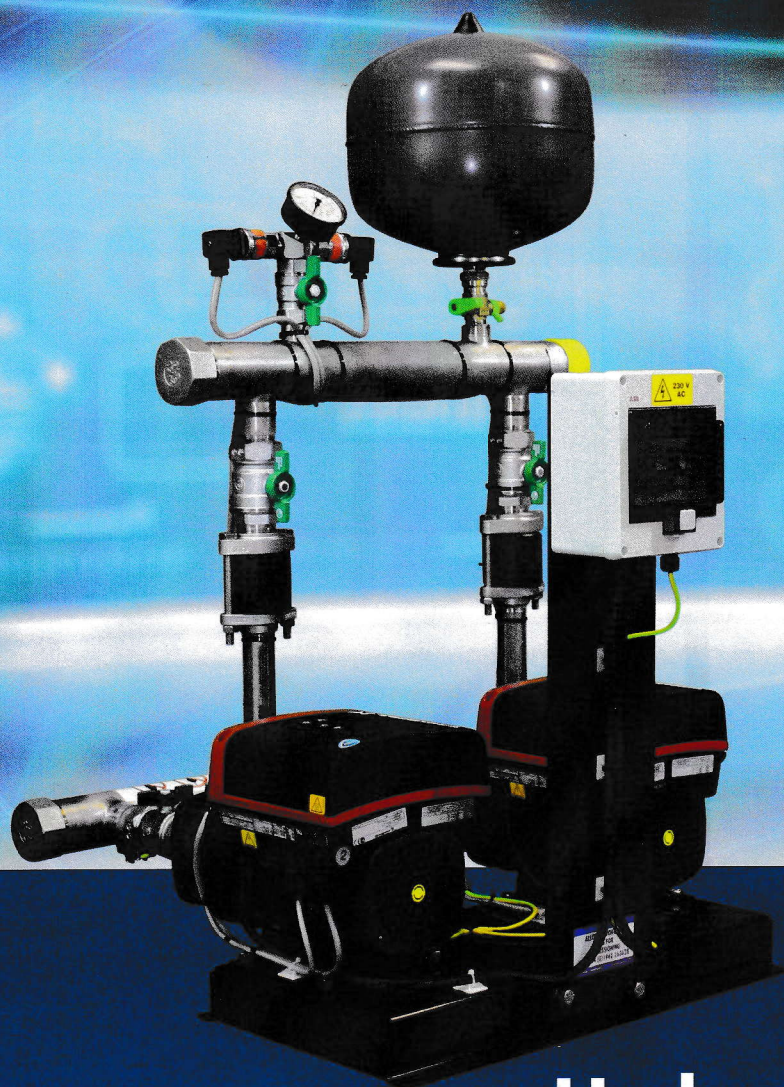




Hydro Micro-E

A flexible, energy efficient and user friendly 2 pump variable speed booster set for commercial and industrial applications.

be
think
innovate

GRUNDFOS 

As the demand for improved energy efficiency pressure boosting systems has continued so too has the engineered sophistication of the Grundfos pump solutions to meet this requirement.

The new range of Grundfos Hydro Micro-E multi pump pressure boosting systems incorporate innovative technology such as extended functionality, highly efficient permanent magnet motors and multi-master variable speed control. These advances are focused on delivering lower running costs and longer service life without compromising on performance.

Applications

There are a wide variety of applications the Hydro Micro-E booster system* has been designed to meet, these include:

- **Offices**
- **Schools**
- **Hotels**
- **Smaller apartment complexes**
- **Restaurants/leisure facilities**
- **Residential homes**
- **Hospitals**

N.B. Sets are suitable for use in both new and retrofit applications.

* Grundfos offers a wide range of additional 1 to 6 pump booster sets. Please contact Grundfos for further information.

Scope

Grundfos Hydro Micro-E booster systems consist of two Grundfos CME pumps connected in parallel and mounted on a common base frame provided with all necessary fittings. As standard, the Hydro Micro-E is supplied with the following:

- **base frame**
- **pumps**
- **suction and discharge manifolds**
- **supplied with two discharge pressure sensors**
- **non-return valves, one per pump**
- **isolating valves, two per pump**
- **pressure gauge**
- **diaphragm tank**
- **breaker box**
- **WRAS approved materials/components**

On delivery, the Grundfos Hydro Micro-E booster system is factory-tested and ready for operation. The default factory pressure setting is 3.5 Bar.



Hydro Micro-E 2 CME

100% GRUNDFOS Quality

Every component in a Hydro Micro-E booster system – from the non-return valve to the manifold – is either made by Grundfos or has been approved through the Grundfos quality management system. This is your guarantee that all technologies involved work perfectly together.

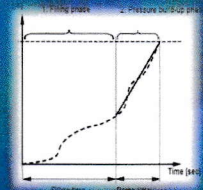
Features

- low energy consumption
- simple to install and operate
- plug 'n' pump design
- minimum maintenance required
- reliable Grundfos pumps fitted as standard
- automatically adapts to system conditions
- field bus connectivity with E version i.e. BACnet, Modbus, Profibus, LON, SMS and cloud-based remote management
- factory tested and ready to use
- full redundancy with no single point of failure
- compatible with the Grundfos GO remote controller



Constant Pressure

By continuously adapting the speed of the pumps to the flow demand, the required pressure is kept constant despite fluctuations in flow. This ensures the consumer the best water supply at any time of the day. Starting and stopping the speed controlled pumps are done in a manner that minimizes pressure surges and protects piping – the days of water hammer are over...



Pipe Fill Function - Soft Pressure Build-Up

Another function already present in the Hydro Micro-E is the Soft Pressure Build-Up function. This function reduces the risks of pipe bursts and flooding caused by water hammer. The function makes sure that at every start-up of the system the pipes are slowly filled and pressure introduced into the system in a controlled manner.



High Efficiency

Fitted with advanced Grundfos MGE Blueflux motors, the Hydro Micro-E range achieves an overall efficiency higher than the IE4 level defined by IEC 60034-31. In fact, though the standard only applies to the efficiency of the motors, the Grundfos Hydro Micro-E range is so efficient, it beats the required efficiency level, even including the integrated frequency converters. Improving energy consumption even further, intelligent control uses pump curve data to determine how many pumps to operate and the most efficient speed at any given point.



Plug 'n Pump - Easy to Operate

Derived from the proven functionality of the top of the range Grundfos Hydro MPC-E range, the Hydro Micro-E has easy to operate, energy efficiency and service life increasing pump functions that are normally seen only on much higher priced models.

The system can be operated using just the two buttons on the control panel or for more advanced settings... – just use your phone or tablet.



Communication Interface Module (CIM)

The system communicates via the most common Field-Bus protocols via optional communication cards. Furthermore the controller can be equipped with Grundfos Remote Monitoring (GRM) communication for logging and monitoring via a mobile network – you can even control it from your iPad, iPhone, iPod or Android device (for more details on the latest communication cards and GRM contact Grundfos).

Technical overview

The Grundfos Hydro Micro-E is a compact pressure boosting system that has been specifically engineered for building services and industrial applications. It has been designed to be easily installed and self-managing with minimum interaction with installers/users.

A variable speed system coupled with various configuration options is offered to enable the customer to choose the right solution for their specific application. Hydro Micro-E systems can be set-up to be on duty standby or in a cascade mode as required.

With total efficiency exceeding the IE4 Super Premium Efficiency level defined for fixed-speed motors, the Hydro Micro-E range also offers additional control functions:

- **multi-master function**
- **pipe-filling function**
- **pre-defined setpoint**
- **external setpoint influence**
- **limit-exceeded function**

System requirements

Mechanical installation

A Hydro Micro-E booster system must be installed in a well-ventilated room to ensure sufficient cooling of the pumps. The Hydro Micro-E is not suitable for outdoor installation.

Place the booster system in such a way that there is sufficient clearance around it for the operator to be able to work freely. Where units are to be used in a noise sensitive area, an acoustic enclosure should be used.

Pipework

The pipes connected to the booster system must be of adequate size. Fit expansion joints in the suction and discharge manifolds to avoid resonance. The pipes are to be connected to the suction and discharge manifolds.

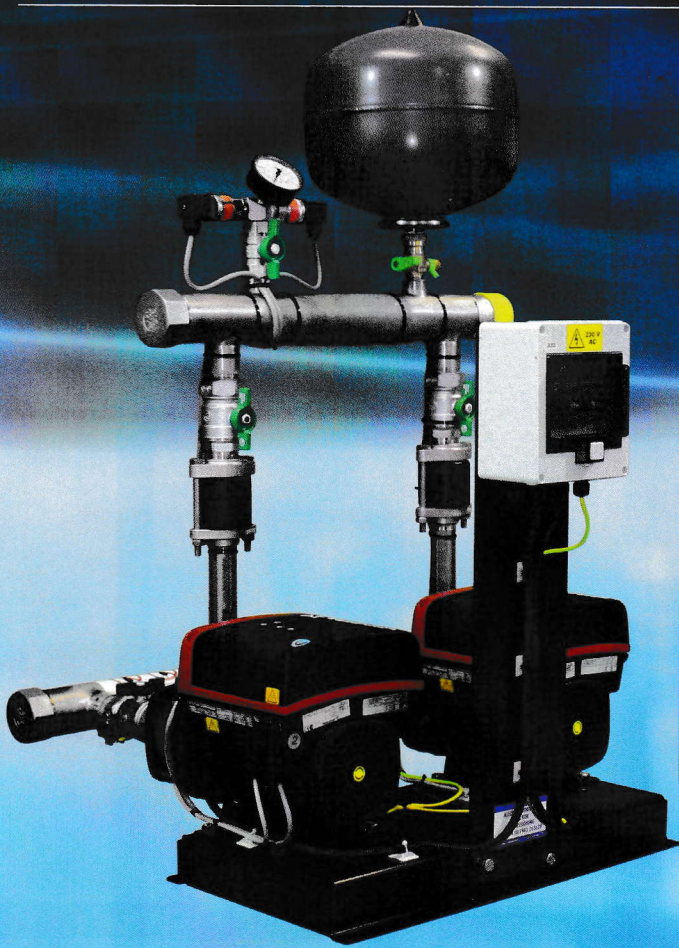
The booster system should be tightened up prior to start up. Grundfos recommends fitting pipe supports both on the suction and the discharge side. The booster system should be positioned on an even and solid surface, for example a concrete floor or foundation. If the booster system is not fitted with vibration dampers, it must be bolted to the floor or foundation.

Electrical installation

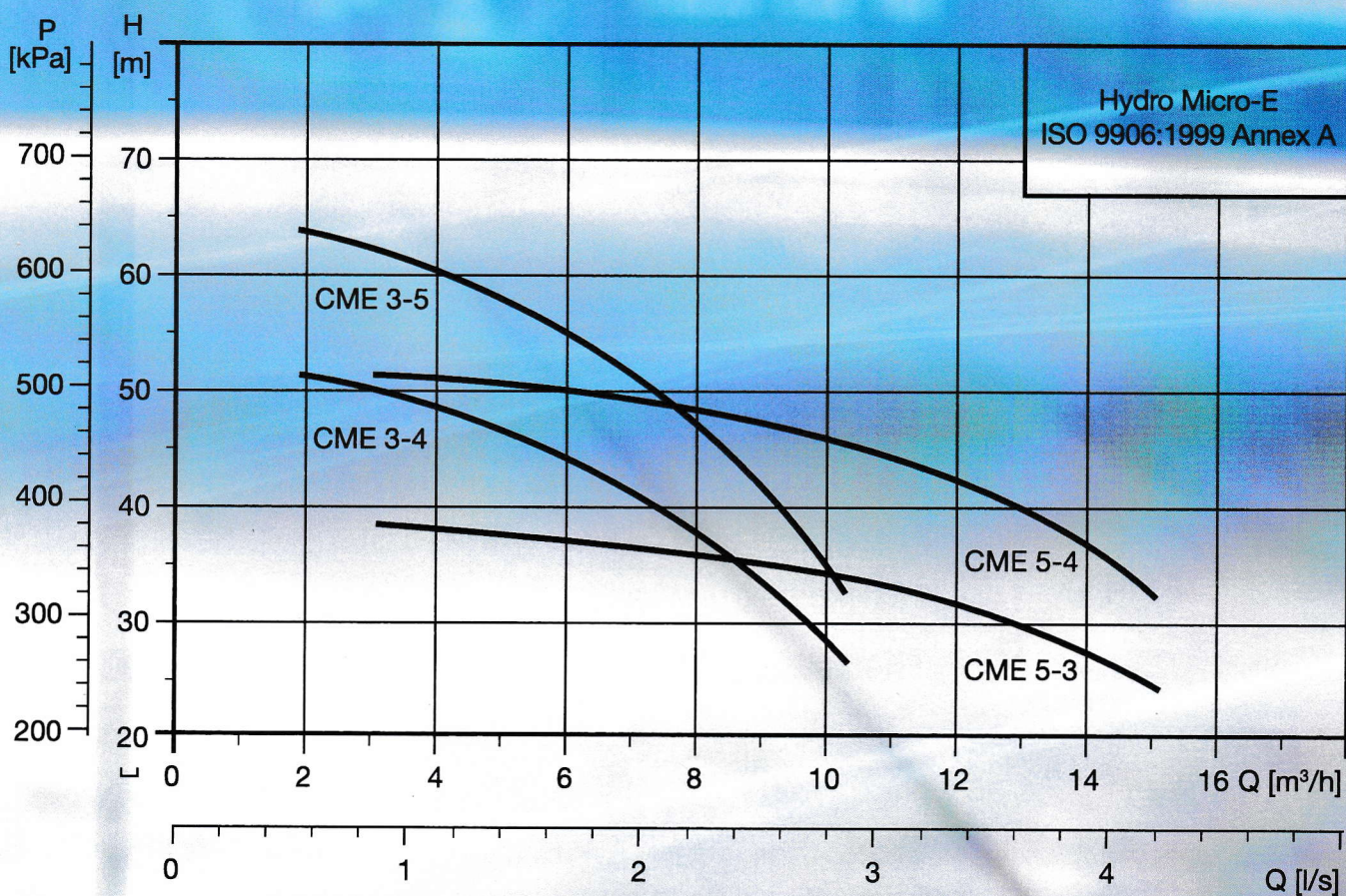
The electrical connection and protection should be carried out in accordance with local regulations.

- The Hydro Micro-E must be correctly earthed.
- The pumps require no external motor protection. The motors incorporate thermal protection against slow overloading and blocking (IEC 34-11: TP 211).
- When the pumps are switched on via the power supply, they will start after approx. 5 seconds. The number of starts and stops via the power supply must not exceed four times per hour.

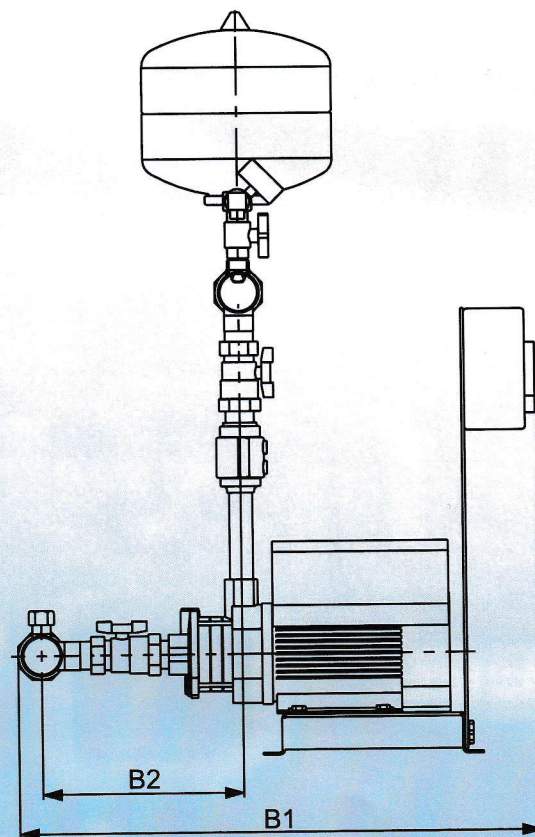
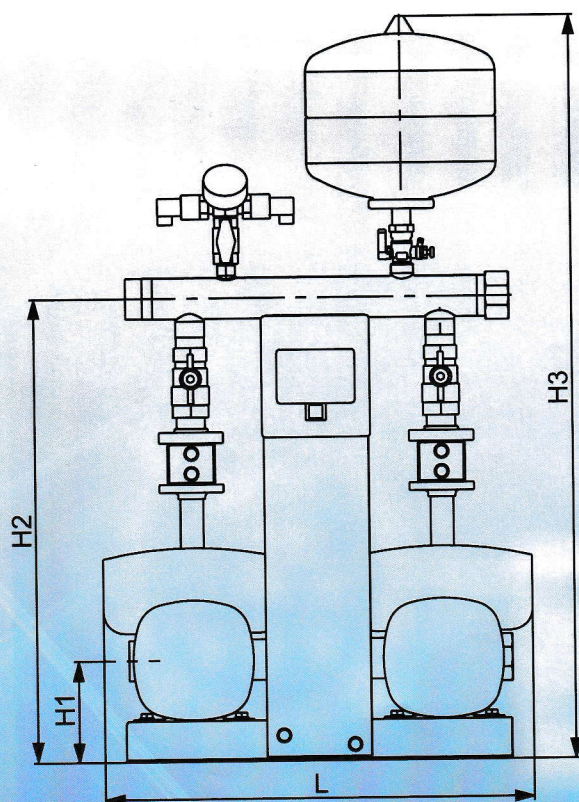
The position of the breaker box is reversible.



Hydro Micro-E 2 CME



Technical Data and Dimensions



Number of pumps	Pump type	Motor ¹⁾ [kW]	Max. IN ²⁾ [A]	Max. IO ³⁾ [A]	Supply voltage		Manifold	Diaphragm tank [litres]	Connections	B1 [mm]	B2 [mm]	L [mm]	H1 [mm]	H2 [mm]	H3 [mm]	Net weight [kg]	Ship. vol. [m ³]
					Single-phase motor 3 x 400 V. PE. N		Stainless steel										
2	CME-A 3-4	1.1	8.1	5.7	•	•	12	R 1 1/2	657	259	580	135	572	980	74	0.32	
2	CME-A 3-5	1.1	8.1	5.7	•	•	12	R 1 1/2	675	277	580	135	572	980	76	0.32	
2	CME-A 5-3	1.1	8.1	5.7	•	•	25	R 2	697	292	582	135	611	1026	74	0.42	
2	CME-A 5-4	1.5	11.1	7.8	•	•	25	R 2	776	302	634	150	663	1078	85	0.42	

Models, Motor Size and Product Codes

Model 240V 1ph 50Hz 4 pump sets	Closed valve pressure bar	Product Code
Hydro Micro-E 2 CME3-4	5.30	98784516
Hydro Micro-E 2 CME3-5	6.50	98784517
Hydro Micro-E 2 CME5-3	4.0	98784519
Hydro Micro-E 2 CME5-4	5.0	98784520

Operating Conditions

General recommendations

Cold water supply systems Water quality should be maintained to current industry standards.
Systems should be flushed to remove solids.

Liquid temperature

General inlet temperature

Temperature range

0°C to +60°C.

Ambient conditions

Ambient temperature during operation

0°C to +50°C

Ambient temperature during storage and transport

0°C to +40°C

Relative air humidity

Maximum 95%

Maximum operating pressure

See pump performance curves

Maximum inlet pressure

If the system has a positive inlet pressure, it must be taken into consideration to ensure that the total pressure in the system does not exceed the maximum operating pressure of the system.

Hydro Micro-E with CME pumps:

Hydro Micro-E systems with CME pumps always require a positive inlet pressure, both during start up and operation.

Grundfos GO

The Grundfos GO gives you intuitive handheld wireless remote pump control as well as access to Grundfos online tools whenever and wherever you need them.. Using Grundfos GO on a smartphone or tablet enables you to get the following information about the Grundfos Hydro Micro-E models:

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



Grundfos offers a complete range of pressure boosting products to cover any water pressure boosting application requirements. Please contact Grundfos for further information and selection assistance.



The Hydro Micro-E family is just one of a wide range of booster products available from Grundfos that can deliver 44-105m head and <3 to >1000 m³ / h.