

# MAGNA3

## Safety instructions and other important information



3191277

Conforms to ANSI/UL Std. 778  
Certified to CAN/CSA Standard C22.2 No. 108



Installation and operating  
instructions

<http://net.grundfos.com/qr/i/99332342>

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**GRUNDFOS** 

# English (US) Safety instructions

## Original safety instructions

These safety instructions give a quick overview of the safety precautions to be taken in connection with any work on this product.

Observe these safety instructions during handling, installation, operation, maintenance, service and repair of this product.

These safety instructions are a supplementary document, and all safety instructions will appear again in the relevant sections of the installation and operating instructions.

Keep these safety instructions at the installation site for future reference.

## General information

### Target group



Prior to installation, read this document and the quick guide. Installation and operation must comply with local regulations and accepted codes of good practice.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.



### Lifting the product



Observe local regulations concerning limits for manual lifting or handling.



Do not lift the pump head by the control box, i.e. the red area of the pump.

### Installing the product

#### CAUTION

##### Crushing of feet

Minor or moderate personal injury

- Do not drop the pump head when loosening the clamp.



#### CAUTION

##### Pressurized system

Minor or moderate personal injury

- Pay special attention to any escaping vapor when loosening the clamp.



Fit and tighten the screw holding the clamp to  $6 \pm 0.7$  ft-lbs ( $8 \pm 1$  Nm). Do not apply more torque than specified even though water is dripping from the clamp. The condensation is most likely coming from the drain hole under the clamp.



Check the position of the clamp before you tighten the clamp. Incorrect position of the clamp will cause leakage from the pump and damage the hydraulic parts in the pump head.



Do not insulate the control box or cover the operating panel.

## Electrical installation

Carry out the electrical connection and protection according to local regulations.

Check that the supply voltage and frequency correspond to the values stated on the nameplate.

### WARNING

#### Electric shock

Death or serious personal injury

- Before starting any work on the product, make sure that the power supply has been switched off. Lock the main disconnect switch to the Off position.
- Type and requirements as specified in national, state, and local regulations.



### WARNING

#### Electric shock

Death or serious personal injury

- Connect the pump to an external main disconnect switch with a minimum contact gap of 1/8 inch (3 mm) in all poles.
- The ground terminal of the pump must be connected to ground. Use grounding or neutralization for protection against indirect contact.



**WARNING****Electric shock**

Death or serious personal injury

- Use a suitable type of Ground Fault Circuit Interrupter (GFCI) capable of handling ground fault currents with DC content (pulsating DC).
- If the pump is connected to an electrical installation where a GFCI is used for additional protection, this GFCI must be able to trip when ground fault currents with DC content occur.



- If rigid conduit is to be used, the hub must be connected to the conduit system before it is connected to the terminal box of the pump.
- Make sure that the pump is connected to an external main disconnect switch.
- The pump requires no external motor protection. When switched on via the power supply, the pump starts pumping after approximately 5 seconds.

**Supply voltage**

1 x 115-230 V ± 10 %, 60 Hz\*, PE.

- \* All MAGNA3 pumps are approved to run on both 50 and 60 Hz.

Check that the supply voltage and frequency correspond to the values stated on the nameplate.

The voltage tolerances are intended for mains-voltage variations. Do not use the voltage tolerances for running pumps at other voltages than those stated on the nameplate.

**Connecting the power supply**

Make sure that the fuse is dimensioned according to the nameplate and local legislation.



Connect all cables in accordance with local regulations.



Make sure that all cables are heat-resistant up to 158 °F (70 °C). Install all cables in accordance with the National Electrical Code, or in Canada, the Canadian Electrical Code, and state and local regulations.

**Product introduction**

Observe local legislation regarding pump housing material.



Do not pump aggressive liquids.



Do not pump flammable, combustible or explosive liquids.

**Type key**

Code	Example	( )	40	-80	(F)	(N)	216
<b>Type range</b>							
	MAGNA3						
<b>Single-head pump</b>							
D	Twin-head pump						
<b>Nominal diameter (DN) of inlet and outlet ports [mm]</b>							
<b>Maximum head [dm]</b>							
<b>Pipe connection</b>							
F	Flange						
<b>Pump housing material</b>							
N	Cast iron						
	Stainless steel						
<b>Port-to-port length [mm]</b>							

**Radio communication**

GRUNDFOS HOLDING A/S

RADIOMODULE 2G4

CONTAINS FCC ID: OG3-RADIOM01-2G4

CONTAINS IC: 10447A-RA2G4M01

This device complies with part 15 of the FCC Rules and Licence exempts RSSs of IC rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

**Intended use**

This pump incorporates a radio for remote control.

The pump can communicate with Grundfos GO and with other MAGNA3 pumps of the same type via the built-in radio.

**External connections****WARNING****Electric shock**

Death or serious personal injury

- Separate wires connected to supply terminals, outputs NC, NO, C and start-stop input from each other and from the supply by reinforced insulation.



Make sure that all cables are heat-resistant up to 158 °F (70 °C).

Install all cables in accordance with the National Electrical Code, or in Canada, the Canadian Electrical Code, and state and local regulations.



Connect all cables in accordance with local regulations.

**Input and output communication****WARNING****Electric shock**

Death or serious personal injury

- Separate input voltages from external equipment from live parts by reinforced insulation.

**Setting the product****CAUTION****Hot surface**

Minor or moderate personal injury

- At high liquid temperatures, the pump housing may be so hot that only the operating panel may be touched to avoid burns.



Set the operating mode to "Normal" before you enable a control mode.

**Servicing the product****WARNING****Electric shock**

Death or serious personal injury

- Make sure that other pumps or sources do not force flow through the pump even if the pump is stopped. This will cause the motor to act like a generator, resulting in voltage on the pump.

**WARNING****Electric shock**

Death or serious personal injury

- Switch off the power supply for at least 3 minutes before you start any work on the product.
- Lock the main disconnect switch to the Off position. Type and requirements as specified in national, state, and local regulations.

**WARNING****Magnetic field**

Death or serious personal injury

- Persons with pacemakers disassembling this product must exercise care when handling the magnetic materials embedded in the rotor.

**Fault finding****CAUTION****Pressurized system**

Minor or moderate personal injury

- Before dismantling the pump, drain the system or close the isolating valve on either side of the pump. The pumped liquid may be scalding hot and under high pressure.

**WARNING****Electric shock**

Death or serious personal injury

- Switch off the power supply for at least 3 minutes before you start any work on the product.
- Lock the main disconnect switch to the Off position. Type and requirements as specified in national, state, and local regulations.

**WARNING****Electric shock**

Death or serious personal injury

- Make sure that other pumps or sources do not force flow through the pump even if the pump is stopped.



If the power supply cable is damaged, it must be replaced by the manufacturer, the manufacturer's service partner or a similarly qualified person.

**Technical data****Ambient temperature**

32 to 104 °F (0 to +40 °C).

Ambient temperatures below 32 °F (0 °C) require the following conditions:

The media temperature is 41 °F (5 °C).



The media contains glycol.

The pump runs continuously and does not stop.

For twin-head pumps cascade operation every 24 hours is mandatory.

Ambient temperature during transport: -40 to 158 °F (-40 to +70 °C).

#### Liquid temperature

Continuously: +14 to +230 °F (-10 to +110 °C).

Stainless-steel pumps in domestic hot-water systems:

In domestic hot-water systems, we recommend that you keep the liquid temperature below 149 °F (65 °C) to eliminate the risk of lime precipitation.

#### System pressure



The actual inlet pressure and the pump pressure against a closed valve must be lower than the maximum permissible system pressure.

The maximum permissible system pressure is stated on the pump nameplate:

PN 6: 87 psi (6 bar / 0.6 MPa)

PN 10: 145 (10 bar / 1.0 MPa)

PN 12: 175 psi (12 bar / 1.2 MPa)

PN 16: 232 (16 bar / 1.6 MPa).

Not all variants are available in all markets.

## Installing a communication interface module

### WARNING

#### Electric shock

Death or serious personal injury

- Make sure that other pumps or sources do not force flow through the pump even if the pump is stopped. This will cause the motor to act like a generator, resulting in voltage on the pump.



### WARNING

#### Electric shock

Death or serious personal injury

- Switch off the power supply for at least 3 minutes before you start any work on the product. Make sure that the power supply cannot be accidentally switched on.
- It must be possible to lock the main disconnect switch to the Off position. Type and requirements as specified in national, state, and local regulations.



## Disposing of the product

This product has been designed with focus on the disposal and recycling of materials. The following average disposal values apply to all variants of pumps:

85 % recycling

10 % incineration

5 % depositing.

Dispose of this product or parts of it in an environmentally sound way according to local regulations.

See also end-of-life information on [www.grundfos.com/product-recycling](http://www.grundfos.com/product-recycling).

### WARNING

#### Magnetic field

Death or serious personal injury

- Persons with pacemakers disassembling this product must exercise care when handling the magnetic materials embedded in the rotor.





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