


Qty.	Description
1	<p>MAGNA3 40-60 F</p>  <p>Note! Product picture may differ from actual product</p> <p>Product No.: 97924267</p> <p>The Grundfos MAGNA3 circulator pump is the ideal choice for almost any building project – old or new. With its unrivalled energy efficiency, all-encompassing range and built-in communication capabilities, MAGNA3 is ideal for engineers and specifiers looking to create high-performance heating and cooling systems.</p> <p>The pump is maintenance-free due to the canned-rotor type design. This also means that 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.</p> <p>MAGNA3 features an intuitive display and allows you to connect wirelessly with the Grundfos GO Remote app, giving you access to advanced reporting and monitoring.</p> <p>The pump includes fieldbus communication via CIM modules as well analog and digital inputs and configurable relays.</p> <p>Control features include FLOWADAPT, which reduces the need for throttling valves, thus cutting costs on system components.</p> <p>MAGNA3 is the superior choice for a wide range of heating and cooling applications, including:</p> <ul style="list-style-type: none"> Mixing loops Heating surfaces Air conditioning surfaces Ground-source heat pump systems Smaller chiller applications. <p>MAGNA3 is a single-phase pump and characterised by having the controller and control display integrated in the control box. The pump also has a built-in differential-pressure and temperature sensor.</p> <p>The pump housing is available in both cast-iron and stainless-steel versions. The composite rotor can is carbon-fibre reinforced, the bearing plate and rotor cladding are made of stainless steel and the stator housing is made of aluminium. The power electronics are air-cooled.</p> <p>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. The pump speed is controlled by an integrated frequency converter.</p> <p>Features:</p> <ul style="list-style-type: none"> Vast communication options, including inputs, relays and fieldbus The most energy-efficient pump range within the industry Intelligent control functions Stainless-steel variant to accommodate domestic hot-water applications AutoAdapt FlowAdapt, which reduces the need for throttling valves, cutting costs on system components Proportional-pressure control Constant-pressure control Constant-temperature control Constant-flow control Differential-temperature control (requires an additional temperature sensor) Constant-curve duty Maximum and minimum curve duty Automatic night setback Heat energy monitor No external motor protection required



Company name:

Created by:

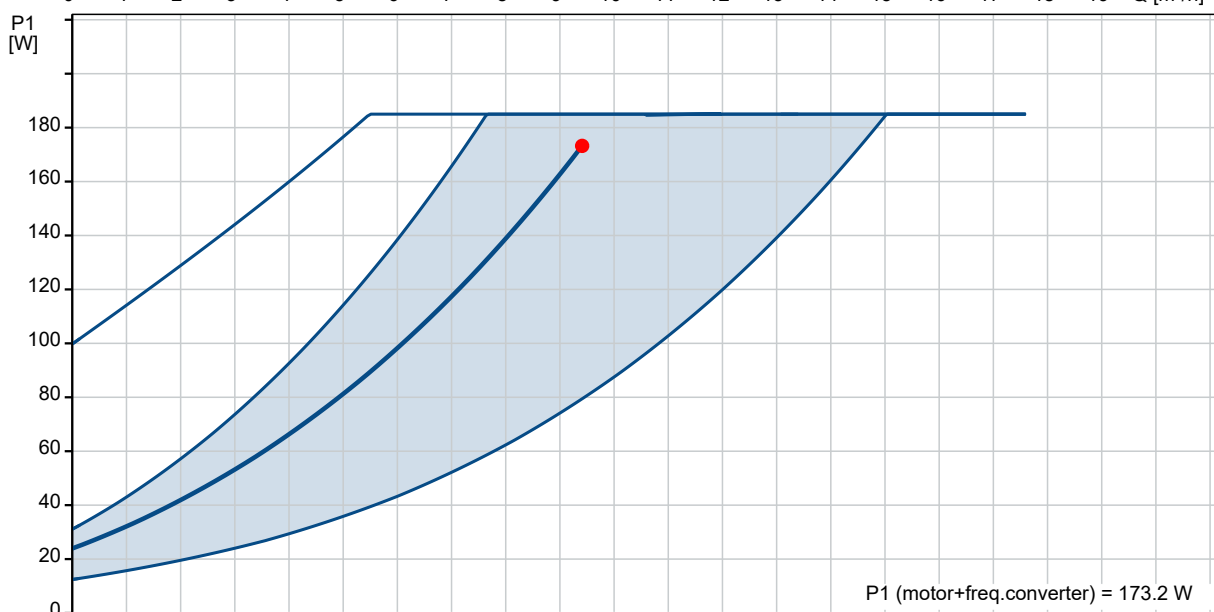
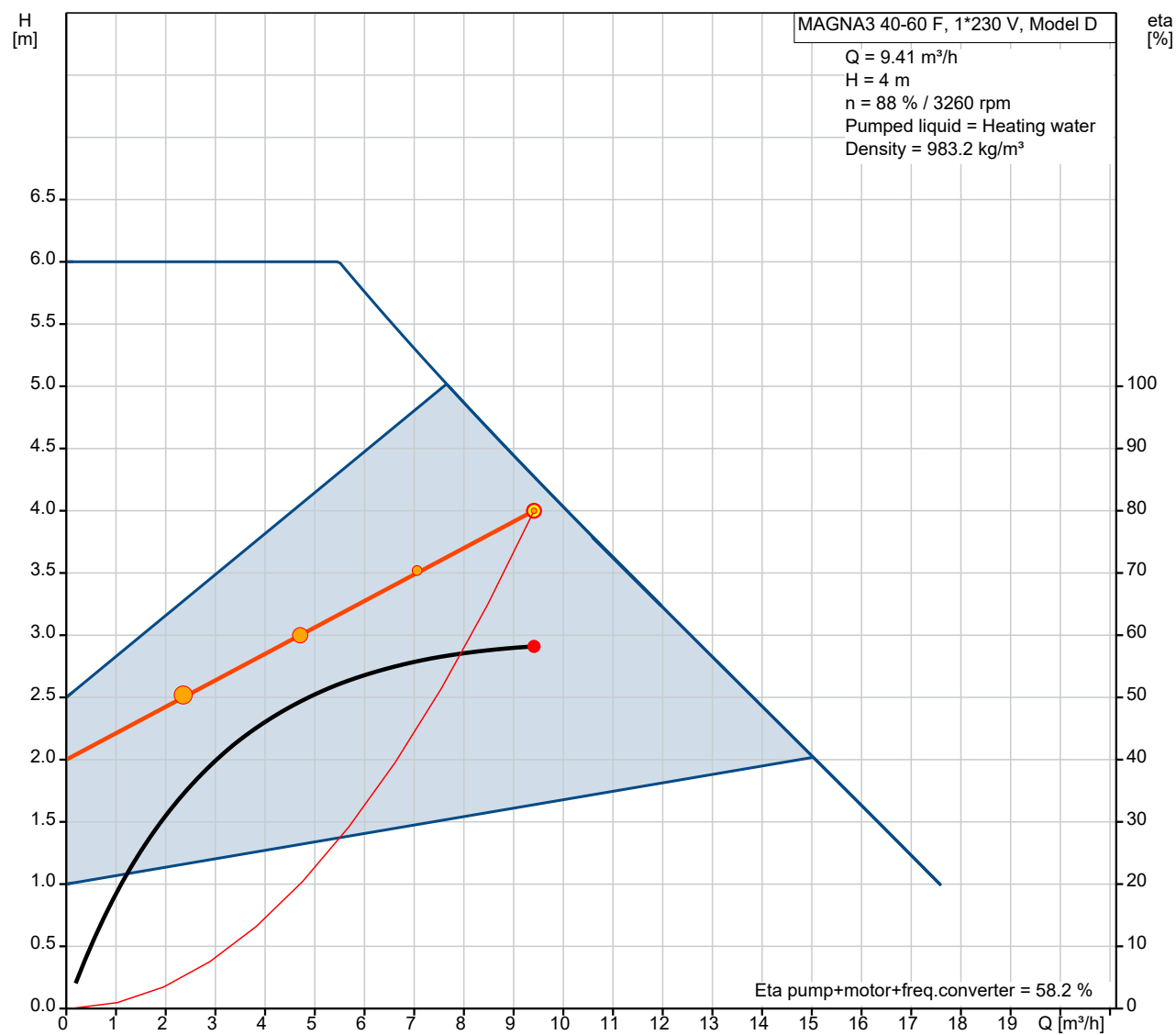
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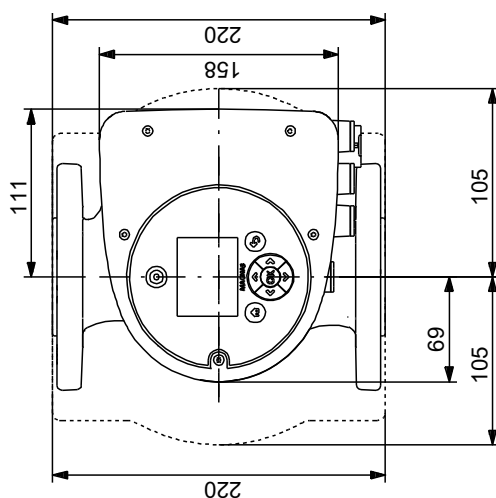
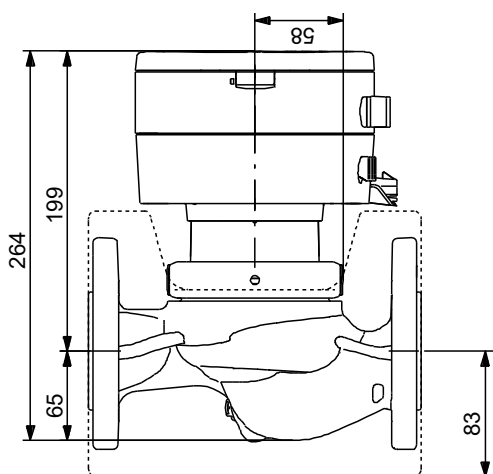
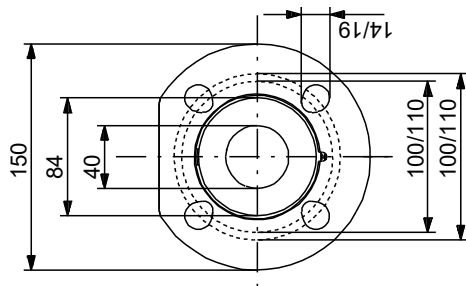
21/03/2021

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	<p>Innovative clamp ring with only one screw enabling easy repositioning of the pump head</p> <p>Insulating shells supplied with single-head pumps for heating systems</p> <p>Large temperature range due to air-cooled electronics.</p>

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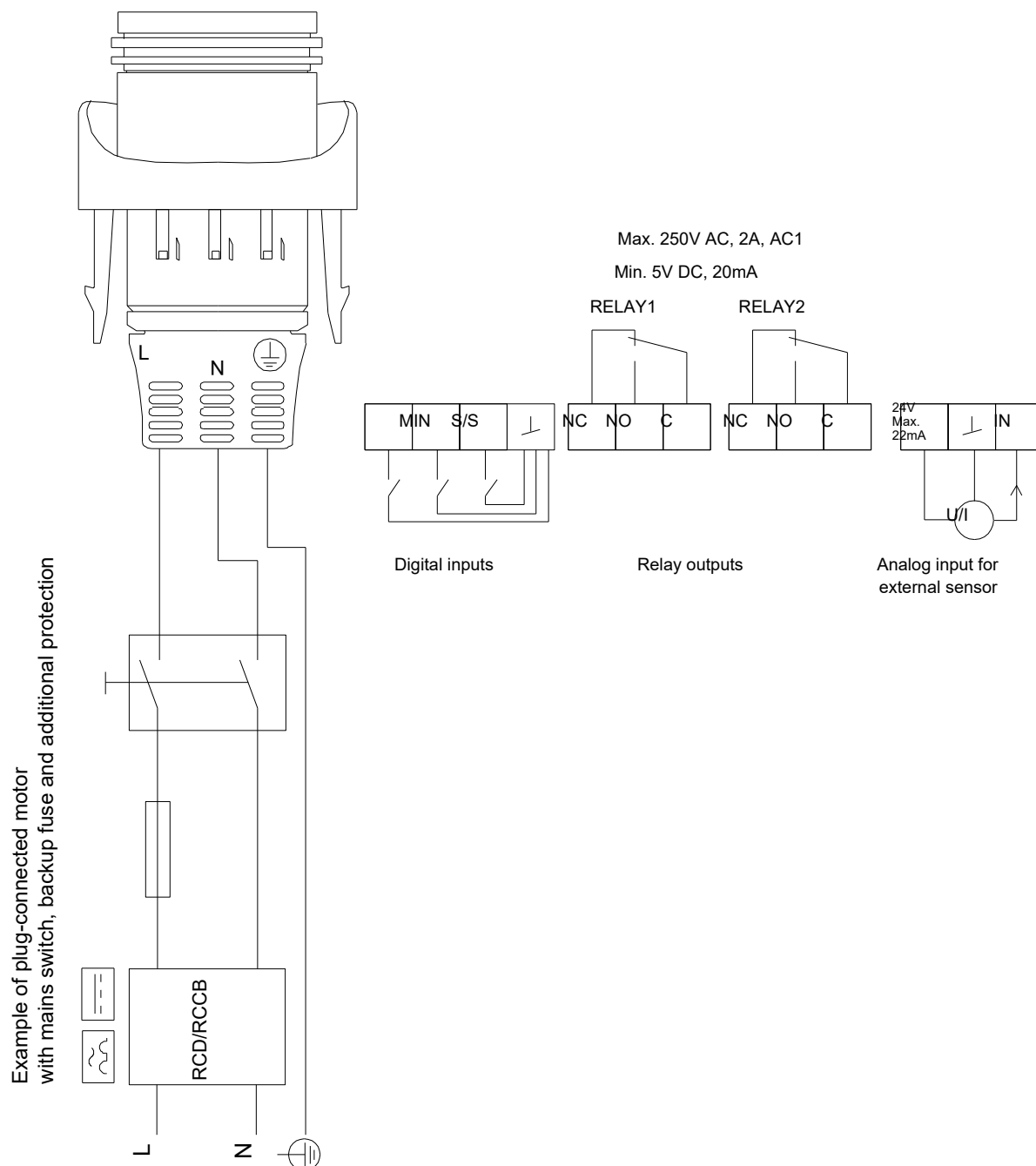


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Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

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Input

General

Application	Heating
Application area	Commercial buildings
Installation type	Distribution
Installation	Main circulator
Flow (Q)	9.411 m³/h
Head (H)	4 m
BMS connectivity	No
Prefer fast delivery	No

Your requirements

Pumped liquid	Heating water
Min. liquid temperature	20 °C
Max. liquid temperature	60 °C
Liquid temperature during operation	60 °C
Max. operation pressure	10 bar
Min. inlet pressure	1.5 bar
Allowed flow undersize	10 %

Control mode

Control mode	Prop. pressure
Decrease at low flow	50 %
Pumps with external frequency converter	Both 50 Hz and 60 Hz
Enclosure class	IP20
Remote controlled by external controller	No

Edit load profile

Heating season	285 days
Load profile	Standard profile
Reduced night-time duty	No

Configuration

Select type of hydraulic	Single
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Pump design

Pump material	Cast iron or stainless steel
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Operational conditions

Frequency	50 Hz
Phase	1 or 3
Min. power limit for SD start	5.5 kW
Voltage	1 x 230 or 3 x 400 V
Ambient temperature	20 °C

Life cycle cost

Do you want to make a comparison?	No comparison
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Include savings in heat energy	Yes
Water temperature difference	10 K
Consumption controlled by thermostatic valves	100 %
Thermostatic valves with P-band of Hydraulic balancing	2 K
Price for heat energy (oil, gas etc.)	Yes
How detailed do you want your life cycle cost analysis?	0.04 EUR/kWh Simple LCC analysis

Hit list settings

Energy price	0.15 EUR/kWh
Increase of energy price	6 %
Calculation period	15 years
CO2 emission intensity	0.773 kg/kWh

Load Profile

	1	2	3	4	
Flow	100	75	50	25	%
Head	100	88	75	63	%
P1	0.173	0.119	0.077	0.046	kW
Eta total	58.2	55.8	49.3	34.5	%
Time	410	1026	2394	3010	h/a
Energy consumption	71	122	183	138	kWh/Year
Quantity	1	1	1	1	

Sizing result

Type MAGNA3 40-60 F

Quantity 1

Motor

Flow	9.411	m³/h
Head	4	m
Min.inlet pressure	0.2	bar (60 °C, against atmosphere)
Power P1	0.173	kW
Eta pump+motor	58.2	% =Eta pump * Eta motor
Eta total	58.2	% =Eta relative to the duty point
Energy consumption	514	kWh/Year
CO2 emission	397	kg/Year
Price	1.136,86	EUR
Life cycle cost	2984	EUR /15Years

