

ALPHA3

Model B

Circulator pump

50/60 Hz



Bluetooth®

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1. Product data



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Product description

The Grundfos ALPHA3 pump is designed for circulating liquids in systems with variable flow rates where it is desirable to optimise the setting of the pump duty point to reduce energy costs.

ALPHA3 is completely controlled with Grundfos GO Remote via Bluetooth, which gives you step by step assistance to pump configuration, maintenance and commissioning, including:

- operating and control modes.
- scheduling for when the pump should operate and when not.
- warning and alarm status with up to 40 fault logs.

Furthermore, ALPHA3 is able to communicate directly with the Grundfos GO Balance app on your smart device, which allows you to hydraulically balance two-pipe radiators and underfloor heating systems in a fast and safe way.

ALPHA3 is energy-optimised and complies with the ErP Directive, Commission Regulation (EC) No 641/2009 and Commission Regulation (EU) No 622/2012, which have been effective as from 1 January 2013.

Intended use

The pump is designed for circulating liquids in heating and air-conditioning systems with temperatures equal to or higher than 2 °C.

Duty range

Data	ALPHA3
Maximum flow rate, Q	3.8 m ³ /h
Maximum head, H	8 m
Maximum system pressure	1.0 MPa (10 bar)
Liquid temperature	2 to 110 °C
Ambient temperature	0 to 40 °C

Features

- Simple, fast and easy setting, control and monitoring via Grundfos GO Remote.
- Hydronic balancing via Grundfos GO Balance.
- Radiator and underfloor heating modes with AUTO_{ADAPT}.
- Proportional pressure, constant pressure and constant curve with setpoint adjustment anywhere between the maximum and minimum curve of the chosen setting.
- Automatic night setback.
- Customised scheduling with real time clock.
- Summer-mode function.
- Dry-running protection.
- High-torque start.
- Pump-venting process after which the pump automatically returns to its initial settings.
- Simple pump display showing the actual power consumption in watt or the actual flow rate in m³/h.
- Motor based on permanent-magnet rotor/compact-stator technology.
- Built-in electrical and thermal protection of the pump.

Benefits

- Easy, timesaving installation thanks to the ALPHA plug eliminating the need for tools.
- Compact design makes the ALPHA3 suitable even in confined spaces.
- The integrated AUTO_{ADAPT} function provides high comfort levels with the lowest possible energy consumption and makes the commissioning safe and easy.
- Firmware upgrades ensuring that the pump is always up to date and prepared for future digital offerings.
- Low-noise operation.

Type key

Example	ALPHA3	25	-	40	180
Pump range					
Nominal diameter (DN) of inlet and outlet ports [mm] (15 = G 1*, 25 = G 1 1/2, 32 = G 2)					
Maximum head [dm]					
Cast-iron pump housing					
Port-to-port length [mm]					

* Exception: UK version, size 15 = G 1 1/2.

Model type

This data booklet covers ALPHA3 model B. The model type is stated on the nameplate.



Fig. 1 Model type on the nameplate

Performance range

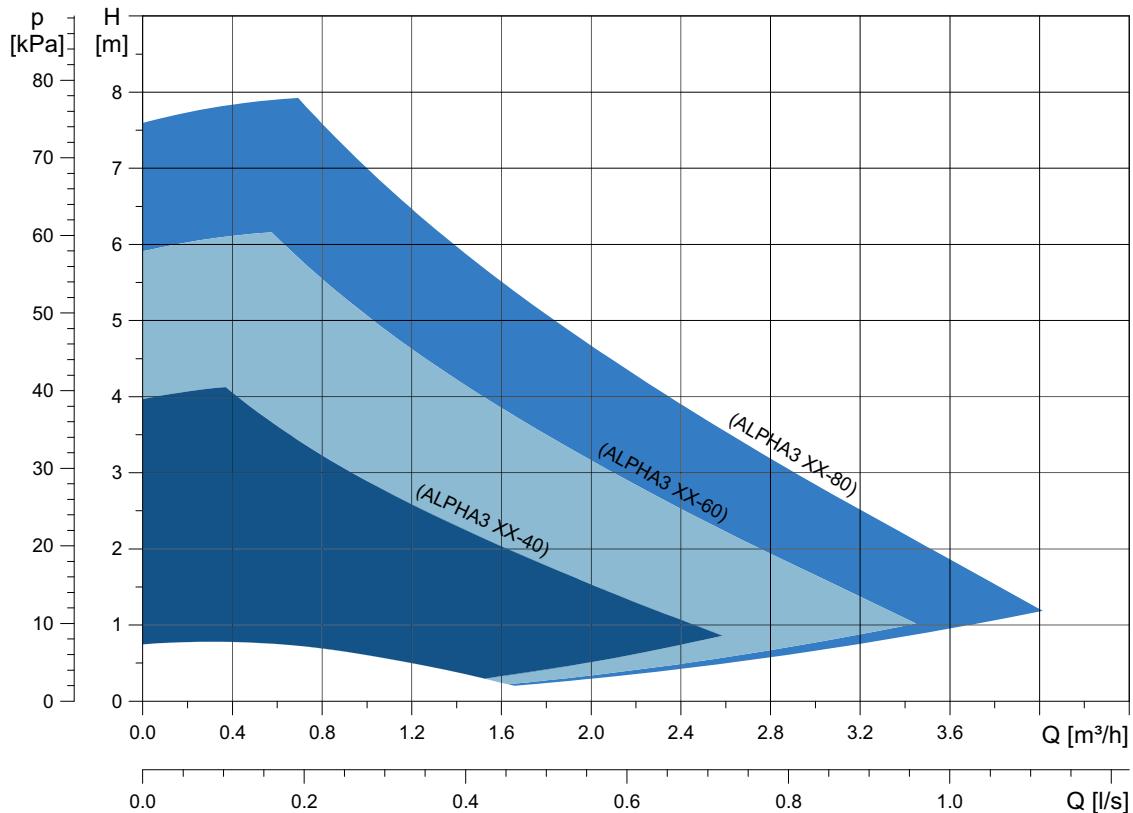


Fig. 2 Performance range, ALPHA3

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System applications

ALPHA3 is designed for circulating liquids in heating and air-conditioning systems with temperatures equal to or higher than 2 °C. It can be used as stand-alone pump and is also suitable as a replacement pump for older and inefficient circulator pumps.

ALPHA3 is suitable for the following systems:

- Systems with variable flows such as two-pipe heating systems with thermostatic valves for radiators or underfloor heating.
- Systems with constant or slightly variable flows such as one-pipe heating systems.

The pump is also ideal when operating in systems requiring an automatic adjustment of differential pressure to flow demands without the use of expensive bypass valves and similar components.

If an automatic bypass valve is installed to ensure a minimum flow, you must adjust the differential-pressure control of the circulator pump in a way to ensure the function of the automatic bypass valve. For example, select a constant-pressure curve that is higher than the differential pressure of the valve.

You can select the appropriate pump type for a heating system according to the following guidelines:

Up to [m ²]	Radiator system (Δt 20 °C) [m ³ /h]	Underfloor heating (Δt 5 °C) [m ³ /h]	Pump type
120	0.4	1.5	XX-40
200	0.6	2.5	XX-60
300	0.8	3.5	XX-80

- **Note:** The data are approximate values. Grundfos cannot be held responsible for wrong sizing of pumps in heating systems.

Examples of systems

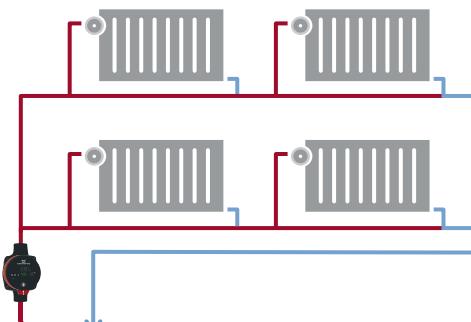


Fig. 3 One-pipe heating system

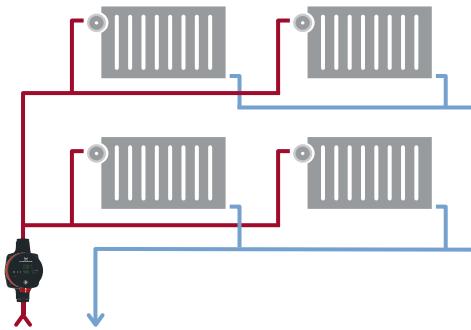


Fig. 4 Two-pipe heating system

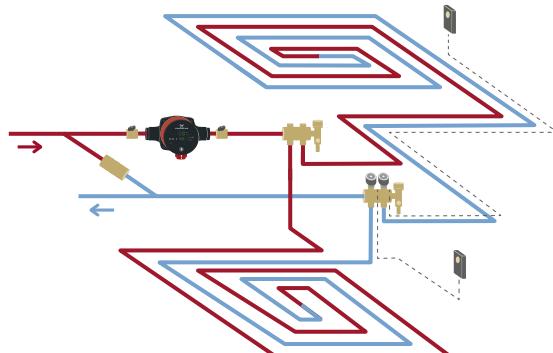


Fig. 5 Underfloor heating system

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2. Construction

ALPHA3 is designed for long and trouble-free operation as a canned-rotor type, that is pump and motor form an integral unit without shaft seal, with only one gasket for sealing. The bearings are lubricated by the pumped liquid. These constructions ensure maintenance-free operation.

The pump is characterised by the following:

- Permanent-magnet rotor/compact-stator motor which contributes to high efficiency and high starting torque.
- Ceramic shaft and radial bearings which contribute to long life.
- Carbon thrust bearing which contributes to long life.
- Stainless-steel rotor can, bearing plate and rotor cladding which contribute to corrosion-free long life.
- Composite impeller which contributes to corrosion-free long life.
- Cast-iron pump housing.
- Automatic venting which contributes to easy commissioning.
- Compact design featuring pump head with integrated control box and operating panel which fits into most common installations.

Material specification

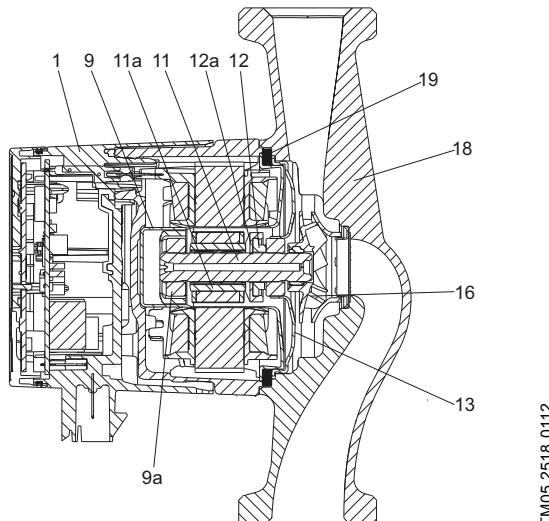


Fig. 6 Position numbers

Pos.	Description	Material	EN/DIN	AISI/ASTM
1	Controller complete	Composite, PC		
9	Rotor can	Stainless steel	1.4401	316
9a	Radial bearing	Ceramics		
11	Shaft	Ceramics		
11a	Rotor cladding	Stainless steel	1.4401	316
12	Thrust bearing	Carbon		
12a	Thrust bearing retainer	EPDM rubber		
13	Bearing plate	Stainless steel	1.4301	304
16	Impeller	Composite, PES		
18	Pump housing	Cast iron	EN-GJL-150	A48-150B

Motor and control box

The motor is a 4-pole synchronous permanent-magnet motor.

The pump controller is incorporated in the control box, which is fitted to the stator housing and connected to the stator via a terminal plug.

The control box has an integrated operating panel with two push-buttons (1 and 2). See fig. 7.

For more information on the operating panel, see *Operating panel*, page 10.

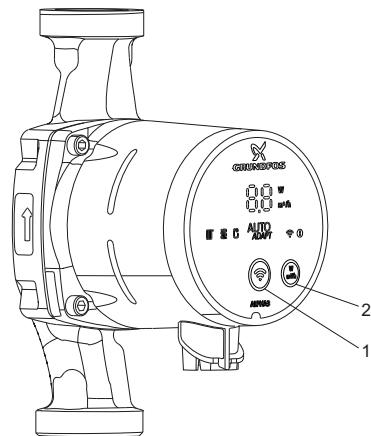


Fig. 7 Position of push-buttons

Pos.	Description
1	Push-button for connecting to Grundfos GO Remote.
3	Push-button for selection of parameter to be shown in the display, that is actual power consumption in watt or actual flowrate in m ³ /h.

3. Operation

Pumped liquids

The pump is suitable for the following liquids:

- clean, thin, non-aggressive and non-explosive liquids, not containing solid particles or fibres
- cooling liquids, not containing mineral oil
- softened water.

The kinematic viscosity of water is $\nu = 1 \text{ mm}^2/\text{s}$ (1 cSt) at 20 °C. If you use the pump for a liquid with a higher viscosity, the hydraulic performance of the pump will be reduced.

Example: 50 % glycol at 20 °C means a viscosity of approximately 10 mm²/s (10 cSt) and a reduction of pump performance by approximately 15 %.

Do not use additives that in any way can or will disturb the functionality of the pump.

When selecting a pump, take the viscosity of the pumped liquid into consideration.

Technical data

Liquid temperature

ALPHA3 pumps: 2-110 °C.

To avoid condensation in the stator, the liquid temperature must always be higher than the ambient temperature. See the table below.

Ambient temperature [°C]	Liquid temperature	
	Min. [°C]	Max. [°C]
0	2	110
10	10	110
20	20	110
30	30	110
35	35	90
40	40	70

The ALPHA3 pump can, however, run at ambient temperatures higher than the liquid temperature if the plug connection in the pump head is pointing downwards.

System pressure

PN 10: Maximum 1.0 MPa (10 bar).

Inlet pressure

To avoid cavitation noise and damage to the pump bearings, the following minimum pressures are required at the inlet port.

Liquid temperature	75 °C	90 °C	110 °C
	0.5 m head	2.8 m head	10.8 m head
Inlet pressure	0.005 MPa	0.028 MPa	0.108 MPa
	0.05 bar	0.28 bar	1.08 bar

Electrical data

Supply voltage	1 x 230 V ± 10 %, 50/60 Hz, PE.
Motor protection	The pump requires no external motor protection.
Enclosure class	IPX4D.
Insulation class	F.
Relative air humidity	Maximum 95 %.
Ambient temperature	0-40 °C.
Temperature class	TF110 to EN 60335-2-51.
EMC (electromagnetic compatibility)	EMC Directive (2014/30/EU)
Radio communication	Bluetooth GLoWPAN
Sound pressure level	≤ 43 dB(A).

4. Installation

Mechanical installation

In most cases, the installation of ALPHA3 is reduced to the mechanical installation and connection to the power supply.

Always install the pump with horizontal motor shaft.

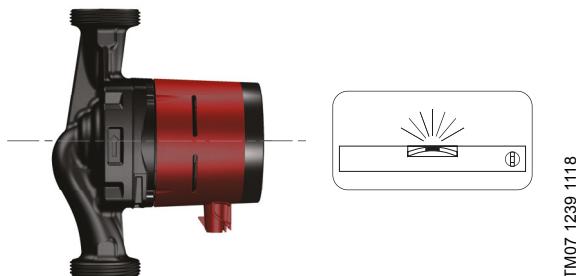


Fig. 8 Horizontal motor shaft

Control box positions

Figures 9 and 10 show the possible control box positions in heating systems as well as in air-conditioning and cold-water systems.

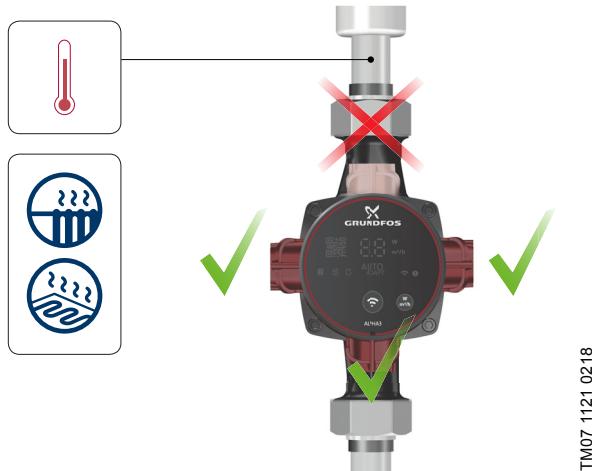


Fig. 9 Possible control box positions, heating systems

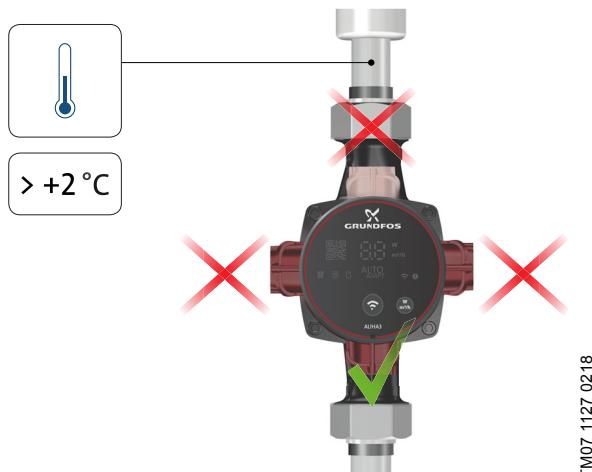


Fig. 10 Possible control box position, air-conditioning and cold-water systems above 2 °C

Electrical installation

The ALPHA plug incorporates cable relief and a locking function for securing the connection of the supply cable.

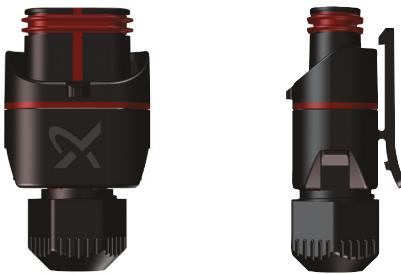


Fig. 11 ALPHA plug

Angled ALPHA plugs are available as accessories. See [ALPHA plugs](#) page 23.

5. Control and communication

	ALPHA2	ALPHA3	Page
Communication			
Grundfos GO Remote	•		10
Operating modes			
Normal	•		
Stop	•		
Min.	•		10
Max.	•		
Control modes			
Radiator mode with AUTO _{ADAPT}	•		11
Underfloor mode with AUTO _{ADAPT}	•		11
Radiator and underfloor mode with AUTO _{ADAPT}	•		11
Proportional-pressure curve	•	•	12
Constant-pressure curve	•	•	12
Constant curve	•	•	12
AUTO _{ADAPT}	•	•	11
Automatic night setback	•	•	13
Features			
Scheduling including summer mode	•		13
Dry-running protection	•*	•	14
High-torque start	•*	•	13
Hydronic balancing	•**	•	13

* As of model D

** As of model E and ALPHA3 model A

Communicate with ALPHA3 using Grundfos GO Remote

ALPHA3 is completely controlled with the Grundfos GO Remote app, which gives you step by step assistance to pump configuration, maintenance and commissioning, including:

- Setting the operating and control mode
- Reading out the current operating status of the pump
- Reading out alarms, warnings and fault logs
- Scheduling periods in which the pump should and should not operate, including summer mode
- Updating the pump's firmware
- Venting the pump.

The first time you connect to the pump, Grundfos GO Remote starts up an initial setup wizard, which will also guide you through hydronic balancing of your system (optional).

Operating panel

The operating panel reflects the settings of the pump as set in Grundfos GO Remote.



Fig. 12 Operating panel

Pos.	Description
1	QR code. When scanned with Grundfos GO Remote, you get access to detailed product information, documentation and service information. The QR scanner is found in the app's side menu.
2	Four light fields indicating the pump setting.
3	Connectivity button: Push-button for connecting the pump to Grundfos GO Remote and Grundfos GO Balance.
4	Light field indicating either the actual pump power consumption in watt or the actual flow rate in m^3/h in steps of $0.1 \text{ m}^3/\text{h}$ during operation.
5	Alarm and warning indication.
6	Connectivity symbol: When lit, the pump is connected to Grundfos GO Remote.
7	Button for selection of parameter to be shown in the power consumption light field (pos. 4).

Operating modes

Normal

The pump runs according to the selected control mode.

Stop

Stop the pump via Grundfos GO Remote.

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.

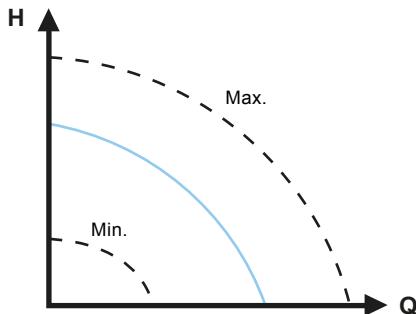


Fig. 13 Maximum and minimum curves

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Control modes

Radiator mode

The radiator mode uses the AUTO_{ADAPT} function to automatically adjust the pump performance to the actual heat demand in the system. The pump performance follows a proportional-pressure curve within the AUTO_{ADAPT} range, which is anywhere between the maximum and minimum proportional curve.

See [AUTO_{ADAPT}](#), page 11 for further information.

Note: If the pump operates in a one-string system, we recommend that you use the constant-pressure mode.

Underfloor mode

The underfloor mode uses the AUTO_{ADAPT} function to automatically adjust the pump performance to the actual heat demand in the system. The pump performance follows a constant-pressure curve within the AUTO_{ADAPT} range, which is anywhere between the maximum and minimum constant curve.

See [AUTO_{ADAPT}](#), page 11 for further information.

Radiator and underfloor mode

If the pump is placed in a system that consists of both radiator and underfloor heating, it is possible to select a combination of the two, called "Radiator & Underfloor mode".

This mode uses the AUTO_{ADAPT} function to automatically adjust the pump performance to the actual heat demand in the system. The pump performance follows a proportional-pressure curve within the AUTO_{ADAPT} range, which is anywhere between the maximum and minimum proportional curve.

See [AUTO_{ADAPT}](#), page 11 for further information.

AUTO_{ADAPT}

AUTO_{ADAPT} is an integrated function in the radiator, underfloor and radiator and underfloor mode and is designed to continuously adapt the setting to the actual heating demand in the system.

AUTO_{ADAPT} selects the best control curve under the given operating conditions. AUTO_{ADAPT} optimises the position of the proportional or constant pressure curve via three steps.

First, it analyses the heating system, which the circulator is a part of. Then, on the basis of this analysis, AUTO_{ADAPT} verifies whether the pump pressure is too high, too low, or correct. Hereby it selects the optimum proportional or constant pressure curve for the system within the AUTO_{ADAPT} performance range. See fig. 14. Finally, the pump is controlled according to the selected proportional or constant pressure curve. The pump will continue this cycle as long as it is running.

 AUTO_{ADAPT} performance range

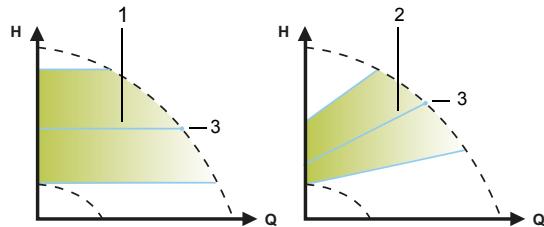


Fig. 14 AUTO_{ADAPT}

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Pos. Description

1	Constant pressure curve (underfloor mode)
2	Proportional pressure curve (radiator mode / radiator and underfloor mode)
3	Setpoint

You cannot expect an optimum pump setting from day one.

If the power supply fails or is disconnected, the pump stores the AUTO_{ADAPT} setting in an internal memory and resumes the automatic adjustment when the power supply has been restored.



Proportional pressure

Proportional-pressure mode adjusts the pump performance to the actual heat demand in the system, but the pump performance follows the selected performance curve. The selection of the proportional-pressure setting depends on the characteristics of the heating system and the actual heat demand.

The curve's setpoint is user defined in the Grundfos GO Remote app. The setpoint can be chosen anywhere between the minimum and maximum proportional curve in intervals of 0.1 m. The head against a closed valve is half the setpoint H_{set} , although never below 1 m.

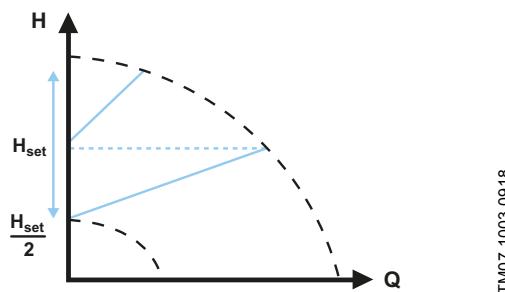


Fig. 15 Proportional-pressure curve settings

The selection of the right proportional-pressure setting depends on the characteristics of the heating system in question and the actual heat demand.

See [Guide to performance curves](#), page 14 for further information.



Constant curve

At constant curve, the pump runs at a constant curve independently of the actual flow demand in the system. The pump performance follows the selected performance curve. The selection of the constant-curve setting depends on the characteristics of the heating system and the actual heat demand.

The curve's setpoint is user defined in the Grundfos GO Remote app. The speed in % of maximum speed can be chosen anywhere between the minimum and maximum constant curve in intervals of 1 %.

The selection of the right constant-curve setting depends on the characteristics of the heating system in question and the number of taps likely to be opened at the same time.

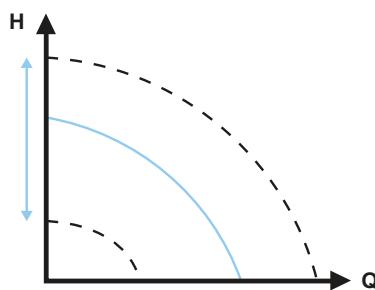


Fig. 17 Constant-curve settings

See [Guide to performance curves](#), page 14 for further information.



Constant pressure

Constant-pressure mode adjusts the pump performance to the actual heat demand in the system, but the pump performance follows the selected performance curve. The selection of the constant-pressure setting depends on the characteristics of the heating system and the actual heat demand.

The curve's setpoint is user defined in the Grundfos GO Remote app. The setpoint can be chosen anywhere between the minimum and maximum constant-pressure curve in intervals of 0.1 m.

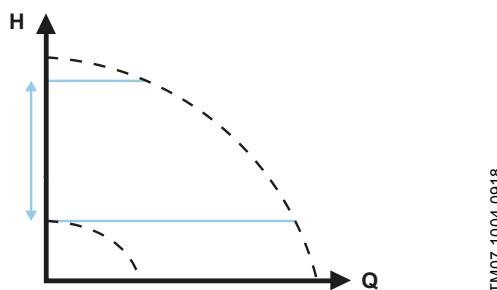


Fig. 16 Constant-pressure curve settings

See [Guide to performance curves](#), page 14 for further information.

Features

Automatic night setback

With automatic night setback enabled the pump automatically changes between normal operation and the automatic night setback curve.

The pump automatically changes between normal operation and automatic night setback (operation at low demand) depending on the flow-pipe temperature. Once activated, the pump runs on the curve for automatic setback.

The pump changes to automatic night setback when a flow-pipe temperature drop of more than 10 to 15 °C within approximately two hours is registered. The temperature drop must be at least 0.1 °C/min.

Changeover to normal operation takes place without a time lag when the flow-pipe temperature has increased by approximately 10 °C.

To ensure the optimum function of automatic night setback, the following conditions must be fulfilled:

- The pump must be installed in the flow pipe.
- The boiler must incorporate automatic control of the liquid temperature.

Automatic night setback is enabled in Grundfos GO Remote.

Scheduling

In some applications it can be useful to predefine a start and stop schedule for the pump in order to lower energy costs.

The scheduling function allows you to customise the operating time in several ways:

- Individual schedule for each day of the week: Total customisation of pump operation cycles.
- 9-to-5 work week template: Inserts an adjustable template for a typical work week. Suitable when no operation is needed on weekends.
- Stop at night only.
- Summer mode: Presets the pump to stop operation in a specific time period and automatically start again.

The pump will automatically run for two minutes every 24 hours at low speed to avoid blocking the rotor as well as sticky valves and non-return valves.

Dry-running protection

The active dry-running feature protects the reliable wet-runner design of the ALPHA3 pumps.

Dry-running protection protects the pump against dry running during startup and normal operation.

High-torque start

In case of a blocked rotor, the pump will start vibrating automatically with a frequency of around 3 Hz during startup. Any dirt deposits that might prevent the impeller from rotating will be broken up swiftly, and the pump will resume normal operation.

Hydronic balancing

Hydronic balancing is important for a well-performing heating system regarding energy consumption and room comfort. A balanced system secures the best possible distribution of the needed flow in the heating system. It also secures that the pump performance is not too high.

Using the ALPHA3 pump together with the Grundfos GO Balance app, it is possible to perform hydronic balancing of two-pipe or underfloor heating system by using real time flow measurement from the pump.

As the maximum Bluetooth range is approximately 10 m you may experience that the Bluetooth signal becomes too weak between the pump and the smart device when moving from room to room. In such cases the ALPHA Reader can be used as an extender. See [ALPHA Reader](#), page 23.

Pump venting

In new installations or when the pipes have been emptied and refilled with water, we recommend that you vent the pump. This is easily done using Grundfos GO Remote. The venting process lasts for 30 min after which the pump automatically returns to its initial settings.

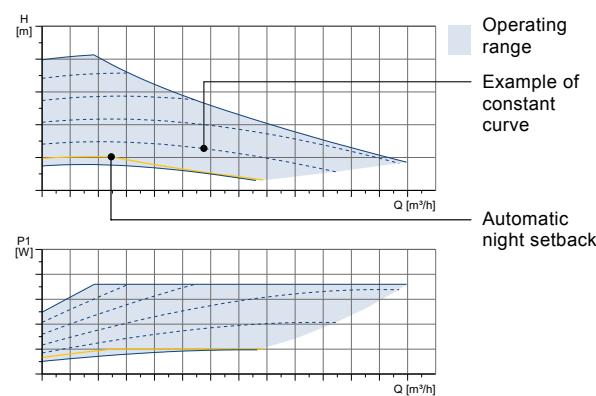
In addition, the pump is self-venting through the system, ensuring that potential noise from small air pockets trapped inside the pump ceases over a period of time.

6. Guide to performance curves

Each control mode has a performance range (Q, H) within which a performance curve is selected. Control modes with $AUTO_{ADAPT}$ automatically select a performance curve within the performance range.

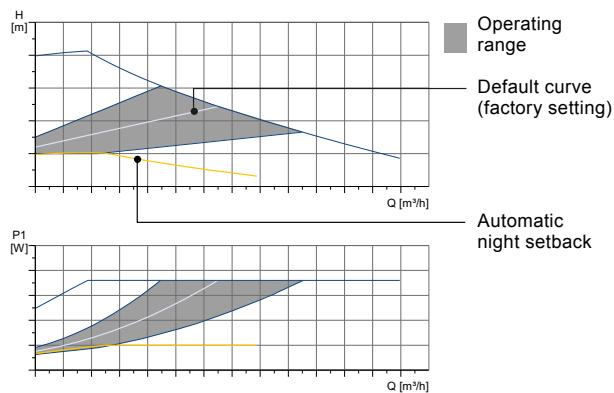
A power curve, P_1 , belongs to each QH curve. The power curve shows the pump power consumption in watt at a given QH curve. The P_1 value corresponds to the value that you can read from the pump display.

Constant curve



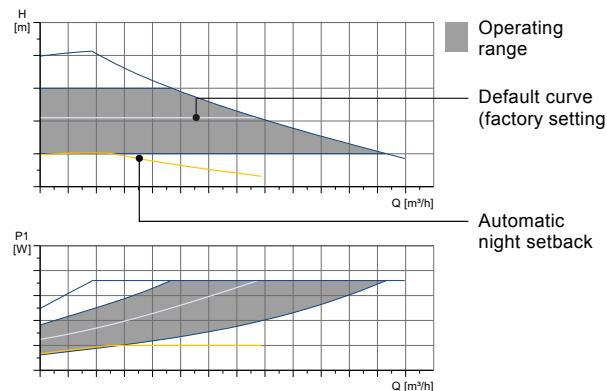
Control mode	Operating panel	Curve	Setpoint adjustment
Constant curve		User defined within range	1 % intervals set in % of maximum speed.

Proportional pressure



Control mode	Operating panel	Curve	Setpoint adjustment
Radiator mode		Anywhere within range	
Radiator and underfloor mode		Anywhere within range	$AUTO_{ADAPT}$
Proportional pressure		User defined within range	0.1 m intervals

Constant pressure



Control mode	Operating panel	Curve	Setpoint adjustment
Underfloor mode		Anywhere within range	$AUTO_{ADAPT}$
Constant pressure		User defined within range	0.1 m intervals

Curve conditions

The guidelines below apply to the performance curves on pages 16 to 21:

- 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 and must not be used as guarantee curves. If a specific minimum performance is required, make individual measurements.
- The curves for speeds I, II and III are marked.
- The curves apply to a kinematic viscosity of $\nu = 0.474 \text{ mm}^2/\text{s}$ (0.474 cSt).
- The conversion between head H [m] and pressure p [kPa] has been made for water with a density of $\rho = 1000 \text{ kg/m}^3$. For liquids with other densities, for example hot water, the outlet pressure is proportional to the density.
- EEI is obtained according to EN 16297 part 2.

Symbols used on the following pages

For ALPHA3 pumps, the energy efficiency index (EEI) is down to $\text{EEI} \leq 0.15$ and categorised as best in class.

ALPHA3 with AUTO_{ADAPT} function is the preferred choice for domestic installations and a true efficiency frontrunner.

The EEI is an indicator of the efficiency of the circulator and is the relation between the weighted average electrical input power of the ALPHA3 (considering standardized load profile) and the average input power of a standard circulator having the same hydraulic output power.

The ALPHA3 EEI is far below the ErP 2015 requirements and even exceeds the best in class benchmark level. See fig. 18.

The benchmark for the most efficient circulators is $\text{EEI} \leq 0.20$

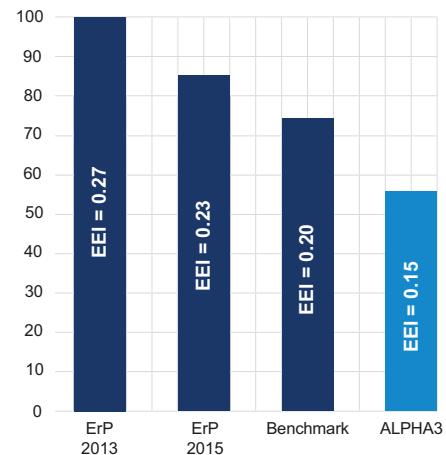


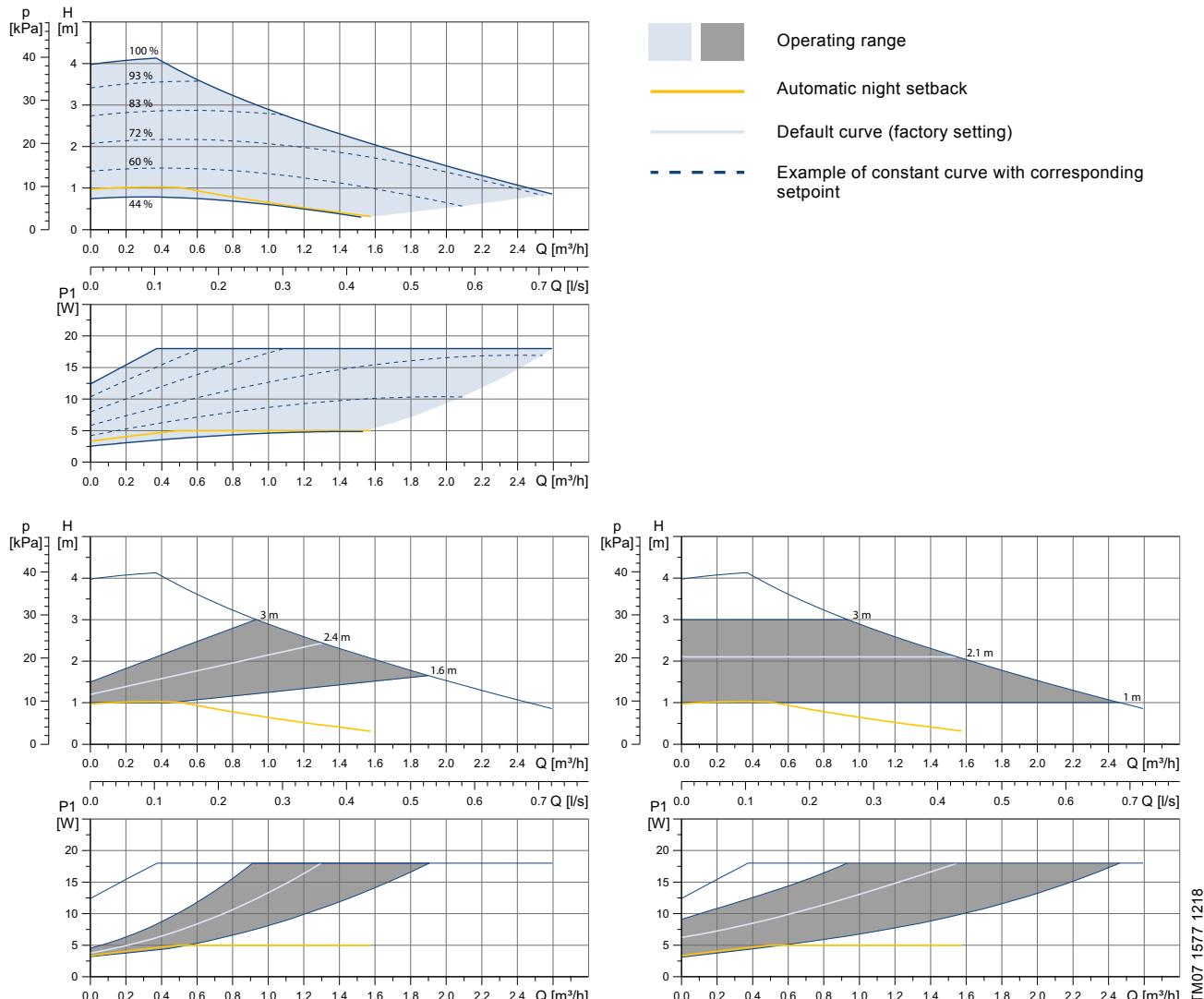
Fig. 18 EEI limits and the current positioning of the ALPHA3

With an energy efficiency index (EEI) well below the ErP benchmark level, you can achieve energy savings of up to 85 % compared to a typical circulator and thus a remarkably fast return on investment. This means, of course, that ALPHA3 more than meets the standards of the ErP legislation.

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7. Performance curves and technical data

ALPHA3 XX-40

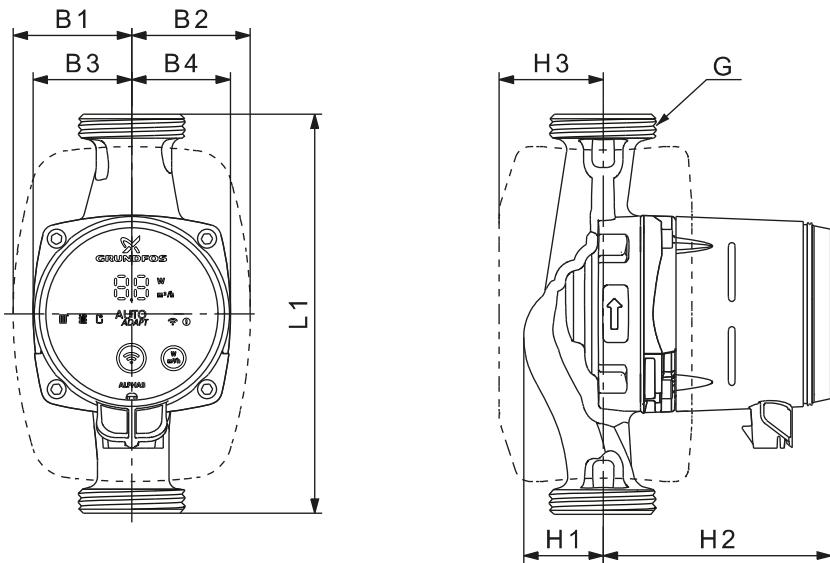


TMD15771218

	P1 [W]	I ₁ [A]
Speed	Min. 3	0.04
Max.	18	0.18
Connections	See Unions and valve kits , page 22.	
System pressure	Maximum 1.0 MPa (10 bar)	
Liquid temperature	2-110 °C (TF 110)	
Specific EEI	≤ 0.15	

The pump incorporates overload protection.

Dimensions

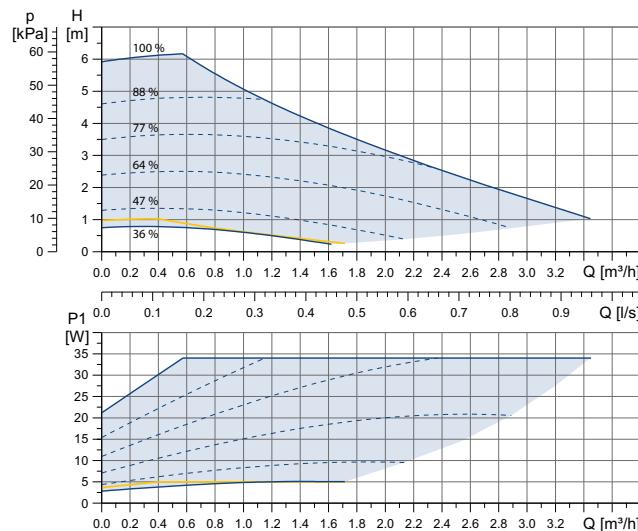


TM07 0544 0218

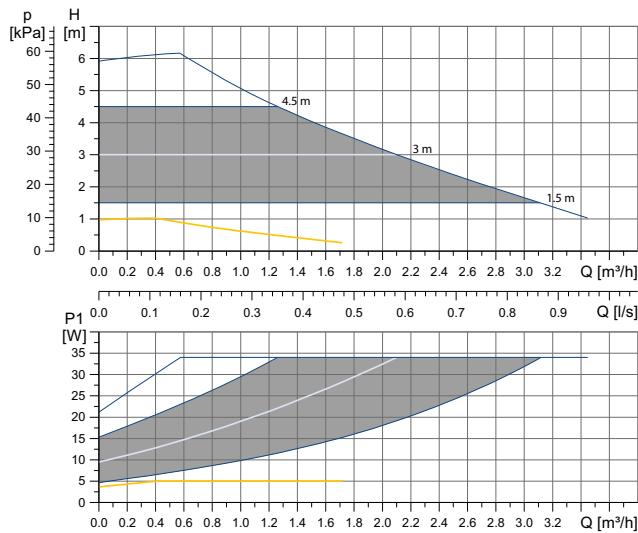
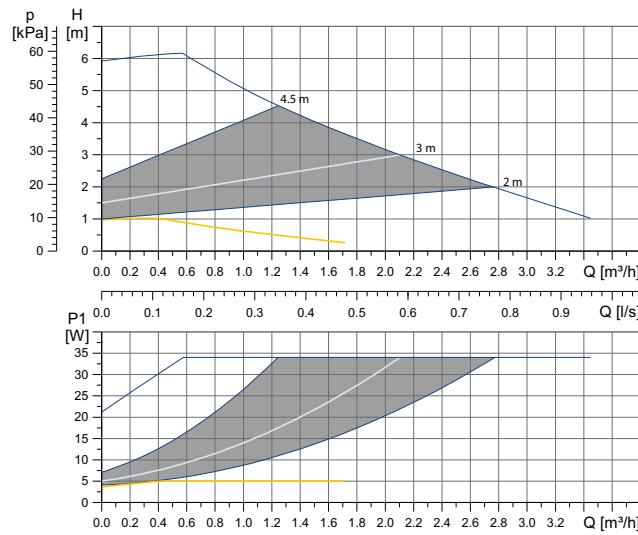
Pump type	Dimensions [mm]									Weights [kg]		Ship. vol. [m ³]
	L1	B1	B2	B3	B4	H1	H2	H3	G	Net	Gross	
ALPHA3 15-40	130	54	54	44	44	36	104	47	G 1	1.7	1.9	0.004
ALPHA3 25-40	130	54	54	44	44	36	104	47	G 1 1/2	1.9	2.0	0.004
ALPHA3 25-40	180	54	54	44	44	36	104	47	G 1 1/2	2.0	2.1	0.004
ALPHA3 32-40	180	54	54	44	44	36	104	47	G 2	2.1	2.3	0.004

See product numbers and QR codes in [Product numbers](#), page 24.

ALPHA3 XX-60



- Operating range
- Automatic night setback
- Default curve (factory setting)
- Example of constant curve with corresponding setpoint

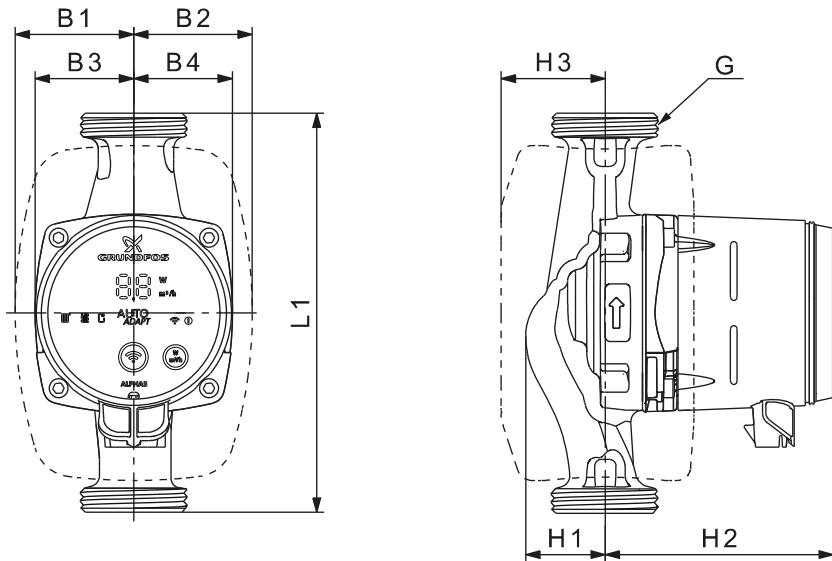


TN07-1594-1218

	P1 [W]	I ₁ [A]
Speed	Min. 3	0.04
	Max. 34	0.32
Connections	See Unions and valve kits , page 22.	
System pressure	Maximum 1.0 MPa (10 bar)	
Liquid temperature	2-110 °C (TF 110)	
Specific EEI	≤ 0.17	

The pump incorporates overload protection.

Dimensions



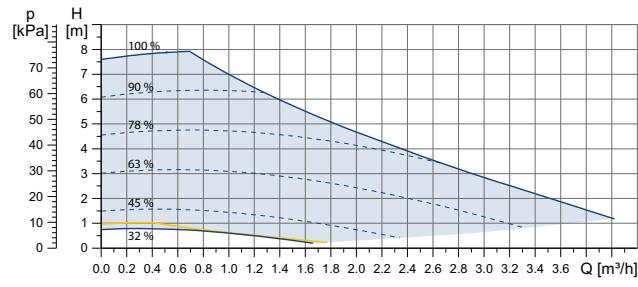
TM07 0544 0218

Pump type	Dimensions [mm]								Weights [kg]		Ship. vol. [m ³]	
	L1	B1	B2	B3	B4	H1	H2	H3	G	Net	Gross	
ALPHA3 15-60	130	54	54	44	44	36	104	47	G 1	1.7	1.9	0.004
ALPHA3 15-50/60*	130	54	54	44	44	36	104	47	G 1 1/2	1.9	2.0	0.004
ALPHA3 25-60	130	54	54	44	44	36	104	47	G 1 1/2	1.9	2.0	0.004
ALPHA3 25-60	180	54	54	44	44	36	104	47	G 1 1/2	2.0	2.1	0.004
ALPHA3 32-60	180	54	54	44	44	36	104	47	G 2	2.1	2.3	0.004

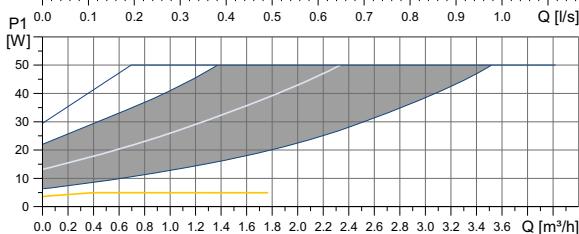
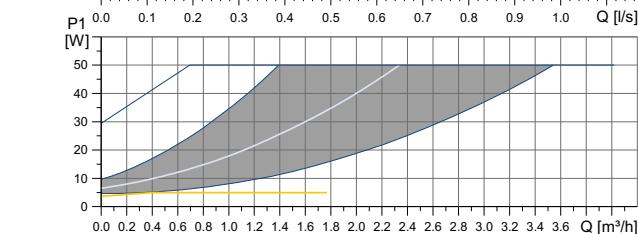
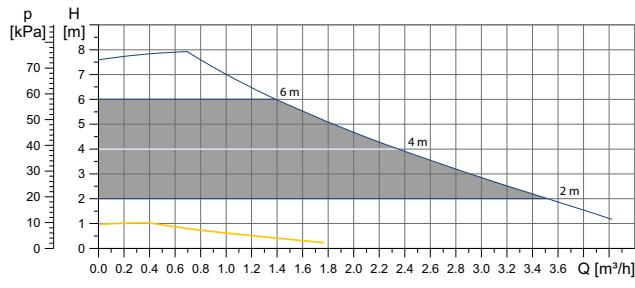
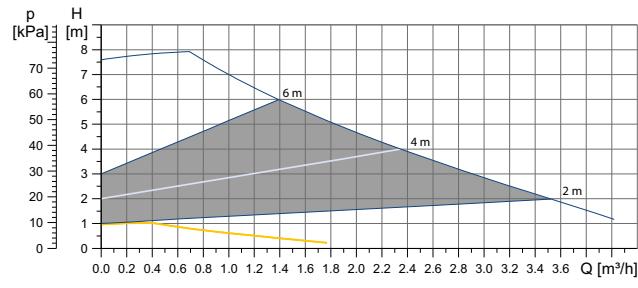
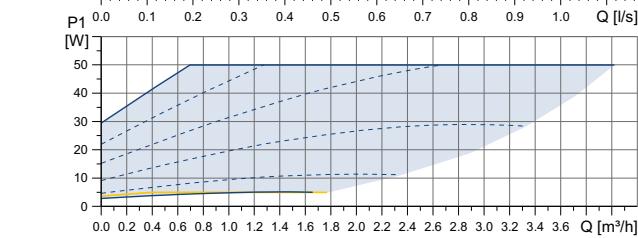
* Available in the UK market only.

See product numbers and QR codes in [Product numbers](#), page 24.

ALPHA3 XX-80



- Operating range
- Automatic night setback curve
- Default curve (factory setting)
- Example of constant curve with corresponding setpoint

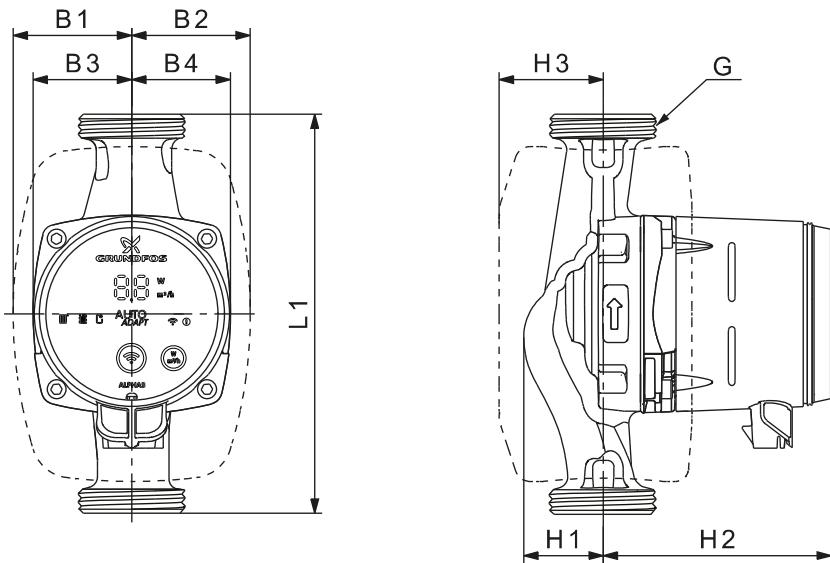


TM0716951218

	P1 [W]	I ₁ [A]
Speed	Min.	3
	Max.	0.04
Connections	See Unions and valve kits , page 22.	
System pressure	Maximum 1.0 MPa (10 bar)	
Liquid temperature	2-110 °C (TF 110)	
Specific EEI	≤ 0.18	

The pump incorporates overload protection.

Dimensions



TM07 0544 0218

Pump type	Dimensions [mm]								Weights [kg]		Ship. vol. [m ³]	
	L1	B1	B2	B3	B4	H1	H2	H3	G	Net	Gross	
ALPHA3 15-80	130	54	54	44	44	36	104	47	G 1	1.7	1.9	0.004
ALPHA3 25-80	130	54	54	44	44	36	104	47	G 1	1.7	1.9	0.004
ALPHA3 25-80	180	54	54	44	44	36	104	47	G 1 1/2	2.0	2.1	0.004
ALPHA3 32-80	180	54	54	44	44	36	104	47	G 2	2.1	2.3	0.004

See product numbers and QR codes in [Product numbers](#), page 24.

8. Accessories

Unions and valve kits

Product numbers, unions																
ALPHA3	Connection	Union nut with internal threads			Union nut with external threads			Ball valve with internal threads			Ball valve with compression fitting		Union nut with soldering fitting			
		3/4	1	1 1/4	1	1 1/4	3/4	1	1 1/4	Ø22	Ø28	Ø18	Ø22	Ø28	Ø42	
15-xx*	G 1															
25-xx	G 1 1/2	529921	529922	529821	529925	529924	519805	519806	519807	519808	519809	529977	529978	529979		
32-xx	G 2	509921	509922											529995		

Note: The product numbers are always for one complete set, incl. gaskets.

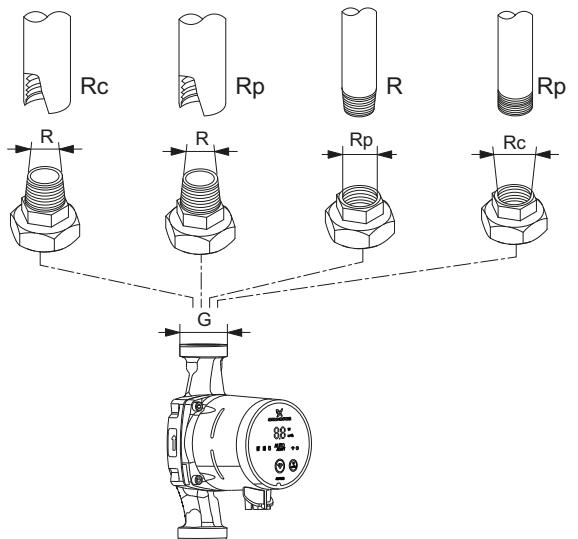
The product numbers for the very standard sizes are printed in bold.

* When ordering for UK 15-xx versions, use product numbers for 25-xx (G 1 1/2).

G-threads have a cylindrical form in accordance with the EN ISO 228-1 standard and are not sealing the thread. It requires a flat gasket. You can only screw male G-threads (cylindrical) into female G-threads. The G-threads are standard thread on the pump housing.

R-threads are tapered external threads in accordance with the EN 10226-2 standard.

Rc- or Rp-threads are internal threads with either tapered or cylindrical (parallel) threads. You can screw male R-threads (conical) into female Rc- or Rp-threads. See fig. 19.



TM07 0558 0218

Fig. 19 Thread types and combinations (examples)

ALPHA3

Insulating kits

The pump is supplied with two insulating shells. The insulating shells, which are tailored to the individual pump type, enclose the entire pump housing.

It is easy to fit the two insulating shells around the pump. See fig. 20.

It is possible to order additional insulating shells. See the table below.

Pump type	Product number	Available
ALPHA3 XX-XX 130	98091786	Spare part
ALPHA3 XX-XX 180	98091787	Spare part



Fig. 20 Insulating shells

ALPHA plugs



Fig. 21 ALPHA plugs

Pos.	Description	Product number
1	ALPHA plug with cable gland, standard plug connector, complete*	98284561
2	ALPHA plug angled 90 ° left, with cable gland	98610291
3	ALPHA plug angled 90 ° left, including 4 m cable	96884669
4**	ALPHA plug angled 90 ° left, including 1 m cable and integrated NTC protection resistor	97844632

* Supplied with the pump

** This special cable with an active built-in NTC protection circuit, will reduce possible inrush currents. To be used in case of e.g poor quality of relay components that are sensitive to inrush current.

ALPHA Reader



TM06 8574 1517

When performing hydronic balancing in a heating system, the Bluetooth signal between the pump and the smart device may become too weak due to the maximum Bluetooth range of approximately 10 m. In such cases ALPHA Reader can be used as an extender.

ALPHA Reader is the receiver and transmitter of pump performance data. The unit uses a CR2032 lithium battery. The unit is together with the Grundfos GO Balance app used for balancing heating system primarily in one- and two family houses. The app is available for both Android and iOS devices, and you can download it free of charge from Google Play and App Store.

Description	Product number
ALPHA Reader MI401	98916967

9. Product numbers

ALPHA3 for the D-A-CH market (Germany, Austria and Switzerland)

Pump type	Port-to-port length [mm]	Product number	Data sheet Page
ALPHA3 15-40	130	99371908	16
ALPHA3 15-60	130	99371909	18
ALPHA3 15-80	130	99371910	20
ALPHA3 25-40	130	99371912	16
ALPHA3 25-60	130	99371923	18
ALPHA3 25-80	130	99371924	20
ALPHA3 25-40	180	99371926	16
ALPHA3 25-60	180	99371929	18
ALPHA3 25-80	180	99371931	20
ALPHA3 32-40	180	99371943	16
ALPHA3 32-60	180	99371944	18
ALPHA3 32-80	180	99371946	20

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

ALPHA3 for the international market

Pump type	Port-to-port length [mm]	Product number	Data sheet Page
ALPHA3 15-40	130	99371948	16
ALPHA3 15-60	130	99371950	18
ALPHA3 15-80	130	99371951	20
ALPHA3 25-40	130	99371952	16
ALPHA3 25-60	130	99371954	18
ALPHA3 25-80	130	99371955	20
ALPHA3 25-40	180	99371956	16
ALPHA3 25-60	180	99371959	18
ALPHA3 25-80	180	99371961	20
ALPHA3 32-40	180	99371962	16
ALPHA3 32-60	180	99371964	18
ALPHA3 32-80	180	99371965	20

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

ALPHA3 for the UK market

Pump type	Port-to-port length [mm]	Product number	Data sheet Page
ALPHA3 15-50/60	130	99371966	18

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

ALPHA3 for the EAC market

Pump type	Port-to-port length [mm]	Product number	Data sheet Page
ALPHA3 25-40*	180	99371970	16
ALPHA3 25-60*	180	99371971	18
ALPHA3 25-80*	180	99371972	20
ALPHA3 32-40	180	99371983	16
ALPHA3 32-60	180	99371985	18
ALPHA3 32-80	180	99371987	20

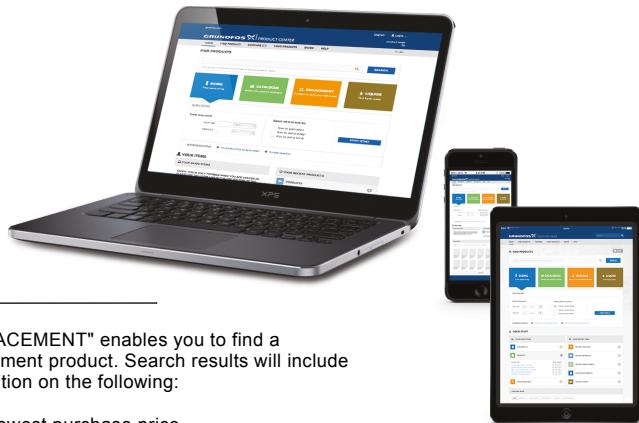
Note: Click on the product number and go directly to the performance curve in Grundfos Product Center (GPC).

* Including union kit Rp 1"

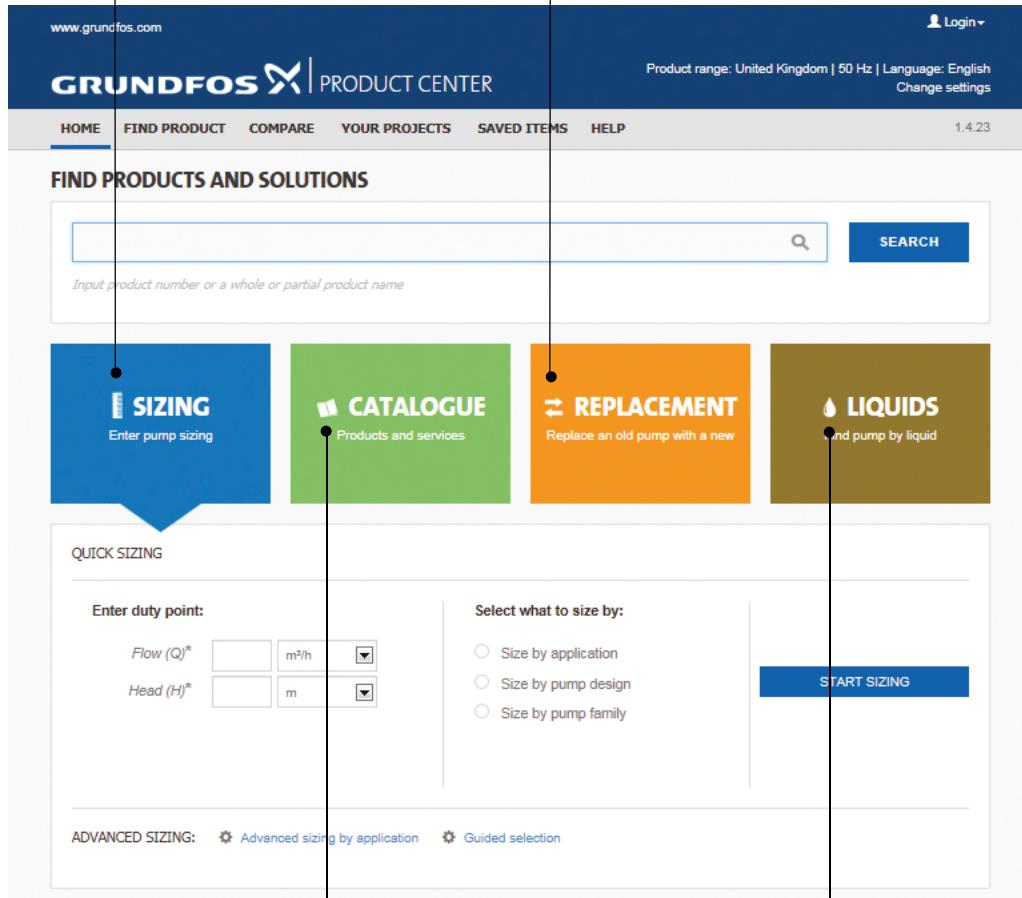
10. Grundfos Product Center

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.



The screenshot shows the main navigation bar with "www.grundfos.com" and "GRUNDFOS PRODUCT CENTER". Below it, there's a search bar with placeholder text "Input product number or a whole or partial product name" and a "SEARCH" button. To the left of the search bar is a blue box labeled "SIZING Enter pump sizing". To the right are three other boxes: "CATALOGUE Products and services", "REPLACEMENT Replace an old pump with a new", and "LIQUIDS Find pump by liquid". The "REPLACEMENT" box has a dot above it, indicating it's the selected feature. The "SIZING" box has a dot below it, indicating it's the active feature. The "CATALOGUE" and "LIQUIDS" boxes have dots to their left, indicating they are also available.

"REPLACEMENT" enables you to find a replacement product. Search results will include information on the following:

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

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.

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