

MAGNA3

Model A-B-C

Circulator pumps

50/60 Hz



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1. Product description

The Grundfos MAGNA3 circulator pumps are designed for circulating liquids in the following systems:

- heating systems
- air-conditioning and cooling systems
- domestic hot-water systems.

The pump range can also be used in the following systems:

- ground source heat pump systems
- solar-heating systems.

Duty range

| Data | MAGNA3 (N) Single-head pumps | MAGNA3 D Twin-head pumps |
|-------------------------|------------------------------------|-----------------------------|
| Maximum flow rate, Q | 78.5 m ³ /h | 150 m ³ /h |
| Maximum head, H | 18 metres | |
| Maximum system pressure | 1.6 MPa (16 bar) | |
| Liquid temperature | -10 to 110 °C | |



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Fig. 1 MAGNA3 pumps

Characteristic features

- AUTO_{ADAPT}
- FLOW_{ADAPT}
- Proportional-pressure control
- Constant-pressure control
- Constant-temperature control
- Differential-temperature control
- Constant-curve duty
- Maximum or minimum curve duty
- FLOW_{LIMIT}
- Automatic night setback
- No external motor protection required
- Insulating shells supplied with single-head pumps for heating systems
- Wide temperature range due to thermal separation of the control box and pump media
- Multipump function.

Benefits

- Low energy consumption. The AUTO_{ADAPT} function ensures energy savings.
- FLOW_{ADAPT} which is a combination of the well-known AUTO_{ADAPT} control mode and a new FLOW_{LIMIT} function.
- Built-in Grundfos differential-pressure and temperature sensor.
- Simple installation.
- No maintenance and long life.
- Extended user interface with TFT display.
- Control panel with self-explanatory push-buttons made of high-quality silicone.
- Operating log.
- Easy system optimisation.
- Heat energy monitor.
- External control and monitoring enabled via add-on modules.
- The complete range is available for a maximum system pressure of 16 bar (PN 16).

Main applications

Heating systems

- Main pump
- mixing loops
- domestic hot water
- heating surfaces
- air-conditioning surfaces.

The MAGNA3 circulator pumps are designed for circulating liquids in heating systems with variable flows where you want to optimise the setting of the pump duty point, thus reducing energy costs. The pumps are also suitable for domestic hot-water systems. Observe local legislation regarding pump house material. Grundfos strongly recommend that you use stainless-steel pumps in domestic hot-water applications to avoid corrosion.

To ensure correct operation, it is important that the sizing range of the system falls within the duty range of the pump.

The pump is especially suitable for installation in existing systems where the differential pressure across the pump is too high in periods with reduced flow demand. The pump is also suitable for new systems where automatic adjustment of the head to the actual flow demand is required, without using expensive bypass valves or similar components.

Furthermore, the pump is suitable for systems with hot-water priority as an external signal can immediately force the pump to operate according to the maximum curve, for example in solar-heating systems.

Type key

| Code | Example | MAGNA3 | (D) | 80 | -120 | (F) | (N) | 360 |
|------|---|--------|-----|----|------|-----|-----|-----|
| | Type range MAGNA3 | | | | | | | |
| D | Single-head pump Twin-head pump | | | | | | | |
| | Nominal diameter (DN) of inlet and outlet ports [mm] | | | | | | | |
| | Maximum head [dm] | | | | | | | |
| F | Pipe connection Threaded Flange | | | | | | | |
| N | Pump housing material Cast iron Stainless steel | | | | | | | |
| | Port-to-port length [mm] | | | | | | | |

Model type

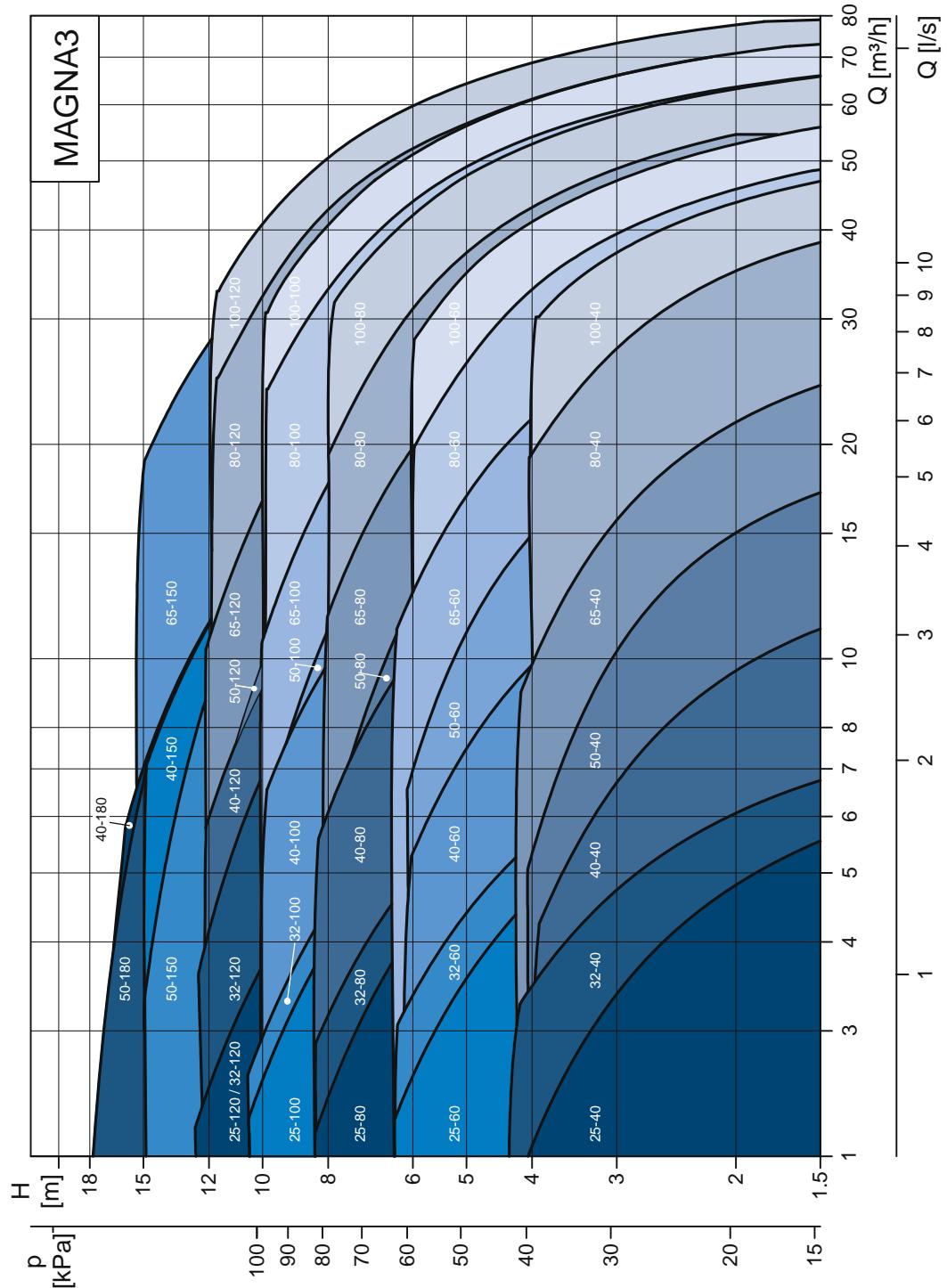
This data booklet covers MAGNA3 model A , B and C.
The model version is stated on the nameplate. See fig. 2.



Fig. 2 Model type on pump nameplate

The difference in model types can be seen in section *Functions* on page 17.

Performance range, MAGNA3

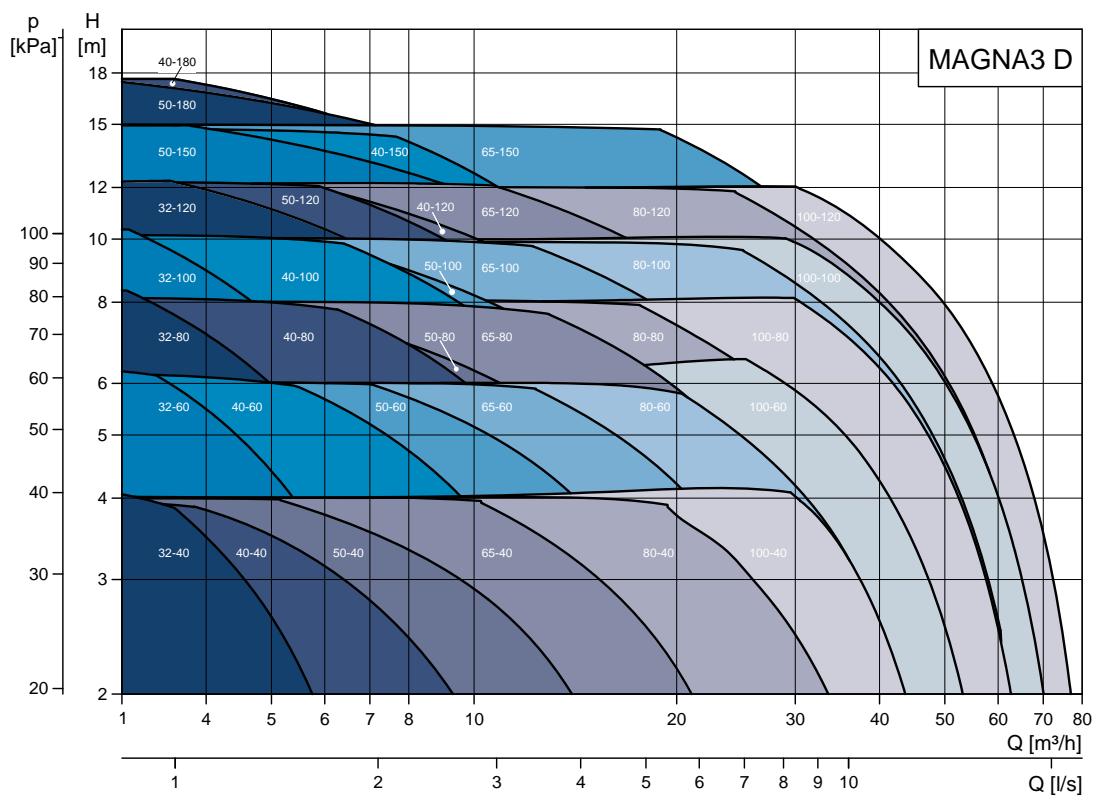


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Fig. 3 Performance range, MAGNA3

Note: MAGNA3 32-120 is available both as a flange model and a threaded model but with different performance.

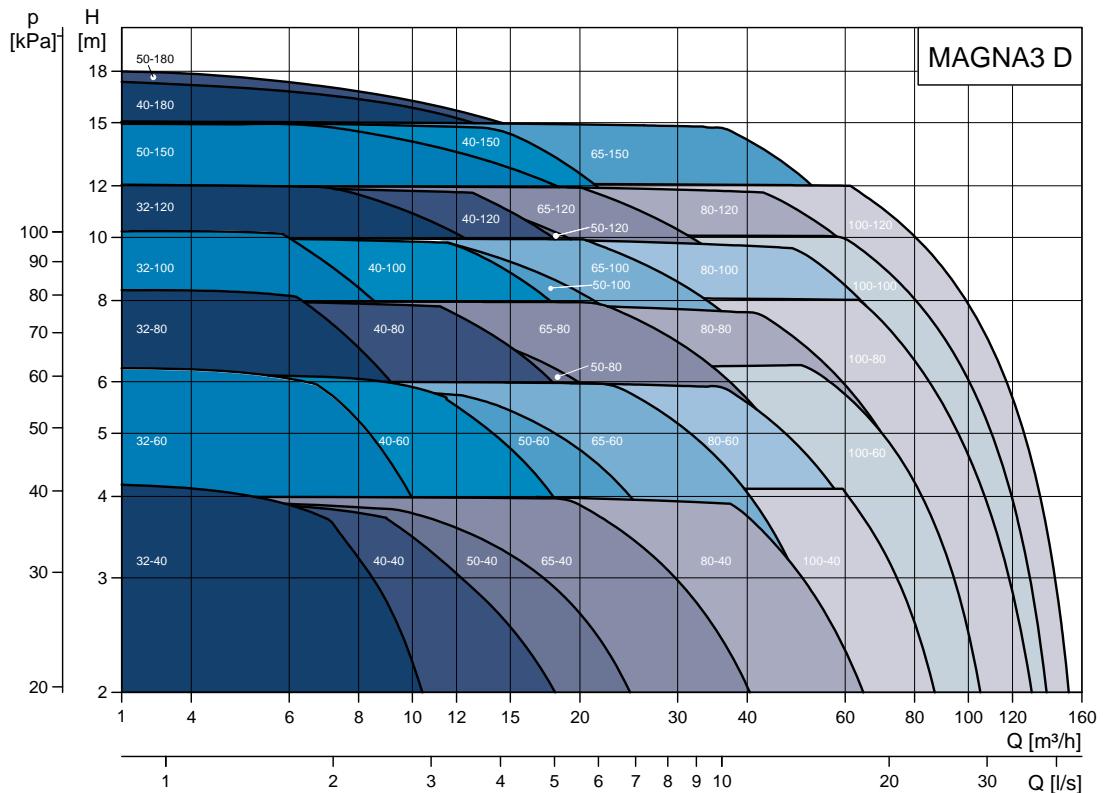
Performance range, MAGNA3 D single-head operation



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Fig. 4 Performance range, MAGNA3 D single-head operation

Performance range, MAGNA3 D twin-head operation



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Fig. 5 Performance range, MAGNA3 D twin-head operation

2. Product range

Single-head pumps

| Pump type | Port-to-port length [mm] | Threaded pipe connection | | | Electrical connection | Data sheet Page |
|---------------------|-----------------------------|--------------------------|-------|--------------------|--------------------------|--------------------|
| | | Cast iron | | Stainless steel | | |
| | | PN 10 | PN 16 | PN 10 | | |
| MAGNA3 25-40 (N) | 180 | • | • | • | Plug | 45 |
| MAGNA3 25-60 (N) | 180 | • | • | • | Plug | 46 |
| MAGNA3 25-80 (N) | 180 | • | • | • | Plug | 47 |
| MAGNA3 25-100 (N) | 180 | • | • | • | Plug | 48 |
| MAGNA3 25-120 (N) | 180 | • | • | • | Plug | 49 |
| MAGNA3 32-40 (N) | 180 | • | • | • | Plug | 50 |
| MAGNA3 32-60 (N) | 180 | • | • | • | Plug | 52 |
| MAGNA3 32-80 (N) | 180 | • | • | • | Plug | 54 |
| MAGNA3 32-100 (N) | 180 | • | • | • | Plug | 56 |
| MAGNA3 32-120 (N) | 180 | • | • | • | Plug | 58 |
| Flange connection | | | | | | |
| Pump type | Port-to-port length [mm] | Cast iron | | Stainless steel | Electrical connection | Data sheet Page |
| | | PN 6 | PN 10 | PN 6/10 | PN 16 | PN 6/10 |
| MAGNA3 32-40 F (N) | 220 | | | • | • | Plug 59 |
| MAGNA3 32-60 F (N) | 220 | | • | • | • | Plug 61 |
| MAGNA3 32-80 F (N) | 220 | | • | • | • | Plug 63 |
| MAGNA3 32-100 F (N) | 220 | | • | • | • | Plug 65 |
| MAGNA3 32-120 F (N) | 220 | | • | • | • | Terminals 67 |
| MAGNA3 40-40 F (N) | 220 | | • | • | • | Plug 69 |
| MAGNA3 40-60 F (N) | 220 | | • | • | • | Plug 71 |
| MAGNA3 40-80 F (N) | 220 | | • | • | • | Terminals 73 |
| MAGNA3 40-100 F (N) | 220 | | • | • | • | Terminals 75 |
| MAGNA3 40-120 F (N) | 250 | | • | • | • | Terminals 77 |
| MAGNA3 40-150 F (N) | 250 | | • | • | • | Terminals 79 |
| MAGNA3 40-180 F (N) | 250 | | • | • | • | Terminals 81 |
| MAGNA3 50-40 F (N) | 240 | | • | • | • | Terminals 83 |
| MAGNA3 50-60 F (N) | 240 | | • | • | • | Terminals 85 |
| MAGNA3 50-80 F (N) | 240 | | • | • | • | Terminals 87 |
| MAGNA3 50-100 F (N) | 280 | | • | • | • | Terminals 89 |
| MAGNA3 50-120 F (N) | 280 | | • | • | • | Terminals 91 |
| MAGNA3 50-150 F (N) | 280 | | • | • | • | Terminals 93 |
| MAGNA3 50-180 F (N) | 280 | | • | • | • | Terminals 95 |
| MAGNA3 65-40 F (N) | 340 | | • | • | • | Terminals 97 |
| MAGNA3 65-60 F (N) | 340 | | • | • | • | Terminals 99 |
| MAGNA3 65-80 F (N) | 340 | | • | • | • | Terminals 101 |
| MAGNA3 65-100 F (N) | 340 | | • | • | • | Terminals 103 |
| MAGNA3 65-120 F (N) | 340 | | • | • | • | Terminals 105 |
| MAGNA3 65-150 F (N) | 340 | | • | • | • | Terminals 107 |
| MAGNA3 80-40 F | 360 | • | • | | • | Terminals 109 |
| MAGNA3 80-60 F | 360 | • | • | | • | Terminals 111 |
| MAGNA3 80-80 F | 360 | • | • | | • | Terminals 113 |
| MAGNA3 80-100 F | 360 | • | • | | • | Terminals 115 |
| MAGNA3 80-120 F | 360 | • | • | | • | Terminals 117 |
| MAGNA3 100-40 F | 450 | • | • | | • | Terminals 119 |
| MAGNA3 100-60 F | 450 | • | • | | • | Terminals 121 |
| MAGNA3 100-80 F | 450 | • | • | | • | Terminals 123 |
| MAGNA3 100-100 F | 450 | • | • | | • | Terminals 125 |
| MAGNA3 100-120 F | 450 | • | • | | • | Terminals 127 |

Twin-head pumps

| Pump type | Port-to-port length [mm] | Threaded pipe connection | | | | Electrical connection | Data sheet Page | | |
|-----------------|-----------------------------|--------------------------|-------|-------|-------|--------------------------|--------------------|--|--|
| | | Cast iron | | PN 10 | PN 16 | | | | |
| | | PN 10 | PN 16 | | | | | | |
| MAGNA3 D 32-40 | 180 | | • | • | • | Plug | 51 | | |
| MAGNA3 D 32-60 | 180 | | • | • | • | Plug | 53 | | |
| MAGNA3 D 32-80 | 180 | | • | • | • | Plug | 55 | | |
| MAGNA3 D 32-100 | 180 | | • | • | • | Plug | 57 | | |

| Pump type | Port-to-port length [mm] | Flange connection | | | | Electrical connection | Data sheet Page | |
|--------------------|-----------------------------|-------------------|-------|------|-------|--------------------------|--------------------|-----|
| | | Cast iron | | PN 6 | PN 10 | PN 6/10 | PN 16 | |
| | | PN 6 | PN 10 | | | | | |
| MAGNA3 D 32-40 F | 220 | | • | • | • | • | Plug | 60 |
| MAGNA3 D 32-60 F | 220 | | • | • | • | • | Plug | 62 |
| MAGNA3 D 32-80 F | 220 | | • | • | • | • | Plug | 64 |
| MAGNA3 D 32-100 F | 220 | | • | • | • | • | Plug | 66 |
| MAGNA3 D 32-120 F | 220 | | • | • | • | • | Terminals | 68 |
| MAGNA3 D 40-40 F | 220 | | • | • | • | • | Plug | 70 |
| MAGNA3 D 40-60 F | 220 | | • | • | • | • | Plug | 72 |
| MAGNA3 D 40-80 F | 220 | | • | • | • | • | Terminals | 74 |
| MAGNA3 D 40-100 F | 220 | | • | • | • | • | Terminals | 76 |
| MAGNA3 D 40-120 F | 250 | | • | • | • | • | Terminals | 78 |
| MAGNA3 D 40-150 F | 250 | | • | • | • | • | Terminals | 80 |
| MAGNA3 D 40-180 F | 250 | | • | • | • | • | Terminals | 82 |
| MAGNA3 D 50-40 F | 240 | | • | • | • | • | Terminals | 84 |
| MAGNA3 D 50-60 F | 240 | | • | • | • | • | Terminals | 86 |
| MAGNA3 D 50-80 F | 240 | | • | • | • | • | Terminals | 88 |
| MAGNA3 D 50-100 F | 280 | | • | • | • | • | Terminals | 90 |
| MAGNA3 D 50-120 F | 280 | | • | • | • | • | Terminals | 92 |
| MAGNA3 D 50-150 F | 280 | | • | • | • | • | Terminals | 94 |
| MAGNA3 D 50-180 F | 280 | | • | • | • | • | Terminals | 96 |
| MAGNA3 D 65-40 F | 340 | | • | • | • | • | Terminals | 98 |
| MAGNA3 D 65-60 F | 340 | | • | • | • | • | Terminals | 100 |
| MAGNA3 D 65-80 F | 340 | | • | • | • | • | Terminals | 102 |
| MAGNA3 D 65-100 F | 340 | | • | • | • | • | Terminals | 104 |
| MAGNA3 D 65-120 F | 340 | | • | • | • | • | Terminals | 106 |
| MAGNA3 D 65-150 F | 340 | | • | • | • | • | Terminals | 108 |
| MAGNA3 D 80-40 F | 360 | • | • | | | • | Terminals | 110 |
| MAGNA3 D 80-60 F | 360 | • | • | | | • | Terminals | 112 |
| MAGNA3 D 80-80 F | 360 | • | • | | | • | Terminals | 114 |
| MAGNA3 D 80-100 F | 360 | • | • | | | • | Terminals | 116 |
| MAGNA3 D 80-120 F | 360 | • | • | | | • | Terminals | 118 |
| MAGNA3 D 100-40 F | 450 | • | • | | | • | Terminals | 120 |
| MAGNA3 D 100-60 F | 450 | • | • | | | • | Terminals | 122 |
| MAGNA3 D 100-80 F | 450 | • | • | | | • | Terminals | 124 |
| MAGNA3 D 100-100 F | 450 | • | • | | | • | Terminals | 126 |
| MAGNA3 D 100-120 F | 450 | • | • | | | • | Terminals | 128 |

Note: You find the product numbers of the various pump variants on page 141.

Pump selection

All pumps have a "best point" (n_{max}), indicating where the pump is working most efficiently.

Consider the parameters in the following section.

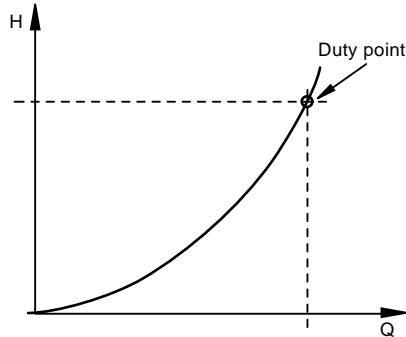
Pump size

The system characteristic is used together with the performance curve of the pump for sizing and correct pump selection.

The selection of pump size should be based on the following:

- required maximum flow
- maximum pressure loss in the system.

Refer to the system characteristics to determine the duty point. See fig. 6.



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Fig. 6 System characteristic

Operating conditions

You must check whether the operating conditions are fulfilled, i.e.:

- liquid quality and temperature
- ambient conditions
- minimum inlet pressure
- maximum operating pressure.

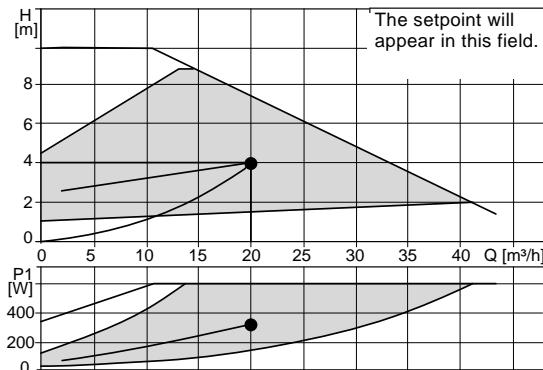
Control modes

- AUTO_{ADAPT} (factory setting) which is suitable for most installations.
- FLOW_{ADAPT} in systems where a flow limitation is required.
- Proportional-pressure control in systems with considerable pressure losses in relation to large flow variations.
- Constant-pressure control in systems with insignificant pressure losses in relation to large flow variations.
- Constant-temperature control in heating systems with a fixed system characteristic, for example domestic hot-water systems.
- Differential-temperature control in heating and cooling systems.
- Constant-curve duty.

Determination of precise setpoint

To determine the precise pump setpoint, consult Grundfos Product Center (GPC) on www.grundfos.com. See fig. 7.

You can determine the desired proportional pressure by marking the pump duty point as a yellow dot. In the upper right corner, you can read the precise setpoint of the proportional pressure and then enter the setpoint on the pump control panel.



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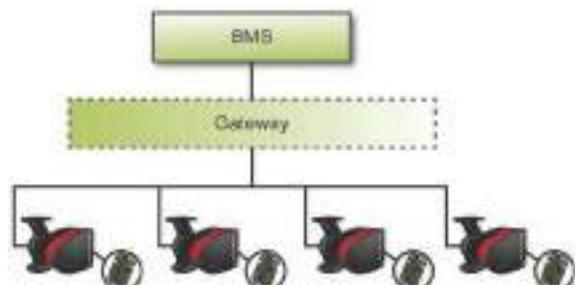
Fig. 7 Grundfos Product Center tool

Communication

The Grundfos CIM modules (CIM = Communication Interface Module) enable the MAGNA3 to connect to standard fieldbus networks, offering substantial benefits:

- complete process control and monitoring
- modular design, prepared for future requirements
- based on standard functional profiles
- simple configuration and easy installation
- open communication standards
- reading warning and alarm indications.

For further details, see section *CIM modules*, pages 30 and 31.



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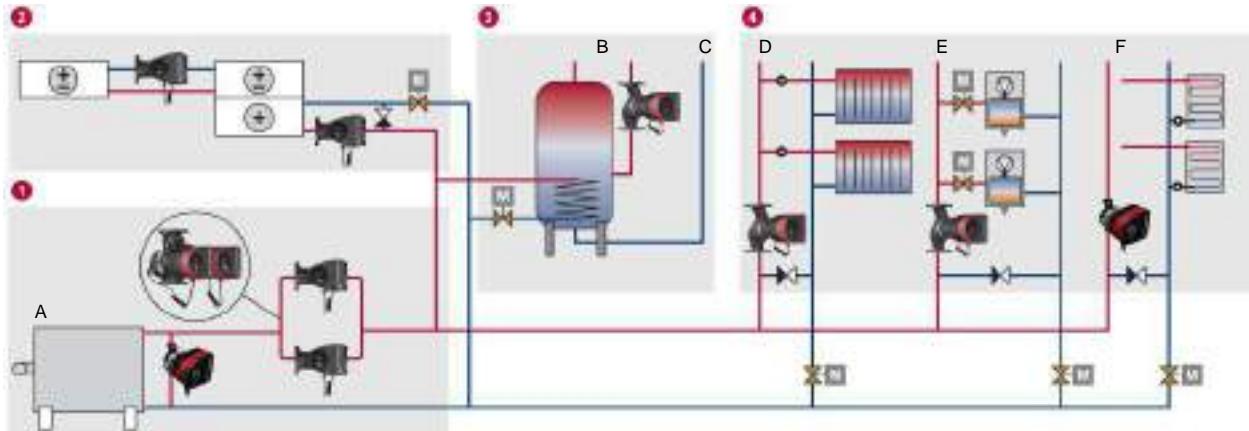
Fig. 8 Example of typical building management system (BMS)

Note: A gateway is a device that facilitates the transfer of data between two different networks based on different communication protocols.

3. Functions

System application

Heating systems



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Fig. 9 Functional drawing of a heating system in a commercial building

| Pos. | Description |
|------|---------------------------|
| 1 | Main pumps |
| A | Boiler |
| 2 | Air handler heating coils |
| 3 | Domestic hot water |
| B | Hot-water circulation |
| C | Cold water |
| 4 | Mixing loops |
| D | Radiators |
| E | Fan coils |
| F | Underfloor heating |

Main pumps

Due to variations in the heat demand and water flow rate, we always recommend that you use speed-controlled MAGNA3 pumps in a heating system, either single-head pumps connected in parallel or twin-head pumps. Single-head pumps connected in parallel have several advantages. In alternating operation, each pump is sized for 100 % flow. In this operating mode, the second pump functions as backup for higher reliability. As the pumps alternate, an equal number of operating hours is ensured. Cascade operation of pumps connected in parallel meets demands in high-flow systems with low differential temperature (Δt), and 50 % backup is ensured at the same time.

The twin-head pump saves installation time and costs. By speed-controlling all pumps, it is possible to obtain maximum energy saving as the pumps will run at their best efficiency point (BEP).

In a variable-flow system, we recommend that you control the main pump in AUTO_{ADAPT} or proportional-pressure

However, if a load (e.g. a radiator) is far from the pump, it can be advantageous to install a differential pressure sensor across this load and use a setpoint for differential pressure."

By using the FLOW_{ADAPT} function to ensure correct balancing of the system, the need for pump throttling valves can be reduced significantly.

The built-in heat energy monitor allows monitoring of the heat energy consumption in the system only for optimisation purposes.

Air handler heating coils

The performance of heating surfaces is controlled by the heating-water temperature and flow. For this purpose, we recommend that you install variable-flow mixing loops at the heating surfaces. A speed-controlled mixing-loop pump is ideal for adaptation to the varying load in a heating surface. In this case, MAGNA3 will have full authority, making external pump throttling valves superfluous.

Domestic hot water

For domestic hot-water circulation, the constant-temperature control mode will ensure a constant temperature in the recirculation pipe, without the use of separate thermostatic valves, thus obtaining the maximum comfort.

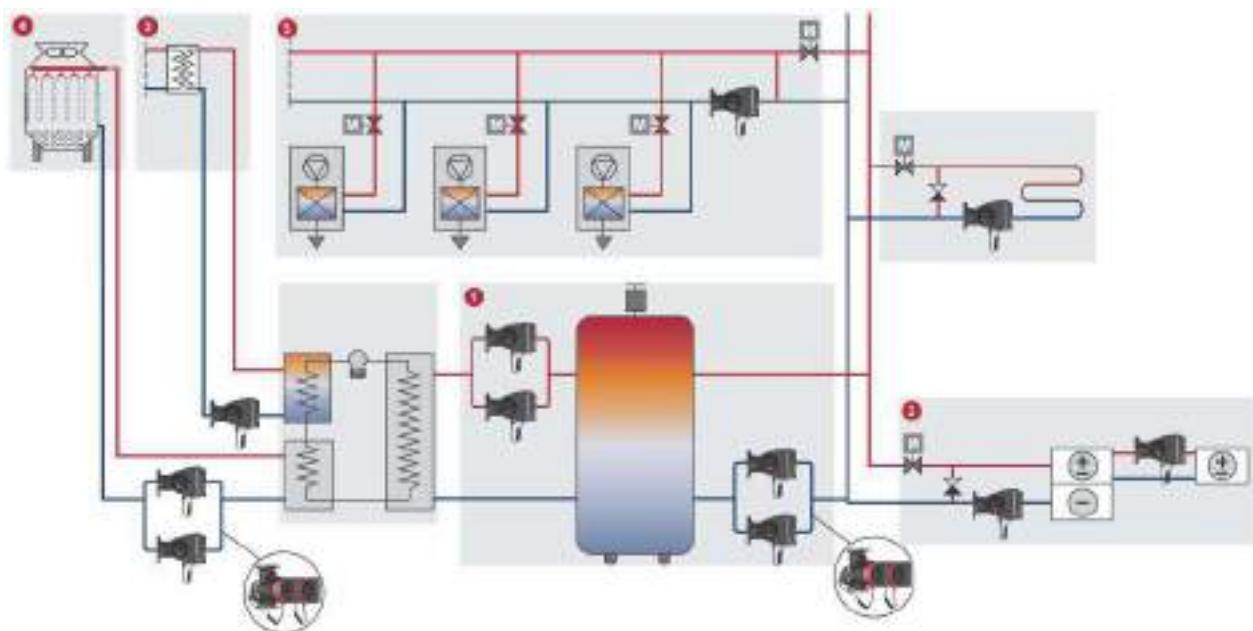
Mixing loops

Due to variations in use, flow temperature and heat demand in different parts of the building, the heating system should be divided into zones controlled by independent mixing loops. Due to the flow variations, a speed-controlled mixing-loop pump will have the authority in the system. This will help obtain a better hydraulic balance in the total system. Speed control of the pump via selection of a control mode, depending on system application, ensures maximum energy saving. See section [Selection of control mode](#), page 15.

Advantages of using mixing loops:

- Reduced excessive differential pressure in the system and hereby reduced risk of overflow.
- Increased control ability as the loop is provided with the exact flow and temperature demand.

Cooling systems



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Fig. 10 Functional drawing of a cooling system in a commercial building

| Pos. | Description |
|------|-----------------------------|
| 1 | Primary and secondary pumps |
| 2 | Air handler cooling coils |
| 3 | Heat recovery system |
| 4 | Cooling tower |
| 5 | Mixing loops |

Primary and secondary pumps

Due to variations in the cooling demand and water flow rate, we recommend that you use speed-controlled MAGNA3 pumps in a cooling system, either single-head pumps connected in parallel or twin-head pumps. Single-head pumps connected in parallel have several advantages. In alternating operation, each pump is sized for 100 % flow. In this operating mode, the second pump functions as backup for higher reliability. As the pumps alternate, an equal number of operating hours is ensured. Cascade operation of pumps connected in parallel meets demands in high-flow systems with low differential temperature (Δt), and 50 % backup is ensured at the same time. The twin-head pump saves installation time and costs. By speed-controlling all pumps, you can obtain maximum energy saving as the pumps will run at their best efficiency point (BEP).

In a variable-flow system, we recommend that you control secondary pumps in AUTO_{ADAPT} or proportional-pressure mode with a differential-pressure sensor in the flow pipe with the lowest pressure. This ensures maximum energy saving.

The built-in heat energy monitor allows monitoring of the heat energy consumption in the system.

Air handler cooling coils

The performance of cooling surfaces is controlled by the cooling-water temperature and flow. For this purpose, we recommend that you install variable-flow mixing loops at the cooling surfaces. A speed-controlled mixing-loop pump is ideal for adaptation to the varying load in a cooling surface. In this case, MAGNA3 will have full authority, making external pump throttling valves superfluous. The FLOW_{LIMIT} ensures that the rated flow is never exceeded.

Heat recovery system

The heat recovery system is of paramount importance for the overall energy efficiency of an air-conditioning or cooling system. Due to high load and temperature variations in the system, it is important to use variable-speed pumps in a heat recovery system.

Cooling tower

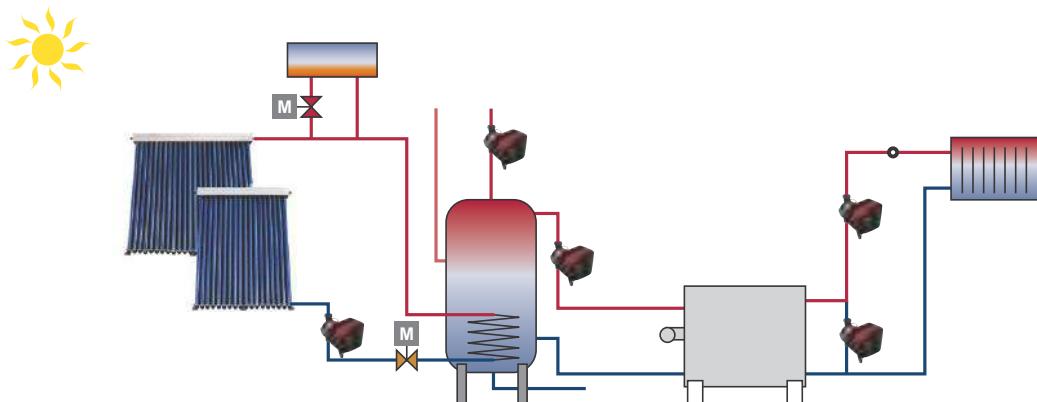
Due to chiller load variations and changes in the temperature and moisture of the ambient air, the cooling-tower flow rate is continuously changing. In order to achieve maximum energy saving, cooling-tower pumps have to be able to adapt to these varying conditions. The pumps are controlled by a temperature setpoint which is measured at the condenser of the chiller. In this system, MAGNA3 will have full authority, making pump throttling valves superfluous. The FLOW_{LIMIT} ensures that the rated flow is never exceeded.

Mixing loops

Due to the risk of condensation, the flow temperature through a cooling ceiling or floor must never be lower than the dew point temperature of the indoor air. The dew point temperature is varying due to variations in indoor moisture load and outdoor thermal conditions. The result is that the cooling-water setpoint has to be controlled. A mixing loop is ideal for obtaining the correct temperature in order to adapt to the varying setpoint.

Due to continuous cooling-load variations in the building cooling zones, the cooling performance in cooling ceilings and floors is controlled by motor valves via zone control units, and therefore you should always use a speed-controlled mixing-loop pump.

Solar-heating systems



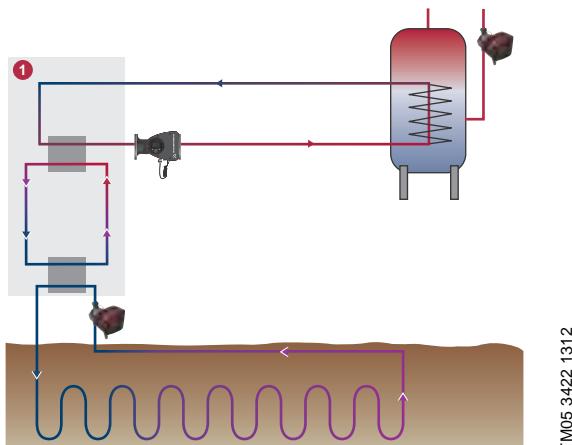
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Fig. 11 Functional drawing of a solar-heating system

Main pumps

Solar-heating systems operate with very low flows compared to other heating systems, however, with relatively large pressure losses. With a conventional circulator pump, the flow must be controlled with a valve resulting in a significantly higher power consumption. To achieve major reductions in energy consumption, MAGNA3 is optimised with the FLOW_{ADAPT} / FLOW_{LIMIT} control mode for operation specifically under these conditions.

Ground source heat pump systems (GSHP)



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Fig. 12 Ground source heat pump system in a commercial building

| Pos. | Description |
|------|-------------|
| 1 | Heat pump |

Main pumps

MAGNA3 is optimised for operation as circulator pump in a closed-loop pipe system which is buried in the ground and filled with a mixture of water and antifreeze. MAGNA3 is therefore ideal for large ground source heat pump systems for commercial buildings. MAGNA3 is designed for pumping liquids down to -10 °C. The pump can use all known antifreeze compositions.

It is important to note that all components are highly energy-efficient. No other circulator pump performs better in GSHP systems than MAGNA3 with the FLOW_{ADAPT} control mode.

Use the benefit of the inputs/outputs of MAGNA3 to control the pump together with the heat pump.

Installation and commissioning

When installing MAGNA3, no external pressure sensor or motor protection is required. Installation is simple thanks to the built-in differential-pressure and temperature sensor, which enables proportional-pressure control without the installation of a sensor in the system.

In systems where a differential pressure is desired at a certain point of the system, you must install an external pressure sensor. See section [Differential-pressure and temperature sensor](#) on page 34.

Pump selection is based on the required flow and calculated pressure losses. We recommend that you do not oversize the pump as it will lead to unnecessarily high energy consumption.

MAGNA3 features the FLOW_{LIMIT} function. In circuits where MAGNA3 has full authority, the need for external pump throttling valves is reduced. The FLOW_{LIMIT} ensures that the rated flow is never exceeded.

Selection of control mode

System application

Select this control mode

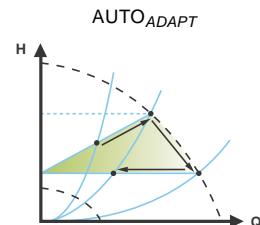
AUTO_{ADAPT}

Recommended for most heating systems, especially in systems with relatively large pressure losses in the distribution pipes. See description under proportional pressure.

In replacement situations where the proportional-pressure duty point is unknown.

The duty point has to be within the AUTO_{ADAPT} operating range. During operation, the pump automatically makes the necessary adjustment to the actual system characteristic.

This setting ensures minimum energy consumption and noise level from valves, which reduces operating costs and increases comfort.



FLOW_{ADAPT}

The FLOW_{ADAPT} control mode is a combination of AUTO_{ADAPT} and FLOW_{LIMIT}.

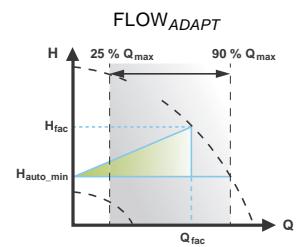
This control mode is suitable for systems where a maximum flow limit, FLOW_{LIMIT}, is desired. The pump continuously monitors and adjusts the flow, thus ensuring that the selected FLOW_{LIMIT} is not exceeded.

Main pumps in boiler applications where a steady flow through the boiler is required. No extra energy is used for pumping too much liquid into the system.

In systems with mixing loops, you can use the control mode to control the flow in each loop.

Benefits:

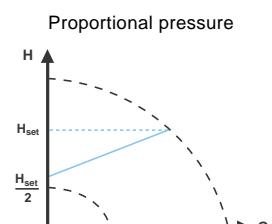
- The dimensioned flow for each zone (required heat energy) is determined by the flow from the pump. This flow can be set precisely in the FLOW_{ADAPT} control mode without the use of pump throttling valves.
- When the flow is set lower than the balancing valve setting, the pump will ramp down instead of losing energy by pumping against a balancing valve.
- Cooling surfaces in air-conditioning systems can operate at high pressure and low flow.
- **Note:** The pump cannot reduce the flow on the inlet side, but is able to control that the flow on the outlet side is at least the same as on the inlet side. This is due to the fact that the pump has no built-in valve.



Proportional pressure

In systems with relatively large pressure losses in the distribution pipes and in air-conditioning and cooling systems:

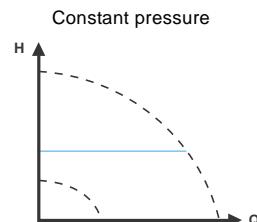
- Two-pipe heating systems with thermostatic valves and the following:
 - very long distribution pipes
 - strongly throttled pipe balancing valves
 - differential-pressure regulators
 - large pressure losses in those parts of the system where the total quantity of water flows (for example boiler, heat exchanger and distribution pipe up to the first branching).
- Primary circuit pumps in systems with large pressure losses in the primary circuit.
- Air-conditioning systems with the following:
 - heat exchangers (fan coils)
 - cooling ceilings
 - cooling surfaces.



System application**Select this control mode****Constant pressure**

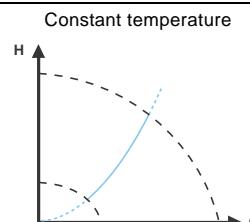
In systems with relatively small pressure losses in the distribution pipes:

- Two-pipe heating systems with thermostatic valves:
 - dimensioned for natural circulation
 - small pressure losses in those parts of the system where the total quantity of water flows (for example boiler, heat exchanger and distribution pipe up to the first branching)
 - modified to a high differential temperature between flow pipe and return pipe (for example district heating).
- Underfloor heating systems with thermostatic valves.
- One-pipe heating systems with thermostatic valves or pipe balancing valves.
- Primary circuit pumps in systems with small pressure losses in the primary circuit.

**Constant temperature**

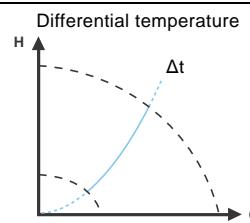
In heating systems with a fixed system characteristic, for example domestic hot-water systems, the control of the pump according to a constant return-pipe temperature may be relevant.

You can use $FLOW_{LIMIT}$ with advantage to control the maximum circulation flow.

**Differential temperature**

Select this control mode if the pump performance is to be controlled according to a differential temperature in the system where the pump is installed.

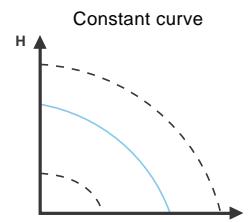
This control mode requires two temperature sensors, the internal temperature sensor together with an external sensor.

**Constant curve**

If an external controller is installed, the pump is able to change from one constant curve to another, depending on the value of the external signal.

You can also set the pump to operate according to the maximum or minimum curve, like an uncontrolled pump:

- You can use the maximum curve mode in periods where a maximum flow is required. This operating mode is for instance suitable for hot-water priority.
- You can use the minimum curve mode in periods where a minimum flow is required. This operating mode is for instance suitable for manual night setback if automatic night setback is not desired.

**Multipump setup**

In systems with pumps operating in parallel.

The multipump function enables the control of single-head pumps connected in parallel (two pumps) and twin-head pumps without the use of external controllers.

The pumps in a multipump system communicate with each other via the wireless GENlair connection.

Assist menu
Multi-pump setup

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Operating modes

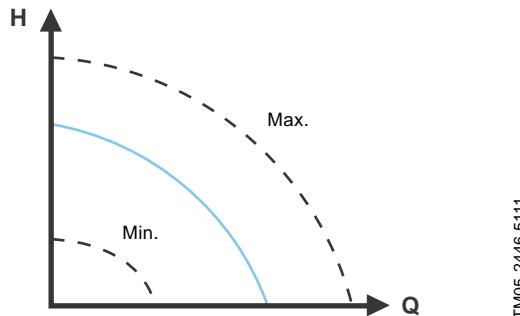


Fig. 13 Maximum and minimum curves

Normal: The pump runs according to the selected control mode.

Note: You can select the control mode and setpoint even if the pump is not running in Normal mode.

Stop: The pump stops.

Min.: You can use the minimum curve mode in periods in which a minimum flow is required.

This operating mode is for instance suitable for manual night setback if automatic night setback is not desired.

Max.: You can use the maximum curve mode in periods in which a maximum flow is required.

This operating mode is for instance suitable for hot-water priority.

You can select the normal, stop, min. and max. operating modes directly by use of the built-in digital inputs. See section [Connection to power supply, terminal-connected versions](#), page 40.

Control modes

Factory setting

The pumps have been factory-set to AUTO_{ADAPT} without automatic night setback.

The setpoint has been factory-set. See section [Setting values for control modes](#), page 23.

The factory setting is suitable for most installations.

Note: When switched on via the power supply, the pump will start in AUTO_{ADAPT} after approx. 5 seconds.

If the buttons on the control panel are not touched for 15 minutes, the display will go into sleep mode. When a button is touched, the Home display will appear.

AUTO_{ADAPT}

Recommended for most heating systems.

During operation, the pump automatically makes the necessary adjustment to the actual system characteristic.

This setting ensures minimum energy consumption and noise level from valves which reduces operating costs and increases comfort.

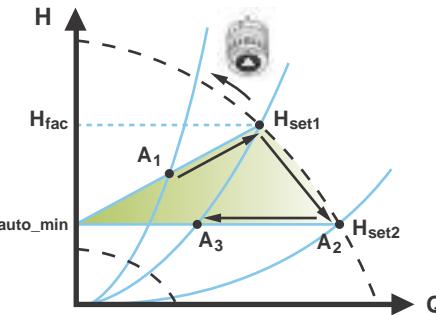


Fig. 14 AUTO_{ADAPT} control

Note: Manual setting of the setpoint is not possible.

When you have enabled the AUTO_{ADAPT} control mode, the pump will start with the factory setting, $H_{fac} = H_{set1}$, corresponding to approx. 55 % of its maximum head, and then adjust its performance to A₁. See fig. 14.

When the pump registers a lower head on the maximum curve, A₂, the AUTO_{ADAPT} function automatically selects a correspondingly lower control curve, H_{set2} .

If the valves in the system close, the pump adjusts its performance to A₃.

A₁: Original duty point.

A₂: Lower registered head on the max. curve.

A₃: New duty point after AUTO_{ADAPT} control.

H_{set1} : Original setpoint setting.

H_{set2} : New setpoint after AUTO_{ADAPT} control.

H_{fac} : See page 23.

H_{auto_min} : A fixed value of 1.5 m.

The AUTO_{ADAPT} control mode is a form of proportional-pressure control where the control curves have a fixed origin, H_{auto_min} .

The AUTO_{ADAPT} control mode has been developed specifically for heating systems and we do not recommend it for air-conditioning and cooling systems.

FLOW_{ADAPT}

The typical pump selection is based on the required flow and calculated pressure losses. The pump is typically oversized by 30 to 40 % to ensure that it can overcome the pressure losses in the system. Under these conditions, the full benefit of AUTO_{ADAPT} cannot be obtained.

To adjust the maximum flow of this "oversized" pump, balancing valves are built into the circuit to increase the resistance and thus reduce the flow. The FLOW_{ADAPT} function reduces the need for a pump throttling valve.

Note: This function cannot eliminate the need for balancing valves in heating systems.

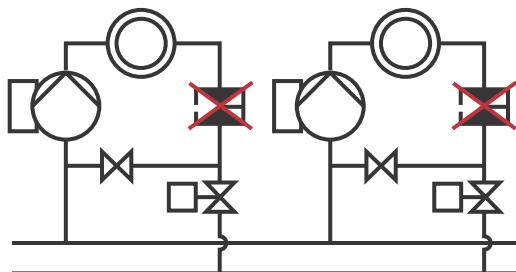


Fig. 15 Reduced need for a pump throttling valve

The FLOW_{ADAPT} control mode combines a control mode and a function:

- The pump is running AUTO_{ADAPT}.
- The flow will never exceed a selected FLOW_{LIMIT} value which reduces the need for a pump throttling valve connected in series with the pump.

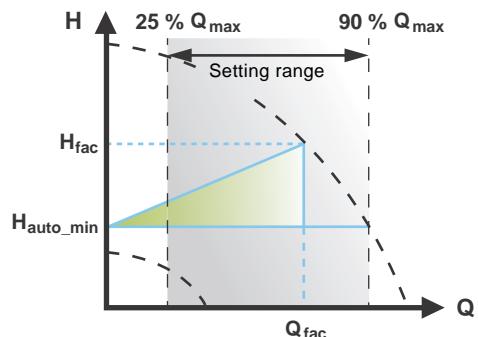


Fig. 16 FLOW_{ADAPT} control

If you select FLOW_{ADAPT}, the pump will run AUTO_{ADAPT} and ensure that the flow never exceeds the entered FLOW_{LIMIT} value.

The factory setting of the FLOW_{ADAPT} is the flow where the AUTO_{ADAPT} factory setting meets the maximum curve. See fig. 16 and section [Selection of control mode](#), page 15.

Proportional pressure

This control mode is used in systems with relatively large pressure losses in the distribution pipes. The head of the pump will increase proportionally to the flow in the system to compensate for the large pressure losses in the distribution pipes.

The head against a closed valve is half the setpoint H_{set}:

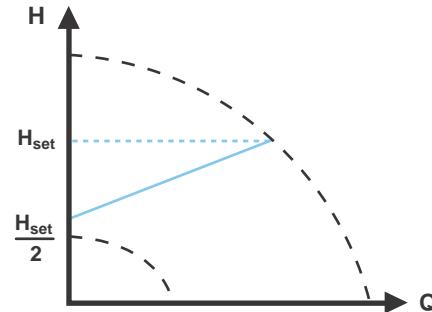


Fig. 17 Proportional-pressure control

Constant pressure

We recommend this control mode in systems with relatively small pressure losses.

The pump head is kept constant, independent of the flow in the system.

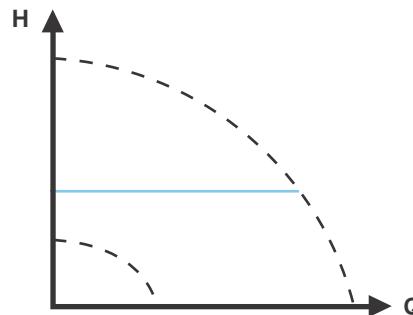


Fig. 18 Constant-pressure control

Differential temperature

The differential-temperature control mode is available from model B. The model version is stated on the nameplate. See fig. 19.



Fig. 19 Production code on nameplate

This control mode ensures a constant differential temperature drop across heating and cooling systems. In this control mode, the pump will maintain a constant differential temperature between the pump and the external sensor. See figures 20 and 21.

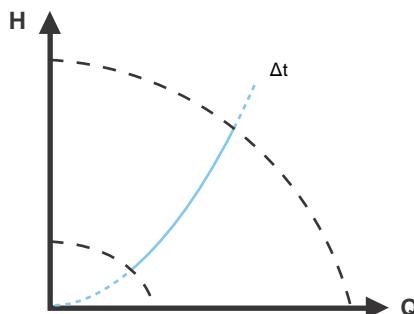


Fig. 20 Differential temperature

TM05 8798 3216

TM05 2451 5111

Temperature sensor

If the pump is installed in the flow pipe, you can use the internal temperature sensor. Install an external temperature sensor in the return pipe of the system. Install the sensor as close as possible to the consumer (radiator, heat exchanger, etc.). See fig. 21.

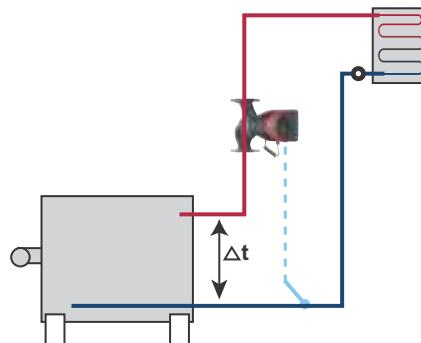


Fig. 21 Differential temperature

TM05 8236 2113

Constant temperature

In heating systems with a fixed system characteristic, for example domestic hot-water systems, the control of the pump according to a constant return-pipe temperature is relevant.

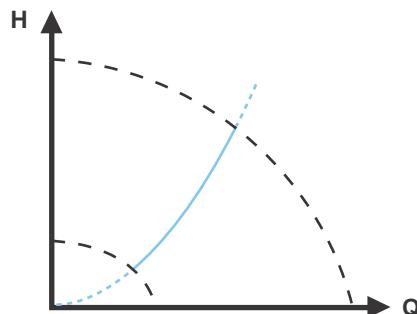


Fig. 22 Constant-temperature control

TM05 2451 5111

The inverse control for cooling application is available from model B.

Temperature sensor

If the pump is installed in the flow pipe, install an external temperature sensor in the return pipe of the system. See fig. 23. Install the sensor as close as possible to the consumer (radiator, heat exchanger, etc.).

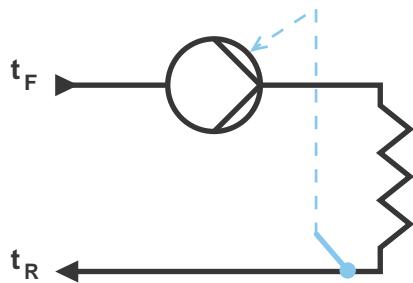


Fig. 23 Pump with external sensor

If the pump is installed in the return pipe of the system, you can use the internal temperature sensor. In this case, install the pump as close as possible to the consumer (radiator, heat exchanger, etc.).

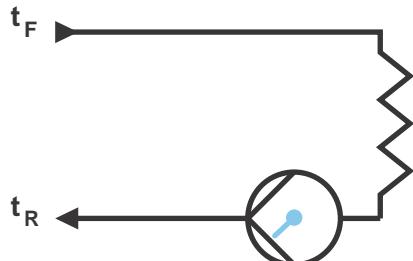


Fig. 24 Pump with internal sensor

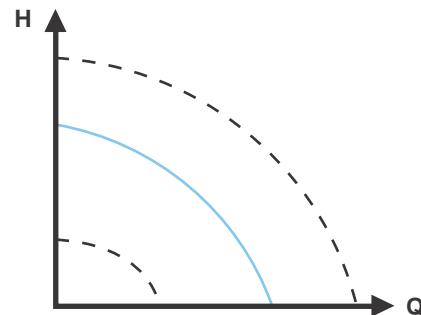
Constant curve

The pump can be set to operate according to a constant curve, like an uncontrolled pump. See fig. 25.

You can set the desired speed in % of the maximum speed in the range from minimum to 100 %.

Depending on the pump model, you can set the desired speed in % of the maximum speed. The span of control depends on the minimum speed, power and pressure limitation of the pump.

TM05 2615 0312

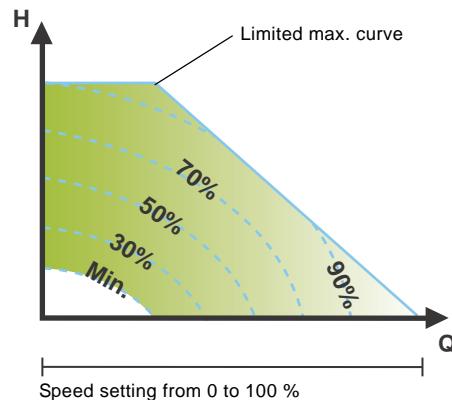


TM05 2446 5111

Fig. 25 Constant-curve duty

Note: If the pump speed is set in the range between minimum and maximum, the power and pressure are limited when the pump is running on the maximum curve. This means that the maximum performance can be achieved at a speed lower than 100 %. See fig. 26.

TM05 2616 0312



TM05 4266 2212

Fig. 26 Power and pressure limitations influencing the maximum curve

You can also set the pump to operate according to the maximum or minimum curve, like an uncontrolled pump:

- You can use the maximum curve mode in periods in which a maximum flow is required. This operating mode is for instance suitable for hot-water priority.
- You can use the minimum curve mode in periods in which a minimum flow is required. This operating mode is for instance suitable for manual night setback if automatic night setback is not desired.

You can select these two operating modes via the digital inputs.

In the control mode constant curve, you can obtain constant flow by choosing a setpoint at 100 % and choosing the desired value for the flow with the flow limit function FLOW_{LIMIT}. Take the accuracy of the flow estimation into consideration.

Additional features for control modes

MAGNA3 offers additional features for the control modes to meet specific demands.

FLOW_{LIMIT}

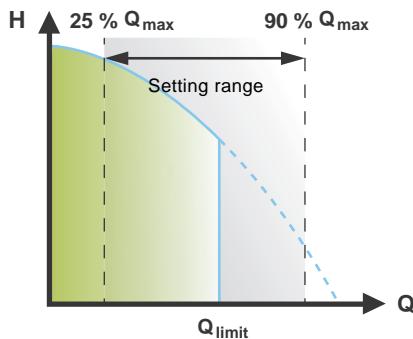


Fig. 27 FLOW_{LIMIT}

The setting range for the FLOW_{LIMIT} is 25 to 90 % of the Q_{\max} of the pump.

Note: Do not set the FLOW_{LIMIT} lower than the dimensioned duty point.

The FLOW_{LIMIT} function offers the possibility of limiting the maximum flow delivered by the pump.

You can enable the FLOW_{LIMIT} function when the pump is in one of the following control modes:

- proportional pressure
- constant pressure
- constant temperature
- constant curve.

In the flow range between 0 and Q_{limit} , the pump will run according to the selected control mode.

When Q_{limit} is reached, the FLOW_{LIMIT} function will reduce the pump speed to ensure that the flow never exceeds the FLOW_{LIMIT} set, no matter if the system requires a higher flow due to a reduced resistance in the system. See fig. 28, 29 or 30.

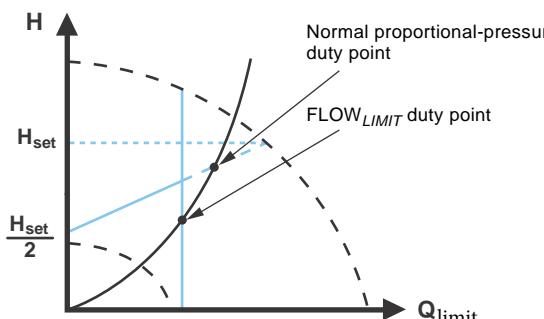


Fig. 28 Proportional-pressure control with FLOW_{LIMIT}

TM05 25445 1312

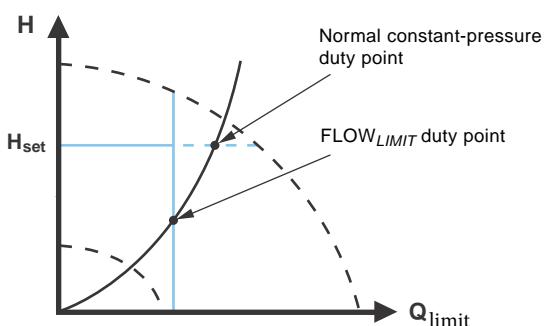


Fig. 29 Constant-pressure control with FLOW_{LIMIT}

TM05 2444 0312

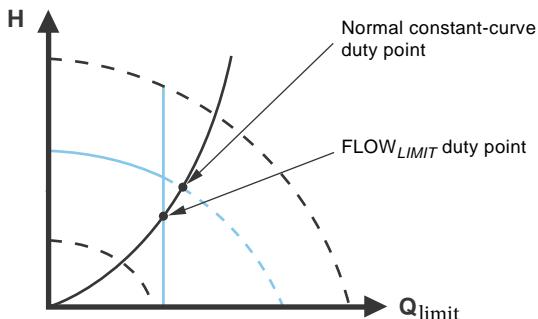


Fig. 30 Constant curve with FLOW_{LIMIT}

TM05 2542 0412

For additional information about FLOW_{LIMIT}, see MAGNA3 with FLOW_{LIMIT} on Grundfos.com

Automatic night setback

Once you have enabled automatic night setback, the pump automatically changes between normal duty and night setback (duty at low demand).

When you have enabled automatic night setback, the pump will run on the minimum curve.

Changeover between normal duty and night setback depends on the flow-pipe temperature.

The pump automatically changes to night setback when the built-in sensor registers a flow-pipe temperature drop of more than 10 to 15 °C within approx. two hours. The temperature drop must be at least 0.1 °C/min.

Changeover to normal duty takes place without time lag when the temperature has increased by approx. 10 °C.

Note: You cannot enable automatic night setback when the pump is in constant-curve mode.

Setting values for control modes

The flow values for FLOW_{ADAPT} and FLOW_{LIMIT} are indicated as percent of Q_{max}, but the value has to be entered in m³/h in the Settings menu.

Q_{max} is a theoretical value corresponding to H = 0. The actual Q_{max} is depending on the system characteristics.

| Pump type | AUTO _{ADAPT} H _{fac} | Q _{max} | FLOW _{ADAPT} / FLOW _{LIMIT} | |
|---------------------------|---|---------------------|---|-----------------------|
| | | | Q _{fac limit} | Q _{max} 90 % |
| | [m] | [m ³ /h] | [m ³ /h] | [m ³ /h] |
| MAGNA3 25-40 (N) | 2.5 | 8 | 3.7 | 7.2 |
| MAGNA3 25-60 (N) | 3.5 | 10 | 5.0 | 9.0 |
| MAGNA3 25-80 (N) | 4.5 | 11 | 5.5 | 9.9 |
| MAGNA3 25-100 (N) | 5.5 | 12 | 6.1 | 10.8 |
| MAGNA3 25-120 (N) | 6.5 | 13 | 6.2 | 11.7 |
| MAGNA3 (D) 32-40 (F) (N) | 2.5 | 9 | 5.0 | 8.1 |
| MAGNA3 (D) 32-60 (F) (N) | 3.5 | 11 | 5.9 | 9.9 |
| MAGNA3 (D) 32-80 (F) (N) | 4.5 | 12 | 6.4 | 10.8 |
| MAGNA3 (D) 32-100 (F) (N) | 5.5 | 13 | 6.7 | 11.7 |
| MAGNA3 32-120 (N) | 6.5 | 13 | 6.2 | 11.7 |
| MAGNA3 (D) 32-120 F (N) | 6.5 | 23 | 12.0 | 20.7 |
| MAGNA3 (D) 40-40 F (N) | 2.5 | 16 | 7.5 | 14.4 |
| MAGNA3 (D) 40-60 F (N) | 3.5 | 19 | 10.5 | 17.1 |
| MAGNA3 (D) 40-80 F (N) | 4.5 | 22 | 13.0 | 19.8 |
| MAGNA3 (D) 40-100 F (N) | 5.5 | 24 | 15.0 | 21.6 |
| MAGNA3 (D) 40-120 F (N) | 6.5 | 29 | 16.0 | 26.1 |
| MAGNA3 (D) 40-150 F (N) | 8.0 | 32 | 18.0 | 28.8 |
| MAGNA3 (D) 40-180 F (N) | 9.5 | 32 | 15.0 | 28.8 |
| MAGNA3 (D) 50-40 F (N) | 2.5 | 22 | 13.0 | 19.8 |
| MAGNA3 (D) 50-60 F (N) | 3.5 | 29 | 17.0 | 26.1 |
| MAGNA3 (D) 50-80 F (N) | 4.5 | 31 | 17.0 | 27.9 |
| MAGNA3 (D) 50-100 F (N) | 5.5 | 34 | 18.0 | 30.6 |
| MAGNA3 (D) 50-120 F (N) | 6.5 | 39 | 19.0 | 35.1 |
| MAGNA3 (D) 50-150 F (N) | 8.0 | 42 | 20.0 | 37.8 |
| MAGNA3 (D) 50-180 F (N) | 9.5 | 45 | 19.0 | 40.5 |
| MAGNA3 (D) 65-40 F (N) | 2.5 | 33 | 18.0 | 29.7 |
| MAGNA3 (D) 65-60 F (N) | 3.5 | 40 | 24.0 | 36 |
| MAGNA3 (D) 65-80 F (N) | 4.5 | 45 | 25.0 | 40.5 |
| MAGNA3 (D) 65-100 F (N) | 5.5 | 48 | 26.0 | 43.2 |
| MAGNA3 (D) 65-120 F (N) | 6.5 | 52 | 30.0 | 46.8 |
| MAGNA3 (D) 65-150 F (N) | 8.0 | 61 | 40.0 | 54.9 |
| MAGNA3 (D) 80-40 F | 2.5 | 49 | 32.0 | 44.1 |
| MAGNA3 (D) 80-60 F | 3.5 | 58 | 37.0 | 52.2 |
| MAGNA3 (D) 80-80 F | 4.5 | 66 | 40.0 | 59.4 |
| MAGNA3 (D) 80-100 F | 5.5 | 69 | 47.0 | 62.1 |
| MAGNA3 (D) 80-120 F | 6.5 | 74 | 48.0 | 66.6 |
| MAGNA3 (D) 100-40 F | 2.5 | 55 | 40.0 | 49.5 |
| MAGNA3 (D) 100-60 F | 3.5 | 63 | 43.0 | 56.7 |
| MAGNA3 (D) 100-80 F | 4.5 | 73 | 50.0 | 65.7 |
| MAGNA3 (D) 100-100 F | 5.5 | 79 | 52.0 | 71.1 |
| MAGNA3 (D) 100-120 F | 6.5 | 85 | 57.0 | 76.5 |

The duty ranges for proportional-pressure and constant-pressure control appear from the individual data sheet.

Constant curve duty: You can control the pump from minimum to 100 %. The span of control depends on the minimum speed, power and pressure limitation of the pump model.

Flow estimation accuracy

The internal sensor estimates the difference in pressure between the inlet and outlet port of the pump. The measurement is not a direct differential-pressure measurement, but by knowing the hydraulic design of the pump, you can estimate the differential pressure across the pump. The speed and power are also used to give a direct estimation of the current duty point in which the pump is running.

The calculated flow rate has an accuracy specified as $\pm xx\%$ of Q_{max} . The less flow through the pump, the less accurate the reading will be. See also section "Heat energy monitor" on page 28.

Example:

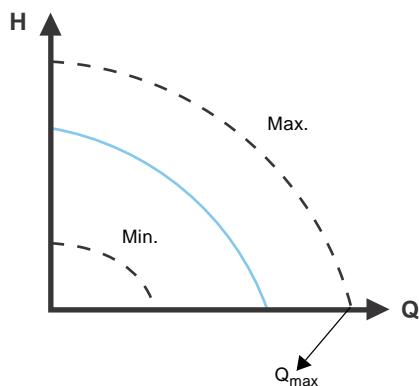


Fig. 31 Q_{max}

1. MAGNA3 65-60 has a Q_{max} of $40 \text{ m}^3/\text{h}$. Typical 5 % accuracy means $2 \text{ m}^3/\text{h}$ inaccuracy of $Q_{max} \cdot \pm 2 \text{ m}^3/\text{h}$.
2. This accuracy is valid for the entire QH area. If the pump indicates $10 \text{ m}^3/\text{h}$, the measurement is: $10 \pm 2 \text{ m}^3/\text{h}$.
3. Flow can be from $8-12 \text{ m}^3/\text{h}$.

Note: Use of a water/ethylene glycol mixture will decrease the accuracy.

TM 05 2448 5111

Pump heads in twin-head pumps

The twin-head pump housing has a flap valve on the outlet side. The flap valve seals off the port of the idle pump housing to prevent the pumped liquid from running back to the inlet side. See fig. 32. Due to the flap valve there is a difference in the hydraulic between the two heads. See fig. 33.



TM06 1565 2514

Fig. 32 Twin-head pump housing with flap valve

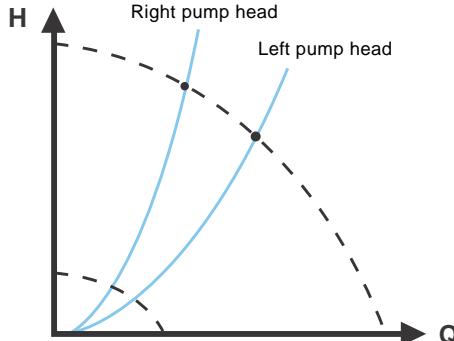


Fig. 33 Hydraulic difference between the two heads

TM06 1566 2514

The table below shows the flow accuracy of the complete MAGNA3 range. The calculations are based on a single pump at 5 % or 10 % of Q_{max}, or a twin pump with a right side pump head at 7 % or 12 % of Q_{max}.

| Pump type | Q _{max} [m ³ /h] | Single pumps and left side pump head on twin-head pumps accuracy | | Right side pump head on twin-head pumps accuracy | |
|---------------------------|---|---|--|---|--|
| | | 5 % typical [m ³ /h] | 10 % worst case [m ³ /h] | 7 % typical [m ³ /h] | 12 % worst case [m ³ /h] |
| | | | | | |
| MAGNA3 25-40 (N) | 8 | 0.4 | 0.8 | - | - |
| MAGNA3 25-60 (N) | 10 | 0.5 | 1.0 | - | - |
| MAGNA3 25-80 (N) | 11 | 0.55 | 1.1 | - | - |
| MAGNA3 25-100 (N) | 12 | 0.6 | 1.2 | - | - |
| MAGNA3 25-120 (N) | 13 | 0.65 | 1.3 | - | - |
| MAGNA3 (D) 32-40 (F) (N) | 9 | 0.45 | 0.9 | 0.63 | 1.08 |
| MAGNA3 (D) 32-60 (F) (N) | 11 | 0.55 | 1.1 | 0.77 | 1.32 |
| MAGNA3 (D) 32-80 (F) (N) | 12 | 0.6 | 1.2 | 0.84 | 1.44 |
| MAGNA3 (D) 32-100 (F) (N) | 13 | 0.65 | 1.3 | 0.91 | 1.56 |
| MAGNA3 32-120 (N) | 13 | 0.65 | 1.3 | - | - |
| MAGNA3 (D) 32-120 F (N) | 23 | 1.15 | 2.3 | 1.61 | 2.76 |
| MAGNA3 (D) 40-40 F (N) | 16 | 1.3 | 1.6 | 1.12 | 1.92 |
| MAGNA3 (D) 40-60 F (N) | 19 | 1.45 | 1.9 | 1.33 | 2.28 |
| MAGNA3 (D) 40-80 F (N) | 22 | 1.1 | 2.2 | 1.54 | 2.64 |
| MAGNA3 (D) 40-100 F (N) | 24 | 1.2 | 2.4 | 1.68 | 2.88 |
| MAGNA3 (D) 40-120 F (N) | 29 | 1.45 | 2.9 | 2.03 | 3.48 |
| MAGNA3 (D) 40-150 F (N) | 32 | 1.6 | 3.2 | 2.24 | 3.84 |
| MAGNA3 (D) 40-180 F (N) | 32 | 1.6 | 3.2 | 2.24 | 3.84 |
| MAGNA3 (D) 50-40 F (N) | 22 | 1.1 | 2.2 | 1.54 | 2.64 |
| MAGNA3 (D) 50-60 F (N) | 29 | 1.45 | 2.9 | 2.03 | 3.48 |
| MAGNA3 (D) 50-80 F (N) | 31 | 1.55 | 3.1 | 2.17 | 3.72 |
| MAGNA3 (D) 50-100 F (N) | 34 | 1.7 | 3.4 | 2.38 | 4.08 |
| MAGNA3 (D) 50-120 F (N) | 39 | 1.95 | 3.9 | 2.73 | 4.68 |
| MAGNA3 (D) 50-150 F (N) | 42 | 2.1 | 4.2 | 2.94 | 5.04 |
| MAGNA3 (D) 50-180 F (N) | 45 | 2.25 | 4.5 | 3.15 | 5.40 |
| MAGNA3 (D) 65-40 F (N) | 33 | 1.65 | 3.3 | 2.31 | 3.96 |
| MAGNA3 (D) 65-60 F (N) | 40 | 2.0 | 4.0 | 2.80 | 4.80 |
| MAGNA3 (D) 65-80 F (N) | 45 | 2.25 | 4.5 | 3.15 | 5.40 |
| MAGNA3 (D) 65-100 F (N) | 48 | 4.4 | 4.8 | 3.36 | 5.76 |
| MAGNA3 (D) 65-120 F (N) | 52 | 2.6 | 5.2 | 3.64 | 6.24 |
| MAGNA3 (D) 65-150 F (N) | 61 | 3.05 | 6.1 | 4.27 | 7.32 |
| MAGNA3 (D) 80-40 F | 49 | 2.45 | 4.9 | 3.43 | 5.88 |
| MAGNA3 (D) 80-60 F | 58 | 2.9 | 5.8 | 4.06 | 6.96 |
| MAGNA3 (D) 80-80 F | 66 | 3.3 | 6.6 | 4.62 | 7.92 |
| MAGNA3 (D) 80-100 F | 69 | 3.45 | 6.9 | 4.83 | 8.28 |
| MAGNA3 (D) 80-120 F | 74 | 3.7 | 7.4 | 5.18 | 8.88 |
| MAGNA3 (D) 100-40 F | 55 | 2.75 | 5.5 | 3.85 | 6.60 |
| MAGNA3 (D) 100-60 F | 63 | 3.15 | 6.3 | 4.41 | 7.56 |
| MAGNA3 (D) 100-80 F | 73 | 3.65 | 7.3 | 5.11 | 8.76 |
| MAGNA3 (D) 100-100 F | 79 | 3.95 | 7.9 | 5.53 | 9.48 |
| MAGNA3 (D) 100-120 F | 85 | 4.25 | 8.5 | 5.95 | 10.20 |

Additional operating modes for multipump setup

Multipump function

The multipump function enables the control of single-head pumps connected in parallel and twin-head pumps without the use of external controllers. The pumps in a multipump system communicate with each other via the wireless GENlair connection.

Pump system:

- Twin-head pump.
- Two single-head pumps connected in parallel. The pumps must be of equal size and type. Each pump requires a non-return valve in series with the pump.

A multipump system is set up via a selected pump, i.e. the master pump (first selected pump). The multipump functions are described in the following sections.

Alternating operation

Only one pump is operating at a time. The change from one pump to the other depends on time or energy. If a pump fails, the other pump will take over automatically.

Backup operation

One pump is operating continuously. The backup pump is operated at intervals to prevent seizing up. If the duty pump stops due to a fault, the backup pump will start automatically.

Cascade operation

Cascade operation ensures that the pump performance is automatically adapted to the consumption by switching pumps on or off. The system thus runs as energy-efficiently as possible with a constant pressure and a limited number of pumps.

The slave pump will start when the master pump is running at maximum or has a fault, and it will stop again when the master pump is running below 50 %.

Cascade operation is available in constant speed and constant pressure. You can with advantage choose a twin-head pump, as the backup pump will start for a short period in peak-load situations. If you have chosen an oversized single-head pump, it may run outside its best efficiency range most of the time.

All pumps in operation will run at equal speed. Pump changeover is automatic and depends on speed, operating hours and faults.

Readings and settings on the pump

Control panel and display

The MAGNA3 pump features a 4" TFT display with intuitive and user-friendly interface. The control panel has self-explanatory push-buttons made of high-quality silicone for precise navigation in the menu structure. The control panel is designed to give the user quick and easy access to pump and performance data on site.

When you start up the pump for the first time, you are presented with a startup guide enabling easy setting of the pump. Additionally, the Assist menu can guide you through the various settings of the pump.



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Fig. 34 Control panel

| Button | Function |
|--------|---|
| ⌂ | Goes to the Home menu. |
| ↶ | Returns to the previous action. |
| ◀ ▶ | Navigates between main menus, displays and digits. When the menu is changed, the display will always show the top display of the new menu. |
| ^K ^V | Navigates between submenus. |
| OK | Saves changed values, resets alarms and expands the value field. |

Factory setting

The pumps have been factory-set to AUTO_{ADAPT} without automatic night setback.

Startup guide

The startup guide is used for the general settings of the pump. The startup guide runs the first time you connect the pump to the power supply.

Note: If there has been no user action after pump startup, the pump will automatically leave the startup guide after 15 minutes with the language set to English.

You can run the startup guide again in the Settings menu. If the startup guide is run again, all previous settings will be lost.

Home menu

This menu gives an overview of up to four user-defined parameters or a graphical illustration of a QH performance curve.

This menu offers the following factory settings:

- Shortcut to Control mode settings
- Shortcut to Setpoint settings
- Flow rate (estimated flow rate)
- Head.

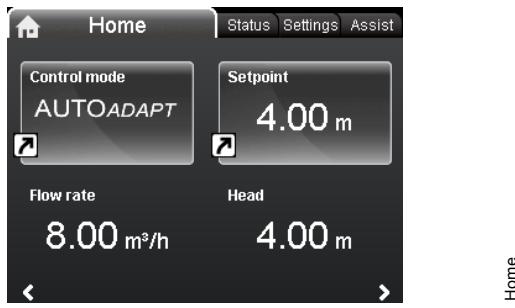


Fig. 35 Home menu

Status menu

This menu shows the status of the pump and system as well as warnings and alarms.

Note: No settings can be made in this menu.

This menu offers the following:

- Operating status
- Pump performance
- Power and energy consumption
- Warning and alarm
- Heat energy meter
- Operating log
- Fitted modules
- Date and time
- Pump identification
- Multi-pump system.

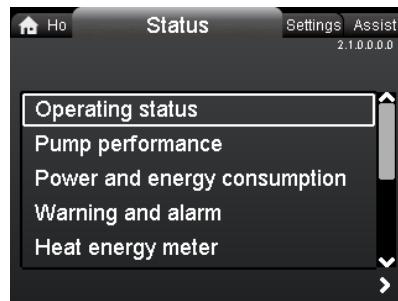


Fig. 36 Status menu

Operating status

Operating status shows the current operating mode and the selected control mode, if any.

Pump performance

Pump performance offers the following:

- QH graph showing current duty point, flow, head, power and liquid temperature.
- "Resulting setpoint" shows the setpoint set on the pump, the external influence and the resulting setpoint.
- Liquid temperature.
- Speed.
- Operating hours.

Warning and alarm

Warning and alarm offers the following:

- Actual warning or alarm, if any.
- Information about when the warning/alarm occurred and disappeared and about corrective actions.
- Warning and alarm logs.

"Heat energy monitor"

"Heat energy monitor" is a monitoring function which makes it possible to track the heat energy distribution and consumption within a system. This prevents excessive energy costs caused by system imbalances. The calculated flow rate has an accuracy specified as $\pm xx\%$ of Q_{max} . The lower the flow through the pump is, the less accurate the reading will be. Furthermore, the temperature measurements needed for the calculation also have some inaccuracy depending on the sensor type. Therefore, you cannot use the heat energy value for billing purposes. However, the value is perfect for optimisation purposes in order to prevent excessive energy costs caused by system imbalances. See also section *Flow estimation accuracy* on page 24.

The pump requires a temperature sensor in the flow pipe or return pipe. This temperature sensor is not supplied with the pump.

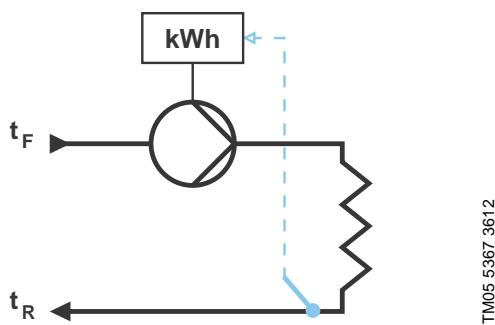


Fig. 37 MAGNA3 with built-in heat energy monitor

Note: MAGNA3 incorporates a calculator for flow and flow-pipe temperature.

For further details, see section *External Grundfos sensors*, page 132.

Operating log

Operating log offers the following:

- Every duty point and the operating conditions are tracked and stored in the pump.
- The 3D work log and duty curve (over time) provide instant overviews of historical pump performance and operating conditions.
- The perfect tool for pump optimisation, replacement and fault finding.

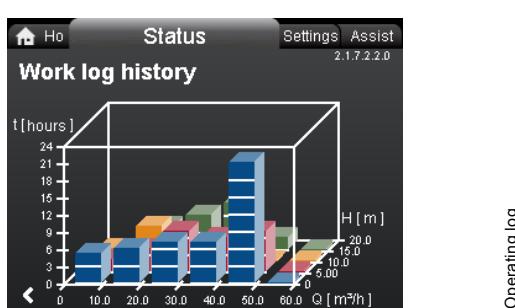


Fig. 38 Example of Operating log

Settings menu

This menu gives access to all setting parameters. You can make a detailed setting of the pump in this menu.

This menu offers the following setting options:

- Setpoint
- Operating mode
- Control mode
- FLOW_{LIMIT}
- Automatic Night Setback
- Relay outputs
- Setpoint influence
- Bus communication
- General settings.

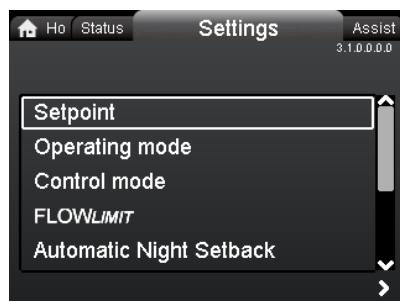


Fig. 39 Settings menu

Assist menu

The Assist menu guides the user through the setup of the pump. In each sub-menu, the user is presented with a guide that assists throughout the setup.

This menu offers the following:

- Step-by-step instructions in how to set up the pump.
 - A short description of the six control modes and recommended applications.
 - Assistance in fault correction.
- Submenus:
- Assisted pump setup
 - Setting of date and time
 - Multi-pump setup
 - Setup, analog input
 - Description of control mode
 - Assisted fault advice.

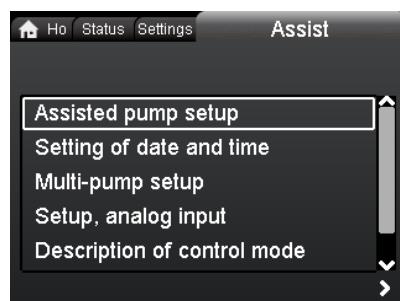
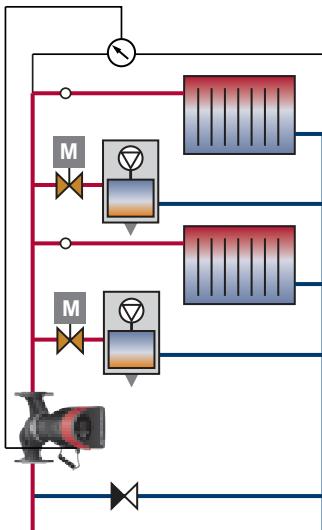


Fig. 40 Assist menu

Input for external sensor

You can use an external differential-pressure sensor to control the flow in the system to obtain the externally set pressure which results in the following benefits:

- Minimises operating costs.
- Prevents valve noise.
- Ensures comfort (enough pressure).



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Fig. 41 External differential-pressure sensor

You can also install a temperature sensor.

For further details, see section *External Grundfos sensors*, page 132.

Grundfos Eye

Grundfos Eye at the top of the control panel is a pump status indicator light providing information about the pump operating status.

The indicator light will flash in different sequences and provide information about the following:

- power on/off
- pump warnings
- pump alarms
- remote control.
- pump running/stopped

The function of Grundfos Eye is described in detail in the installation and operating instructions.

With Grundfos GO you can monitor one or more pumps, change settings, collect data and make reports. A user-friendly interface provides you with all the information and help you need, as well as live pump data monitoring, and easy-to-follow tips and guides. See section *Grundfos GO* on page 30.



net.grundfos.com/qr/i/98091805



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Fig. 42 Grundfos Eye

Communication

MAGNA3 enables communication via the following:

- wireless Grundfos GO
- fieldbus communication via CIM modules
- digital inputs
- relay outputs
- analog input.

Grundfos GO



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Fig. 43 Grundfos GO

MAGNA3 is designed for wireless communication with Grundfos GO.

For more details, see section [Grundfos GO](#), page 131. Grundfos GO offers additional settings and status menus for the pump.

You can use Grundfos GO for the following functions:

- Reading of operating data.
- Reading of warning and alarm indications.
- Setting of control mode.
- Setting of setpoint.
- Selection of external setpoint signal.
- Allocation of pump number making it possible to distinguish between pumps that are connected via Grundfos GENibus.
- Selection of function for digital input.
- Generation of reports (PDF).
- Assist function.
- Multipump setup.
- Displaying relevant documentation.

Wireless GENlair

The pump is designed for multipump connection via the wireless GENlair connection.

The built-in wireless GENlair module enables communication between pumps and with Grundfos GO without the use of add-on modules:

- Multipump function.
See section [Multipump function](#).
- Grundfos GO.
See section [Grundfos GO](#).

CIM modules



TM05 3811 1612

Fig. 44 Grundfos CIM modules

A CIM module is an add-on Communication Interface Module. The CIM module enables data transmission between the pump and an external system, for example a BMS (Building Management System) or SCADA system.

The CIM module communicates via fieldbus protocols. See section [Available CIM modules](#), page 31.

Grundfos Remote Management

Grundfos Remote Management is an easy-to-install, low-cost solution for wireless monitoring and management of Grundfos products. GRM is based on a centrally hosted database and a web server with wireless data collection via GSM/GPRS modem. The system only requires an internet connection, a web browser, a GRM modem and an antenna as well as a contract with Grundfos allowing you to monitor and manage Grundfos pump systems.

You have wireless access to your account anywhere, anytime when you have an internet connection, for example via a smartphone, tablet PC, laptop or computer. Warnings and alarms can be sent by email or SMS to your mobile phone or computer.

For CIM communication interface module and GSM antennas, see section [Grundfos Remote Management](#), page 130.

Available CIM modules

| Module | Fieldbus protocol | Description | Functions |
|---------|----------------------------|---|---|
| CIM 050 | GENIbus | CIM 050 is a Grundfos communication interface module used for communication with a GENIbus network. | CIM 050 has terminals for the GENIbus connection. |
| CIM 100 | LonWorks | CIM 100 is a Grundfos communication interface module used for communication with a LonWorks network. | CIM 100 has terminals for the LonWorks connection. Two LEDs are used to indicate the actual status of the CIM 100 communication. One LED is used for indication of correct connection to the pump, and the other is used to indicate LonWorks communication status. |
| CIM 150 | PROFIBUS DP | CIM 150 is a Grundfos communication interface module used for communication with a PROFIBUS network. | CIM 150 has terminals for the PROFIBUS DP connection. DIP switches are used to set line termination. Two hexadecimal rotary switches are used to set the PROFIBUS DP address. Two LEDs are used to indicate the actual status of the CIM 150 communication. One LED is used for indication of correct connection to the pump, and the other is used to indicate PROFIBUS communication status. |
| CIM 200 | Modbus RTU | CIM 200 is a Grundfos communication interface module used for communication with a Modbus RTU network. | CIM 200 has terminals for the Modbus connection. DIP switches are used to select parity and stop bits, to select transmission speed and to set line termination. Two hexadecimal rotary switches are used to set the Modbus address. Two LEDs are used to indicate the actual status of the CIM 200 communication. One LED is used for indication of correct connection to the pump, and the other is used to indicate Modbus communication status. |
| CIM 250 | GSM/GPRS | CIM 250 is a Grundfos communication interface module used for GSM/GPRS communication. CIM 250 is used to communicate via a GSM network. | CIM 250 has a SIM-card slot and an SMA connection to the GSM antenna. CIM 250 also has an internal backup battery. Two LEDs are used to indicate the actual status of the CIM 250 communication. One LED is used for indication of correct connection to the pump, and the other is used to indicate GSM/GPRS communication status. Note: The SIM card is not supplied with CIM 250. The SIM card from the service provider must support data/fax service to use call service from PC Tool or SCADA. The SIM card from the service provider must support GPRS service to use Ethernet service from PC Tool or SCADA. |
| CIM 270 | Grundfos Remote Management | CIM 270 is a Grundfos GSM/GPRS modem used for communication with a Grundfos Remote Management system. CIM 270 requires a GSM antenna, a SIM card and a contract with Grundfos. | With CIM 270 you have wireless access to your account anywhere, anytime when you have an internet connection, for example via a smartphone, tablet PC, laptop or computer. Warnings and alarms can be sent by e-mail or SMS to your mobile phone or computer. You will get a complete status overview of the entire GRM system. The status overview allows you to plan maintenance and service based on actual operating data. |

| Module | Fieldbus protocol | Description | Functions |
|--|--------------------------------|--|--|
| CIM 300  | BACnet MS/TP TM06 7281 3416 | CIM 300 is a Grundfos communication interface module used for communication with a BACnet MS/TP network. | CIM 300 has terminals for the BACnet MS/TP connection. DIP switches are used to set transmission speed and line termination and to select the custom Device Object Instance Number. Two hexadecimal rotary switches are used to set the BACnet address. Two LEDs are used to indicate the actual status of the CIM 300 communication. One LED is used for indication of correct connection to the pump, and the other is used to indicate BACnet communication status. |
| CIM 500  | Ethernet TM06 7283 3416 | CIM 500 is a Grundfos communication interface module used for data transmission between an industrial Ethernet network and a Grundfos product. CIM 500 supports various industrial Ethernet protocols: <ul style="list-style-type: none">• PROFINET• Modbus TCP• BACnet/IP• EtherNet/IP | CIM 500 supports various industrial Ethernet protocols. CIM 500 is configured via the built-in web server, using a standard web browser on a PC. See the specific functional profile on the DVD-ROM supplied with the Grundfos CIM module. |

For product numbers, see section [CIM modules](#), page 129.

4. Operating conditions

General recommendations

| | |
|---------------------------------|---|
| Water in heating systems | Water quality according to local standards such as the German standard VDI 2035 |
| Domestic hot water | Degree of hardness up to 14 °dH |
| Water containing glycol | Maximum viscosity = 10-50 cSt ~ 50 % water / 50 % ethylene glycol at -10 °C |

Liquid temperature

| Application | Temperature range |
|----------------------------|-------------------------|
| General | -10 to 110 °C |
| Domestic hot-water systems | Up to 65 °C recommended |

Ambient conditions

| Ambient conditions | |
|--|--------------|
| Ambient temperature during operation | 0 to 40 °C |
| Ambient temperature during storage and transport | -40 to 70 °C |
| Relative air humidity | Maximum 95 % |

Maximum operating pressure

PN 6: 6 bar / 0.6 MPa
 PN 10: 10 bar / 1.0 MPa
 PN 16: 16 bar / 1.6 MPa.

Minimum inlet pressure

The following relative minimum pressure must be available at the pump inlet during operation to avoid cavitation noise and damage to the pump bearings.

The values in the table below apply to single-head pumps and twin-head pumps in single-head operation.

| MAGNA3 DN | Liquid temperature | | |
|------------------------|---------------------------------|--------------|------------|
| | 75 °C | 95 °C | 110 °C |
| | Inlet pressure [bar] / [MPa] | | |
| 25-40/60/80/100/100 | 0.10 / 0.01 | 0.35 / 0.035 | 1.0 / 0.10 |
| 32-40/60/80/100/120 | 0.10 / 0.01 | 0.35 / 0.035 | 1.0 / 0.10 |
| 32-120 F | 0.10 / 0.01 | 0.50 / 0.05 | 1.1 / 0.11 |
| 40-40/60 F | 0.10 / 0.01 | 0.35 / 0.035 | 1.0 / 0.10 |
| 40-80/100 F | 0.10 / 0.01 | 0.50 / 0.05 | 1.1 / 0.11 |
| 40-120/150/180 F | 0.10 / 0.01 | 0.40 / 0.04 | 1.0 / 0.10 |
| 50-40/60/80 F | 0.10 / 0.01 | 0.10 / 0.01 | 0.7 / 0.07 |
| 50-100 F | 0.10 / 0.01 | 0.50 / 0.05 | 1.1 / 0.11 |
| 50-120 F | 0.10 / 0.01 | 0.40 / 0.04 | 1.0 / 0.10 |
| 50-150/180 F | 0.20 / 0.02 | 0.60 / 0.06 | 1.2 / 0.12 |
| 65-40/60/80/100 F | 0.20 / 0.02 | 0.60 / 0.06 | 1.2 / 0.12 |
| 65-120 F | 0.10 / 0.01 | 0.50 / 0.05 | 1.1 / 0.11 |
| 65-150 F | 0.40 / 0.04 | 0.80 / 0.08 | 1.2 / 0.12 |
| 80-40/60/80/100/120 F | 0.50 / 0.05 | 0.90 / 0.09 | 1.5 / 0.15 |
| 100-40/60/80/100/120 F | 0.50 / 0.05 | 0.90 / 0.09 | 1.5 / 0.15 |

In the case of cascade twin-head operation, increase the required relative inlet pressure by 0.1 bar / 0.01 MPa compared to the stated values for single-head pumps or twin-head pumps in single-head operation.

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

The relative minimum inlet pressures apply to pumps installed up to 300 metres above sea level. For altitudes above 300 metres, increase the required relative inlet pressure by 0.1 bar / 0.01 MPa per 100 metres altitude. The MAGNA3 pump is only approved for an altitude of 2000 metres.

Pumped liquids

The pump is suitable for thin, clean, non-aggressive and non-explosive liquids, not containing solid particles or fibres that may attack the pump mechanically or chemically.

In heating systems, the water should meet the requirements of accepted standards on water quality in heating systems, for example the German standard VDI 2035.

In domestic hot-water systems, we recommend that you use MAGNA3 pumps only for water with a degree of hardness lower than approx. 14 °dH.

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

You can use MAGNA3 pumps for pumping water/glycol mixtures up to 50 %.

Example of a water/ethylene glycol mixture:

Maximum viscosity: 10-50 cSt ~ 50 % water / 50 % ethylene glycol mixture at -10 °C.

The pump is controlled by a power-limiting function that protects against overload.

The pumping of glycol mixtures will affect the maximum curve and reduce the performance, depending on the water/ethylene glycol mixture and the liquid temperature.

To prevent the ethylene glycol mixture from degrading, avoid temperatures exceeding the rated liquid temperature and minimise the operating time at high temperatures.

You must clean and flush the system before the ethylene glycol mixture is added.

To prevent corrosion or lime precipitation, check and maintain the ethylene glycol mixture regularly. If further dilution of the supplied ethylene glycol is required, follow the glycol supplier's instructions.

Differential-pressure and temperature sensor

MAGNA3 incorporates a Grundfos differential-pressure and temperature sensor. The sensor is located in the pump housing in a channel between the inlet and outlet ports.

Via a cable, the sensor sends an electrical signal for the differential pressure across the pump and for the liquid temperature to the controller in the control box.

If the Grundfos sensor is faulty, it will keep the last known feedback signal. The differential-pressure sensor and temperature sensor offer substantial benefits:

- direct feedback on the pump display
- complete pump control
- measurement of the pump workload for precise and optimum control resulting in higher energy efficiency.

Sensor specifications

Temperature

| Temperature range during operation | Accuracy |
|------------------------------------|----------|
| -10 to +35 °C | ± 4 °C |
| +35 to +90 °C | ± 2 °C |
| +90 to +110 °C | ± 4 °C |

Electrical data

| | |
|---|---|
| Pump type | MAGNA3 (D) |
| Enclosure class | IPX4D (EN 60529). |
| Insulation class | F. |
| Supply voltage | 1 x 230 V ± 10 %, 50/60 Hz, PE. |
| Three digital inputs | External potential-free contact. Contact load: 5 V, 10 mA. Screened cable. Loop resistance: Maximum 130 Ω. |
| Analog input | 4-20 mA (load: 150 Ω). 0-10 VDC (load: > 10 kΩ). |
| Two relay outputs | Internal potential-free changeover contact. Maximum load: 250 V, 2 A, AC1. Minimum load: 5 VDC, 20 mA. Screened cable, depending on signal level. |
| Bus input | Grundfos Communication Interface Modules (add-on CIM modules) for <ul style="list-style-type: none"> • GENibus • LonWorks • PROFIBUS DP • Modbus RTU • GSM/GPRS • Grundfos Remote Management • BACnet MS/TP • Ethernet. |
| Leakage current | $I_{leakage} < 3.5 \text{ mA}$. The leakage currents are measured in accordance with EN 60335-1. |
| EMC | Standards used: EN 55014-1:2006+A1:2009+A2:2011, EN 55014-2:1997+A1:2001+A2:2008, EN 61000-3-2:2006+A1:2009+A2:2009 and EN 61000-3-3:2013. |
| Cos φ | Terminal-connected versions have a built-in active PFC (Power Factor Control) which gives a $\cos \phi$ from 0.98 to 0.99, i.e. very close to 1. Plug-connected versions have no PFC and therefore the power factor is from 0.50 to 0.99. |
| Consumption when the pump is stopped | 4 to 10 W, depending on activity, i.e. reading the display, use of Grundfos GO, interaction with modules, etc. 4 W, when the pump is stopped and there is no activity. |

Sound pressure level

| | |
|-----------------------------|------------|
| Pump type | MAGNA3 (D) |
| Sound pressure level | ≤ 43 dB(A) |

5. Construction

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 pump is characterised by the following:

- controller integrated in the control box
- control panel on the control box
- control box prepared for optional CIM modules
- built-in differential-pressure and temperature sensor
- cast-iron or stainless-steel pump housing
- twin-head versions
- no external motor protection required
- insulating shells supplied with single-head pumps for heating systems.

Motor and electronic controller

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.

A differential-pressure and temperature sensor is incorporated in the pump.

Pump connections

Threaded pipe connections according to ISO 228-1.

Flange dimensions to EN 1092-2.

Colour

Colour codes for the pump:

| Colour | Code |
|--------|-----------|
| Red | NCS40-50R |
| Black | NCS9000 |

Surface treatment

The pump housing and pump head are electrocoated to improve the corrosion resistance.

Electrocoating includes:

- alkaline cleaning
- pretreatment with zinc phosphate coating
- cathodic electrocoating (epoxy)
- curing of paint film at 200 to 250 °C.

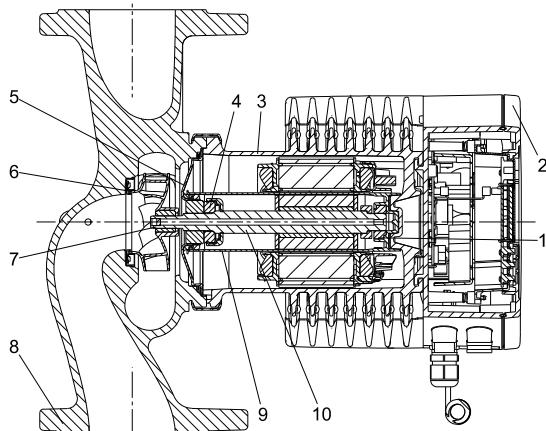
The pump housing of stainless-steel versions is not treated or painted and appears in blank steel. See fig. 45.



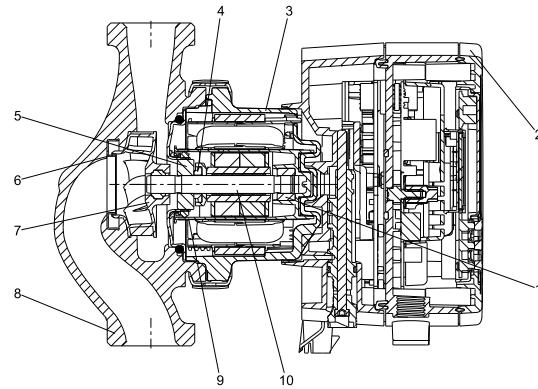
Fig. 45 MAGNA3 stainless steel version

TM05 92023613

Sectional drawings



TM05 2319 0312



TM05 8039 1813

Fig. 46 Terminal-connected version

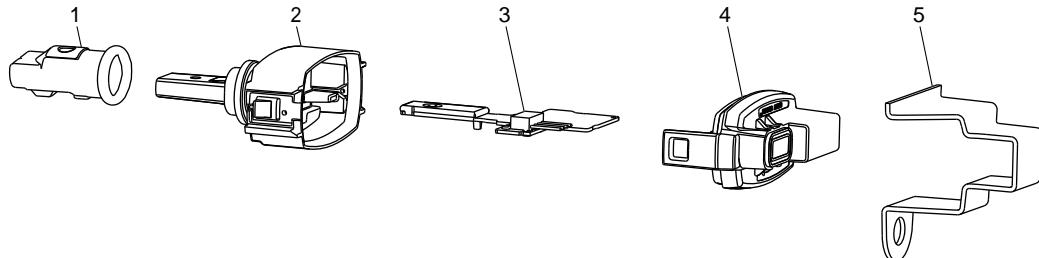
Fig. 47 Plug-connected version

Material specification

See figures 46 and 47.

| Pos. | Component | Material | EN |
|------|--------------------|---|------------------------------|
| 1 | Outer bearing ring | Aluminium oxide | |
| 2 | Control box | Polycarbonate | |
| 3 | Stator housing | Aluminium | |
| 3 | O-rings | EPDM | |
| 4 | Thrust bearing | Aluminium oxide/carbon | |
| 5 | Bearing plate | Stainless steel | EN 1.4301 |
| 6 | Neck ring | Stainless steel | EN 1.4301 |
| 7 | Impeller | PES | |
| 8 | Pump housing | Cast iron/stainless steel | EN 1561 EN-GJL-250/EN 1.4408 |
| 9 | Rotor can | PPS | |
| 10 | Shaft | Ceramic (plug-connected versions) | |
| 10 | Shaft | Stainless steel (terminal-connected versions) | EN 1.4404 |

Sensor drawing



TM05 3035 0812

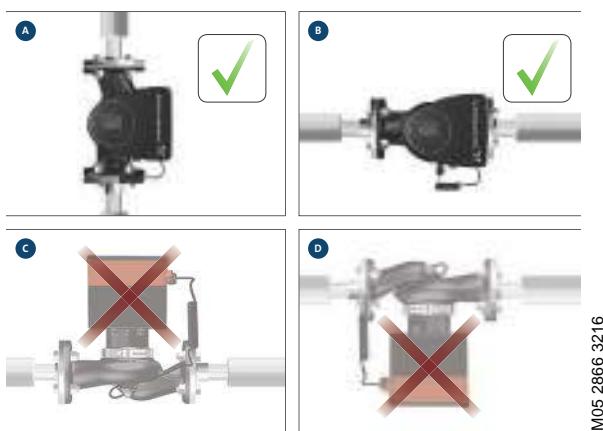
Fig. 48 Sensor

| Pos. | Component | Material | EN |
|------|-----------------------|-----------------|-----------|
| 1 | Sealing cap | EPDM | |
| 2 | Housing | PPS | |
| 3 | Printed-circuit board | - | |
| 4 | Cover snap-on | PA/TPV | |
| 5 | Bracket for sensor | Stainless steel | EN 1.4301 |

6. Installation

Mechanical installation

MAGNA3 is designed for indoor installation. You must install the pump with horizontal motor shaft. You can install the pump in horizontal as well as vertical pipes.



TM05 2866 3216

Fig. 49 Installation positions

Arrows on the pump housing indicate the liquid flow direction through the pump. The control box must be in horizontal position with the Grundfos logo in vertical position. See fig. 49. This is described in the installation and operating instructions.



net.grundfos.com/qr/i/98091805

You must install the pump in such a way that it is not stressed by the pipework.

The pump may be suspended directly in the pipes, provided that the pipework can support the pump.

Twin-head pumps are prepared for installation on a mounting bracket or base plate.

To ensure adequate cooling of motor and electronics, observe the following:

- Position the pump in such a way that sufficient cooling is ensured.
- The temperature of the ambient air must not exceed 40 °C.

Insulating shells

The insulating shells supplied with single-head MAGNA3 pumps are for heating systems and must be fitted as part of the installation.

Insulating shells for air-conditioning and cooling systems are available as an accessory.

See section *Insulating kits for air-conditioning and cooling systems*, page 129.

Note: Insulating shells are not available for twin-head pumps.

Electrical installation

The electrical connection and protection must be carried out in accordance with local regulations.

- The pump must be connected to an external mains switch.
- The pump must always be correctly earthed.
- The pump requires no external motor protection.
- The pump incorporates thermal protection against slow overloading and blocking.
- When switched on via the power supply, the pump will start pumping after approx. 5 seconds.

Note: The number of starts and stops via the power supply must not exceed four times per hour.

The pump has a digital input that which you can use for external control of start/stop without switching the power supply on/off.

Make the pump mains connection as shown in the diagrams on the following pages.

Cables

Use screened cables for external on/off switch, digital input, sensor and setpoint signals.

- All cables used must be heat-resistant up to at least 75 °C.
- All cables used must be installed in accordance with EN 60204-1 and EN 50174-2:2000.

Additional protection

If the pump is connected to an electric installation where an earth leakage circuit breaker (ELCB) is used as an additional protection, this circuit breaker must trip when earth fault currents with DC content (pulsating DC) occur.

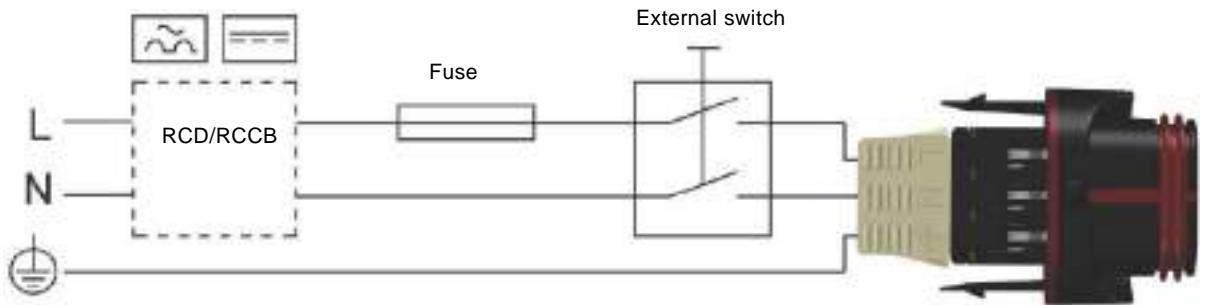
The earth leakage circuit breaker must be marked with the first or both of the symbols shown below:



| Symbol | Description |
|--------|---|
| | High-sensitivity ELCB, type A, according to IEC 60775 |
| | High-sensitivity ELCB, type B, according to IEC 60775 |

Examples of connections

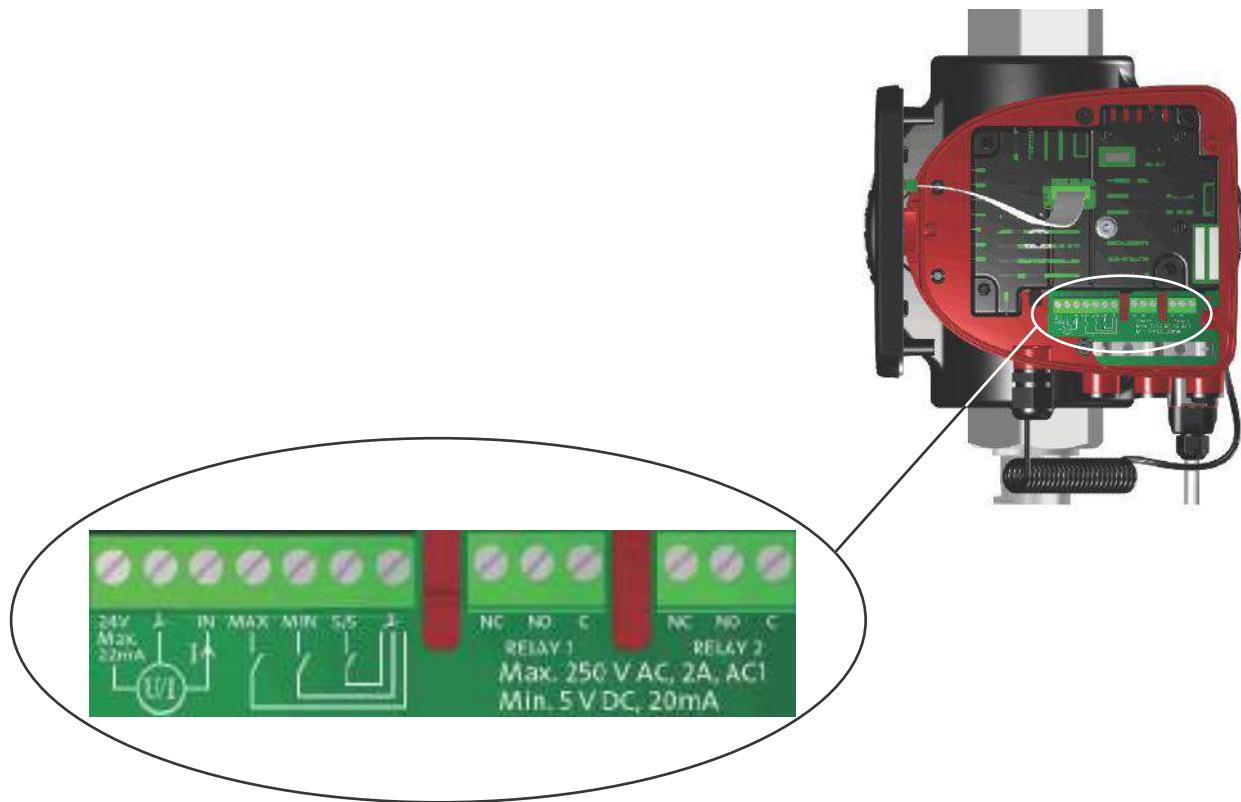
Connection to power supply, plug-connected versions



TM05 5277 3712

Fig. 50 Example of plug-connected motor with main switch, backup fuse and additional protection

Connection to external controllers

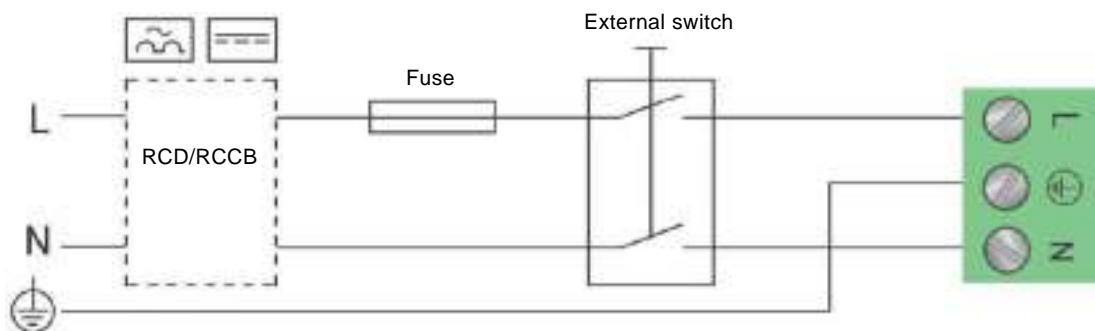


TM05 8895 2813

Fig. 51 Example of connections in the control box of plug-connected versions

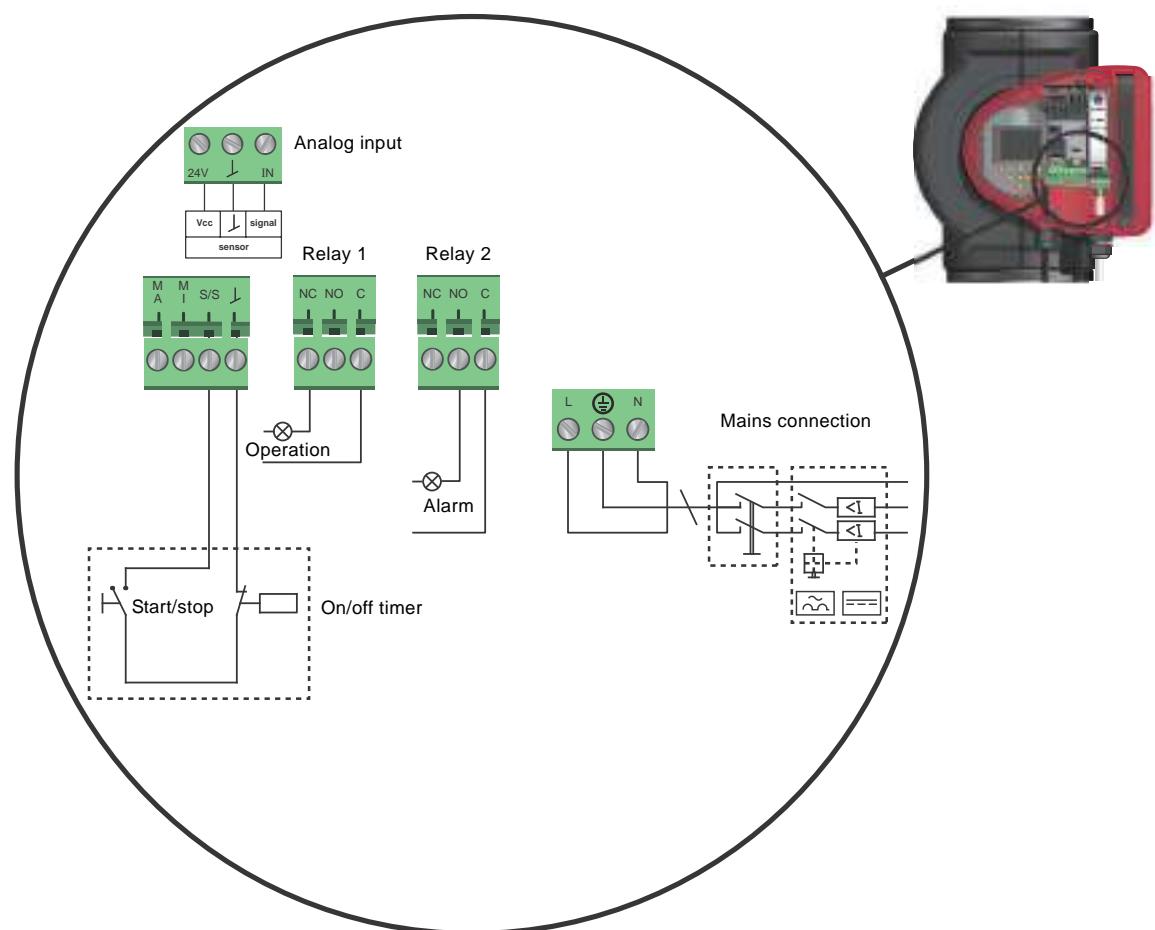
The connection terminals of plug-connected versions (fig. 51) differ from those of terminal-connected versions (fig. 53), but they have the same function and connection options.

Connection to power supply, terminal-connected versions



TM03 2397 3216

Fig. 52 Example of terminal-connected motor with main switch, backup fuse and additional protection



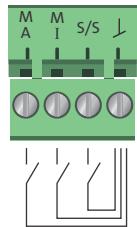
TM05 2673 3812

Fig. 53 Example of connections in the control box of terminal-connected versions

Digital inputs

You can use the digital input for external control of start/stop or forced maximum or minimum curve.

Note: If no external on/off switch is connected, maintain the jumper between terminals Start/Stop (S/S) and frame (\downarrow). This connection is the factory setting.



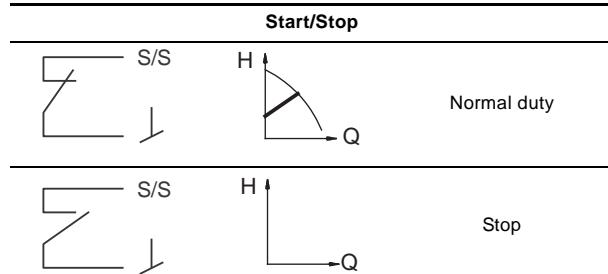
TM05 3343 1212

Fig. 54 Digital input in control box

| Contact symbol | Function |
|----------------|------------------|
| M | Maximum curve |
| A | |
| I | Minimum curve |
| S/S | Start/Stop |
| \downarrow | Frame connection |

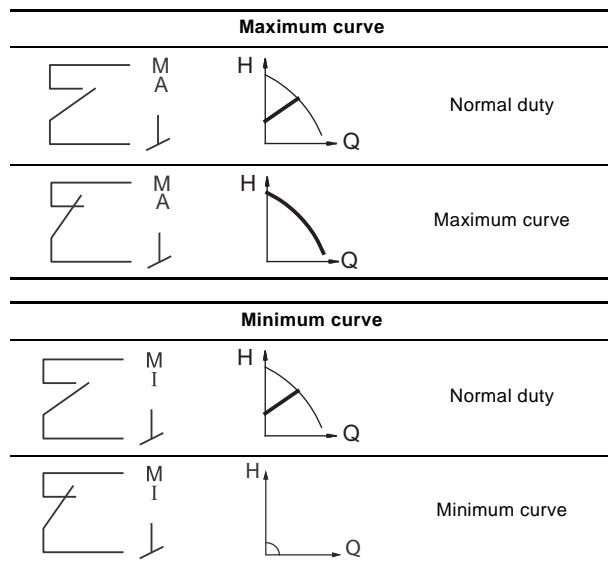
External start/stop

You can start and stop the pump via the digital input.



External forced maximum or minimum curve

You can force the pump to operate on the maximum or minimum curve via the digital input.



Relay outputs

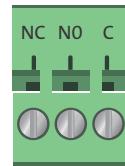
The pump has two signal relays with a potential-free changeover contact for external fault indication.

You can set the function of the signal relay to Alarm, Ready or Operation on the pump control panel or with Grundfos GO.

Factory settings of relays:

| Relay | Function |
|-------|------------------|
| 1 | Operation signal |
| 2 | Alarm signal |

Note: You can configure both relays to "ready, alarm or operating".



TM05 3343 1212

Fig. 55 Relay output in control box

| Contact symbol | Function |
|----------------|-----------------|
| NC | Normally closed |
| NO | Normally open |
| C | Common |

The functions of the signal relays are as shown in the table below:

| Signal relay | Alarm signal |
|--------------|---|
| | Not activated: • The power supply has been switched off. • The pump has not registered a fault. |
| | Activated: • The pump has registered a fault. |
| Signal relay | Ready signal |
| | Not activated: • The pump has registered a fault and is unable to run. |
| | Activated: • The pump has been set to stop, but is ready to run. • The pump is running. |
| Signal relay | Operating signal |
| | Not activated: • The pump is not running. |
| | Activated: • The pump is running. |

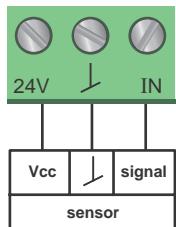
Analog input for external sensor

You can use the analog input for the connection of an external sensor for measuring temperature or pressure.

You can also use the analog input for an external signal for the control from a BMS system or similar control system.

The electrical signal for the input can be 0-10 VDC or 4-20 mA.

You can change the selection of the electrical signal (0-10 V or 4-20 mA) on the control panel or with Grundfos GO.

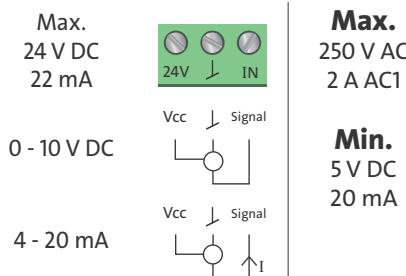


TM05 3221 1112

Fig. 56 Analog input for external sensor or control

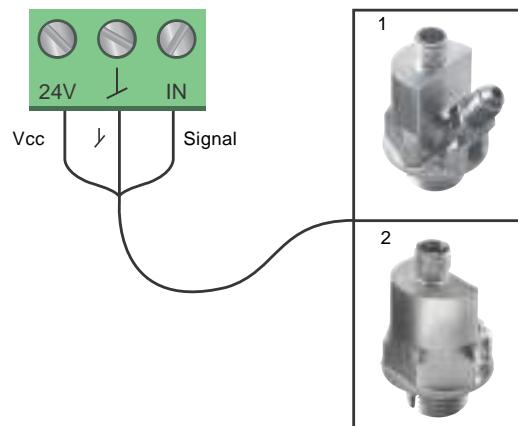
In order to optimise the pump performance, you can use external sensors in the following cases:

| Function/control mode | Sensor type |
|-----------------------|-----------------------------------|
| Heat energy monitor | Temperature sensor |
| Constant temperature | |
| Constant pressure | Differential-pressure transmitter |



TM05 3343 2313

Fig. 57 Wiring, analog input

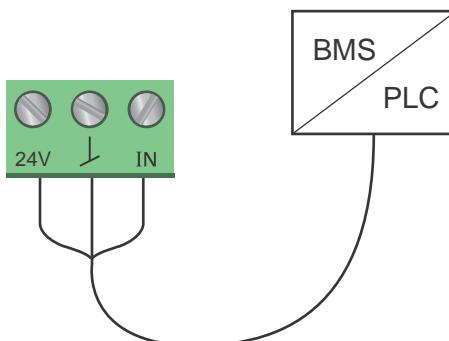


TM06 7237 3416

Fig. 58 Examples of external sensors

| Pos. | Sensor type |
|------|--|
| 1 | Differential-pressure transmitter, Grundfos type DPI V.2 1/2" connection and 4-20 mA signal. |
| 2 | Relative-pressure transmitter. Combined temperature and pressure sensor, Grundfos type RPI T2. 1/2" connection and 0-10 V signal. |

For further details, see section [External Grundfos sensors](#), page 132.



TM05 2688 0612

Fig. 59 Example of external signal for the control via BMS or PLC

7. Curve conditions

Performance curves

The guidelines below apply to the performance curves on pages 45 to 128:

- Test liquid: airless water.
- The curves apply to a density of $\rho = 983.2 \text{ kg/m}^3$ and a liquid temperature of 60 °C.
- All curves show average values. If a specific minimum performance is required, individual measurements must be made.
- The curves apply to a kinematic viscosity of $\nu = 0.474 \text{ mm}^2/\text{s}$ (0.474 cSt).
- Reference supply voltage: 1 x 230 V, 50 Hz.
- EEI obtained according to EN 16297.

Note: Within the MAGNA3 performance range, you can set the constant- and proportional-pressure curves in steps of 0.1 m head on the control panel or with Grundfos GO.

Energy efficiency index (EEI)

MAGNA3 is energy-optimised and complies with the EuP Directive (Commission Regulation (EC) No 641/2009) which has been effective as from 1 January 2013.

For MAGNA3 pumps, the average energy efficiency index (EEI) is 0.18 with values down to 0.17, categorised as best in class.

MAGNA3 with its AUTO_{ADAPT} function is the preferred choice for large heating systems and a true efficiency frontrunner.

Figure 60 shows the energy consumption index for a typical circulator pump compared to the various EEI limits.

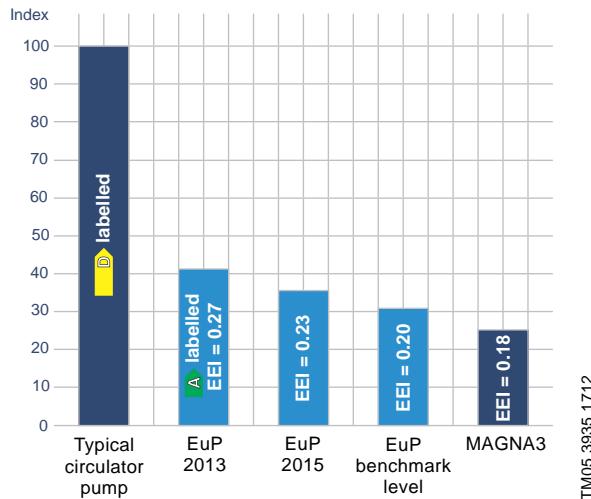


Fig. 60 Energy consumption index

With an energy efficiency index (EEI) well below the EuP benchmark level, you can achieve energy savings of up to 75 % compared to a typical circulator pump and thus a remarkably fast return on investment. For more information about the new energy directive, please visit:



<http://energy.Grundfos.com>



Fig. 61 Grundfos blueflux®

The Grundfos blueflux® label is your guarantee that MAGNA3 incorporates the most energy-efficient motor currently available. Grundfos blueflux® motors are designed to cut the power consumption by up to 60 % and thus reduce CO₂ emissions and operating costs.

TM05 2683 0412

QR code on pump nameplate



TM05 3826 1712

Fig. 62 QR code on pump nameplate

With Grundfos GO or a smartphone, you get the following information about MAGNA3:

- product photo
- pump performance curves
- dimensional sketches
- wiring diagram
- quotation text
- technical data
- service parts list
- PDF files, such as data booklet and installation and operating instructions.

Markings and approvals

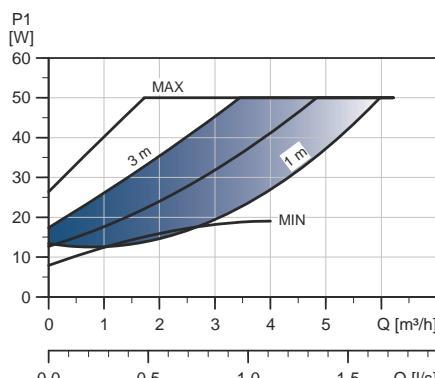
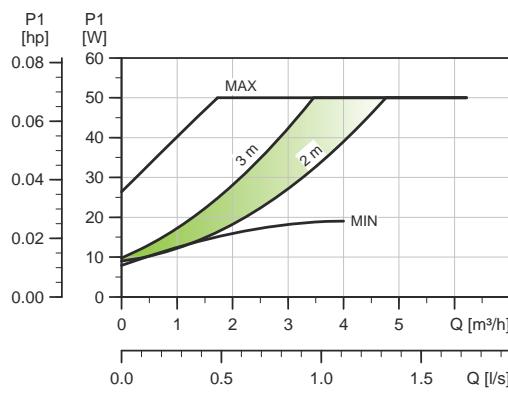
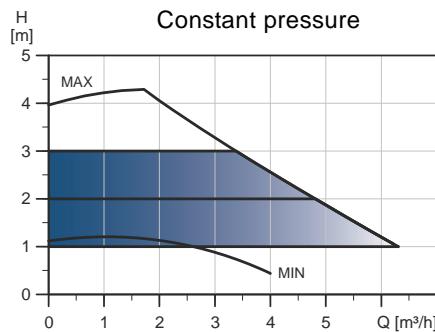
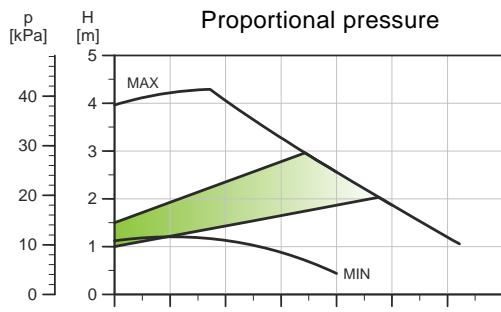
The following marks are available after positive testing of MAGNA3:

| Mark | Description |
|------|--|
| | The CE marking is based on the declaration of conformity issued by the manufacturer who certifies that the product meets all the appropriate provisions of the relevant legislation implementing certain European Directives. |
| | Technical working equipment and commodities ready for use, in the sense of ProdSG according to German VDE/EN/IEC standards, other technical specifications as well as possible provisions of law with respect to safety and health requirements. |
| | Mark of Conformity in the Russia, Kazakhstan and Belarus Customs Union for imports of Machinery and Industrial Equipment |
| | The product complies with the requirements of the United Kingdom Water Supply (Water Fittings) Regulations/Scottish Water Byelaws. Applies to the stainless-steel version only. |
| | The Turkish Standards Institute (TSE) certified that this product complies with the relevant directives and standards. |
| ACS | ACS - Attestation de Conformité Sanitaire. The suitability of this product to come into contact with water destined for human consumption has been evaluated and approved by a laboratory accredited by the French Ministry of Health. |

8. Performance curves and technical data

MAGNA3 25-40 (N)

1 x 230 V, 50/60 Hz



| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 56 | 0.46 |

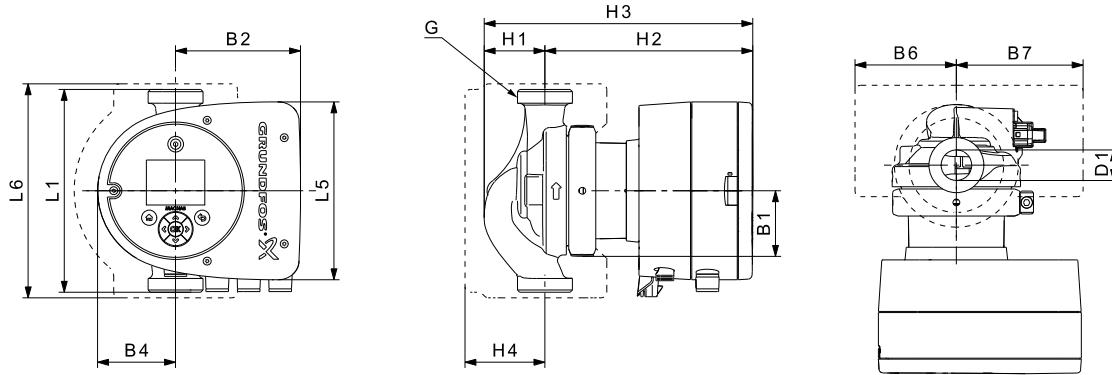
The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 4.8 | 5.3 | 0.01 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEl: 0.19.

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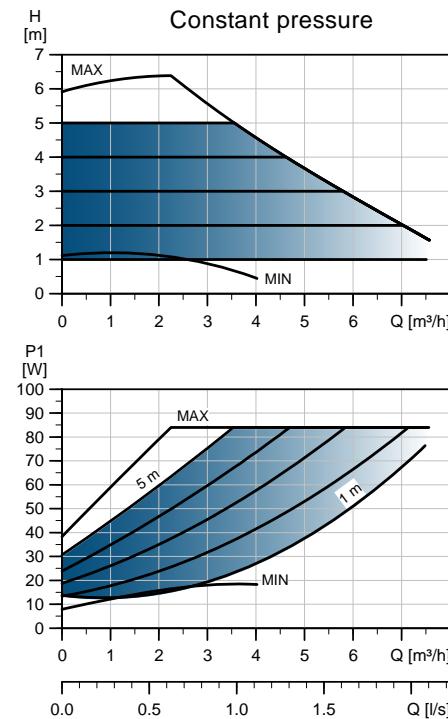
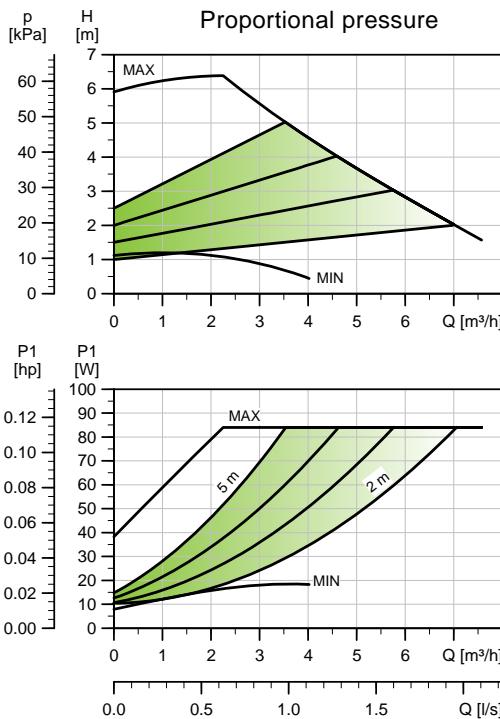
TM05 7938 1713



For product numbers, see page 139.

MAGNA3 25-60 (N)

1 x 230 V, 50/60 Hz



TM05 7666 1513

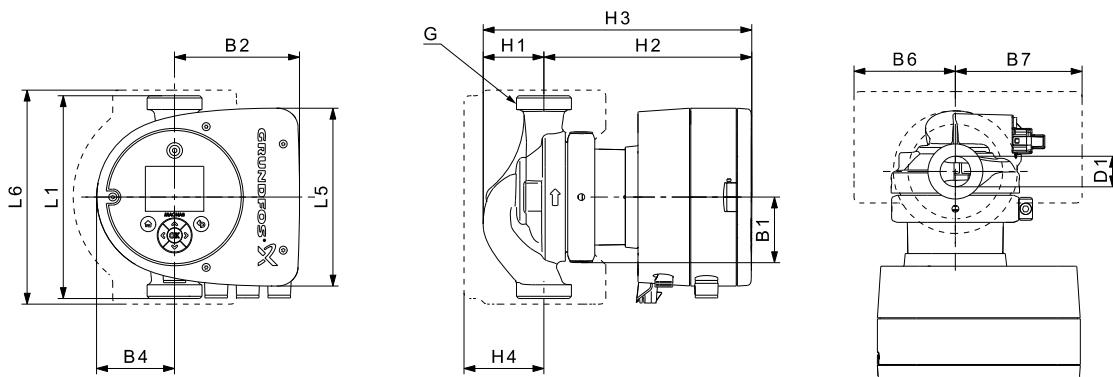
TM05 7938 1713

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 91 | 0.75 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.19.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 4.8 | 5.3 | 0.01 |

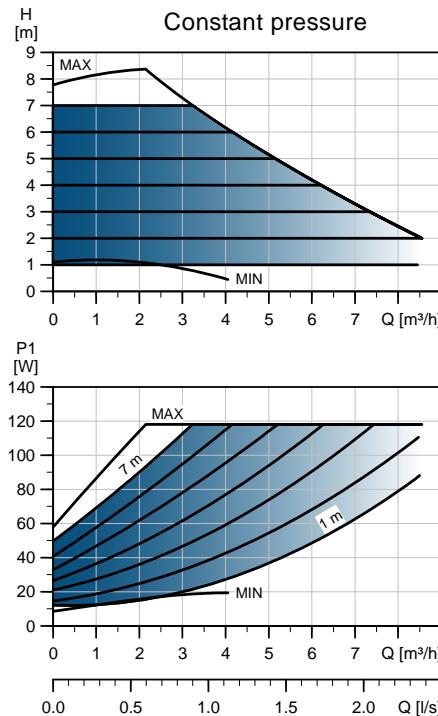
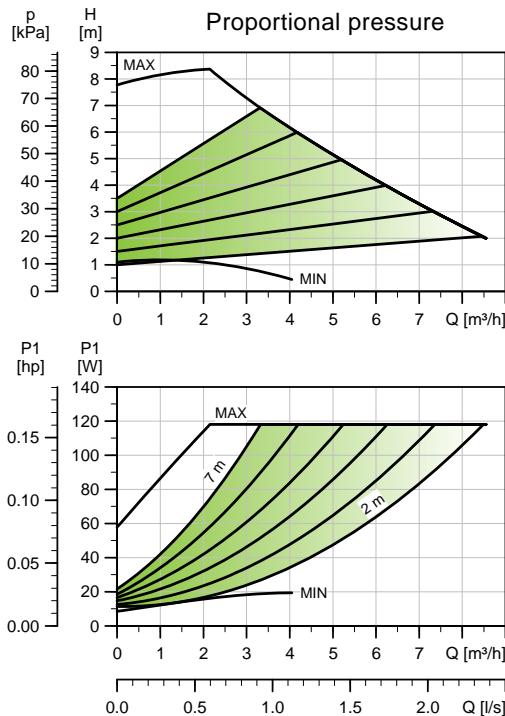


| Pump type | Dimensions [mm] | | | | | | | | | | | | [inch] | |
|------------------|-----------------|-----|-----|----|-----|----|----|-----|----|-----|-----|----|--------|-------|
| | L1 | L5 | L6 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | G |
| MAGNA3 25-60 (N) | 180 | 158 | 190 | 58 | 111 | 69 | 90 | 113 | 54 | 185 | 239 | 71 | 25 | 1 1/2 |

For product numbers, see page 139.

MAGNA3 25-80 (N)

1 x 230 V, 50/60 Hz



TM05 7667 1513

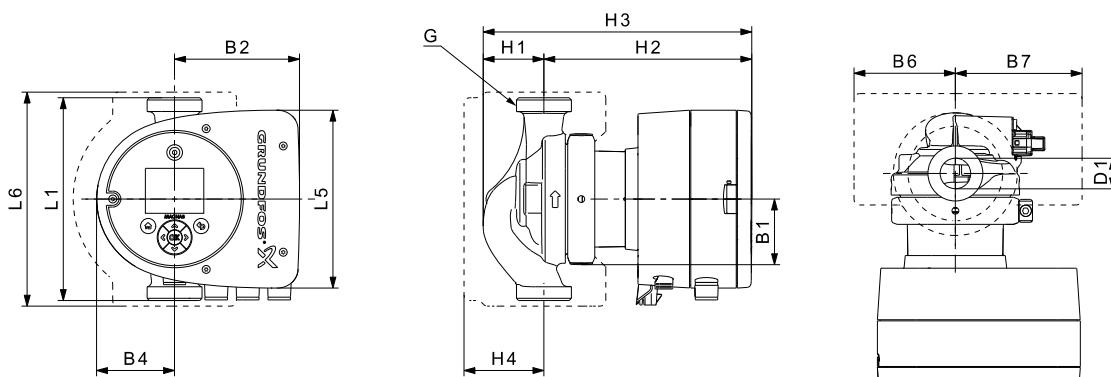
TM05 7938 1713

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 124 | 1.02 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 4.8 | 5.3 | 0.01 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEL: 0.19.

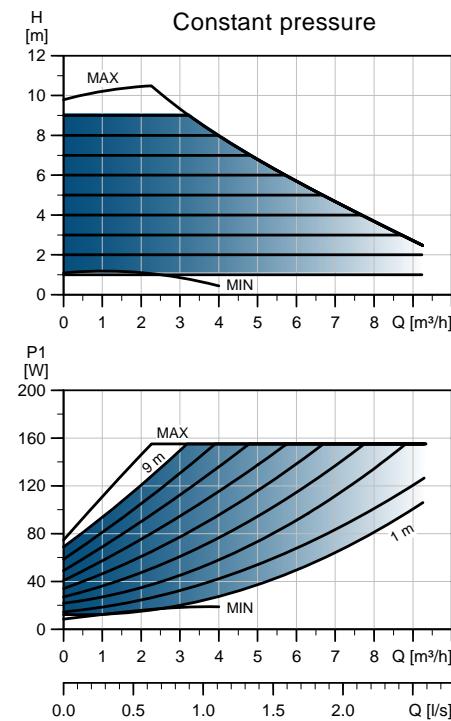
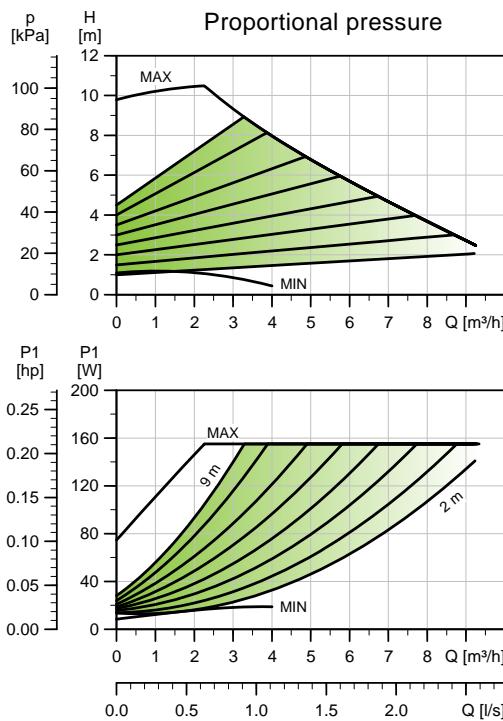


| Pump type | Dimensions [mm] | | | | | | | | | | | [inch] | | |
|------------------|-----------------|-----|-----|----|-----|----|----|-----|----|-----|-----|--------|----|-------|
| | L1 | L5 | L6 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | G |
| MAGNA3 25-80 (N) | 180 | 158 | 190 | 58 | 111 | 69 | 90 | 113 | 54 | 185 | 239 | 71 | 25 | 1 1/2 |

For product numbers, see page 139.

MAGNA3 25-100 (N)

1 x 230 V, 50/60 Hz



TM05 7688 1513

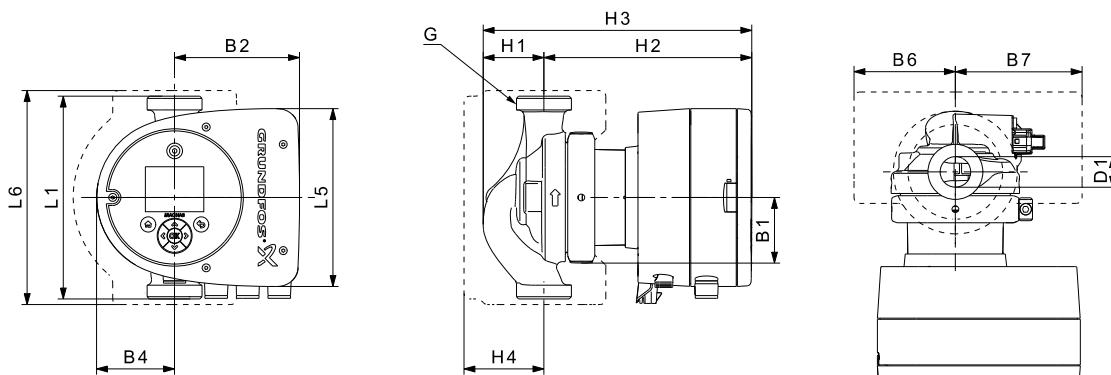
TM05 7688 1713

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 163 | 1.33 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m ³] |
|------------------|--------------------|------------------------------|
| 4.8 | 5.3 | 0.01 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEl: 0.19.

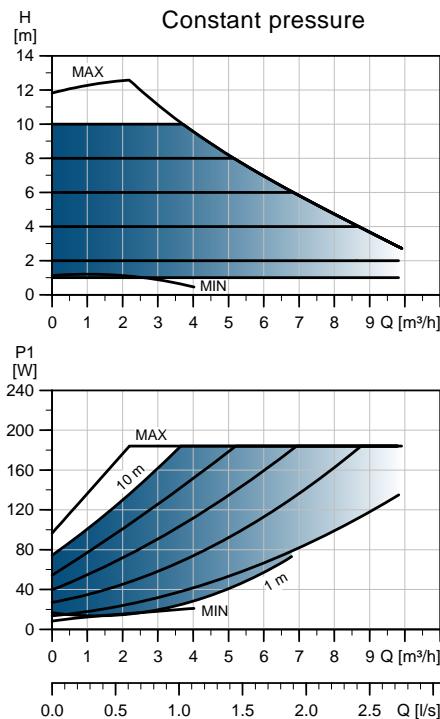
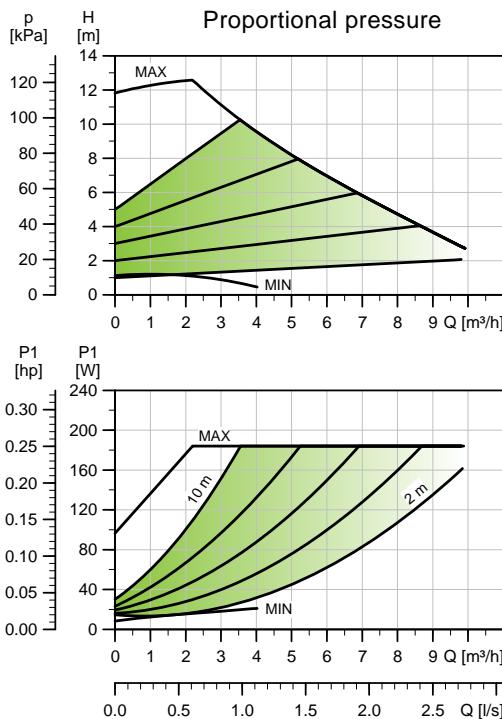


| Pump type | Dimensions [mm] | | | | | | | | | | | | [inch] | |
|-------------------|-----------------|-----|-----|----|-----|----|----|-----|----|-----|-----|----|--------|-------|
| | L1 | L5 | L6 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | G |
| MAGNA3 25-100 (N) | 180 | 158 | 190 | 58 | 111 | 69 | 90 | 113 | 54 | 185 | 239 | 71 | 25 | 1 1/2 |

For product numbers, see page 139.

MAGNA3 25-120 (N)

1 x 230 V, 50/60 Hz



TM05 7669 1513

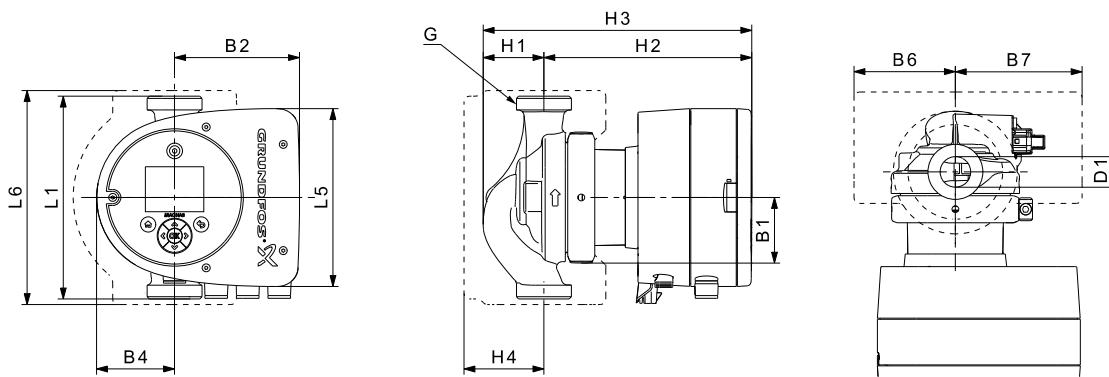
TM05 7938 1713

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 193 | 1.56 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 4.8 | 5.3 | 0.01 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EER: 0.19.

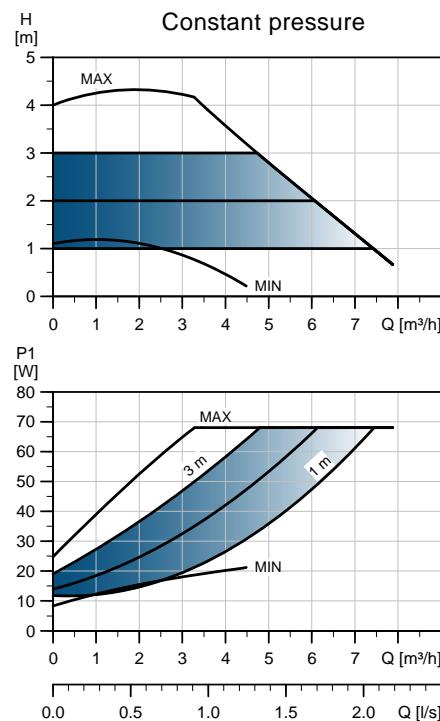
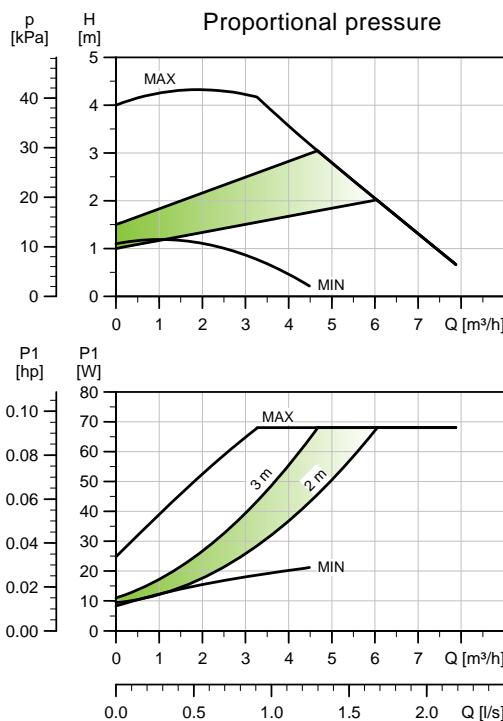


| Pump type | Dimensions [mm] | | | | | | | | | | | | [inch] | |
|-------------------|-----------------|-----|-----|----|-----|----|----|-----|----|-----|-----|----|--------|-------|
| | L1 | L5 | L6 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | G |
| MAGNA3 25-120 (N) | 180 | 158 | 190 | 58 | 111 | 69 | 90 | 113 | 54 | 185 | 239 | 71 | 25 | 1 1/2 |

For product numbers, see page 139.

MAGNA3 32-40 (N)

1 x 230 V, 50/60 Hz



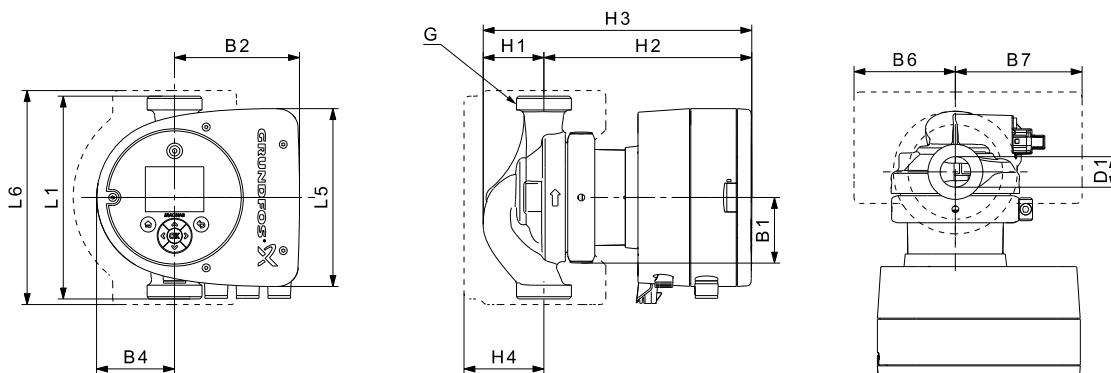
TM05 7670 1513

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 74 | 0.61 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 4.8 | 5.3 | 0.01 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEl: 0.19.



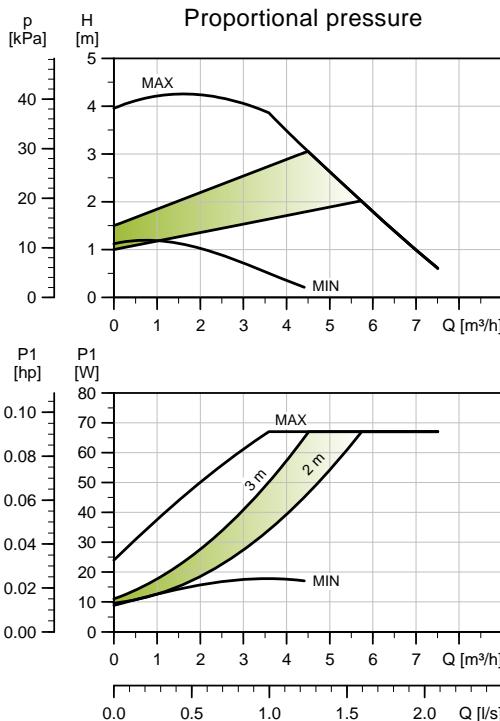
TM05 7938 1713

| Pump type | Dimensions [mm] | | | | | | | | | | | [inch] | | |
|------------------|-----------------|-----|-----|----|-----|----|----|-----|----|-----|-----|--------|----|---|
| | L1 | L5 | L6 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | G |
| MAGNA3 32-40 (N) | 180 | 158 | 190 | 58 | 111 | 69 | 90 | 113 | 54 | 185 | 239 | 71 | 32 | 2 |

For product numbers, see page 139.

MAGNA3 D 32-40

1 x 230 V, 50/60 Hz



TM05 8325 2313

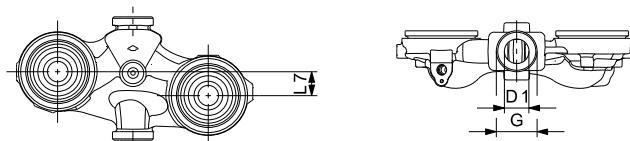
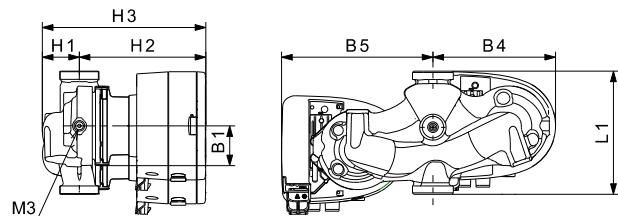
TM05 7939 1613

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 74 | 0.61 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Liquid temperature: Also available as max. 1.6 MPa (16 bar).
 Specific EEI: -10 to 110 °C (TF 110).
 0.20.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 13.2 | 14.0 | 0.04 |

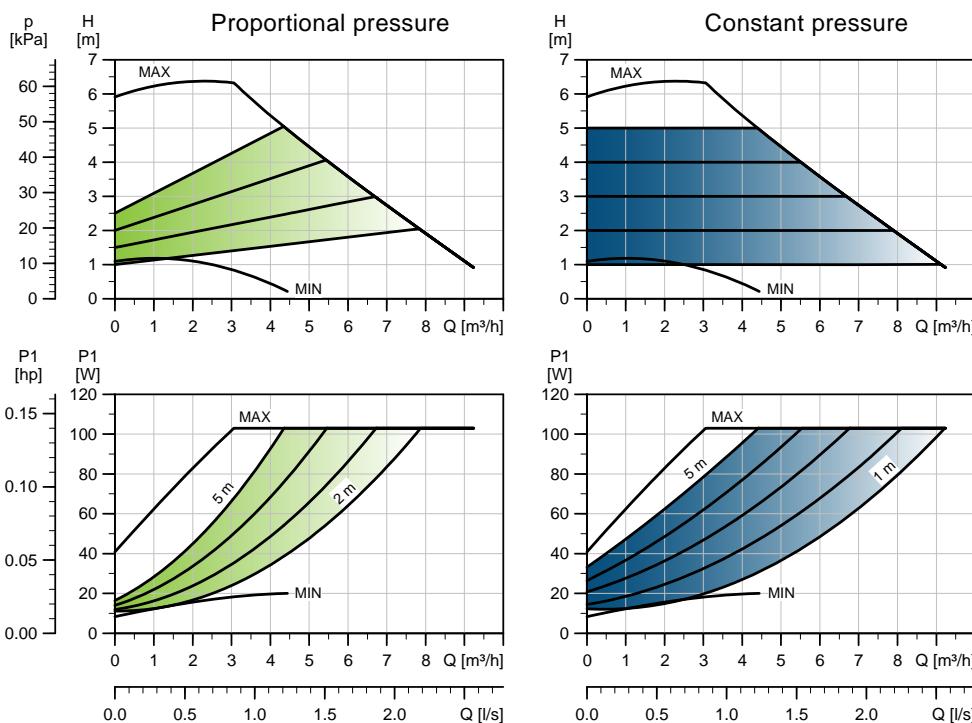


| Pump type | Dimensions [mm] | | | | | | | | | | | | [inch] | |
|----------------|-----------------|-----|----|----|-----|-----|-----|----|-----|-----|----|---|--------|--|
| | L1 | L5 | L7 | B1 | B3 | B4 | B5 | H1 | H2 | H3 | D1 | G | | |
| MAGNA3 D 32-40 | 180 | 158 | 35 | 58 | 400 | 179 | 221 | 54 | 185 | 239 | 32 | 2 | 1/4 | |

For product numbers, see page 139.

MAGNA3 32-60 (N)

1 x 230 V, 50/60 Hz



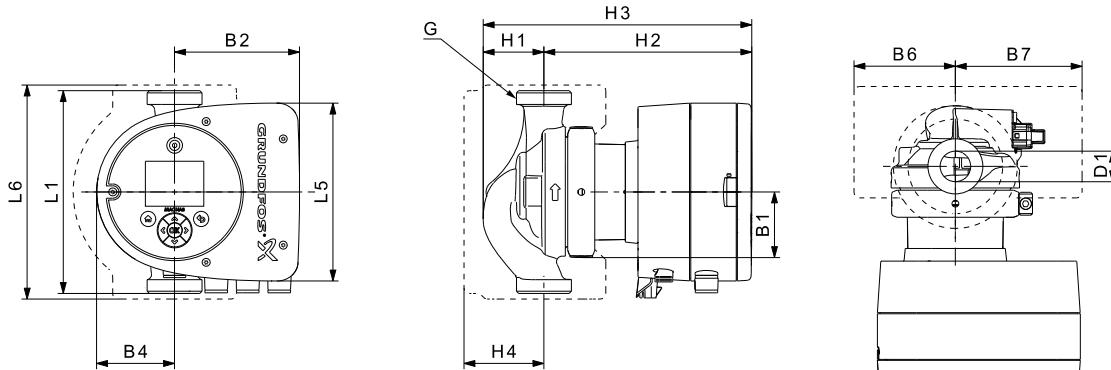
TM05 7938 1713

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 110 | 0.91 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m ³] |
|------------------|--------------------|------------------------------|
| 4.8 | 5.3 | 0.01 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.19.



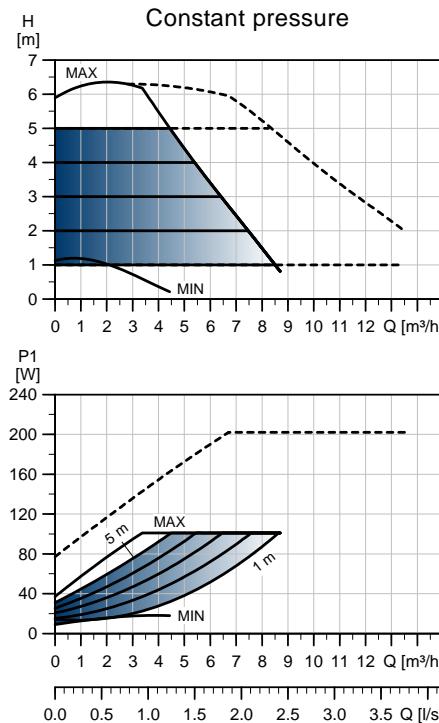
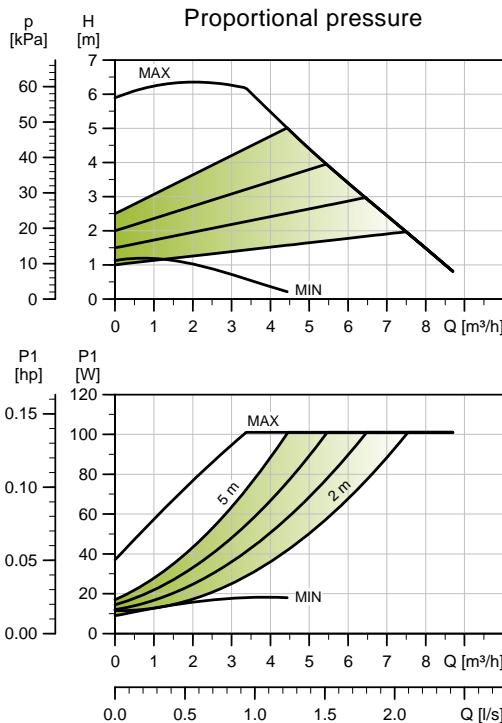
TM05 7938 1713

| Pump type | Dimensions [mm] | | | | | | | | | | [inch] | | | |
|------------------|-----------------|-----|-----|----|-----|----|----|-----|----|-----|--------|----|----|---|
| | L1 | L5 | L6 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | G |
| MAGNA3 32-60 (N) | 180 | 158 | 190 | 58 | 111 | 69 | 90 | 113 | 54 | 185 | 239 | 71 | 32 | 2 |

For product numbers, see page 139.

MAGNA3 D 32-60

1 x 230 V, 50/60 Hz



TM05 83326 2313

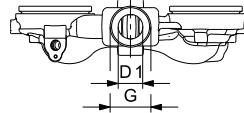
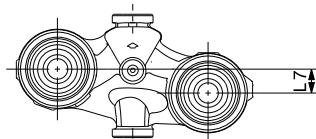
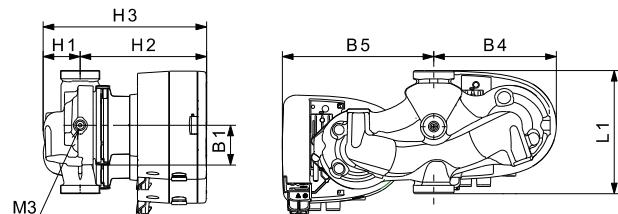
TM05 7939 1613

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 110 | 0.91 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEL: 0.20.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 13.2 | 14.0 | 0.04 |

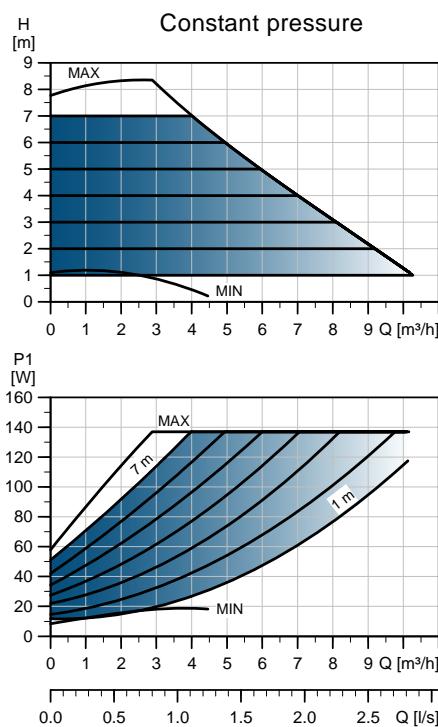
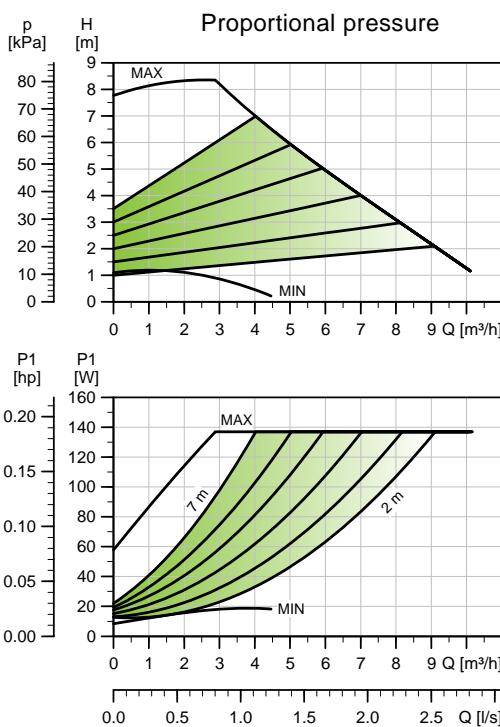


| Pump type | Dimensions [mm] | | | | | | | | | | | | [inch] | |
|----------------|-----------------|-----|----|----|-----|-----|-----|----|-----|-----|----|---|--------|--|
| | L1 | L5 | L7 | B1 | B3 | B4 | B5 | H1 | H2 | H3 | D1 | G | M3 | |
| MAGNA3 D 32-60 | 180 | 158 | 35 | 58 | 400 | 179 | 221 | 54 | 185 | 239 | 32 | 2 | 1/4 | |

For product numbers, see page 139.

MAGNA3 32-80 (N)

1 x 230 V, 50/60 Hz



TM05 7672 1513

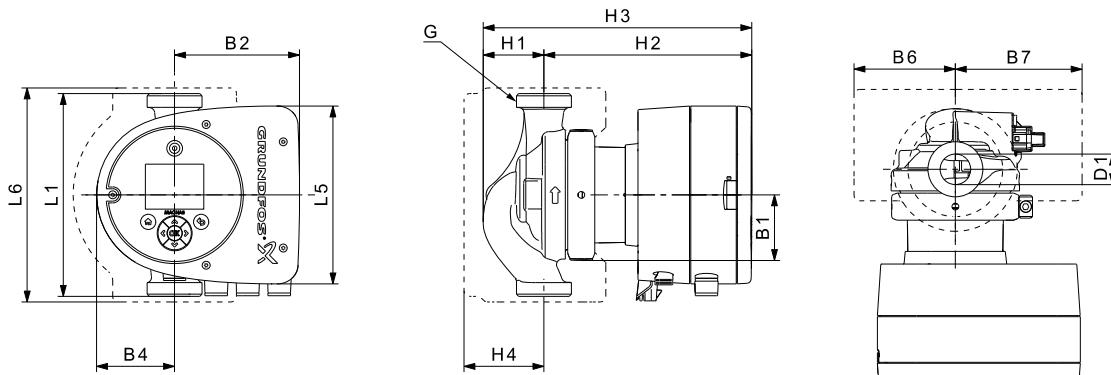
TM05 7938 1713

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 144 | 1.19 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.19.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 4.8 | 5.3 | 0.01 |

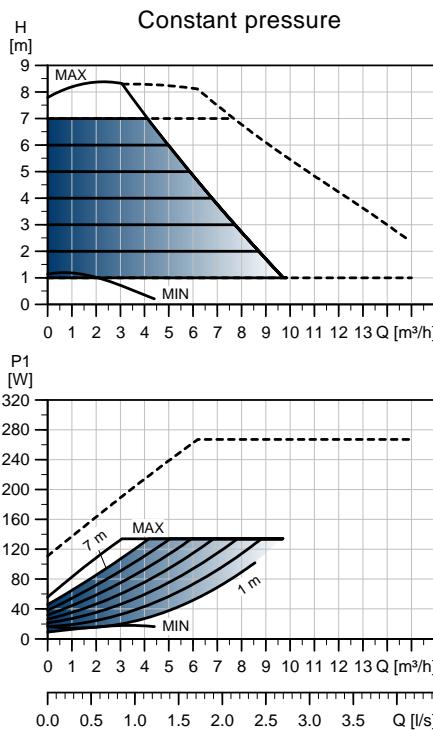
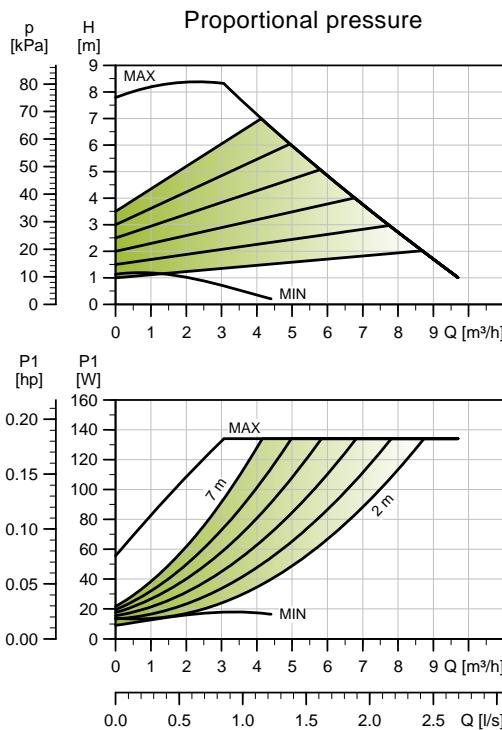


| Pump type | Dimensions [mm] | | | | | | | | | | | [inch] | | |
|------------------|-----------------|-----|-----|----|-----|----|----|-----|----|-----|-----|--------|----|---|
| | L1 | L5 | L6 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | G |
| MAGNA3 32-80 (N) | 180 | 158 | 190 | 58 | 111 | 69 | 90 | 113 | 54 | 185 | 239 | 71 | 32 | 2 |

For product numbers, see page 139.

MAGNA3 D 32-80

1 x 230 V, 50/60 Hz



TM05 8337 2313

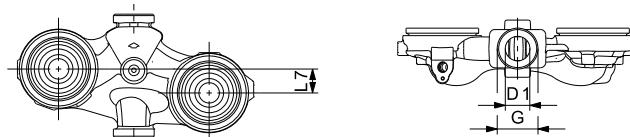
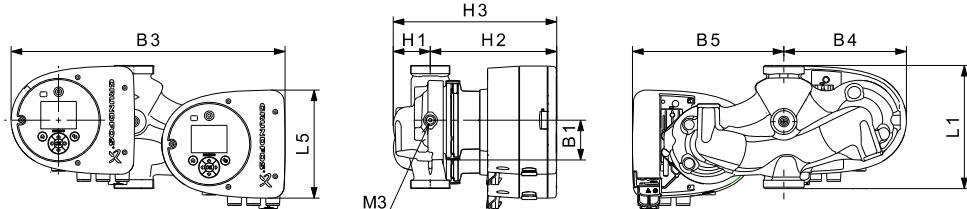
TM05 7939 1613

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 144 | 1.19 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m ³] |
|------------------|--------------------|------------------------------|
| 13.2 | 14.0 | 0.04 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEL: 0.20.

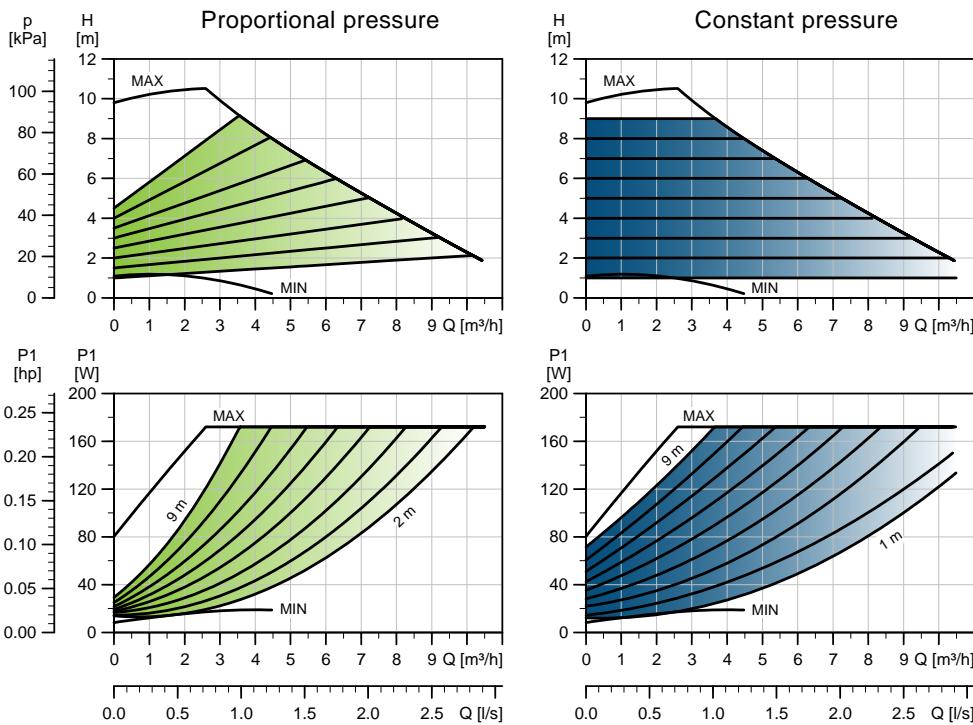


| Pump type | Dimensions [mm] | | | | | | | | | | | | [inch] | |
|----------------|-----------------|-----|----|----|-----|-----|-----|----|-----|-----|----|---|--------|--|
| | L1 | L5 | L7 | B1 | B3 | B4 | B5 | H1 | H2 | H3 | D1 | G | M3 | |
| MAGNA3 D 32-80 | 180 | 158 | 35 | 58 | 400 | 179 | 221 | 54 | 185 | 239 | 32 | 2 | 1/4 | |

For product numbers, see page 139.

MAGNA3 32-100 (N)

1 x 230 V, 50/60 Hz



TM05 7938 1713

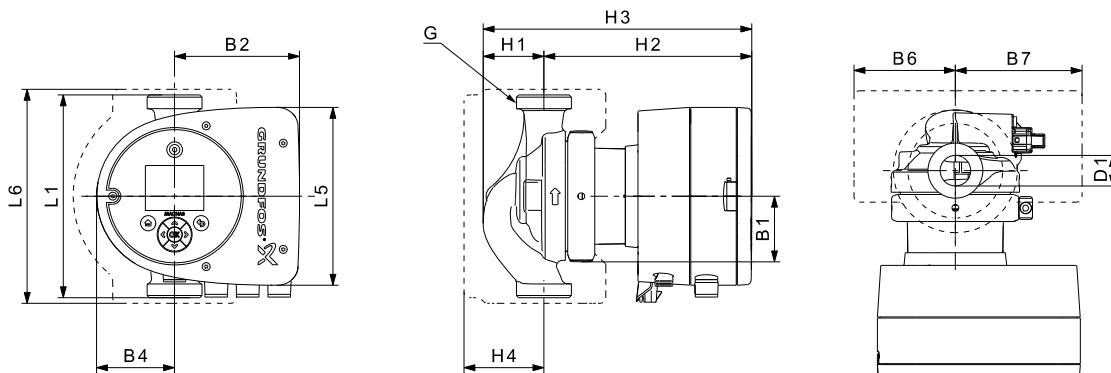
TM05 7938 1713

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 180 | 1.47 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m ³] |
|------------------|--------------------|------------------------------|
| 4.8 | 5.3 | 0.01 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEEI: 0.19.

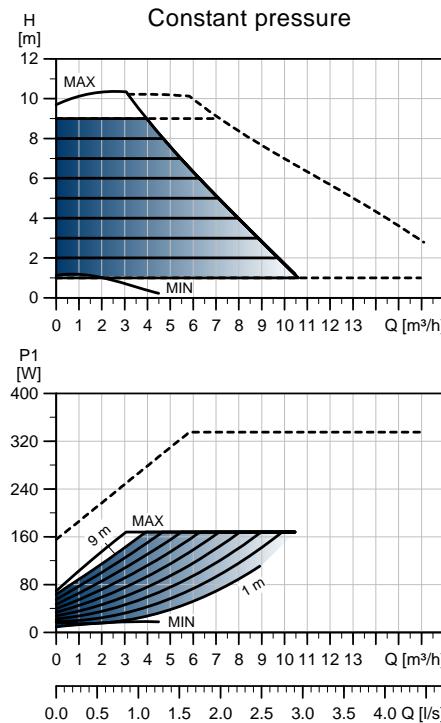
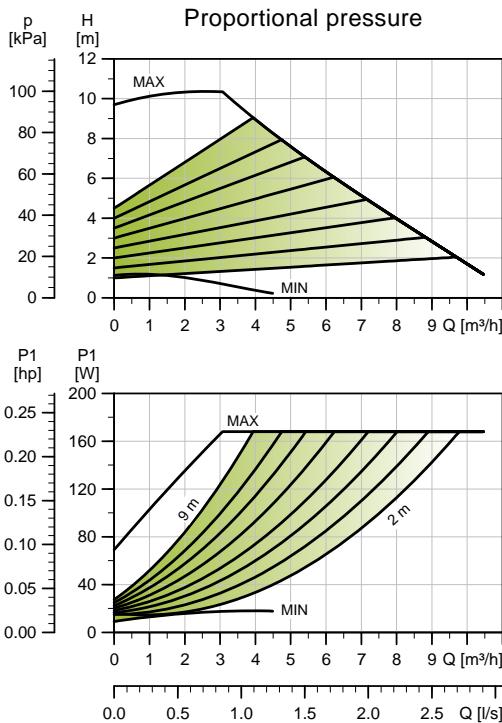


| Pump type | Dimensions [mm] | | | | | | | | | | | | [inch] | |
|------------------|-----------------|-----|-----|----|-----|----|----|-----|----|-----|-----|----|--------|---|
| | L1 | L5 | L6 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | G |
| MAGNA 32-100 (N) | 180 | 158 | 190 | 58 | 111 | 69 | 90 | 113 | 54 | 185 | 239 | 71 | 32 | 2 |

For product numbers, see page 139.

MAGNA3 D 32-100

1 x 230 V, 50/60 Hz



TM05 8328 2313

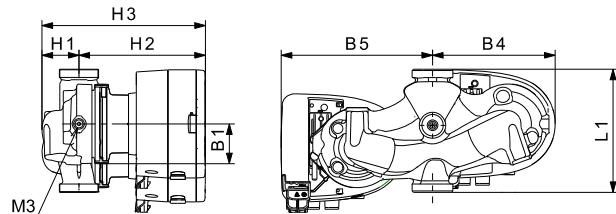
TM05 7939 1613

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 180 | 1.47 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEI: 0.20.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 13.2 | 14.0 | 0.04 |

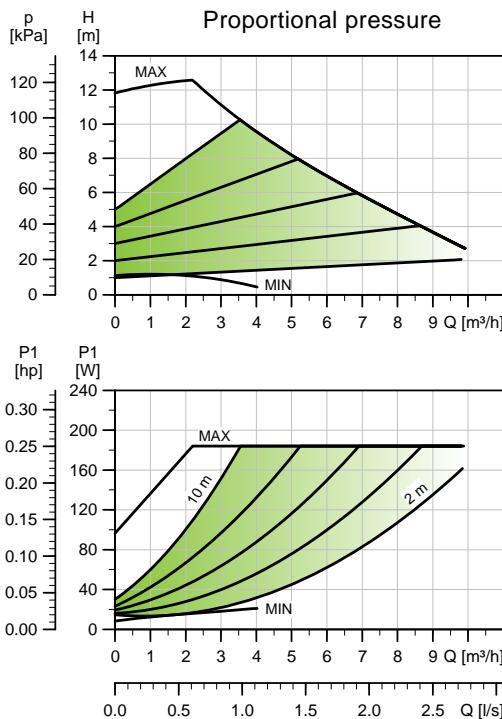


| Pump type | Dimensions [mm] | | | | | | | | | | | | [inch] | |
|-----------------|-----------------|-----|----|----|-----|-----|-----|----|-----|-----|----|---|--------|--|
| | L1 | L5 | L7 | B1 | B3 | B4 | B5 | H1 | H2 | H3 | D1 | G | M3 | |
| MAGNA3 D 32-100 | 180 | 158 | 35 | 58 | 400 | 179 | 221 | 54 | 185 | 239 | 32 | 2 | 1/4 | |

For product numbers, see page 139.

MAGNA3 32-120 (N)

1 x 230 V, 50/60 Hz



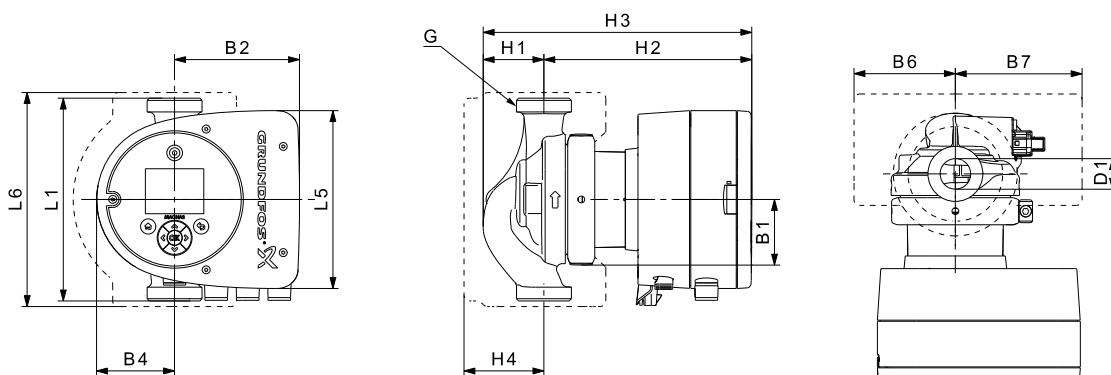
TM05 7669 1513

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 193 | 1.56 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 5.02 | 5.99 | 0.01 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EER: 0.19.



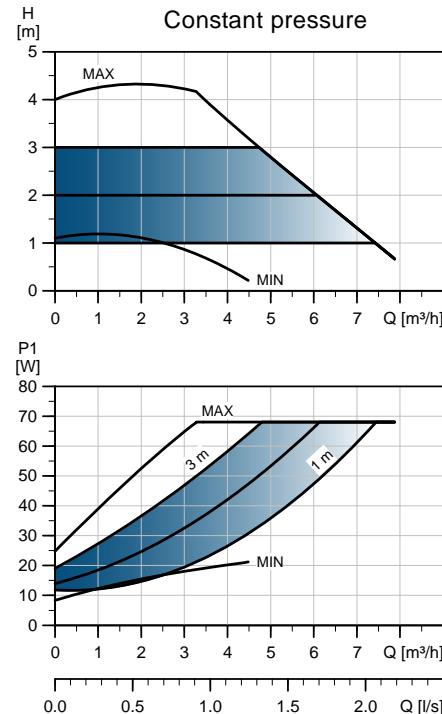
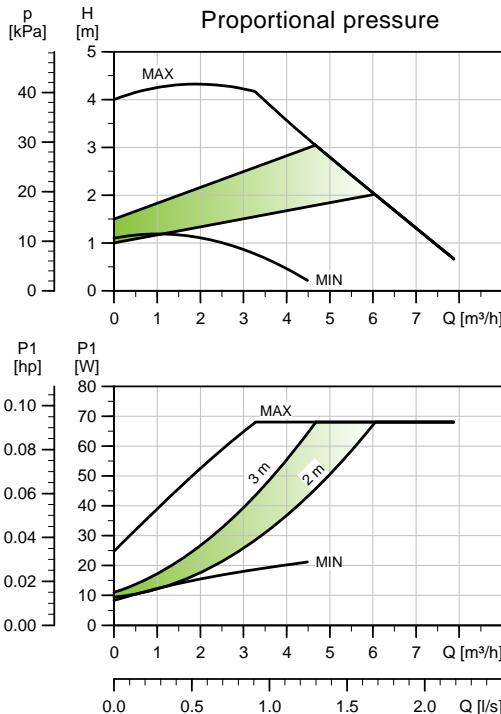
TM05 7688 1713

| Pump type | Dimensions [mm] | | | | | | | | | | | | [inch] | |
|-------------------|-----------------|-----|-----|----|-----|----|----|-----|----|-----|-----|----|--------|---|
| | L1 | L5 | L6 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | G |
| MAGNA3 32-120 (N) | 180 | 158 | 190 | 58 | 111 | 69 | 90 | 113 | 54 | 185 | 239 | 71 | 32 | 2 |

For product numbers, see page 139.

MAGNA3 32-40 F (N)

1 x 230 V, 50/60 Hz



TM05 7670 1513

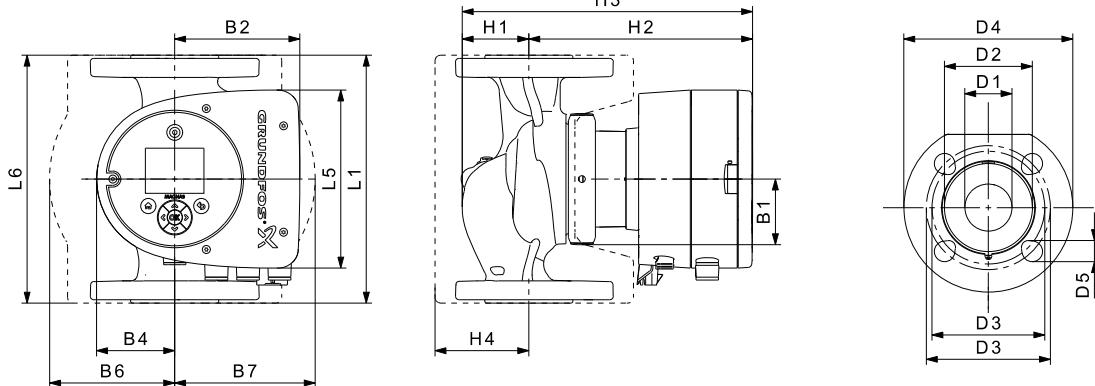
TM05 7985 2413

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 74 | 0.61 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EER: 0.19.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 7.8 | 8.3 | 0.02 |

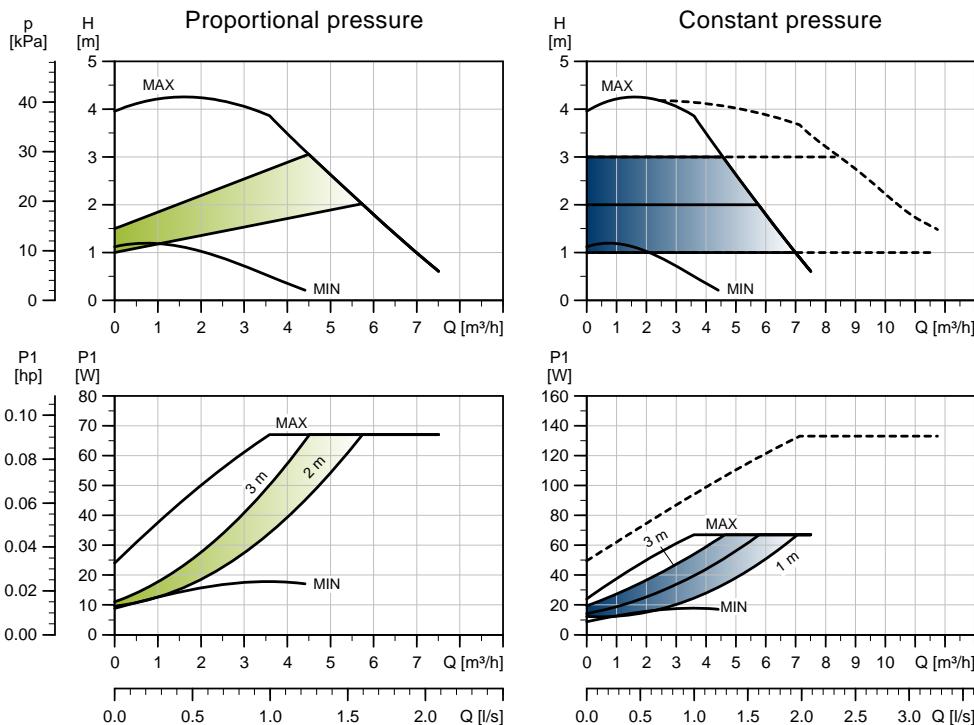


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | |
|--------------------|-----------------|-----|-----|----|-----|----|-----|-----|----|-----|-----|----|----|----|--------|-----|-------|
| | L1 | L5 | L6 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 32-40 F (N) | 220 | 158 | 220 | 58 | 111 | 69 | 100 | 110 | 65 | 185 | 250 | 82 | 32 | 76 | 90/100 | 140 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 32-40 F

1 x 230 V, 50/60 Hz



TM05 8335 2313

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 74 | 0.61 |

The pump incorporates overload protection.

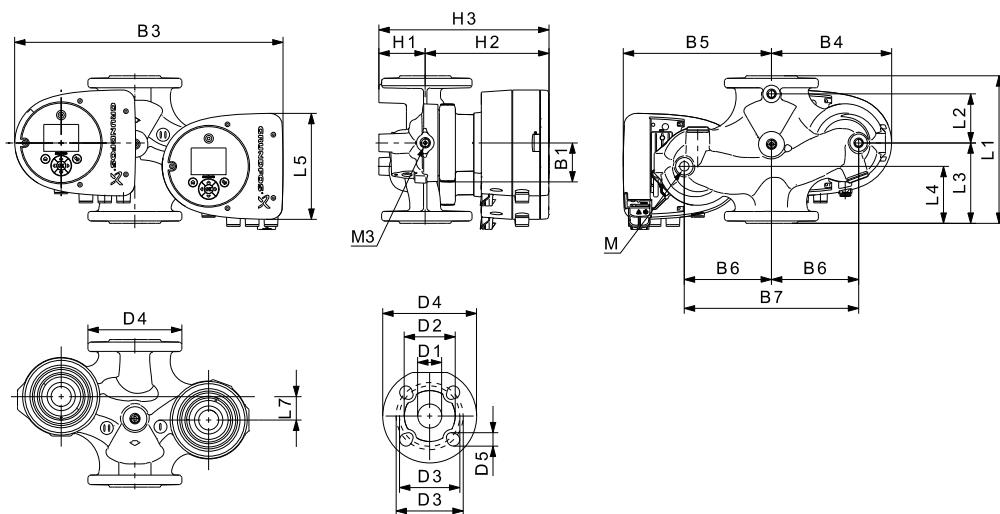
Connections: See [Pipe connections](#), page 134.

System pressure: Max. 1.0 MPa (10 bar).

Liquid temperature: Also available as max. 1.6 MPa (16 bar).

Specific EEI: -10 to 110 °C (TF 110).

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 15.6 | 16.3 | 0.04 |



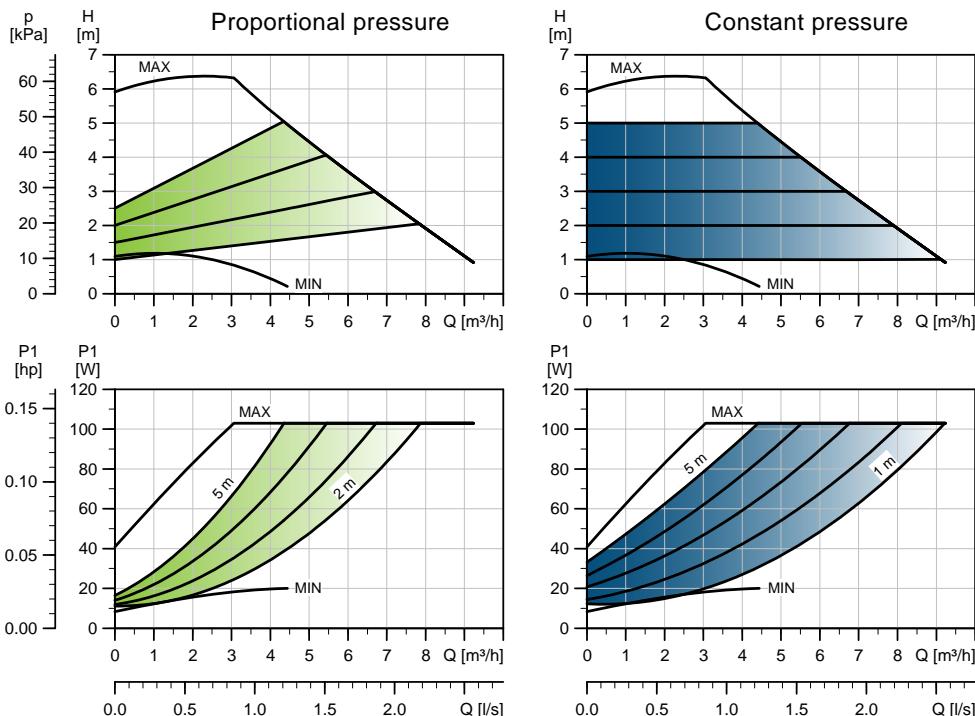
TM05 7986 1713

| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|------------------|-----------------|----|-----|----|-----|----|----|-----|-----|-----|-----|-----|----|-----|-----|----|----|--------|-----|-------|------------|
| | L1 | L2 | L3 | L4 | L5 | L7 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 32-40 F | 220 | 73 | 120 | 85 | 158 | 35 | 58 | 400 | 179 | 221 | 130 | 260 | 69 | 185 | 254 | 32 | 76 | 90/100 | 140 | 14/19 | M12 Rp 1/4 |

For product numbers, see page 139.

MAGNA3 32-60 F (N)

1 x 230 V, 50/60 Hz



TM05 7671 1513

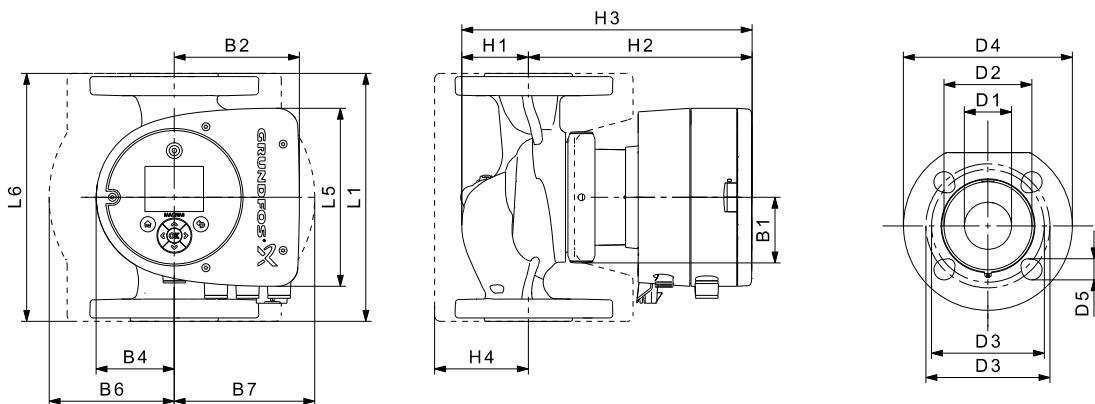
TM05 7985 2413

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 110 | 0.91 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 7.8 | 8.3 | 0.02 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EER: 0.19.

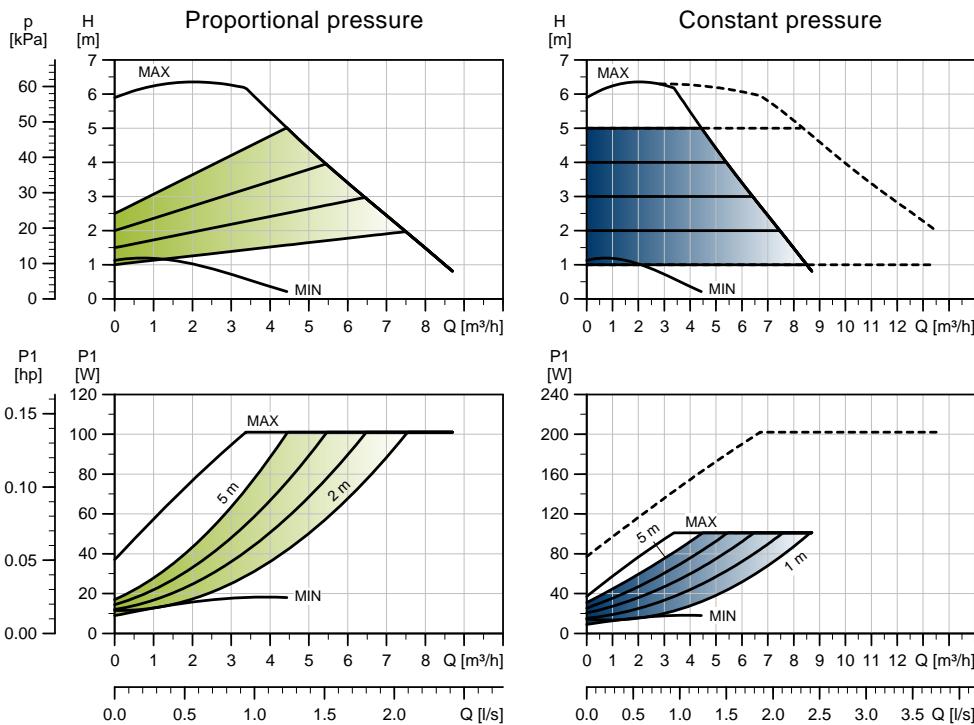


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | |
|--------------------|-----------------|-----|-----|----|-----|----|-----|-----|----|-----|-----|----|----|----|--------|-----|-------|
| | L1 | L5 | L6 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 32-60 F (N) | 220 | 158 | 220 | 58 | 111 | 69 | 100 | 110 | 65 | 185 | 250 | 82 | 32 | 76 | 90/100 | 140 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 32-60 F

1 x 230 V, 50/60 Hz



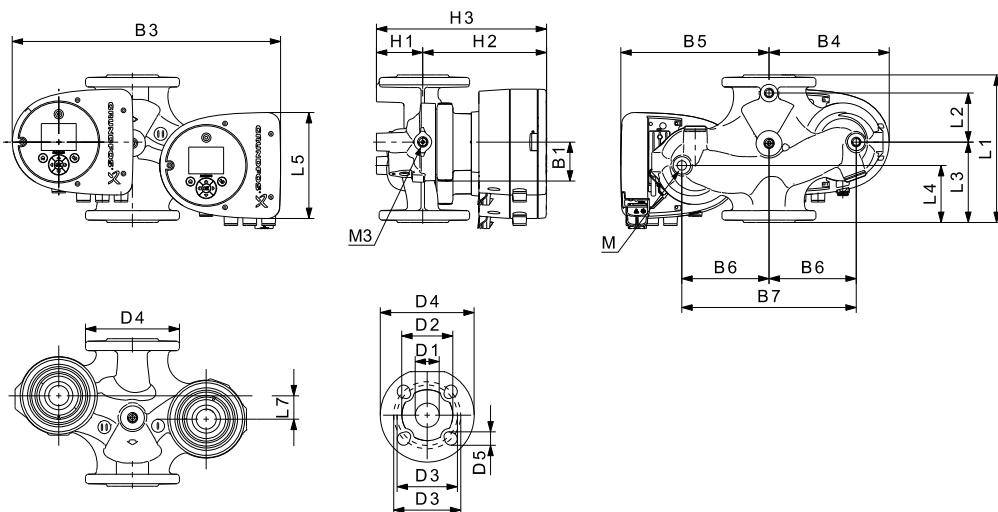
TM05 8326 2313

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 110 | 0.91 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m ³] |
|------------------|--------------------|------------------------------|
| 15.6 | 16.3 | 0.04 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEl: 0.20.



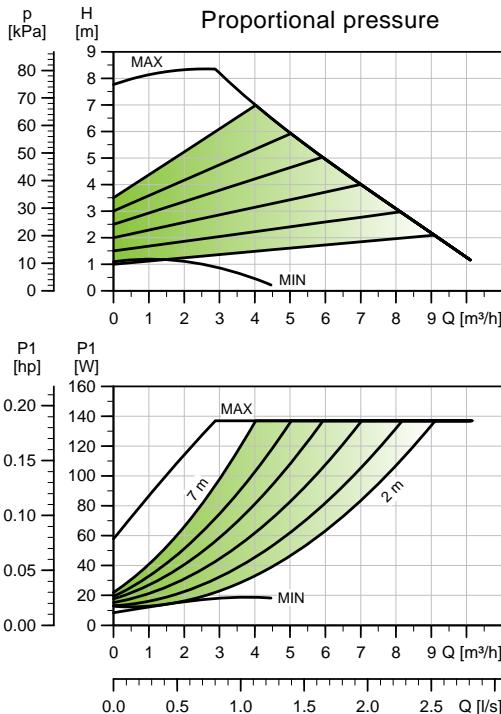
TM05 7986 1713

| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | | |
|------------------|-----------------|----|-----|----|-----|----|----|-----|-----|-----|-----|-----|----|-----|-----|----|----|--------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | L7 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 | |
| MAGNA3 D 32-60 F | 220 | 73 | 120 | 85 | 158 | 35 | 58 | 400 | 179 | 221 | 130 | 260 | 69 | 185 | 254 | 32 | 76 | 90/100 | 140 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 32-80 F (N)

1 x 230 V, 50/60 Hz



TM05 7672 1513

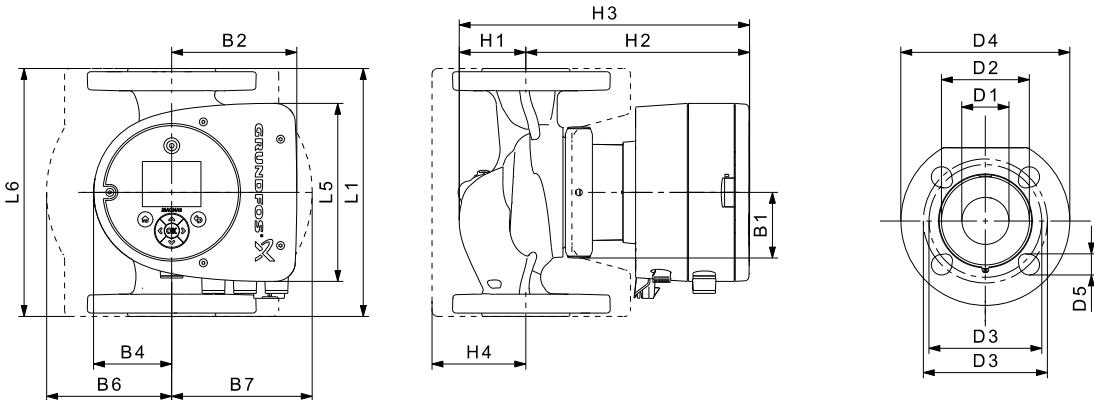
TM05 7985 2413

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 144 | 1.19 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.19.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 7.8 | 8.3 | 0.02 |

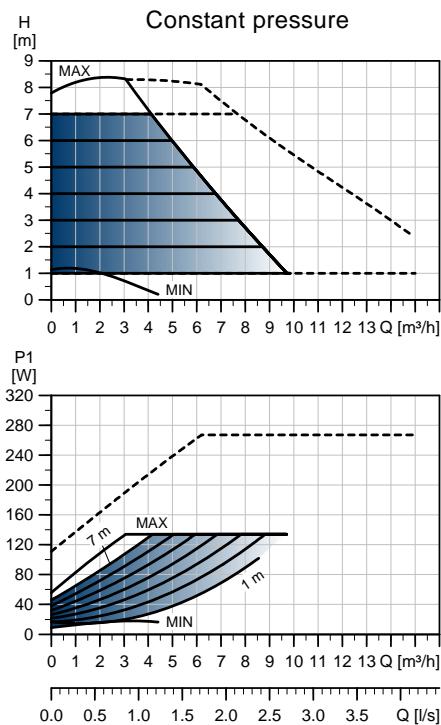
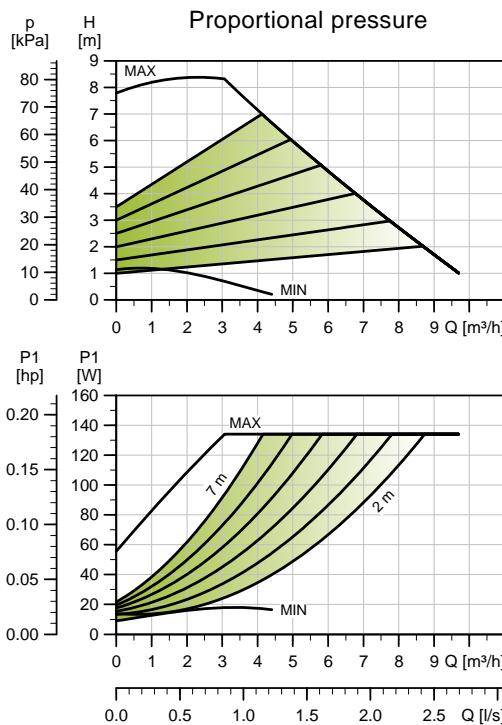


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | |
|--------------------|-----------------|-----|-----|----|-----|----|-----|-----|----|-----|-----|----|----|----|--------|-----|-------|
| | L1 | L5 | L6 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 32-80 F (N) | 220 | 158 | 220 | 58 | 111 | 69 | 100 | 110 | 65 | 185 | 250 | 82 | 32 | 76 | 90/100 | 140 | 14/19 |

For product numbers, see page 139.

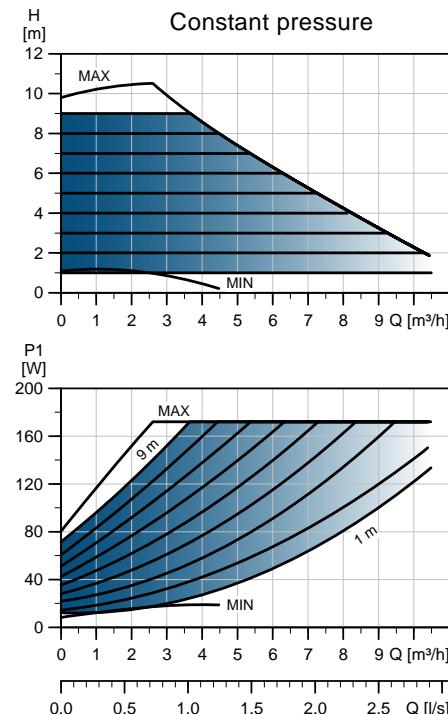
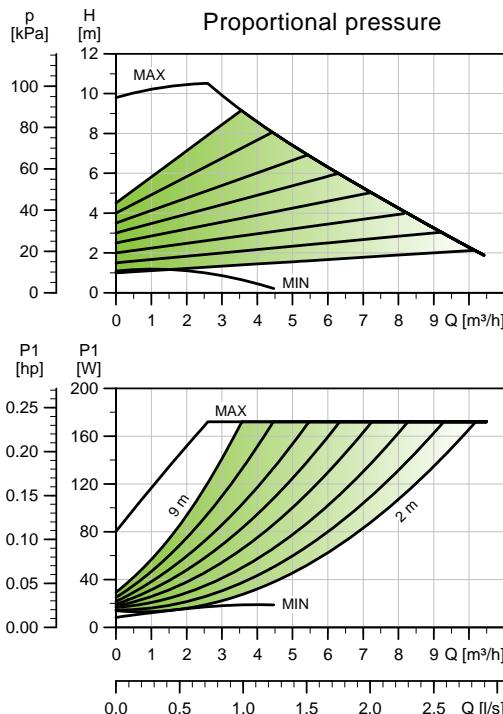
MAGNA3 D 32-80 F

1 x 230 V, 50/60 Hz



MAGNA3 32-100 F (N)

1 x 230 V, 50/60 Hz



TM05 7673 1513

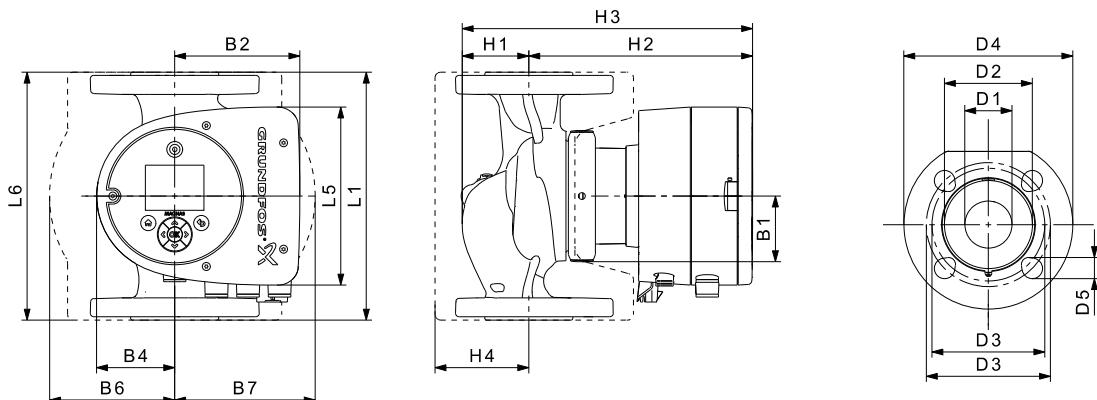
TM05 7985 2413

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 180 | 1.47 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEl: 0.19.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 7.8 | 8.3 | 0.02 |

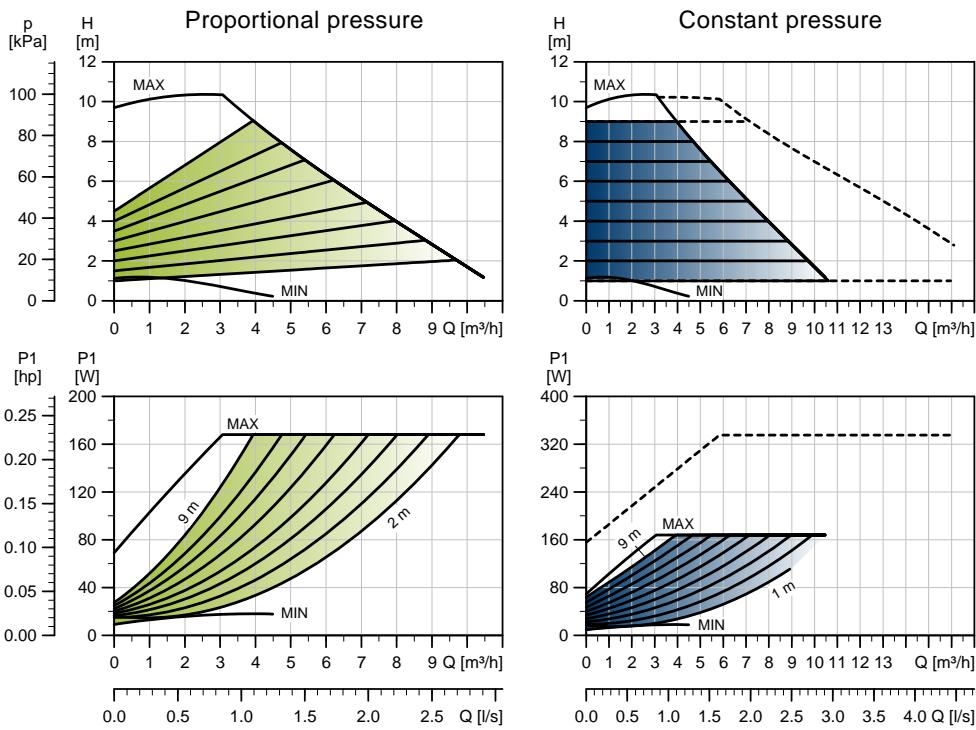


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | |
|---------------------|-----------------|-----|-----|----|-----|----|-----|-----|----|-----|-----|----|----|----|--------|-----|-------|
| | L1 | L5 | L6 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 32-100 F (N) | 220 | 158 | 220 | 58 | 111 | 69 | 100 | 110 | 65 | 185 | 250 | 82 | 32 | 76 | 90/100 | 140 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 32-100 F

1 x 230 V, 50/60 Hz



| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 9 | 0.09 |
| Max. | 180 | 1.47 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.

System pressure: Max. 1.0 MPa (10 bar).

High pressure: 10 to 110 °C (TE 110)

Specific EER: 0.30

Specific EET. 0.20.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m ³] |
|------------------|--------------------|------------------------------|
| 15.6 | 16.3 | 0.04 |

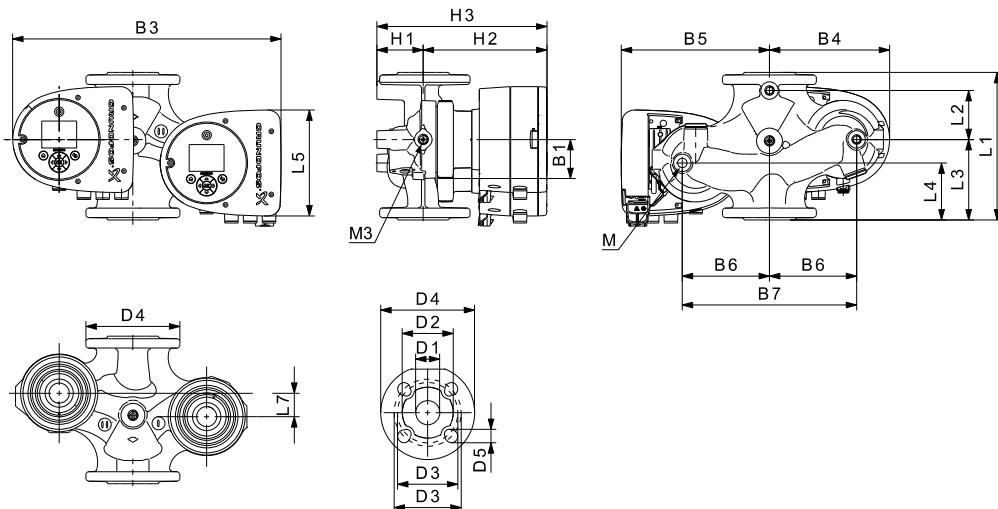
Connections: See [Pipe connections](#), page 134.

System pressure: Max. 1.0 MPa (10 bar).

High pressure: 10 to 110 °C (TE 110)

Specific EER: 0.30

Specific EET. 0.20.

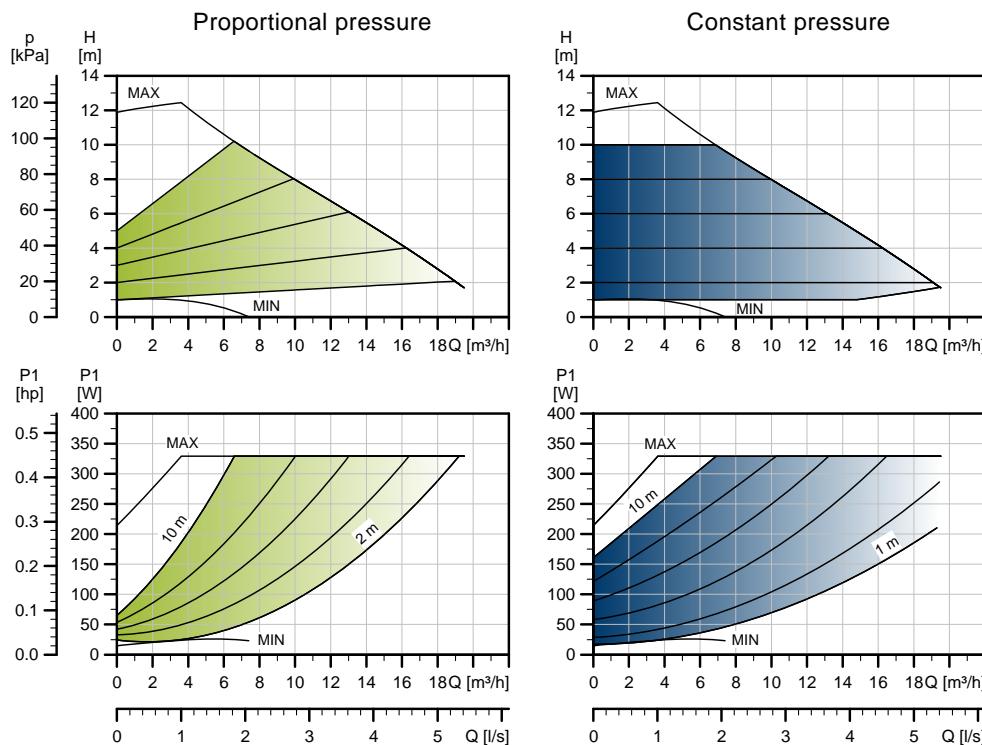


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|----|-----|----|-----|----|----|-----|-----|-----|-----|-----|----|-----|-----|----|----|--------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | L7 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 32-100 F | 220 | 73 | 120 | 85 | 158 | 35 | 58 | 400 | 179 | 221 | 130 | 260 | 69 | 185 | 254 | 32 | 76 | 90/100 | 140 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 32-120 F (N)

1 x 230 V, 50/60 Hz



TM05 3733 1912

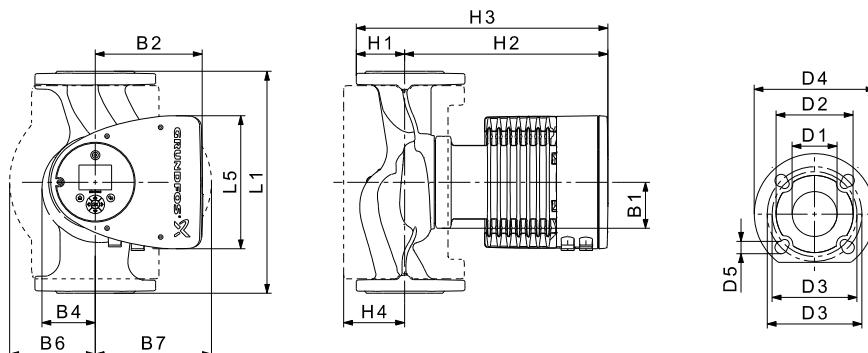
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 15 | 0.18 |
| Max. | 336 | 1.50 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.18.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 15 | 17.4 | 0.04 |

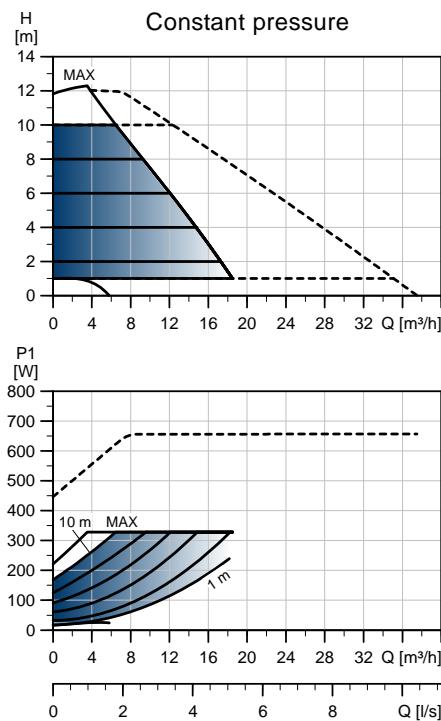
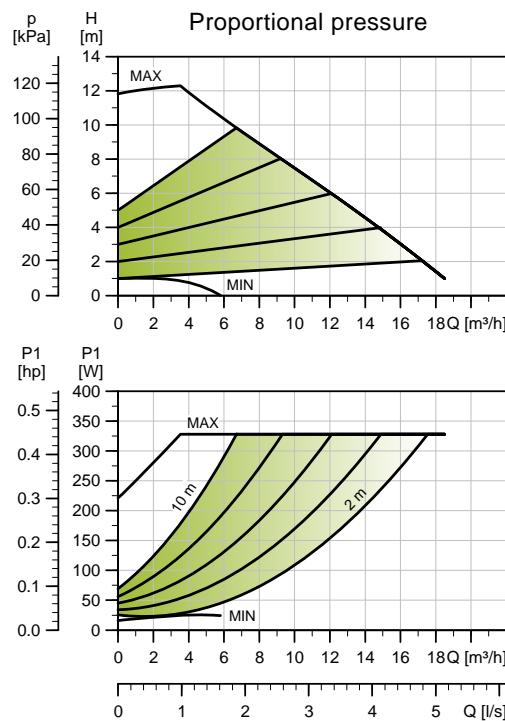


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|---------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|----|--------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 32-120 F (N) | 220 | 204 | 84 | 164 | 73 | 106 | 116 | 65 | 301 | 366 | 86 | 32 | 76 | 90/100 | 140 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 32-120 F

1 x 230 V, 50/60 Hz



TM05 3787 1912

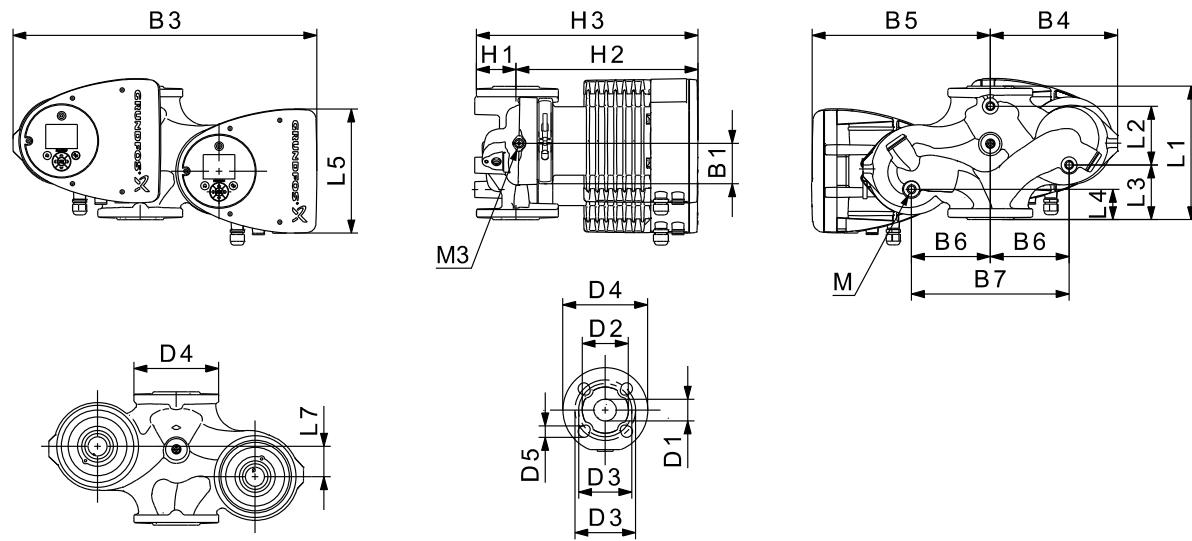
TM05 5294 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 16 | 0.18 |
| Max. | 335 | 1.49 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 30 | 30.3 | 0.04 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEl: 0.20.

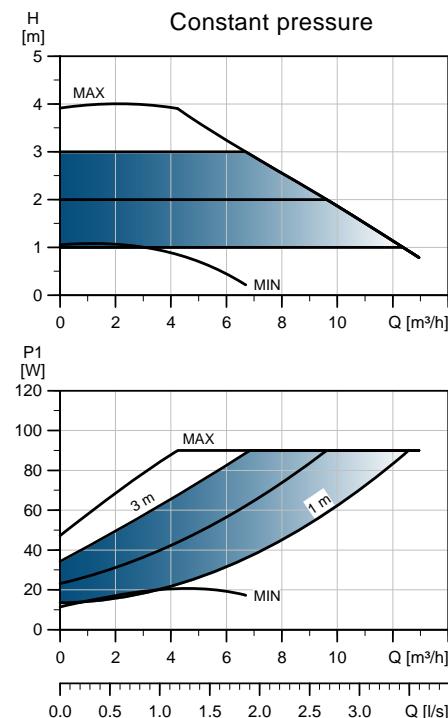
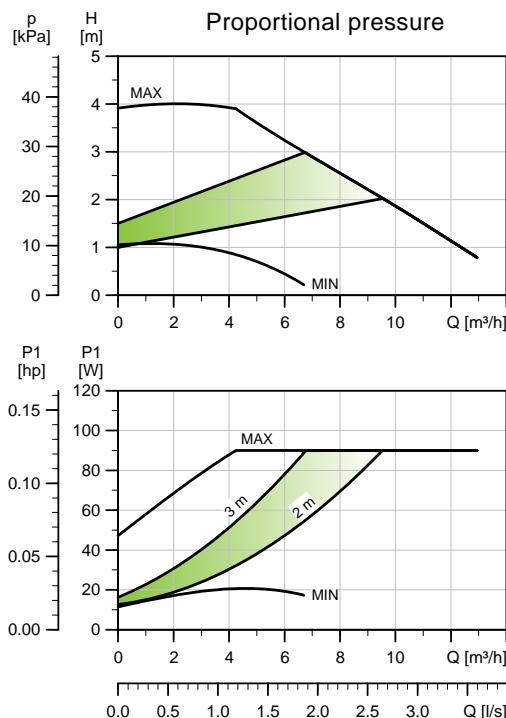


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|----|----|----|-----|----|----|-----|-----|-----|-----|-----|----|-----|-----|----|----|--------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | L7 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 32-120 F | 220 | 97 | 90 | 50 | 204 | 50 | 84 | 502 | 210 | 294 | 130 | 260 | 68 | 300 | 368 | 32 | 76 | 90/100 | 140 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 40-40 F (N)

1 x 230 V, 50/60 Hz



TM05 7674 1513

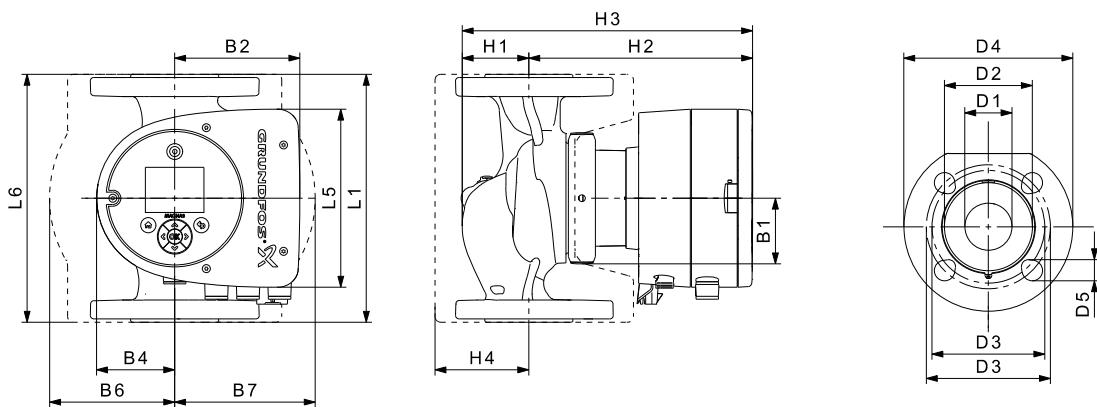
TM05 7985 1713

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 12 | 0.11 |
| Max. | 97 | 0.80 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEL: 0.19.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 9.8 | 10.4 | 0.02 |

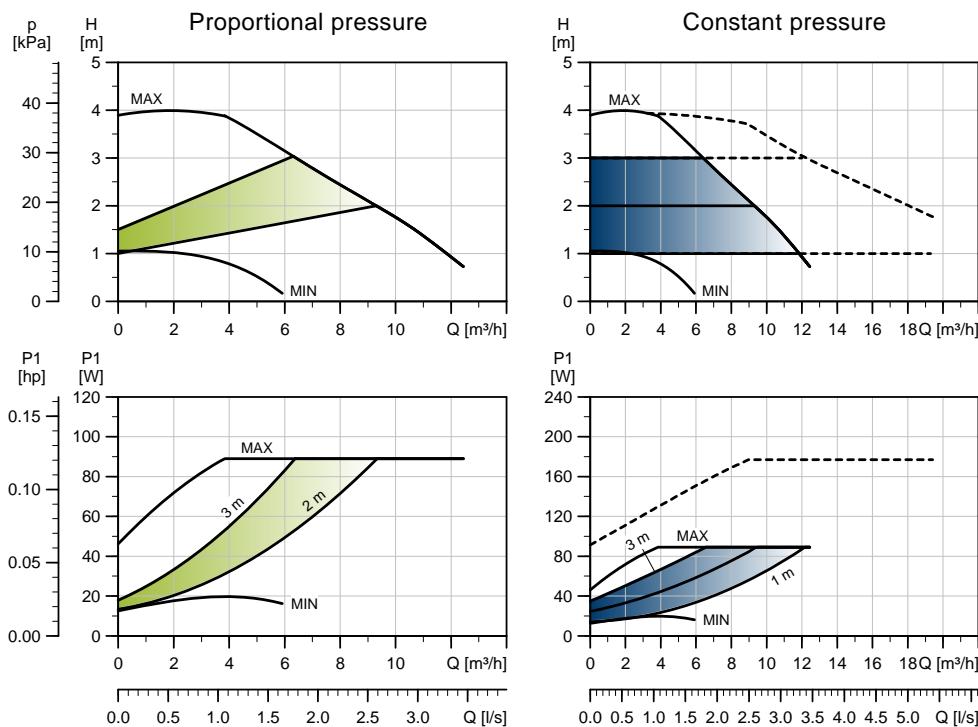


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | |
|--------------------|-----------------|-----|-----|----|-----|----|-----|-----|----|-----|-----|----|----|----|---------|-----|-------|
| | L1 | L5 | L6 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 40-40 F (N) | 220 | 158 | 220 | 58 | 111 | 69 | 105 | 105 | 65 | 199 | 264 | 83 | 40 | 84 | 100/110 | 150 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 40-40 F

1 x 230 V, 50/60 Hz



TM05 8329 2313

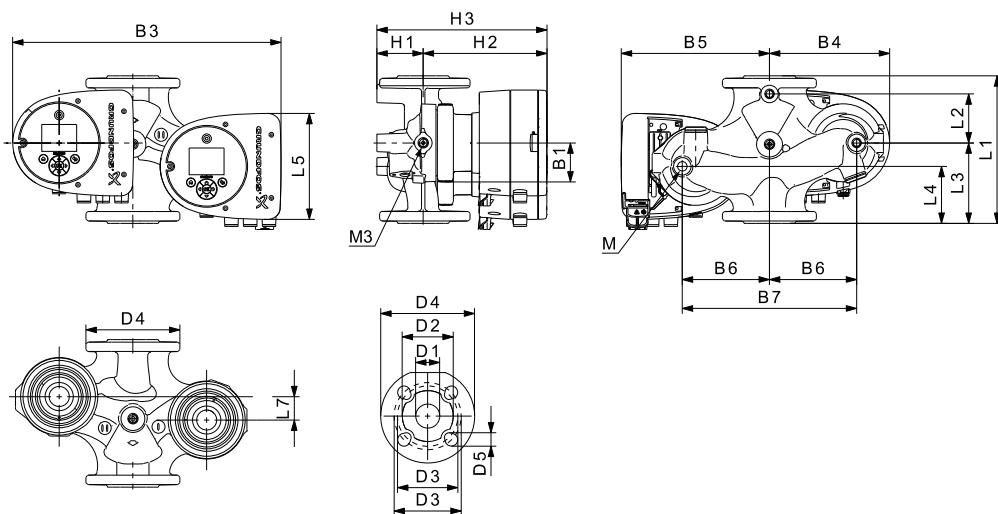
TM05 7986 1713

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 12 | 0.11 |
| Max. | 97 | 0.80 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Liquid temperature: Also available as max. 1.6 MPa (16 bar).
 Specific EEI: -10 to 110 °C (TF 110).
 Specific EEI: 0.20.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 19.9 | 20.6 | 0.04 |

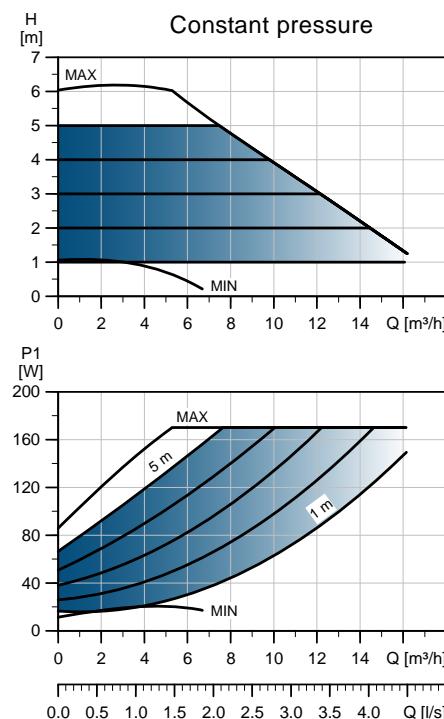
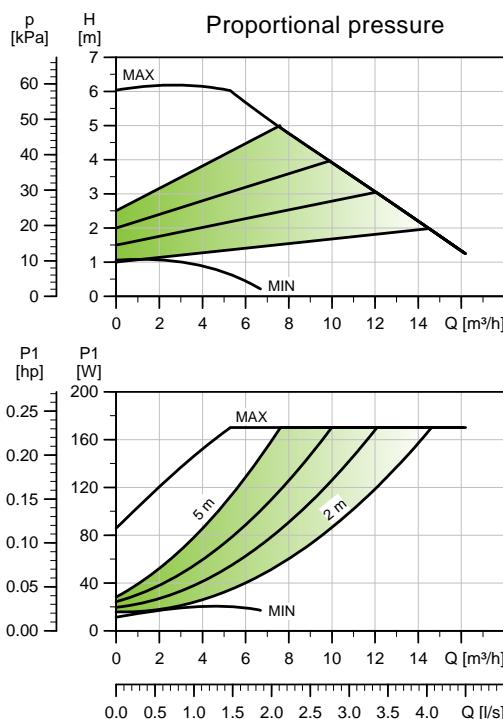


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | Rp | | | | | |
|------------------|-----------------|----|-----|----|-----|----|----|-----|-----|-----|-----|-----|----|-----|-----|----|----|---------|-----|-------|----|-----|
| | L1 | L2 | L3 | L4 | L5 | L7 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 40-40 F | 220 | 53 | 140 | 60 | 158 | 15 | 58 | 452 | 211 | 241 | 130 | 260 | 76 | 199 | 275 | 40 | 84 | 100/110 | 150 | 14/19 | 12 | 1/4 |

For product numbers, see page 139.

MAGNA3 40-60 F (N)

1 x 230 V, 50/60 Hz



TM05 7675 1513

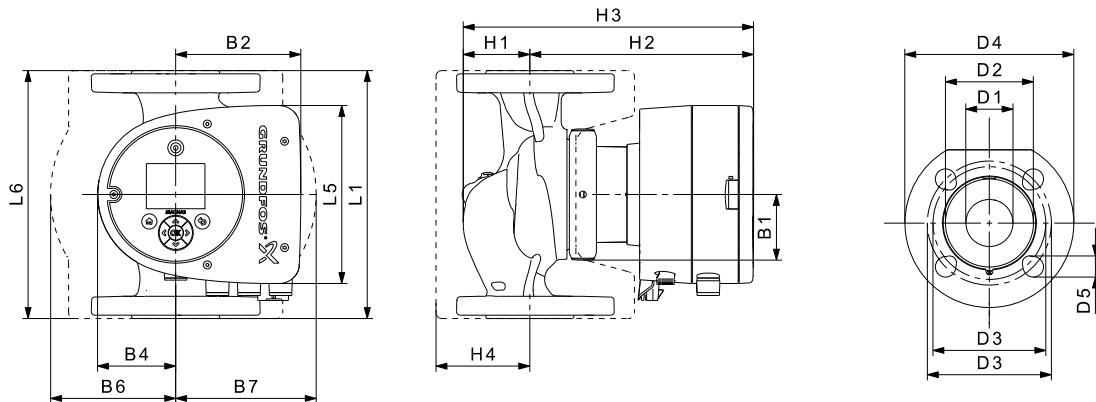
TM05 7985 1713

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 12 | 0.11 |
| Max. | 178 | 1.47 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 9.9 | 10.4 | 0.02 |

Connections: See [Pipe connections](#), page 134.
System pressure: Max. 1.0 MPa (10 bar).
Also available as max. 1.6 MPa (16 bar).
Liquid temperature: -10 to 110 °C (TF 110).
Also available with: Stainless-steel pump housing, type N.
Specific EEl: 0.19.

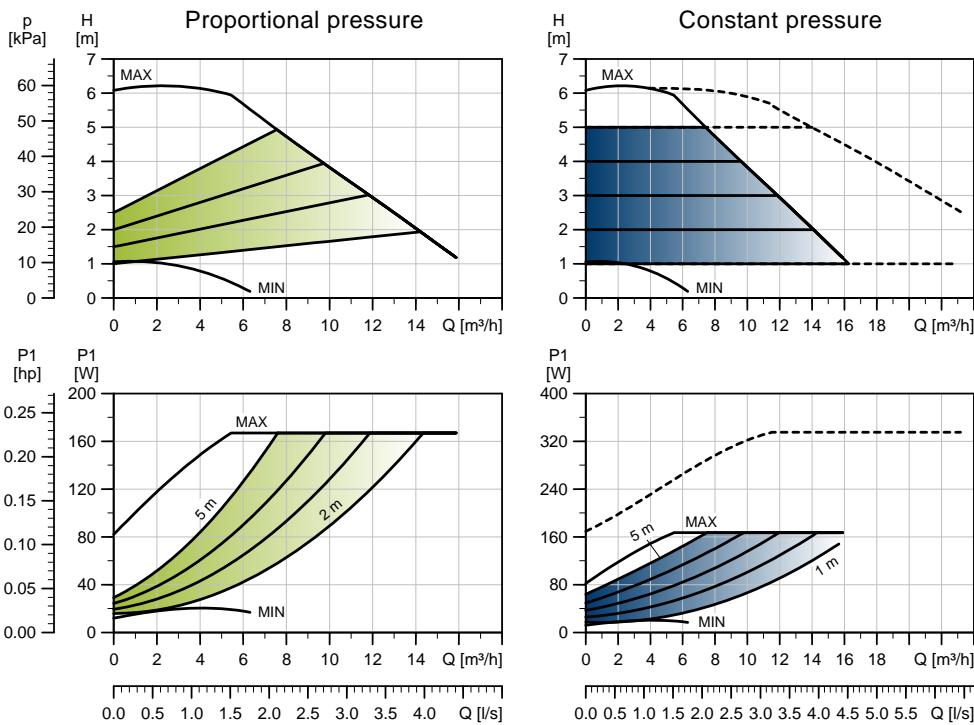


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | |
|--------------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | L ₁ | L ₅ | L ₆ | B ₁ | B ₂ | B ₄ | B ₆ | B ₇ | H ₁ | H ₂ | H ₃ | H ₄ | D ₁ | D ₂ | D ₃ | D ₄ | D ₅ |
| MAGNA3 40-60 F (N) | 220 | 158 | 220 | 58 | 111 | 69 | 105 | 105 | 65 | 199 | 264 | 83 | 40 | 84 | 100/110 | 150 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 40-60 F

1 x 230 V, 50/60 Hz



TM05 8830 2313

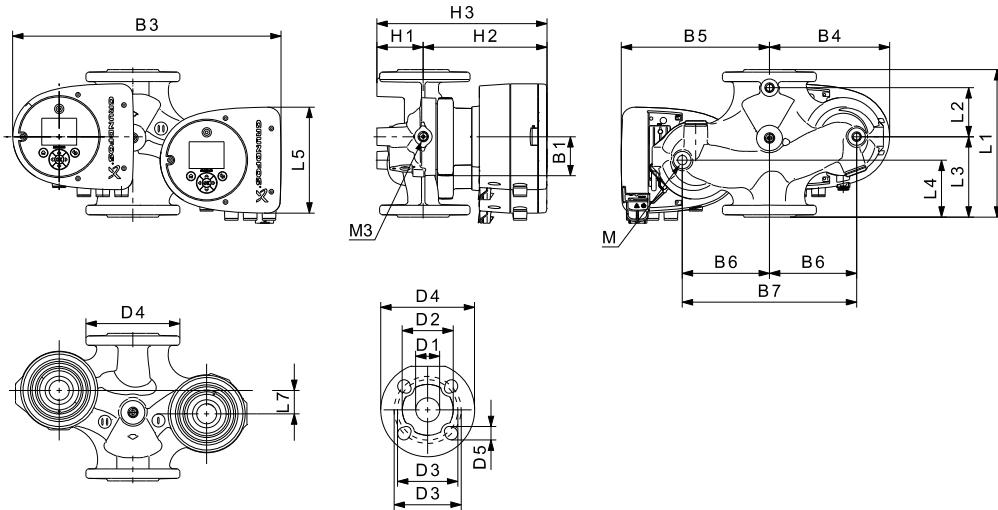
TM05 7986 1713

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 12 | 0.11 |
| Max. | 178 | 1.47 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Liquid temperature: Also available as max. 1.6 MPa (16 bar).
 Specific EEI: -10 to 110 °C (TF 110).

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m^3] |
|------------------|--------------------|-----------------------------|
| 19.9 | 20.6 | 0.04 |

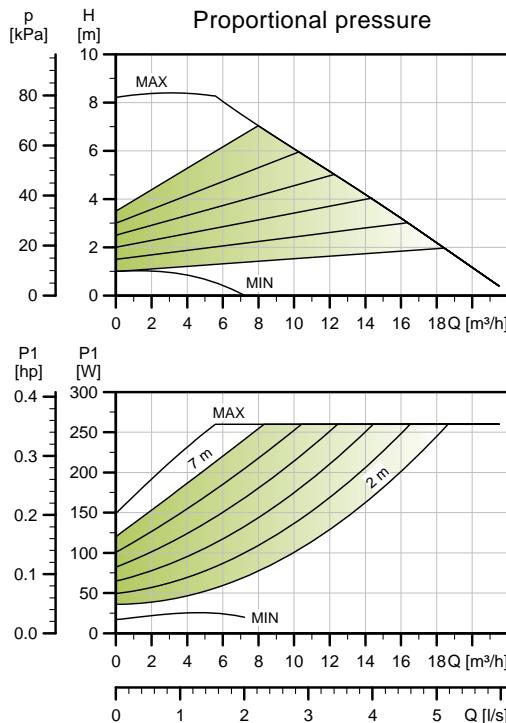


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | Rp | | | | |
|------------------|-----------------|----|-----|----|-----|----|----|-----|-----|-----|-----|-----|----|-----|-----|----|----|---------|-----|-------|----|-----|
| | L1 | L2 | L3 | L4 | L5 | L7 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 40-60 F | 220 | 53 | 140 | 60 | 158 | 15 | 58 | 452 | 211 | 241 | 130 | 260 | 76 | 199 | 275 | 40 | 84 | 100/110 | 150 | 14/19 | 12 | 1/4 |

For product numbers, see page 139.

MAGNA3 40-80 F (N)

1 x 230 V, 50/60 Hz



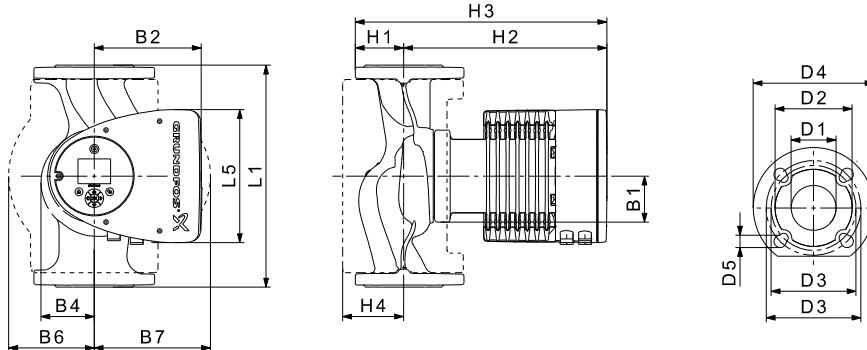
TM05 3734 1912

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 17 | 0.19 |
| Max. | 265 | 1.20 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.19.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 15.9 | 18.7 | 0.04 |



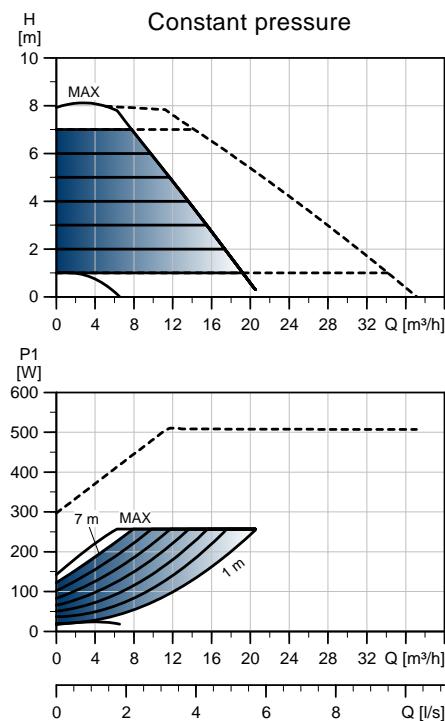
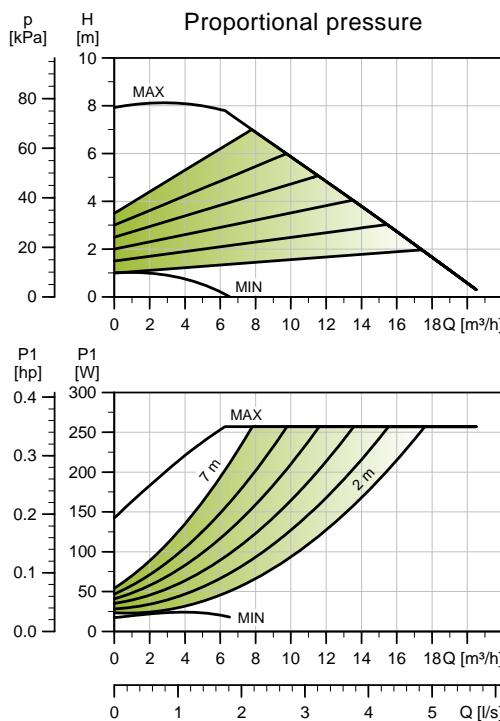
TM05 2204 3612

| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|--------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 40-80 F (N) | 220 | 204 | 84 | 164 | 73 | 106 | 128 | 65 | 304 | 369 | 83 | 40 | 84 | 100/110 | 150 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 40-80 F

1 x 230 V, 50/60 Hz



TM05 3788 1912

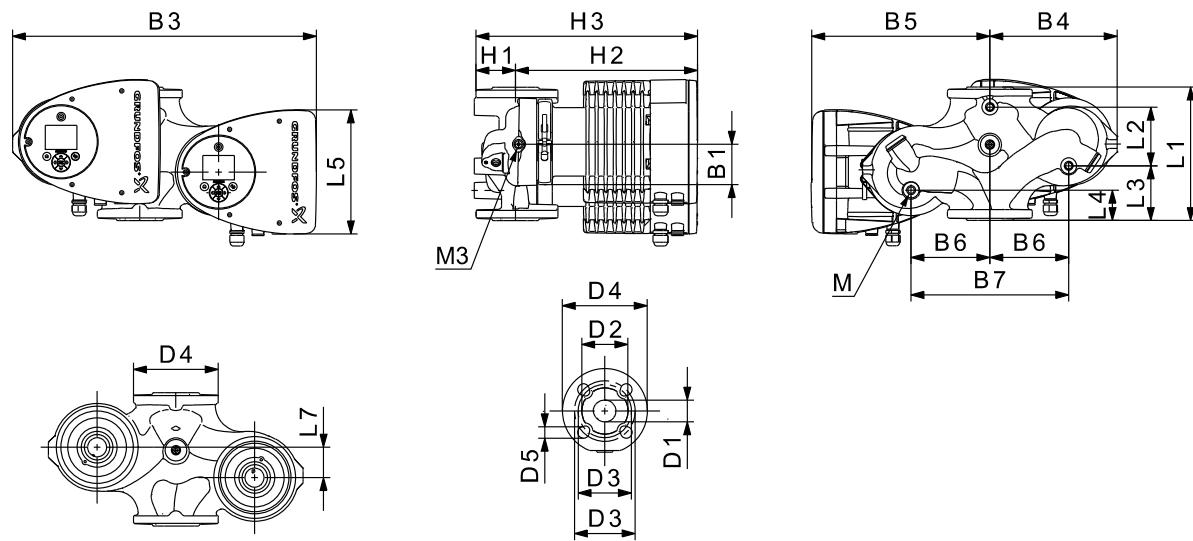
TM05 5294 3612

| Speed | P1 [W] | I _{1/I} [A] |
|-------|--------|----------------------|
| Min. | 17 | 0.19 |
| Max. | 269 | 1.21 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Liquid temperature: Also available as max. 1.6 MPa (16 bar).
 Specific EEl: -10 to 110 °C (TF 110).
 Specific EEl: 0.20.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 32.6 | 32.8 | 0.04 |

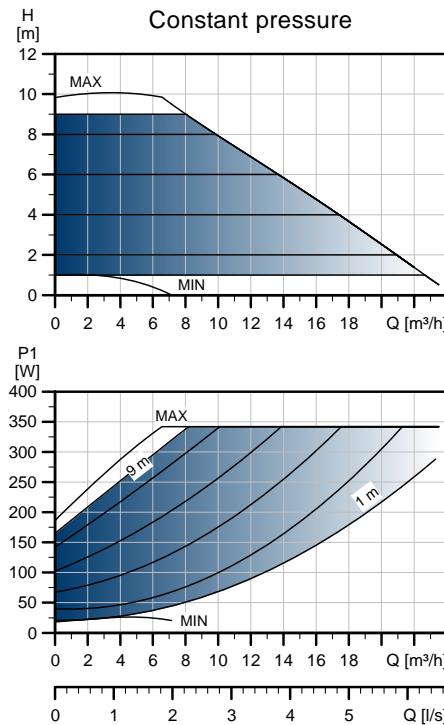
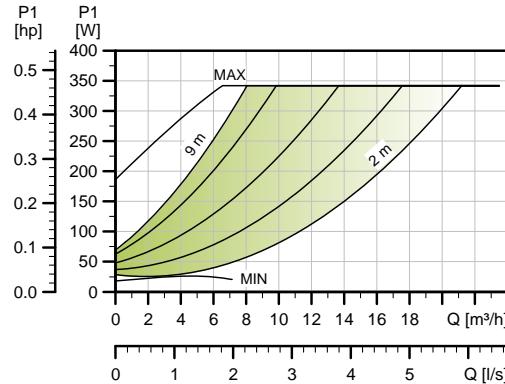
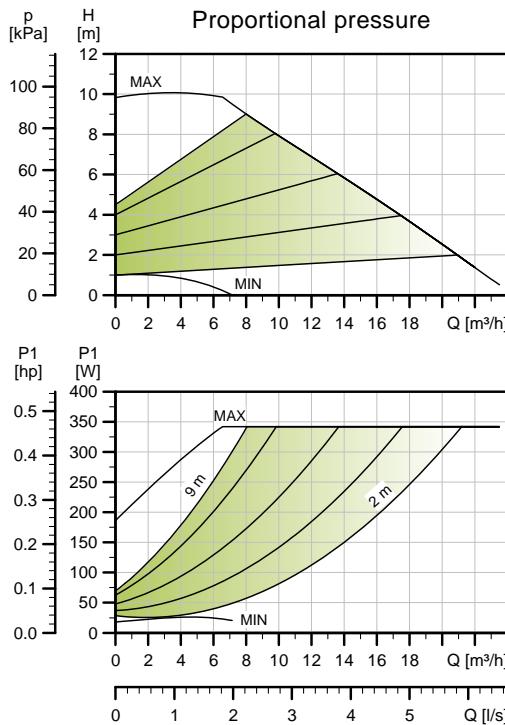


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | | |
|------------------|-----------------|----|-----|----|-----|----|----|-----|-----|-----|-----|-----|----|-----|-----|----|----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | L7 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 | |
| MAGNA3 D 40-80 F | 220 | 53 | 140 | 60 | 204 | 15 | 84 | 502 | 210 | 294 | 130 | 260 | 76 | 303 | 379 | 40 | 84 | 100/110 | 150 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 40-100 F (N)

1 x 230 V, 50/60 Hz



TM05 3735 1912

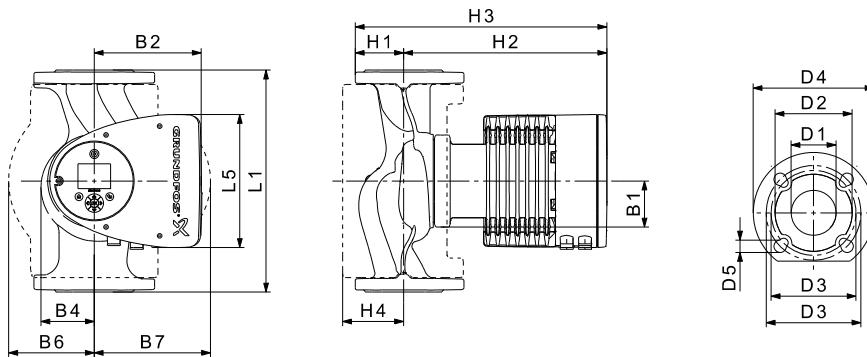
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 18 | 0.20 |
| Max. | 348 | 1.56 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.19.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 15.9 | 18.7 | 0.04 |

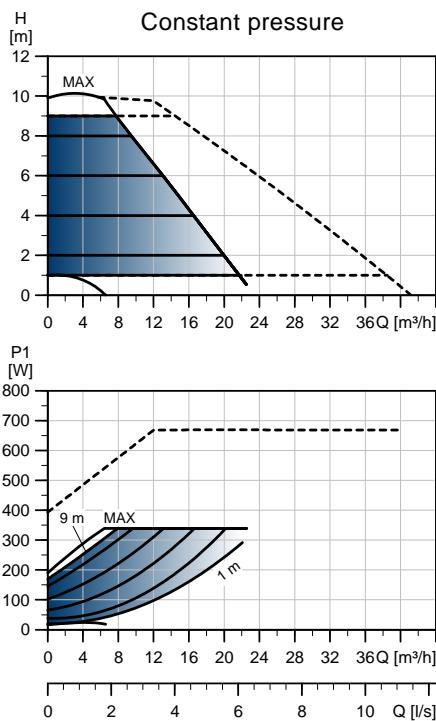
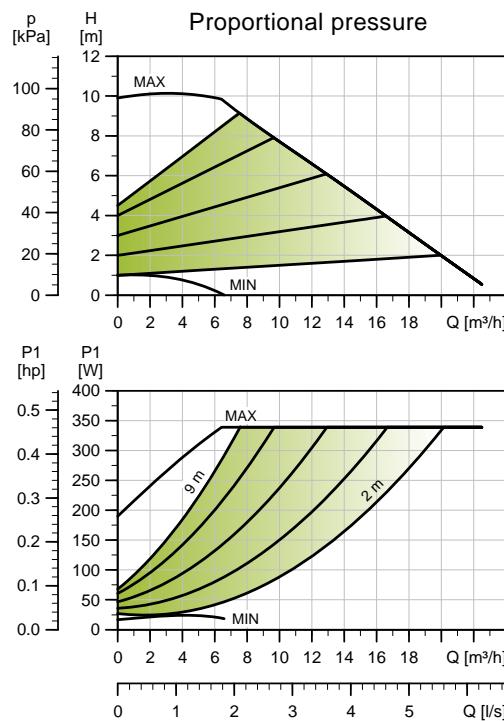


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | |
|---------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|----|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 |
| MAGNA3 40-100 F (N) | 220 | 204 | 84 | 164 | 73 | 106 | 128 | 65 | 304 | 369 | 83 | 40 | 84 | 150 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 40-100 F

1 x 230 V, 50/60 Hz



TM05 3789 1612

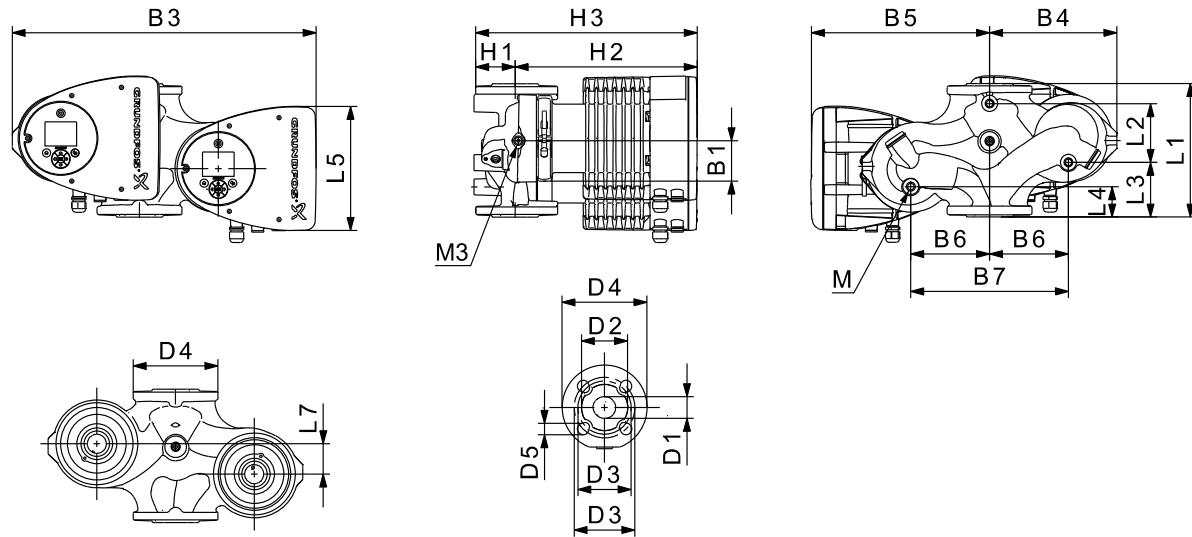
TM05 5243 3912

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 18 | 0.19 |
| Max. | 361 | 1.61 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 32.6 | 32.8 | 0.04 |

Connections: See [Pipe connections](#), page 134.
System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
Liquid temperature: -10 to 110 °C (TF 110).
Specific EEI: 0.19.

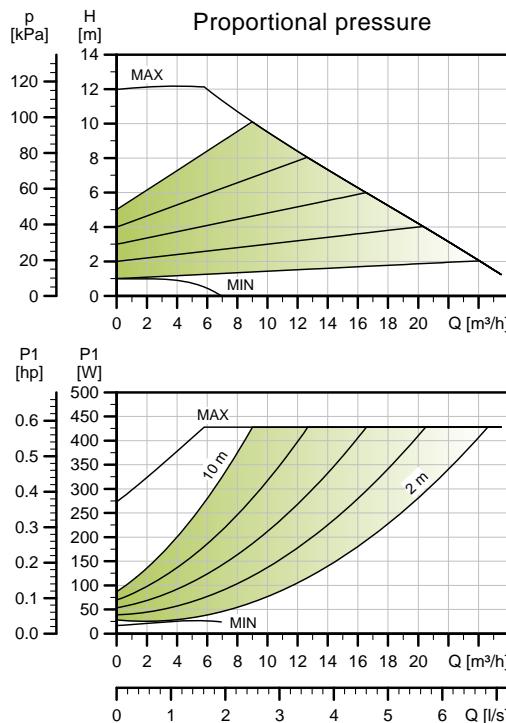


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|----|-----|----|-----|----|----|-----|-----|-----|-----|-----|----|-----|-----|----|----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | L7 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 | |
| MAGNA3 D 40-100 F | 220 | 53 | 140 | 60 | 204 | 15 | 84 | 502 | 210 | 294 | 130 | 260 | 76 | 303 | 379 | 40 | 84 | 100/110 | 150 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 40-120 F (N)

1 x 230 V, 50/60 Hz



TM05 3736 1912

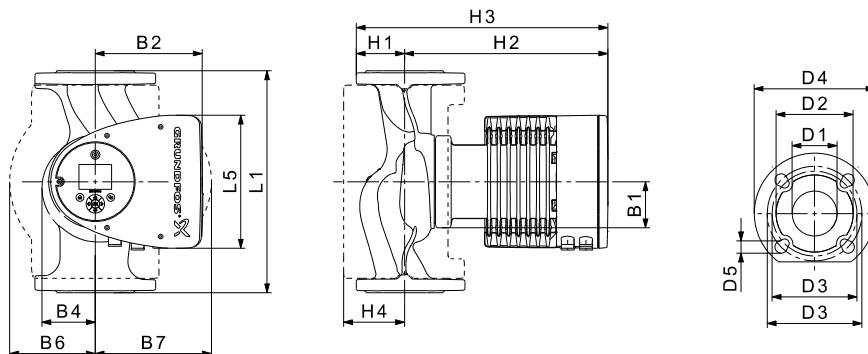
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 17 | 0.19 |
| Max. | 440 | 1.95 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 15.5 | 18.2 | 0.04 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEL: 0.18.

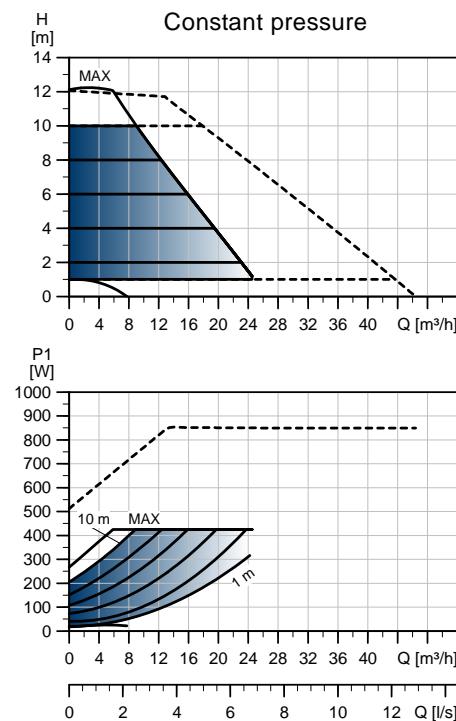
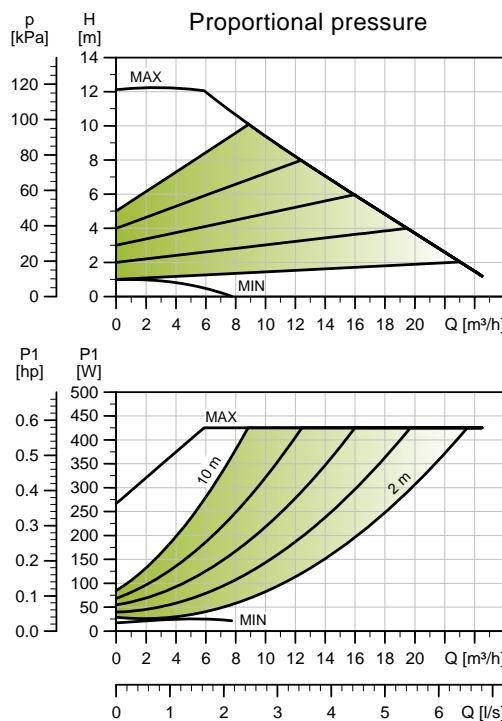


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|---------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 40-120 F (N) | 250 | 204 | 84 | 164 | 73 | 106 | 128 | 65 | 304 | 369 | 83 | 40 | 84 | 100/110 | 150 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 40-120 F

1 x 230 V, 50/60 Hz



TM05 3790 1912

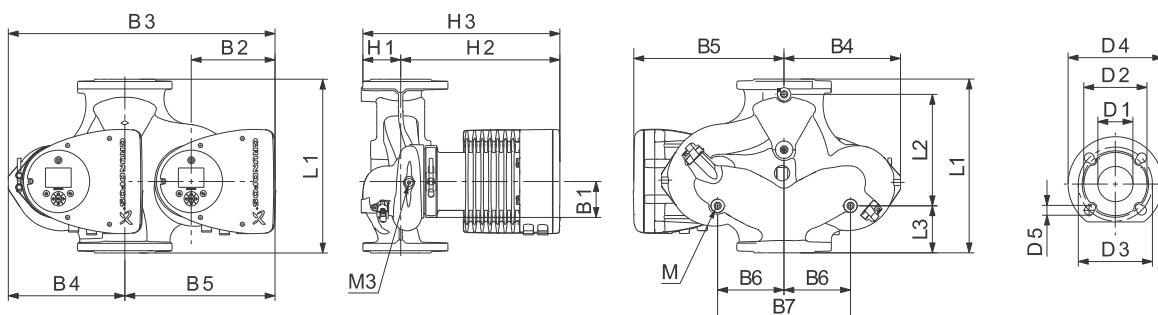
TM05 2205 1214

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 16 | 0.18 |
| Max. | 439 | 1.95 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 31.7 | 31.9 | 0.04 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEI: 0.18.

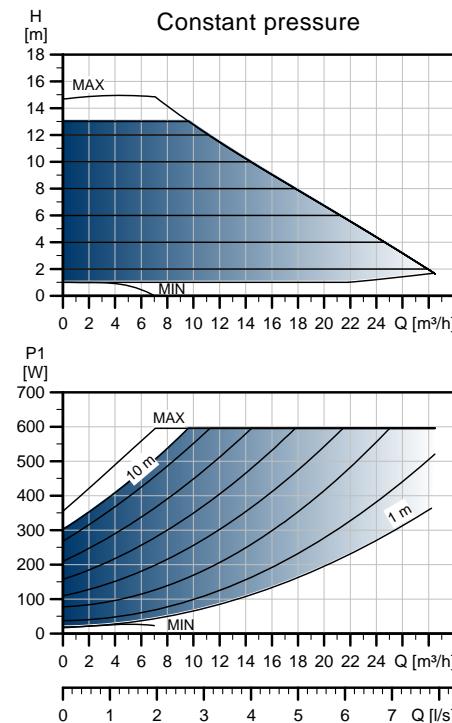
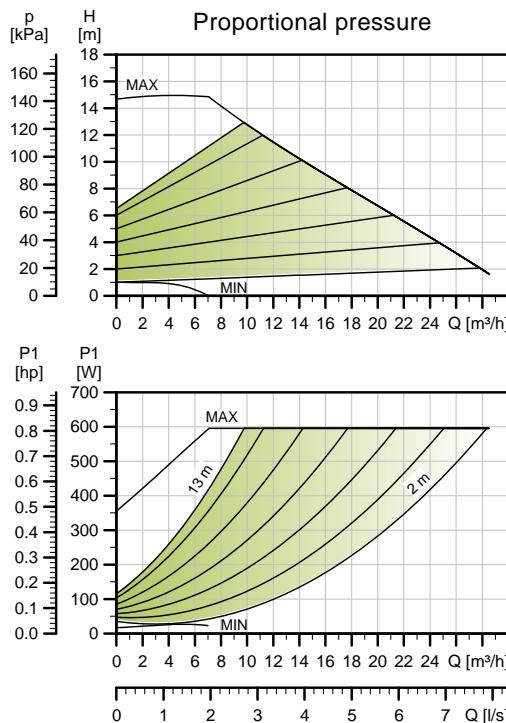


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|----|-----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 40-120 F | 250 | 58 | 155 | 75 | 204 | 84 | 512 | 220 | 294 | 130 | 260 | 69 | 303 | 372 | 40 | 84 | 100/110 | 150 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 40-150 F (N)

1 x 230 V, 50/60 Hz



TM05 3737 1912

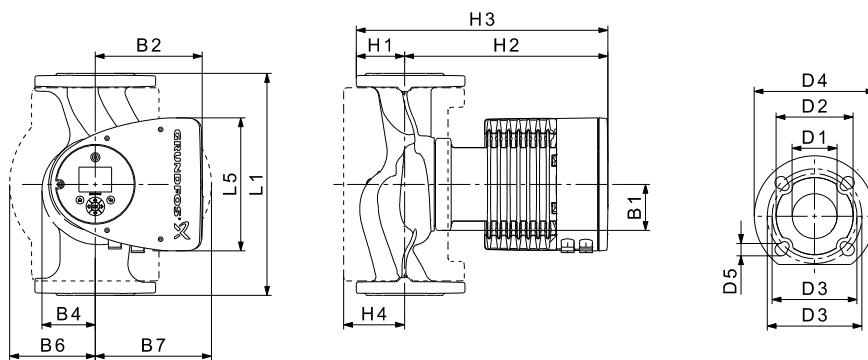
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 17 | 0.19 |
| Max. | 608 | 2.69 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 15.5 | 18.2 | 0.04 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.18.

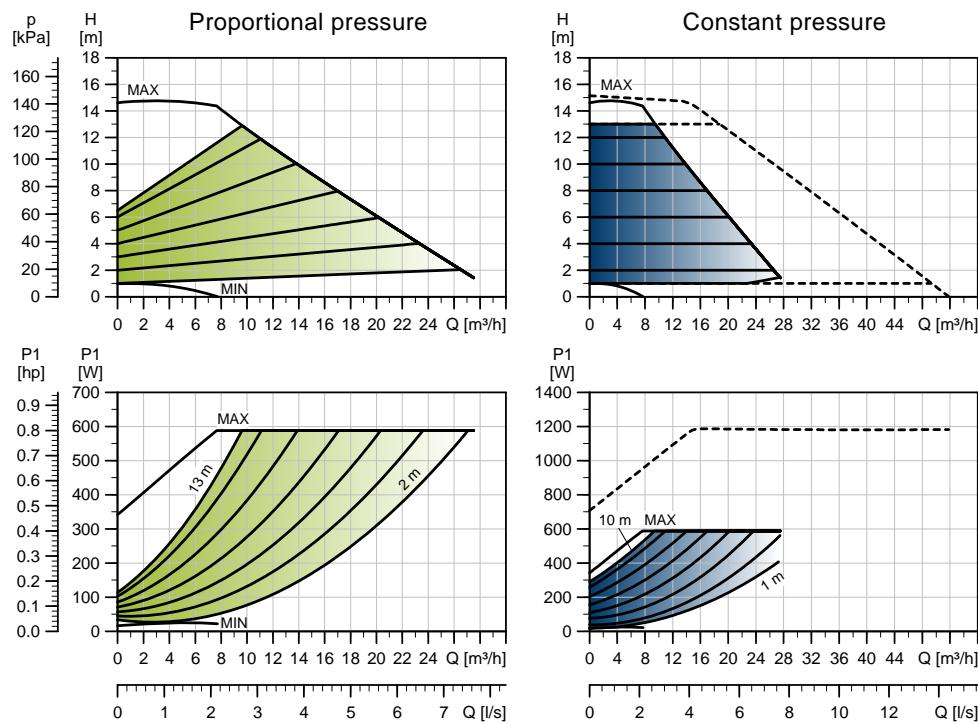


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|---------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 40-150 F (N) | 250 | 204 | 84 | 164 | 73 | 106 | 128 | 65 | 304 | 369 | 83 | 40 | 84 | 100/110 | 150 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 40-150 F

1 x 230 V, 50/60 Hz



TM05 3791 1912

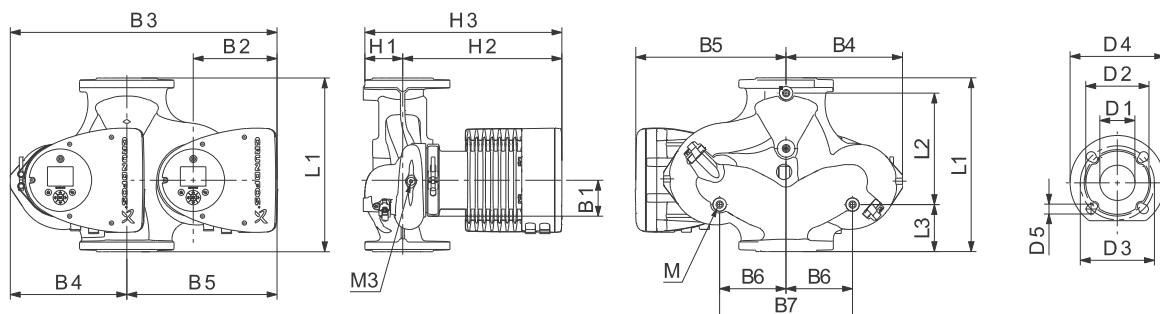
TM05 2205 1214

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 16 | 0.18 |
| Max. | 611 | 2.70 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m ³] |
|------------------|--------------------|------------------------------|
| 31.7 | 31.9 | 0.04 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEl: 0.18.

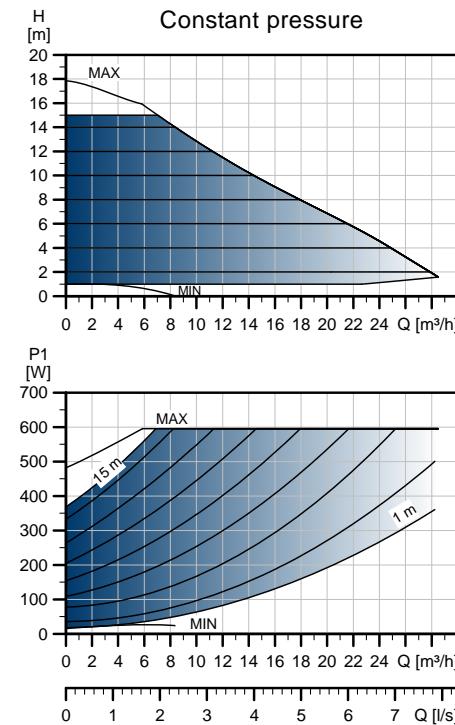
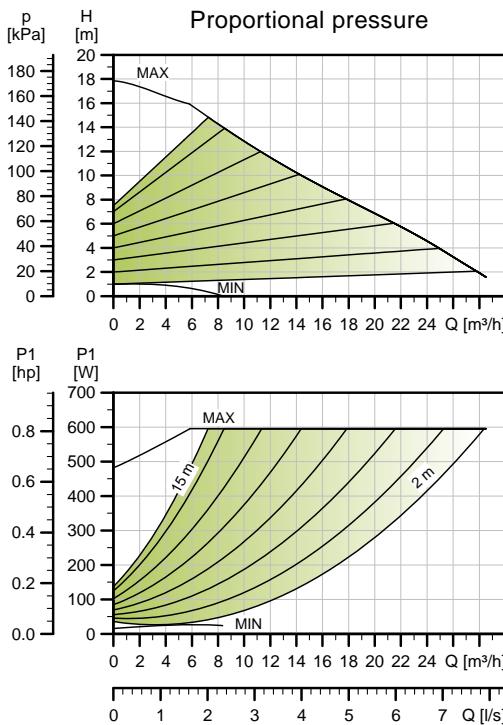


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|----|-----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 40-150 F | 250 | 58 | 155 | 75 | 204 | 84 | 512 | 220 | 294 | 130 | 260 | 69 | 303 | 372 | 40 | 84 | 100/110 | 150 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 40-180 F (N)

1 x 230 V, 50/60 Hz



TM05 3738 1912

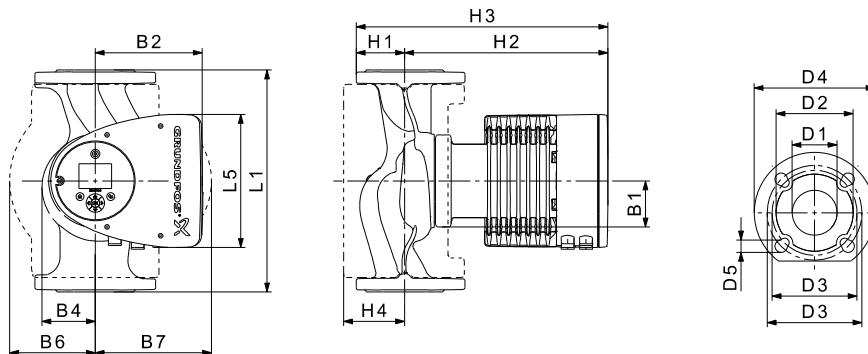
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 16 | 0.18 |
| Max. | 607 | 2.68 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEL: 0.18.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 15.5 | 18.7 | 0.04 |

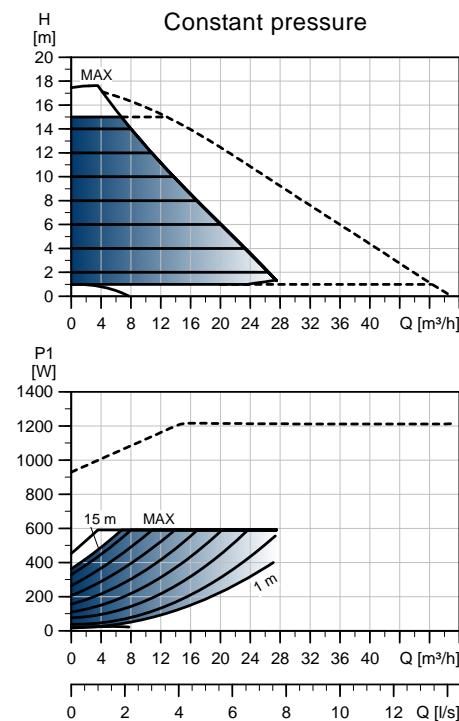
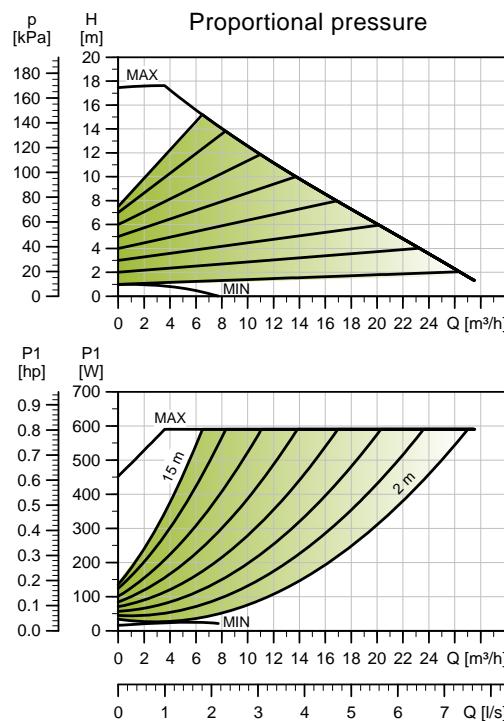


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|---------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 40-180 F (N) | 250 | 204 | 84 | 164 | 73 | 106 | 128 | 65 | 304 | 369 | 83 | 40 | 84 | 100/110 | 150 | 14/19 |

For product numbers, see page 139.

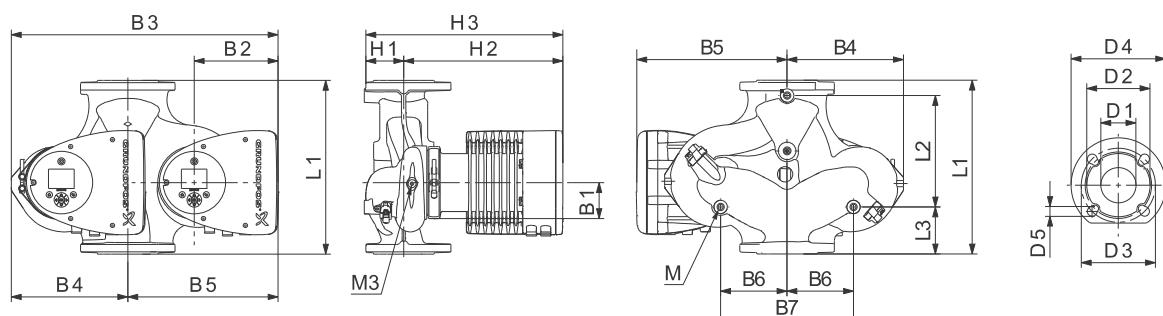
MAGNA3 D 40-180 F

1 x 230 V, 50/60 Hz



TM05 3763 1912

TM05 2205 1214

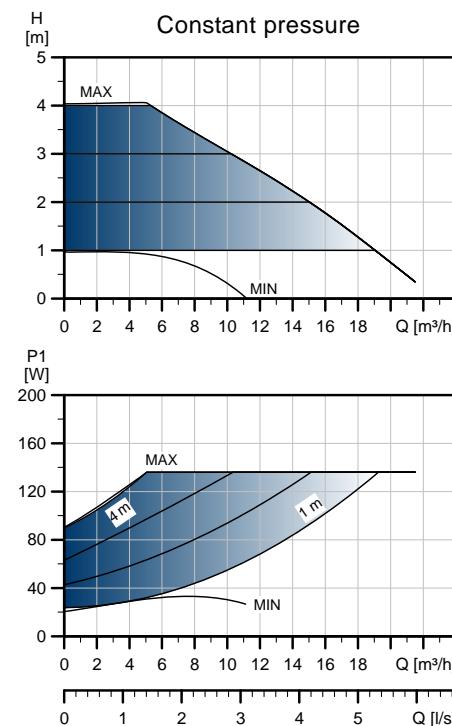
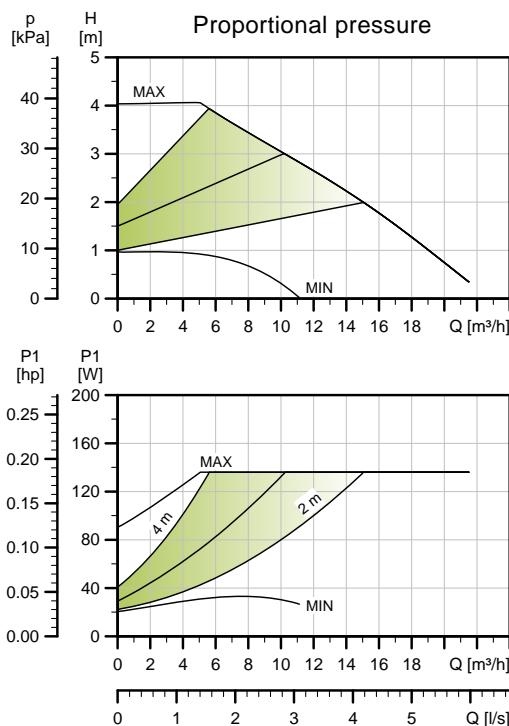


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|----|-----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 40-180 F | 250 | 58 | 155 | 75 | 204 | 84 | 512 | 220 | 294 | 130 | 260 | 69 | 303 | 372 | 40 | 84 | 100/110 | 150 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 50-40 F (N)

1 x 230 V, 50/60 Hz



TM05 3739 1912

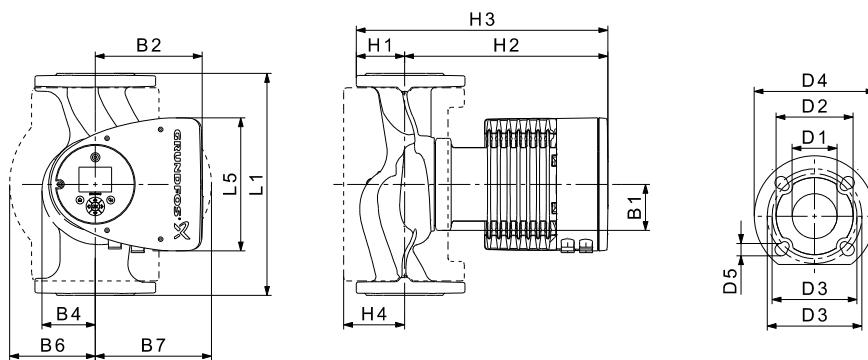
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 20 | 0.22 |
| Max. | 139 | 0.67 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.20.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 17.0 | 20.4 | 0.05 |

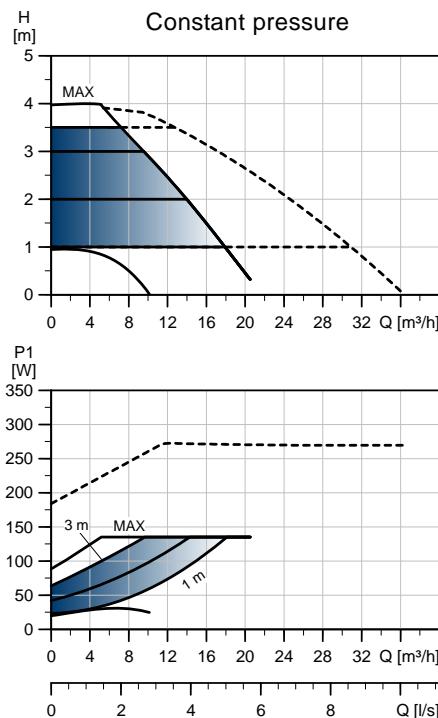
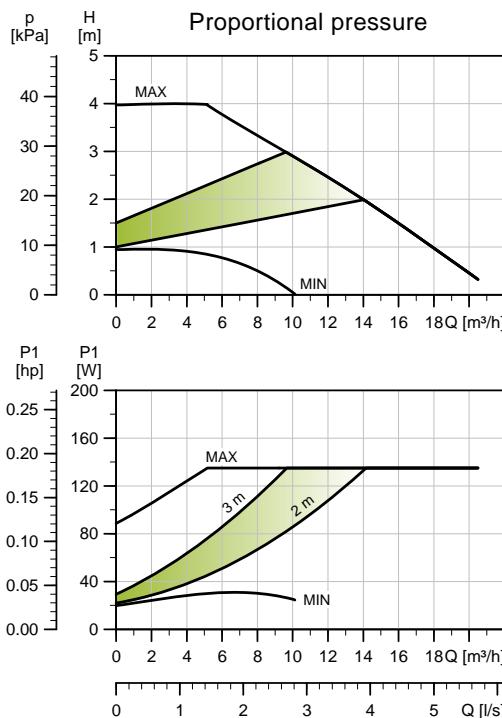


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|--------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|-----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 50-40 F (N) | 240 | 204 | 84 | 164 | 73 | 127 | 127 | 71 | 304 | 374 | 97 | 50 | 102 | 110/125 | 165 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 50-40 F

1 x 230 V, 50/60 Hz



TM05 3764 1912

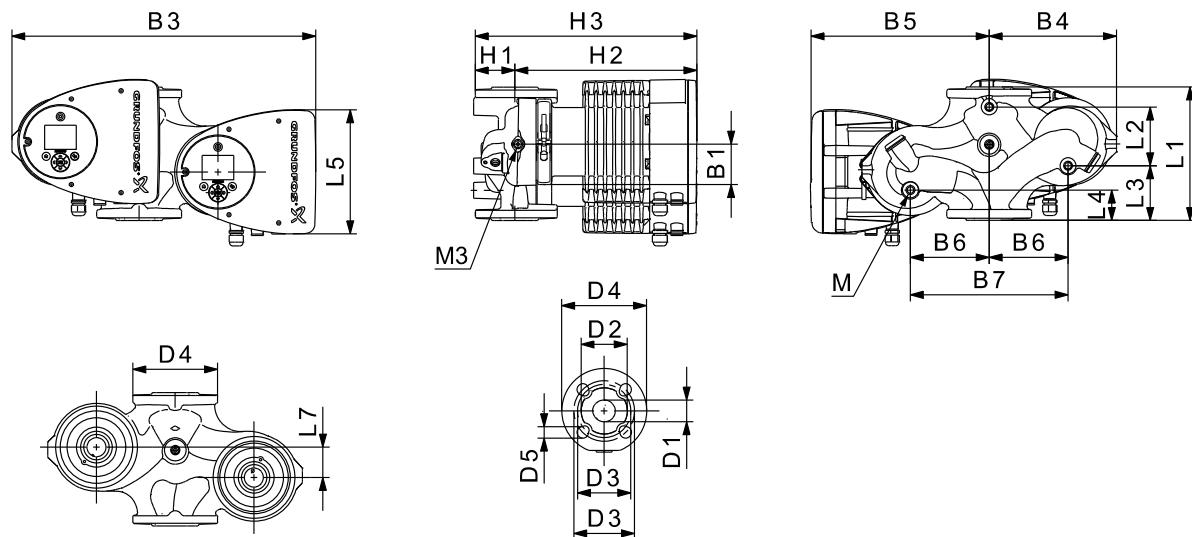
TM05 5204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 20 | 0.22 |
| Max. | 139 | 0.66 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEl: 0.20.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 33.0 | 41.8 | 0.05 |

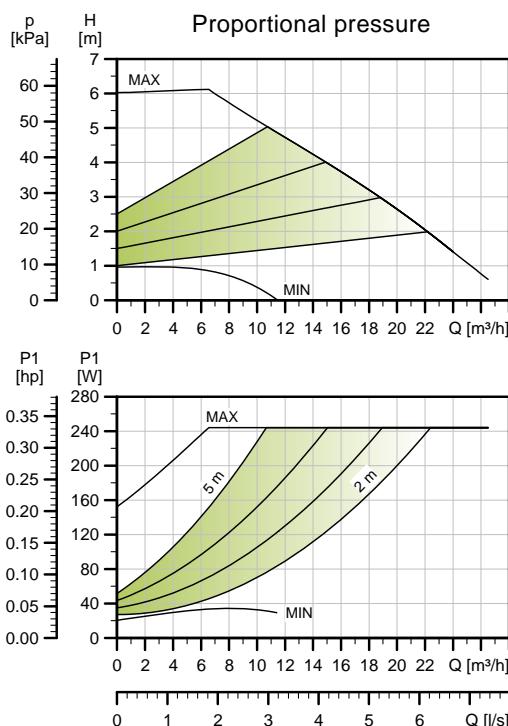


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|------------------|-----------------|----|-----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | L7 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M1 |
| MAGNA3 D 50-40 F | 240 | 48 | 160 | 45 | 204 | 45 | 515 | 221 | 294 | 130 | 260 | 75 | 304 | 379 | 50 | 102 | 110/125 | 165 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 50-60 F (N)

1 x 230 V, 50/60 Hz



TM05 3740 1912

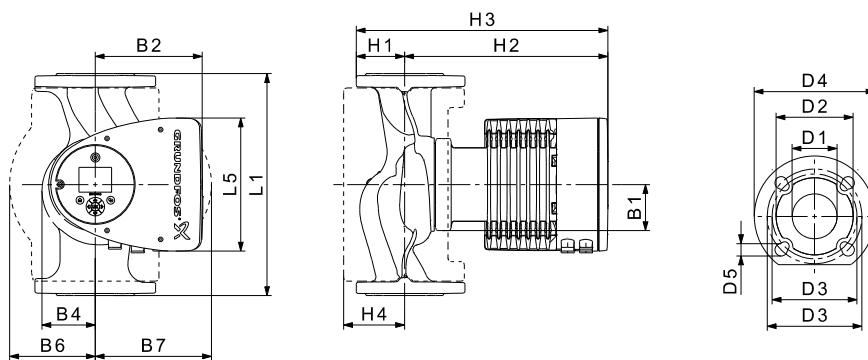
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 21 | 0.23 |
| Max. | 249 | 1.13 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 17.0 | 20.4 | 0.05 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.19.

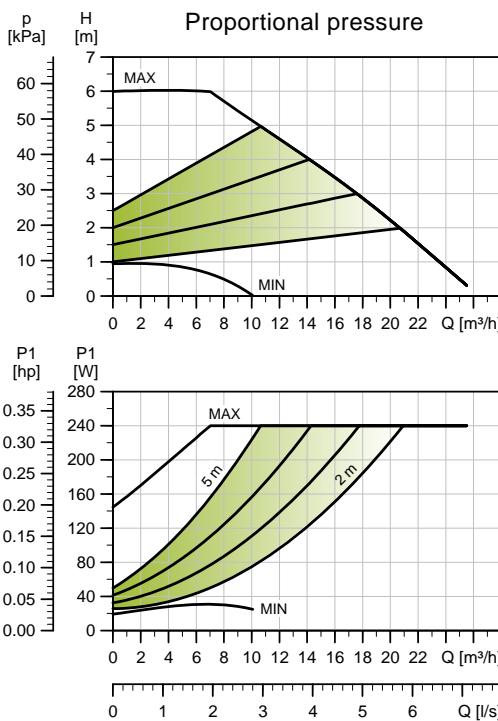


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|--------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|-----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 50-60 F (N) | 240 | 204 | 84 | 164 | 73 | 127 | 127 | 71 | 304 | 374 | 97 | 50 | 102 | 110/125 | 165 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 50-60 F

1 x 230 V, 50/60 Hz



TM05 3766 1912

Connections: See [Pipe connections](#), page 134.

Max. 1.0 MPa (10 bar).

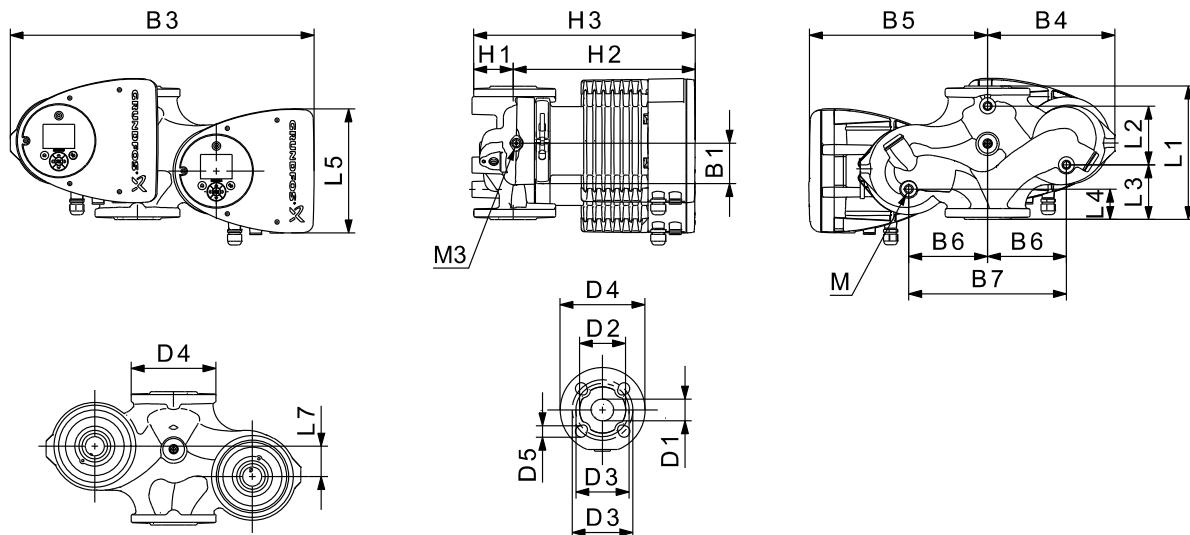
System pressure: Also available as max. 1.6 MPa (16 bar).

Liquid temperature: -10 to 110 °C (TF 110).

Specific EEI: 0.19.

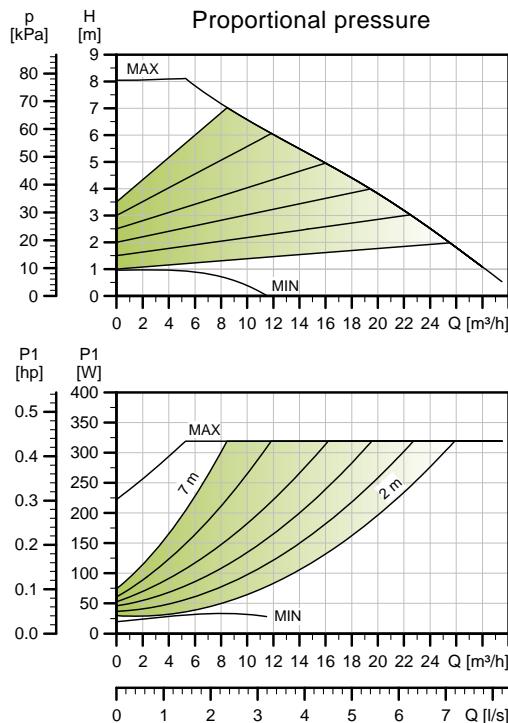
The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 33.0 | 41.8 | 0.05 |



MAGNA3 50-80 F (N)

1 x 230 V, 50/60 Hz



TM05 3741 1912

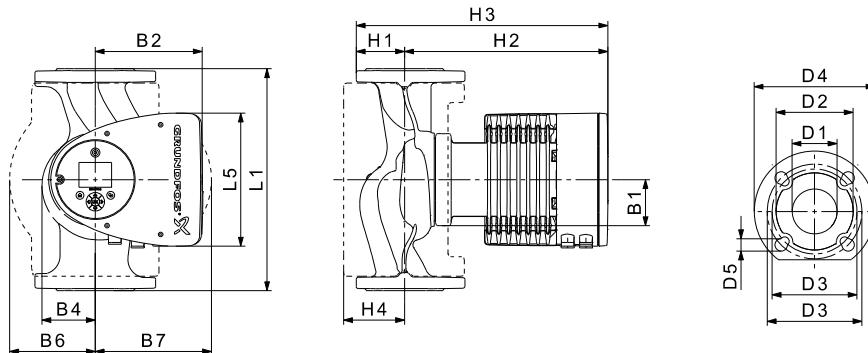
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 21 | 0.22 |
| Max. | 325 | 1.46 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 17.0 | 20.4 | 0.05 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.18.

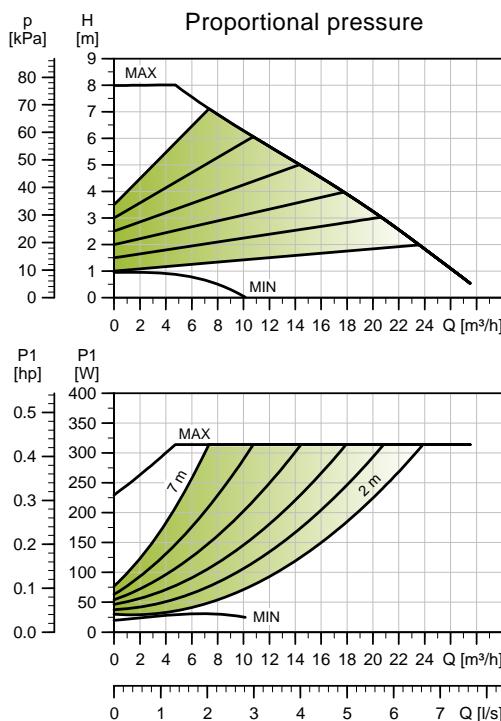


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|--------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|-----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 50-80 F (N) | 240 | 204 | 84 | 164 | 73 | 127 | 127 | 71 | 304 | 374 | 97 | 50 | 102 | 110/125 | 165 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 50-80 F

1 x 230 V, 50/60 Hz



TM05 3766 1812

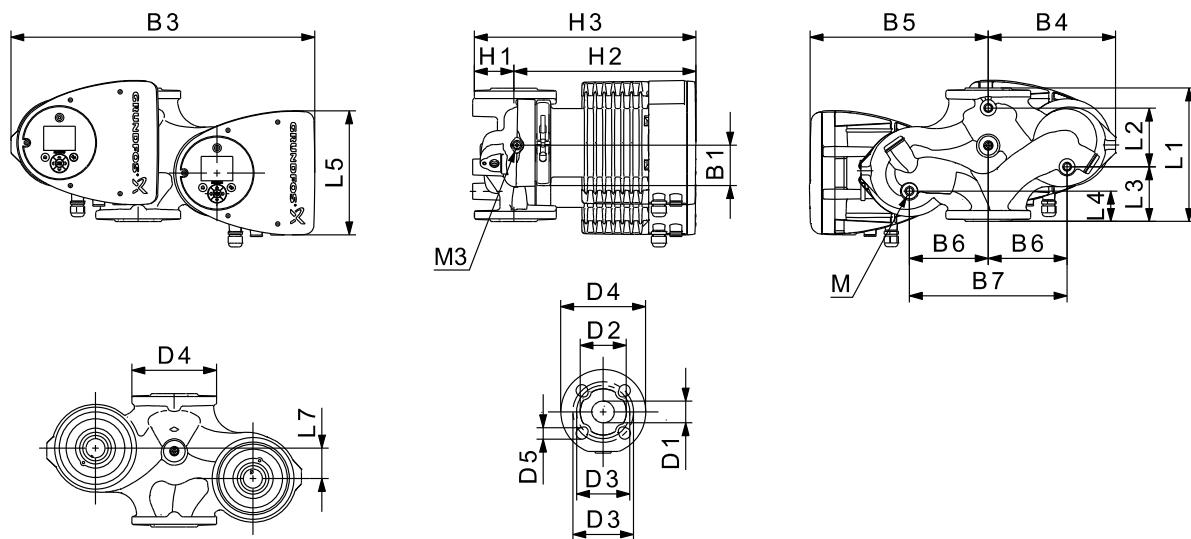
TM05 5204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 21 | 0.22 |
| Max. | 324 | 1.45 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 33.0 | 41.8 | 0.05 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEl: 0.19.

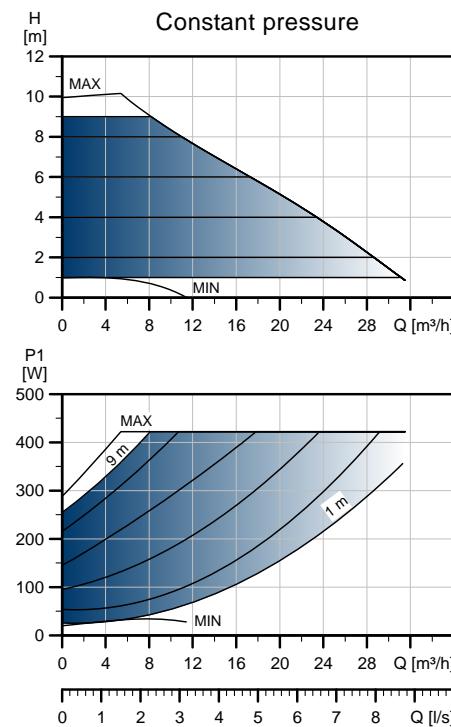
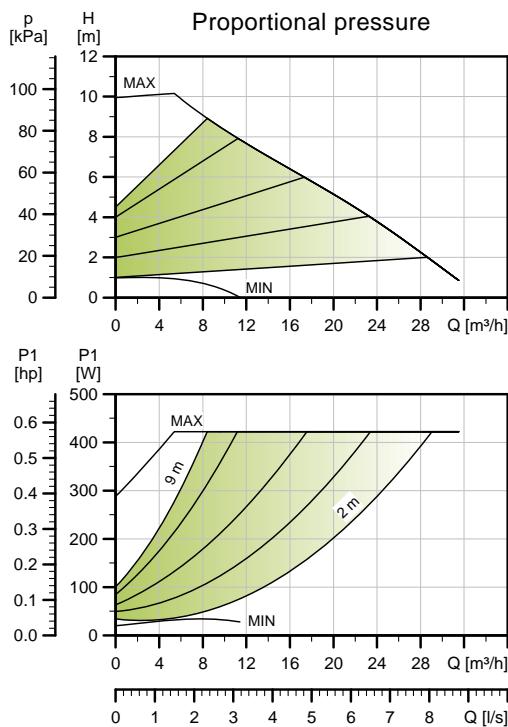


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|------------------|-----------------|----|-----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | L7 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M |
| MAGNA3 D 50-80 F | 240 | 48 | 160 | 45 | 204 | 84 | 515 | 221 | 294 | 130 | 260 | 75 | 304 | 379 | 50 | 102 | 110/125 | 165 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 50-100 F (N)

1 x 230 V, 50/60 Hz



TM05 3742 1912

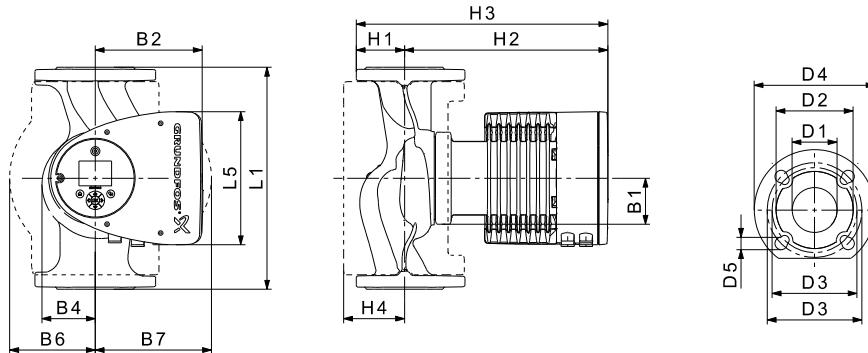
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 21 | 0.22 |
| Max. | 429 | 1.91 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEl: 0.18.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 17.6 | 21.1 | 0.05 |

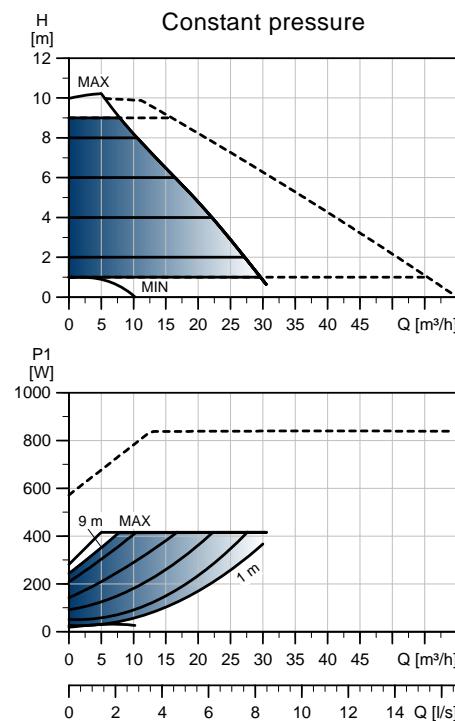
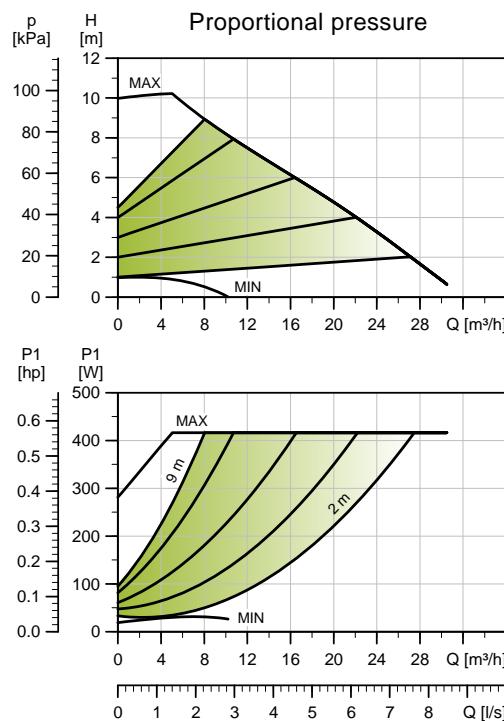


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|---------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|-----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 50-100 F (N) | 280 | 204 | 84 | 164 | 73 | 127 | 127 | 72 | 304 | 376 | 97 | 50 | 102 | 110/125 | 165 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 50-100 F

1 x 230 V, 50/60 Hz



TM05 3767 1912

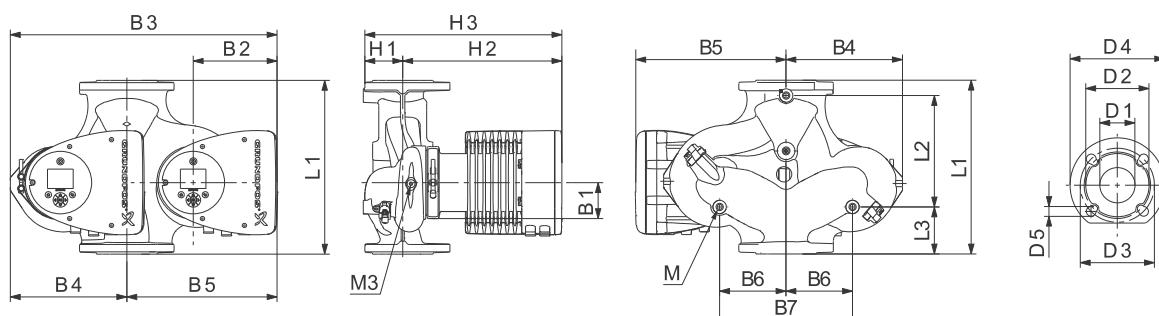
TM05 2205 1214

| Speed | P1 [W] | I _{1/I} [A] |
|-------|--------|----------------------|
| Min. | 20 | 0.21 |
| Max. | 430 | 1.91 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 33.3 | 42.1 | 0.05 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEl: 0.18.

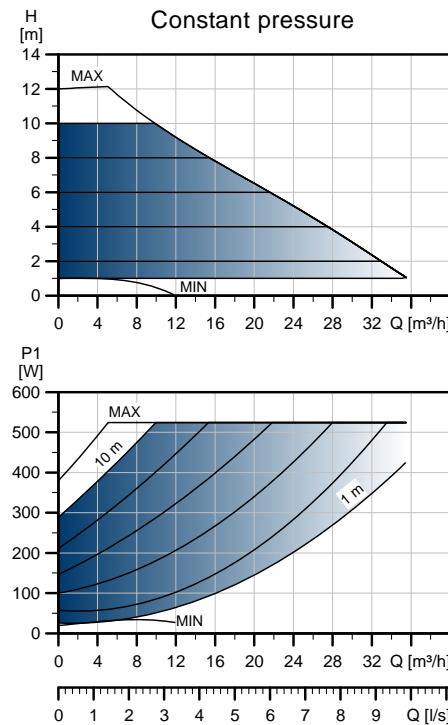
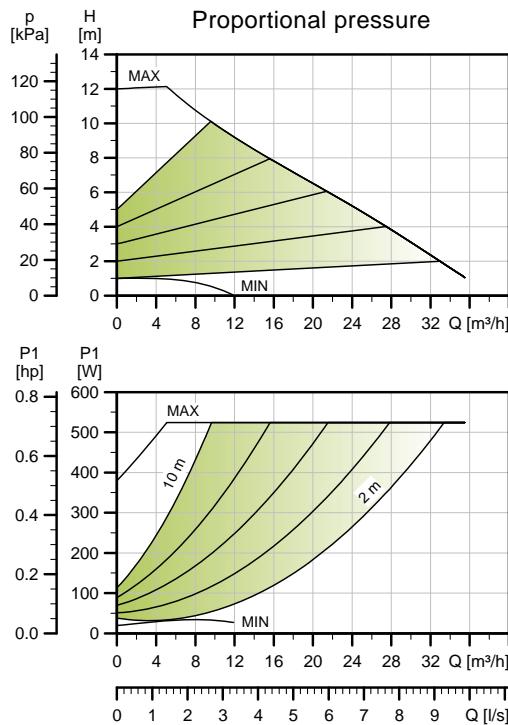


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|-----|----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 50-100 F | 280 | 175 | 75 | 75 | 204 | 84 | 517 | 223 | 294 | 130 | 260 | 75 | 304 | 379 | 50 | 102 | 110/125 | 165 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 50-120 F (N)

1 x 230 V, 50/60 Hz



TM05 3743 1912

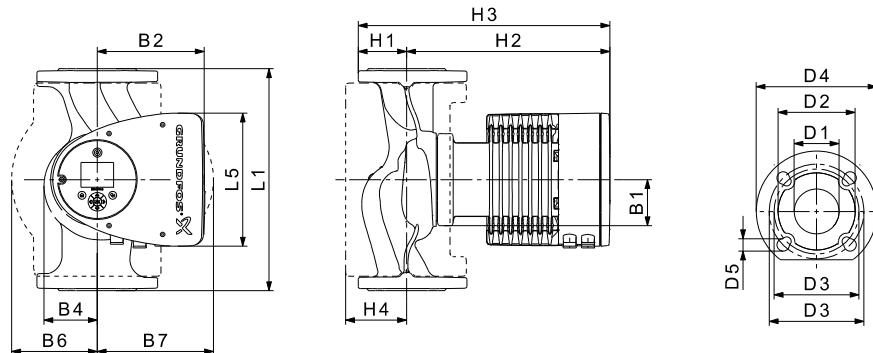
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 20 | 0.22 |
| Max. | 536 | 2.37 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.18.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 17.6 | 21.1 | 0.05 |

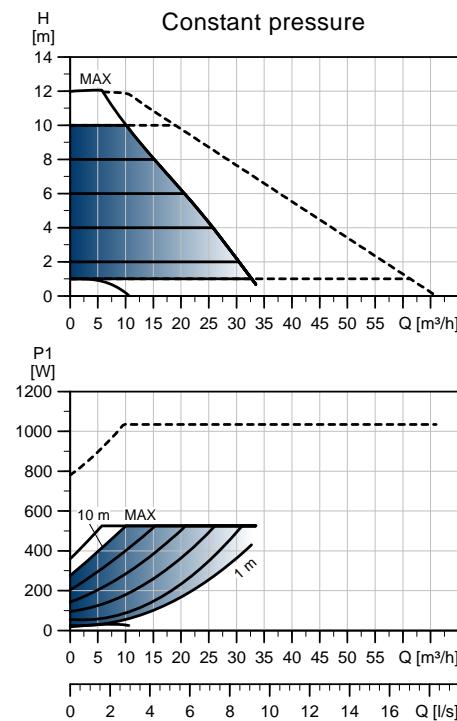
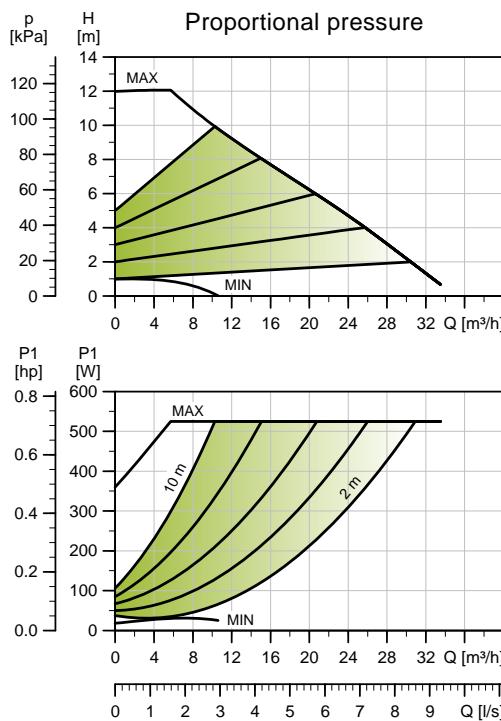


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|---------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|-----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 50-120 F (N) | 280 | 204 | 84 | 164 | 73 | 127 | 127 | 72 | 304 | 376 | 97 | 50 | 102 | 110/125 | 165 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 50-120 F

1 x 230 V, 50/60 Hz



TM05 3768 1912

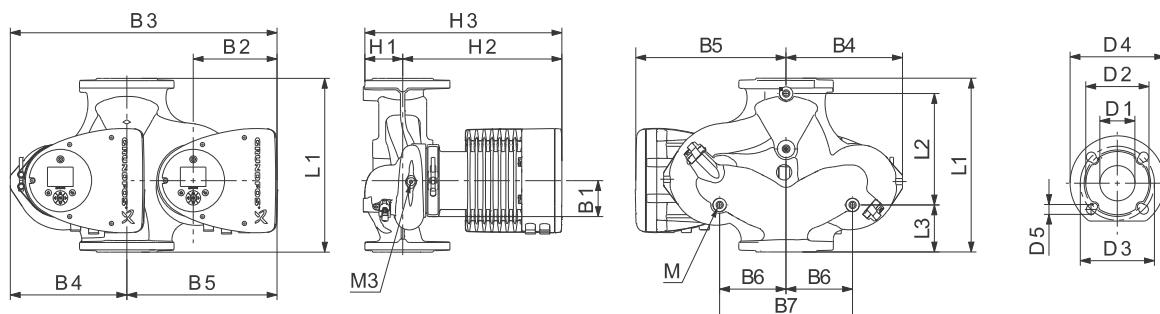
TM05 2205 1214

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 19 | 0.20 |
| Max. | 536 | 2.37 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEl: 0.18.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 33.3 | 42.1 | 0.05 |

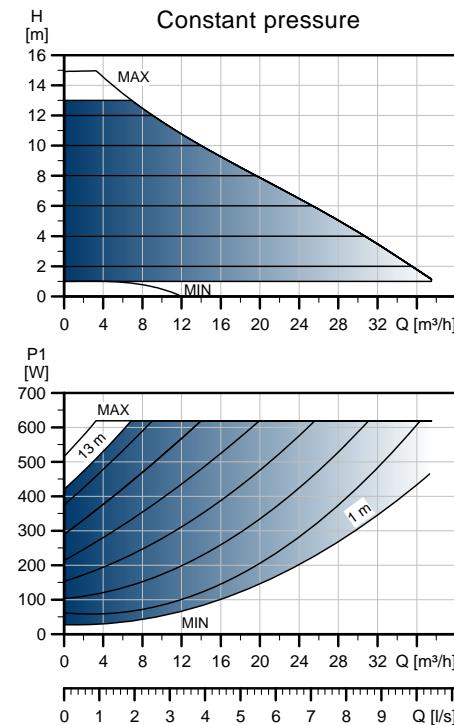
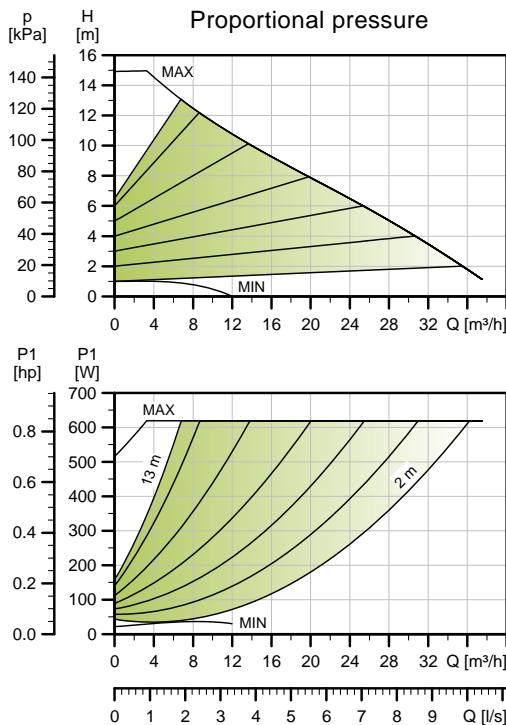


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|-----|----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 50-120 F | 280 | 175 | 75 | 75 | 204 | 84 | 517 | 223 | 294 | 130 | 260 | 75 | 304 | 379 | 50 | 102 | 110/125 | 165 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 50-150 F (N)

1 x 230 V, 50/60 Hz



TM05 3744 1912

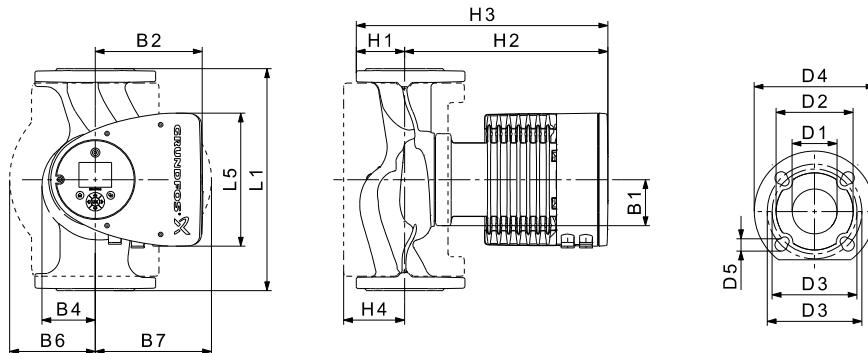
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 22 | 0.23 |
| Max. | 630 | 2.78 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EER: 0.17.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 18.3 | 22.0 | 0.05 |

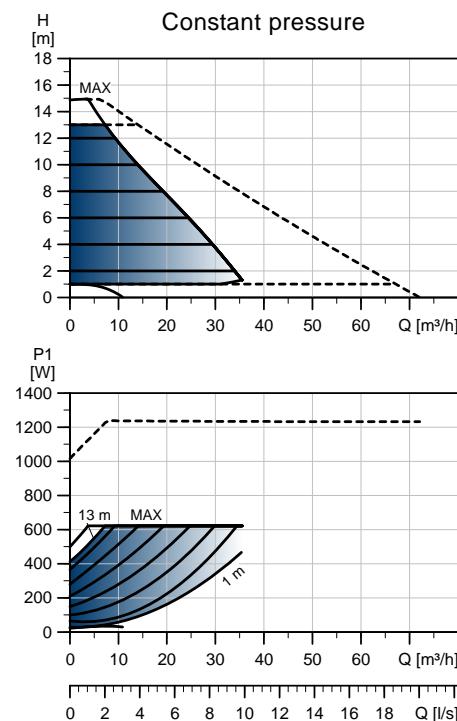
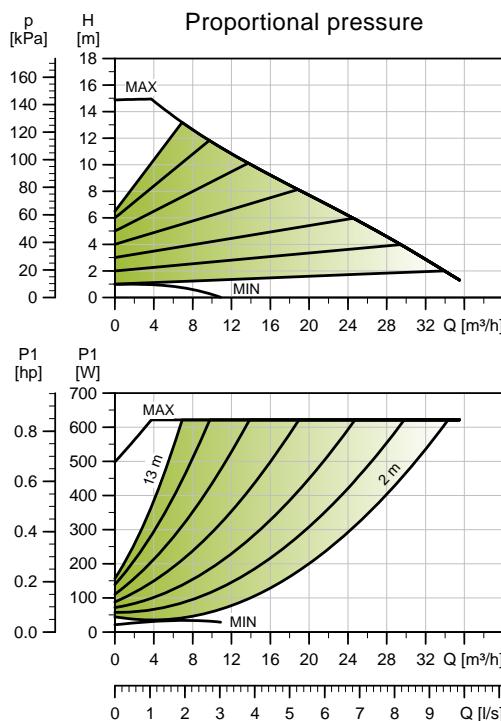


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|---------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|-----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 50-150 F (N) | 280 | 204 | 84 | 164 | 73 | 127 | 127 | 72 | 304 | 376 | 97 | 50 | 102 | 110/125 | 165 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 50-150 F

1 x 230 V, 50/60 Hz



TM05 3769 1912

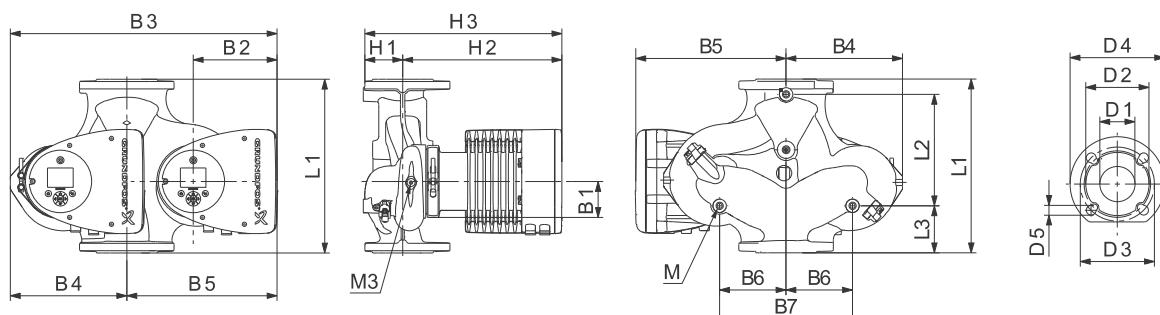
TM05 2205 1214

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 22 | 0.23 |
| Max. | 630 | 2.78 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Liquid temperature: Also available as max. 1.6 MPa (16 bar).
 Specific EEI: -10 to 110 °C (TF 110).

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 34.7 | 43.9 | 0.05 |

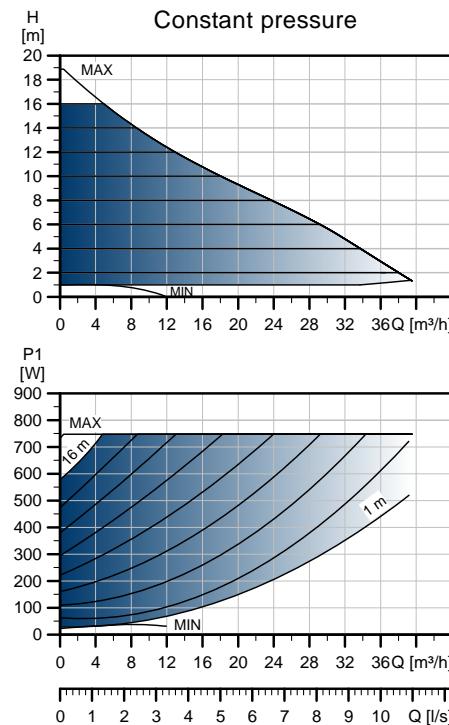
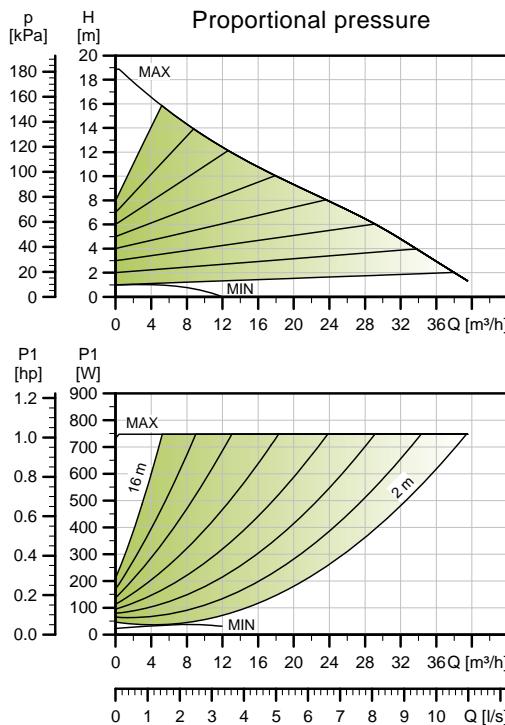


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|-----|----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 50-150 F | 280 | 175 | 75 | 75 | 204 | 84 | 517 | 223 | 294 | 130 | 260 | 75 | 304 | 379 | 50 | 102 | 110/125 | 165 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 50-180 F (N)

1 x 230 V, 50/60 Hz



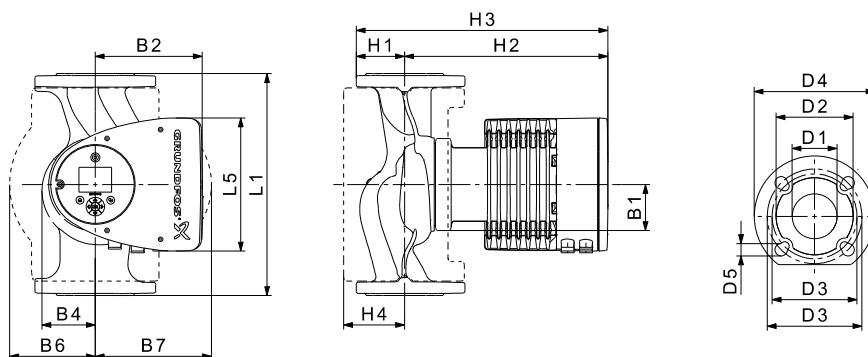
TM05 3745 1912

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 23 | 0.24 |
| Max. | 762 | 3.35 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 18.3 | 21.9 | 0.05 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEl: 0.17.



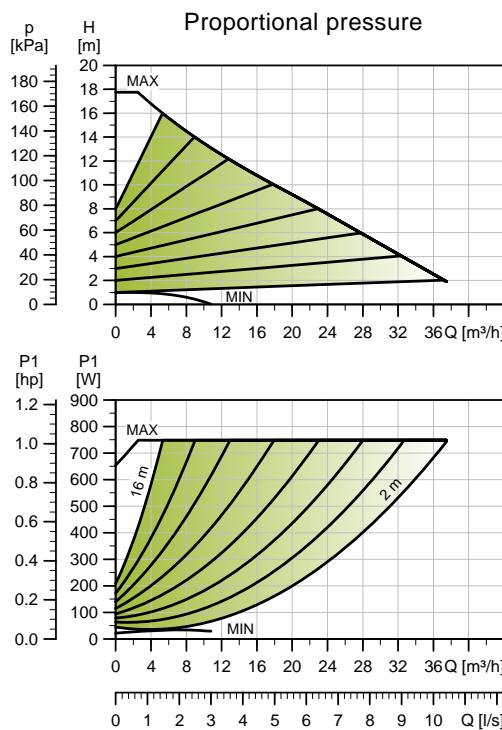
TM05 2204 3612

| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|---------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|-----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 50-180 F (N) | 280 | 204 | 84 | 164 | 73 | 127 | 127 | 72 | 304 | 376 | 97 | 50 | 102 | 110/125 | 165 | 14/19 |

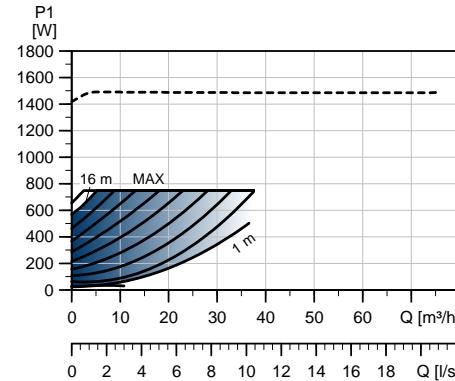
For product numbers, see page 139.

MAGNA3 D 50-180 F

1 x 230 V, 50/60 Hz



TM05 3770 1912

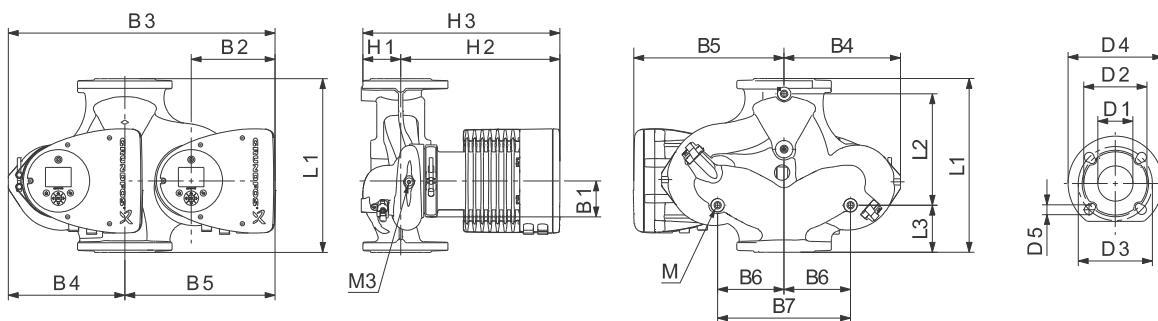


| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 23 | 0.24 |
| Max. | 762 | 3.35 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEl: 0.19.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m ³] |
|------------------|--------------------|------------------------------|
| 34.7 | 43.9 | 0.05 |

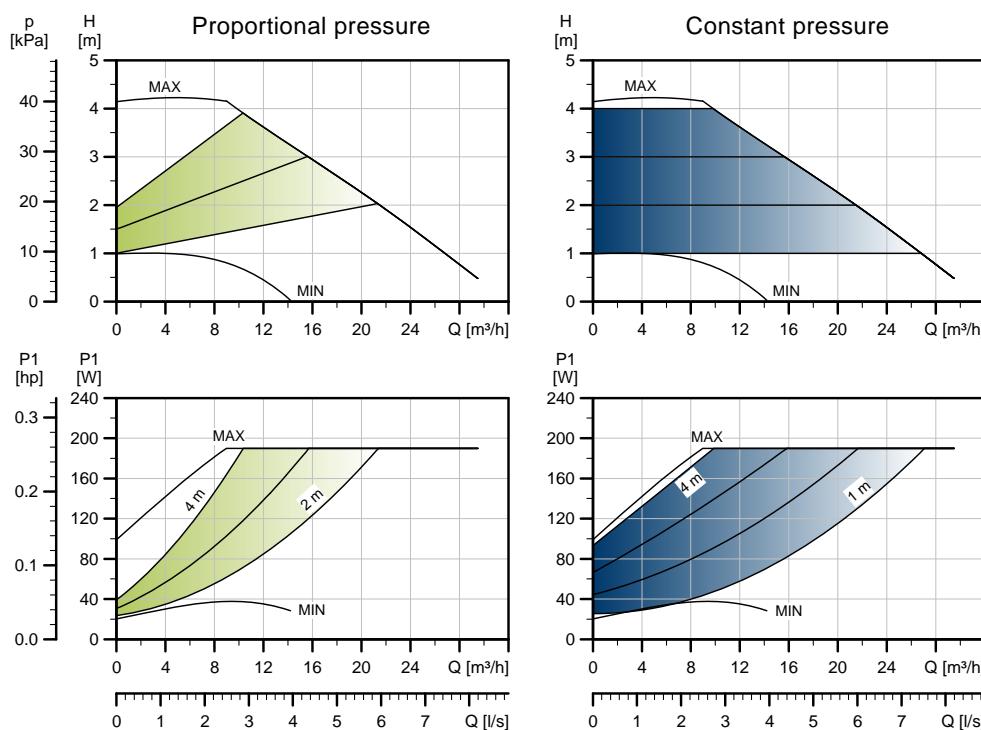


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|-----|----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 50-180 F | 280 | 175 | 75 | 75 | 204 | 84 | 517 | 223 | 294 | 130 | 260 | 75 | 304 | 379 | 50 | 102 | 110/125 | 165 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 65-40 F (N)

1 x 230 V, 50/60 Hz



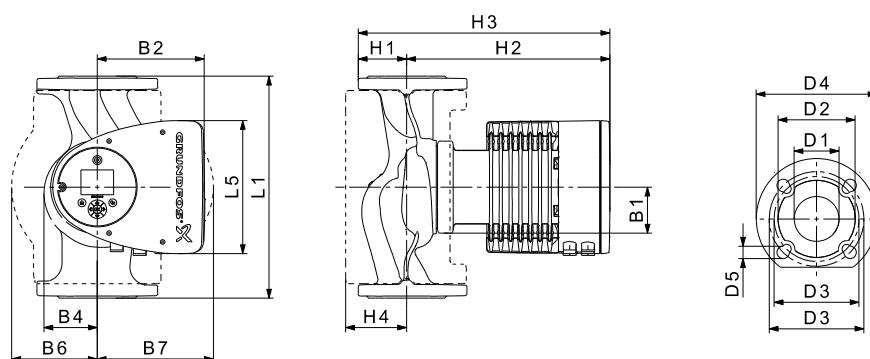
TM05 3746 1912

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 21 | 0.22 |
| Max. | 194 | 0.90 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m ³] |
|------------------|--------------------|------------------------------|
| 20.2 | 23.8 | 0.06 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEL: 0.18.



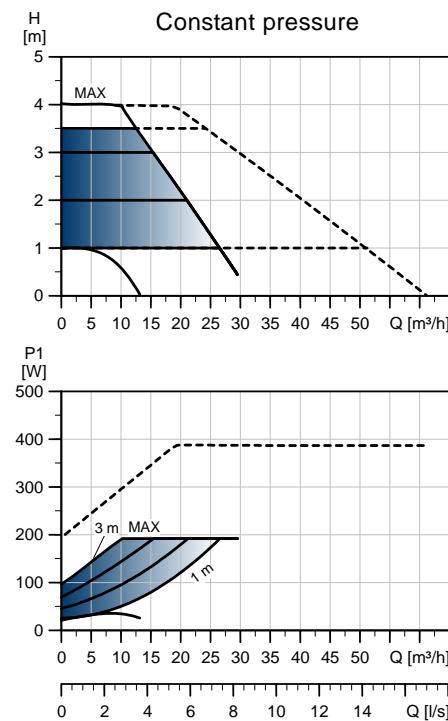
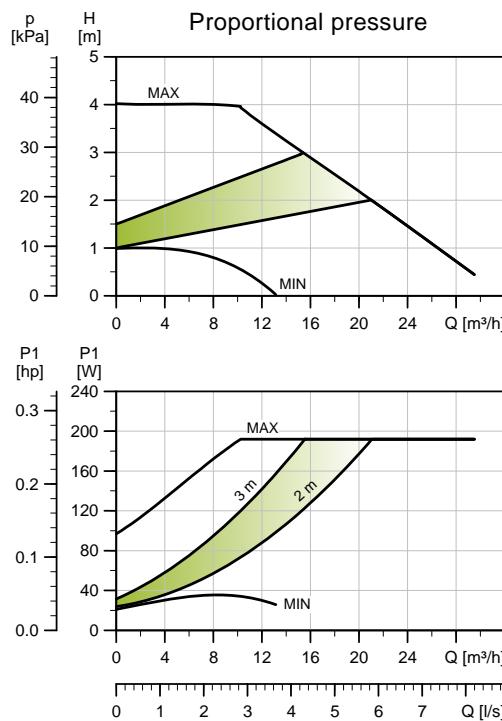
TM05 2204 3612

| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|--------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|-----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 65-40 F (N) | 340 | 204 | 84 | 164 | 73 | 133 | 133 | 74 | 312 | 386 | 94 | 65 | 119 | 130/145 | 185 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 65-40 F

1 x 230 V, 50/60 Hz



TM05 3771 1912

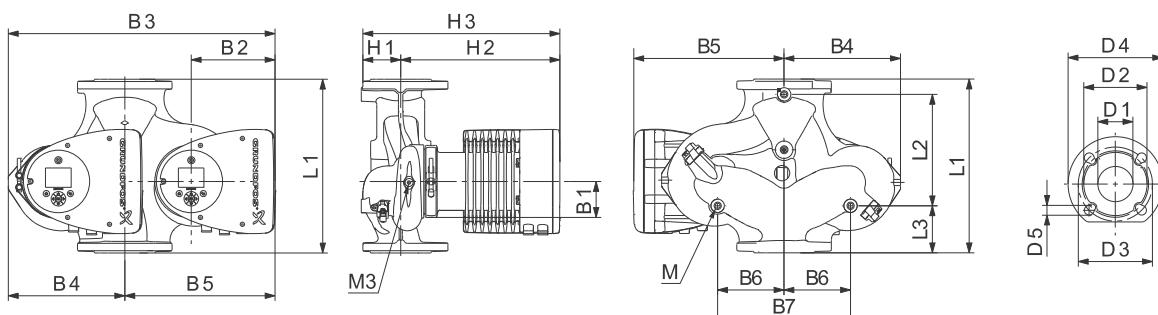
TM05 2205 1214

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 20 | 0.22 |
| Max. | 189 | 0.89 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 36.9 | 45.8 | 0.06 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Liquid temperature: Also available as max. 1.6 MPa (16 bar).
 Specific EEI: -10 to 110 °C (TF 110).

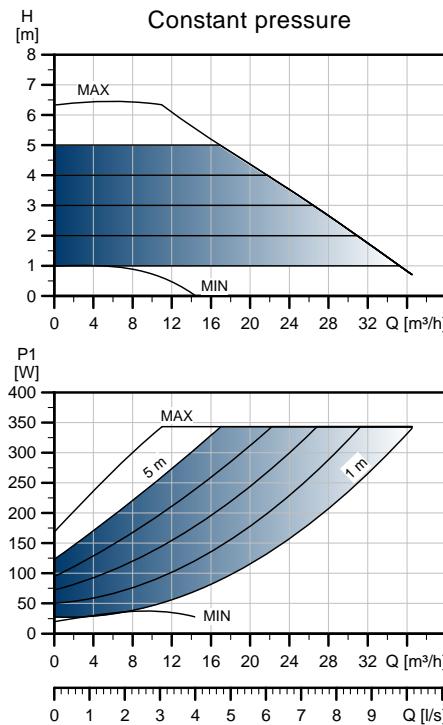
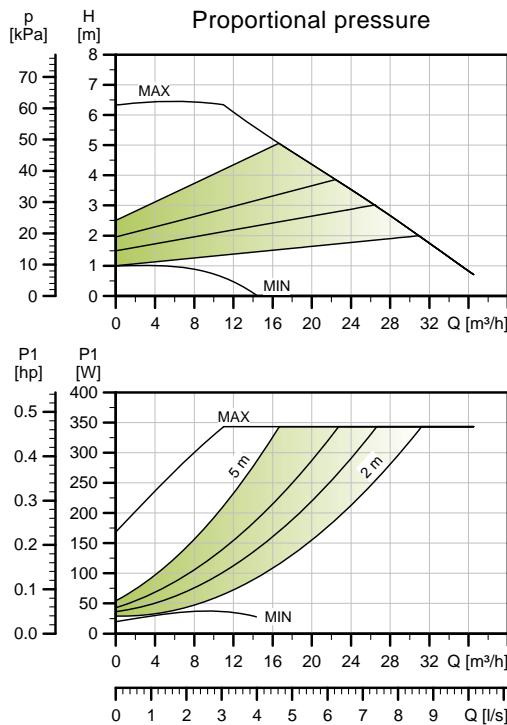


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|------------------|-----------------|-----|----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 65-40 F | 340 | 218 | 92 | 92 | 204 | 84 | 522 | 228 | 294 | 130 | 260 | 77 | 312 | 389 | 65 | 119 | 130/145 | 185 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 65-60 F (N)

1 x 230 V, 50/60 Hz



TM05 3747 1912

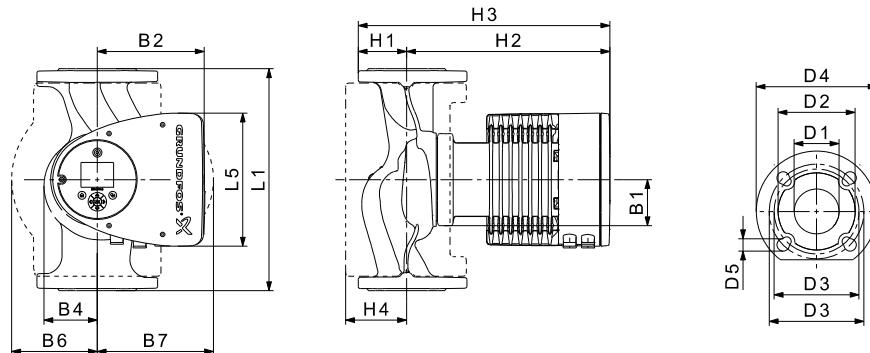
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 20 | 0.22 |
| Max. | 350 | 1.57 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.18.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 20.2 | 23.8 | 0.06 |

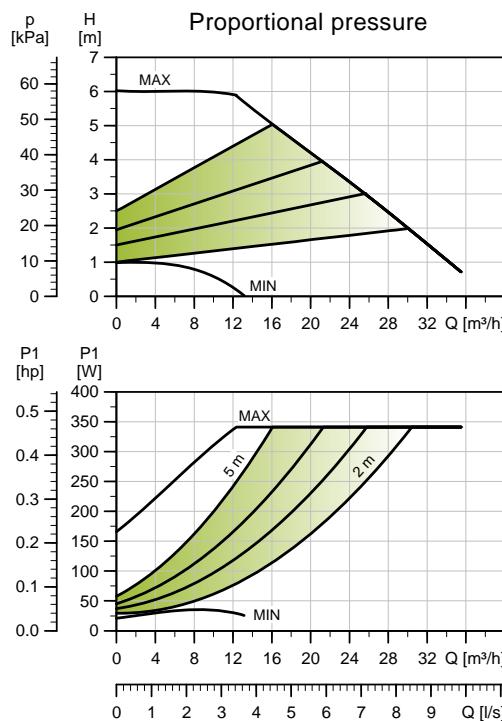


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|--------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|-----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 65-60 F (N) | 340 | 204 | 84 | 164 | 73 | 133 | 133 | 74 | 312 | 386 | 94 | 65 | 119 | 130/145 | 185 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 65-60 F

1 x 230 V, 50/60 Hz



TM05 3772 1912

Connections: See [Pipe connections](#), page 134.

System pressure: Max. 1.0 MPa (10 bar).

Also available as max. 1.6 MPa (16 bar).

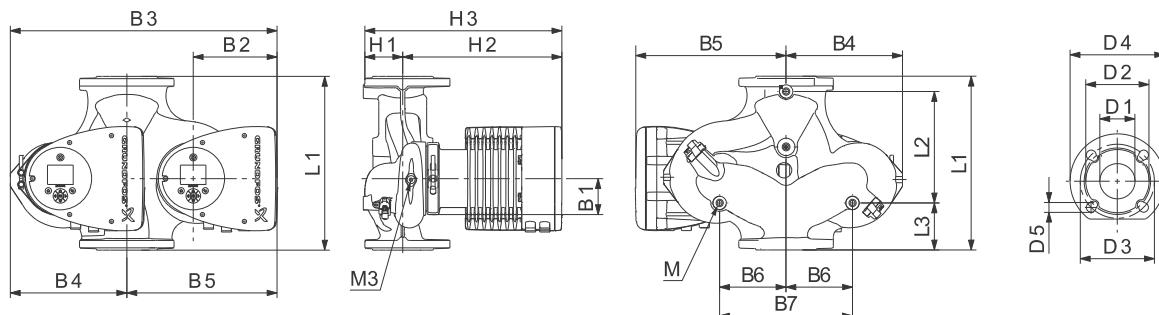
Liquid temperature: -10 to 110 °C (TF 110).

Specific EEl: 0.18.

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 21 | 0.23 |
| Max. | 352 | 1.57 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 36.9 | 45.8 | 0.06 |



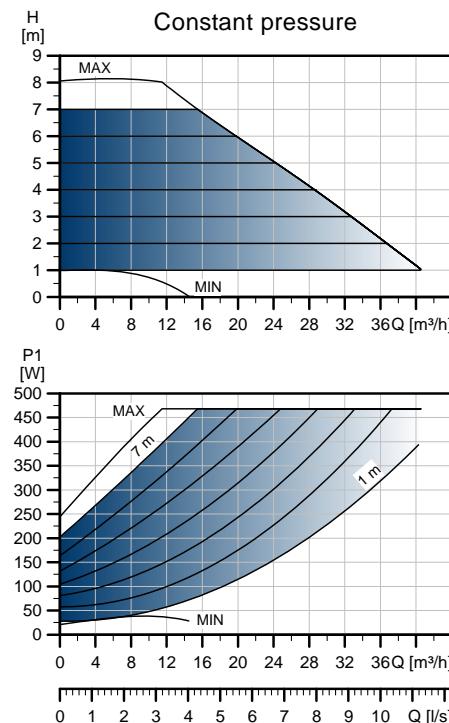
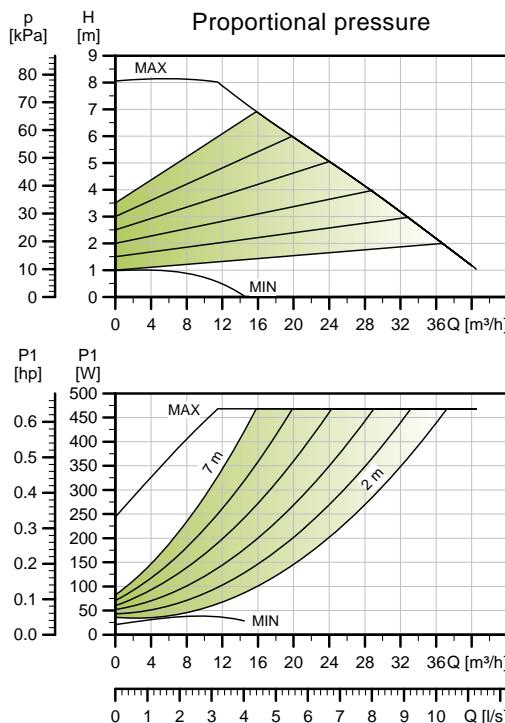
TM05 2205 1214

| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|------------------|-----------------|-----|----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 65-60 F | 340 | 218 | 92 | 92 | 204 | 84 | 522 | 228 | 294 | 130 | 260 | 77 | 312 | 389 | 65 | 119 | 130/145 | 185 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 65-80 F (N)

1 x 230 V, 50/60 Hz



TM05 3748 1912

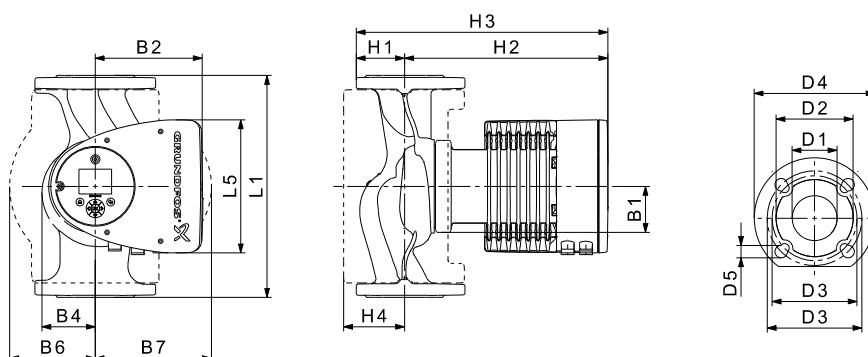
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 22 | 0.24 |
| Max. | 478 | 2.12 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 21.0 | 24.7 | 0.06 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.17.

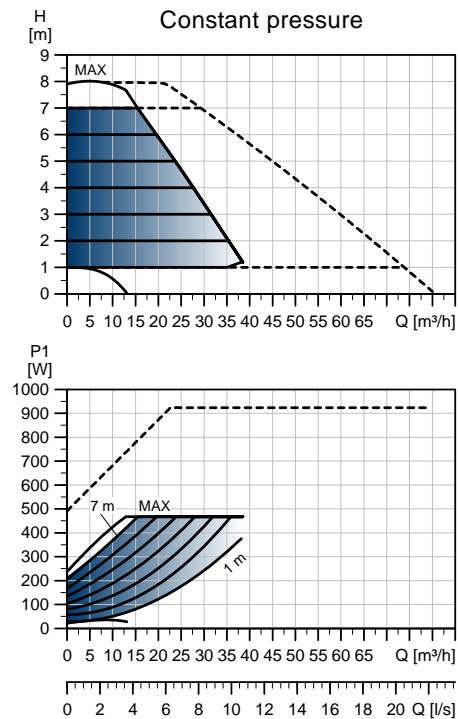
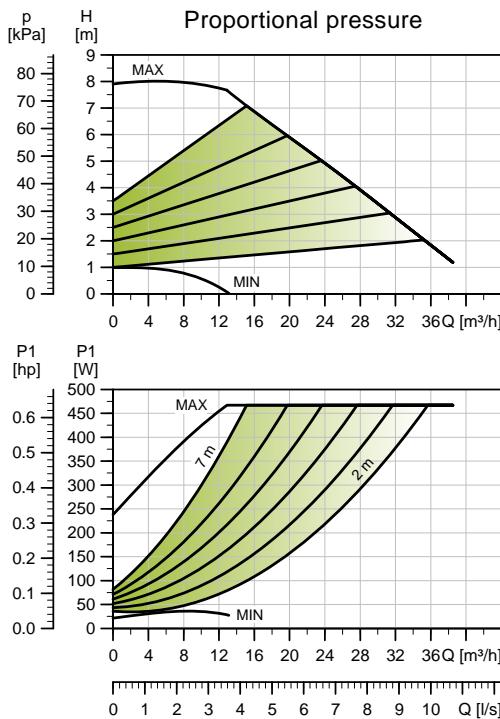


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|--------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|-----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 65-80 F (N) | 340 | 204 | 84 | 164 | 73 | 133 | 133 | 74 | 312 | 386 | 94 | 65 | 119 | 130/145 | 185 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 65-80 F

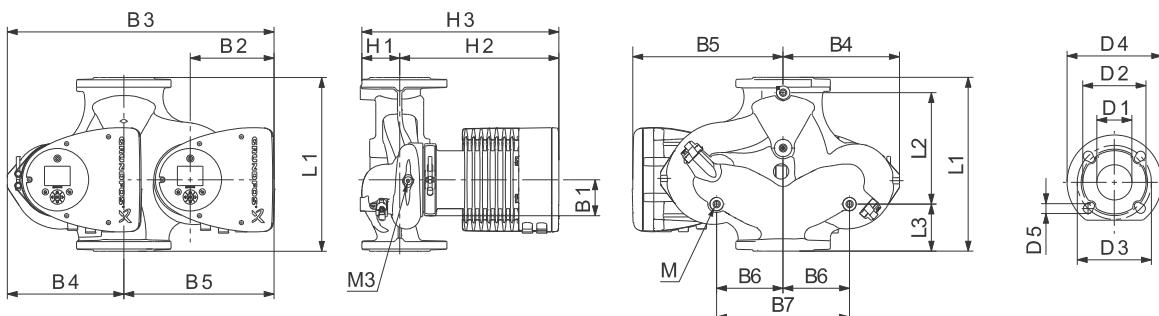
1 x 230 V, 50/60 Hz



| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 22 | 0.24 |
| Max. | 478 | 2.12 |

| | |
|---------------------|--|
| Connections: | See Pipe connections , page 134. |
| System pressure: | Max. 1.0 MPa (10 bar). Also available as max. 1.6 MPa (16 bar). |
| Liquid temperature: | -10 to 110 °C (TF 110). |
| Specific EEL: | 0.17. |

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m ³] |
|------------------|--------------------|------------------------------|
| 38.7 | 47.6 | 0.06 |

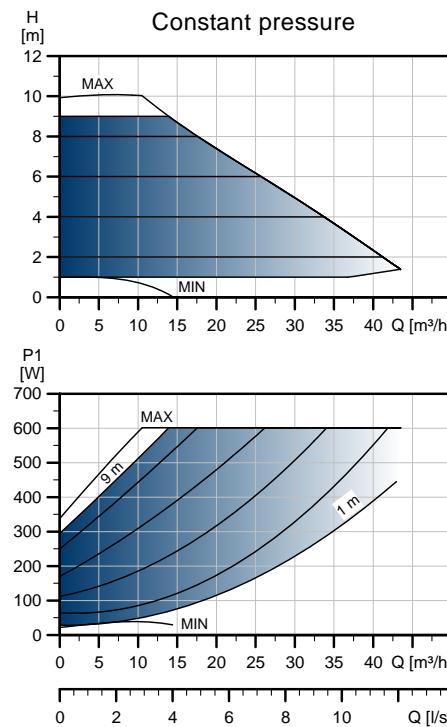
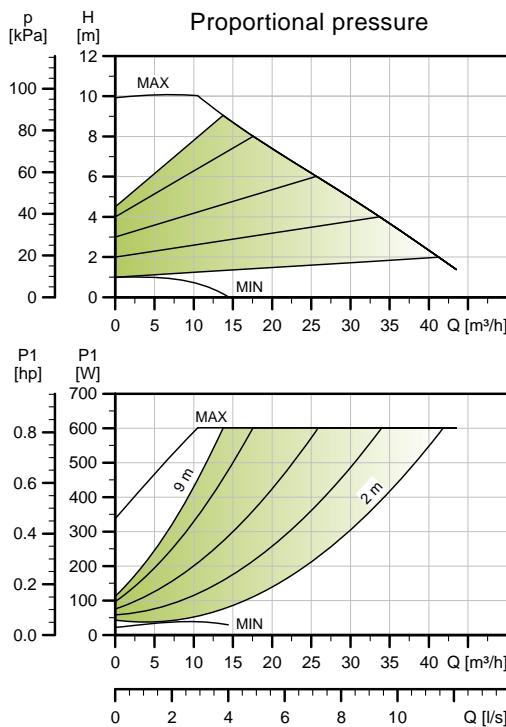


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|------------------|-----------------|-----|----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 65-80 F | 340 | 218 | 92 | 92 | 204 | 84 | 522 | 228 | 294 | 130 | 260 | 77 | 312 | 389 | 65 | 119 | 130/145 | 185 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 65-100 F (N)

1 x 230 V, 50/60 Hz



TM05 3749 1912

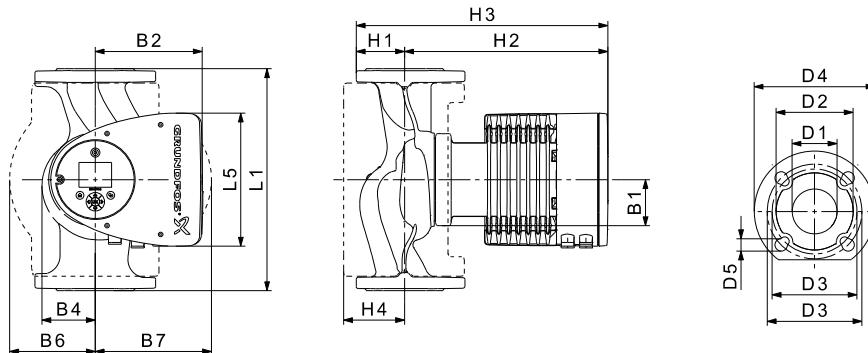
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 21 | 0.23 |
| Max. | 613 | 2.70 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.17.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 21.0 | 24.7 | 0.06 |

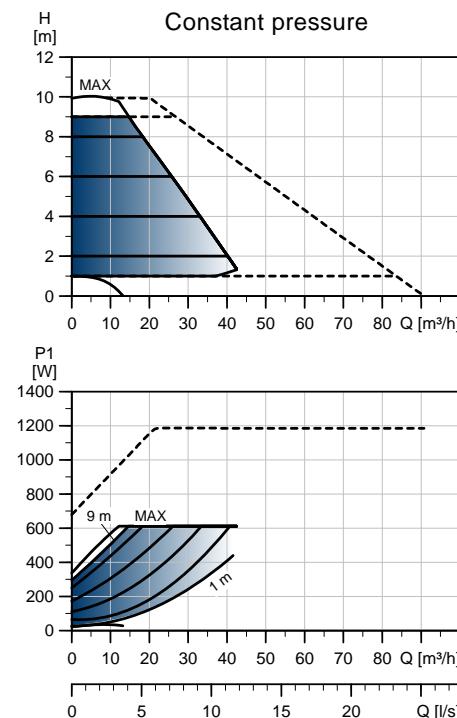
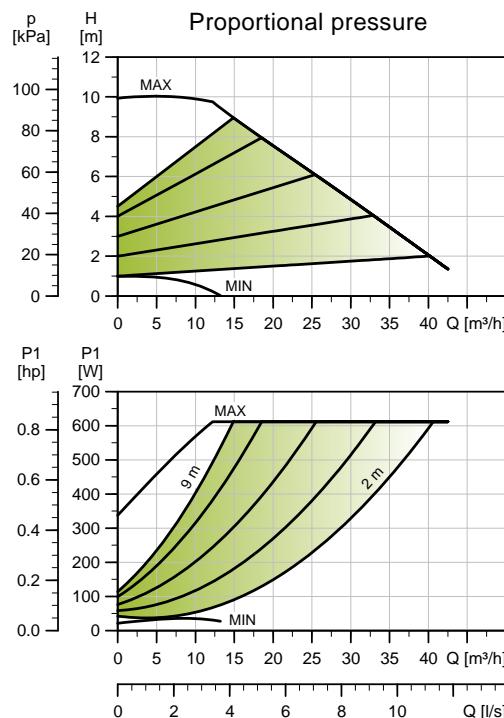


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|---------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|-----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 65-100 F (N) | 340 | 204 | 84 | 164 | 73 | 133 | 133 | 74 | 312 | 386 | 94 | 65 | 119 | 130/145 | 185 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 65-100 F

1 x 230 V, 50/60 Hz



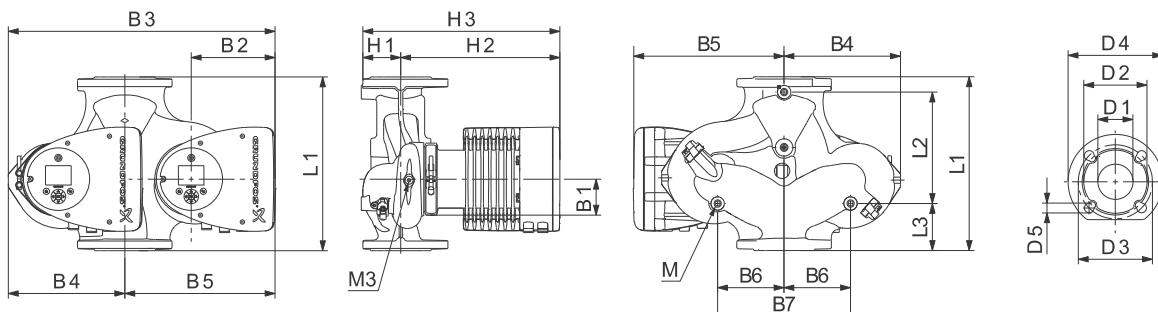
TM05 3774 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 23 | 0.24 |
| Max. | 613 | 2.97 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 38.7 | 47.6 | 0.06 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEl: 0.17.



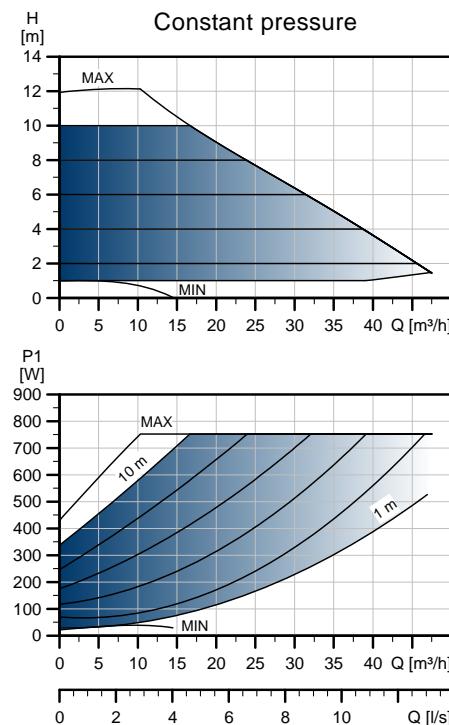
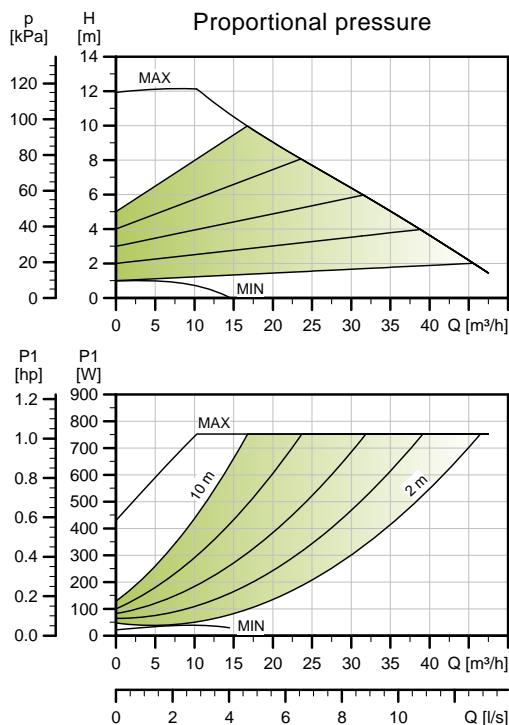
TM05 2205 1214

| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|-----|----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 65-100 F | 340 | 218 | 92 | 92 | 204 | 84 | 522 | 228 | 294 | 130 | 260 | 77 | 312 | 389 | 65 | 119 | 130/145 | 185 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 65-120 F (N)

1 x 230 V, 50/60 Hz



TM05 3750 1912

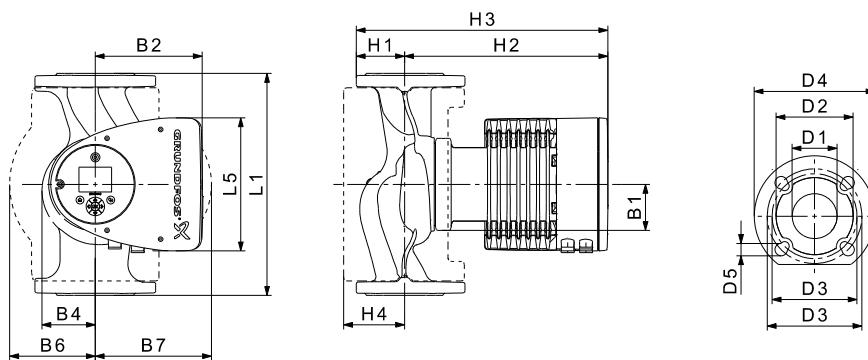
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 16 | 0.18 |
| Max. | 769 | 3.38 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 21.0 | 24.7 | 0.06 |

Connections: See [Pipe connections](#), page 134.
System pressure: Max. 1.0 MPa (10 bar).
Also available as max. 1.6 MPa (16 bar).
Liquid temperature: -10 to 110 °C (TF 110).
Also available with: Stainless-steel pump housing, type N.
Specific EEI: 0.17.

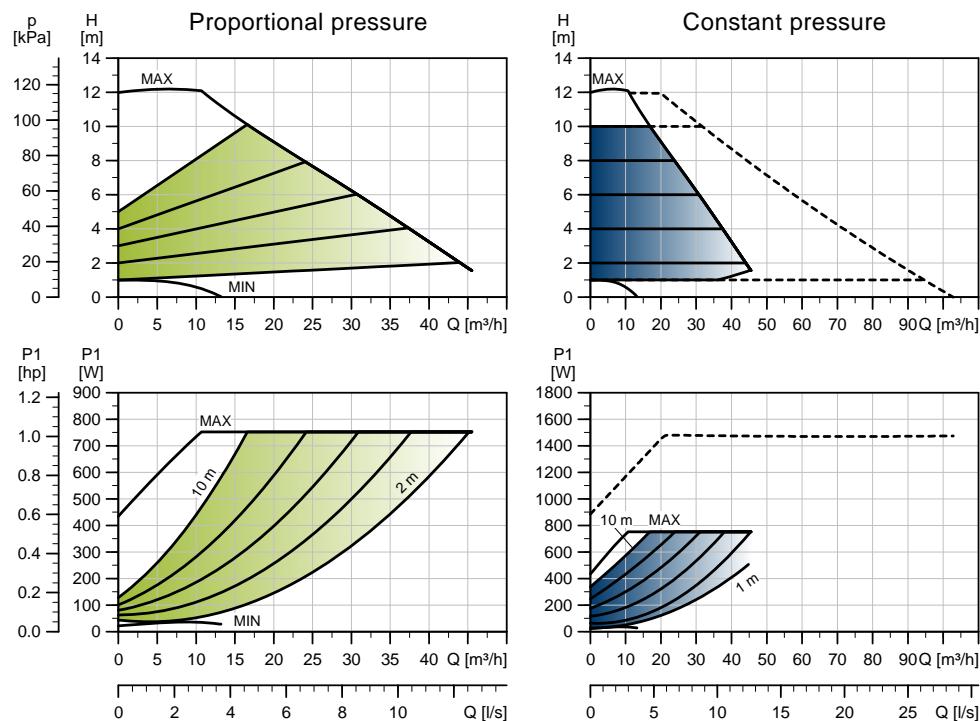


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|---------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|-----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 65-120 F (N) | 340 | 204 | 84 | 164 | 73 | 133 | 133 | 74 | 312 | 386 | 94 | 65 | 119 | 130/145 | 185 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 65-120 F

1 x 230 V, 50/60 Hz



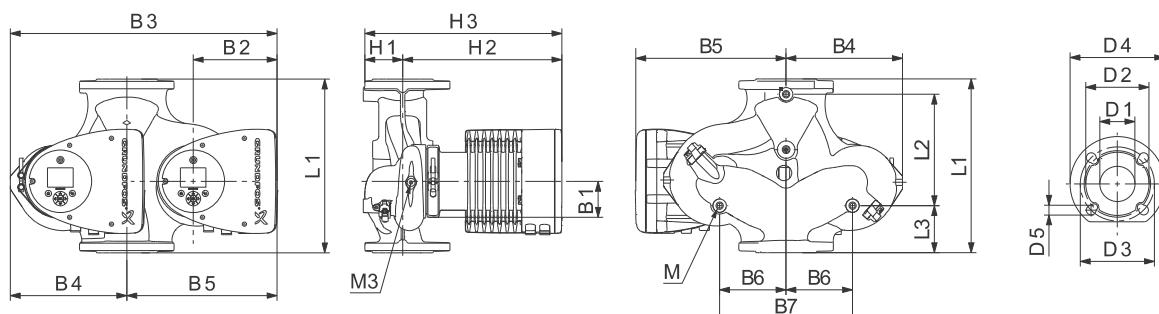
TM05 3775 1912

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 23 | 0.24 |
| Max. | 760 | 3.36 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEI: 0.17.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m ³] |
|------------------|--------------------|------------------------------|
| 38.7 | 47.6 | 0.06 |



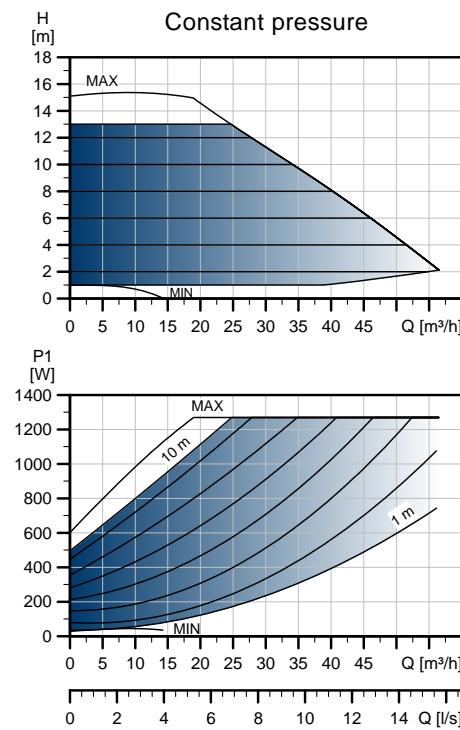
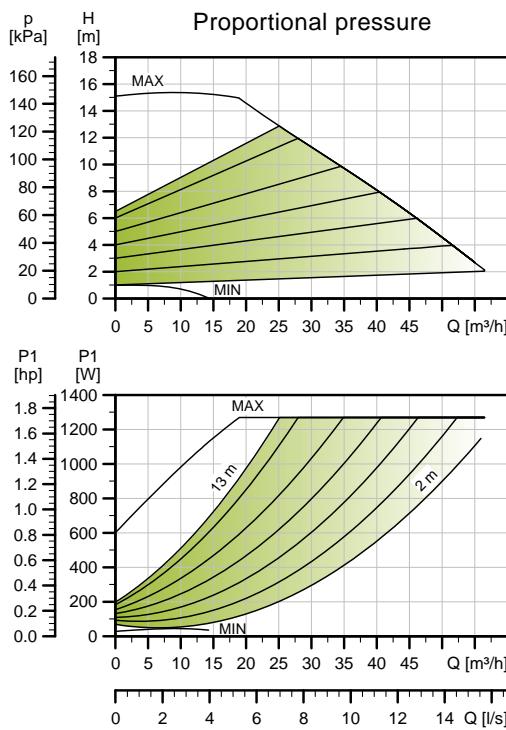
TM05 2205 1214

| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|-----|----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 65-120 F | 340 | 218 | 92 | 92 | 204 | 84 | 522 | 228 | 294 | 130 | 260 | 77 | 312 | 389 | 65 | 119 | 130/145 | 185 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 65-150 F (N)

1 x 230 V, 50/60 Hz



TM05 3751 1912

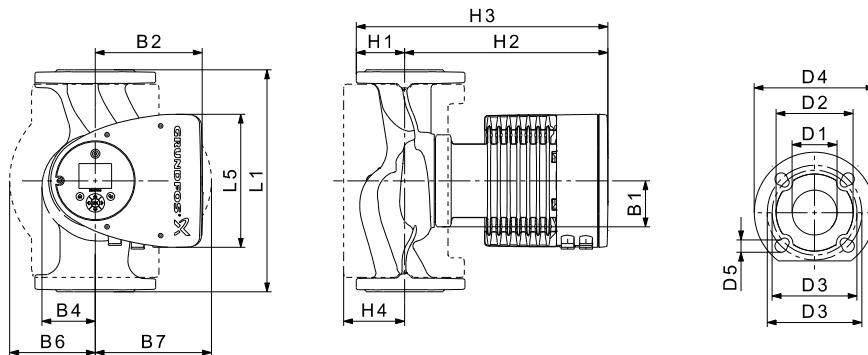
TM05 2204 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 29 | 0.30 |
| Max. | 1301 | 5.68 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Also available with: Stainless-steel pump housing, type N.
 Specific EEI: 0.17.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 24.0 | 27.8 | 0.06 |

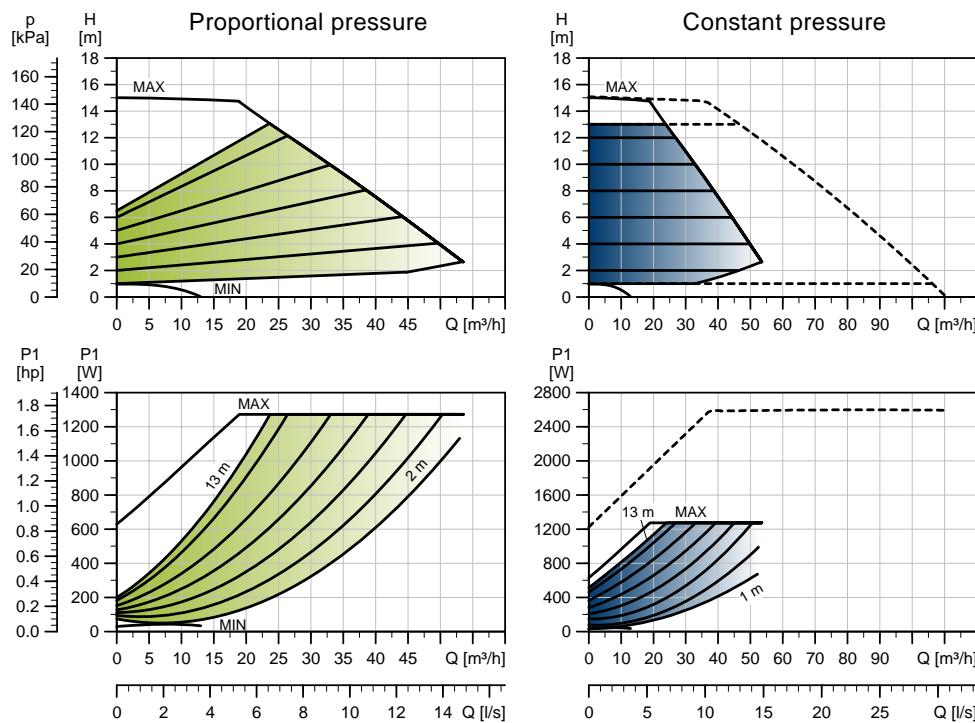


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|---------------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|----|----|-----|---------|-----|-------|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 65-150 F (N) | 340 | 204 | 84 | 164 | 73 | 133 | 133 | 74 | 312 | 386 | 94 | 65 | 119 | 130/145 | 185 | 14/19 |

For product numbers, see page 139.

MAGNA3 D 65-150 F

1 x 230 V, 50/60 Hz



TM05 3776 1912

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 29 | 0.30 |
| Max. | 1301 | 5.68 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m ³] |
|------------------|--------------------|------------------------------|
| 44.6 | 53.7 | 0.06 |

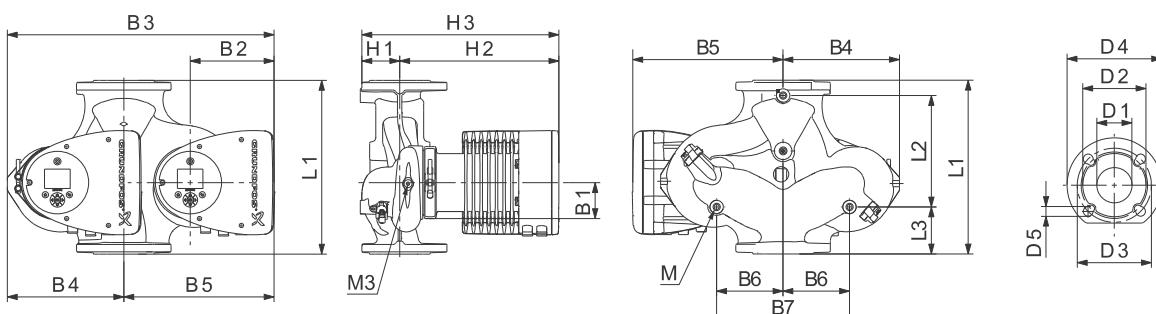
Connections: See [Pipe connections](#), page 134.

System pressure: Max. 1.0 MPa (10 bar).

Liquid temperature: Also available as max. 1.6 MPa (16 bar).

Specific EEl: -10 to 110 °C (TF 110).

TM05 2205 1214

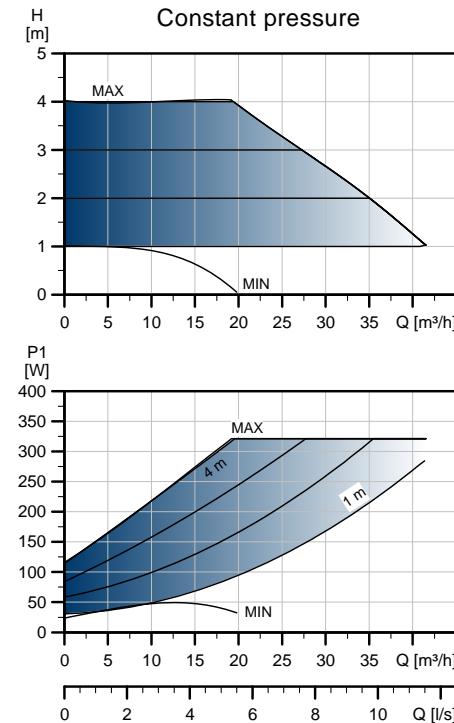
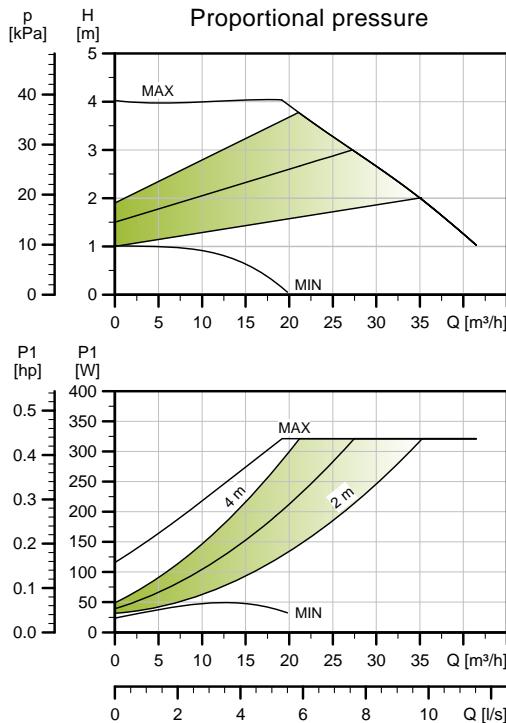


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|-----|----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|-------|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 65-150 F | 340 | 218 | 92 | 92 | 204 | 84 | 522 | 228 | 294 | 130 | 260 | 77 | 312 | 389 | 65 | 119 | 130/145 | 185 | 14/19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 80-40 F

1 x 230 V, 50/60 Hz



TM05 3752 1912

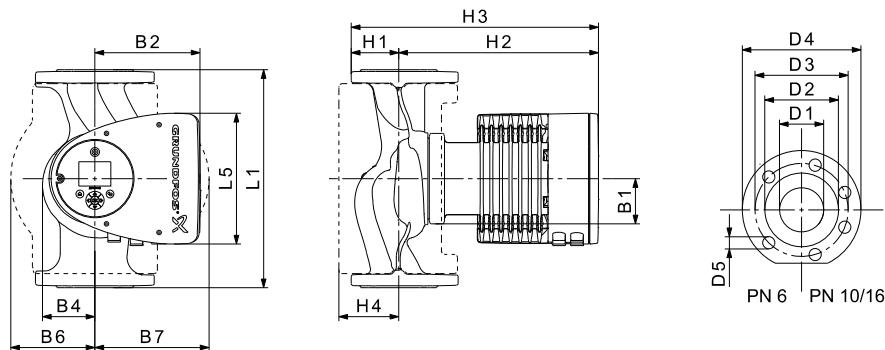
TM05 5291 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 24 | 0.26 |
| Max. | 326 | 1.47 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EER: 0.17.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 25.8 | 28.8 | 0.07 |

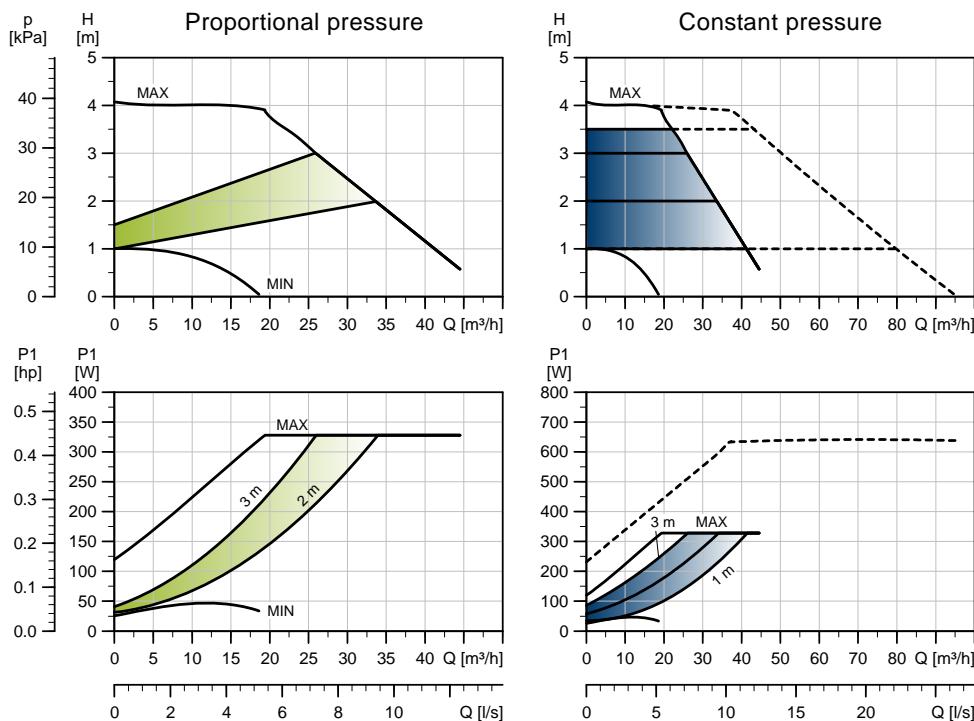


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|----------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|-----|----|-----|---------|-----|----|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 80-40 F | 360 | 204 | 84 | 164 | 73 | 163 | 163 | 96 | 318 | 413 | 115 | 80 | 128 | 150/160 | 200 | 19 |

For product numbers, see page 139.

MAGNA3 D 80-40 F

1 x 230 V, 50/60 Hz



TM05 3277 1912

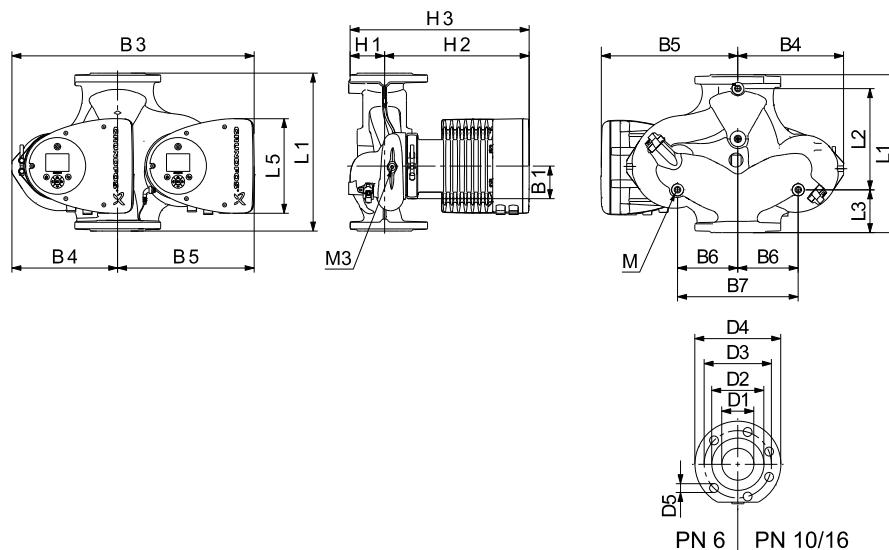
TM05 5366 2213

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 26 | 0.28 |
| Max. | 333 | 1.50 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m ³] |
|------------------|--------------------|------------------------------|
| 45.8 | 55.8 | 0.07 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEl: 0.19.

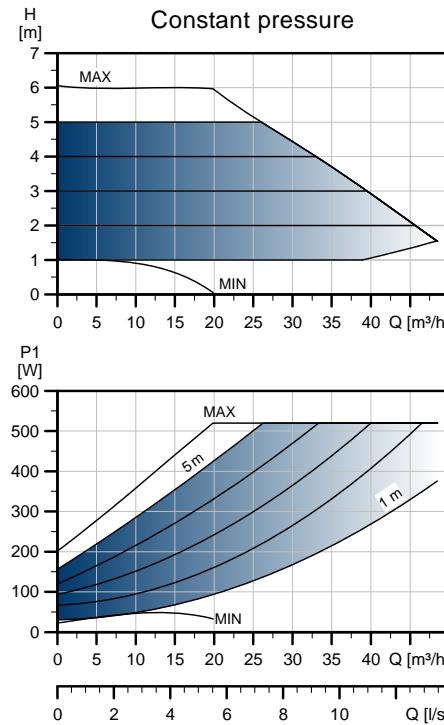
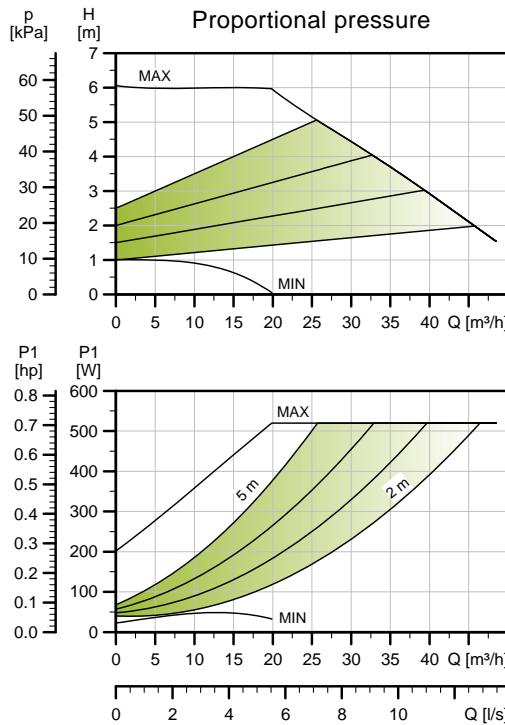


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|------------------|-----------------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|----|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 80-40 F | 360 | 218 | 102 | 102 | 204 | 84 | 538 | 244 | 294 | 130 | 260 | 97 | 318 | 415 | 80 | 128 | 150/160 | 200 | 19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 80-60 F

1 x 230 V, 50/60 Hz



TM05 3753 1912

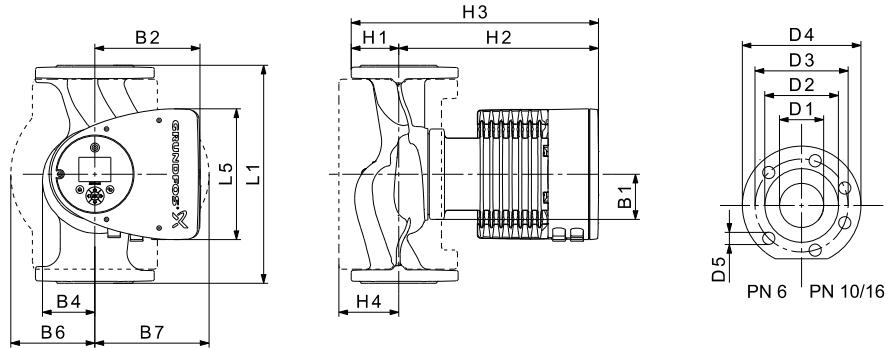
TM05 5291 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 24 | 0.26 |
| Max. | 530 | 2.35 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 25.8 | 29.1 | 0.07 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEL: 0.17.

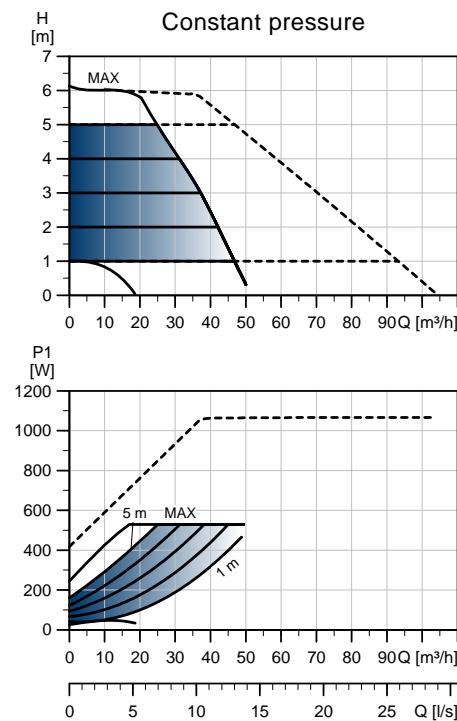
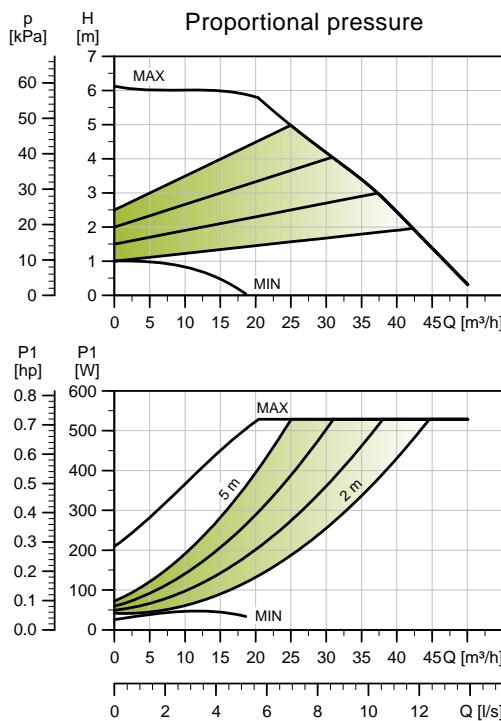


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|----------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|-----|----|-----|---------|-----|----|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 80-60 F | 360 | 204 | 84 | 164 | 73 | 163 | 163 | 96 | 318 | 413 | 115 | 80 | 128 | 150/160 | 200 | 19 |

For product numbers, see page 139.

MAGNA3 D 80-60 F

1 x 230 V, 50/60 Hz



TM05 3778 1912

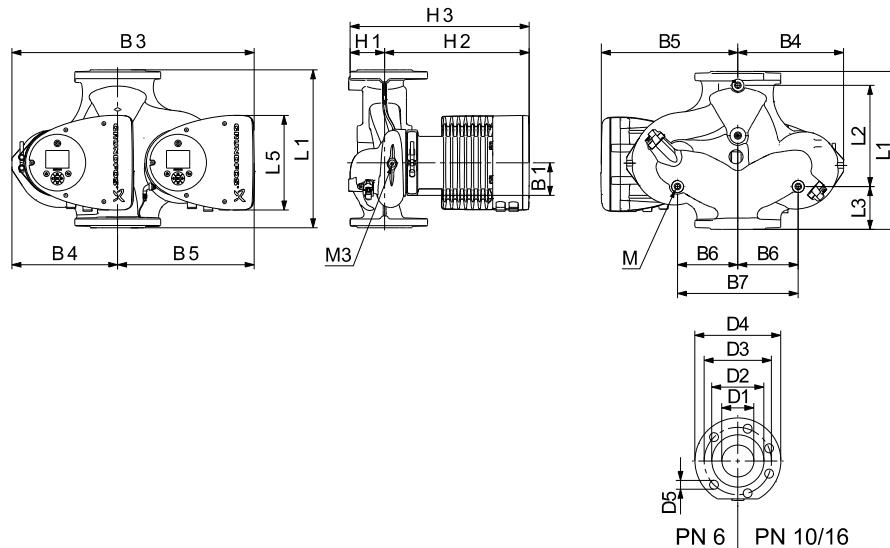
TM05 5366 2213

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 26 | 0.28 |
| Max. | 540 | 2.39 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEl: 0.18.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 45.8 | 55.8 | 0.07 |

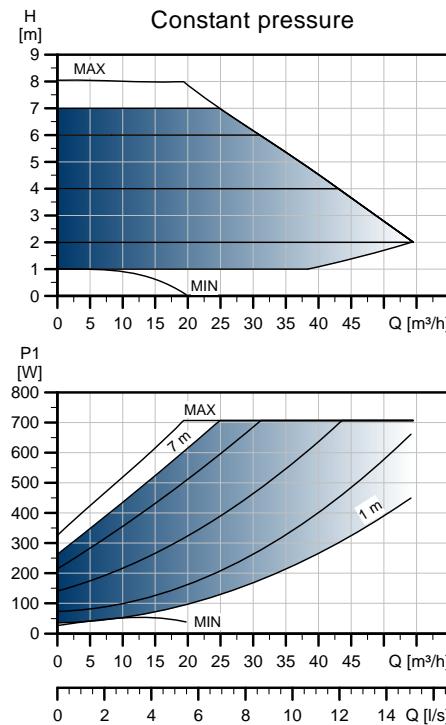
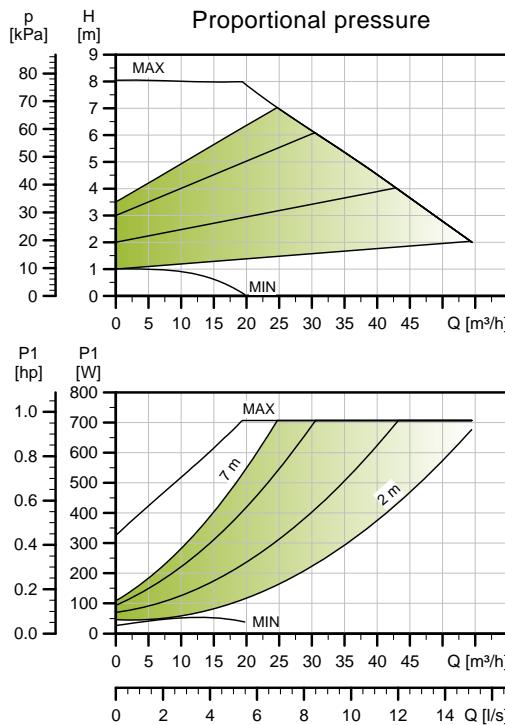


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|------------------|-----------------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|----|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 80-60 F | 360 | 218 | 102 | 102 | 204 | 84 | 538 | 244 | 294 | 130 | 260 | 97 | 318 | 415 | 80 | 128 | 150/160 | 200 | 19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 80-80 F

1 x 230 V, 50/60 Hz



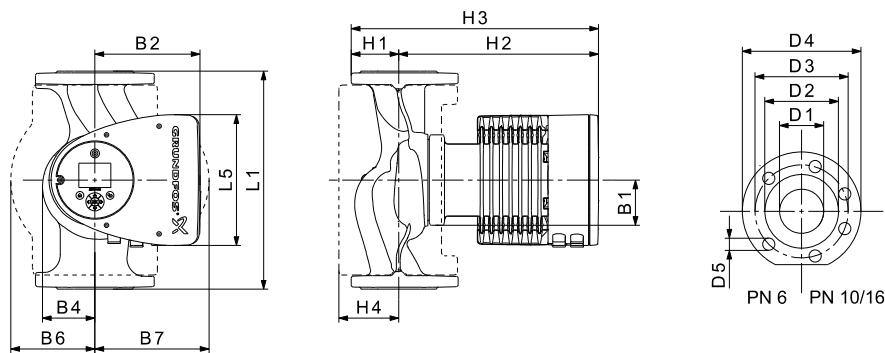
TM05 3754 1912

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 28 | 0.28 |
| Max. | 721 | 3.17 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEI: 0.17.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 28.0 | 32.0 | 0.07 |



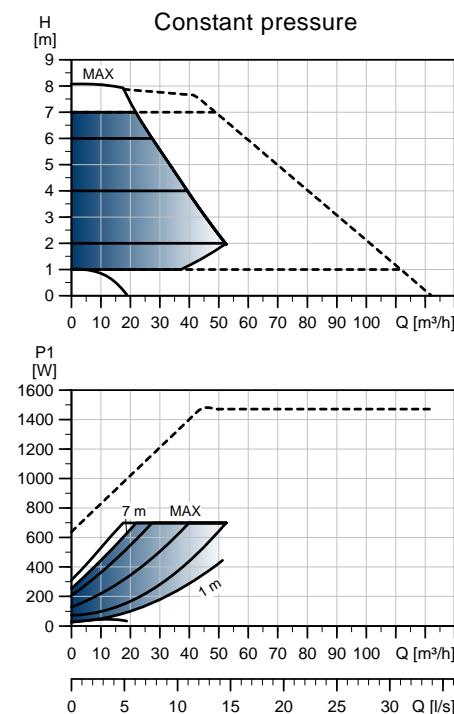
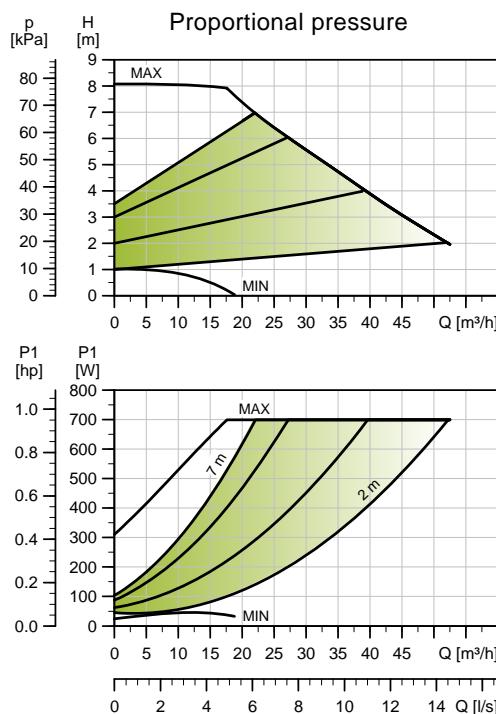
TM05 5291 3612

| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|----------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|-----|----|-----|---------|-----|----|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 80-80 F | 360 | 204 | 84 | 164 | 73 | 163 | 163 | 96 | 318 | 413 | 115 | 80 | 128 | 150/160 | 200 | 19 |

For product numbers, see page 139.

MAGNA3 D 80-80 F

1 x 230 V, 50/60 Hz



TM05 3779 1912

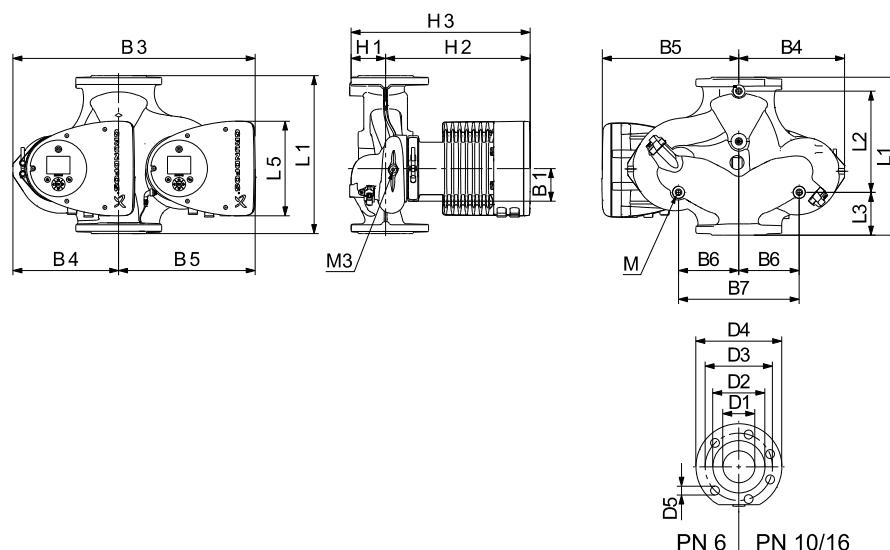
TM05 5396 2213

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 26 | 0.28 |
| Max. | 540 | 2.39 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 45.8 | 55.8 | 0.07 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEI: 0.18.

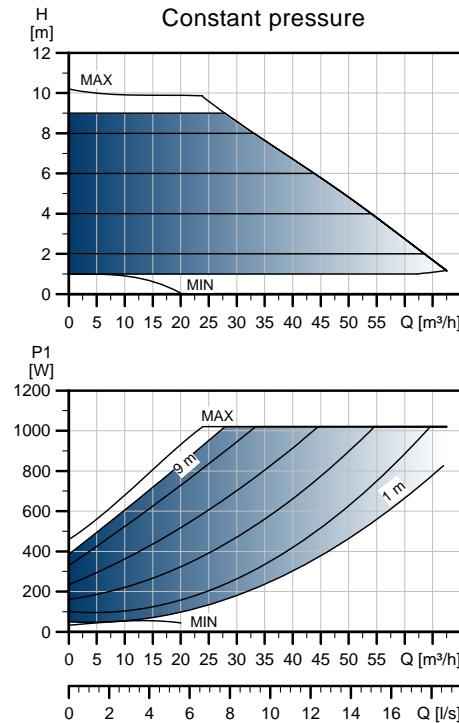
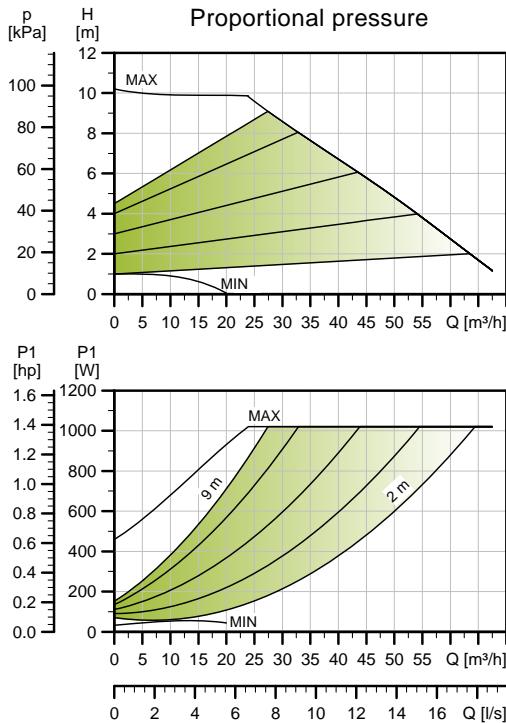


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|------------------|-----------------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|----|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 80-80 F | 360 | 218 | 102 | 102 | 204 | 84 | 538 | 244 | 294 | 130 | 260 | 97 | 318 | 415 | 80 | 128 | 150/160 | 200 | 19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 80-100 F

1 x 230 V, 50/60 Hz



TM05 3755 1912

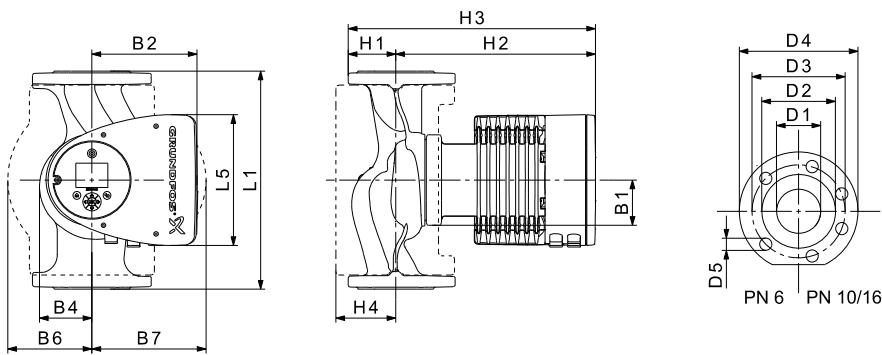
TM05 5291 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 31 | 0.32 |
| Max. | 1041 | 4.60 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Liquid temperature: Also available as max. 1.6 MPa (16 bar).
 Specific EEI: -10 to 110 °C (TF 110).
 0.17.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 28.8 | 32.6 | 0.07 |

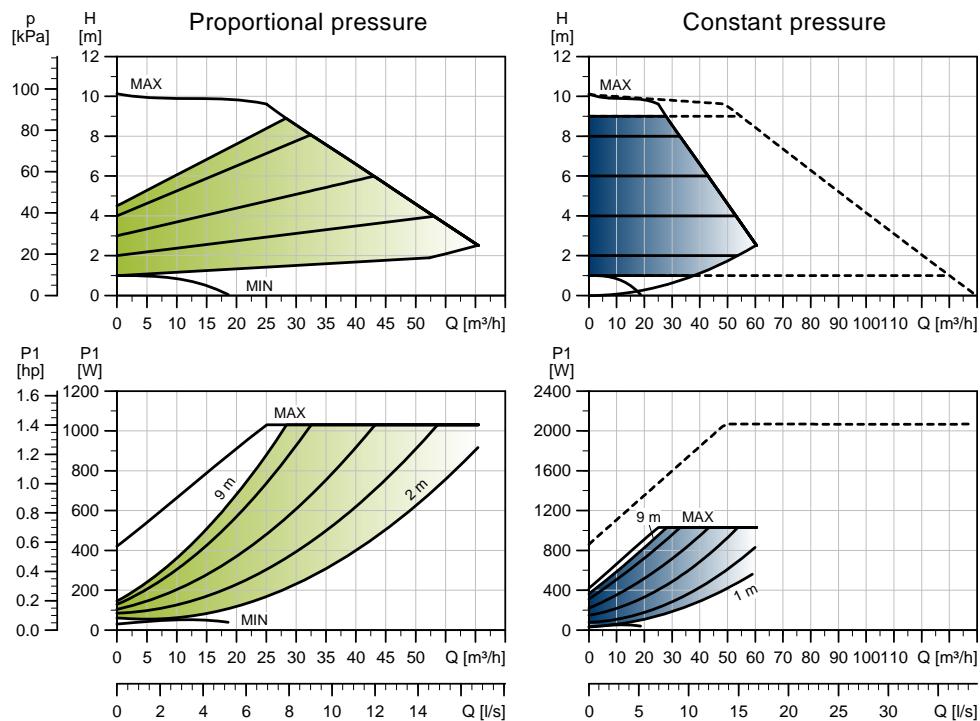


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|-----------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|-----|----|-----|---------|-----|----|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 80-100 F | 360 | 204 | 84 | 164 | 73 | 163 | 163 | 96 | 318 | 413 | 115 | 80 | 128 | 150/160 | 200 | 19 |

For product numbers, see page 139.

MAGNA3 D 80-100 F

1 x 230 V, 50/60 Hz



TM05 3780 1912

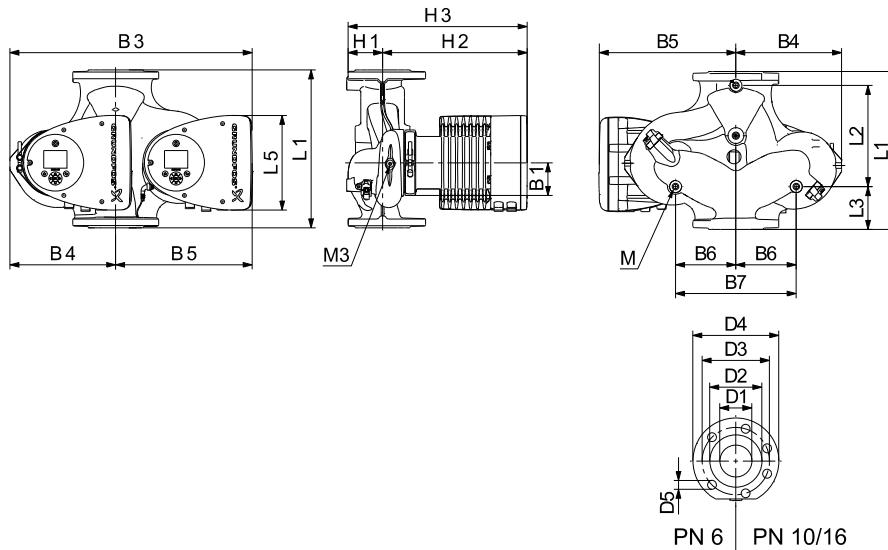
TM05 5366 2213

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 32 | 0.32 |
| Max. | 1052 | 4.62 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m ³] |
|------------------|--------------------|------------------------------|
| 51.6 | 63.4 | 0.07 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEI: 0.17.

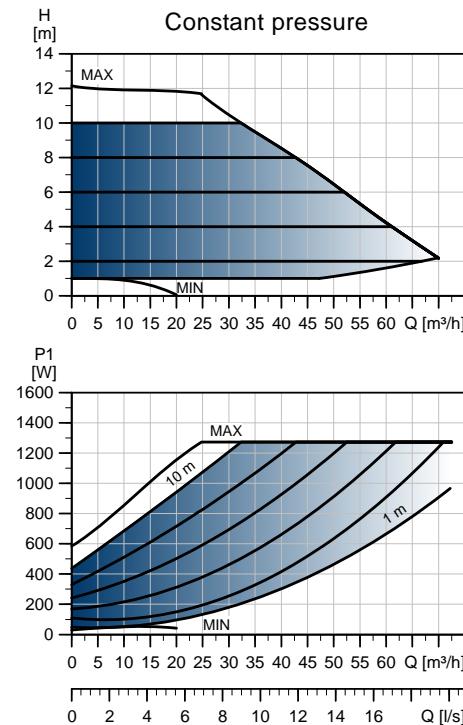
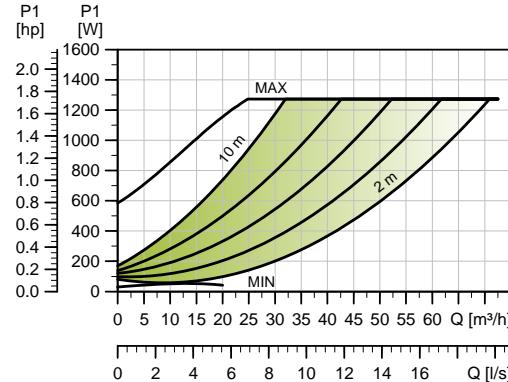
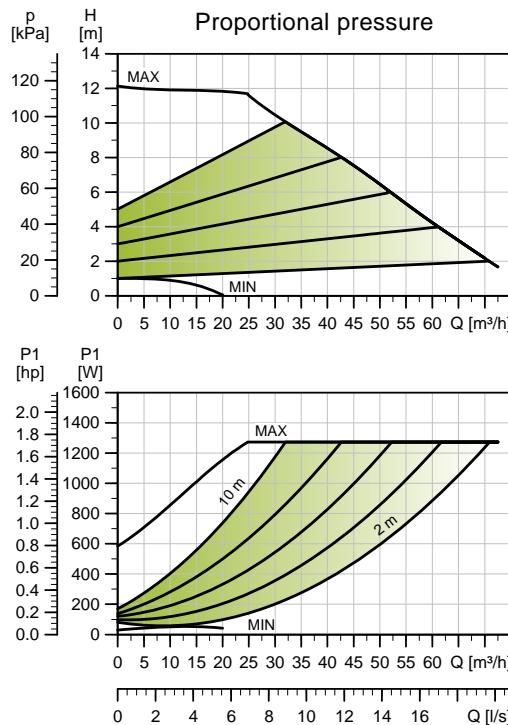


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|----|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 80-100 F | 360 | 218 | 102 | 102 | 204 | 84 | 538 | 244 | 294 | 130 | 260 | 97 | 318 | 415 | 80 | 128 | 150/160 | 200 | 19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 80-120 F

1 x 230 V, 50/60 Hz



TM05 3756 1912

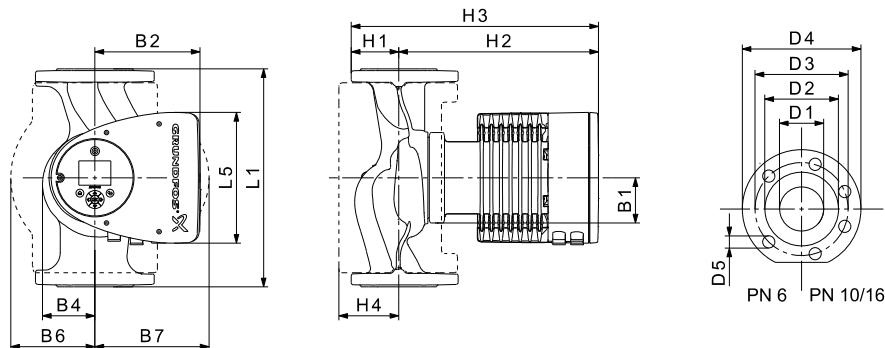
TM05 5291 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 31 | 0.32 |
| Max. | 1297 | 5.72 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 28.8 | 32.6 | 0.07 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Liquid temperature: Also available as max. 1.6 MPa (16 bar).
 Specific EEI: -10 to 110 °C (TF 110).

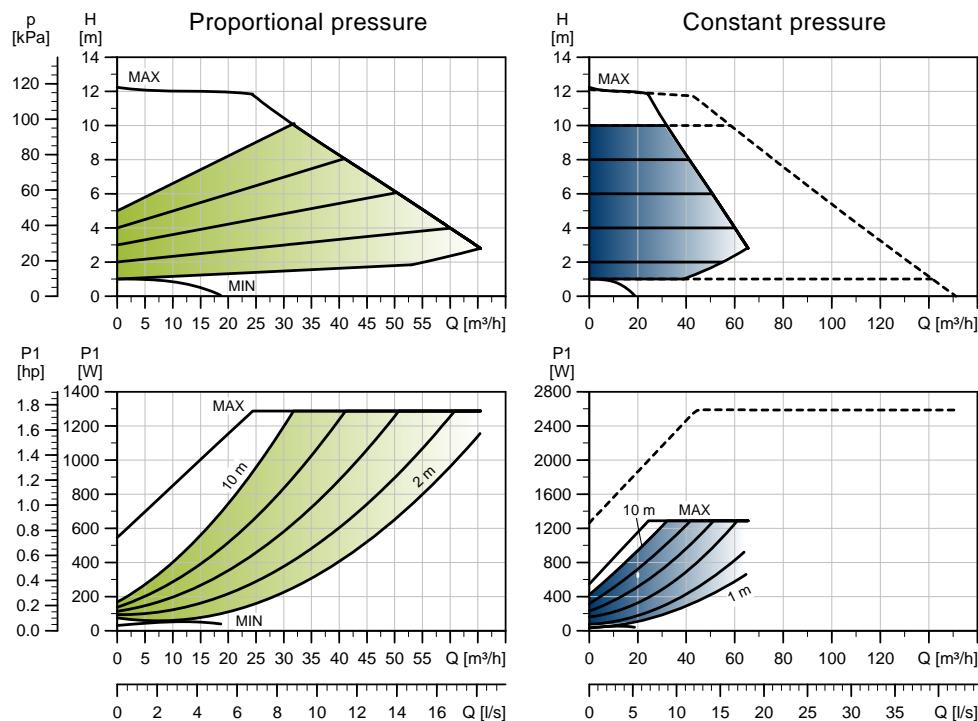


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|-----------------|-----------------|-----|----|-----|----|-----|-----|----|-----|-----|-----|----|-----|---------|-----|----|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 80-120 F | 360 | 204 | 84 | 164 | 73 | 163 | 163 | 96 | 318 | 413 | 115 | 80 | 128 | 150/160 | 200 | 19 |

For product numbers, see page 139.

MAGNA3 D 80-120 F

1 x 230 V, 50/60 Hz



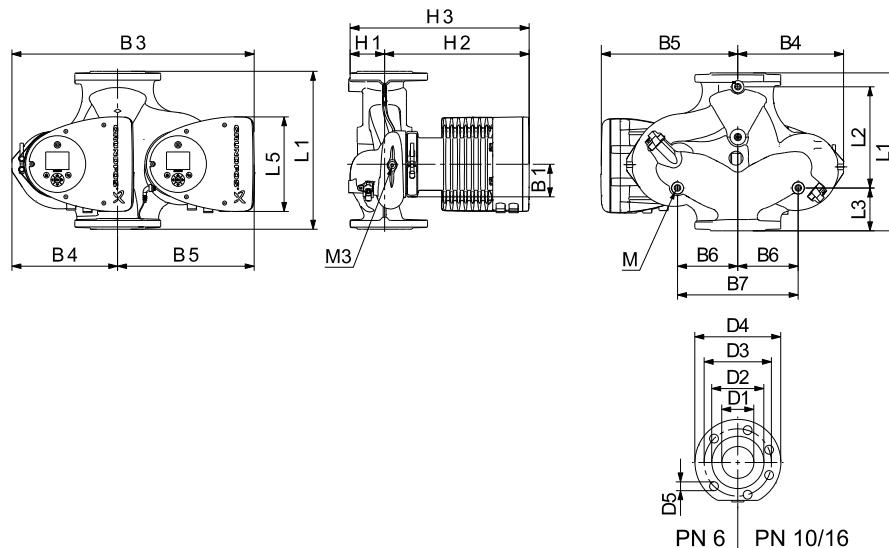
TM05 3781 1912

TM05 5366 2213

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 51.6 | 63.1 | 0.07 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEl: 0.17.

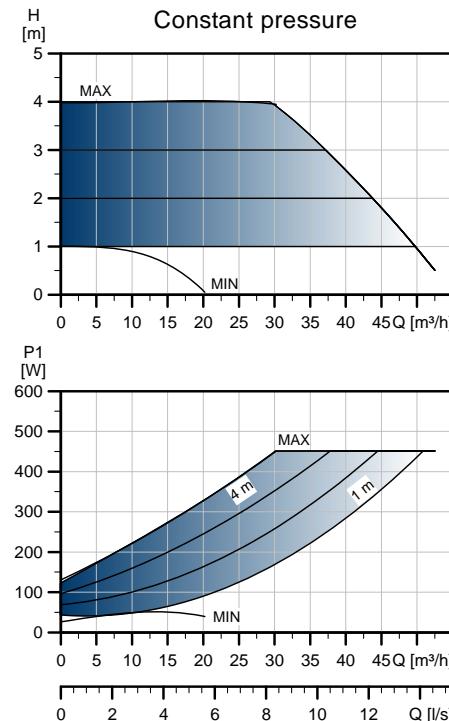
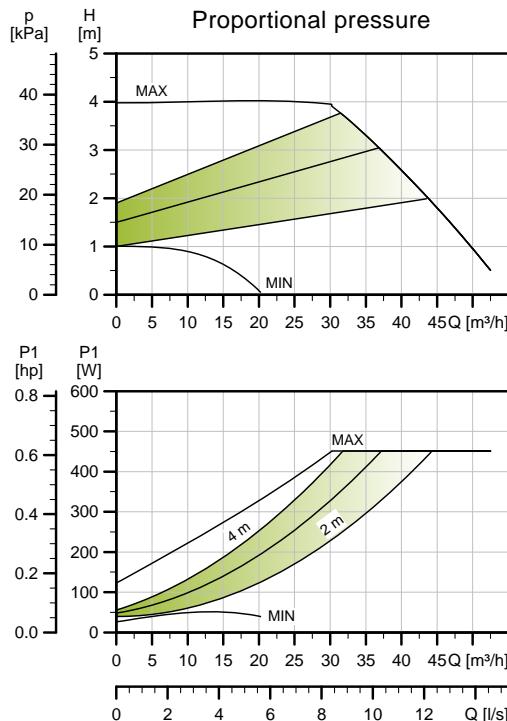


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|---------|-----|----|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 80-120 F | 360 | 218 | 102 | 102 | 204 | 84 | 538 | 244 | 294 | 130 | 260 | 97 | 318 | 415 | 80 | 128 | 150/160 | 200 | 19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 100-40 F

1 x 230 V, 50/60 Hz



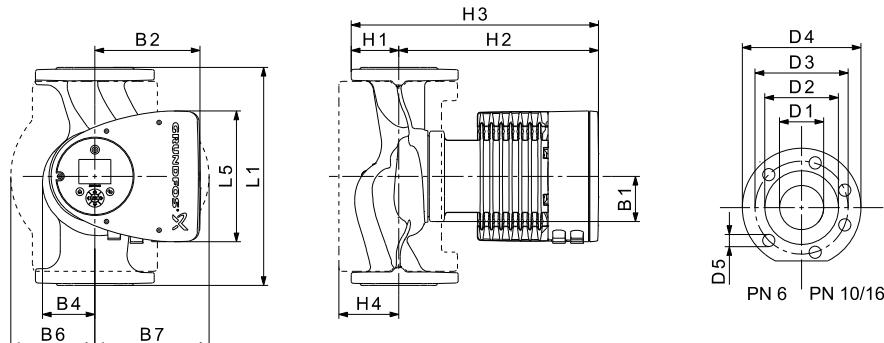
TM05 3757 1912

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 28 | 0.27 |
| Max. | 465 | 2.06 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 32.3 | 36.4 | 0.1 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEI: 0.17.



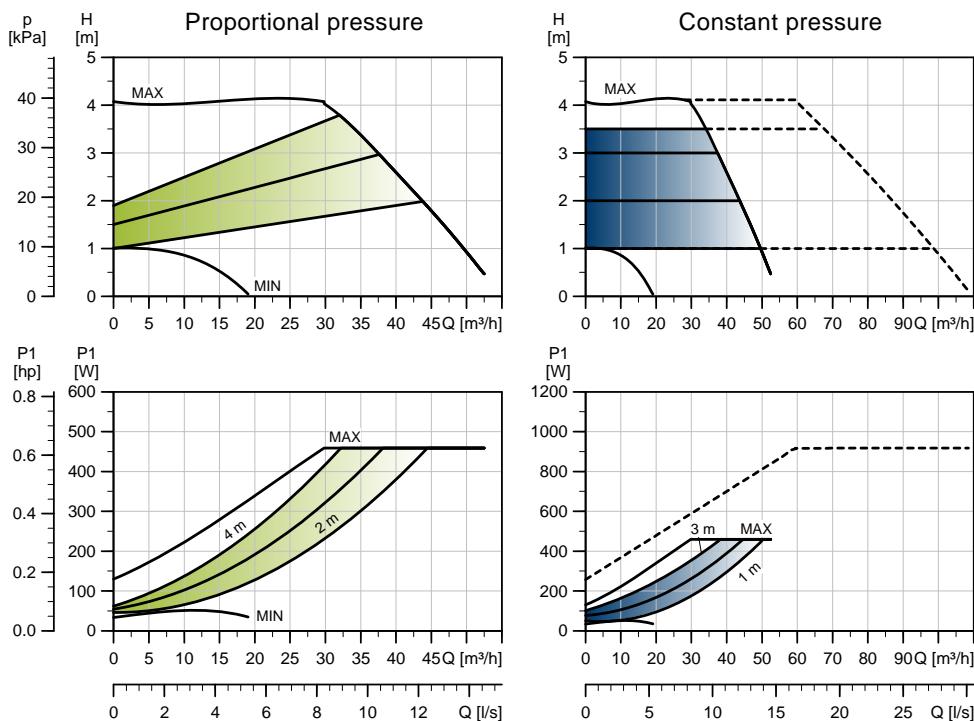
TM05 5291 3612

| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|-----------------|-----------------|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 100-40 F | 450 | 204 | 84 | 164 | 73 | 178 | 178 | 103 | 330 | 433 | 120 | 100 | 160 | 170 | 220 | 19 |

For product numbers, see page 139.

MAGNA3 D 100-40 F

1 x 230 V, 50/60 Hz



TM05 3782 1912

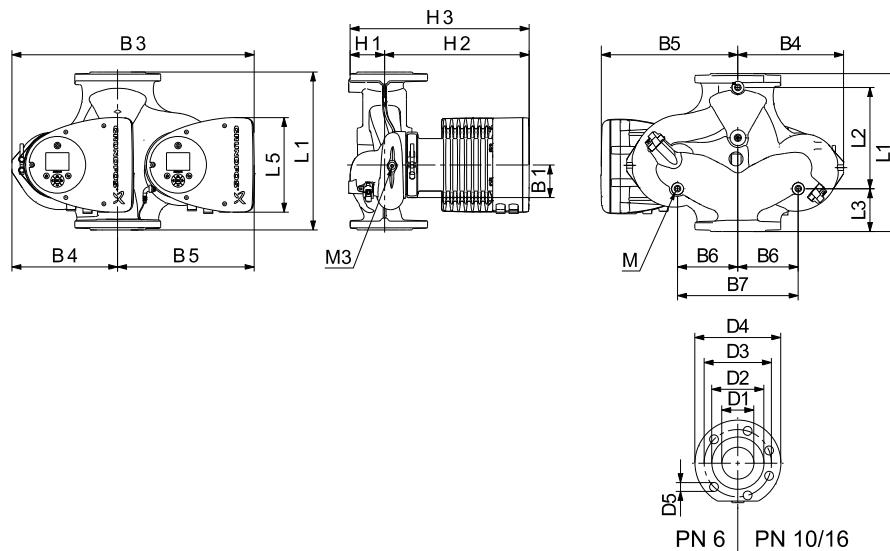
TM05 5366 2213

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 28 | 0.27 |
| Max. | 465 | 2.06 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEl: 0.19.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 58.8 | 71.3 | 0.1 |

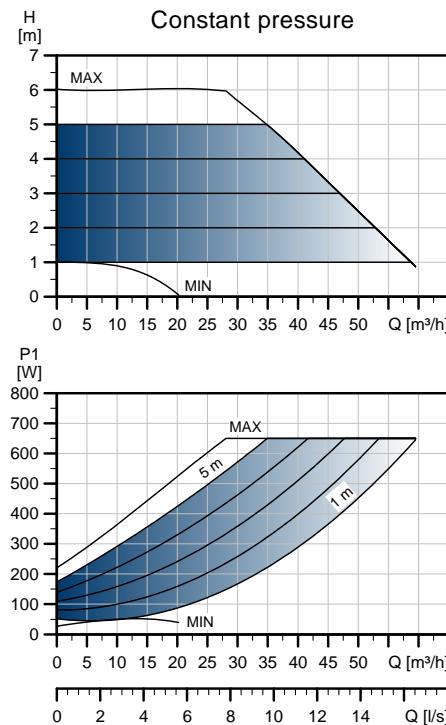
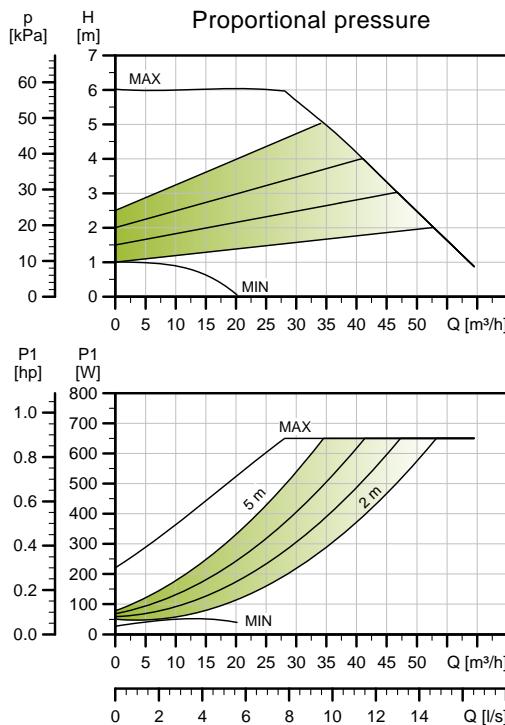


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M |
| MAGNA3 D 100-40 F | 450 | 243 | 147 | 147 | 204 | 84 | 551 | 252 | 135 | 270 | 103 | 330 | 434 | 100 | 160 | 170 | 220 | 19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 100-60 F

1 x 230 V, 50/60 Hz



TM05 3758 1912

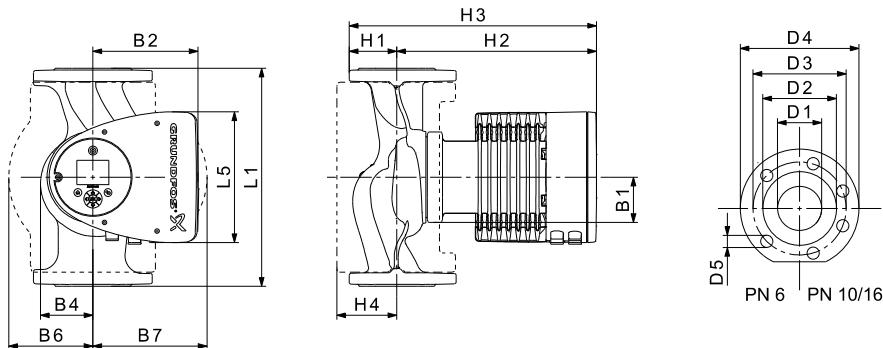
TM05 5291 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 28 | 0.28 |
| Max. | 664 | 2.94 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEL: 0.17.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 32.3 | 36.4 | 0.1 |

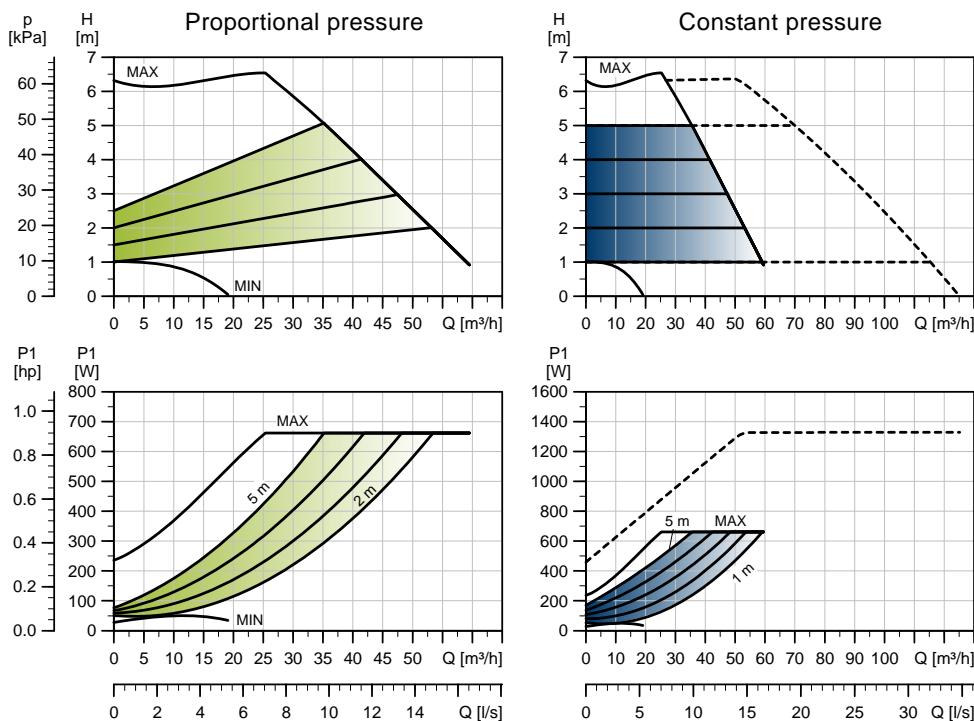


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|-----------------|-----------------|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 100-60 F | 450 | 204 | 84 | 164 | 73 | 178 | 178 | 103 | 330 | 433 | 120 | 100 | 160 | 170 | 220 | 19 |

For product numbers, see page 139.

MAGNA3 D 100-60 F

1 x 230 V, 50/60 Hz



TM05 3783 1912

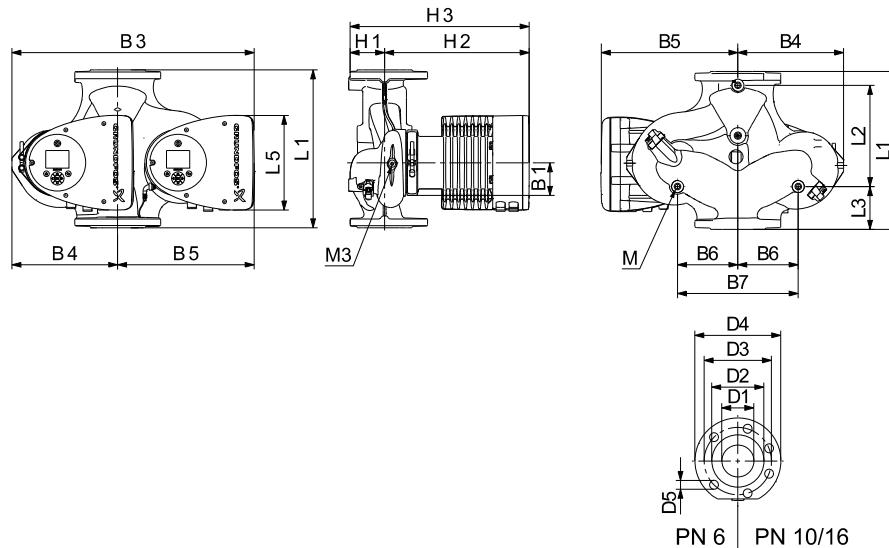
TM05 5366 2213

| Speed | P1 [W] | I ₁₁ [A] |
|-------|--------|---------------------|
| Min. | 28 | 0.27 |
| Max. | 664 | 2.94 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEI: 0.18.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 58.8 | 71.3 | 0.1 |

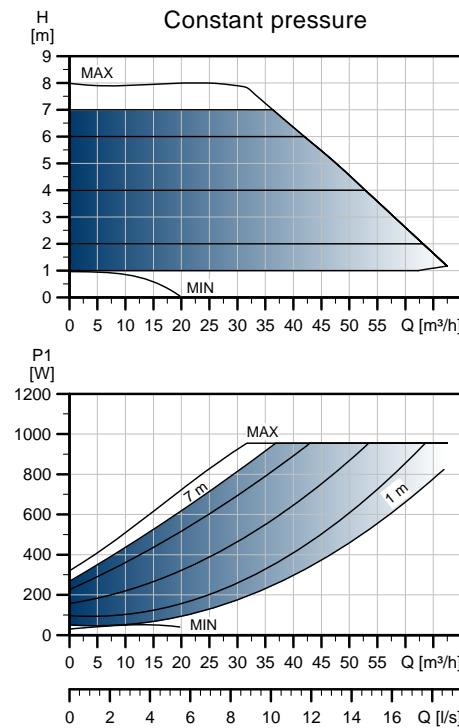
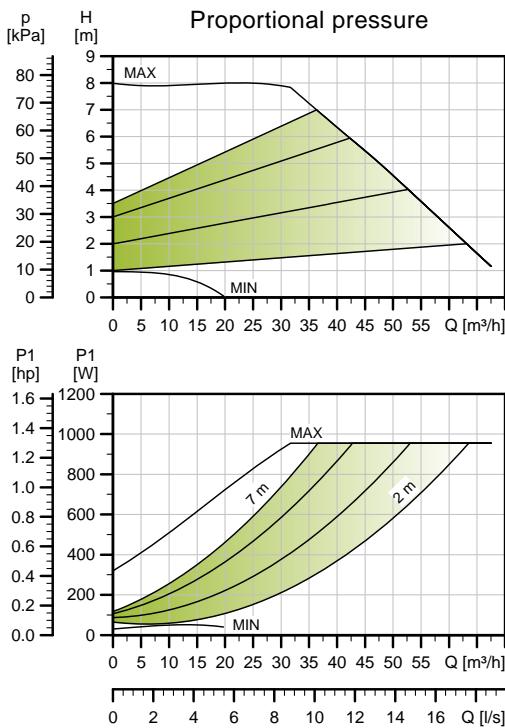


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 100-60 F | 450 | 243 | 147 | 147 | 204 | 84 | 551 | 252 | 299 | 135 | 270 | 103 | 330 | 434 | 100 | 160 | 170 | 220 | 19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 100-80 F

1 x 230 V, 50/60 Hz



TM05 3759 1912

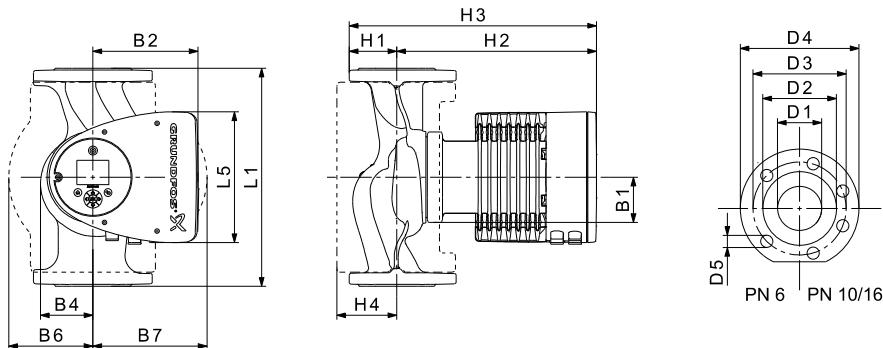
TM05 5291 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 31 | 0.32 |
| Max. | 971 | 4.31 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEL: 0.17.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 33.1 | 37.3 | 0.1 |

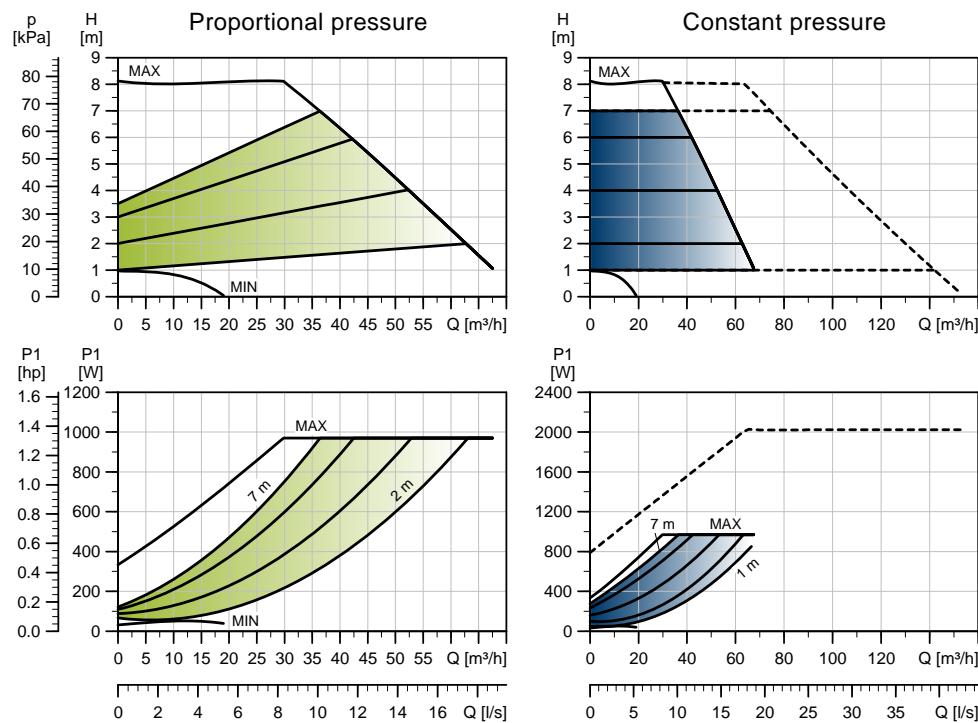


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|-----------------|-----------------|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 100-80 F | 450 | 204 | 84 | 164 | 73 | 178 | 178 | 103 | 330 | 433 | 120 | 100 | 160 | 170 | 220 | 19 |

For product numbers, see page 139.

MAGNA3 D 100-80 F

1 x 230 V, 50/60 Hz



TM05 3784 1912

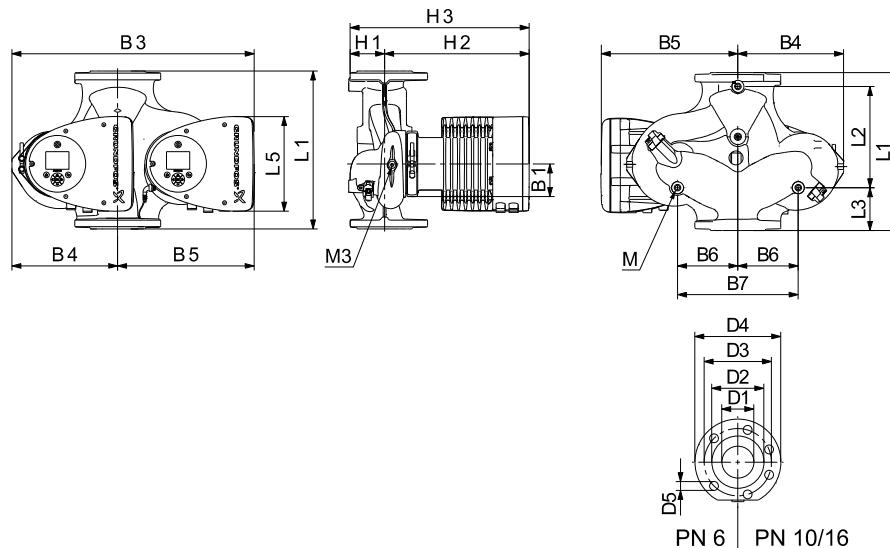
TM05 5366 2213

| Speed | P1 [W] | I1/I [A] |
|-------|--------|----------|
| Min. | 32 | 0.33 |
| Max. | 988 | 4.36 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 60.4 | 73.2 | 0.1 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEL: 0.17.

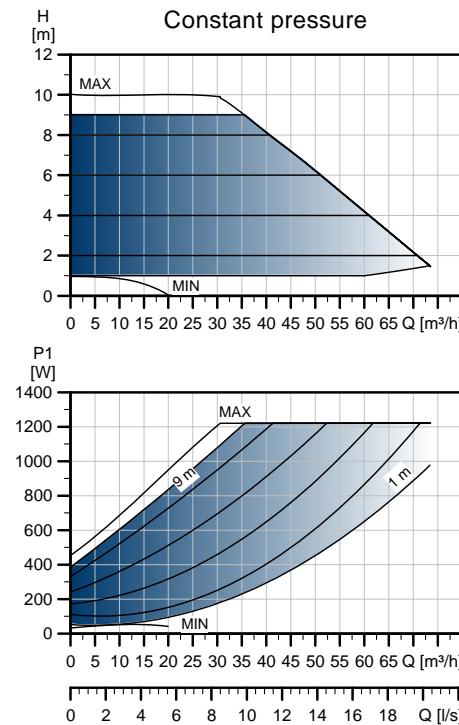
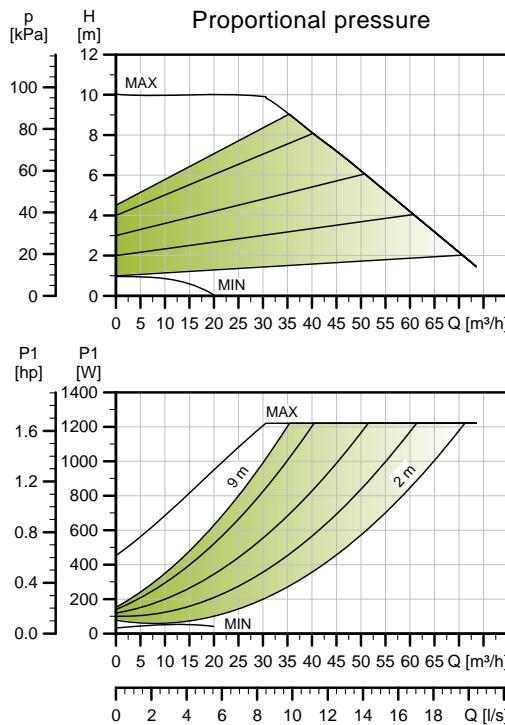


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 100-80 F | 450 | 243 | 147 | 147 | 204 | 84 | 551 | 252 | 299 | 135 | 270 | 103 | 330 | 434 | 100 | 160 | 170 | 220 | 19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 100-100 F

1 x 230 V, 50/60 Hz



TM05 3760 1912

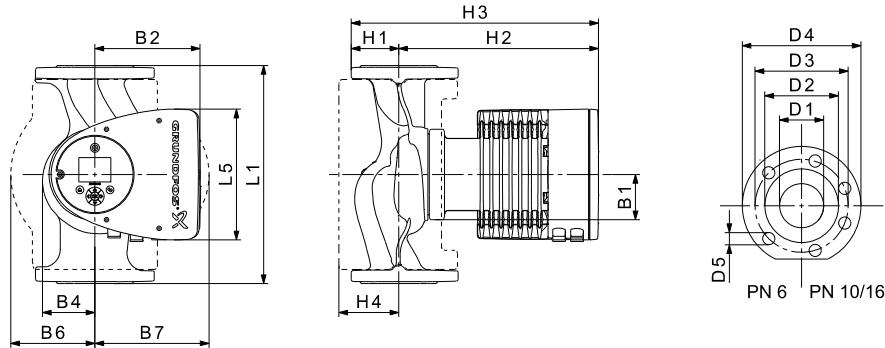
TM05 5291 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 31 | 0.32 |
| Max. | 1244 | 5.50 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEL: 0.17.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 33.1 | 37.0 | 0.1 |

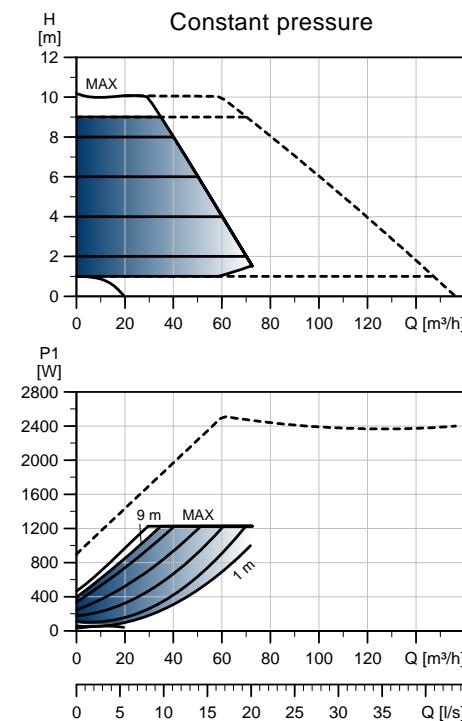
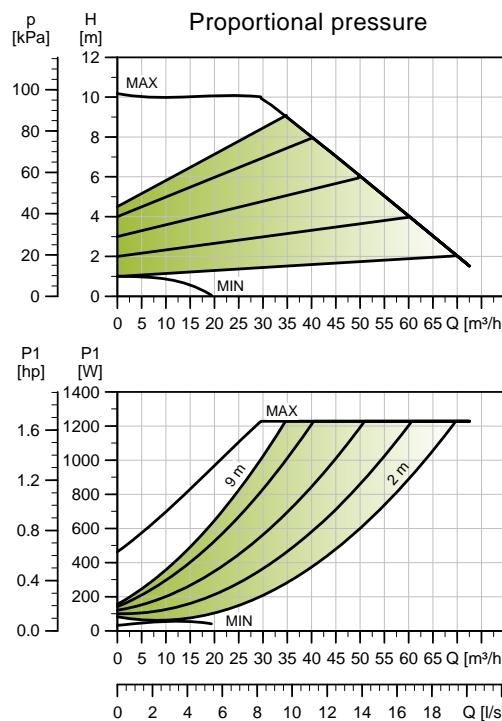


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|------------------|-----------------|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 100-100 F | 450 | 204 | 84 | 164 | 73 | 178 | 178 | 103 | 330 | 433 | 120 | 100 | 160 | 170 | 220 | 19 |

For product numbers, see page 139.

MAGNA3 D 100-100 F

1 x 230 V, 50/60 Hz



TM05 3785 1812

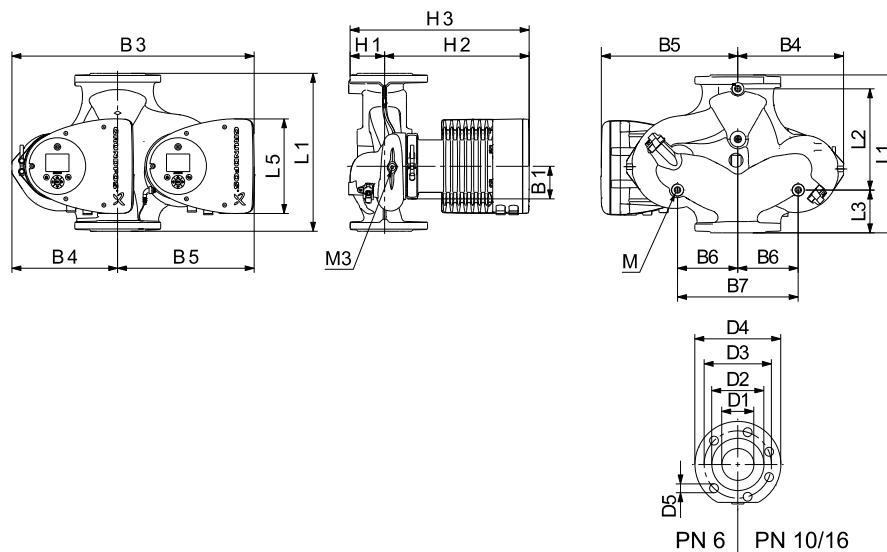
TM05 5366 2213

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 34 | 0.34 |
| Max. | 1249 | 5.51 |

The pump incorporates overload protection.

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEf: 0.17.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 60.4 | 73.2 | 0.1 |

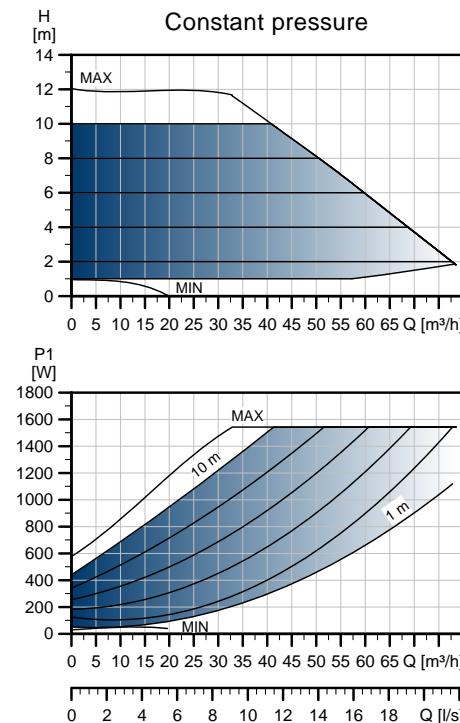
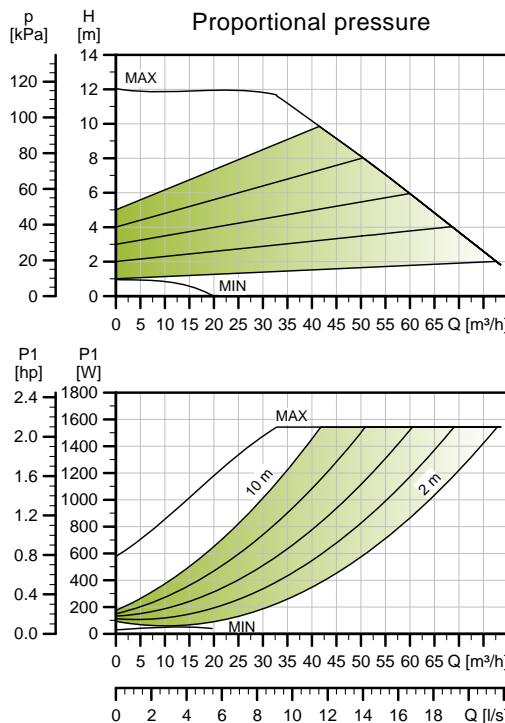


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|--------------------|-----------------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 100-100 F | 450 | 243 | 147 | 147 | 204 | 84 | 551 | 252 | 299 | 135 | 270 | 103 | 330 | 434 | 100 | 160 | 170 | 220 | 19 | M12 | Rp 1/4 |

For product numbers, see page 139.

MAGNA3 100-120 F

1 x 230 V, 50/60 Hz



TM05 3761 1912

TM05 5291 3612

| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 31 | 0.32 |
| Max. | 1576 | 6.97 |

The pump incorporates overload protection.

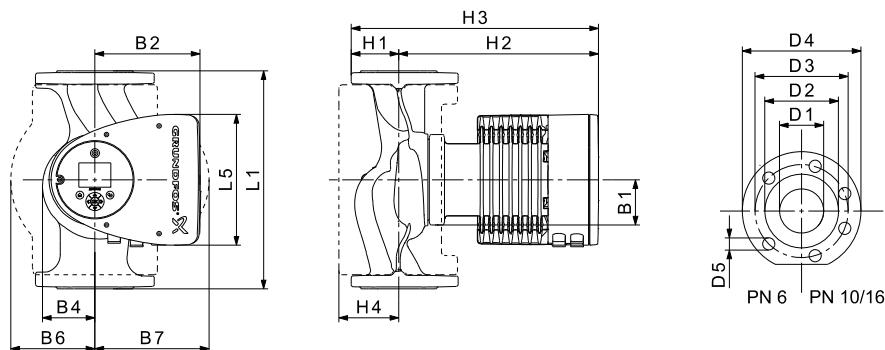
| Net weights [kg] | Gross weights [kg] | Ship. vol. [m ³] |
|------------------|--------------------|------------------------------|
| 33.1 | 37.0 | 0.1 |

Connections: See [Pipe connections](#), page 134.

System pressure: Max. 1.0 MPa (10 bar).

Liquid temperature: Also available as max. 1.6 MPa (16 bar).

Specific EEI: -10 to 110 °C (TF 110).

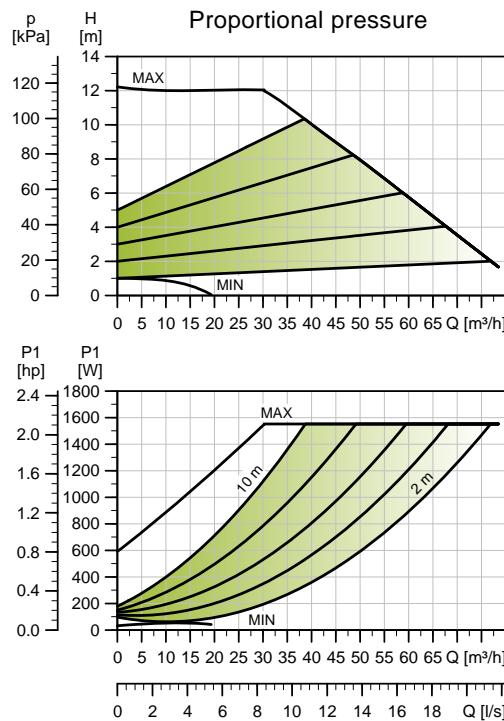


| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | |
|------------------|-----------------|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| | L1 | L5 | B1 | B2 | B4 | B6 | B7 | H1 | H2 | H3 | H4 | D1 | D2 | D3 | D4 | D5 |
| MAGNA3 100-120 F | 450 | 204 | 84 | 164 | 73 | 178 | 178 | 103 | 330 | 433 | 120 | 100 | 160 | 170 | 220 | 19 |

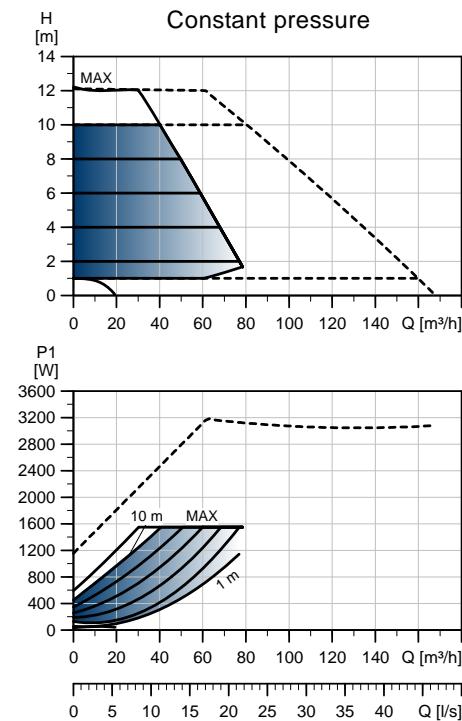
For product numbers, see page 139.

MAGNA3 D 100-120 F

1 x 230 V, 50/60 Hz



TM05 3786 1912

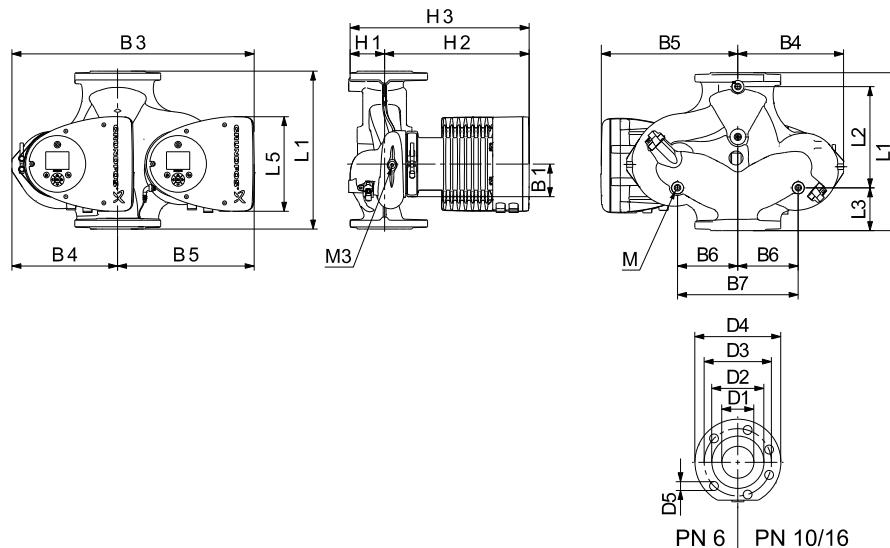


| Speed | P1 [W] | I _{1/1} [A] |
|-------|--------|----------------------|
| Min. | 35 | 0.35 |
| Max. | 1582 | 6.98 |

The pump incorporates overload protection.

| Net weights [kg] | Gross weights [kg] | Ship. vol. [m³] |
|------------------|--------------------|-----------------|
| 60.4 | 72.8 | 0.1 |

Connections: See [Pipe connections](#), page 134.
 System pressure: Max. 1.0 MPa (10 bar).
 Also available as max. 1.6 MPa (16 bar).
 Liquid temperature: -10 to 110 °C (TF 110).
 Specific EEl: 0.17.



TM05 5366 2213

| Pump type | Dimensions [mm] | | | | | | | | | | | | | | | | | | | | |
|--------------------|-----------------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|--------|
| | L1 | L2 | L3 | L4 | L5 | B1 | B3 | B4 | B5 | B6 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D5 | M | M3 |
| MAGNA3 D 100-120 F | 450 | 243 | 147 | 147 | 204 | 84 | 551 | 252 | 299 | 135 | 270 | 103 | 330 | 434 | 100 | 160 | 170 | 220 | 19 | M12 | Rp 1/4 |

For product numbers, see page 139.

9. Accessories

Insulating kits for air-conditioning and cooling systems

Single-head MAGNA3 pumps for air-conditioning and cooling systems can be fitted with insulating shells. A kit consists of two shells made of polyurethane (PUR) and a self-adhesive seal to ensure tight assembly.

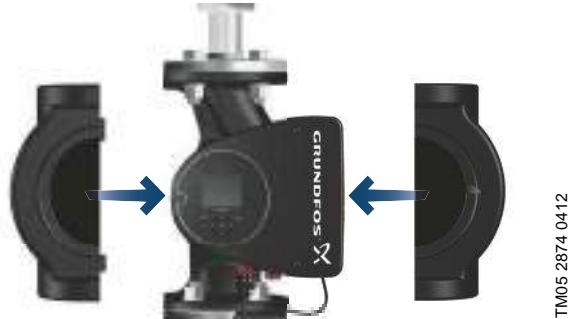


Fig. 63 Fitting the insulating shells to a MAGNA3 pump

Note: The dimensions of the insulating shells for air-conditioning and cooling systems differ from those of the insulating shells for heating systems. You can use the insulating shells for both stainless-steel and cast-iron pumps.

| Pump type | Product number |
|--------------------------------------|----------------|
| MAGNA3 25-40/60/80/100/120 (N) | 98354534 |
| MAGNA3 32-40/60/80/100/120 (N) | 98354535 |
| MAGNA3 32-40/60/80/100 F (N) | 98354536 |
| MAGNA3 32-120 F (N) | 98063287 |
| MAGNA3 40-40/60 F (N) | 98354537 |
| MAGNA3 40-80/100 F (N) | 98063288 |
| MAGNA3 40-120/150/180 F (N) | 98145675 |
| MAGNA3 50-40/60/80 F (N) | 98063289 |
| MAGNA3 50-100/120/150/180 F (N) | 98145676 |
| MAGNA3 65-40/60/80/100/120/150 F (N) | 96913593 |
| MAGNA3 80-40/60/80/100/120 F | 98134265 |
| MAGNA3 100-40/60/80/100/120 F | 96913589 |

Note: Insulating shells for single-head pumps for heating systems are supplied with the pump. You can order the insulating shells as service kits in Grundfos Product Center.

Specifications

- Specific volume resistance is greater than or equal to 10^{15} Ωcm , DIN 60093
- thermal conductivity at 10 °C 0.036 W/mK and at 40 °C 0.039 W/mK, DIN 52612
- density $33 \pm 5 \text{ kg/m}^3$, ISO 845
- working temperature range -40/+90 °C, ISO 2796.

CIM modules

A CIM module is an add-on Communication Interface Module. The CIM module enables data transmission between the pump and an external system, for example a BMS or SCADA system.

The CIM module communicates via fieldbus protocols. The following CIM modules are available:

| Module | Fieldbus protocol | Product number |
|---------|-------------------|----------------|
| CIM 050 | GENibus | 96824631 |
| CIM 100 | LonWorks | 96824797 |
| CIM 150 | PROFIBUS DP | 96824793 |
| CIM 200 | Modbus RTU | 96824796 |
| CIM 250 | GSM/GPRS | 96824795 |
| CIM 270 | GRM | 96898815 |
| CIM 300 | BACnet MS/TP | 96893770 |
| CIM 500 | Ethernet | 98301408 |

For further information about data communication via CIM modules, see the CIM documentation available in Grundfos Product Center.

ALPHA plug accessories



Fig. 64 ALPHA plugs

| Pos. | Description | Product number |
|------|--|----------------|
| 1 | ALPHA plug, standard plug connection | 98284561 |
| 2 | ALPHA angle plug, standard angle plug connection | 98610291 |
| 3 | ALPHA plug, 90 ° bend, including 4 m cable | 96884669 |

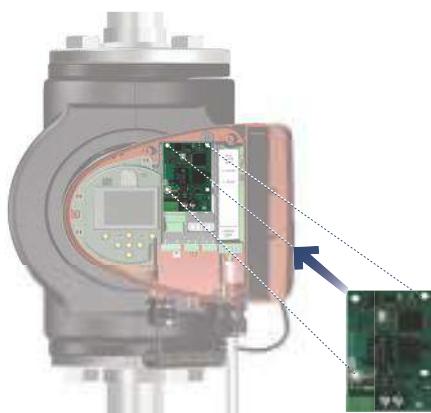
Location of CIM module

The CIM module is fitted behind the front cover. See fig. 65.

For installation, see the separate installation and operating instructions.



<http://GRUNDFOS.COM/MAGNA3-MANUAL>

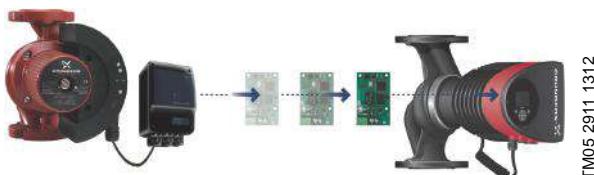


TM05 2914 1112

Fig. 65 Location of CIM module

Reuse of CIM modules

You can reuse a CIM module in a CIU unit used together with Grundfos MAGNA in MAGNA3. You must re-configure the CIM module before you use it in a MAGNA3 pump. Contact your local Grundfos company.



TM05 2911 1312

Fig. 66 Reuse of CIM module

Grundfos Remote Management

| Application | Description | Product number |
|-------------------------------|---|----------------|
| CIM 270 | Grundfos Remote Management (requires a contract with Grundfos and a SIM card). | 96898815 |
| GSM antenna for roof-mounting | Antenna for use on top of metal cabinets. Vandal-proof. 2-metre cable. Quad band (global use). | 97631956 |
| GSM antenna for desk-mounting | Antenna for general-purpose application, for example inside plastic cabinets. To be fixed with the double-adhesive tape supplied. 4-metre cable. Quad band (global use). | 97631957 |

For GRM contract, contact your local Grundfos company.

Grundfos GO

Grundfos GO is used for infrared or radio communication with the pumps.

Various Grundfos GO variants are available. The variants are described in the following.

MI 204

MI 204 is an add-on module with built-in infrared and radio communication. You can use MI 204 in conjunction with an Apple iPhone or iPod with Lightning connector, e.g. fifth generation iPhone or iPod.

MI 204 is also available together with an Apple iPod touch and a cover.



Fig. 67 MI 204

Supplied with the product

- Grundfos MI 204
- sleeve
- quick guide
- charger cable.

TM05 7704 1513

MI 301

MI 301 is a module with built-in infrared and radio communication. Use MI 301 in conjunction with an Android or iOS-based smart devices with a Bluetooth connection. MI 301 has rechargeable Li-ion battery and must be charged separately.



TM05 3890 1712

Fig. 68 MI 301

Supplied with the product

- Grundfos MI 301
- battery charger
- quick guide.

Product numbers

| Grundfos GO variant | Product number |
|--------------------------------------|----------------|
| Grundfos MI 204 | 98424092 |
| Grundfos MI 204 including iPod touch | 98612711 |
| Grundfos MI 301 | 98046408 |

External Grundfos sensors

Combined relative-pressure and temperature transmitter

| Sensor | Type | Supplier | Measuring range [bar] | Measuring range [°C] | Transmitter output [VDC] | Power supply [VDC] | Process connection | Product number |
|--|--------|----------|-----------------------|----------------------|--------------------------|--------------------|--------------------|----------------|
| Combined pressure and temperature sensor | RPI T2 | Grundfos | 0-16 | -10 - +120 | 0-10 | 16.6 - 30 | G 1/2 | 98355521 |

Note: MAGNA3 has only one analog input.

DPI V.2 transmitter

Combined differential-pressure and temperature transmitter

Scope of delivery

- DPI V.2 transmitter
- open 2 m cable with M12 connection in one end
- capillary tube with fitting
- quick guide.



TM0478662510

Fig. 69 DPI V.2 transmitter

| Sensor | Measuring range [bar] | Measuring range [°C] | Transmitter output | Power supply [VDC] | Temperature measurement | O-ring | | Process connection | Product number |
|--------------|-----------------------|----------------------|--------------------|--------------------|-------------------------|--------|------|--------------------|----------------|
| | | | | | | EPDM* | FKM* | | |
| Grundfos DPI | 0 - 0.6 | 0-100 | 4-20 mA | 12.5 - 30 | | • | | G 1/2 | 97747194 |
| | | | 4-20 mA | 12.5 - 30 | | | • | | 97747215 |
| | | | 0-10 VDC | 16.5 - 30 | • | • | | | 97747202 |
| | | | 0-10 VDC | 16.5 - 30 | • | | • | | 97747244 |
| Grundfos DPI | 0 - 1.0 | 0-100 | 4-20 mA | 12.5 - 30 | | • | | G 1/2 | 97747195 |
| | | | 4-20 mA | 12.5 - 30 | | | • | | 97747216 |
| | | | 0-10 VDC | 16.5 - 30 | • | • | | | 97747203 |
| | | | 0-10 VDC | 16.5 - 30 | • | | • | | 97747245 |
| Grundfos DPI | 0 - 1.6 | 0-100 | 4-20 mA | 12.5 - 30 | | • | | G 1/2 | 97747196 |
| | | | 4-20 mA | 12.5 - 30 | | | • | | 97747218 |
| | | | 0-10 VDC | 16.5 - 30 | • | • | | | 97747204 |
| | | | 0-10 VDC | 16.5 - 30 | • | | • | | 97747246 |
| Grundfos DPI | 0 - 2.5 | 0-100 | 4-20 mA | 12.5 - 30 | | • | | G 1/2 | 97747197 |
| | | | 4-20 mA | 12.5 - 30 | | | • | | 97747219 |
| | | | 0-10 VDC | 16.5 - 30 | • | • | | | 97747205 |
| | | | 0-10 VDC | 16.5 - 30 | • | | • | | 97747247 |

* Note:

EPDM: approved for potable water.

FKM: for use in oily media.

Cable for sensors

| Description | Length [m] | Product number |
|----------------|---------------|----------------|
| Screened cable | 2.0 | 98374260 |
| | 5.0 | 98374271 |

Blanking flange

A blanking flange is used to blank off the opening when one of the pump heads of a twin-head pump is removed for service to enable uninterrupted operation of the other pump.

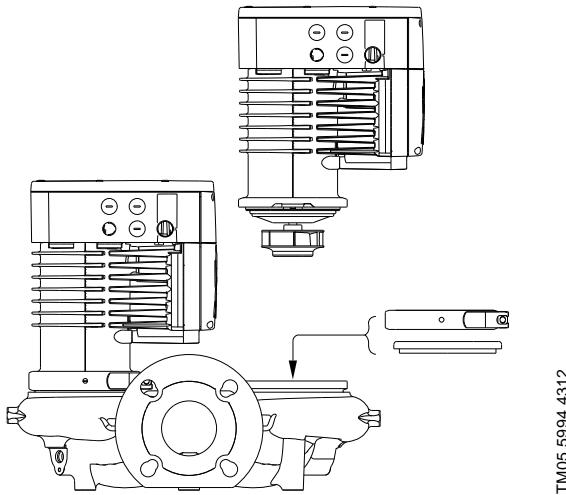


Fig. 70 Position of blanking flange

| Pump type | Product number |
|--------------------------------------|----------------|
| MAGNA3 32-40/60/80/100 (F) | 98159373 |
| MAGNA3 40-40/60 F | |
| MAGNA3 32-120 F | |
| MAGNA3 40-/80/100/120/150/180 F | |
| MAGNA3 50-40/60/80/100/120/150/180 F | |
| MAGNA3 65-40/60/80/100/120/150 F | 98159372 |
| MAGNA3 80-40/60/80/100/120 F | |
| MAGNA3 100-40/60/80/100/120 F | |

Pipe connections

Thread-thread adapters

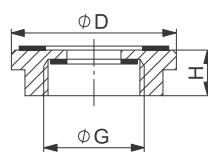
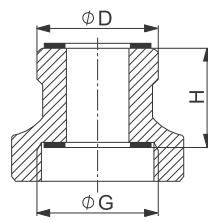
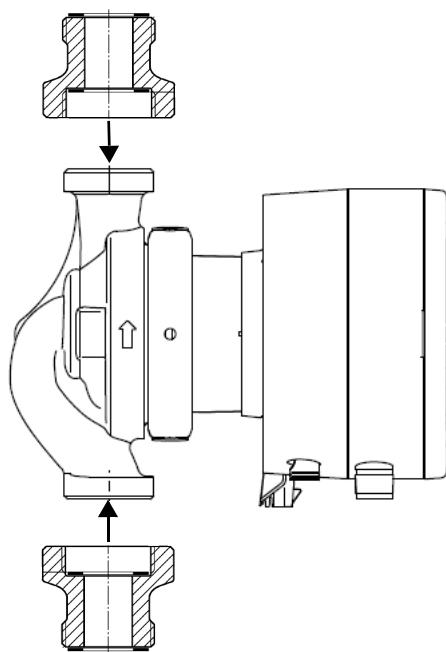
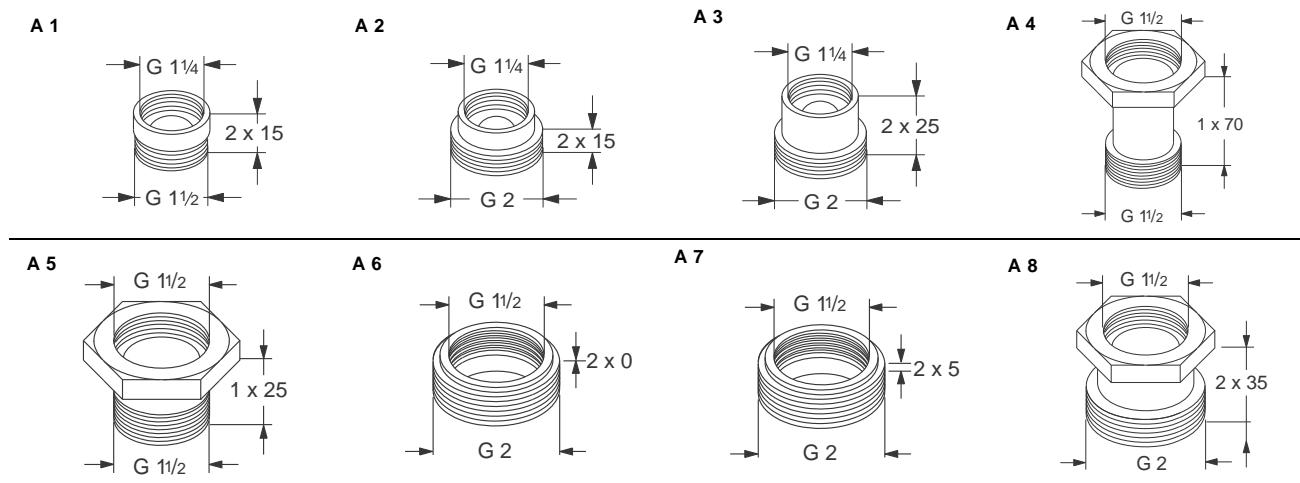
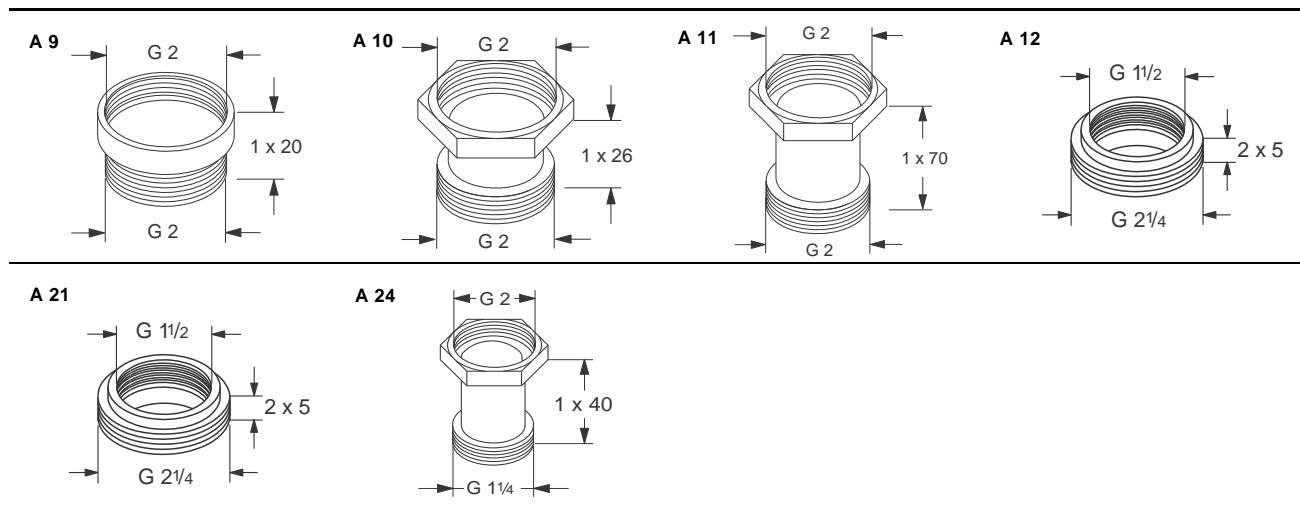


Fig. 71 Example of thread-thread adapters

| New pump Connection G | Union nut Connection D | Adapter length H [mm] | Adapter type | Figure | Material | Product number PN 10 |
|-----------------------|------------------------|-----------------------|--------------|--------|----------------|----------------------|
| G 1 1/4 | G 1 1/4 | 1 x 40 | A 24 G | 1 | Brass (Ms) | 96436559 |
| | G 1 1/4 | 2 x 15 | A 1 | 1 | Bronze (Rg) | 535040 |
| | G 2 | 2 x 15 | A 2 | 1 | Bronze (Rg) | 535041 |
| | G 2 | 2 x 25 | A 3 | 1 | Bronze (Rg) | 535042 |
| G 1 1/2 | G 1 1/2 | 1 x 70 | A 4 | 1 | Cast iron (GG) | 535043 |
| | G 1 1/2 | 1 x 25 | A 5 | 1 | Cast iron (GG) | 535044 |
| | G 2 | 2 x 0 | A 6 | 2 | Brass (Ms) | 535045 |
| | G 2 | 2 x 5 | A 7 | 2 | Bronze (Rg) | 535046 |
| G 2 | G 2 | 2 x 35 | A 8 | 1 | Cast iron (GG) | 535047 |
| | G 2 1/4 | 2 x 5 | A 21 | 2 | Brass (Ms) | 535114 |
| | G 2 | 1 x 20 | A 9 | 1 | Bronze (Rg) | 535048 |
| | G 2 | 1 x 26 | A 10 | 1 | Cast iron (GG) | 535049 |
| G 2 | G 2 | 1 x 70 | A 11 | 1 | Cast iron (GG) | 535050 |



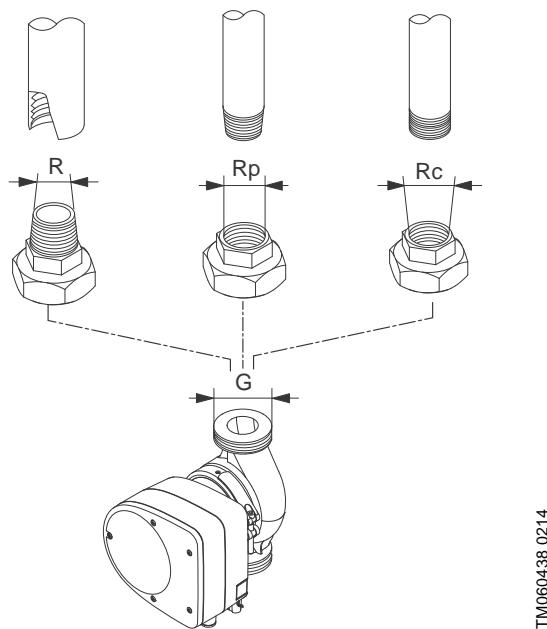


Thread types

G-threads have a cylindrical form in accordance with the EN-ISO 228-1 standard.

R-threads have a conical form in accordance with the ISO 7-1 standard.

In the case of a thread of size 1 1/2", for example, the threads are specified as G1 1/2 or R1 1/2. Male G-threads (cylindrical) can only be screwed into female G-threads. Male R-threads (conical) can be screwed into female G or R-threads. See fig. 72.



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Fig. 72 G-thread and R-thread

Thread-flange adapters

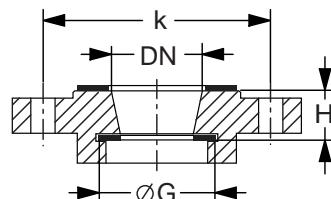
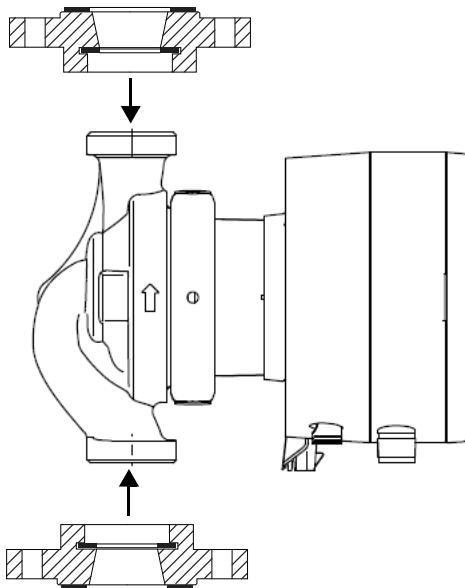
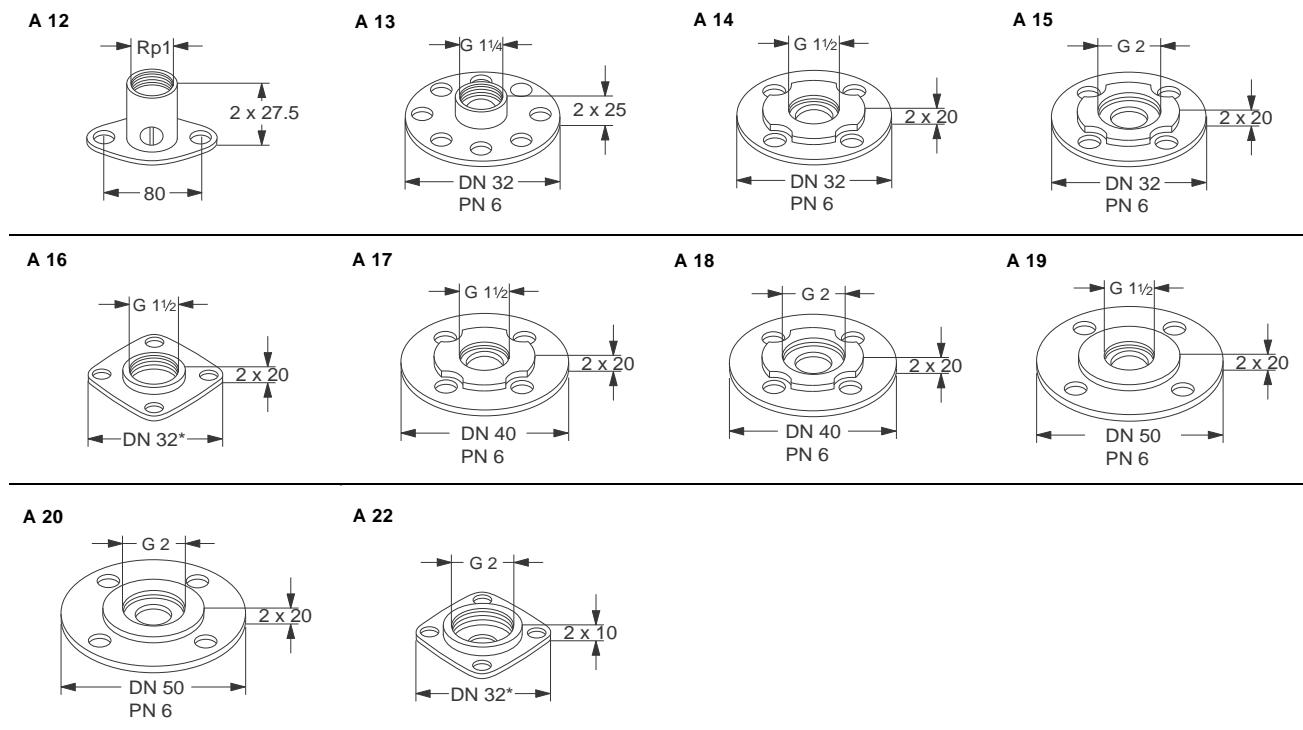


Figure 3

Fig. 73 Example of thread-flange adapters

| New pump Connection G | Flange Connection DN | Adapter length H [mm] | k [mm] | Adapter type | Figure | Material | Product number PN 6 | Product number PN 10 |
|-----------------------|----------------------|-----------------------|--------|--------------|--------|----------------|---------------------|----------------------|
| G 1 1/4 | DN 32 | 2 x 25 | 90 | A 13 | 3 | Bronze (Rg) | 535052 | |
| | DN 32* | 2 x 0 | 90 | A 16 | 3 | Cast iron (GG) | 535055 | |
| | DN 32 | 2 x 20 | 90 | A 14 | 3 | Cast iron (GG) | 535053 | |
| | DN 40 | 2 x 20 | 100 | A 17 | 3 | Cast iron (GG) | 535056 | |
| | DN 50 | 1 x 20 | 110 | A 19 | 3 | Cast iron (GG) | 535058 | |
| | DN 32* | 1 x 10 | 90 | A 22 | 3 | Cast iron (GG) | 535115 | |
| G 2 | DN 32 | 2 x 20 | 90 | A 15 | 3 | Cast iron (GG) | 535054 | |
| | DN 40 | 2 x 20 | 100 | A 18 | 3 | Cast iron (GG) | 98614387 | |
| | DN 50 | 2 x 20 | 110 | A 20 | 3 | Cast iron (GG) | 98614411 | |
| Oval flange | Rp 1 | 1 x 27.5 | 80 | A 12 | 3 | Brass (Ms) | | 535051 |

* Grundfos square flange



Flange-flange adapters

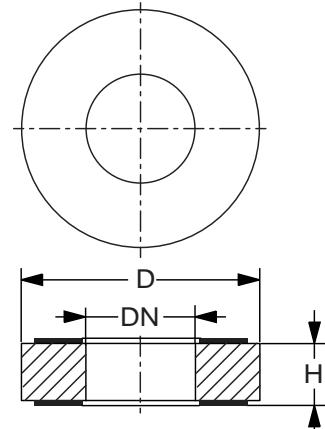
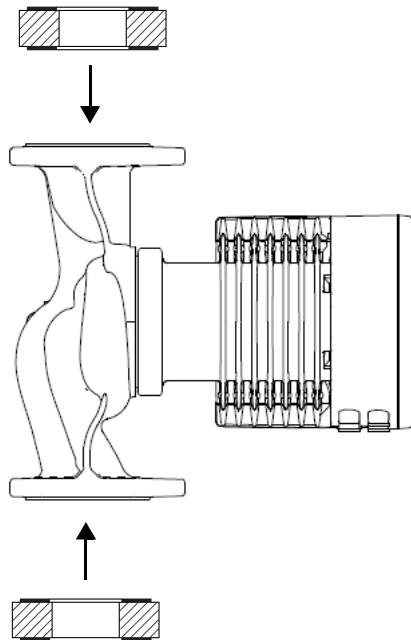


Figure 4

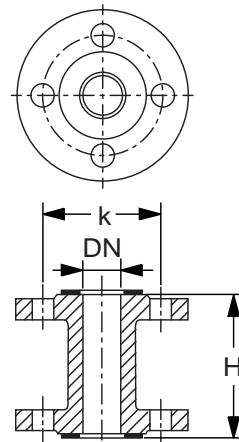
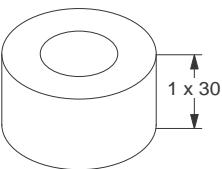
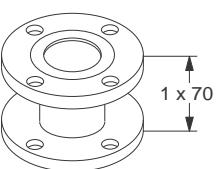
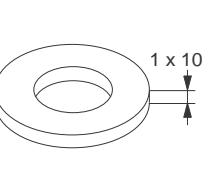
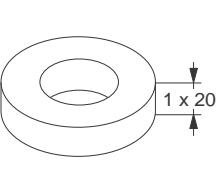
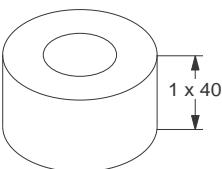
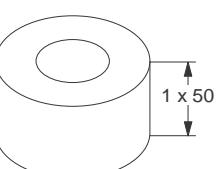
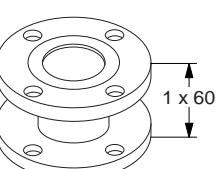
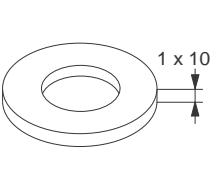
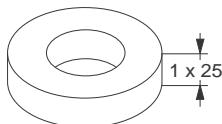
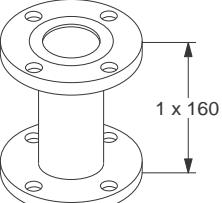
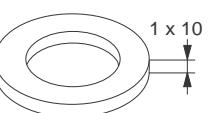
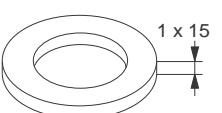
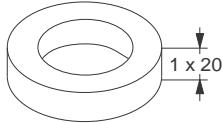
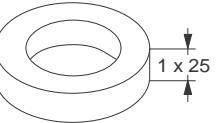
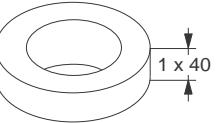
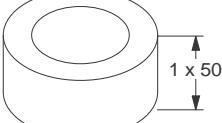
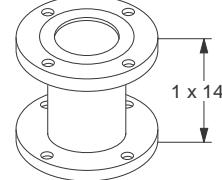
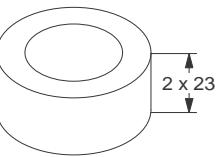


Figure 5

Fig. 74 Example of flange-flange adapters

| New pump Connection DN | Adapter length H [mm] | k [mm] PN 6 | k [mm] PN 10 | D [mm] PN 6 | D [mm] PN 10 | Adapter type | Figure | Material | Product number PN 6 | Product number PN 10 |
|------------------------------|-----------------------------|-------------------|--------------------|-------------------|--------------------|-----------------|--------|----------------|------------------------|-------------------------|
| DN 40 | 1 x 70 | 100 | 110 | | | A 40-70 | 5 | Cast iron (GG) | 539921 | 539721 |
| | 1 x 30 | | 82 | 88 | | A 40-30 | 4 | Steel (St) | 96281076 | 96608515 |
| | 1 x 10 | | 90 | 102 | | A 50-10 | 4 | Cast iron (GG) | 549921 | 549821 |
| | 1 x 20 | | 90 | 102 | | A 50-20 | 4 | Cast iron (GG) | 549922 | 549822 |
| | 1 x 40 | | 90 | 102 | | A 50-40 | 4 | Steel (St) | 96281077 | 96608516 |
| | 1 x 50 | | 90 | 102 | | A 50-50 | 4 | Cast iron (GG) | 549923 | 549823 |
| DN 50 | 1 x 60 | 110 | 125 | | | A 50-60 | 5 | Cast iron (GG) | 549924 | 549824 |
| | 1 x 10 | | 110 | 122 | | A 65-10 | 4 | Cast iron (GG) | 559921 | 559821 |
| | 1 x 25 | | 110 | 122 | | A 65-25 | 4 | Cast iron (GG) | 559922 | 559822 |
| | 1 x 160 | 130 | 145 | | | A 65-160 | 5 | Steel (St) | 559923 | 559823 |
| DN 65 | 1 x 10 | | 127 | 138 | | A 80-10 | 4 | Cast iron (GG) | 569921 | 569821 |
| | 1 x 15 | | 127 | 138 | | A 80-15 | 4 | Cast iron (GG) | 569922 | 569822 |
| | 1 x 20 | | 127 | 138 | | A 80-20 | 4 | Cast iron (GG) | 569923 | 569823 |
| | 1 x 25 | | 127 | 138 | | A 80-25 | 4 | Cast iron (GG) | 569924 | 569824 |
| | 1 x 40 | | 127 | 138 | | A 80-40 | 4 | Cast iron (GG) | 569925 | 569825 |
| | 1 x 50 | | 127 | 138 | | A 80-50 | 4 | Cast iron (GG) | 569926 | 569826 |
| DN 80 | 1 x 140 | 150 | 165 | | | A 80-140 | 5 | Steel (St) | 569927 | 569827 |
| | 2 x 23 | | | 106 | | A 100-50 | 4 | Steel (St) | | 96555529 |

| | | | |
|---|---|--|---|
| A 40-30 | A 40-70 | A 50-10 | A 50-20 |
|  |  |  |  |
| 1 x 30 | 1 x 70 | 1 x 10 | 1 x 20 |
| A 50-40 | A 50-50 | A 50-60 | A 65-10 |
|  |  |  |  |
| 1 x 40 | 1 x 50 | 1 x 60 | 1 x 10 |
| A 65-25 | A 65-160 | A 80-10 | A 80-15 |
|  |  |  |  |
| 1 x 25 | 1 x 160 | 1 x 10 | 1 x 15 |
| A 80-20 | A 80-25 | A 80-40 | A 80-50 |
|  |  |  |  |
| 1 x 20 | 1 x 25 | 1 x 40 | 1 x 50 |
| A 80-140 | A 100-50 | | |
|  |  | | |
| 1 x 140 | 2 x 23 | | |

10. Product numbers

Single-head pumps

| Pump type | Port-to-port length [mm] | Threaded pipe connection | | | Data sheet Page | |
|---------------------|-----------------------------|--------------------------|----------|----------|--------------------|--|
| | | Cast iron | | | | |
| | | PN 10 | PN 16 | PN 10 | | |
| MAGNA3 25-40 (N) | 180 | 97924244 | 97924249 | 97924336 | 45 | |
| MAGNA3 25-60 (N) | 180 | 97924245 | 97924250 | 97924337 | 46 | |
| MAGNA3 25-80 (N) | 180 | 97924246 | 97924251 | 97924338 | 47 | |
| MAGNA3 25-100 (N) | 180 | 97924247 | 97924252 | 97924339 | 48 | |
| MAGNA3 25-120 (N) | 180 | 97924248 | 97924253 | 97924340 | 49 | |
| MAGNA3 32-40 (N) | 180 | 97924254 | 97924260 | 97924341 | 50 | |
| MAGNA3 32-60 (N) | 180 | 97924255 | 97924261 | 97924342 | 52 | |
| MAGNA3 32-80 (N) | 180 | 97924256 | 97924262 | 97924343 | 54 | |
| MAGNA3 32-100 (N) | 180 | 97924257 | 97924263 | 97924344 | 56 | |
| MAGNA3 32-120 (N) | 180 | 98609707 | 98609709 | 98609711 | 58 | |
| Flange connection | | | | | | |
| Pump type | Port-to-port length [mm] | Cast iron | | | Data sheet Page | |
| | | PN 6 | PN 10 | PN 6/10 | | |
| | | PN 16 | PN 6/10 | PN 6/10 | | |
| MAGNA3 32-40 F (N) | 220 | 98333834 | 98333832 | 98333836 | 59 | |
| MAGNA3 32-60 F (N) | 220 | 98333854 | 98333852 | 98333856 | 61 | |
| MAGNA3 32-80 F (N) | 220 | 98333874 | 98333872 | 98333876 | 63 | |
| MAGNA3 32-100 F (N) | 220 | 97924258 | 97924264 | 97924345 | 65 | |
| MAGNA3 32-120 F (N) | 220 | 97924259 | 97924265 | 97924346 | 67 | |
| MAGNA3 40-40 F (N) | 220 | 97924266 | 97924273 | 97924347 | 69 | |
| MAGNA3 40-60 F (N) | 220 | 97924267 | 97924274 | 97924348 | 71 | |
| MAGNA3 40-80 F (N) | 220 | 97924268 | 97924275 | 97924349 | 73 | |
| MAGNA3 40-100 F (N) | 220 | 97924269 | 97924276 | 97924350 | 75 | |
| MAGNA3 40-120 F (N) | 250 | 97924270 | 97924277 | 97924351 | 77 | |
| MAGNA3 40-150 F (N) | 250 | 97924271 | 97924278 | 97924352 | 79 | |
| MAGNA3 40-180 F (N) | 250 | 97924272 | 97924279 | 97924353 | 81 | |
| MAGNA3 50-40 F (N) | 240 | 97924280 | 97924287 | 97924354 | 83 | |
| MAGNA3 50-60 F (N) | 240 | 97924281 | 97924288 | 97924355 | 85 | |
| MAGNA3 50-80 F (N) | 240 | 97924282 | 97924289 | 97924356 | 87 | |
| MAGNA3 50-100 F (N) | 280 | 97924283 | 97924290 | 97924357 | 89 | |
| MAGNA3 50-120 F (N) | 280 | 97924284 | 97924291 | 97924358 | 91 | |
| MAGNA3 50-150 F (N) | 280 | 97924285 | 97924292 | 97924359 | 93 | |
| MAGNA3 50-180 F (N) | 280 | 97924286 | 97924293 | 97924360 | 95 | |
| MAGNA3 65-40 F (N) | 340 | 97924294 | 97924300 | 97924361 | 97 | |
| MAGNA3 65-60 F (N) | 340 | 97924295 | 97924301 | 97924362 | 99 | |
| MAGNA3 65-80 F (N) | 340 | 97924296 | 97924302 | 97924363 | 101 | |
| MAGNA3 65-100 F (N) | 340 | 97924297 | 97924303 | 97924364 | 103 | |
| MAGNA3 65-120 F (N) | 340 | 97924298 | 97924304 | 97924365 | 105 | |
| MAGNA3 65-150 F (N) | 340 | 97924299 | 97924305 | 97924366 | 107 | |
| MAGNA3 80-40 F | 360 | 97924306 | 97924316 | 97924326 | 109 | |
| MAGNA3 80-60 F | 360 | 97924307 | 97924317 | 97924327 | 111 | |
| MAGNA3 80-80 F | 360 | 97924308 | 97924318 | 97924328 | 113 | |
| MAGNA3 80-100 F | 360 | 97924309 | 97924319 | 97924329 | 115 | |
| MAGNA3 80-120 F | 360 | 97924310 | 97924320 | 97924330 | 117 | |
| MAGNA3 100-40 F | 450 | 97924311 | 97924321 | 97924331 | 119 | |
| MAGNA3 100-60 F | 450 | 97924312 | 97924322 | 97924332 | 121 | |
| MAGNA3 100-80 F | 450 | 97924313 | 97924323 | 97924333 | 123 | |
| MAGNA3 100-100 F | 450 | 97924314 | 97924324 | 97924334 | 125 | |
| MAGNA3 100-120 F | 450 | 97924315 | 97924325 | 97924335 | 127 | |

Note: Click on the product number and go directly to the performance curve in Grundfos Product Center.

Twin-head pumps

| Pump type | Port-to-port length [mm] | Threaded pipe connection | | | | Data sheet Page |
|--------------------|-----------------------------|--------------------------|----------|----------|----------|--------------------|
| | | Cast iron | | PN 10 | PN 16 | |
| | | PN 10 | PN 16 | PN 10 | PN 16 | |
| MAGNA3 D 32-40 | 180 | | | 97924449 | 97924455 | 51 |
| MAGNA3 D 32-60 | 180 | | | 97924450 | 97924456 | 53 |
| MAGNA3 D 32-80 | 180 | | | 97924451 | 97924457 | 55 |
| MAGNA3 D 32-100 | 180 | | | 97924452 | 97924458 | 57 |
| Flange connection | | | | | | |
| Pump type | Port-to-port length [mm] | Cast iron | | | | Data sheet Page |
| | | PN 6 | PN 10 | PN 6/10 | PN 16 | |
| MAGNA3 D 32-40 F | 220 | | | 98333840 | 98333838 | 60 |
| MAGNA3 D 32-60 F | 220 | | | 98333860 | 98333858 | 62 |
| MAGNA3 D 32-80 F | 220 | | | 98333880 | 98333878 | 64 |
| MAGNA3 D 32-100 F | 220 | | | 97924453 | 97924459 | 66 |
| MAGNA3 D 32-120 F | 220 | | | 97924454 | 97924460 | 68 |
| MAGNA3 D 40-40 F | 220 | | | 97924461 | 97924468 | 70 |
| MAGNA3 D 40-60 F | 220 | | | 97924462 | 97924469 | 72 |
| MAGNA3 D 40-80 F | 220 | | | 97924463 | 97924470 | 74 |
| MAGNA3 D 40-100 F | 220 | | | 97924464 | 97924471 | 76 |
| MAGNA3 D 40-120 F | 250 | | | 97924465 | 97924472 | 78 |
| MAGNA3 D 40-150 F | 250 | | | 97924466 | 97924473 | 80 |
| MAGNA3 D 40-180 F | 250 | | | 97924467 | 97924474 | 82 |
| MAGNA3 D 50-40 F | 240 | | | 97924475 | 97924482 | 84 |
| MAGNA3 D 50-60 F | 240 | | | 97924476 | 97924483 | 86 |
| MAGNA3 D 50-80 F | 240 | | | 97924477 | 97924484 | 88 |
| MAGNA3 D 50-100 F | 280 | | | 97924478 | 97924485 | 90 |
| MAGNA3 D 50-120 F | 280 | | | 97924479 | 97924486 | 92 |
| MAGNA3 D 50-150 F | 280 | | | 97924480 | 97924487 | 94 |
| MAGNA3 D 50-180 F | 280 | | | 97924481 | 97924488 | 96 |
| MAGNA3 D 65-40 F | 340 | | | 97924489 | 97924495 | 98 |
| MAGNA3 D 65-60 F | 340 | | | 97924490 | 97924496 | 100 |
| MAGNA3 D 65-80 F | 340 | | | 97924491 | 97924497 | 102 |
| MAGNA3 D 65-100 F | 340 | | | 97924492 | 97924498 | 104 |
| MAGNA3 D 65-120 F | 340 | | | 97924493 | 97924499 | 106 |
| MAGNA3 D 65-150 F | 340 | | | 97924494 | 97924500 | 108 |
| MAGNA3 D 80-40 F | 360 | 97924501 | 97924511 | | 97924521 | 110 |
| MAGNA3 D 80-60 F | 360 | 97924502 | 97924512 | | 97924522 | 112 |
| MAGNA3 D 80-80 F | 360 | 97924503 | 97924513 | | 97924523 | 114 |
| MAGNA3 D 80-100 F | 360 | 97924504 | 97924514 | | 97924524 | 116 |
| MAGNA3 D 80-120 F | 360 | 97924505 | 97924515 | | 97924525 | 118 |
| MAGNA3 D 100-40 F | 450 | 97924506 | 97924516 | | 97924526 | 120 |
| MAGNA3 D 100-60 F | 450 | 97924507 | 97924517 | | 97924527 | 122 |
| MAGNA3 D 100-80 F | 450 | 97924508 | 97924518 | | 97924528 | 124 |
| MAGNA3 D 100-100 F | 450 | 97924509 | 97924519 | | 97924529 | 126 |
| MAGNA3 D 100-120 F | 450 | 97924510 | 97924520 | | 97924530 | 128 |

Note: Click on the product number and go directly to the performance curve in Grundfos Product Center.

11. MAGNA3 for the German market

Single-head pumps

| Pump type | Port-to-port length [mm] | Threaded pipe connection | | | | Data sheet Page |
|---------------------|-----------------------------|--------------------------|----------|-----------------|--------------------|---------------------|
| | | Cast iron | | Stainless steel | | |
| | | PN 10 | PN 16 | PN 10 | | |
| MAGNA3 25-40 (N) | 180 | 97924623 | 97924628 | 97924716 | 45 | |
| MAGNA3 25-60 (N) | 180 | 97924624 | 97924629 | 97924717 | 46 | |
| MAGNA3 25-80 (N) | 180 | 97924625 | 97924630 | 97924718 | 47 | |
| MAGNA3 25-100 (N) | 180 | 97924626 | 97924631 | 97924719 | 48 | |
| MAGNA3 25-120 (N) | 180 | 97924627 | 97924632 | 97924720 | 49 | |
| MAGNA3 32-40 (N) | 180 | 97924633 | 97924639 | 97924721 | 50 | |
| MAGNA3 32-60 (N) | 180 | 97924634 | 97924640 | 97924722 | 52 | |
| MAGNA3 32-80 (N) | 180 | 97924635 | 97924641 | 97924723 | 54 | |
| MAGNA3 32-100 (N) | 180 | 97924636 | 97924642 | 97924724 | 56 | |
| MAGNA3 32-120 (N) | 180 | 98609708 | 98609710 | 98609712 | 58 | |
| Flange connection | | | | | | |
| Pump type | Port-to-port length [mm] | Cast iron | | Stainless steel | Data sheet Page | |
| | | PN 6 | PN 10 | PN 6/10 | PN 16 | PN 6/10 |
| MAGNA3 32-40 F (N) | 220 | | 98333835 | 98333833 | 98333837 | 59 |
| MAGNA3 32-60 F (N) | 220 | | 98333855 | 98333853 | 98333857 | 61 |
| MAGNA3 32-80 F (N) | 220 | | 98333875 | 98333873 | 98333877 | 63 |
| MAGNA3 32-100 F (N) | 220 | | 97924637 | 97924643 | 97924725 | 65 |
| MAGNA3 32-120 F (N) | 220 | | 97924638 | 97924644 | 97924726 | 67 |
| MAGNA3 40-40 F (N) | 220 | | 97924645 | 97924652 | 97924727 | 69 |
| MAGNA3 40-60 F (N) | 220 | | 97924646 | 97924653 | 97924728 | 71 |
| MAGNA3 40-80 F (N) | 220 | | 97924647 | 97924654 | 97924729 | 73 |
| MAGNA3 40-100 F (N) | 220 | | 97924648 | 97924655 | 97924730 | 75 |
| MAGNA3 40-120 F (N) | 250 | | 97924649 | 97924656 | 97924731 | 77 |
| MAGNA3 40-150 F (N) | 250 | | 97924650 | 97924657 | 97924732 | 79 |
| MAGNA3 40-180 F (N) | 250 | | 97924651 | 97924658 | 97924733 | 81 |
| MAGNA3 50-40 F (N) | 240 | | 97924659 | 97924666 | 97924734 | 83 |
| MAGNA3 50-60 F (N) | 240 | | 97924660 | 97924668 | 97924735 | 85 |
| MAGNA3 50-80 F (N) | 240 | | 97924661 | 97924669 | 97924736 | 87 |
| MAGNA3 50-100 F (N) | 280 | | 97924662 | 97924670 | 97924737 | 89 |
| MAGNA3 50-120 F (N) | 280 | | 97924663 | 97924671 | 97924738 | 91 |
| MAGNA3 50-150 F (N) | 280 | | 97924664 | 97924672 | 97924739 | 93 |
| MAGNA3 50-180 F (N) | 280 | | 97924665 | 97924673 | 97924740 | 95 |
| MAGNA3 65-40 F (N) | 340 | | 97924674 | 97924680 | 97924741 | 97 |
| MAGNA3 65-60 F (N) | 340 | | 97924675 | 97924681 | 97924742 | 99 |
| MAGNA3 65-80 F (N) | 340 | | 97924676 | 97924682 | 97924743 | 101 |
| MAGNA3 65-100 F (N) | 340 | | 97924677 | 97924683 | 97924744 | 103 |
| MAGNA3 65-120 F (N) | 340 | | 97924678 | 97924684 | 97924745 | 105 |
| MAGNA3 65-150 F (N) | 340 | | 97924679 | 97924685 | 97924746 | 107 |
| MAGNA3 80-40 F | 360 | 97924686 | 97924696 | 97924706 | | 109 |
| MAGNA3 80-60 F | 360 | 97924687 | 97924697 | 97924707 | | 111 |
| MAGNA3 80-80 F | 360 | 97924688 | 97924698 | 97924708 | | 113 |
| MAGNA3 80-100 F | 360 | 97924689 | 97924699 | 97924709 | | 115 |
| MAGNA3 80-120 F | 360 | 97924690 | 97924700 | 97924710 | | 117 |
| MAGNA3 100-40 F | 450 | 97924691 | 97924701 | 97924711 | | 119 |
| MAGNA3 100-60 F | 450 | 97924692 | 97924702 | 97924712 | | 121 |
| MAGNA3 100-80 F | 450 | 97924693 | 97924703 | 97924713 | | 123 |
| MAGNA3 100-100 F | 450 | 97924694 | 97924704 | 97924714 | | 125 |
| MAGNA3 100-120 F | 450 | 97924695 | 97924705 | 97924715 | | 127 |

Note: Click on the product number and go directly to the performance curve in Grundfos Product Center.

Twin-head pumps

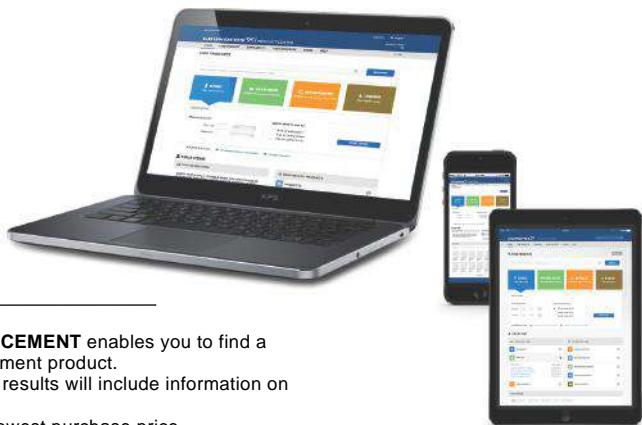
| Pump type | Port-to-port length [mm] | Threaded pipe connection | | Data sheet Page | |
|--------------------|-----------------------------|--------------------------|----------|--------------------|--|
| | | Cast iron | | | |
| | | PN 10 | PN 16 | | |
| MAGNA3 D 32-40 | 180 | 97924829 | 97924835 | 51 | |
| MAGNA3 D 32-60 | 180 | 97924830 | 97924836 | 53 | |
| MAGNA3 D 32-80 | 180 | 97924831 | 97924837 | 55 | |
| MAGNA3 D 32-100 | 180 | 97924832 | 97924838 | 57 | |
| Flange connection | | Data sheet Page | | | |
| Pump type | Port-to-port length [mm] | Cast iron | | | |
| | | PN 6 | PN 10 | PN 16 | |
| MAGNA3 D 32-40 F | 220 | | 98333841 | 98333839 | |
| MAGNA3 D 32-60 F | 220 | | 98333861 | 98333859 | |
| MAGNA3 D 32-80 F | 220 | | 98333881 | 98333879 | |
| MAGNA3 D 32-100 F | 220 | | 97924833 | 97924839 | |
| MAGNA3 D 32-120 F | 220 | | 97924834 | 97924840 | |
| MAGNA3 D 40-40 F | 220 | | 97924841 | 97924848 | |
| MAGNA3 D 40-60 F | 220 | | 97924842 | 97924849 | |
| MAGNA3 D 40-80 F | 220 | | 97924843 | 97924850 | |
| MAGNA3 D 40-100 F | 220 | | 97924844 | 97924851 | |
| MAGNA3 D 40-120 F | 250 | | 97924845 | 97924852 | |
| MAGNA3 D 40-150 F | 250 | | 97924846 | 97924853 | |
| MAGNA3 D 40-180 F | 250 | | 97924847 | 97924854 | |
| MAGNA3 D 50-40 F | 240 | | 97924855 | 97924862 | |
| MAGNA3 D 50-60 F | 240 | | 97924856 | 97924863 | |
| MAGNA3 D 50-80 F | 240 | | 97924857 | 97924864 | |
| MAGNA3 D 50-100 F | 280 | | 97924858 | 97924865 | |
| MAGNA3 D 50-120 F | 280 | | 97924859 | 97924866 | |
| MAGNA3 D 50-150 F | 280 | | 97924860 | 97924867 | |
| MAGNA3 D 50-180 F | 280 | | 97924861 | 97924868 | |
| MAGNA3 D 65-40 F | 340 | | 97924869 | 97924875 | |
| MAGNA3 D 65-60 F | 340 | | 97924870 | 97924876 | |
| MAGNA3 D 65-80 F | 340 | | 97924871 | 97924877 | |
| MAGNA3 D 65-100 F | 340 | | 97924872 | 97924878 | |
| MAGNA3 D 65-120 F | 340 | | 97924873 | 97924879 | |
| MAGNA3 D 65-150 F | 340 | | 97924874 | 97924880 | |
| MAGNA3 D 80-40 F | 360 | 97924881 | 97924891 | 110 | |
| MAGNA3 D 80-60 F | 360 | 97924882 | 97924892 | 112 | |
| MAGNA3 D 80-80 F | 360 | 97924883 | 97924893 | 114 | |
| MAGNA3 D 80-100 F | 360 | 97924884 | 97924894 | 116 | |
| MAGNA3 D 80-120 F | 360 | 97924885 | 97924895 | 118 | |
| MAGNA3 D 100-40 F | 450 | 97924886 | 97924896 | 120 | |
| MAGNA3 D 100-60 F | 450 | 97924887 | 97924897 | 122 | |
| MAGNA3 D 100-80 F | 450 | 97924888 | 97924898 | 124 | |
| MAGNA3 D 100-100 F | 450 | 97924889 | 97924899 | 126 | |
| MAGNA3 D 100-120 F | 450 | 97924890 | 97924900 | 128 | |

Note: Click on the product number and go directly to the performance curve in Grundfos Product Center.

12. Grundfos Product Center

Online search and sizing tool to help you make the right choice.

<http://product-selection.grundfos.com>



SIZING enables you to size a pump based on entered data and selection choices.

REPLACEMENT enables you to find a replacement product. Search results will include information on

- the lowest purchase price
- the lowest energy consumption
- the lowest total life cycle cost.

www.grundfos.com
Login

Product range: United Kingdom | 50 Hz | Language: English
Change settings

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FIND PRODUCT
COMPARE
YOUR PROJECTS
SAVED ITEMS
HELP
1.4.23

FIND PRODUCTS AND SOLUTIONS

🔍
SEARCH

☰
SIZING
 Enter pump sizing

☷
CATALOGUE
 Products and services

⤒
REPLACEMENT
 Replace an old pump with a new

💧
LIQUIDS
 Find pump by liquid

QUICK SIZING:
ADVANCED SIZING: Advanced sizing by application Guided selection

Enter duty point:
Select what to size by:

Flow (Q)* m³/h
Head (H)* m

Size by application
 Size by pump design
 Size by pump family

START SIZING

CATALOGUE gives you access to the Grundfos product catalogue.

LIQUIDS enables you to find pumps designed for aggressive, flammable or other special liquids.

All the information you need in one place

Performance curves, technical specifications, pictures, dimensional drawings, motor curves, wiring diagrams, spare parts, service kits, 3D drawings, documents, system parts. The Product Center displays any recent and saved items - including complete projects - right on the main page.

Downloads

On the product pages, you can download installation and operating instructions, data booklets, service instructions, etc. in PDF format.

Subject to alterations.

GRUNDFOS

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|---------------|
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