# CMB, CMBE, CMBE TWIN

## Horizontal, multistage centrifugal boosters

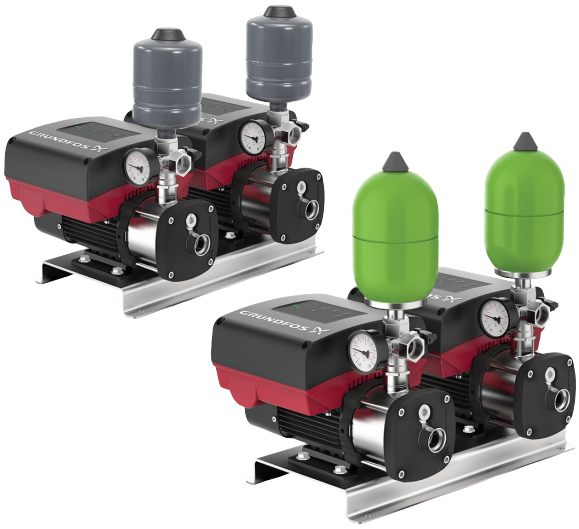
## 50/60 Hz



GRUNDFOS

# 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.

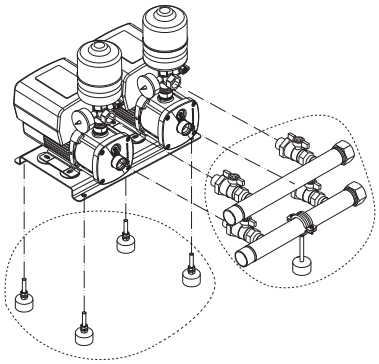
The MGE motors incorporate thermal protection against slow overloading and blocking (TP 211 according to IEC 34-11).

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

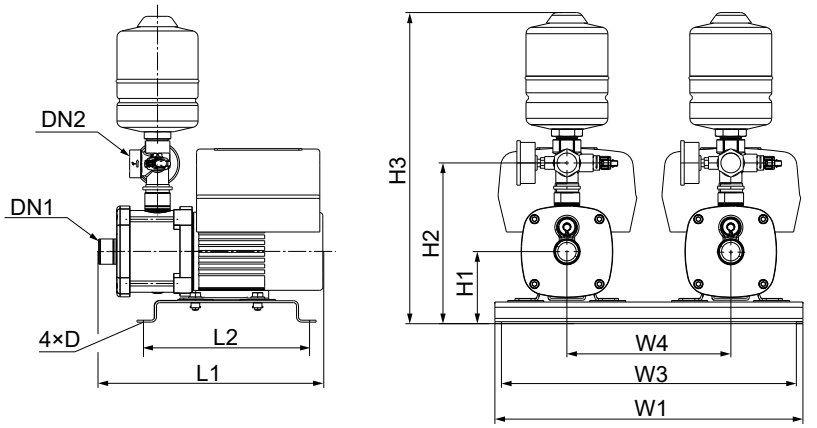
For further information regarding product approvals, visit Grundfos Product Center: *https://product-selection.grundfos.com/*

## 2.8 Wetted parts

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

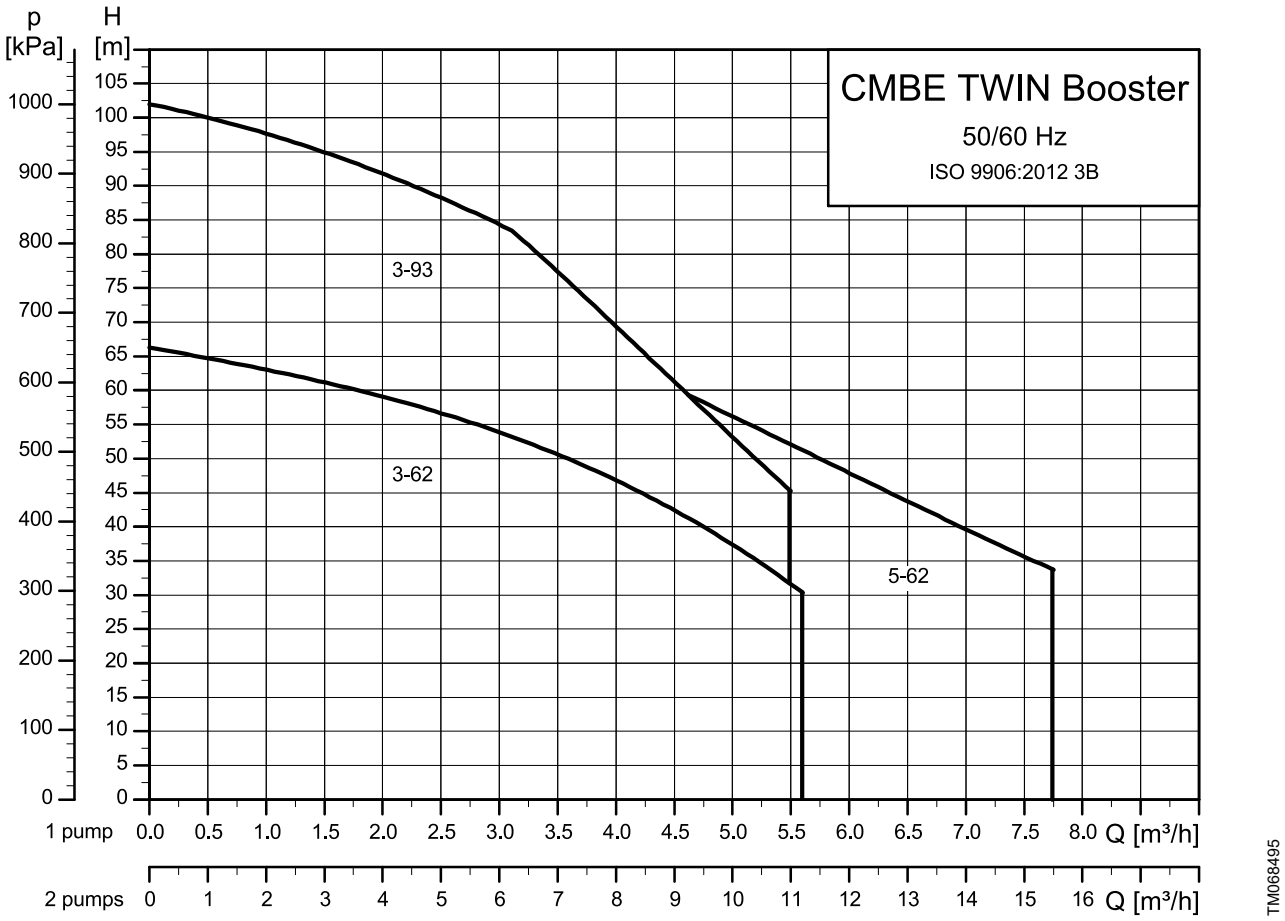
| Designation | Material | Technical description |
|---|---|---|
| Pump sleeve | Stainless steel | EN 1.4301<br>AISI 304 |
| Impeller | Stainless steel | EN 1.4301<br>AISI 304 |
| Diffuser | Technopolymer | PP 20 % Talc |
| Ejector | Technopolymer | PPE/PS 20 % GF |
| Nozzle | Stainless steel | EN 1.4301<br>AISI 304 |
| Shaft | Stainless steel | EN 1.4301<br>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




| 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 |

## 2.12 Performance curves




TM068495

# 10. Product numbers

## 10.1 CMBE TWIN

D: Integrated frequency converter

| Pump type | Controller | Pump housing | Thread type | Plug | Product number |
|---|---|---|---|---|---|
| | | Stainless steel | | | |
| *CMBE 3, 1 × 200-240 V, 50/60 Hz* | | | | | |
| 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 |
| *CMBE 5, 1 × 200-240 V, 50/60 Hz* | | | | | |
| 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 |