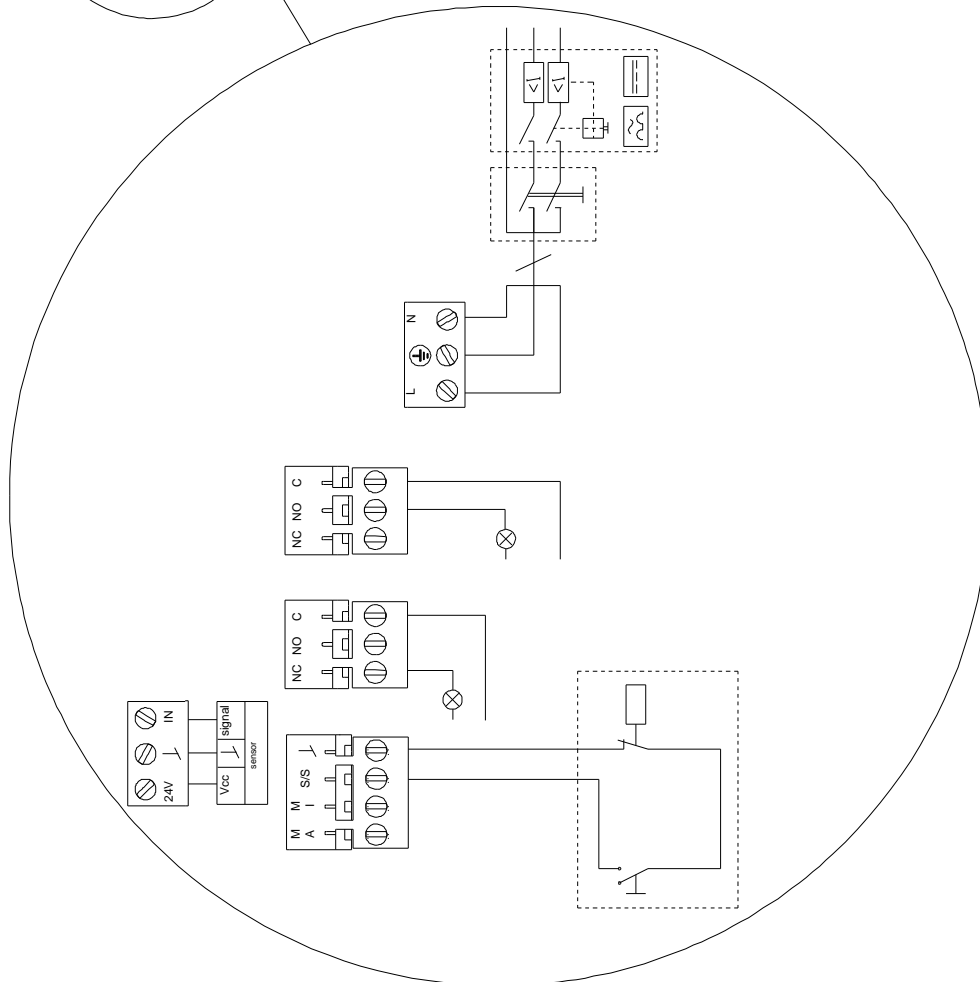
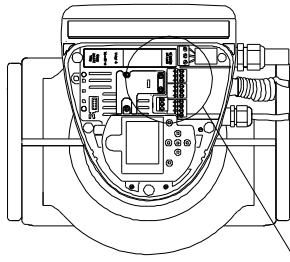
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### 98124696 MAGNA3 65-120 F 60 Hz



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

## 98124696 MAGNA3 65-120 F 60 Hz



All units are [in] unless otherwise presented.