

CMB, CMBE, CMBE TWIN

Horizontal, multistage centrifugal boosters
50/60 Hz



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1. Product introduction

The compact Grundfos CM Booster ensures optimal water pressure for domestic and commercial applications, such as clean water and raw-water supply, pressure boosting, irrigation and dewatering. The booster consists of a Grundfos CME or CM pump and a pressure control unit. The pressure control unit allows the pump to start and stop automatically according to demand.

- CMBE Booster offers constant pressure and high comfort due to the variable-speed motor, noiseless operation and built-in protection against dry running, overload, overtemperature and more.
- CMBE TWIN Booster has two pumps. Both pumps run when there is need for a higher flow to maintain a constant pressure.
- CM Booster with a pressure manager protects the pump against dry-running and cycling, and reduces the number of starts and stops. Self priming variants for a suction lift of 0-4 metres are also available.
- CM Booster with a diaphragm tank reduces the number of starts in case of low water consumption or leakage.
- CM Booster with pressure switch provides on/off operation.

1.2 Pumped liquids

The product is suitable for pumping clean, thin, non-aggressive and non-explosive liquids without solid particles or fibres. Examples:

- drinking or tap water
- rainwater and condensate
- groundwater
- river and lake water
- boiler feed water and district heating water
- chlorinated water
- softened water
- washing and cleaning.

The product must not be used for transfer of diesel oil or other oil-containing liquids. Sand and other impurities in the water can cause wear to the product.

1.1 Applications

The boosters are designed to cover a wide range of applications from small domestic installations to small industrial systems. Typical applications:

- Pressure boosting for home and gardening
- water supply for agriculture and irrigation
- transfer and pressure boosting in break tank and rainwater applications
- water supply from shallow wells (CMB-SP)
- a twin solution for larger applications, such as apartment buildings, hospitals, hotels and small industrial plants.

1.3 Product range

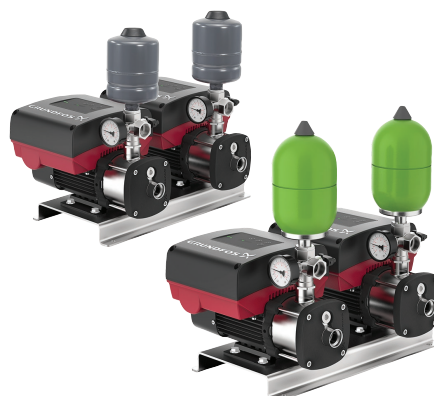
Grundfos offers the following CM Booster variants:

- CMBE, a variable-speed pump for constant pressure
- CMBE TWIN, two-pump pressure boosting for constant pressure, including cascade control and pump alternation
- CMB-SP PM START, a self-priming pump with a pressure control unit, type PM START
- CMB-SP PM PLUS, a self-priming pump with a pressure control unit, type PM PLUS
- CMB PM START, a pump with a pressure control unit, type PM START
- CMB PM PLUS, pump with a pressure control unit, type PM PLUS
- CMB PS, a CM pump with a pressure switch
- CMB PT, a CM pump with a vertical pressure tank.



TM085108

CMBE



TM084224

CMBE TWIN



CMB-SP PM START, CMB-SP PM PLUS



CMB PM START, CMB PM PLUS



TM085166

CMB PS



TM083348

CMB PT

1.4 Type key

Note: The type key cannot be used for ordering as not all combinations are possible.

Code	Designation	Explanation
CMBE TWIN	CMBE TWIN Booster with cascade control and pump alternation	Type range
CMBE	CMBE Booster with integrated frequency converter	
CMB-SP PM PLUS	CM Booster, self-priming, with PM PLUS	
CMB-SP PM START	CM Booster, self-priming, with PM START	
CMB PM PLUS	CM Booster with PM PLUS	
CMB PM START	CM Booster with PM START	
CMB PT	CM Booster with pressure switch and tank	
CMB PS	CM Booster with pressure switch	
At 50 Hz [m ³ /h]		Rated flow rate
- 47		Maximum head [m]
A	Inlet and outlet parts - EN-GJL-200	Materials in contact with the pumped liquid
	Pump shaft - EN 1.4301/AISI 304	
	Impellers/chambers - EN 1.4301/AISI 304	
	Pressure manager - PP 30GF	
	Pressure tank - EPDM/steel/PP/Butyl	
I	5-way valve - EN 1.4301/AISI 304	
	Sleeve - EN 1.4301/AISI 304	
	Pump shaft - EN 1.4301/AISI 304	
	Impellers/chambers - EN 1.4301/AISI 304	
	Pressure manager - PP 30GF	
A	1 × 220 V, 60 Hz	Supply voltage [V]
	3 × 220 V, 60 Hz	
	1 × 220-230/240 V, 50 Hz	
	1 × 200-240 V, 50/60 Hz	
	3 × 230/400 V, 50 Hz	
U	1 × 200-240 V, 50/60 Hz	
X	1 × 110-115 V, 60 Hz	
A	Standard motor (IP55)	Motor
C	High-efficiency motor with frequency converter (IP55)	
A	1.5 m cable with Australian plug	Main cable and plug
B	1.5 m cable with US plug	
C	1.5 m cable with Schuko plug	
D	1.5 m cable without plug	
E	No cable, no plug	
G	2 m cable with UK plug	
H	1.5 m cable with IRAM (Argentina) plug	
J	Fuse box (CMBE TWIN only)	
O	1.5 m cable with Thailand plug	
P	2.5 m cable with Indian plug IS 1293	
R	1.5 m cable with Indonesian plug	
F	PM START 1-15 (1.5 bar)	Controller
E	PM START 22 (2.2 bar)	
H	PM PLUS	
D	Integrated frequency converter	
G	Integrated frequency converter with inlet pressure switch	
N	Integrated frequency converter with inlet pressure switch and inlet pressure gauge	
P	Pressure switch	
A	Rp 1	Thread
B	Rp 1 1/4	
C	Rp 1 1/2	
D	Rp 2	
E	NPT 1	
F	NPT 1 1/4	
G	NPT 1 1/2	
H	NPT 2	

1) The new-generation MGE, currently 0.37 to 2.2 kW.

1.5 Installation

1.5.1 Mechanical installation

Placing the pump above ground is generally a convenient way of establishing a water or rainwater supply.

We recommend that you place the pump as close as possible to the water supply to make the inlet pipe as short as possible.

If a hose is used as inlet pipe, it must be non-collapsible. Fit a strainer to the inlet pipe to prevent solids from entering the pump.

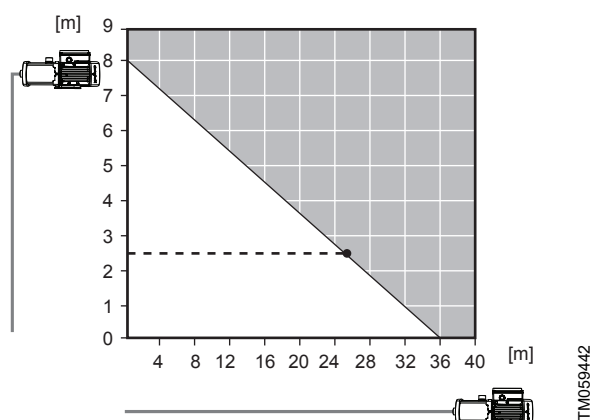
The pump must be installed on a plane and solid surface and fixed so that it cannot be displaced during startup and operation. The inlet direction must be horizontal.

The pump must be installed with easy access for inspection, maintenance and service.

The pump must be installed in a well-ventilated location. When installed outdoors, the booster must be provided with a suitable cover. The cover must be sufficiently large to ensure that the motor is not exposed to direct sunlight, rain or snow.

If the pump is to pump water from a well, borehole or similar, always fit a non-return valve on the inlet pipe of the pump.

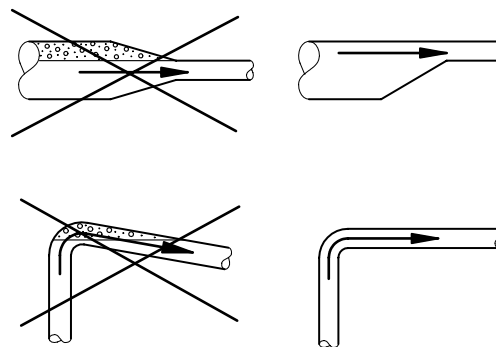
The length of the inlet pipe of CMB-SP pumps must not exceed the length stated in the figure below. The maximum length depends on the geodetic suction lift. As shown in the example below, if the suction lift is 2.5 metres, then the length of the inlet pipe must not exceed 25 metres.



Recommended maximum suction lift or maximum inlet pipe length (Y-axis) for CMB-SP pumps

The maximum suction lift for CMBE is 1 metre.

Install the inlet pipe in such a way that bends, airlocks and any unnecessary restrictions to the flow are avoided. See the figure below.



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Pipe recommendations

Long inlet pipes affect the performance of the pump. The diameter of the inlet pipe must not be smaller than that of the inlet port. When the inlet pipe is longer than 10 metres or the suction lift is greater than 4 metres, the diameter of the inlet pipe must be larger than that of the inlet port.

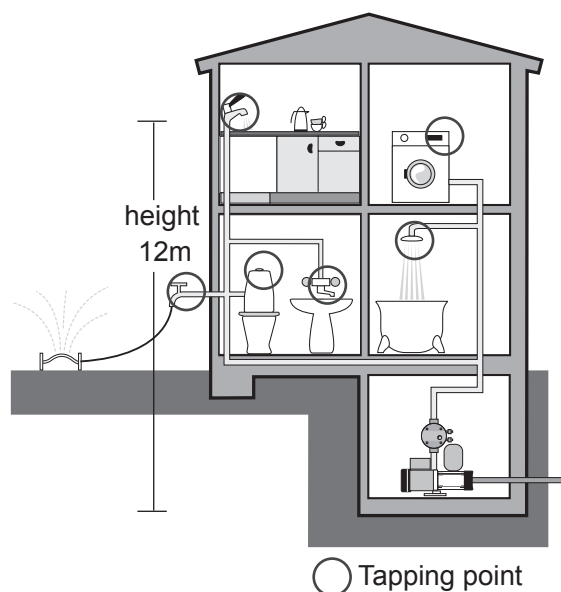
The time from when the pump is started until it delivers water depends on the length of the inlet pipe and on the suction lift. Do not allow the pump to run for more than five minutes before it delivers water as the heat generated will damage the pump.

1.5.1.1 Operating conditions

The maximum time of operation against a closed outlet valve is limited by the liquid temperature which must not exceed +40 °C (104 °F).

The maximum inlet pressure depends on the pump head at the actual duty point. The sum of the inlet pressure and the pump head must not exceed the maximum system pressure.

1.6 Selection guide for residential applications



A: Required comfort level

- Adjustable constant pressure.

B: Find the right booster

- How many taps? 6.
- How many floors? 3.

Result: CMBE 3-62

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Sizing and selection

1.6.1 Booster sizing and selection

Variable speed control

Number of floors	Number of taps			
	1-5	6-10	11-20	21-50
4	CMBE 3-62	CMBE 3-62	CMBE 3-62	CMBE 3-93
3	CMBE 1-44	CMBE 3-62	CMBE 3-62	CMBE 3-62
2	CMBE 1-44	CMBE 1-44	CMBE 3-62	CMBE 3-62
1	CMBE 1-44	CMBE 1-44	CMBE 3-62	CMBE 3-62

Conventional pump control

Number of floors	Number of taps			
	1-5	6-10	11-20	21-50
4	CMB 1-54	CMB 3-46	CMB 3-46	CMB 5-47
3	CMB 1-45	CMB 3-37	CMB 3-46	CMB 5-47
2	CMB 1-45	CMB 3-37	CMB 3-46	CMB 5-37
1	CMB 1-36	CMB 3-27	CMB 3-37	CMB 5-37

Preconditions:

- A tap pressure of 3 bar is considered. To achieve a pressure of 4 bar, add two floors.
- If the inlet is flooded: In suction operation (CM Booster SP) add more floors to compensate for head loss.
- 0.5 l/s per tap average usage pattern is taken into account. Grundfos cannot be held responsible for wrong sizing based on this guide.

1.7 Selection guide for commercial applications

The following instructions primarily target commercial applications.

The CMBE TWIN Booster is the recommended product for commercial applications in large buildings, small industrial plants and businesses, agriculture and irrigation. See examples and calculations below.

Note: Local legislation must always be taken into account.

1.7.1 Flow rate

The total consumption and the required maximum flow rate depend on the application in question. The required maximum flow rate can be calculated by means of the table below which is based on statistical data.

Consumer	Unit [n]	Q_{year}	Consumption period [d]	Q_{day}	fd ²⁾	$Q(m)_{\text{day}}$	ft ³⁾	Max. flow rate
		m^3/year	days/year	m^3/day		m^3/day		m^3/h
Residence building	Residents (2.5 persons)	183	365	0.5	1.3	0.65	1.7	0.046
Office building	Employee	25	250	0.1	1.2	0.12	3.6	0.018
Shopping centre	Employee	25	300	0.08	1.2	0.1	4.3	0.018
Supermarket	Employee	80	300	0.27	1.5	0.4	3.0	0.05
Hotel	Bed	180	365	0.5	1.5	0.75	4.0	0.125
Hospital	Bed	300	365	0.8	1.2	1.0	3.0	0.12
School	Pupil	8	200	0.04	1.3	0.065	2.5	0.007

²⁾ Maximum consumption factor per day

³⁾ Maximum consumption factor per hour

Example: Hotel with 540 beds

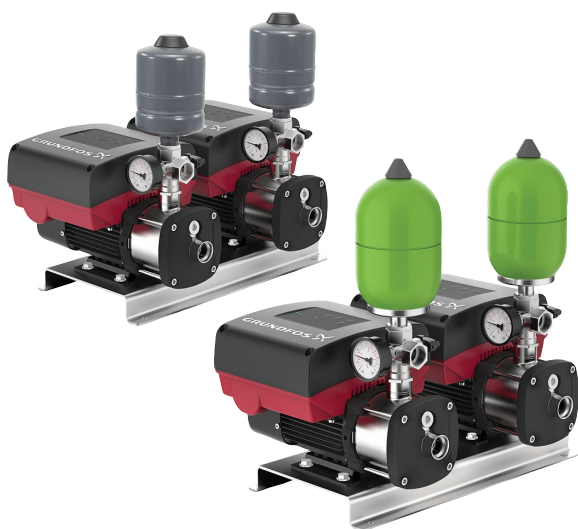
Number of beds:	n
Total annual consumption:	$Q_{\text{year}} \times n$
Consumption period:	d
Average consumption per day:	$(Q_{\text{year}} \times n)/d$
Maximum consumption per day:	$Q(m)_{\text{day}} = fd \times Q_{\text{day}}$
Required maximum flow rate per hour:	$Q_{\text{max}} = \text{maximum flow rate/hour} \times \text{number of beds}$

Calculation

n	540 beds
$Q_{\text{year}} \times n$	$180 \times 540 = 97,200 \text{ m}^3/\text{year}$
d	365 days/year
$(Q_{\text{year}} \times n)/d$	$97,200/365 = 266.3 \text{ m}^3/\text{day}$
$Q(m)_{\text{day}}$	$fd \times Q_{\text{day}} = 1.5 \times 266.3 = 399.4 \text{ m}^3/\text{day}$
$Q_{\text{ma}} \times$	$\text{maximum flow rate/hour} \times \text{number of beds} = 0.125 \times 540 = 67.5 \text{ m}^3/\text{h}$

2. CMBE TWIN

CMBE TWIN Booster



TM084224

CMBE TWIN Booster

2.1 Applications

The compact Grundfos CMBE TWIN Booster is suitable for clean water supply and pressure boosting in domestic and commercial applications. The CMBE TWIN Booster keeps a constant pressure in the pipe system and is mainly used in places such as:

- two-family houses
- cluster homes
- blocks of flats
- schools
- small hotels
- small office buildings
- small industrial plants and businesses
- hospitals
- agriculture and irrigation.

2.2 Product description

The CMBE TWIN Booster system consists of two CMBE Boosters connected in parallel and mounted on a common base plate.

The CMBE TWIN booster consists of two units of CMBE booster which each include the following:

- five-way valve
- expansion tanks (green or grey depending on the local drinking water legislation)
- pressure gauge
- pressure sensor
- a base frame
- a twin communication cable.

The Grundfos CMBE TWIN booster requires no external motor protection.

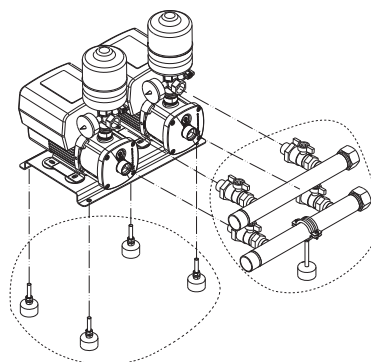
The MGE motors incorporate thermal protection against slow overloading and blocking (TP 211 according to IEC 34-11).

The Grundfos CMBE TWIN booster is mainly used for domestic and light commercial water supply or booster systems.

Suction lift: maximum 1 m, including inlet pipe pressure loss at a liquid temperature of 20 °C (not self-priming).

Accessories:

- vibration dampers (PN 99217259)
- twin manifold set with ball valve and unions and 1 1/2" outlet connection. (PN 99229422 for 1" inlet connection) (PN 99229453 for 1 1/4" inlet connection)



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Accessories

2.3 Motor

No external motor protection is required. The MGE motor incorporates thermal protection against slow overloading and blocking (TP 211 according to IEC 34.11).

2.4 Features

- Constant pressure via integrated speed control
- cascade control and pump alternation
- dry-running protection
- compact
- robust, stainless-steel design
- easy installation
- low energy consumption
- noise level < 55 dB(A) and even lower at controlled speed.

2.4.1 Constant pressure

The integrated speed controller keeps a constant pressure in the pipe system. A pressure sensor monitors changes in the water consumption and signals to the speed controller to adjust the motor speed up or down.

2.4.2 Cascade control

Cascade control ensures that the performance of the booster system is automatically adapted to the consumption by switching pumps on or off and by changing the speed of the pumps in operation. The system runs as energy-efficiently as possible with a constant pressure and only the number of pumps required.

2.4.3 Pump alternation

Pump alternation ensures that the operating hours are distributed evenly on the pumps over time. CMBE TWIN Booster automatically alternates the pumps and will start the available pump with the lowest number of running hours since the last time the power was switched off.

2.4.4 Dry-running protection

Dry-running protection is very important as dry running may damage the bearings and shaft seals. The inlet pressure of the system or the water level in a possible tank on the inlet side is monitored. Lack of inlet pressure or water shortage is indicated by the motor speed. When dry running is detected, the CMBE Booster will stop and go into alarm mode. The pump will attempt 5 restarts at 10 second intervals. If there is no water shortage, it will attempt 8 restarts at 5 minute intervals. If this is not successful, the cycle will be repeated after 24 hours.

2.4.5 Easy installation

The booster is easy to install. When the booster has been connected to the pipes, it is all a matter of plugging the plug into a socket, and the system is operational.

Please ensure that you follow the relevant codes of practice for drinking water installations.

2.5 Operating conditions

System pressure	Max. 10 bar
Suction lift	Max. 1 m, including inlet-pipe pressure loss at a liquid temperature of 20 °C
Liquid temperature	0-60 °C
Ambient temperature	-20 to +55 °C
Relative humidity	Max. 95 %
Enclosure class	IP55
Insulation class	F
Sound pressure level	The sound pressure level of the pump is below 55 dB(A)
Supply voltage	1 × 200-240 V, 50/60 Hz
Start/stop frequency	Max. 100 per hour
Cut-in pressure	0.5 bar below setpoint

2.6 Electrical data

The values below are for one-pump operation.

Pump type	Voltage [V]	Max. rated current [A]	P1 [W]
CMBE TWIN 3-62	1 × 200-240	6.7	1210
CMBE TWIN 3-93	1 × 200-240	9.1	1720
CMBE TWIN 5-62	1 × 200-240	9.1	1720

For plug type, see the section on type key

Related information

[1.4 Type key](#)

2.7 Approvals

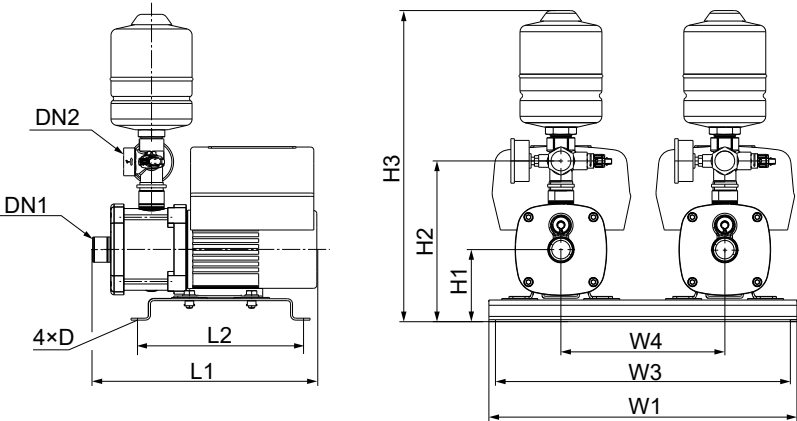
For further information regarding product approvals, visit Grundfos Product Center: <https://product-selection.grundfos.com/>

2.8 Wetted parts

The table below specifies the parts of the pump that are in contact with the pumped liquid.

Designation	Material	Technical description
Pump sleeve	Stainless steel	EN 1.4301 AISI 304
Impeller	Stainless steel	EN 1.4301 AISI 304
Diffuser	Technopolymer	PP 20 % Talc
Ejector	Technopolymer	PPE/PS 20 % GF
Nozzle	Stainless steel	EN 1.4301 AISI 304
Shaft	Stainless steel	EN 1.4301 AISI 304
Shaft seal	Carbon with resin/ceramic	AVBE
Filling plug	Technopolymer	PES 30 % GF
Drain plug	Technopolymer	PES 30 % GF
Expansion tank (grey)	Butyl	Diaphragm
Expansion tank (green)	Butyl	Diaphragm

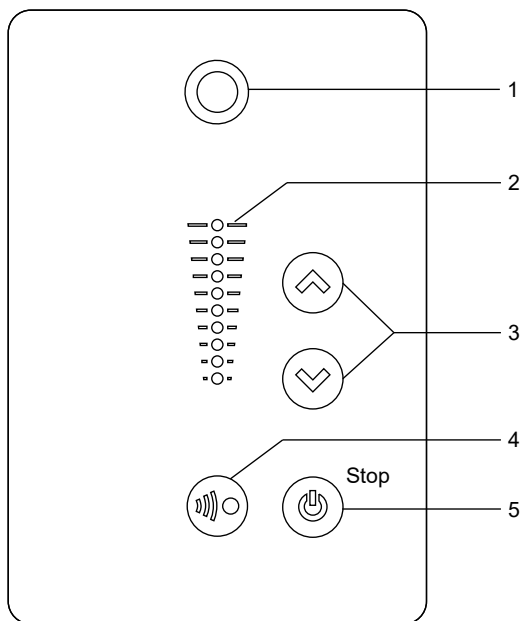
2.9 Dimensional drawings



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Pump type	L1 [mm]	L2 [mm]	W1 [mm]	W3 [mm]	W4 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	D [mm]	DN1 [inch]	DN2 [inch]
CMBE TWIN 3-62	344	250	475	410	250	110	235	485	10	Rp 1	Rp 1
CMBE TWIN 3-93	404	250	475	410	250	125	250	495	10	Rp 1	Rp 1
CMBE TWIN 5-62	350	250	475	410	250	125	250	495	10	Rp 1 1/4	Rp 1

2.10 Standard operating panel



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Pos.	Symbol	Description
1		Grundfos Eye: The indicator light shows the operating status of the product.
2	-	Light fields for indication of the setpoint
3		Up/Down: The buttons change the setpoint.
4		Radio communication: The button enables radio communication with the Grundfos GO and other products of the same type.
5		Start/Stop: Press the button to make the product mandatory-ready for operation or to start and stop the product. Start: If you press the button when the product is stopped, the product starts if no other functions with higher priority have been enabled. Stop: If you press the button when the product is running, the product always stops. When you press the button, the stop icon appears at the bottom of the display.

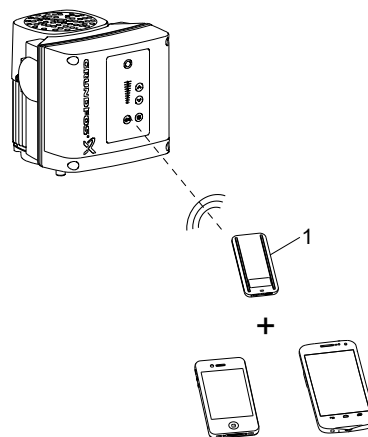
2.11 Grundfos GO

The product is designed for wireless radio communication with Grundfos GO.

Grundfos GO enables you to set functions and gives you access to status overviews, technical product information and current operating parameters.

Use Grundfos GO together with the following mobile interface:

Grundfos MI 301.



TM068256

Pos. Description

- 1 Grundfos MI 301 is a separate module enabling radio communication. Use the module together with an Android or iOS-based smart device via a Bluetooth connection.

To learn more about MI 301, use your smart device to scan the QR codes below:

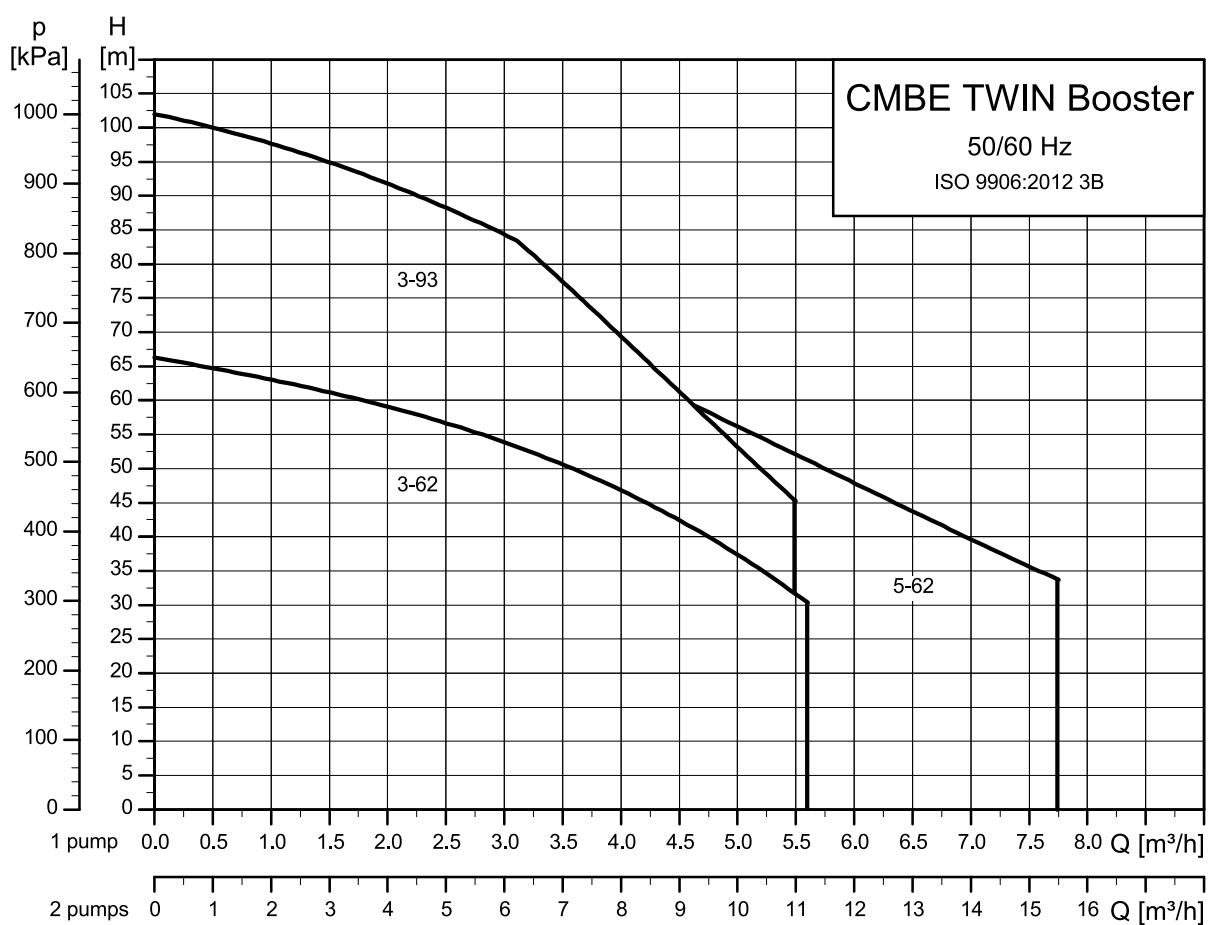
Grundfos MI 301 Installation and operating instructions



Grundfos MI 301 Quick guide



2.12 Performance curves



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3. CMBE

CMBE Booster



TM085108

CMBE Booster

3.1 Applications

The compact Grundfos CMBE Booster is suitable for clean water supply and pressure boosting in domestic and light commercial applications.

The CMBE Booster keeps a constant pressure in the pipe system and is mainly used in places such as:

Application	CMBE 1	CMBE 3	CMBE 5	CMBE 10
Single-family houses	•	•	○	○
Two-family houses	○	•	•	•
Cluster homes		•	•	•
Blocks of flats		•	•	•
Schools		•	•	•
Small hotels/guest houses		•	•	•
Small office buildings		•	•	•
Agriculture		○	•	•
Irrigation		○	•	•

- Recommended
- Applicable

3.2 Product description

The Grundfos CMBE booster is a compact booster system for water supply in domestic applications. The integrated speed controller enables the CMBE booster to keep constant pressure in the pipe system. A pressure sensor monitoring changes in the water consumption signals the speed controller to change motor speed to adapt performance to the new state.

The CMBE booster is very easy to install. When the system has been connected to the pipes, it is all a matter of inserting the plug into a power supply socket, and the system is operational.

The CMBE booster consists of the following:

- CME pump with integrated frequency converter
- five-way valve
- expansion tank (green or grey depending on the local drinking water legislation)
- outlet pressure gauge
- outlet pressure sensor
- inlet pressure switch (optional)
- inlet pressure gauge (optional).

The Grundfos CMBE booster requires no external motor protection.

The MGE motor incorporates thermal protection against slow overloading and blocking (IEC 34.11: TP 211).

The Grundfos CMBE booster is mainly used for domestic and light commercial water supply or booster systems.

Suction lift: maximum 1 m, including inlet pipe pressure loss at a liquid temperature of 20 °C (not self-priming).

3.3 Motor

No external motor protection is required. The MGE motor incorporates thermal protection against slow overloading and blocking (TP 211 according to IEC 34.11).

3.3.1 Features

- Premium efficiency IE5 motors
- constant pressure, integrated speed control
- resistant to corrosion
- frequency controller: Up to 40 % energy savings
- compact and fully equipped
- low noise level: 55 dB(A)
- user-friendly interface with LED indicators
- dry-running protection
- thermal overload protection: built-in thermal protection
- easy installation.

3.3.2 Constant pressure

The integrated speed controller keeps a constant pressure in the pipe system. A pressure sensor monitors changes in the water consumption and signals to the speed controller to adjust the motor speed up or down.

3.3.3 Dry-running protection

Dry-running protection is very important as dry running may damage the bearings and shaft seals. The inlet pressure of the system or the water level in a possible tank on the inlet side is monitored. Lack of inlet pressure or water shortage is indicated by the motor speed. When dry running is detected, the CMBE Booster will stop and go into alarm mode. The pump will attempt 5 restarts at 10 second intervals. If there is no water shortage, it will attempt 8 restarts at 5 minute intervals. If this is not successful, the cycle will be repeated after 24 hours.

3.3.3.1 Inlet pressure monitoring

In some regions, it is only allowed to connect pumps directly to the water source, e.g. municipality water mains, when the supplied inlet pressure is above a certain level. When the water inlet pressure is below the required level, the pump must be switched off to protect the supplying pressure network from unstable water pressure.

3.3.4 Easy installation

The booster is easy to install. When the booster has been connected to the pipes, it is all a matter of plugging the plug into a socket, and the system is operational.

Please ensure that you follow the relevant codes of practice for drinking water installations.

3.4 Operating conditions

System pressure	Max. 10 bar
Suction lift	Max. 1 m, including inlet-pipe pressure loss at a liquid temperature of 20 °C
Liquid temperature	0-60 °C
Ambient temperature	-20 to +55 °C
Relative humidity	Max. 95 %
Enclosure class	IP55
Insulation class	F
Sound pressure level	The sound pressure level of the pump is below 55 dB(A)
Supply voltage	1 × 200-240 V, 50/60 Hz
Start/stop frequency	Max. 100 per hour
Cut-in pressure	0.5 bar below setpoint

3.5 Electrical data

1-phase

Pump type	Voltage [V]	Max. rated current [A]	P1 [W]
CMBE 1-44	1 × 200-240	3.45	615
CMBE 1-75	1 × 200-240	6.7	998
CMBE 3-30	1 × 200-240	6.7	684
CMBE 3-62	1 × 200-240	6.7	1210
CMBE 3-93	1 × 200-240	9.1	1720
CMBE 5-62	1 × 200-240	9.1	1720
CMBE 10-54	1 × 200-240	9.1	1710

For plug type, see the section on type key.

Related information

[1.4 Type key](#)

3.6 Approvals

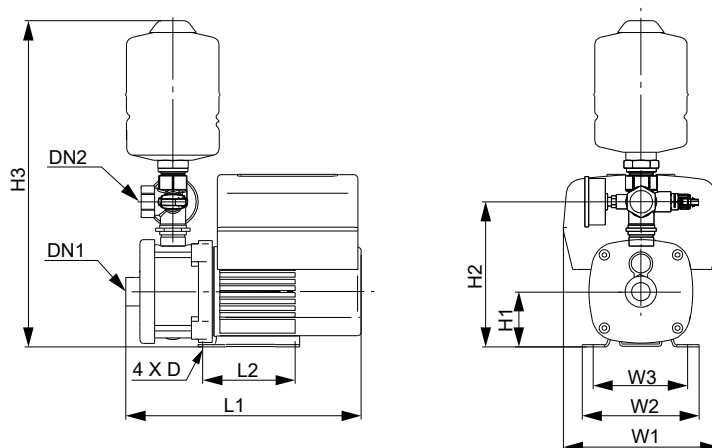
For further information regarding product approvals, visit Grundfos Product Center: <https://product-selection.grundfos.com/>

3.7 Wetted parts

The table below specifies the parts of the pump that are in contact with the pumped liquid.

Designation	Material	Technical description
Pump sleeve	Stainless steel	EN 1.4301 AISI 304
Impeller	Stainless steel	EN 1.4301 AISI 304
Diffuser	Technopolymer	PP 20 % Talc
Ejector	Technopolymer	PPE/PS 20 % GF
Nozzle	Stainless steel	EN 1.4301 AISI 304
Shaft	Stainless steel	EN 1.4301 AISI 304
Shaft seal	Carbon with resin/ceramic	AVBE
Filling plug	Technopolymer	PES 30 % GF
Drain plug	Technopolymer	PES 30 % GF
Expansion tank (grey)	Butyl	Diaphragm
Expansion tank (green)	Butyl	Diaphragm

3.8 Dimensional drawings



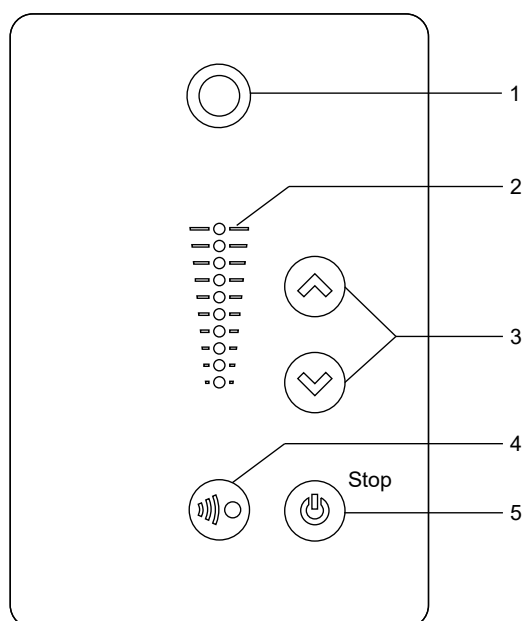
TM083212

Pump type	L1 [mm]	L2 [mm]	W1 [mm]	W2 [mm]	W3 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	D [mm]	DN1 [inch]	DN2 [inch]
CMBE 1-44	326	95	217	158	125	75	200	440	10	Rp 1	Rp 1
CMBE 1-75	362	95	217	158	125	75	200	440	10	Rp 1	Rp 1
CMBE 3-30	326	95	217	158	125	75	200	440	10	Rp 1	Rp 1
CMBE 3-51	326	95	217	158	125	75	200	440	10	Rp 1	Rp 1
CMBE 3-62	344	95	217	158	125	75	200	440	10	Rp 1	Rp 1
CMBE 3-93	404	125	217	178	148	90	215	455	10	Rp 1	Rp 1
CMBE 5-62	350	125	217	178	148	90	215	455	10	Rp 1 1/4	Rp 1
CMBE 10-54	380	125	212	178	140	90	263	509	10	Rp 1 1/2	Rp 1 1/2

3.9 Materials

Designation	Material
Terminal box	Composite PC/ASA and silumin (Alu)
Stator housing	Silumin (Alu)
Fan cover	Composite PBT/PC
Pump housing	Stainless steel, EN 1.4301/AISI 304
Shaft and impeller	Stainless steel, EN 1.4301/AISI 304
Flange	Cast iron

3.10 Standard operating panel



TM054848

Pos.	Symbol	Description
1		Grundfos Eye: The indicator light shows the operating status of the product.
2	-	Light fields for indication of the setpoint
3		Up/Down: The buttons change the setpoint.
4		Radio communication: The button enables radio communication with the Grundfos GO and other products of the same type. Start/Stop: Press the button to make the product mandatory-ready for operation or to start and stop the product.
5		Start: If you press the button when the product is stopped, the product starts if no other functions with higher priority have been enabled. Stop: If you press the button when the product is running, the product always stops. When you press the button, the stop icon appears at the bottom of the display.

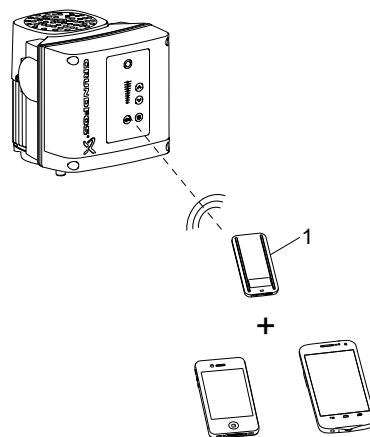
3.11 Grundfos GO

The product is designed for wireless radio communication with Grundfos GO.

Grundfos GO enables you to set functions and gives you access to status overviews, technical product information and current operating parameters.

Use Grundfos GO together with the following mobile interface:

Grundfos MI 301.



TM066256

Pos. Description

- 1 Grundfos MI 301 is a separate module enabling radio communication. Use the module together with an Android or iOS-based smart device via a Bluetooth connection.

To learn more about MI 301, use your smart device to scan the QR codes below:

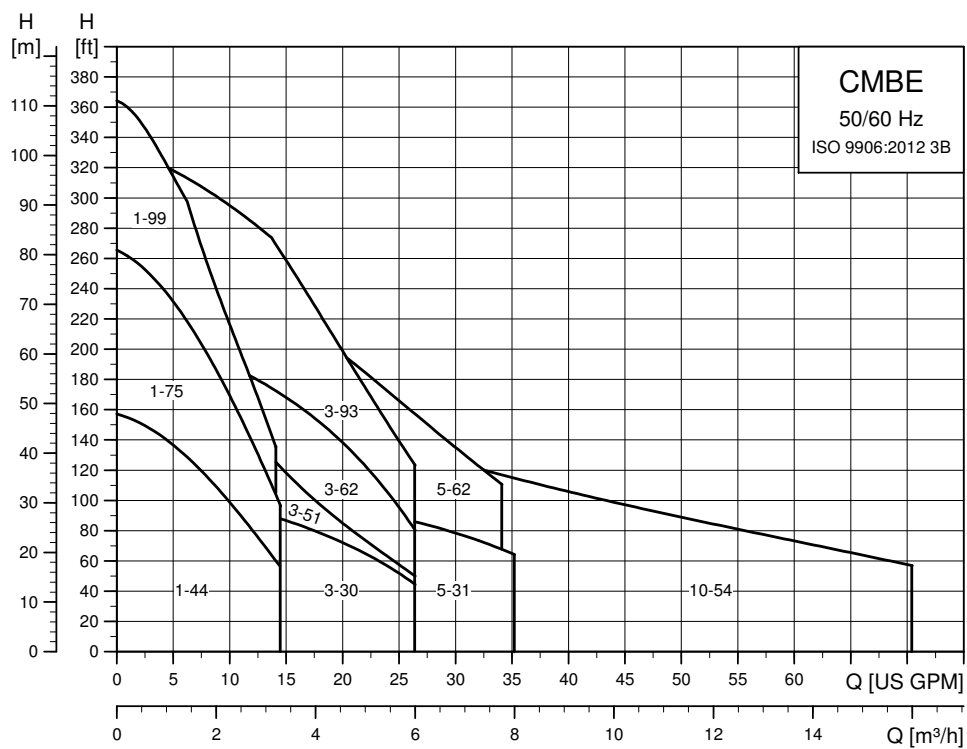
Grundfos MI 301 Installation and operating instructions



Grundfos MI 301 Quick guide



3.12 Performance curves



TM090716

4. CMB-SP PM PLUS



CMB-SP PM PLUS

Grundfos CMB-SP PM PLUS is a compact booster solution for water supply in domestic applications. The unit consists of a Grundfos CM self-priming pump and a Grundfos PM PLUS pressure manager. The pressure manager enables the pump to start and stop automatically based on water demand and protects it against dry running. Additional features include automatic restart after dry running and adjustable start pressure.

CMB-SP PM PLUS can create a suction lift of up to 4 metres and is very easy to install. When the system has been connected to the pipes, it is all a matter of inserting the plug into a power supply socket, and the system is operational.

CMB-SP PM PLUS is mainly used for domestic and light commercial water supply or booster systems.

4.1 Applications

The product is mainly used for domestic and light commercial water supply or booster systems.

Application	CMB 3	CMB 5
Single-family houses	●	○
Two-family houses	●	●
Cluster homes	●	●
Blocks of flats	●	●
Schools	●	●
Small hotels/guest houses	●	●
Small office buildings	●	●

● Recommended

○ Applicable

4.2 Motor

CM Booster pumps have built-in current- and temperature-dependent motor protection in accordance with IEC 60034-11 and require no further motor protection.

4.3 Features

- Compact
- easy installation
- self-priming up to 4 metres
- dry-running protection
- maximum continuous operating time.

4.4 Operating conditions

System pressure	Max. 10 bar
Suction lift (H ₂)	0 < H ₂ ≤ 4 m (standard version) Including inlet-pipe pressure loss at a liquid temperature of 20 °C
Liquid temperature	0-40 °C
Ambient temperature	-20 to +50 °C
Relative humidity	Max. 95 %
Enclosure class	IP55
Insulation class	F
Sound pressure level	The sound pressure level of the pump is below 55 dB(A) ⁴⁾
Supply voltage	1 × 220-240 V, 50 Hz
Start/stop frequency	Max. 60 per hour
Cut-in pressure	1.5 - 3 bar (adjustable)

4) During priming the sound level may be higher

4.5 Electrical data

Pump type	Voltage [V]	Max. rated current [A]	P1 [W]
CMB-SP 3-27	1 × 220-230	3.3	688
CMB-SP 3-37	1 × 220-230	3.3	587
CMB-SP 3-47	1 × 220-230	3.3	669
CMB-SP 3-56	1 × 220-240	4.4	867
CMB-SP 5-28	1 × 220-230	3.3	684
CMB-SP 5-47	1 × 220-240	5.4	1170

For plug type, see the the section on type key.

Related information

[1.4 Type key](#)

4.6 Approvals

For further information regarding product approvals, visit Grundfos Product Center: <https://product-selection.grundfos.com/>

4.7 Self-priming CMB-SP pumps

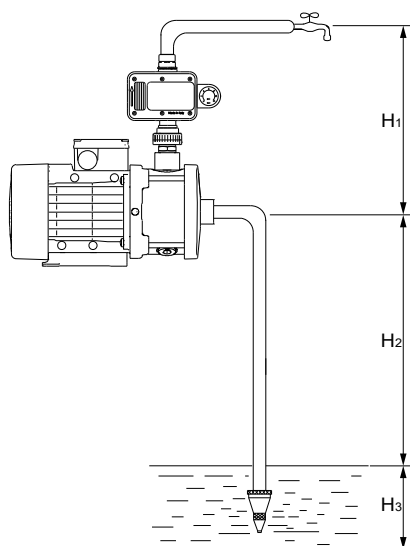
Ensure that there is no air in the pipe system, and that the pump is primed before startup.

The height from the centre of the inlet port to the first tapping point (H_1) must be observed. For more details on product curves, go to <https://product-selection.grundfos.com/>

The maximum suction lift (H_2) is 4 metres

The inlet pipe must be at least 0.5 metres below the liquid level (H_3).

For optimum suction capability, the pump must be located near the well or tank to ensure that the inlet pipe is as short as possible. This will reduce the self-priming time, especially in case of a high suction lift.



TM091310

Pipe connection example

4.8 Wetted parts

The tables below specifies the parts of the product that are in contact with the pumped liquid.

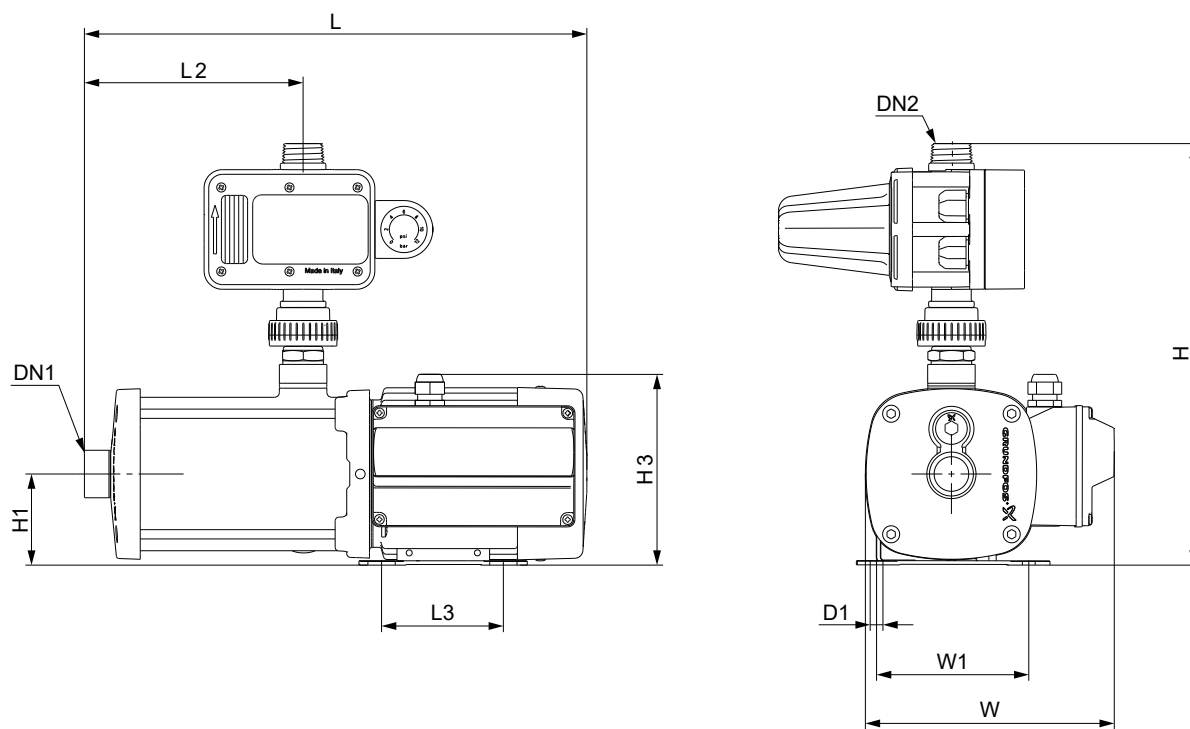
Pump

Designation	Material	Technical description
Pump sleeve	Stainless steel	EN 1.4301 AISI 304
Impeller	Stainless steel	EN 1.4301 AISI 304
Diffuser	Technopolymer	PP 20 % Talc
Ejector	Technopolymer	PPE/PS 20 % GF
Nozzle	Stainless steel	EN 1.4301 AISI 304
Shaft	Stainless steel	EN 1.4301 AISI 304
Shaft seal	Carbon with resin/ceramic	AVBE
Filling plug	Technopolymer	PES 30 % GF
Drain plug	Technopolymer	PES 30 % GF

PM PLUS

Designation	Material	Technical description
Body	Composite	PA6 GF 30%
Magnet holder	Composite	PA6 GF 30%
Magnet cup	Composite	PA6 GF 30%
Check valve	Composite	PA6 GF 30%
Flow valve/seat	Brass	UNI EN 12164 CW614N
Reed support		PA6 GB 30%
Magnet	Strontium ferrite	
Diaphragm	EPDM	
O ring	EPDM	

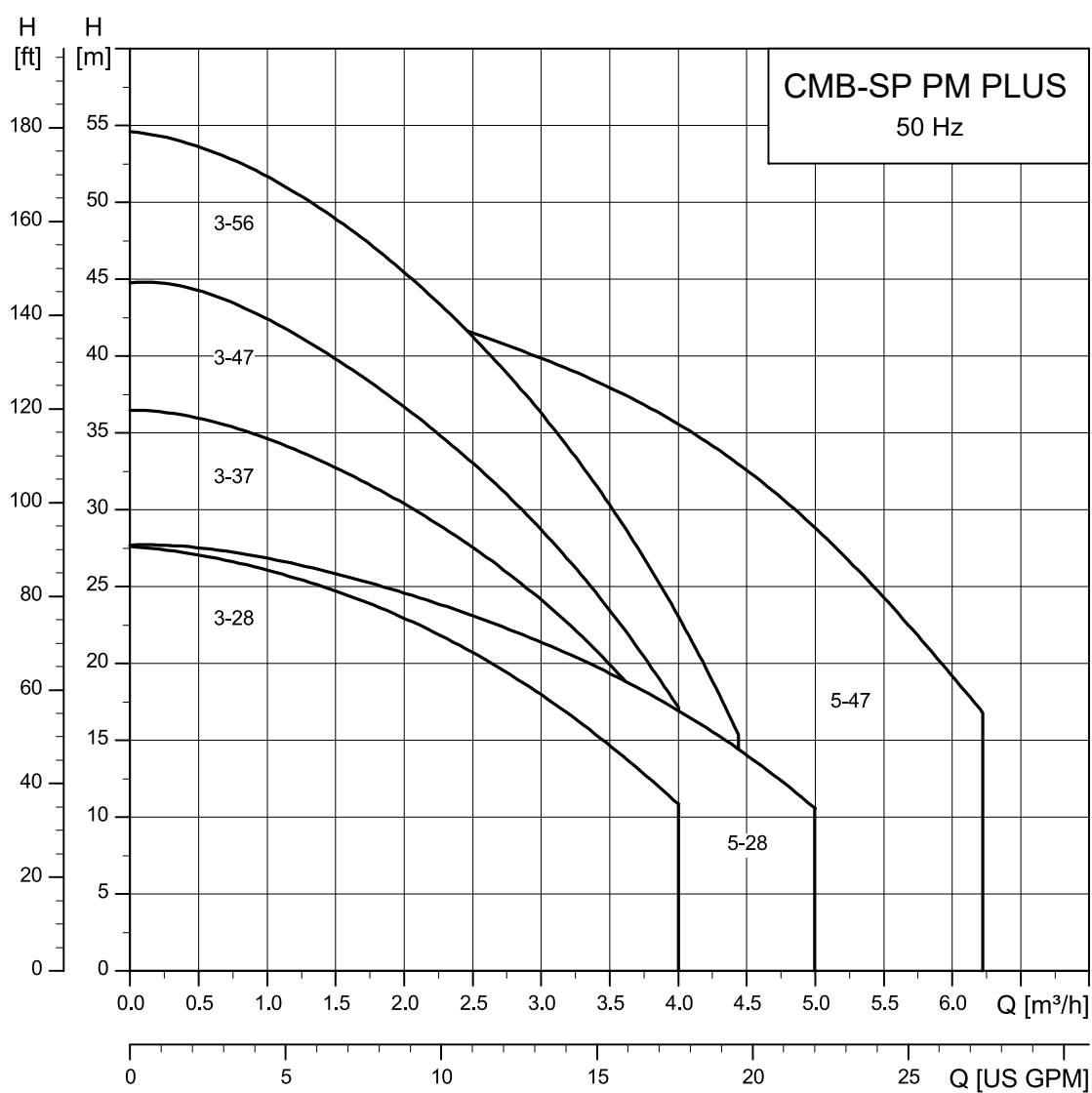
4.9 Dimensional drawing



TM090569

Pump type	L [mm]	L2 [mm]	L3 [mm]	W [mm]	W1 [mm]	H [mm]	H1 [mm]	H3 [mm]	D1 [mm]	DN1	DN2
CMB-SP 1-36	377	125	125	220	100	301	75	158	10	Rp 1	G 1
CMB-SP 3-28	377	144	125	221	100	317	75	158	10	Rp 1	G 1
CMB-SP 3-37	377	144	125	221	100	317	75	158	10	Rp 1	G 1
CMB-SP 3-47	413	180	125	221	100	317	75	158	10	Rp 1	G 1
CMB-SP 3-56	453	180	125	221	100	317	75	158	10	Rp 1	G 1
CMB-SP 5-28	377	144	125	221	100	317	75	158	10	Rp 1	G 1
CMB-SP 5-47	453	180	125	221	100	317	75	158	10	Rp 1	G 1

4.10 Performance curves



TM090922

5. CMB PM PLUS



CMB PM PLUS

Grundfos CMB PM PLUS is a compact booster set for water supply in domestic applications. The pressure booster unit consists of a Grundfos CM pump and a Grundfos PM PLUS pressure manager. The pressure manager allows the pump to start and stop automatically according to demand and protects the pump from dry running. It also features automatic restart after dry running and adjustable start pressure.

CMB PM PLUS offers easy and quick installation: When the booster has been connected to the pipes, it is all a matter of plugging the plug into a socket, and the system is operational.

CMB PM PLUS is mainly used for domestic and light commercial water supply or booster systems.

5.1 Applications

Grundfos CM PM 2 Booster is mainly used for domestic and light commercial water supply or booster systems.

Application	CMB 5
Single-family houses	○
Two-family houses	•
Cluster homes	•
Blocks of flats	•
Schools	•
Small hotels/guest houses	•
Small office buildings	•

• Recommended

○ Applicable

5.2 Motor

CM Booster pumps have built-in current- and temperature-dependent motor protection in accordance with IEC 60034-11 and require no further motor protection.

5.3 Features

- Compact
- easy installation
- automatic resetting of alarms
- dry-running protection
- anticycling (leakage detection)
- maximum continuous operating time.

5.4 Operating conditions

System pressure	Max. 10 bar.
Liquid temperature	0-40 °C
Ambient temperature	Max. +50 °C
	Min. -20 °C
Relative humidity	Max. 95 %
Enclosure class	IP55
Insulation class	F
Sound pressure level	The sound pressure level of the pump is below 55 dB(A) ⁵⁾
Supply voltage	1 × 220-240 V, 50 Hz
Start/stop frequency	Max. 60 per hour
Cut-in pressure	1.5 - 3 bar (adjustable)

⁵⁾ During priming, the sound level may be higher.

5.5 Electrical data

Pump type	Voltage [V]	Max. rated current [A]	P1 [W]
CMB 5-46	1 × 220-240	5.4	1160

For plug type, see the section on type key.

Related information

[1.4 Type key](#)

5.6 Approvals

For further information regarding product approvals, visit Grundfos Product Center: <https://product-selection.grundfos.com/>

5.7 Wetted parts

The tables below specifies the parts of the product that are in contact with the pumped liquid.

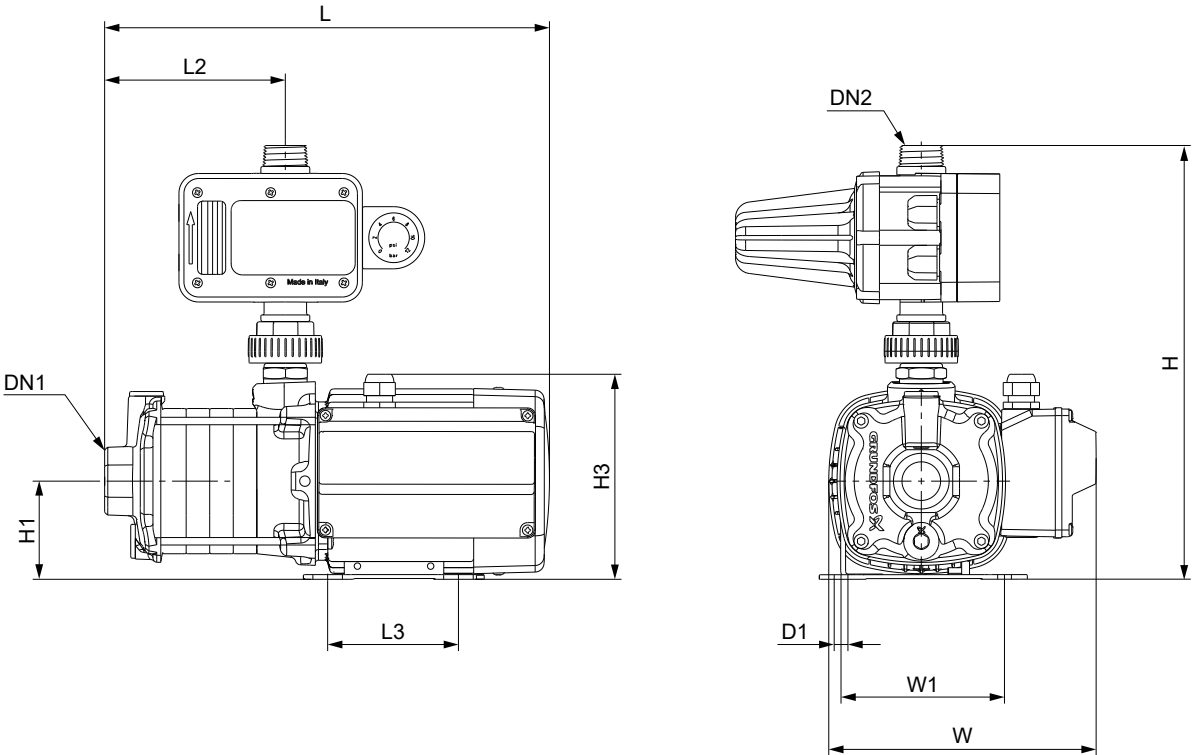
Pump

Designation	Material	Technical description
Pump sleeve	Stainless steel	EN 1.4301 AISI 304
Impeller	Stainless steel	EN 1.4301 AISI 304
Diffuser	Technopolymer	PP 20 % Talc
Ejector	Technopolymer	PPE/PS 20 % GF
Nozzle	Stainless steel	EN 1.4301 AISI 304
Shaft	Stainless steel	EN 1.4301 AISI 304
Shaft seal	Carbon with resin/ceramic	AVBE
Filling plug	Technopolymer	PES 30 % GF
Drain plug	Technopolymer	PES 30 % GF

PM PLUS

Designation	Material	Technical description
Body	Composite	PA6 GF 30%
Magnet holder	Composite	PA6 GF 30%
Magnet cup	Composite	PA6 GF 30%
Check valve	Composite	PA6 GF 30%
Flow valve/seat	Brass	UNI EN 12164 CW614N
Reed support		PA6 GB 30%
Magnet	Strontium ferrite	
Diaphragm	EPDM	
O ring	EPDM	

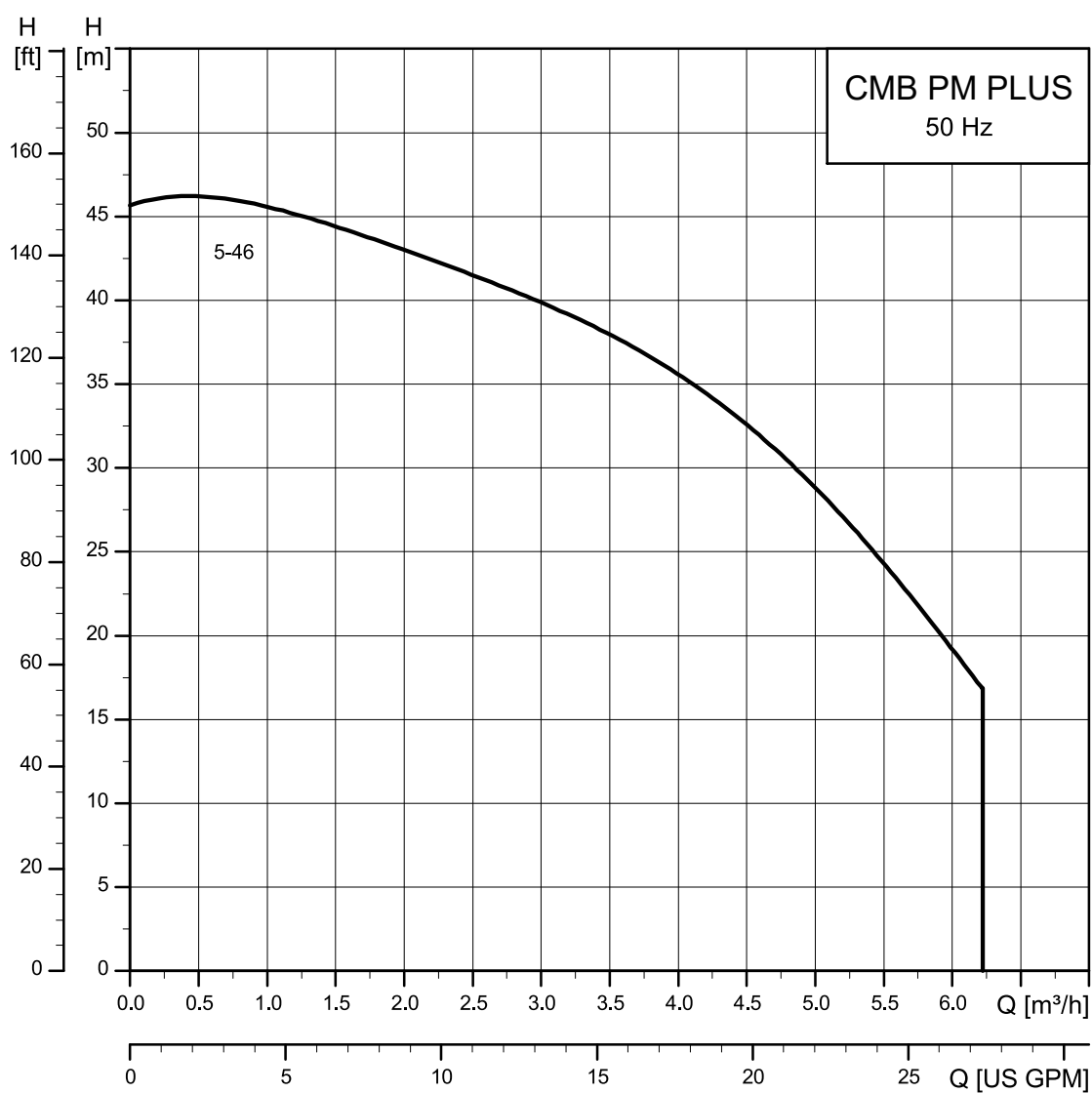
5.8 Dimensional drawing



TM090567

Pump type	L [mm]	L2 [mm]	L3 [mm]	W [mm]	W1 [mm]	H [mm]	H1 [mm]	H3 [mm]	D1 [mm]	DN1	DN2
Cast iron											
CMB 5-46	382	145	100	221	125	329	70	158	10	Rp 1 1/4	G 1

5.9 Performance curves



TM090921

For CMB PM PLUS, only 5-46 is applicable.

6. CMB-SP PM START



CMB-SP PM START

Grundfos CMB-SP PM START is a compact booster solution for water supply in domestic applications. The pressure booster unit consists of a Grundfos CM self-priming pump and a Grundfos PM START pressure manager. The pressure manager allows the pump to start and stop automatically according to demand and protects the pump from dry running.

CMB-SP PM START can create a suction lift of up to 4 metres and is very easy to install. When the system has been connected to the pipes, it is all a matter of inserting the plug into a power supply socket, and the system is operational.

CMB-SP PM START is mainly used for domestic and light commercial water supply or booster systems.

6.1 Applications

The product is mainly used for domestic and light commercial water supply or booster systems.

Application	CMB 3	CMB 5
Single-family houses	●	○
Two-family houses	●	●
Cluster homes	●	●
Blocks of flats	●	●
Schools	●	●
Small hotels/guest houses	●	●
Small office buildings	●	●

- Recommended
- Applicable

6.2 Motor

CM Booster pumps have built-in current- and temperature-dependent motor protection in accordance with IEC 60034-11 and require no further motor protection.

6.3 Features

- Compact
- easy installation
- self-priming up to 4 metres
- dry-running protection
- maximum continuous operating time.

6.4 Operating conditions

System pressure	Max. 10 bar.
Suction lift (H ₂)	0 < H ₂ ≤ 4 m (standard version) Including inlet-pipe pressure loss at a liquid temperature of 20 °C
Liquid temperature	0-40 °C
Ambient temperature	-20 to +50 °C
Relative humidity	Max. 95 %
Enclosure class	IP55
Insulation class	F
Sound pressure level	The sound pressure level of the pump is below 55 dB(A) Note: During priming the sound level may be higher.
Supply voltage	1 × 220-240 V, 50 Hz
Start/stop frequency	Max. 60 per hour
Cut-in pressure	CMB PM START 1-15: 1.5 bar CMB PM START 1-22: 2.2 bar

6.5 Electrical data

Pump type	Voltage [V]	Max. rated current [A]	P1 [W]
CMB-SP 1-36	1 × 220-230	3.3	645

For plug type, see the section on type key.

Related information

[1.4 Type key](#)

6.6 Approvals

For further information regarding product approvals, visit Grundfos Product Center: <https://product-selection.grundfos.com/>

6.7 Self-priming CMB-SP pumps

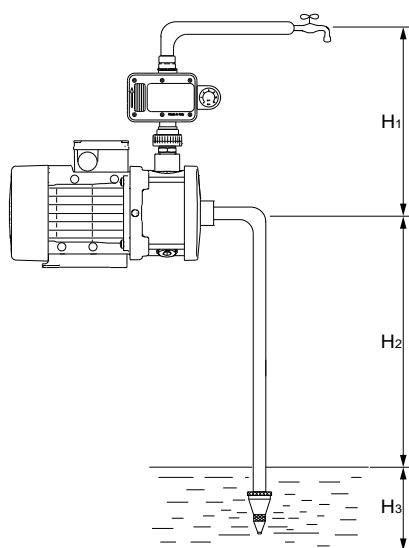
Ensure that there is no air in the pipe system, and that the pump is primed before startup.

The height from the centre of the inlet port to the first tapping point (H_1) must be observed. For more details on product curves, go to <https://product-selection.grundfos.com/>

The maximum suction lift (H_2) is 4 metres

The inlet pipe must be at least 0.5 metres below the liquid level (H_3).

For optimum suction capability, the pump must be located near the well or tank to ensure that the inlet pipe is as short as possible. This will reduce the self-priming time, especially in case of a high suction lift.



TM091310

Pipe connection example

6.8 Wetted parts

The tables below specifies the parts of the product that are in contact with the pumped liquid.

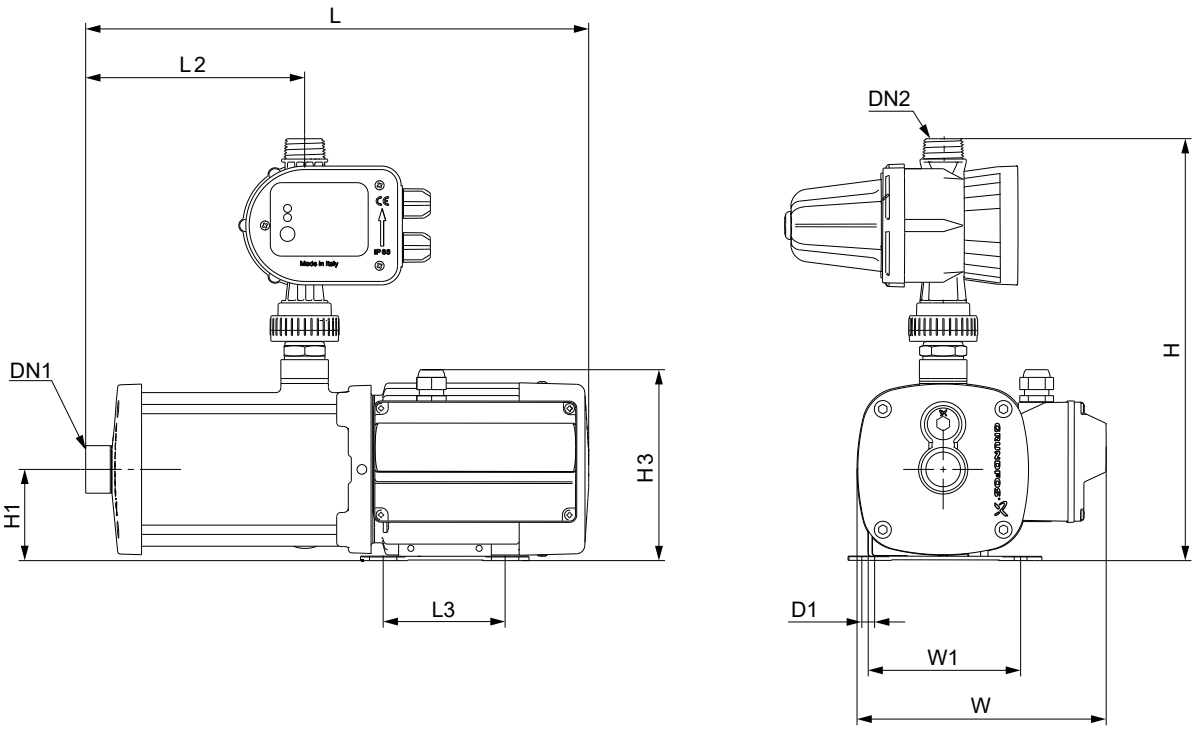
Pump

Designation	Material	Technical description
Pump sleeve	Stainless steel	EN 1.4301 AISI 304
Impeller	Stainless steel	EN 1.4301 AISI 304
Diffuser	Technopolymer	PP 20 % Talc
Ejector	Technopolymer	PPE/PS 20 % GF
Nozzle	Stainless steel	EN 1.4301 AISI 304
Shaft	Stainless steel	EN 1.4301 AISI 304
Shaft seal	Carbon with resin/ceramic	AVBE
Filling plug	Technopolymer	PES 30 % GF
Drain plug	Technopolymer	PES 30 % GF

PM START

Designation	Material	Technical description
Body	Composite	PA6 GF 30%
Flow valve/seat	Brass	UNI EN 12164 CW614N
Diaphragm	EPDM	
Magnet	Strontium ferrite	
Check valve	Composite	PA6 GF 30%
Magnet cap/holder shaft	Composite	PA6 GF 30%

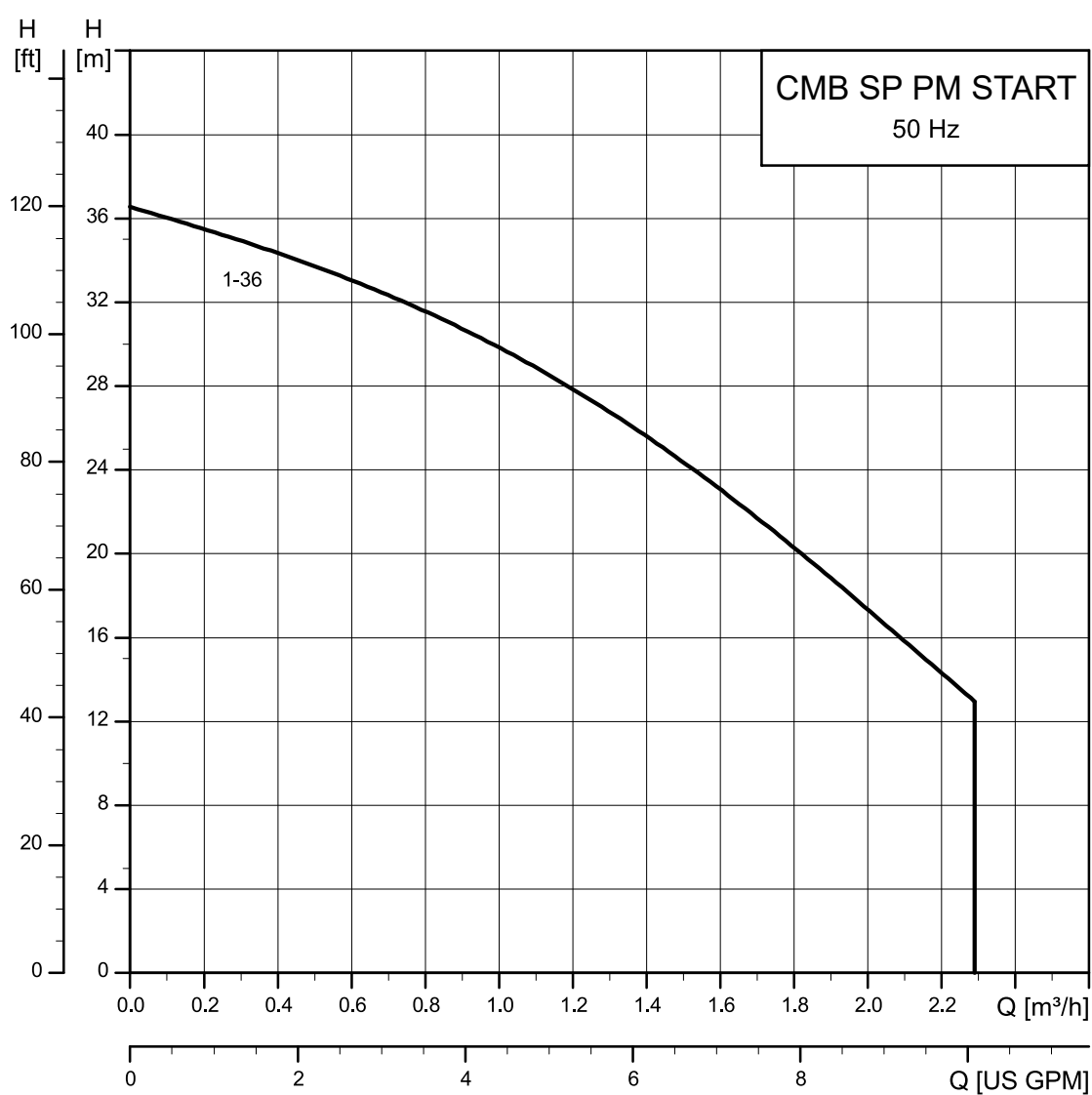
6.9 Dimensional drawing



TM090570

Pump type	L [mm]	L2 [mm]	L3 [mm]	W [mm]	W1 [mm]	H [mm]	H1 [mm]	H3 [mm]	D1 [mm]	DN1	DN2
CMB-SP 1-36	375	139	100	221	137	317	75	158	10	Rp 1	G 1

6.10 Performance curves



TM090923

7. CMB PM START



CMB PM START

Grundfos CMB PM START is a compact booster set for water supply in domestic applications. The pressure booster unit consists of a Grundfos CM pump and a Grundfos PM START pressure manager. The pressure manager allows the pump to start and stop automatically according to demand and protects the pump from dry running.

CMB PM START offers easy and quick installation: When the system has been connected to the pipes, it is all a matter of inserting the plug into a power supply socket, and the system is operational.

CMB PM START is mainly used for domestic and light commercial water supply or booster systems.

7.1 Applications

Grundfos CM PM 1 Booster is mainly used for domestic and light commercial water supply or booster systems.

Application	CMB 1	CMB 3	CMB 5
Single-family houses	●	●	○
Two-family houses	○	●	●
Cluster homes		●	●
Blocks of flats		●	●
Schools		●	●
Small hotels/guest houses		●	●
Small office buildings		●	●

● Recommended

○ Applicable.

7.2 Motor

CM pumps have built-in current- and temperature-dependent motor protection in accordance with IEC 60034-11 and require no further motor protection.

7.3 Features

- Compact
- easy installation
- dry-running protection.

7.4 Operating conditions

System pressure	Max. 10 bar
Liquid temperature	0-40 °C
Ambient temperature	-20 to +50 °C
Relative humidity	Max. 95 %
Enclosure class	IP55
Insulation class	F
Sound pressure level	The sound pressure level of the pump is below 55 dB(A).
Supply voltage	1 × 220-240 V, 50 Hz
Start/stop frequency	Max. 60 per hour
Cut-in pressure	PM START 1-15: 1.5 bar PM START 1-22: 2.2 bar

7.5 Electrical data

Pump type	Voltage [V]	Max. rated current [A]	P1 [W]
CMB 1-27	1 × 220-230	2.10	377
CMB 1-36	1 × 220-230	3.30	668
CMB 3-27	1 × 220-230	3.30	668
CMB 3-37	1 × 220-230	3.30	587
CMB 3-46	1 × 220-230	3.30	689
CMB 5-28	1 × 220-230	3.30	715
CMB 5-37	1 × 220-240	4.40	800
CMB 5-46	1 × 220-240	5.40	1160

For plug type, see the section on type key.

Related information

[1.4 Type key](#)

7.6 Approvals

For further information regarding product approvals, visit Grundfos Product Center: <https://product-selection.grundfos.com/>

7.7 Wetted parts

The tables below specifies the parts of the product that are in contact with the pumped liquid.

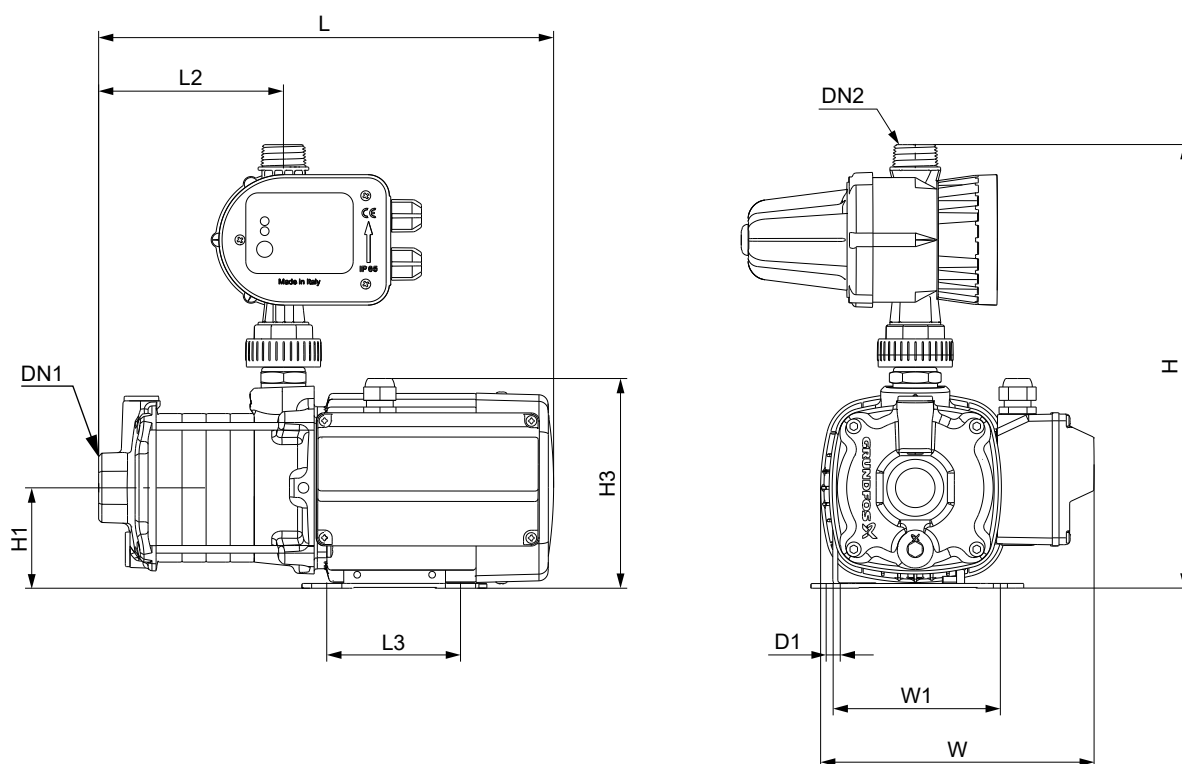
Pump

Designation	Material	Technical description
Pump sleeve	Stainless steel	EN 1.4301 AISI 304
Impeller	Stainless steel	EN 1.4301 AISI 304
Diffuser	Technopolymer	PP 20 % Talc
Ejector	Technopolymer	PPE/PS 20 % GF
Nozzle	Stainless steel	EN 1.4301 AISI 304
Shaft	Stainless steel	EN 1.4301 AISI 304
Shaft seal	Carbon with resin/ceramic	AVBE
Filling plug	Technopolymer	PES 30 % GF
Drain plug	Technopolymer	PES 30 % GF

PM START

Designation	Material	Technical description
Body	Composite	PA6 GF 30%
Flow valve/seat	Brass	UNI EN 12164 CW614N
Diaphragm	EPDM	
Magnet	Strontium ferrite	
Check valve	Composite	PA6 GF 30%
Magnet cap/holder shaft	Composite	PA6 GF 30%

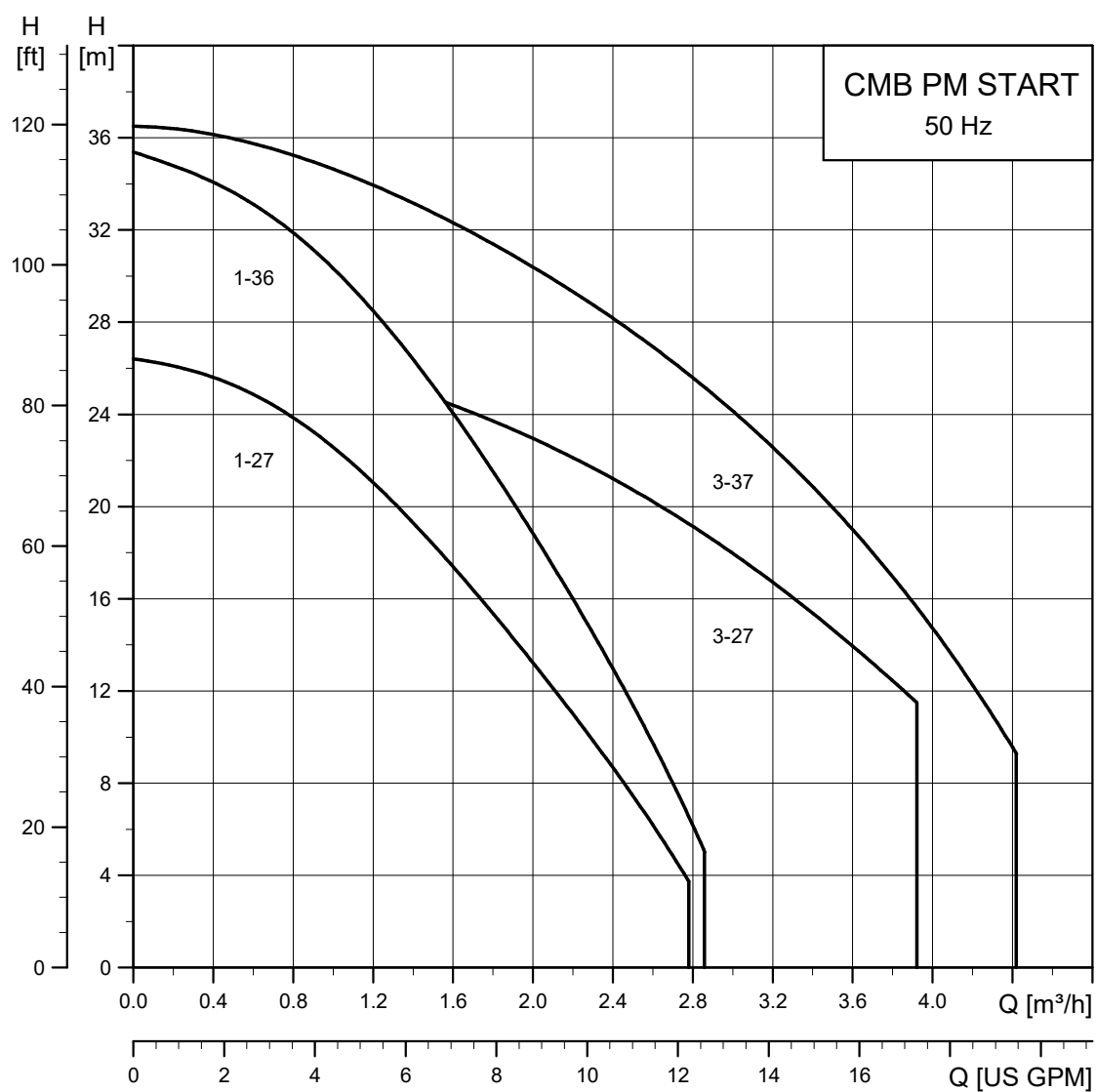
7.8 Dimensional drawings



TM090568

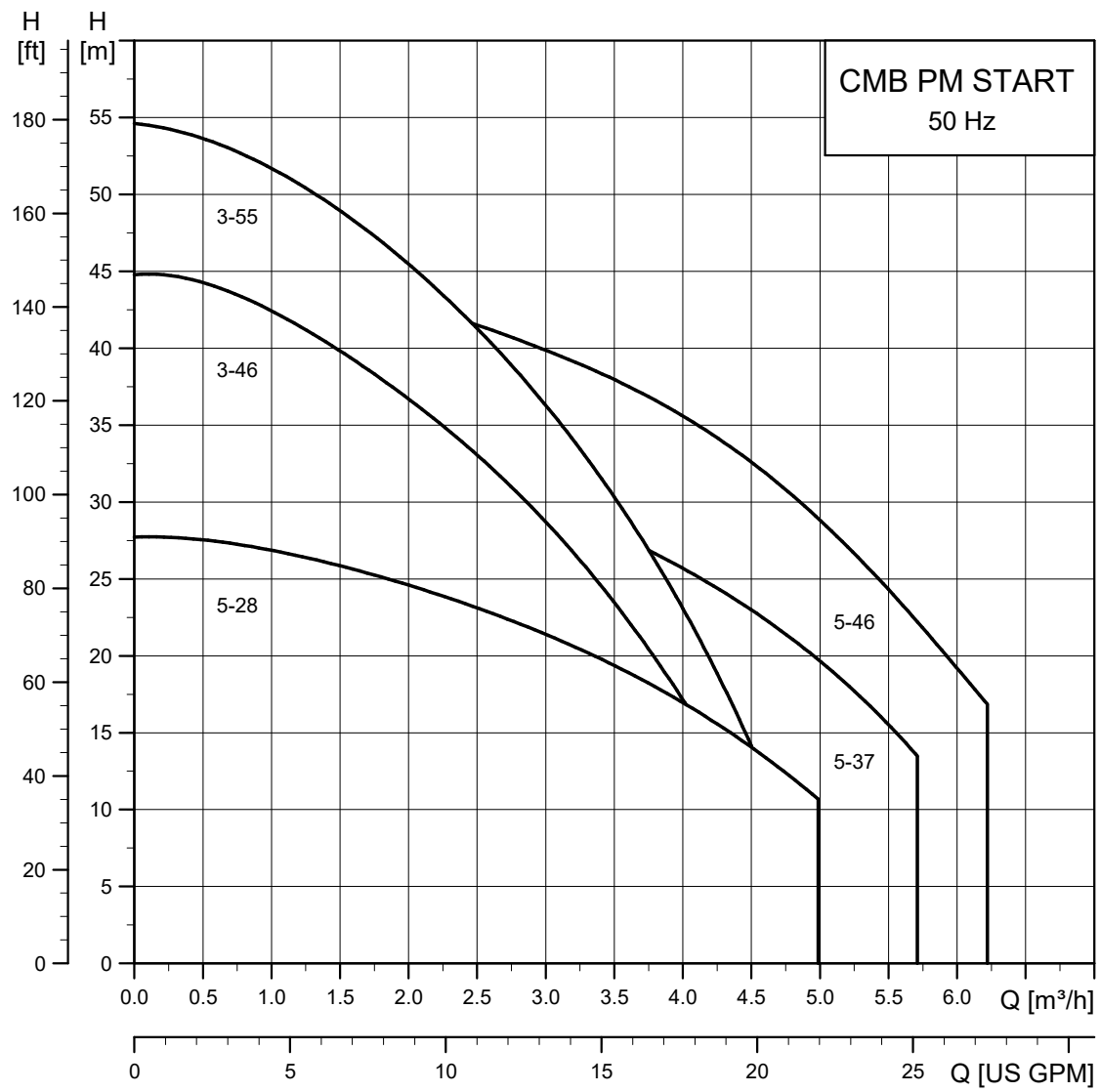
Pump	L [mm]	L2 [mm]	L3 [mm]	W [mm]	W1 [mm]	H [mm]	H1 [mm]	H3 [mm]	D1 [mm]	DN1	DN2
Cast Iron											
CMB 1-27	305	72	125	221	100	317	75	155	10	Rp 1	G 1
CMB 1-36	324	120	100	221	100	301	75	156	10	Rp 1	G 1
CMB 3-27	306	104	125	221	100	301	75	156	10	Rp 1	G 1
CMB 3-37	324	104	125	221	100	301	75	156	10	Rp 1	G 1
CMB 3-46	342	140	125	221	100	301	75	156	10	Rp 1	G 1
CMB 5-28	337	100	100	221	125	350	75	155	10	Rp 1 1/4	G 1
CMB 5-37	364	122	125	221	100	301	75	156	10	Rp 1 1/4	G 1
CMB 5-46	382	145	100	221	125	329	75	158	10	Rp 1 1/4	G 1

7.9 Performance curves



TM090920

CMB PM START 1.5 bar



TM091311

CMB PM START 2.2 bar

8. CMB PT

CM Booster pressure tank



CM Booster PT

The Grundfos CM PT Booster is an automatic booster system for water supply in domestic and agricultural applications as well as other installations where minor leakages are expected to occur. The booster system consists of a Grundfos CM pump, a pressure tank and a pressure switch assembled into one unit. The system is supplied ready for use with preset start pressure and corresponding tank precharge pressure. The pressure band is approximately 1 bar. The system is simple to install. When the system has been connected to the pipes, it is all a matter of inserting the plug into a power supply socket, and the system is operational.

The Grundfos CM PT Booster is mainly used for agricultural and light-commercial water supply and similar water installations where minor leakages can be expected.

Suction lift: maximum 1 m, including inlet pipe pressure loss at a liquid temperature of 20 °C (not self-priming).

8.1 Applications

The Grundfos CM PT Booster is mainly used for agricultural and light commercial water supply and similar water installations where minor leakages can be expected.

Application	CMB 3	CMB 5
Agriculture	●	●
Irrigation	●	●
Single-family houses	○	○
Two-family houses	○	○
Cluster homes	○	○
Blocks of flats	○	○
Schools	○	○
Small hotels or guest houses	○	○
Small office buildings	○	○

● Recommended

○ Applicable

8.2 Motor

Single-phase CM pumps incorporate current- and temperature-dependent motor protection according to IEC 60034-11 and require no external motor protection.

Three-phase CM pumps do not incorporate motor protection. The CM pumps require external motor protection.

8.3 Features

- Easy installation
- pressure switch
- pressure tank to minimise the number of pump starts
- motor protection
- automatic operation.

TM083348

8.4 Operating conditions

System pressure	Max. 10 bar
Suction lift	Max. 1 m, including inlet-pipe pressure loss at a liquid temperature of 20 °C
Liquid temperature	0-60 °C
Ambient temperature	-20 to +50 °C
Relative humidity	Max. 95 %
Enclosure class	IP44
Insulation class	F
Sound pressure level	The sound pressure level of the pump is below 55 dB(A)
Supply voltage	1 × 220-240 V, 50 Hz
Start/stop frequency	Max. 60 per hour
Cut-in pressure	1.5 bar

8.5 Electrical data

Vertical tank, 1 × 220-240 V, 50 Hz

Pump type	Voltage [V]	Max. rated current [A]	P1 [W]
CMB 3-37	1 × 220-230	3.30	587
CMB 3-43	1 × 220-230	3.30	690
CMB 5-37	1 × 220-240	4.4	925
CMB 5-46	1 × 220-240	5.4	1160

For plug type, see the section on type key.

Related information

[1.4 Type key](#)

8.6 Approvals

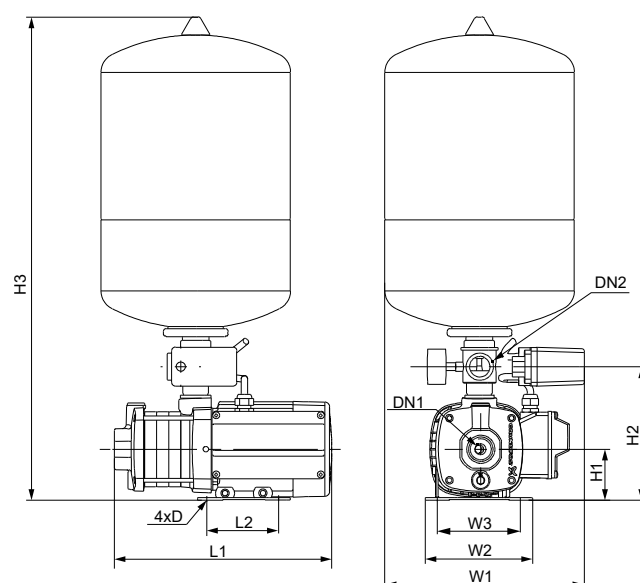
For further information regarding product approvals, visit Grundfos Product Center: <https://product-selection.grundfos.com/>

8.7 Wetted parts

The table below specifies the parts of the pump that are in contact with the pumped liquid.

Designation	Material	Technical description
Pump sleeve	Stainless steel	EN 1.4301 AISI 304
Impeller	Stainless steel	EN 1.4301 AISI 304
Diffuser	Technopolymer	PP 20 % Talc
Ejector	Technopolymer	PPE/PS 20 % GF
Nozzle	Stainless steel	EN 1.4301 AISI 304
Shaft	Stainless steel	EN 1.4301 AISI 304
Shaft seal	Carbon with resin/ceramic	AVBE
Filling plug	Technopolymer	PES 30 % GF
Drain plug	Technopolymer	PES 30 % GF
Expansion tank	Butyl	Diaphragm

8.8 Dimensional drawings

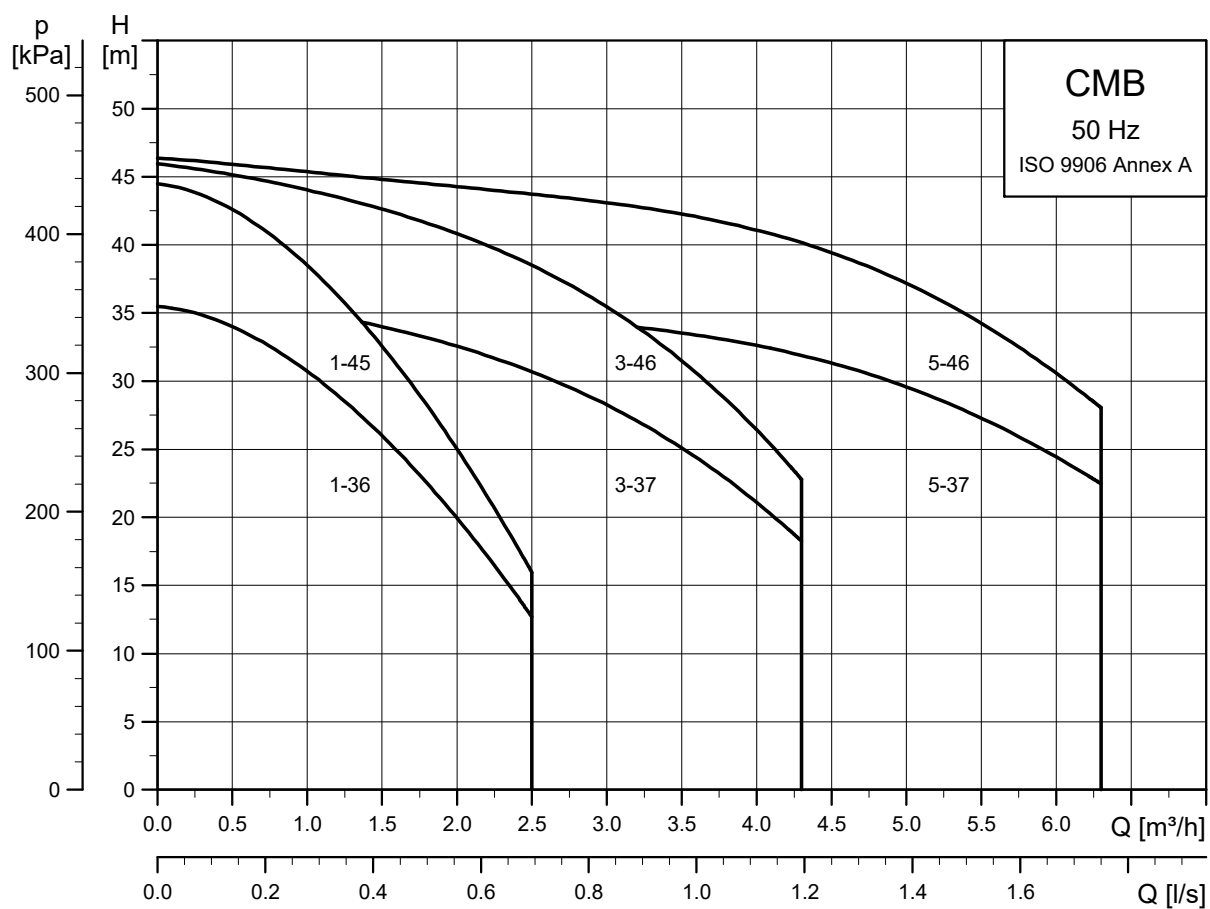


TM083206

CMB	Tank [L]	L1 [mm]	L2 [mm]	W1 [mm]	W2 [mm]	W3 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	D [mm]	DN1 [inch]	DN2 [inch]
CMB 3-37	18	324	125	289	137	100	75	195	585	10	Rp 1	R 1
CMB 3-46	18	342	125	289	137	100	75	195	585	10	Rp 1	Rp 1
CMB 5-37	18	364	125	289	137	100	75	195	585	10	Rp 1 1/4	R1
CMB 5-46	18	382	125	289	137	100	75	195	585	10	Rp 1 1/4	Rp 1

8.9 Performance curves

Vertical tank



TM054260

Pressure losses in fittings and hose are not included.

9. CMB PS

CM Booster with pressure switch



TM085166

CM Booster PS

The Grundfos CM PS Booster is an automatic booster system for water supply in domestic and agricultural applications as well as other installations where minor leakages are expected to occur. The booster system consists of a Grundfos CM pump, a five-way valve and a pressure switch. A pressure tank must be fitted to complete the booster system. Grundfos GT tanks make a perfect fit for your booster system. The pressure band is approximately 1 bar. When the system has been connected to the pipes, it is all a matter of inserting the plug into a power supply socket, and the system is operational.

The Grundfos CM PS Booster is mainly used for agricultural and light commercial water supply and similar water installations where minor leakages can be expected.

Suction lift: maximum 1 m, including inlet pipe pressure loss at a liquid temperature of 20 °C (not self-priming).

9.1 Applications

The Grundfos CM PS Booster is mainly used for agricultural and light commercial water supply and similar water installations where minor leakages can be expected.

9.2 Motor

Application	CMB 1	CMB 3	CMB 5	CMB 10
Agriculture	•	•	•	•
Irrigation	•	•	•	•
Single-family houses	○	○	○	○
Two-family houses	○	○	○	○
Cluster homes	○	○	○	○
Blocks of flats	○	○	○	○
Schools	○	○	○	○
Small hotels or guest houses	○	○	○	○
Small office buildings	○	○	○	○

• Recommended

○ Applicable

9.2.1 Single-phase motors

Single-phase CM pumps incorporate current- and temperature-dependent motor protection according to IEC 60034-11 and require no external motor protection.

9.3 Features

- Easy installation
- pressure switch
- motor protection
- automatic operation.

9.4 Operating conditions

System pressure	Max. 10 bar.
Suction lift	Max. 1 m, including inlet-pipe pressure loss at a liquid temperature of 20 °C
Liquid temperature	0-60 °C
Ambient temperature	-20 to +55 °C
Relative humidity	Max. 95 %
Enclosure class	IP44
Insulation class	F
Sound pressure level	The sound pressure level of the pump is below 62 dB(A).
Supply voltage	1 × 220-240 V, 50 Hz
Start/stop frequency	Max. 60 per hour
Cut-in pressure	1.5 bar

9.5 Electrical data

1 × 220-240 V, 50 Hz

Pump type	Voltage [V]	Max. rated current [A]	P1 [W]
CMB PS 1-36	1 × 220-230	2.10	436
CMB PS 3-37	1 × 220-230	3.30	587
CMB PS 5-47	1 × 220-240	8.20	1410
CMB PS 5-56	1 × 220-230	10.20	1410
CMB PS 5-75	1 × 220-230	10.20	1790
CMB PS 5-93	1 × 220-230	10.20	2130
CMB PS 10-47	1 × 220-230	10.20	2070

For plug type, see the section on type key.

Related information

[1.4 Type key](#)

9.6 Approvals

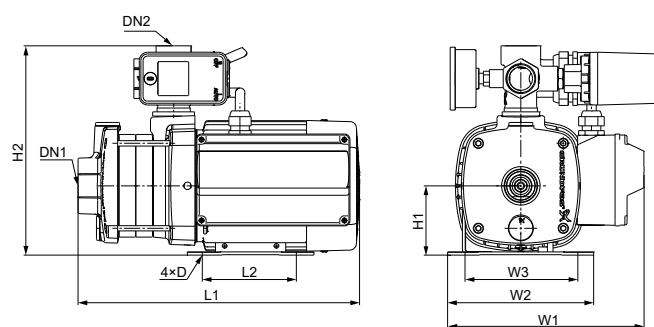
For further information regarding product approvals, visit Grundfos Product Center: <https://product-selection.grundfos.com/>

9.7 Wetted parts

The table below specifies the parts of the product that are in contact with the pumped liquid.

Designation	Material	Technical description
Pump sleeve	Stainless steel	EN 1.4301 AISI 304
Impeller	Stainless steel	EN 1.4301 AISI 304
Diffuser	Technopolymer	PP 20 % Talc
Ejector	Technopolymer	PPE/PS 20 % GF
Nozzle	Stainless steel	EN 1.4301 AISI 304
Shaft	Stainless steel	EN 1.4301 AISI 304
Shaft seal	Carbon with resin/ceramic	AVBE
Filling plug	Technopolymer	PES 30 % GF
Drain plug	Technopolymer	PES 30 % GF

9.8 Dimensional drawing

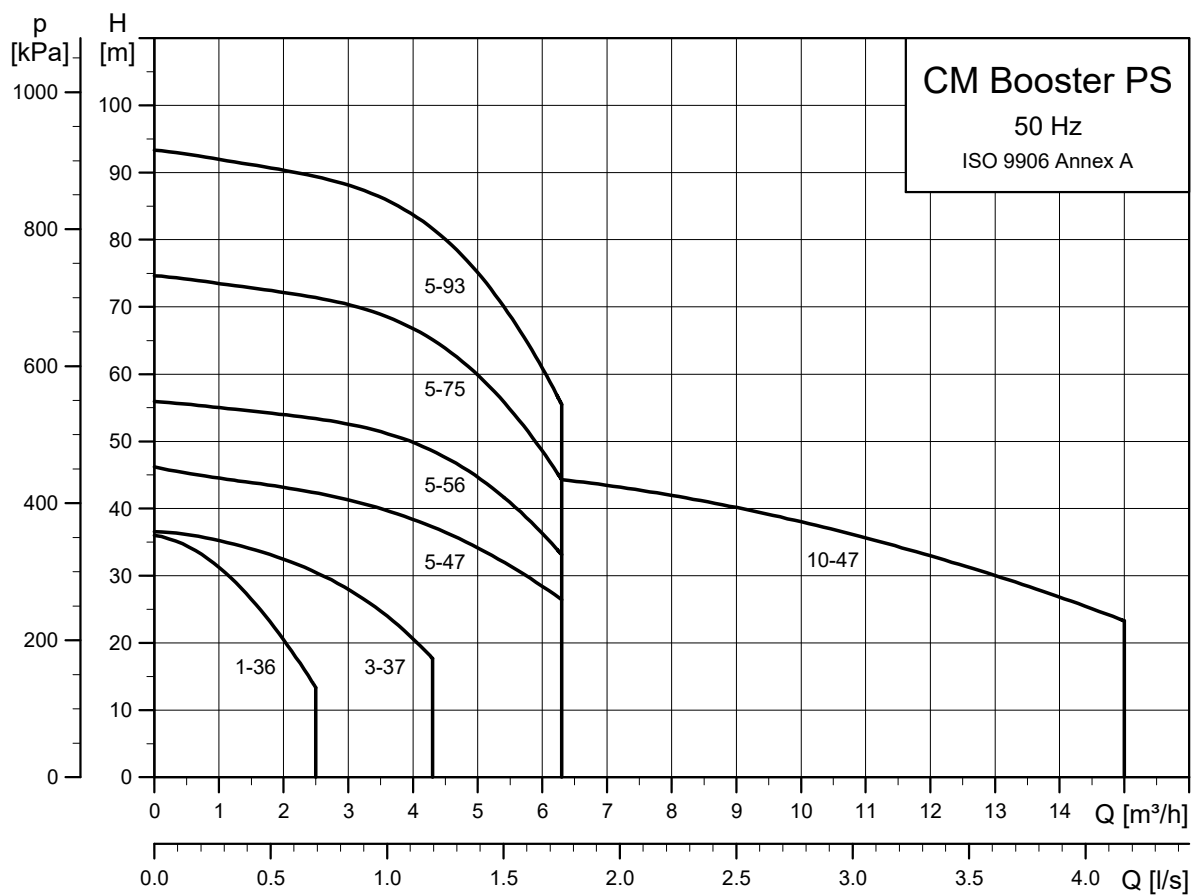


TM083207

1 × 220-240 V, 50 Hz

Pump type	L1 [mm]	L2 [mm]	W1 [mm]	W2 [mm]	W3 [mm]	H1 [mm]	H2 [mm]	D [mm]	DN1 [inch]	DN2 [inch]
CMB PS 1-36	323	125	210	137	100	75	208	10	Rp 1	Rp 1
CMB PS 3-37	323	150	210	158	125	75	208	10	Rp 1	Rp 1
CMB PS 5-47	381	167	210	158	125	75	208	10	Rp 1 1/4	Rp 1
CMB PS 5-56	469	245	210	178	140	90	223	10	Rp 1 1/4	Rp 1
CMB PS 5-75	545	280	237	178	140	90	223	10	Rp 1 1/4	Rp 1
CMB PS 5-93	579	315	237	178	140	90	223	10	Rp 1 1/4	Rp 1
CMB PS 10-47	491	219	237	199	160	100	261	10	Rp 1 1/2	Rp 1

9.9 Performance range



TM054765

Pressure losses in fittings and hose are not included.

10. Product numbers

10.1 CMBE TWIN

D: Integrated frequency converter

Pump type	Controller	Pump housing Stainless steel	Thread type	Plug	Product number
<i>CMBE 3, 1 × 200-240 V, 50/60 Hz</i>					
CMBE 3-62	D	•	Rp	Schuko	99219420
CMBE 3-62	D	•	Rp	Fuse Box	99220844
CMBE 3-62	D	•	Rp	AU	99282854
CMBE 3-62	D	•	Rp	UK	99963950
CMBE 3-62	D	•	Rp	Type O	99968524
CMBE 3-62	D	•	Rp	None	99521893
CMBE 3-93	D	•	Rp	Schuko	99219421
CMBE 3-93	D	•	Rp	Fuse Box	99220845
CMBE 3-93	D	•	Rp	AU	99282855
<i>CMBE 5, 1 × 200-240 V, 50/60 Hz</i>					
CMBE 5-62	D	•	Rp	Schuko	99219423
CMBE 5-62	D	•	Rp	Fuse Box	99220847
CMBE 5-62	D	•	Rp	AU	99282856
CMBE 5-62	D	•	Rp	UK	99963966
CMBE 5-62	D	•	Rp	Type O	99968525

CMBE TWIN Accessories

Accessory type	Ball valve	Unions	1" inlet connection	1 1/2" outlet connection	1 1/4" inlet connection	Product number
Vibration damper kit						99217259
Twin manifold set	•	•	•	•		99229422
Twin manifold set	•	•		•	•	99229453

10.2 CMBE

D: Integrated frequency converter

Pump type	Controller	Pump housing Stainless steel	Thread type	Plug	Product number
<i>CMBE 1, 1 × 200-240 V, 50/60 Hz</i>					
CMBE 1-44	D	•	Rp	Schuko	98374697
CMBE 1-44	D	•	Rp	None	98374679
CMBE 1-44	D	•	NPT	None	98548109
CMBE 1-44	D	•	Rp	AU	98374705
CMBE 1-44	D	•	Rp	UK	98374713
CMBE 1-44	G	•	Rp	Schuko	98563698
CMBE 1-44	D	•	NPT	US	98810910
CMBE 1-44	D	•	NPT	US	99561340
CMBE 1-75	D	•	NPT	None	98548110
CMBE 1-75	D	•	NPT	US	98810921
<i>CMBE 3, 1 × 110 V, 60 Hz</i>					
CMBE 3-51	D	•	Rp	None	99871395
<i>CMBE 3, 1 × 115 V, 60 Hz</i>					
CMBE 3-51	D	•	NPT	US	98810924
<i>CMBE 3, 1 × 200-240 V, 50/60 Hz</i>					
CMBE 3-30	D	•	Rp	US	98374724
CMBE 3-30	D	•	NPT	None	98548112
CMBE 3-51	D	•	Rp	None	99877061
CMBE 3-62	D	•	Rp	Schuko	98374701
CMBE 3-62	D	•	Rp	None	98374693
CMBE 3-62	D	•	NPT	None	98548113
CMBE 3-62	D	•	Rp	AU	98374709
CMBE 3-62	D	•	Rp	UK	98374717
CMBE 3-62	D	•	Rp	UK	99953869
CMBE 3-62	G	•	Rp	Schuko	98563709
CMBE 3-62	D	•	Rp	Type O	99968508
CMBE 3-93	D	•	Rp	Schuko	98374702
CMBE 3-93	D	•	Rp	None	98374694
CMBE 3-93	D	•	NPT	None	98548114
CMBE 3-93	G	•	Rp	Schuko	98563722
<i>CMBE 3, 3 × 220 V, 60 Hz</i>					
CMBE 3-51	D	•	Rp	None	99877073
<i>CMBE 5, 1 × 200-240 V, 50/60 Hz</i>					
CMBE 5-62	D	•	Rp	Schuko	98374704
CMBE 5-62	D	•	Rp	None	98374696
CMBE 5-62	D	•	NPT	None	98548116
CMBE 5-62	D	•	Rp	AU	98374712
CMBE 5-62	D	•	Rp	UK	98374720
CMBE 5-62	D	•	Rp	UK	99953871
CMBE 5-62	G	•	Rp	Schuko	98563727
CMBE 5-62	D	•	Rp	Type O	99968512
CMBE 5-62	D	•	Rp	IRAM	98987736
<i>CMBE 10, 1 × 200-240 V, 50/60 Hz</i>					
CMBE 10-54	D	•	Rp	Schuko	98382202
CMBE 10-54	D	•	Rp	None	98382190
CMBE 10-54	D	•	NPT	None	98548118
CMBE 10-54	D	•	Rp	None	98661978
CMBE 10-54	D	•	NPT	None	99503806
CMBE 10-54	D	•	Rp	UK	98382206

Pump type	Controller	Pump housing	Thread type	Plug	Product number
		Stainless steel			
CMBE 10-54	D	•	Rp	UK	99953872
CMBE 10-54	G	•	Rp	Schuko	98563731
CMBE 10-54	D	•	Rp	IRAM	98987737

10.3 CMB PM START

Pump type	Controller	Pump housing		Self-priming	Thread type	Plug	Product number
		Stainless steel	Cast iron				
CMB 1 PM START, 1 × 220 V, 50 Hz							
CMB 1-27	PM START 1-15		•		Rp	None	93332814
CMB 1-36	PM START 1-15		•		Rp	Indonesian	93332862
CMB 1-36	PM START 1-15		•		Rp	AU	93332863
CMB-SP 1-36	PM START 1-15	•		•	Rp	AU	93332820
CMB 3 PM START, 220 V, 50 Hz							
CMB 3-27	PM START 1-15		•		Rp	Schuko	93332865
CMB 3-27	PM START 1-15		•		Rp	None	93341290
CMB 3-37	PM START 1-15		•		Rp	None	93332815
CMB 3-37	PM START 1-15		•		Rp	None	93332816
CMB 3-37	PM START 1-15		•		Rp	Thailand	93332817
CMB 3-37	PM START 1-15		•		Rp	UK	93332818
CMB 3-37	PM START 1-15		•		Rp	Indonesian	93332867
CMB 3-37	PM START 1-15		•		Rp	AU	93332868
CMB 3-46	PM START 1-22		•		Rp	None	93332790
CMB 3-46	PM START 1-22		•		Rp	None	93332791
CMB 3-46	PM START 1-22		•		Rp	Thailand	93332792
CMB 3-46	PM START 1-22		•		Rp	UK	93332810
CMB 3-46	PM START 1-22		•		Rp	AU	93349016
CMB 5 PM START, 220 V, 50 Hz							
CMB 5-28	PM START 1-22		•		Rp	Indonesian	93332723
CMB 5-37	PM START 1-22		•		Rp	AU	93332727
CMB 5-37	PM START 1-22		•		Rp	Thailand	93332793
CMB 5-37	PM START 1-22		•		Rp	UK	93332812
CMB 5-46	PM START 1-22		•		Rp	AU	93332725
CMB 5-46	PM START 1-22		•		Rp	Thailand	93332799
CMB 5-46	PM START 1-22		•		Rp	UK	93332813

10.4 CMB PM PLUS

Pump type	Controller	Pump housing		Self-priming	Thread type	Plug	Product number
		Stainless steel	Cast iron				
CMB 3 PM PLUS, 220 V, 50 Hz							
CMB-SP 3-28	PM PLUS	●		●	Rp	AU	93332840
CMB-SP 3-37	PM PLUS	●		●	Rp	AU	93332841
CMB-SP 3-47	PM PLUS	●		●	Rp	AU	93332847
CMB-SP 3-56	PM PLUS	●		●	Rp	AU	93332848
CMB 5 PM PLUS, 220 V, 50 Hz							
CMB-SP 5-28	PM PLUS	●		●	Rp	AU	93332849
CMB 5-47	PM PLUS		●		Rp	AU	93332860
CMB 5-46	PM PLUS	●		●	Rp	Indonesian	93332324

10.5 CMB PT and CMB PS

Pump type	Pump housing		Pressure switch	Tank size [l]	Thread type	Plug	Product number
	Stainless steel	Cast iron					
CMB 1 PT and CMB 1 PS							
CMB PS 1-36	•		•		Rp	AU	98244555
CMB 3 PT and CMB 3 PS							
CMB PT 3-37		•	•	18, vertical	Rp	Type O	98158257
CMB PT 3-37	•		•	18, vertical	Rp	UK	99953844
CMB PS 3-37	•		•		Rp	AU	98244556
CMB PT 3-37		•	•	60, horizontal	Rp	IN	96939768
CMB PT 3-46		•	•	18, vertical	Rp	Type O	98158258
CMB PT 3-46	•		•	18, vertical	Rp	UK	99953850
CMB PT 3-46		•	•	60, horizontal	Rp	IN	96939769
CMB 5 PT and CMB 5 PS							
CMB PT 5-37		•	•	18, vertical	Rp	Type O	98158260
CMB PT 5-37	•		•	18, vertical	Rp	UK	99953852
CMB PT 5-46		•	•	24, vertical	Rp	Type O	98158281
CMB PT 5-46	•		•	18, vertical	Rp	Type O	99953863
CMB PS 5-47	•		•		Rp	AU	98117630
CMB PS 5-56	•		•		Rp	AU	98117632
CMB PS 5-56		•	•	60, horizontal	Rp	IN	96939777
CMB PS 5-75	•		•		Rp	AU	98117633
CMB PS 5-93	•		•		Rp	AU	98117634
CMB PS 10-47	•		•		Rp	AU	98117635

11. Accessories

The vital components from the booster solutions are also available as stand-alone products. They can be combined with any pump to create a booster system.

Inlet/outlet pipe kits for CMBE TWIN

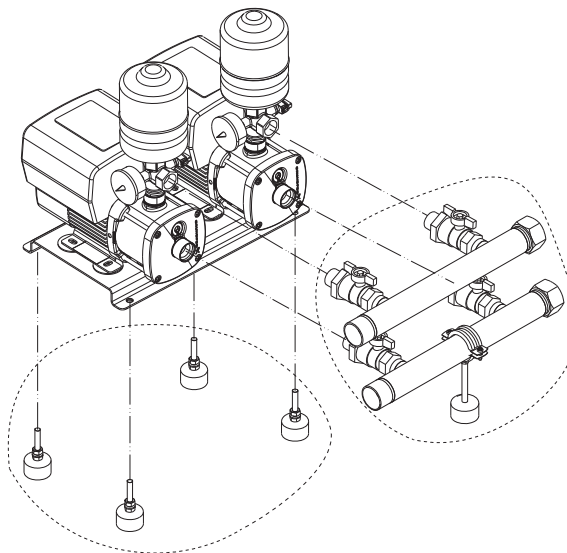
Inlet and outlet pipe kits are available for the CMBE TWIN booster. All pipe kits include ball valve and unions and 1 1/2" outlet connection. The inlet connection is available in two sizes.

Type	Product number
1" inlet connection	99229422
1 1/4" inlet connection	99229453

Vibration damper kit for CMBE TWIN

The vibration dampers are mounted on the base plate of the CMBE TWIN booster. We also recommend to support the pipes with a vibration damper.

Type	Product number
Vibration dampers	99217259



TM068740

Vibration damper kit (left) and inlet/outlet pipe kit (right) for the CMBE TWIN booster

12. Grundfos Product Center

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

From the international view, you can select your specific country to view the product range available to you.

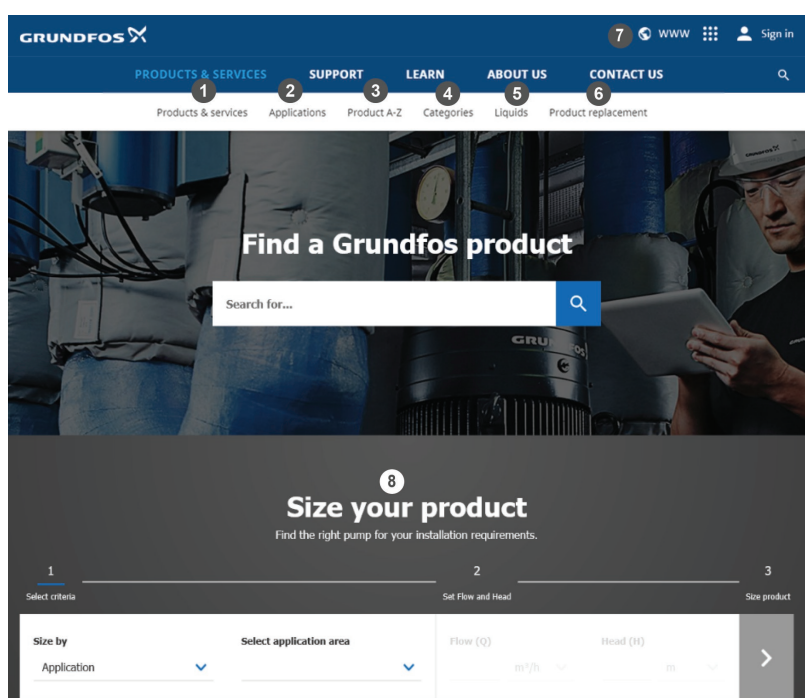
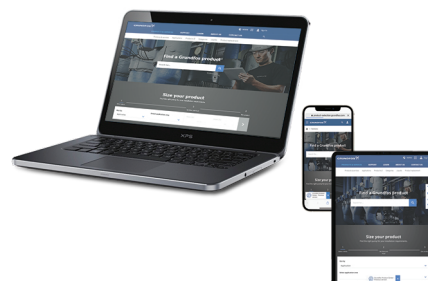
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