

CME, CM

50/60 Hz

Horizontal, multistage centrifugal pumps



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1. Product introduction

The Grundfos CME and CM pumps are horizontal, multistage, end-suction centrifugal pumps. The pumps are of the close-coupled type and available as either self-priming or non-self-priming pumps. CM pumps are fitted with mains-operated motors whereas the motor for CME pumps has an integrated frequency converter. Both CME and CM pumps have mechanical shaft seals.

The CME and CM pumps are available in these three material versions:

- cast iron (EN-GJL-200)¹⁾
- stainless steel (EN 1.4301/AISI 304)
- stainless steel (EN 1.4401/AISI 316).

¹⁾ The pump shaft, impeller, chamber and filling plugs are made of stainless steel (EN 1.4301/AISI 304).

CME



TM066197

Grundfos CME pump

The CME pumps are built on the basis of CM pumps. CME pumps belong to the so-called E-pump family. The difference between the CM and the CME pump ranges is the motor.

The CME pump motor is a Grundfos MGE motor designed to EN standards. The motor incorporates a frequency converter.

Frequency control enables continuously variable control of the motor speed, which makes it possible to set the pump to operation at any duty point. The aim of continuous variable control of the motor speed is to adjust the performance to a given requirement.

You can connect a pressure sensor to the built-in frequency converter on CME pumps. For further information, see the section on sensors for CME, CM.

The pump materials are identical to those of the CM pump range.

Related information

[Sensors for CME, CM](#)

Highest energy efficiency rating worldwide

CME pumps are fitted with the new-generation MGE motors which are permanent-magnet motors incorporating a high-efficiency frequency converter. This ensures an even higher efficiency of the pump.

The motor is energy efficiency class IE5 according to IEC 60034-30-2. In combination with the integrated frequency converter, the combined power drive system is efficiency class IES2 according to IEC 50598-2.

When to select an E-pump

Select an E-pump if the following is required:

- controlled operation, that is the consumption fluctuates
- constant pressure
- communication with the pump.

Adaptation of performance through frequency-controlled speed control offers obvious benefits, such as the following:

- energy savings
- increased comfort
- control and monitoring of the pump performance.

Related information

[Communication with CME pumps](#)

CM



TM078902

Grundfos CM pumps

Pos.	Description
1	Cast-iron version
2	Stainless-steel version

The CM pumps are unique products that have been developed to fulfil a wide variety of customer demands.

The CM pumps are available in various sizes and numbers of stages to provide the flow rate and pressure required.

The CM pumps consist of two main components: the motor and the pump unit. The motor is a Grundfos motor designed to EN standards. The pump unit incorporates optimised hydraulics and offers various types of connections.

The pumps offer many advantages, some of which are listed below and described in detail in the section on features and benefits.

- compact design
- worldwide usage
- high reliability
- service friendly
- wide performance range
- low noise
- customised solutions.

Related information

[3. Features and benefits](#)

ErP compliant

The product is energy-optimized and complies with the ecodesign requirements for water pumps specified in the ErP Directive (Commission Regulation (EC) No 547/2012), which became effective on 1 January 2013. As from this date, all pumps are classified and graduated in the Minimum Efficiency Index (MEI).

Minimum efficiency index

Minimum efficiency index (MEI) means the dimensionless scale unit for hydraulic pump efficiency at best efficiency point (BEP), part load (PL) and overload (OL). The Commission Regulation (EU) sets efficiency requirements to $MEI \geq 0.10$ as from 1 January 2013 and $MEI \geq 0.40$ as from 1 January 2015. An indicative benchmark for best-performing water pump available on the market as from 1 January 2013 is determined in the Commission Regulation.

- The benchmark for most efficient water pumps is $MEI \geq 0.70$.
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
- The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable-speed drive that matches the pump duty to the system.
- Information on benchmark efficiency is available at <http://europump.eu/efficiencycharts>.

Efficiency of CME and CM pumps

Pump type	MEI	Efficiency at best efficiency point [%]
CME, CM 1 A	0.70	37.1
CME, CM 1 I/G	0.68	36.4
CME, CM 3 A	0.70	50.6
CME, CM 3 I/G	0.70	49.3
CME, CM 5 A	0.70	53.3
CME, CM 5 I/G	0.70	52.1
CME, CM 10 A	0.70	62.2

Pump type	MEI	Efficiency at best efficiency point [%]
CME, CM 10 I/G	0.52	57.9
CME, CM 15 A	0.70	67.5
CME, CM 15 I/G	0.59	63.1
CME, CM 25 A	0.70	68.3
CME, CM 25 I/G	0.41	63.8

2. Applications

The CME and CM pumps are designed for various applications, ranging from small domestic installations to large industrial systems. The pumps are suitable for various pumping systems where the performance and material of the pump must meet specific demands.

Some of the most typical applications are listed below:

- cooling of server racks, chiller units, laser weldings
- hygienic cleaning, car wash, industrial dishwashers, CIP (clean-in-place) units
- pressure boosting in industrial / CBS (commercial building services) / DBS (domestic building services) water supply systems
- level control in tank filling
- water treatment in smaller RO (reverse osmosis) units.

CME in selected applications

Electronic speed control pumps for single-phase or three-phase mains connection provide intelligent pump operations that always match system loads.

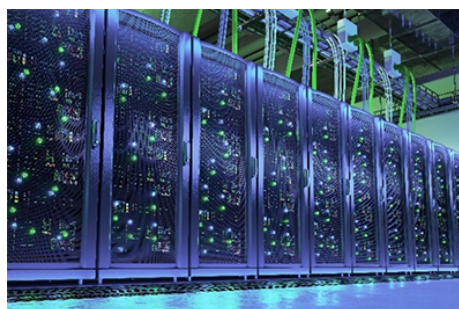
The industry uses a large number of pumps in many different applications. Speed control is necessary in many applications due to different pump performances and operation modes.

Maximum efficiency and minimum energy consumption are guaranteed. Furthermore, operating profiles can be customized.

CME pumps are suited for temperature control, washing and cleaning, pressure boosting and other industrial applications.

Temperature control

Temperature control is used in applications where CME pumps circulate a heating or cooling liquid in a closed loop to optimize temperatures. Temperature control is also used for the cooling of equipments, or food and beverages in the food production industry.



Server cooling racks in a server cooling room



Cooling for laser equipment

CME pumps can be used in temperature control systems such as the following:

- electronic data processing
- laser equipment
- medical equipment
- industrial refrigeration
- heating and cooling in industrial processes
- moisturising and humidifying.

CME pumps are designed to ensure safe and reliable operation in applications involving temperature control.

CME and CM pumps are suitable for the following typical applications:

- liquids at temperatures from $-20\text{ }^{\circ}\text{C}$ to $+120\text{ }^{\circ}\text{C}$
- water, anti-cooling liquids, coolant, oil, solute chemicals.

When pumping liquids at different temperatures, pump parts need to be made of appropriate materials and have appropriate sealings, such as O-rings and shaft seals. Liquids with viscosity and density different from water will affect pump performance, including, for example, power consumption.

On top of the range of standard pumps available for washers, Grundfos also offers special pumps developed to handle different media. If the water contains oil, the shaft seal material must be able to withstand the specific liquid. Particularly aggressive detergents require that the pump material is also designed for handling such liquids. For more information on pump selection, see the liquids section in Grundfos Product Center at www.grundfos.com.

Pumping high-temperature liquids

Pumping hot liquids such as water-based liquids up to $120\text{ }^{\circ}\text{C}$ is hard on the pump parts, including shaft seals, rubber parts and sleeve versions.

Pumping high-viscous liquids

In applications where high-viscous liquids are pumped, the motor of the pump can get overloaded, which reduces the pump performance.

The viscosity of a pumped liquid depends on the liquid and its temperature.

CME and CM pumps with oversize motors meet the above requirements.

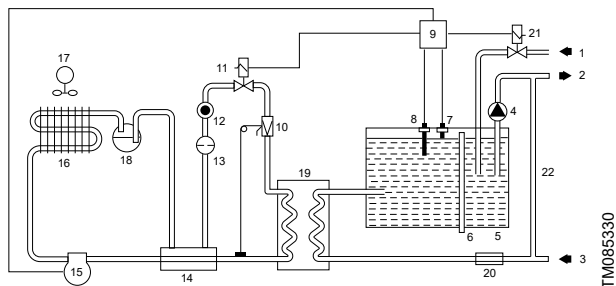
TM085310

TM085312

Related information

- Ambient temperature*
- Maximum operating pressure and permissible liquid temperature*
- Operating range of the shaft seal*
- Viscosity*
- 29. Grundfos Product Center*

CME in a temperature control system



Temperature control system

Pos.	Description
1	Water inlet
2	Exit flow
3	Return flow
4	Pump
5	Tank
6	Overflow pipe
7	Level sensor
8	Temperature sensor
9	Microprocessor
10	Thermostatic expansion valve
11	Solenoid valve, R407C
12	Sight glass
13	Filter
14	Heat equalizer
15	Compressor
16	Air cooled condenser
17	Fan
18	Receiver
19	Evaporator
20	Flow control
21	Solenoid valve water intake
22	Bypass

CME offers professional control that adds additional value to the system. In applications where reliable temperature control is essential, an E-solution will guarantee optimum temperature to ensure optimum operating conditions. E-pumps with an integrated frequency converter offer pump-related functionalities that benefit most systems in terms of comfort, user-friendliness, process adaptability and operating economy. By regulating pump speed according to demand, energy consumption and operating costs are significantly reduced. Compared to fixed-speed pump solutions, E-solutions can save up to 50 % energy annually.

Additional benefits of E-solutions are as follows:

- **constant temperature:** keeps the temperature constant, regardless of the flow
- **automated derating:** ensures optimal tolerance of ambient temperatures
- **setpoint influence:** ensures reliable and precise regulation due to changes in parameters
- **standstill heating:** heats up the motor during standstill to avoid damaging condensation
- **fewer components:** pump, motor and converter are built into one unit to make installation, maintenance and service easier.
- communication with most SCADA systems

CME can be customised to meet specific requirements. For example, pump curves can be stretched, extra functions can be added and special operating panels can be included. If the standard optimisation is not enough, please contact Grundfos for customized solutions.

Washing and cleaning

CME and CM pumps can be used in washing and cleaning applications, which usually involve high liquid temperatures, many starts and stops, or mounting the pump on a trolley.



Cleaning system in a dairy plant



Cleaning system in a car wash

Typical washing and cleaning applications are as follows:

- degreasing and washing of production equipment in industrial environments such as the food and beverage industry
- washing machines
- vehicle-washing tunnels
- mobile-washing units
- units for CIP (clean-in-place).

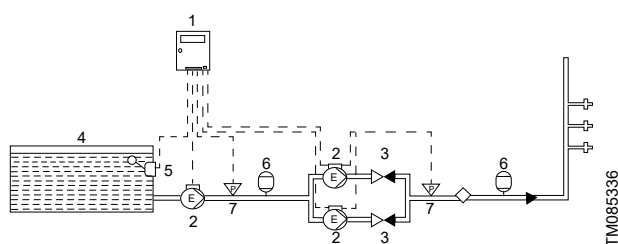
CME in a washing and cleaning system

Grundfos has many years of experience in the washing and cleaning business.

We offer a variety of dedicated solutions, for example, the following:

- vehicle washes
- wash-down systems
- parts washers.

Grundfos pumps include very compact pumps that save space without compromising on performance. Grundfos offers motors, speed control units and monitors that improve the performance of the system. If you are building a new washing and cleaning system, we recommend that you contact Grundfos early in the development process. Most of our pumps can be adjusted to match specific requirements and optimise the entire system.



Washing and cleaning system

Pos.	Description
1	Grundfos LC level controller
2	CME pump
3	Valve
4	Tank
5	Level switch
6	Pressure tank
7	Pressure sensor

Grundfos pumps are suitable for parts washer applications in the industry, allowing pumps to be customised in terms of flow rate and pressure to accommodate individual demands.

Washing and cleaning systems operate with a variety of control principles: the idea is to keep the pump running to generate pressure throughout the washing process. Systems with a feeding pressure start on a flow signal from the flow switch or the flowmeter. They stop on pressure or a flow signal and operate without a tank or accumulation. Systems with a break tank require a small tank to maintain the pressure. They start on pressure but it can be combined with a flow signal. The stop signal comes from the flow or pressure signal.

The signal can be an analogue signal or a switch. The instrumentation can be used for monitoring and control.

Pressure boosting

The water you need – where and when you need it

Ensuring a sufficient and reliable water supply throughout an industrial facility or building requires an intelligent water supply system. The intelligent CME

solutions provide adequate pressure boosting or liquid transport regardless of the application and the water consumption pattern.



Pressure boosting for tap water

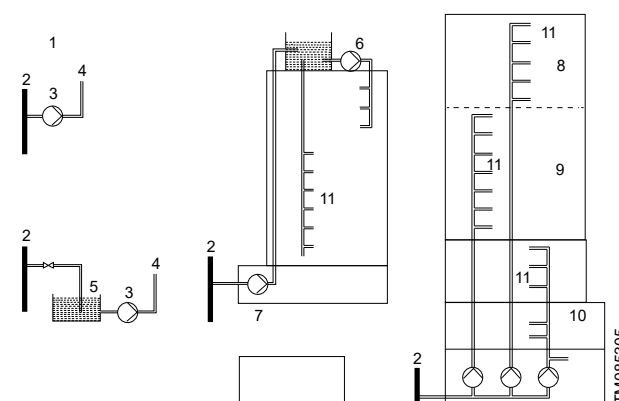


Pressure boosting in tall buildings

Typical pressure boosting applications are as follows:

- pressure boosting and transfer of drinking water
- process-water systems.

CME in pressure boosting systems



Pressure boosting systems

Pos.	Description
1	Direct boosting
2	Water mains
3	Booster system
4	Exit flow to building
5	Break tank system
6	Pressure boosting from roof tank
7	Water transport to roof tank

Pos.	Description
8	Zone 3
9	Zone 2
10	Zone 1
11	Taps

Pressure boosting in large buildings is necessary if the public water supply is inadequate to supply the building due to low pressure or flow during peak consumption. The goal is to ensure a constant pressure throughout the building. Commercial buildings have predictable consumption variations during the day.

Level control

Easy pump control

One or two CME pumps, connected to Grundfos LC level controller, is the ideal system for emptying and filling small tanks in domestic and commercial buildings and industrial tank filling applications.



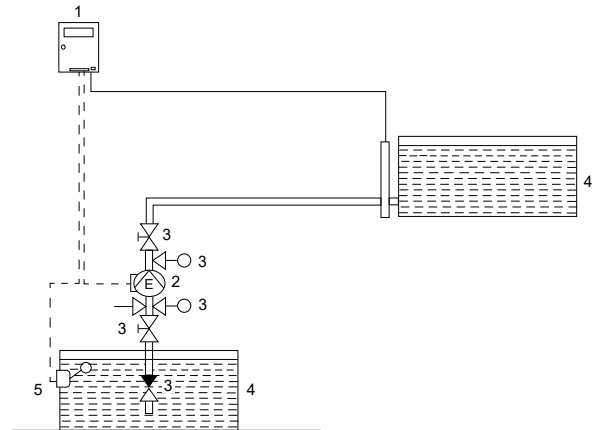
Roof tanks



Level control float switch

Typical level control applications

- Drainage and tank filling applications
- roof tank filling.



TM085337

Level control system

Pos.	Description
1	Grundfos LC level controller
2	CME pump
3	Valve
4	Tank
5	Level switch

Consumption patterns are different between industries. Some require frequent use of water in smaller amounts while others need to fill or empty one or more large tanks quickly, or keep a constant level in the tanks. For constant level control, Grundfos offers P and PI control for filling and emptying applications. The full range of Grundfos pumps can be used for this application, depending on the specific demands.

The level can be controlled by a variety of sensors:

- pressure sensor
- differential pressure sensors
- capacitive sensors
- ultrasonic sensors
- float switches.

Filling requires direct regulation.

Emptying requires inverse regulation.

Related information

[Sensors for CME, CM](#)

TM085306

TM085309

3. Features and benefits



CME and CM pumps

CME and CM pumps present the following features and benefits:

Compact design

Pump and motor are integrated in a compact and user-friendly design. The pump is fitted to a low-profile base plate, making it ideal for installation in systems where compactness is important.

Modular construction (customised solutions)

The modular construction of the CME and CM pumps makes it easy to create many different variants based on standard factory parts. This means that it is possible to create pump variants that are customised for the application in question.

Energy-optimised pumps

CME and CM pumps are energy-optimised and comply with the ecodesign requirements for water pumps specified in the ErP Directive (Commission Regulation (EC) No 547/2012), in which pumps are classified and graduated in the Minimum Efficiency Index (MEI). See also the section on minimum efficiency index.

Worldwide usage

- With different voltage and frequency combinations, the CME and CM product ranges cover markets worldwide.
- The CME and CM product ranges have been approved and are marked for worldwide usage. See the section on cULus, pumps.

High reliability

New state-of-the-art shaft-seal design and materials offer these benefits:

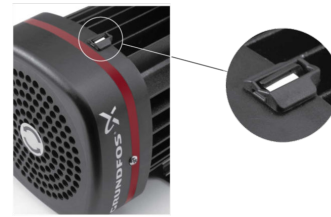
- high wear resistance and long operating life
- improved sticking and dry-running capabilities.

The pumps are less sensitive to impurities in the pumped liquid than similar pumps of the canned-rotor type.

Easy installation and commissioning

- An installation indicator fitted to three-phase CM pumps makes it easy to see if the electrical connection of the motor is correct. Based on the motor cooling air, it indicates the direction of rotation of the motor.

TM078910



Installation indicator

TM050870

Service-friendly

- Service was in mind during the development.
- No special service tools are required.
- Spare parts are in stock for quick delivery.
- Service parts are available as kits, single parts or bulks.
- Service instructions and video make it simple to disassemble and assemble the pump.
- Service kit instructions are available where estimated necessary.

Additional features and benefits for self-priming pumps

The CM self-priming pump can create a suction lift of up to 8 metres in less than 5 minutes when installed and commissioned correctly.

- The pump is available in stainless steel 1.4301 with EPDM or Viton O-rings.
- The pump is available for single-phase operation as standard and for three-phase operation on request.

Wide performance range

The CME and CM pumps can be used in a wide range of applications, such as the following:

- temperature control
- pressure boosting
- washing and cleaning
- water treatment

See the product range in Grundfos Product Center at www.grundfos.com.

Low noise level

The CME and CM pumps offer very silent operation.

High-performance hydraulics

Pump efficiency is optimized by the compact design of the hydraulic components and carefully crafted production technology.

Electrocoated cast-iron parts

- Optimised corrosion resistance
- better efficiency because of smooth surfaces.

Customised solutions

It is possible to create many different variants of the CME and CM pumps. For further information, see the section on customisation.

- Motor adaptation
- pump modifications.

Grundfos motor

Grundfos motors are remarkably silent and highly efficient.

Grundfos motors are available with an integrated frequency converter designed for speed-controlled operation.

Data and literature about the CME and CM pumps

All literature and technical data related to CME and CM pumps are available online in Grundfos Product Center at www.grundfos.com.

Related information

[ErP compliant](#)

[Efficiency of CME and CM pumps](#)

[Temperature control](#)

[Washing and cleaning](#)

[Pressure boosting](#)

[cULus, pumps](#)

[27. Customisation](#)

[29. Grundfos Product Center](#)

4. Identification

Type key

Example

CM10-3A-R-I-E-AVBEF-A-A-N

Code	Explanation
CM	Code for type range
10	Rated flow rate at 50 Hz [m ³ /h]
3	Number of impellers
A	Code for pump version
R	Code for pipe connection
I	Code for materials in contact with pump media
E	Code for rubber parts in pump (excluding neck ring and shaft seal)
A	Code for shaft seal
V	Code for material of rotating seal face
B	Code for material of stationary seal face
E	Code for material of secondary seal
F	Code for supply voltage
A	Code for motor information
A	Code for mains plug
N	Code for sensor

Key to codes

Code	Description	
Type range		
CME	Centrifugal Modular with integrated frequency converter	
CM	Centrifugal Modular	
Pump version		
A	Basic version	
B	Oversize motor (one kW size larger)	
D	Special nameplate	
E	Pumps with certificates/approvals	
N	CME pump with pressure sensor	
P	Undersize motor (one kW size smaller)	
T	Oversize motor (two kW sizes larger)	
O	Self-priming version (maximum suction lift 8 metres)	
S	Self-priming version (maximum suction lift 4 metres)	
X	Special pump	
Note that two letters symbolise that two parameters have been combined.		
Pipe connection		
C	Tri-Clamp®	
F	DIN/ANSI/JIS flange	
P	Victaulic® coupling	
R	Whitworth thread Rp (ISO 7/1)	
S	Internal NPT thread	
Materials in contact with pump media		
A	Inlet and outlet parts	EN-GJL-200
	Pump shaft	EN 1.4301/AISI 304

Code	Description	
G	Impellers/chambers	EN 1.4301/AISI 304
	Sleeve	EN 1.4401/AISI 316
	Pump shaft	EN 1.4401/AISI 316
I	Impellers/chambers	EN 1.4401/AISI 316
	Sleeve	EN 1.4301/AISI 304
	Pump shaft	EN 1.4301/AISI 304
X	Impellers/chambers	EN 1.4301/AISI 304
	Special version	

Rubber parts in pump (excluding neck ring and shaft seal)

E	EPDM (ethylene propylene)
K	FFKM (perflour)
V	FKM (flour)

Note that gaskets between chambers of cast-iron versions are always made of Klingsil C-4430 0.5

Shaft seal

A	O-ring seal with fixed driver
R	O-ring seal with fixed driver and reduced seal face

Material of rotating seal face

Q	Silicon carbide (SiC)
V	Aluminium oxide (Al ₂ O ₃)
U	Tungsten carbide

Material of stationary seal face

B	Carbon, resin-impregnated
Q	Silicon carbide (SiC)
U	Tungsten carbide

Material of secondary seal

E	EPDM (ethylene propylene)
K	FFKM (perflour)
V	FKM (flour)

Supply voltage

A	1 x 220 V, 60 Hz, with terminal board and thermal switch
B	1 x 115/230 V, 60 Hz, with flying wire
B1	1 x 115/230 V, 60 Hz, with terminal board
B2	1 x 230 V, 60 Hz, with terminal board and thermal switch
C1	1 x 220-230 V, 50 Hz, with terminal board and thermal switch
E	3 x 208-230/440-480 V, 60 Hz, with flying wire
E1	3 x 208-230/440-480 V, 60 Hz, with terminal board
F	3 x 220-240/380-415 V, 50 Hz with terminal board
G	3 x 200/346 V, 50 Hz; 200-220/346-380 V, 60 Hz with terminal board
H	3 x 575 V, 60 Hz with flying wire
J	3 x 380-415 V, 50 Hz; 440-480 V, 60 Hz with terminal board
O	3 x 220-240/380-415 V, 50 Hz with terminal board; 3 x 220-255/380-440 V, 60 Hz
S	3 x 380-500 V, 50/60 Hz (E-motor)
T	3 x 440-480 V, 50/60 Hz (E-motor)
U	1 x 200-240 V, 50/60 Hz (E-motor)
V	3 x 200-240 V, 50/60 Hz (E-motor)

Code	Description
X	Special voltage
Motor information	
A	Standard motor (IP55)
B	Phase-insulated motor for use with frequency converter
C	Condensing environments
D	Pt100 in stator
E	Angular contact bearing
F	Motor heater
G	Three-phase motor with overload protection
H	Single-phase motor with no protection
I	Radio communication not available
J	IPX5
Mains plug	
A	Prepared for cable glands
B	Harting plug
C	With cable
D	Cable gland included
Sensor	
N	No sensor

Note that the type key cannot be used for ordering as not all combinations are possible.

5. Product range

CME, CM

Pump type	50 Hz			60 Hz			Shaft seal			Mains-operated motor						Electronically speed-controlled motor							
	Material			Material						50 Hz		60 Hz		50/60 Hz		Voltage [V]							
	Voltage [V]			Voltage [V]			Voltage [V]		Voltage [V]		Voltage [V]		Voltage [V]										
	Cast iron EN-GJL-200 (CM-A)	Stainless steel EN 1.4301/AISI 304 (CM-I)	Stainless steel EN 1.4401/AISI 316 (CM-G)	Cast iron EN-GJL-200 (CM-A)	Stainless steel EN 1.4301/AISI 304 (CM-I)	Stainless steel EN 1.4401/AISI 316 (CM-G)	AVBE, AVBV	AQQE, AQQV, AQQK, AQBQ, AQBK	RUUE, RUUK, RUUV	1 x 220-240 V (supply voltage C1)	3 x 220-240/380-415 V (supply voltage F)	1 x 220 V (supply voltage A)	1 x 115/230 V (supply voltage B/B1) ²⁾	1 x 230 V (supply voltage B2) ²⁾	3 x 208-230/440-480 V (supply voltage E/E1) ²⁾	3 x 575 V (supply voltage H)	3 x 220-240/380-415 V, (50 Hz) / 3 x 220-255/380-440 V, (60 Hz) (supply voltage O)	3 x 380-415 V, (50 Hz) / 3 x 440-480 V, (60 Hz) (supply voltage J)	3 x 200 V/346 V, (50 Hz) / 3 x 200-220/346-380 V, (60 Hz) (supply voltage G)	3 x 200-240 V, 50/60 Hz (supply voltage V)	3 x 380-500 V, (50/60 Hz) (supply voltage S)	3 x 440-480 V, (50/60 Hz) (supply voltage T)	1 x 200-240 V, (50/60 Hz) (supply voltage U)
CM 1-2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 1-3	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 1-4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 1-5	•	•	•	•	•	•	•	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 1-6	•	•	•	•	•	•	•	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 1-7	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 1-8	•	•	•	•	•	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 1-9	•	•	•	•	•	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 1-10	•	•	•	•	•	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 1-11	•	•	•	•	•	•	•	• ⁴⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 1-12	•	•	•	•	•	•	•	• ⁴⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 1-13	•	•	•	•	•	•	•	• ⁴⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 1-14	•	•	•	•	•	•	•	• ⁴⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 3-2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 3-3	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 3-4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 3-5	•	•	•	•	•	•	•	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 3-6	•	•	•	•	•	•	•	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 3-7	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 3-8	•	•	•	•	•	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 3-9	•	•	•	•	•	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 3-10	•	•	•	•	•	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 3-11	•	•	•	•	•	•	•	• ⁴⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 3-12	•	•	•	•	•	•	•	• ⁴⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 3-13	•	•	•	•	•	•	•	• ⁴⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 3-14	•	•	•	•	•	•	•	• ⁴⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-3	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-5	•	•	•	•	•	•	•	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-6	•	•	•	•	•	•	•	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-7	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 5-8	•	•	•	•	•	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Pump type	50 Hz			60 Hz			Shaft seal	Mains-operated motor						Electronically speed-controlled motor									
	Material			Material				50 Hz	60 Hz			50/60 Hz	Voltage [V]										
								Voltage [V]	Voltage [V]			Voltage [V]	Voltage [V]										
	Cast iron EN-GJL-200 (CM-A)	Stainless steel EN 1.4301/AISI 304 (CM-I)	Stainless steel EN 1.4401/AISI 316 (CM-G)	Cast iron EN-GJL-200 (CM-A)	Stainless steel EN 1.4301/AISI 304 (CM-I)	Stainless steel EN 1.4401/AISI 316 (CM-G)	AVBE, AVBV	AQQE, AQQV, AQQK, AQBE, AQBV, AQBK	RUUE, RUUK, RUUV	1 x 220-240 V (supply voltage C1)	3 x 220-240/380-415 V (supply voltage F)	1 x 220 V (supply voltage A)	1 x 115/230 V (supply voltage B/B1) ²⁾	1 x 230 V (supply voltage B2) ²⁾	3 x 208-230/440-480 V (supply voltage E/E1) ²⁾	3 x 575 V (supply voltage H)	3 x 220-240/380-415 V, (50 Hz) / 3 x 220-255/380-440 V, (60 Hz) (supply voltage O)	3 x 380-415 V, (50 Hz) / 3 x 440-480 V, (60 Hz) (supply voltage J)	3 x 200 V/346 V, (50 Hz) / 3 x 200-220/346-380 V, (60 Hz) (supply voltage G)	3 x 200-240 V, 50/60 Hz (supply voltage V)	3 x 380-500 V, (50/60 Hz) (supply voltage S)	3 x 440-480 V, (50/60 Hz) (supply voltage T)	1 x 200-240 V, (50/60 Hz) (supply voltage U)
CM 5-9	•	•	•				• ³⁾	•		•	•												
CM 5-10		•	•				• ³⁾	•															
CM 5-11		•	•					• ⁴⁾															
CM 5-12		•	•					• ⁴⁾															
CM 5-13		•	•					• ⁴⁾															
CM 10-1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 10-2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 10-3	•	•	•	•	•	•	•	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 10-4	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 10-5	•	•	•	•	•	•	• ³⁾	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 10-6	•	•	•	•	•	•	• ³⁾	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 10-7	•	•	•	•	•	•		• ⁴⁾		•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 10-8	•	•	•	•	•	•		• ⁴⁾		•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 15-1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 15-2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 15-3	•	•	•	•	•	•	•	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 15-4	•	•	•	•	•	•	• ³⁾	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 25-1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 25-2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 25-3	•	•	•	•	•	•	• ³⁾	•	• ³⁾	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CM 25-4	•	•	•	•	•	•	• ³⁾	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•

2) Pumps with supply voltages B1, B2 and E1 are supplied with a terminal board inside the terminal box.

3) Neither suitable for 60 Hz mains-operated pumps, nor for CME pumps running at 100 % speed.

4) Not suitable for pumping liquids at temperatures above 90 °C.

CM self-priming

Pump type	Max. suction lift		Material	Shaft seal			Supply voltage									
							Mains-operated motor									
	4 metres	8 metres		Stainless steel EN 1.4301/AISI 304 (CM-I)	AVBE/AQQE/AQBE	AVBY/AQQV	RUUE	50 Hz		60 Hz			50/60 Hz			
								1 x 220-240 V (supply voltage C1)	3 x 220-240/380-415 V (supply voltage F)	1 x 220 V (supply voltage A)	1 x 115/230 V (supply voltage B/B1/E3)	1 x 115/230 V (supply voltage B2)	3 x 208-230/440-480 V (supply voltage E/E1/E3)	3 x 575 V (supply voltage H)	3 x 220-240/380-415 V (50 Hz) / 3 x 220-255/380-440 V (60 Hz) (supply voltage O)	3 x 380-415 V (50 Hz) / 3 x 440-480 V (60 Hz) (supply voltage J)
CM 1-3	●	-	●	●	○	●	○	●	○	○	○	○	○	○	○	○
CM 1-4	●	-	●	●	○	●	○	●	○	○	○	○	○	○	○	○
CM 1-5	●	-	●	●	○	●	○	○	○	○	○	○	○	○	○	○
CM 1-6	●	-	●	●	○	●	○	○	○	○	○	○	○	○	○	○
CM 3-3	●	●	●	●	○	●	○	●	○	○	○	○	○	○	○	○
CM 3-4	●	●	●	●	○	●	○	●	○	○	○	○	○	○	○	○
CM 3-5	●	●	●	●	○	●	○	○	○	○	○	○	○	○	○	○
CM 3-6	●	●	●	●	○	●	○	○	○	○	○	○	○	○	○	○
CM 5-3	●	●	●	●	○	●	○	●	○	○	○	○	○	○	○	○
CM 5-4	●	●	●	●	○	●	○	○	○	○	○	○	○	○	○	○
CM 5-5	●	●	●	●	○	● ⁵⁾	○	○	○	○	○	○	○	○	○	○
CM 5-6	●	●	●	●	○	● ⁵⁾	○	-	-	-	○	○	○	○	○	○
CM 5-7	●	●	●	●	○	-	○	-	-	-	○	○	○	○	○	○

⁵⁾ Neither suitable for 60 Hz mains-operated pumps, nor for CME pumps running at 100 % speed.

- Available as standard
- Available on request
- Not available

6. CME pumps

Communication with CME pumps

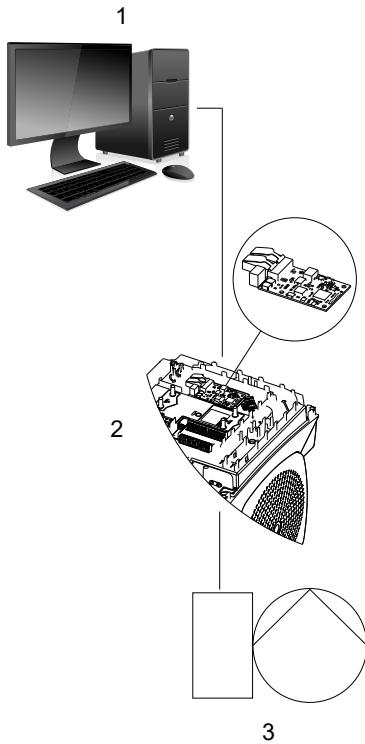
Communication with CME pumps is possible via the following:

- a central building management system
- Grundfos GO
- an operating panel.

Central management system

Communication with the E-pump is possible even if the operator is not present near the E-pump. Communication is enabled by connecting the E-pump to a central building management system. This allows the operator to monitor the pump and change control modes and setpoint settings.

Communication between E-pumps and a central building management system is enabled via a Grundfos CIM module.



TM084691

Structure of a central management system

Pos.	Description
1	Central management system
2	CIM modules (See the section on CIM communication interface modules)
3	E-pump

Related information

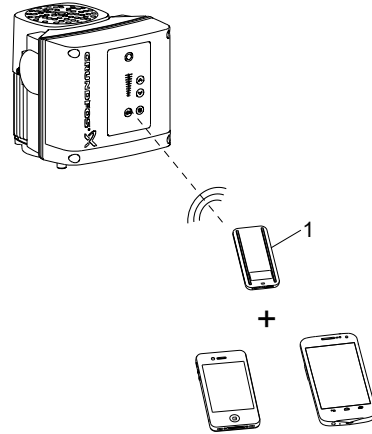
[Communication interface modules \(CIM\) for CME](#)

Grundfos GO

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

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

Use Grundfos GO together with Grundfos MI 301 mobile interface:



TM066256

Grundfos GO communicating with the pump via radio or infrared connection (IR)

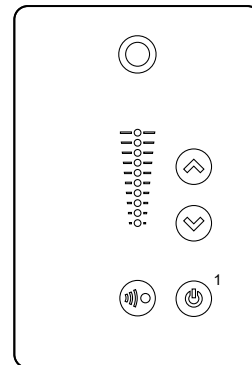
Pos.	Description
1	Grundfos MI 301: Separate module enabling radio or infrared communication. Use the module together with an Android or iOS-based smart device through Bluetooth connection.

Operating panel

The operator can change the setpoint settings manually on the operating panel of the CME pump terminal box.

The design and functionality of the operating panels vary, depending on the MGE motor fitted to the CME pump.

The operating panel of the new-generation CME pumps enables radio communication. Grundfos Eye at the top of the operating panel is a pump status indicator light providing information about the pump operating status. Less or more advanced operating panels are available on request.



TM079112

Standard operating panels of CME pumps

Pos.	Description
1	Stop

Related information

Grundfos GO

Speed control of CME pumps

Affinity equations

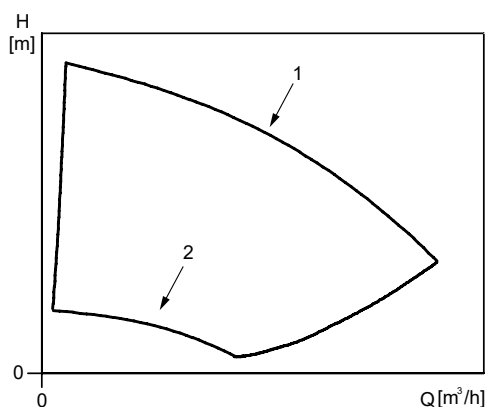
Normally, speed-regulated pumps are used in applications characterized by a variable flow rate. Consequently, you cannot select a pump that is constantly operating at its optimum efficiency.

To achieve optimum operating economy, select the pump on the basis of the following criteria:

- The maximum duty point must be as close as possible to the QH curve of the pump.
- The required duty point must be positioned so that P2 is close to the maximum point of the QH curve.

The flow rate of the required duty point must be close to the optimum efficiency (eta) for most operating hours.

Between the minimum and maximum performance curves, speed-regulated pumps have an infinite number of performance curves, each representing a specific speed. You may therefore not be able to select a duty point close to the maximum curve.



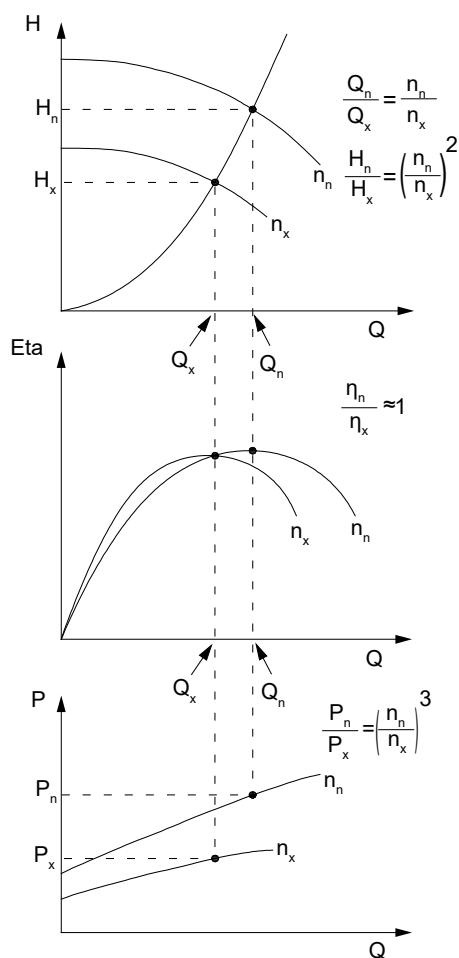
Maximum (1) and minimum (2) performance curves

In situations where you cannot select a duty point close to the maximum curve, use the affinity equations below. The head (H), the flow rate (Q) and the input power (P) are the appropriate variables for calculating the motor speed (n).

Note that the approximated formulas apply on condition that the system characteristic remains unchanged for n_n and n_x and that it is based on the formula $H = k \times Q^2$ where k is a constant.

The power equation implies that the pump efficiency is unchanged at the two speeds. In practice, this is not quite correct.

To obtain a precise calculation of the power savings resulting from a reduction of pump speed, take into account the efficiencies of the frequency converter and the motor.



Affinity equations

Legend

H_n	Rated head [m]
H_x	Current head [m]
Q_n	Rated flow rate [m ³ /h]
Q_x	Current flow rate [m ³ /h]
n_n	Rated motor speed [min ⁻¹]
n_x	Current motor speed [min ⁻¹]
η_n	Rated efficiency [%]
η_x	Current efficiency [%]
P_n	Rated power [kW]
P_x	Current power [kW]

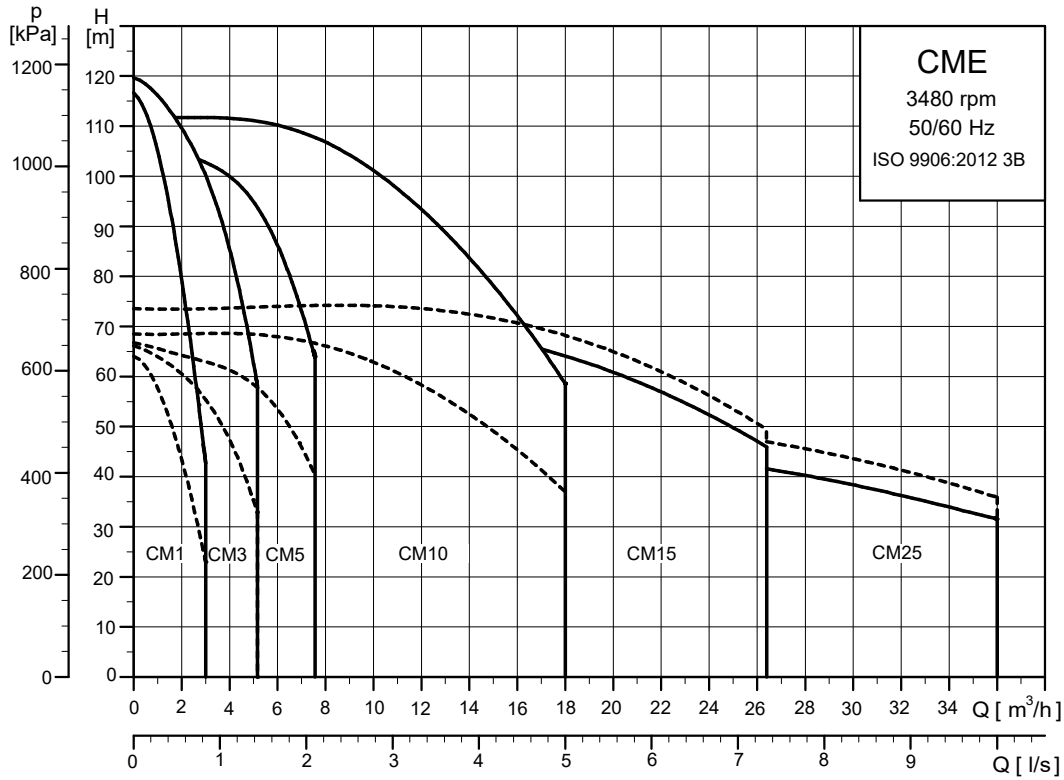
TM014916

TM008720

7. Performance range

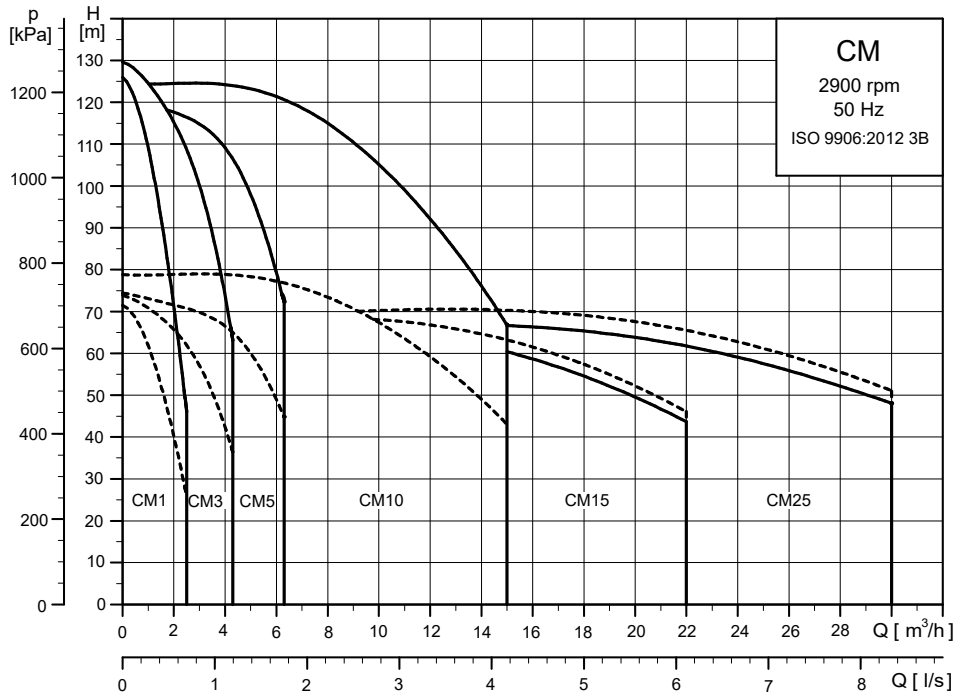
CME, 50/60 Hz

Supply voltages S, T, U



TM043568

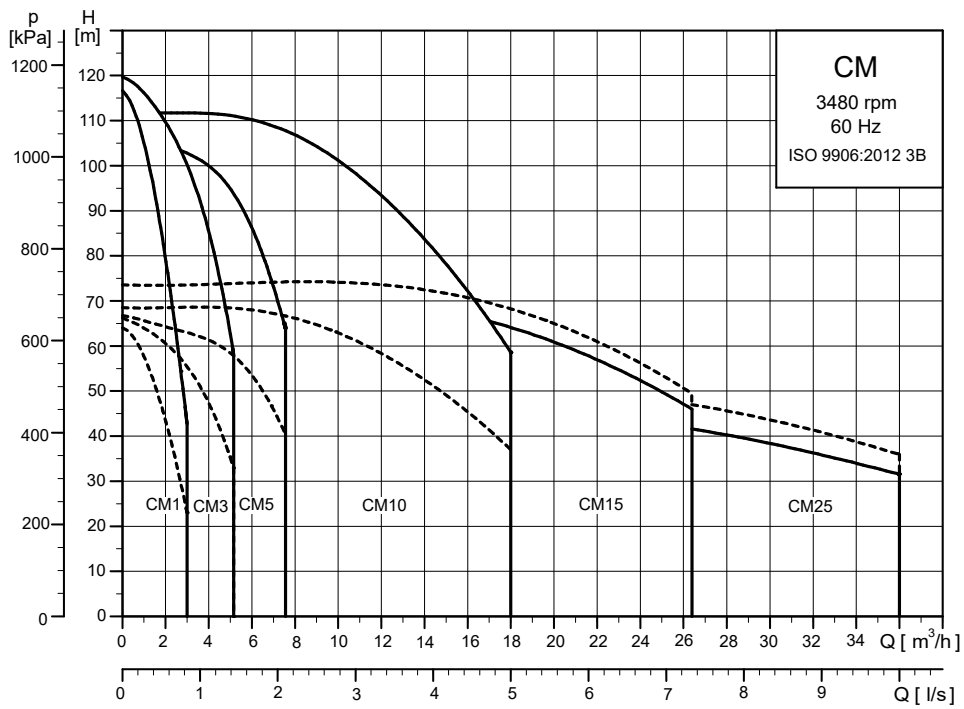
CM, 50 Hz



----- CM-A
 ——— CM-I/G

TM043340

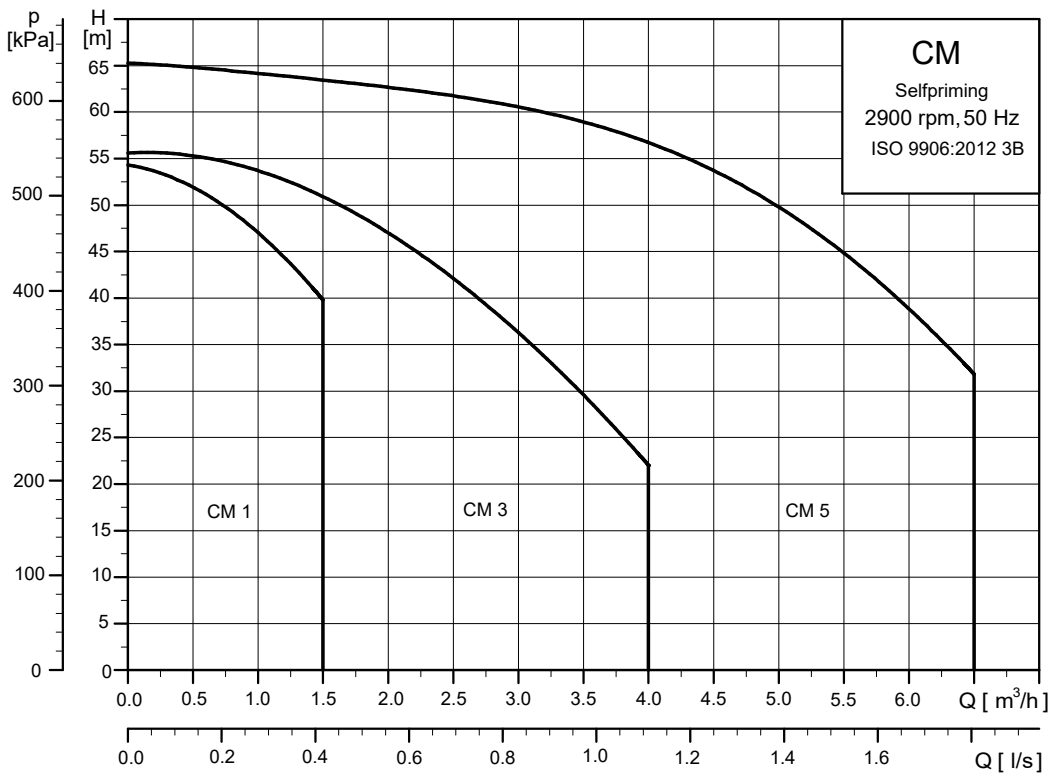
CM, 60 Hz



----- CM-A
 ——— CM-I/G

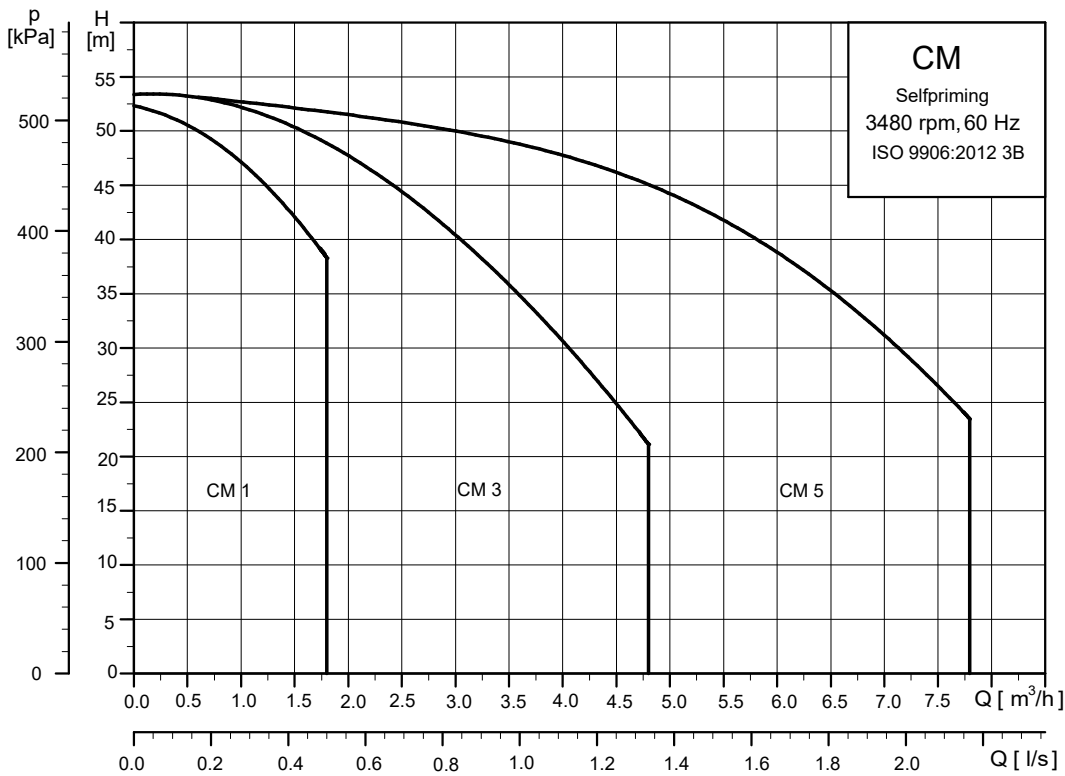
TM043369

CM self-priming, 50 Hz



TM058834

CM self-priming, 60 Hz



TM058835

8. Operating conditions

Ambient temperature

The maximum ambient temperature depends on the liquid temperature. The table below shows the temperature limits of CME and CM pumps.

Note that the maximum permissible liquid temperature for CM-A and CME-A is 90 °C.

Minimum ambient temperature [°C]	Maximum ambient temperature [°C]	Liquid temperature [°C]	Pump type		
			CM	CM self-priming	CME ⁶⁾
-20 °C ⁷⁾	55 °C	60 °C	•	•	-
	55 °C	90 °C	•	-	-
	50 °C	100 °C ⁶⁾	•	-	•
	45 °C	110 °C ⁶⁾	•	-	•
	40 °C	120 °C ⁶⁾	•	-	•

⁶⁾ CME (supply voltages S, T, U)

⁷⁾ Pumps for ambient temperatures below -20 °C are available on request.

CME speed-controlled motors

The electronics incorporated in the CME pumps are limiting the maximum ambient temperature. The maximum ambient temperature must not be exceeded. If the pump is operated at temperatures exceeding the maximum ambient temperature, the motor life will be reduced.

Maximum ambient temperature

CME, supply voltages S, T, U:

50 °C.

CME 0.37 to 7.5 kW, supply voltage V:

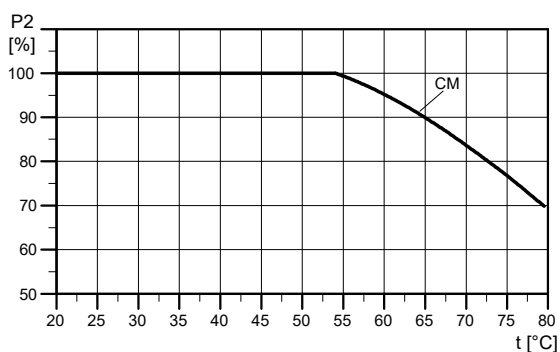
40 °C.

Note that you can operate the new-generation CME pumps at 60 °C as well. In such case, contact Grundfos for further information.

CM mains-operated motors

If the ambient temperature for CM pumps exceeds 55 °C, the motor must not be fully loaded due to the risk of overheating.

In such cases, it may be necessary to derate the motor output or use an oversize motor with higher rated output. The CM pumps can be derated in relation to ambient temperature without consequence. Contact Grundfos for further information.



Derating of CM pump, in relation to ambient temperature

Storage and transport temperature

-30 to +60 °C.

Maximum operating pressure and permissible liquid temperature

The maximum operating pressure and the permissible liquid temperature depend on the pump material, the type of shaft seal and the pumped liquid.

CME, CM pumps

Material variant	Shaft seal	Permissible liquid temperature ⁸⁾ [°C]	Maximum operating pressure [bar]
Cast iron (EN-GJL-200)	AVBx	-20 - +40	10
	AQQx/AQBx	-20 - +90	6
	RUUx	-20 - +60	10
Stainless steel (EN 1.4301 / AISI 304)	AVBx	-20 - +40	10
	AQQx/AQBx	-20 ⁹⁾ - +90	16
	AUQX	-20 ⁹⁾ - +120	10
Stainless steel (EN 1.4401 / AISI 316)	AVBx	-20 - +40	10
	AQQx/AQBx	-20 ⁹⁾ - +90	16
	AUQX	-20 ⁹⁾ - +120	10
Stainless steel (EN 1.4401 / AISI 316)	AVBx	-20 - +40	6
	AQQx/AQBx	-20 ⁹⁾ - +90	16
	AUQX	-20 ⁹⁾ - +90	10
Stainless steel (EN 1.4401 / AISI 316)	AVBx	-20 - +40	6
	AQQx/AQBx	-20 ⁹⁾ - +90	16
	AUQX	-20 ⁹⁾ - +90	10
Stainless steel (EN 1.4401 / AISI 316)	AVBx	-20 - +40	6
	AQQx/AQBx	-20 ⁹⁾ - +90	16
	AUQX	-20 ⁹⁾ - +90	10

⁸⁾ At liquid temperatures below 0 °C (32 °F), higher motor outputs may be needed due to increased viscosity, for instance if glycol has been added to the water.

⁹⁾ CM-I, -G and CME-I, -G pumps for liquid temperatures below -20 °C are available on request. Please contact Grundfos.

CM self-priming pumps

Material variant	Shaft seal	Permissible liquid temperature ¹⁰⁾ [°C]	Max. operating pressure [bar]
Stainless steel (EN 1.4301 / AISI 304)	AVBx	0-40	10
	AQQx/AQBx	0-60	6
	RUUx	0-60	16
Stainless steel (EN 1.4301 / AISI 304)	AVBx	0-40	6
	AQQx/AQBx	0-60	16
	RUUx	0-60	6

¹⁰⁾ At liquid temperatures below 0 °C (32 °F), higher motor outputs may be needed due to increased viscosity, for instance if glycol has been added to the water.

Maximum liquid-temperature-change gradient

Cast-iron pumps (CM-A, CME-A) must not be used in applications where rapid temperature changes of more than 45 °C may occur. If exposed to such rapid temperature changes, a cast-iron pump may leak.

Under such operating conditions, we recommend to use stainless-steel pumps (CM-I, -G and CME-I, -G).

Shaft seal run-in

The seal faces are lubricated by the pumped liquid, meaning that there may be a certain amount of leakage from the shaft seal.

When the pump is started up for the first time, or when a new shaft seal is installed, a certain run-in period is required before the leakage is reduced to an acceptable level. The time required for this depends on the operating conditions, that is every time the operating conditions change, a new run-in period will be started.

Under normal conditions, the leaking liquid will evaporate. As a result, no leakage will be detected.

However, liquids such as kerosene will not evaporate. The leakage may therefore be seen as a shaft-seal failure.

Viscosity

Pumping liquids with densities or kinematic viscosities higher than those of water will cause a considerable pressure drop, a drop in the hydraulic performance and a rise in the power consumption.

For instance at liquid temperatures below 0 °C (32 °F), higher motor outputs may be needed due to increased viscosity if glycol has been added to the water.

In such situations, the pump must be fitted with a larger motor. If in doubt, contact Grundfos or visit Grundfos Product Center at www.grundfos.com.

Related information

[Selection of pumps](#)

Sound pressure level

The sound pressure values in the tables below apply for CM pumps. If the motor output (P₂) for a given pump is not found in the table, use the nearest rounded-up value. The values for sound pressure include a tolerance of 3 dB(A) according to EN ISO 4871.

Single-phase motors

P ₂ [kW]	50 Hz	
	L _{pA} [dB(A)]	
0.3	54	
0.5	53.5	
0.67	54	
0.9	54	
1.3	59	
1.7	59	

Three-phase motors

P ₂ [kW]	50 Hz	60 Hz
	L _{pA} [dB(A)]	L _{pA} [dB(A)]
0.37	50	54
0.55	49	53
0.75	49	54
1.1	54	59
1.5	54	59
2.2	56	60

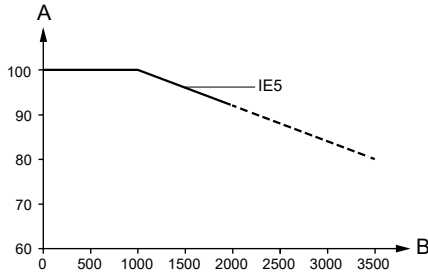
P ₂ [kW]	50 Hz	60 Hz
	L _{pA} [dB(A)]	L _{pA} [dB(A)]
3.0	55	60
4.0	59	64
5.5	59	64
7.5	60	65

The audible noise from CM pumps is primarily noise from the motor fan. The selection of CME pumps will reduce the noise at partial load, as the motor and, consequently, the motor fan run at a lower speed. Possible flow noise from control valves is also reduced at partial load in the case of the CME pump.

9. Installation

Installation altitude for CME

Installation altitude is the height above sea level of the installation site. Motors installed up to 1000 m above sea level can be loaded 100 %. The motors can be installed up to 3500 m above sea level.

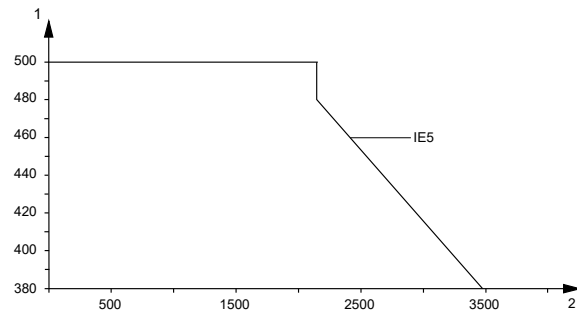


TM083680

Motor output power in relation to installation altitude

Pos.	Description
A	P2 [%]
B	Altitude [m]

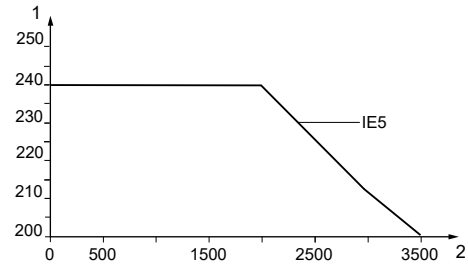
In order to maintain the galvanic isolation and ensure correct clearance according to EN 60664-1:2007, you must adapt the supply voltage to the altitude.



TM083684

Supply voltage for three-phase motor in relation to altitude

Pos.	Description
1	Supply voltage [V]
2	Altitude [m]



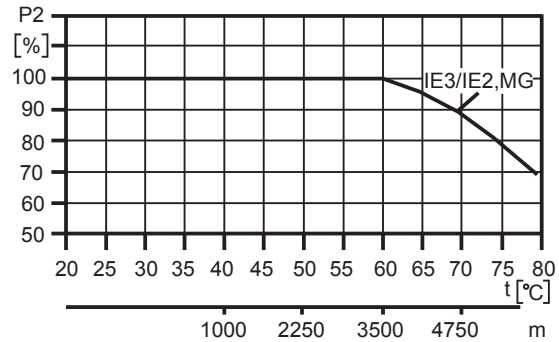
TM083681

Supply voltage for single-phase motor in relation to altitude

Pos.	Description
1	Supply voltage [V]
2	Altitude [m]

Installation altitude for CM

Installation altitude is the height above sea level of the installation site. Motors installed up to 3500 m above sea level can be loaded 100 %.



TM051168

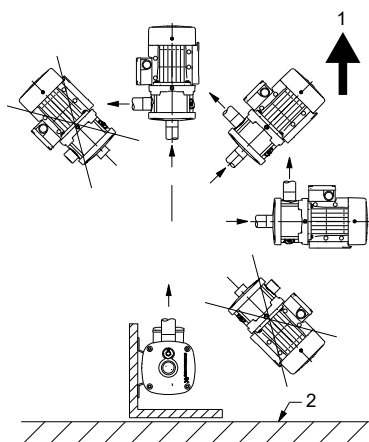
Motor output power in relation to temperature and installation altitude

Installation of pump

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

Installation of CME and CM pumps

The pump must be installed so that air pockets are avoided in the pump housing and pipes. The figure below shows the permissible pump positions.



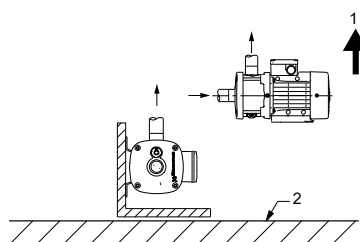
TM038773

Positions of CME and CM pumps

Pos.	Description
1	Up
2	Floor

Installation of CM self-priming pumps

Install the pump so that the inlet is horizontal. The figure below shows the permissible pump positions.



TM058905

Positions of CM self-priming pumps

Pos.	Description
1	Up
2	Floor

Install the pump with easy access for inspection, maintenance and service.

Install the pump in a well-ventilated location.

10. Construction

Pump

The pumps have an axial inlet port and a radial outlet port and are mounted on a base plate.

All movable parts are made of stainless steel.

Self-priming pumps are fitted with an internal water trap and an internal valve, both of which are mainly made of a composite material.

You find the sectional drawings in the sections from CME, CM 1-A to CM self-priming.

The pumps are available with mains-operated motors (CM pumps) and electronically speed-controlled motors (CME pumps).

All pumps incorporate a maintenance-free mechanical O-ring shaft seal with a fixed driver.



CME and CM pump hydraulics

Related information

[CME, CM 1-A](#)

[CM self-priming](#)

Motor

CME and CM pumps are fitted with totally enclosed, fan-cooled, 2-pole motors with principal dimensions to EN 50347. The motors have been developed especially for CME and CM pumps.

Electrical tolerances comply with EN 60034.

Single-phase CME pumps are available from 0.37 to 1.5 kW.

Three-phase CME pumps are available from 0.37 to 7.5 kW.

Soft starter

Soft starters are only to be used for three-phase motors.

Efficiency

Motors for CME and CM pumps comply with different energy-efficiency requirements throughout the world, for example the European Ecodesign.

For China, motors with CCC and CEL marking are available.

Generally, this means that all three-phase motors of 0.75 kW and up are IE3-compliant as standard.

MGE motors

The motor is energy efficiency class IE5 according to IEC 60034-30-2. In combination with the integrated frequency converter, the combined power drive system is efficiency class IES2 according to IEC 50598-2.

Electrical data

Insulation class	F
Enclosure class	IP55 ¹¹⁾
CME	
	1 x 200-240 V, 50/60 Hz
	3 x 200-240 V, 50/60 Hz
	3 x 380-500 V, 50/60 Hz
	3 x 440-480 V, 50/60 Hz
CM	
	1 x 115/230 V, 60 Hz
Supply voltages (tolerance ± 10 %)	1 x 220-240 V, 50 Hz
	3 x 208-230/440-480 V, 60 Hz
	3 x 220-240/380-415 V, 50 Hz
	3 x 200/346 V, 50 Hz; 200-220/346-380 V, 60 Hz
	3 x 575 V, 60 Hz
	3 x 380-415 V, 50 Hz; 440-480 V, 60 Hz
	3 x 220-240/380-415 V, 50 Hz
	3 x 220-255/380-440 V, 60 Hz

¹¹⁾ IP55 is not recommended for operation in condensing environments.

For operation in such environments, see the section on operation in condensing environments.

Related information

[Operation in condensing environments](#)

Motor protection

Mains-operated motors (CM)

Single-phase motors, 1 x 115/230 V, 60 Hz, do not incorporate motor protection and must be connected to a motor-protective circuit breaker which can be manually reset. Set the motor-protective circuit breaker according to the rated current of the motor ($I_{1/1}$). See the nameplate.

Other single-phase motors have built-in current- and temperature-dependent motor protection in accordance with IEC 60034-11 and require no further motor protection. The motor protection reacts to both slow- and quick-rising temperatures. The motor protection is automatically reset.

Three-phase motors up to 3 kW must be connected to a motor-protective circuit breaker which can be manually reset. Set the motor-protective circuit breaker according to the rated current of the motor ($I_{1/1}$). See the nameplate.

Motors with power ratings of 3 kW and up have built-in thermistors (PTC)¹². The thermistors are designed according to DIN 44082. The motor protection reacts to both slow- and quick-rising temperatures.

Electronically speed-controlled motors (CME)

CME pumps require no external motor protection. The MGE motor incorporates thermal protection against steady overload and stalled condition (IEC 34-11).

Frequency converter operation

All three-phase motors can be connected to a frequency converter. Depending on the frequency converter type, this may cause increased acoustic noise from the motor. Furthermore, it may cause the motor to be exposed to detrimental voltage peaks.

Single-phase motors must not be connected to a frequency converter.

Standard MG 71- and MG 80-based motors have no phase insulation and must therefore be protected against voltage peaks higher than 650 V (peak value) between the supply terminals.

Note that MG 71- and MG 80-based motors with phase insulation are available on request.

The above disturbances, that is both increased acoustic noise and detrimental voltage peaks, can be eliminated by fitting an LC filter between the frequency converter and the motor.

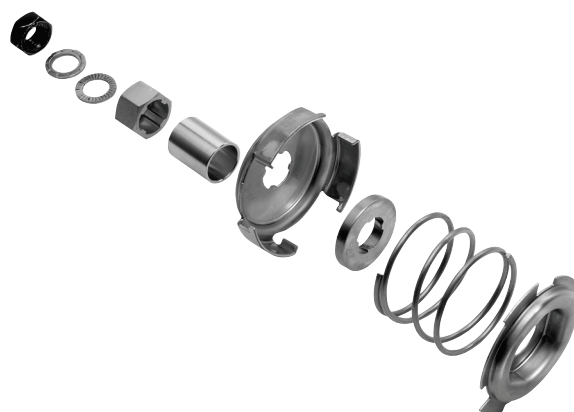
For further information, please contact the frequency converter supplier or Grundfos.

Shaft seal

The shaft seal for the CME and CM pumps is of the O-ring type, which makes it very flexible when different types of O-rings and seal-face materials are needed. The shaft seal has a fixed seal driver which ensures a reliable rotation of all parts - even under the most extreme operating conditions.

Due to the special design of the shaft seal and the interfaces to the rest of the pump construction, the dry-running capabilities are improved significantly compared to most other similar shaft seals and pump types.

Furthermore, improvements have been made to reduce the risk and effect of sticking. The shaft seal types available can be found in the section on selection of CME pumps where the key parameters of selecting a shaft seal are also described.



TM051131

Exploded view of a shaft seal

Note that the available shaft seals for CME and CM pumps are very robust and durable, but dry running must always be avoided.

Details regarding operating conditions for the shaft seal can be found in the section on operating range of the shaft seal.

Further information about the shaft seal can be found in the separate book covering shaft seals which can be ordered from Grundfos.

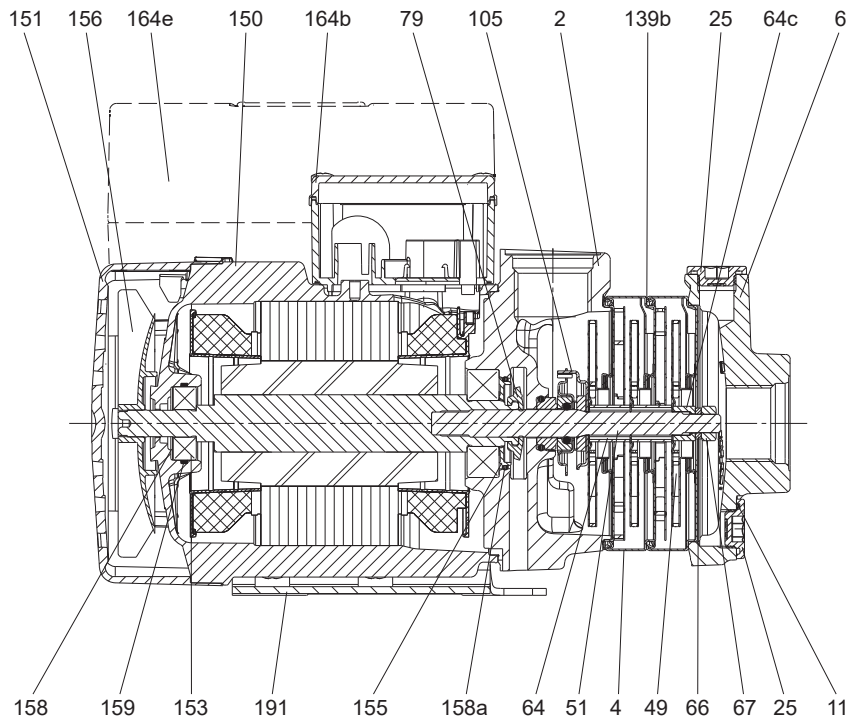
Title	Publication number
Mechanical shaft seals for pumps	97506935

Related information

[Operating range of the shaft seal](#)

[Selection of CME pumps](#)

¹² Applies only to supply voltages F, G and O. Motors for other supply voltages must be connected to a motor-protective circuit breaker as described for three-phase motors up to 3 kW.

CME, CM 1-A**(A = cast iron EN-GJL-200)****Sectional drawing**

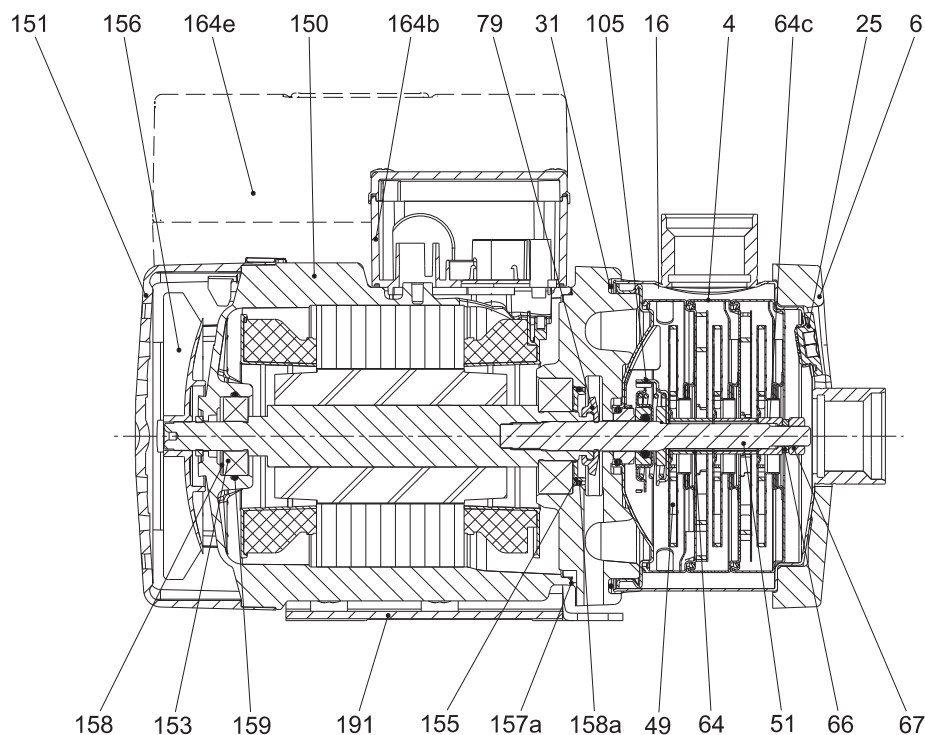
TM043723

*CME, CM 1-3 with MG, MGE 71 motor***Components**

Pos.	Component	Pos.	Component	Pos.	Component
2	Outlet part	64c	Clamp	153	Ball bearing
4	Chamber	66	Washer (NORD-LOCK)	155	Bearing cover plate
6	Inlet part	67	Nut	156	Fan
11	O-ring	79	Diverting disc	158	Corrugated spring
25	Plug	105	Shaft seal	158a	O-ring
49	Impeller	139b	Gasket	159	O-ring
51	Pump shaft	150	Stator housing	164b, 164e	Terminal box
64	Spacing pipe	151	Fan cover	191	Base plate

CME, CM 1-I and CME, CM 1-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)

Sectional drawing

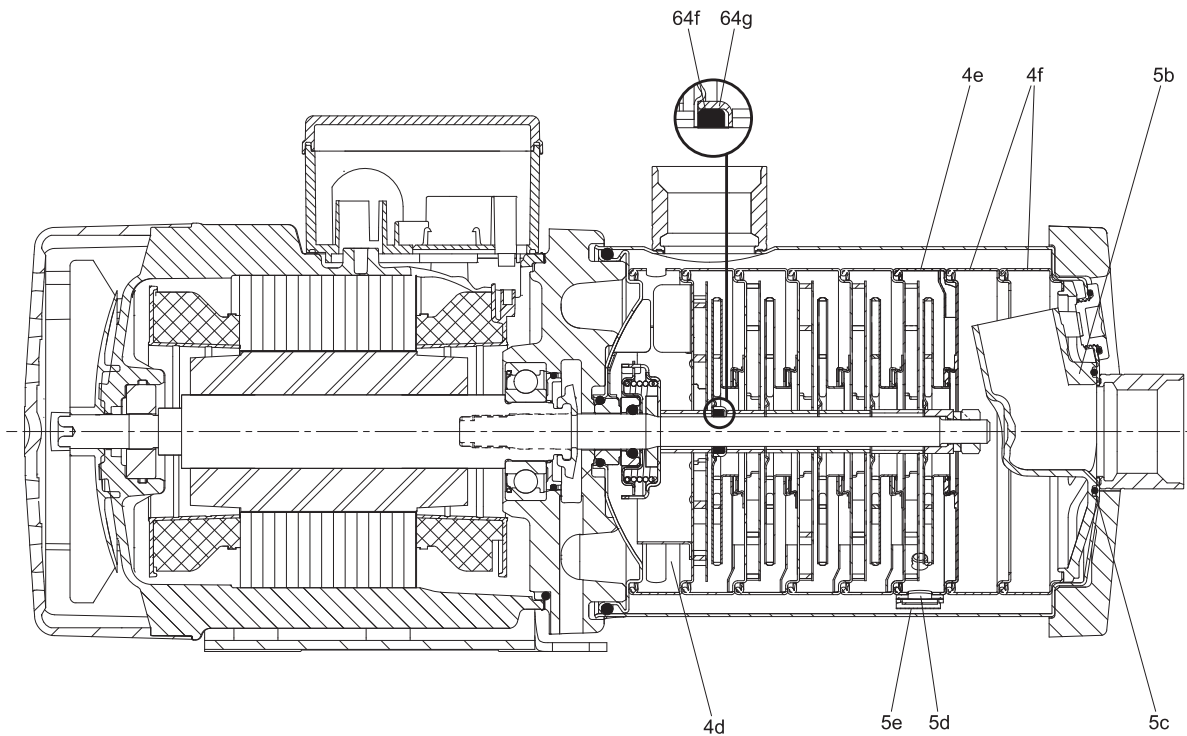
TM043722

*CME, CM 1-3 with MG, MGE 71 motor***Components**

Pos.	Component	Pos.	Component	Pos.	Component
4	Chamber	64c	Clamp	155	Bearing cover plate
6	Flange	66	Washer (NORD-LOCK)	156	Fan
16	Sleeve	67	Nut	157a	Gasket
25	Plug	79	Diverting disc	158	Corrugated spring
31	O-ring	105	Shaft seal	158a	O-ring
49	Impeller	150	Stator housing	159	O-ring
51	Pump shaft	151	Fan cover	164b, 164e	Terminal box
64	Spacing pipe	153	Ball bearing	191	Base plate

CM self-priming

(Stainless steel: I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)

Sectional drawing

TM058874

*CM 1-3, self-priming version***Components**

Pos.	Description	Material
4d	Chamber complete with ribs and vanes	Stainless steel (EN 1.4301/AISI 304)
4e	Chamber with recirculation hole	Stainless steel (EN 1.4301/AISI 304)
4f	Empty chambers	Stainless steel (EN 1.4301/AISI 304)
5b	Syphon	Composite (Noryl 731s-701-1977)
5c	O-ring	EPDM
5d	Base for valve	Composite (Noryl 731s-701-1977)
5e	Spring plate	Stainless steel (EN 1.4310/AISI 301)
64f	Rubber seal	EPDM
64g	Container for rubber seal	Stainless steel (EN 1.4301/AISI 304)

Material specification

Pos.	Description	Material	Pump material version					
			Cast iron (EN-GJL-200)		Stainless steel (EN 1.4301/AISI 304)		Stainless steel (EN 1.4401/AISI 316)	
			EN	ISO/AISI/ASTM	EN	ISO/AISI/ASTM	EN	ISO/AISI/ASTM
Motor parts								
156b	Motor flange	Cast iron						
150	Stator housing	Silumin (Alu)						
151	Fan cover	Composite PBT/PC						
153	Ball bearing							
156	Fan	Composite PA 66 30 % GF						
158	Corrugated spring	Steel						
164b	Terminal box, MG	Composite PC/ASA or						
164e	Terminal box, MGE	silumin (Alu)						
191	Base plate	Steel, electrocoated	1.0330.3		1.0330.3			
		Steel, powder-coated, 60 to 120 µ, NCS 7005					1.0330.3	
79	Diverting disc	Silicone fluid (LSR)						
155	Bearing cover plate	PPS						
Pump parts								
105	Shaft seal, steel parts	Stainless steel	1.4301/ 1.4401 ¹³⁾	AISI 304/ AISI 316 ¹³⁾	1.4301/ 1.4401 ¹³⁾	AISI 304/ AISI 316 ¹³⁾	1.4401	AISI 316
	Shaft seal, seal faces	Al ₂ O ₃ /carbon or SiC						
51	Pump shaft	Stainless steel	1.4301	AISI 304	1.4301/ 1.4401 ¹³⁾	AISI 304/ AISI 316 ¹³⁾	1.4401	AISI 316
11 31 ¹⁴⁾ 158a 159	O-rings	EPDM, FKM or FFKM						
157a 14)	Gasket	Paper						
139b ¹⁵⁾	Gasket	Aramide fibres (nbr)						
2 ¹⁴⁾	Outlet part	Cast iron						
6 ¹⁴⁾	Inlet part	Cast iron						
4	Chamber	Stainless steel	1.4301/ 1.4401 ¹³⁾	AISI 304/ AISI 316 ¹³⁾	1.4301/ 1.4401 ¹³⁾	AISI 304/ AISI 316 ¹³⁾	1.4401	AISI 316
25	Plug	Stainless steel	1.4404	AISI 316L	1.4404	AISI 316L	1.4404	AISI 316L
49	Impeller	Stainless steel	1.4301/ 1.4401 ¹³⁾	AISI 304/ AISI 316 ¹³⁾	1.4301/ 1.4401 ¹³⁾	AISI 304/ AISI 316 ¹³⁾	1.4401	AISI 316
64	Spacing pipe	Stainless steel	1.4401	AISI 316	1.4401	AISI 316	1.4401	AISI 316
64c	Clamp	Stainless steel	STX2000 ¹⁶⁾		STX2000 ¹⁶⁾		STX2000 ¹⁴⁾	
6 ¹⁴⁾	Flange	Cast iron						
16	Sleeve	Stainless steel			1.4301/ 1.4401 ¹³⁾ 17)	AISI 304/ AISI 316 ¹³⁾	1.4401	AISI 316
67	Nut	Stainless steel A4						
66	Washer (NORD-LOCK)	Steel	1.4547		1.4547		1.4547	

¹³⁾ On request.

¹⁴⁾ Only in CME, CM-I/G pumps.

¹⁵⁾ Only in CME, CM-A pumps.

¹⁶⁾ STX2000 ~ CrNiMO 22 19 4.

¹⁷⁾ As standard, the pumps listed below are fitted with sleeves made of stainless steel 1.4401:

CME, CM 1-9 up to and including CME, CM 1-14

CME, CM 3-9 up to and including CME, CM 3-14

CME, CM 5-9 up to and including CME, CM 5-13

CME, CM 10-6 up to and including CME, CM 10-8.

11. Grundfos CUE

CM pumps connected to Grundfos CUE external frequency converters



TM077198

Grundfos CUE product range

As an alternative to CME pumps with variable speed, Grundfos CUE is a complete range of frequency converters for pump control in a wide range of applications. Grundfos CUE is designed for wall mounting.

Wide product range



TM043283

The CUE product range is quite comprehensive, covering five different voltage ranges, enclosure classes IP20/21 (NEMA 1) and IP54/55 (NEMA 12), and a wide, 3-phase range of output powers.

The table below provides a general overview.

Input voltage [V]	Output voltage [V]	Motor [kW]
1 x 200-240	3 x 200-240	1.1 - 7.5
3 x 200-240	3 x 200-240	0.75 - 45
3 x 380-500	3 x 380-500	0.55 - 250
3 x 525-600	3 x 525-600	0.75 - 7.5

12. Approvals and markings

CME, CM pumps

Safety approvals

cULus, pumps

The cULus approval complies with the following standards:

- UL778 and C22.2 No 108
- NEMA 250 (IP code).

The cULus approval covers the standard product range for the following supply voltages:

- 1 x 115/230 V, 60 Hz (supply voltage B)
- 1 x 115/230 V, 60 Hz (supply voltage B1)

Contact Grundfos for further information.

Overheating protection

Note that cULus-approved pumps have no internal protection.

cURus, IE3 motors

The cURus approval for the IE3 motors complies with the following standards:

- UL1004-1
- CSA 22.2 No. 100.

Note that motors with power ratings of 3 kW and up have built-in thermistors (PTC).

The cURus approval covers the IE3 motors for the following supply voltages:

- 3 x 208-230/440-480 V, 60 Hz (supply voltage E/E1/E3)
- 3 x 200/346 V, 50 Hz 3 x 200-220/346-380 V, 60 Hz (supply voltage G)
- 3 x 220-240/380-415 V, 50 Hz 3 x 220-255/380-440 V, 60 Hz (supply voltage O)
- 3 x 380-415 V, 50 Hz 440-480 V, 60 Hz (supply voltage J)
- 3 x 575 V, 60 Hz (supply voltage H).

cURus, E-motors

The cURus approval for E-motors complies with the following standards:

- UL 1004-1
- CSAC22.2 No. 100
- UL 60730-1.

The cURus approval covers the CME motors for the following supply voltages:

- 3 x 380-500 V, 50/60 Hz (supply voltage S)
- 3 x 440-480 V, 50/60 Hz (supply voltage T)
- 1 x 200-240 V, 50/60 Hz (supply voltage U)
- 3 x 200-240 V, 50/60 Hz (supply voltage V).

Drinking water approvals

- WRAS
- ACS
- NSF61 and NSF372
- German Drinking Water Ordinance, TrinkwV §17, (2), (UBA).

Energy approvals

The following energy approvals are available on request:

- CEL
- cURus Energy for Canada
- Energy Independence and Security Act (EISA) for the USA (CC marking)
- ErP for EU
- Minimum energy performance standard (MEPS) for Korea, Taiwan, China and Brazil.

Contact Grundfos if you have any questions regarding energy approvals for other countries.

Other approvals and compliance with directives

- CCC
- EAC
- PSE
- RCM
- RoHS.

Markings



CM self-priming pumps

The following approvals and markings are available as standard. Further approvals and markings are available on request. Contact Grundfos for further information.

Drinking water approvals

- WRAS
- ACS
- German Drinking Water Ordinance, TrinkwV §17, (2), (UBA).

Other approvals and compliance with directives

- CCC
- CEL
- ErP
- EAC
- RoHS.

Markings



13. Certificates

Certificate	Description
Certificate of compliance with the order	According to EN 10204, 2.1. Grundfos document certifying that the pump supplied is in compliance with the order specifications.
Test certificate. Non-specific inspection and testing	According to EN 10204, 2.2. Certificate with inspection and test results of a non-specific pump.
Inspection certificate 3.1	Grundfos document certifying that the pump supplied is in compliance with the order specifications. Inspection and test results are mentioned in the certificate.
Inspection certificate	<p>Grundfos document certifying that the pump supplied is in compliance with the order specifications. Inspection and test results are mentioned in the certificate. Certificate from the surveyor is included.</p> <p>We offer the following inspection certificates:</p> <ul style="list-style-type: none"> • Lloyds Register of Shipping (LRS) • DNV GL (Det Norske Veritas Germanischer Lloyd) • American Bureau of Shipping (ABS) • Registro Italiano Navale Agenture (RINA) • Biro Klassifikasio Indonesia (BKI) • United States Coast Guard (USCG) • Nippon Kaiji Koykai (NKK).
Standard test report	Certifies that the main components of the specific pump are manufactured by Grundfos, and that the pump has been QH-tested, inspected and conforms to the full requirements of the appropriate catalogues, drawings and specifications.
Material specification report	Certifies the material used for the main components of the specific pump.
Duty-point verification report	Certifies a test point specified by the customer. Issued according to ISO 9906:2012 concerning "Duty point verification".
Surface-roughness	Shows the measured roughness of the cast pump base of the specific pump. The report indicates the values measured at the base inlet and outlet according to ISO 1302.
Vibration report	Vibration report indicating the values measured during the performance test of the specific pump according to ISO 10816.
Motor test report	Shows the performance test of the specific motor, including power output, current, temperature, stator windings resistance and insulation test.
Cleaned and dried pump	Confirms that the specific pump has been cleaned and dried, and how it was done.

Examples of the certificates are shown in the section on examples of certificates.

Note that other certificates are available on request.

Examples of certificates

Certificate of compliance with the order

be think innovate **GRUNDFOS**

Certificate of compliance with the order

EN 10204 2.1

General Info	
Customer name	
Customer order no.	
Customer TAG no.	
GRUNDFOS order no.	
Product type	

We the undersigned hereby guarantee and certify that the materials and/or parts for the above mentioned product were manufactured, tested, inspected, and conform to the full requirements of the appropriate catalogues, drawings and/or specifications relative thereto.

GRUNDFOS
Date: _____

Signature:
Name: _____
Dept.: _____

Part no. 96507895/PMU/000/1221711

Inspection certificate 3.1

Test certificate

be think innovate **GRUNDFOS**

Test Certificate

Non-specific inspection and testing

EN 10204 2.2

Customer name	
Customer name	
Customer order no.	
Customer TAG no.	
GRUNDFOS order no.	

Pump		Part Number
Pump type		
Motor Make		
Flow	m ³ /h	
Head	m	
Max. operating pressure	bar	
Max. operating temperature	°C	
Power P2	kW	
Voltage	V	
Frequency	Hz	
Full load current	A	
Motor speed	min ⁻¹	

We the undersigned hereby guarantee and certify that the materials and/or parts for the above mentioned product were manufactured, tested¹, inspected, and conform to the full requirements of the appropriate catalogues, drawings and/or specifications relative thereto.

GRUNDFOS
Date: _____

Signature:
Name: _____
Dept.: _____

*1) Cleaned and dried pumps and PWIS free pumps are not performance tested

Part no. 96507896/PMU/000/1221711

Inspection certificate

be think innovate **GRUNDFOS**

Inspection certificate.

EN 10204 3.1

Manufactured by	
GRUNDFOS order no.	
GRUNDFOS DUT id.	
Customer order no.	
Customer name and address	
Shipyard / factory	
Ship / new building	
Customer TAG no.	
Classifying society	GRUNDFOS authorized department

Pump		Motor	
Pump type		Make	
Part number		Part number	
Serial no.		Serial No.	
Flow rate (m ³ /h)		P2 (kW)	
Head (m)		Voltage (V)	
Max. op. P/t (bar / °C)		Current (A)	
	Din / W. - No.	n(min ⁻¹)	
Base/Pump head cover		Frequency (Hz)	
Impeller/guide vanes		Insulation class	
Shaft/sleeve		Power factor	

Customer's requirements	
Flow rate (m ³ /h)	Head (m)

Test result ref. requirements			
Q(m ³ /h)	H(m)	n(min ⁻¹)	I(A) P1(kW)

Hydrostatic test: Bar – no leaks or deformation observed

GRUNDFOS
Date: _____

Signature:
Name: _____
Dept.: _____

Part no. 96 50 78 97/PMU/000/1135258

96507897

Inspection Certificate

Russian Maritime Register of Shipping

General info	
Customer name	
Customer order no.	GRUNDFOS order no.
Customer TAG no.	Certificate No.
Ship / new building	
Shipyard / factory	

Pump		Motor	
Pump type		Make	
Part No.		Part No.	
Serial No.		Serial No.	
Model		P2 (kW)	
Flow rate (m ³ /h)		Voltage [V]	
Head [m]		Current [A]	
Max. liquid temp [°C]		Motor speed [min ⁻¹]	
Max. opr. Press. [bar]		Frequency [Hz]	
Stamping ID		IP code	
		Max. temp. amb. [°C]	

Part according to EN 10204 - 3.1				
Part	Raw material Grundfos PN	Raw material grade and standard	Vendor	Heat / Charge No.
Pump head				
Pump head cover*				
Base				
Sleeve				
Pump head**				
Seal chamber**				
THD flange***				
Blind cover (THD)***				

*1) Only for CR(N) Back to Back, Tandem, Air cooled top
**1) Only for CR(N) MagDrive ("Pump head cover" removed and "Pump head" included)
***1) Only for CR(N) 95, 125, 155, 185, 215, 255 with base prepared for THD

Part according to EN 10204 - 2.2		
Part	Material type	Raw material grade acc. to standard
Shaft		
Impeller		
Chamber		

Operational function	
Media	Application

Required duty point	
Flow rate [m ³ /h]	Head [m]

Test performance: Result of tests are attached. See test point

Declaration of compliance for the Class Society Rules: Rules for technical supervision during construction of ships and manufacture of materials and products for ships, Part IV

GRUNDFOS
Date: _____

Signature:
Name: _____
Dept.: _____

TM034156

Standard test report

Material specification report

Test Report - Performance curve

ISO 9906:2012 Grade 3B

General info			
Customer name			
Customer order no.			
Customer TAG no.			
GRUNDFOS order no.			
Pump type	Part number		
Serial number	Model		

We the undersigned hereby guarantee and certify that the materials and/or parts for the above mentioned product were manufactured by GRUNDFOS, tested, inspected, and conform to the full requirements of the appropriate catalogues, drawings and/or specifications relative thereto.

The attached test result is from the above mentioned pump.

GRUNDFOS _____
 Date: _____
 Signature: _____
 Name: _____
 Dept.: _____

be think Innovate



Part no. 96507930/PMI/000/1250007

TM034143

Material specification report

Type EN 10204 - 2.2

General info			
Customer name			
Customer order no.			
Customer TAG no.			
GRUNDFOS order no.			
Pump type	Part number		
Serial number	Model		

Part	Material	Standard

We the undersigned hereby guarantee and certify that the materials and/or parts for the above mentioned product were manufactured, tested, inspected, and conform to the full requirements of the appropriate catalogues, drawings and/or specifications relative thereto.

GRUNDFOS _____
 Date: _____
 Signature: _____
 Name: _____
 Dept.: _____

be think Innovate



Part no. 96507928/PMI/000/1253903

TM034150

Material specification report with certificate from raw material supplier

Duty-point verification report

Test Report - Duty point verification

ISO 9906:2012 Grade 3B, Q&H

General Info			
Customer name			
Customer order no.			
Customer TAG no.			
GRUNDFOS order no.			
Pump type	Part number		
Serial number	Model		

We the undersigned hereby guarantee and certify that the materials and/or parts for the above mentioned product were manufactured by GRUNDFOS, tested, inspected, and conform to the full requirements of the appropriate catalogues, drawings and/or specifications relative thereto.

The attached test result is from the above mentioned pump.

GRUNDFOS _____
 Date: _____
 Signature: _____
 Name: _____
 Dept.: _____

be think Innovate



Part no. 96539699/PMI/000/1250007

TM034148

14. Selection

Selection of CME pumps

CME pumps are normally used in applications characterized by a variable flow rate. Consequently, you cannot select a pump that is constantly operating at its optimum efficiency. In order to achieve optimum operating economy, the duty point must therefore be close to the optimum efficiency (η) for most operating hours. For further information, see the section on communication with CME pumps.

Note that irrespective of the input frequency, the 100 % speed of CME pumps is approximately 3400 min^{-1} .

Related information

[Communication with CME pumps](#)

[CME 1](#)

Selection of pumps

Base the selection of pumps on these parameters:

- duty point of the pump
- sizing data such as pressure loss as a result of height differences, friction loss in the pipes, pump efficiency
- pump materials
- pump connections
- shaft seal.

Related information

[Operating range of the shaft seal](#)

[Pump materials](#)

[Pump connections](#)

Duty point of the pump

From a duty point, you can select a pump on the basis of the curve charts in the section on performance curves and technical data.

Ideally, the duty point should match the best efficiency on the pump curve.

Related information

[CME 1](#)

Grundfos Product Center

We recommend that you size your pump in Grundfos Product Center, which is a selection program offered by Grundfos.

Grundfos Product Center features a user-friendly and easy-to-use virtual guide which leads you through the selection of the pump for the application in question.

Related information

[29. Grundfos Product Center](#)

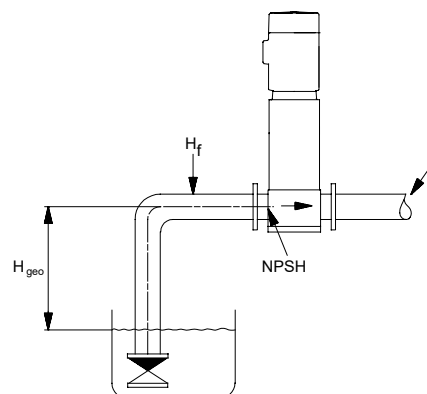
Sizing data

When sizing a pump, take these parameters into account:

- Required flow rate and pressure at the draw-off point.
- Pressure loss as a result of height differences (H_{geo}).
- Friction loss in the pipes (H_f).

It may be necessary to account for pressure loss in connection with long pipes, bends, valves or similar.

- Best efficiency at the estimated duty point.
- NPSH value.



TM026711

Sizing data

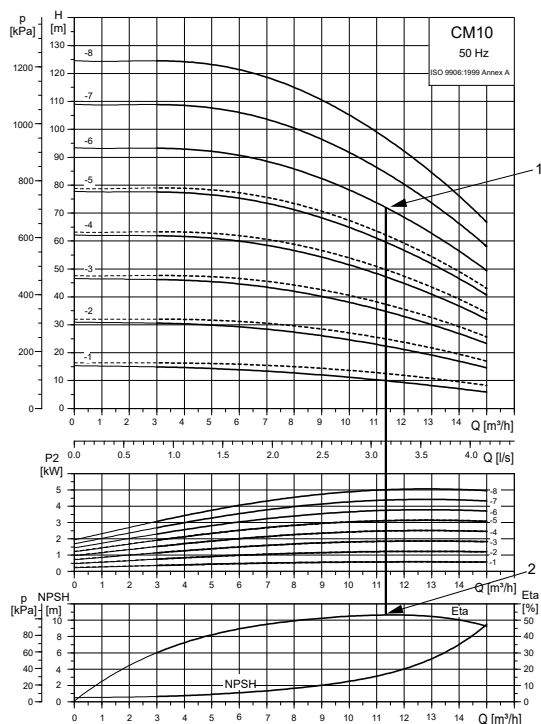
Pos.	Description
1	Required flow rate, required pressure

Related information

[Minimum inlet pressure, NPSH](#)

Pump efficiency

Before determining the best efficiency point, the operation pattern of the pump needs to be identified. If the pump is expected to operate at the same duty point, then select a CM pump which is operating at a duty point corresponding to the best efficiency of the pump. The example in the figure below shows how to check the pump efficiency when selecting a CM pump.

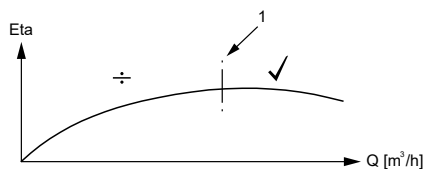


TM078916

Example of a CM pump's duty point

Pos.	Description
1	Duty point
2	Best efficiency

When sizing the pump, the efficiency (eta) must be considered so that the pump will operate at or near its maximum efficiency, for instance on the right-hand side in the curve example in the figure below.



TM009190

Best efficiency

Pos.	Description
1	Best efficiency point

Related information

- Selection of CME pumps
- Minimum inlet pressure, NPSH
- CME 1

Pump materials

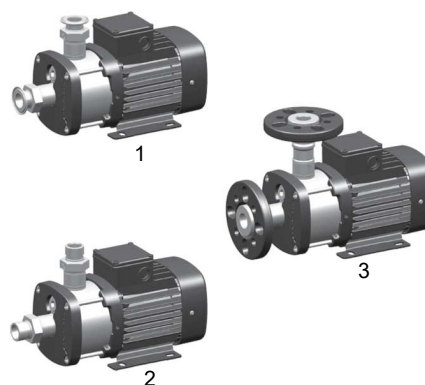
Select the material variant on the basis of the liquid to be pumped. The table below gives a general recommendation regarding selection of pump material.

Liquid to be pumped	Material in contact with pump media	Pump type
Clean, non-aggressive liquids such as potable water and oils	Cast iron ¹⁸⁾ (EN-GJL-200)	CM-A, CME-A
Industrial liquids and acids	Stainless steel (EN 1.4301/AISI 304)	CM-I, CME-I
	Stainless steel (EN 1.4401/AISI 316)	CM-G, CME-G

¹⁸⁾ The impeller, chamber and filling plugs are made of stainless steel (EN 1.4301/AISI 304).
The pump shaft is made of stainless steel (EN 1.4301/AISI 316).

Contact Grundfos for a more specific selection based on the pumped liquid.

Pump connections



TM043937

Examples of pump connections

Pos.	Description
1	Tri-Clamp®
2	Victaulic® coupling
3	DIN, JIS, ANSI flange

Selection of pump connection depends on the rated pressure and pipes. To meet any requirement, the CME and CM pumps offer a wide range of flexible connections such as the following:

- Tri-Clamp®
- DIN flange
- ANSI flange
- JIS flange
- Victaulic® coupling
- Whitworth thread Rp
- internal NPT thread.

Operating pressure and inlet pressure

Do not exceed the limit values for these pressures:

- maximum operating pressure

- maximum inlet pressure.

Minimum inlet pressure, NPSH

We recommend calculating the inlet pressure "H" in these situations:

- The liquid temperature is high.
- The flow is significantly higher than the rated flow.
- Water is drawn from depths.
- Water is drawn through long pipes.
- Inlet conditions are poor.

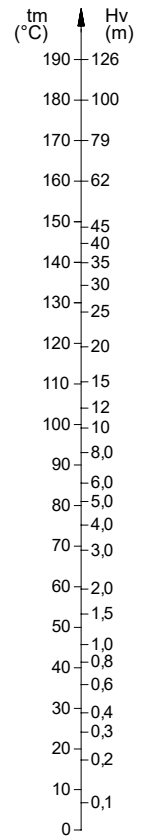
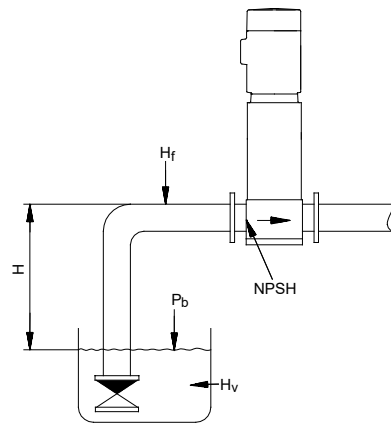
To avoid cavitation, make sure that there is a minimum pressure on the inlet side of the pump.

The maximum suction lift "H" in metres head can be calculated as follows:

- $H = p_b \times 10.2 - NPSH - H_f - H_v$
- p_b = Barometric pressure in bar.
 p_b can be set to 1 bar at sea level.
 In closed systems, p_b indicates the system pressure in bar.
- NPSH** = Net Positive Suction Head in metres head. To be read from the NPSH curve at the highest flow rate the pump will be delivering.
- H_f = Friction loss in inlet pipe in metres head at the highest flow rate the pump will be delivering.
- H_v = Vapour pressure in metres head
 To be read from the vapour pressure scale.
 H_v depends on the liquid temperature t_m .

If the calculated "H" is positive, the pump can operate at a suction lift of maximum "H" metres head.

If the calculated "H" is negative, an inlet pressure of minimum "H" metres head is required.



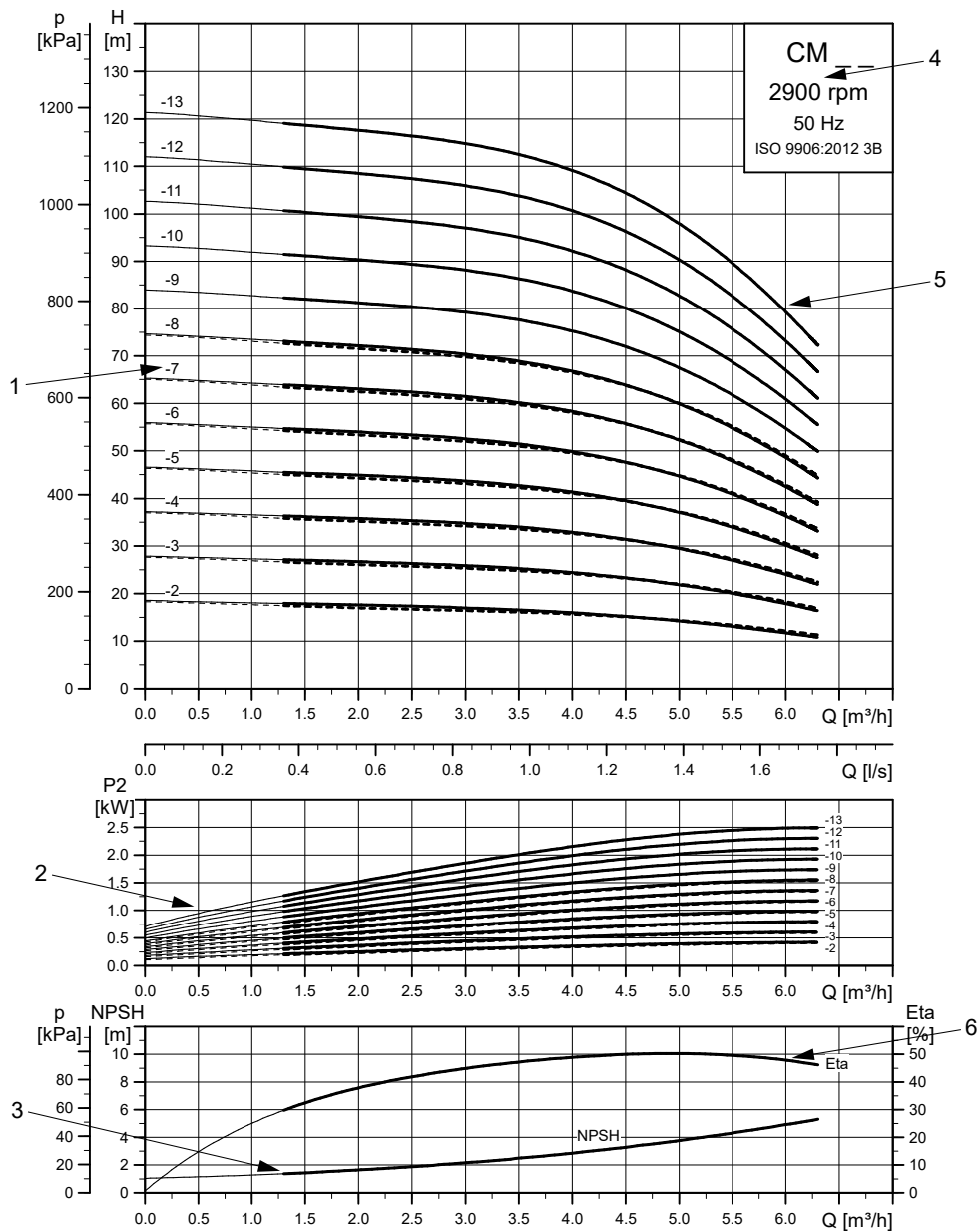
TM027439

Minimum inlet pressure, NPSH

To avoid cavitation, never select a pump with a duty point too far to the right on the NPSH curve.

Always check the NPSH value of the pump at the highest possible flow rate.

15. How to read the curve charts



TM082911

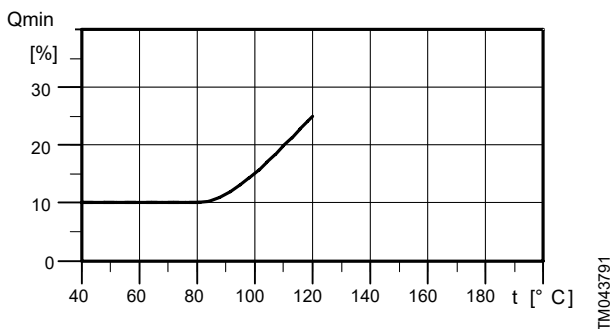
How to read the curve charts

Pos.	Description
1	Number of stages.
2	The power curves indicate the pump input power (P2) based on the number of stages and related to the actual flow rate.
3	The NPSH curve is a maximum curve for all the variants shown.
4	Pump type, speed, frequency and ISO standard.
5	QH curve for the individual pump. The bold curves indicate the recommended duty range for best efficiency.
6	The eta curve shows the efficiency of the pump. The eta curve is an average curve of all available stages and pump material variants shown in the chart.

Guidelines for performance curves

The guidelines below apply to the curves shown on the following pages:

- Tolerances to ISO 9906:2012 3B.
- Measurements have been made with airless water at a temperature of 20 °C.
- The curves apply to the following kinematic viscosity: $\nu = 1 \text{ mm}^2/\text{s}$ (1 cSt).
- The QH curves apply to fixed speeds of 2900 min^{-1} (50 Hz) and 3480 min^{-1} (60 Hz). Note that the actual speed will in most cases deviate from the above-mentioned speeds. For realistic curves, see Grundfos Product Center at www.grundfos.com, where the pump curves include the characteristics of the selected motor and therefore show curves at actual speeds. In Grundfos Product Center, you can also adjust the curves depending on the density and viscosity.
- The conversion between head H (m) and pressure p (kPa) applies to a water density of $\rho = 1000 \text{ kg/m}^3$.
- Due to the risk of overheating, the pumps are not to be used at a flow rate below the minimum flow rate. The curve in the figure below shows the minimum flow rate as a percentage of the rated flow rate in relation to the liquid temperature.



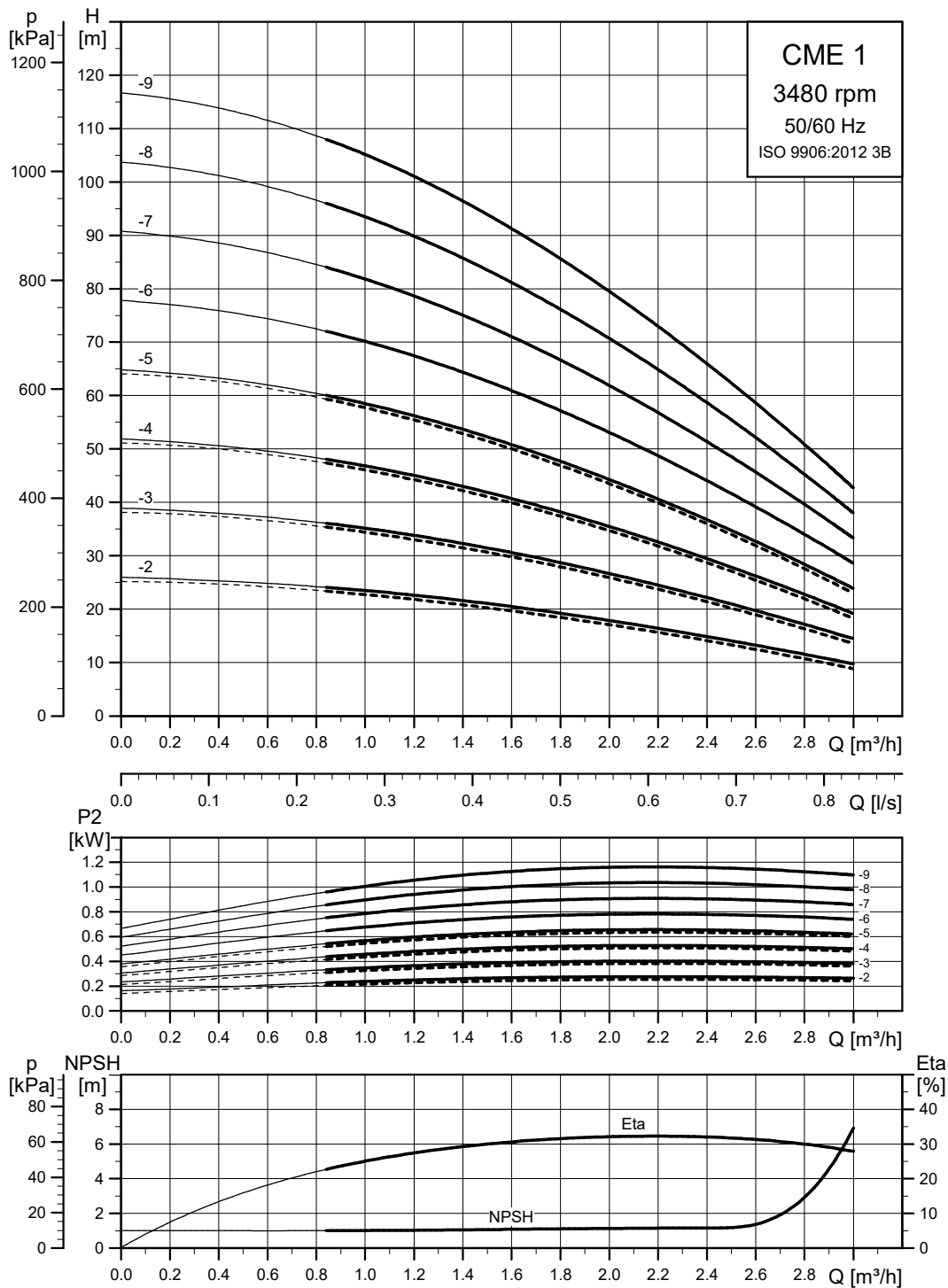
Minimum flow rate

Related information

[29. Grundfos Product Center](#)

16. Performance curves, CME 50/60 Hz

CME 1

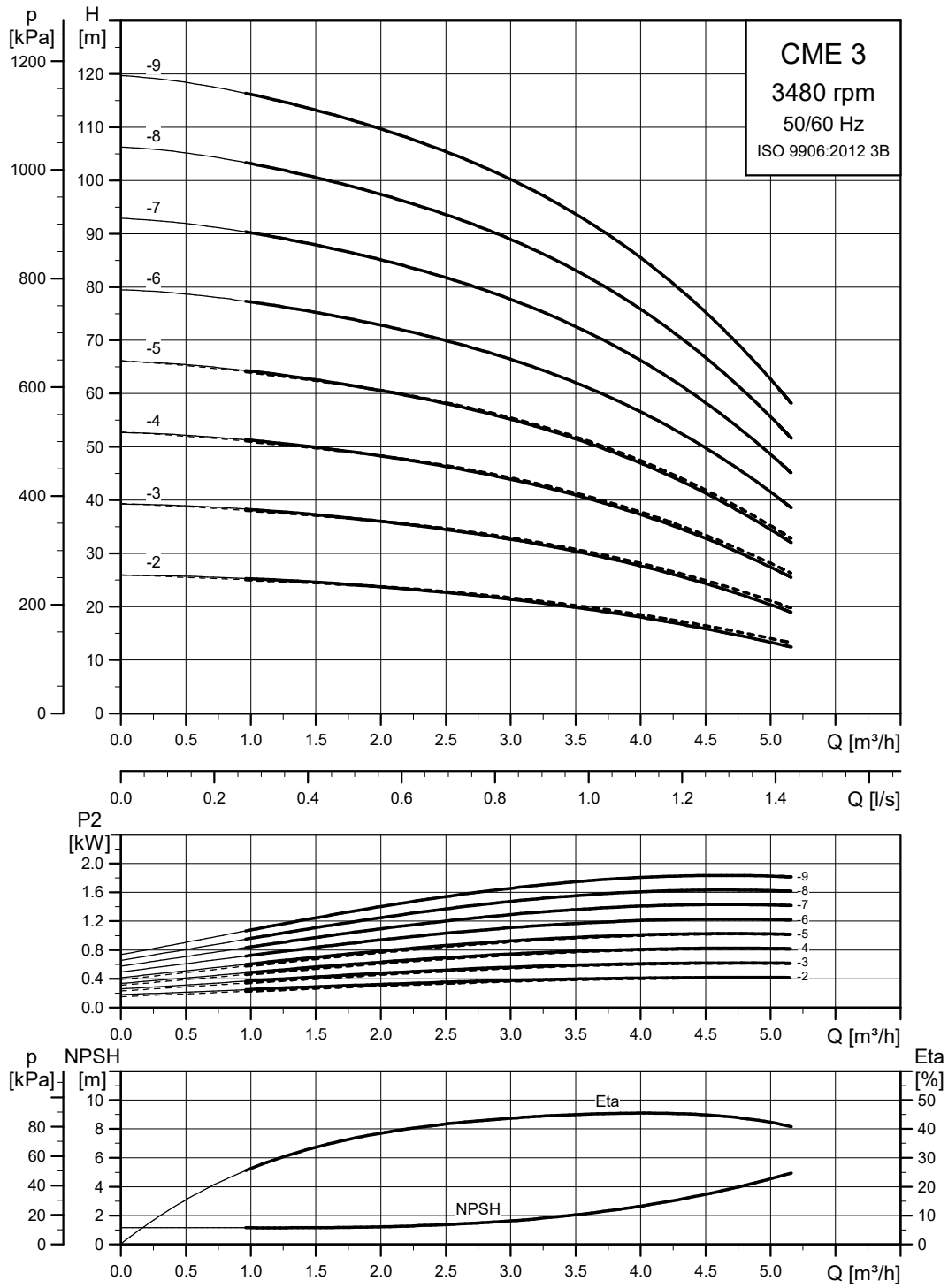


----- CME-A
 ——— CME-I/G

Irrespective of the input frequency, the 100 % speed of CME pumps is approximately 3400 min⁻¹.

TM043569

CME 3

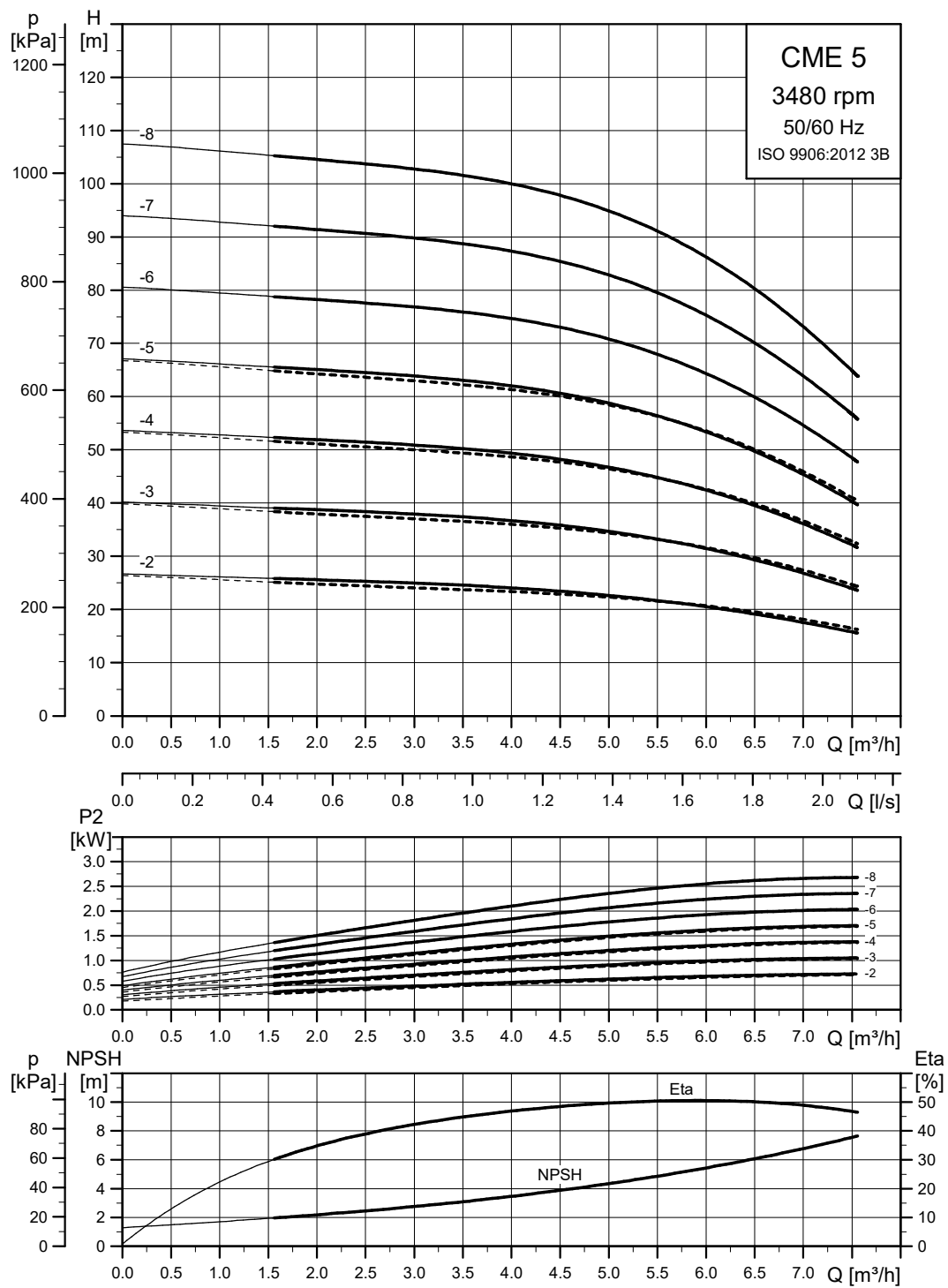


----- CME-A
 ——— CME-I/G

Irrespective of the input frequency, the 100 % speed of CME pumps is approximately 3400 min⁻¹.

TM043570

CME 5

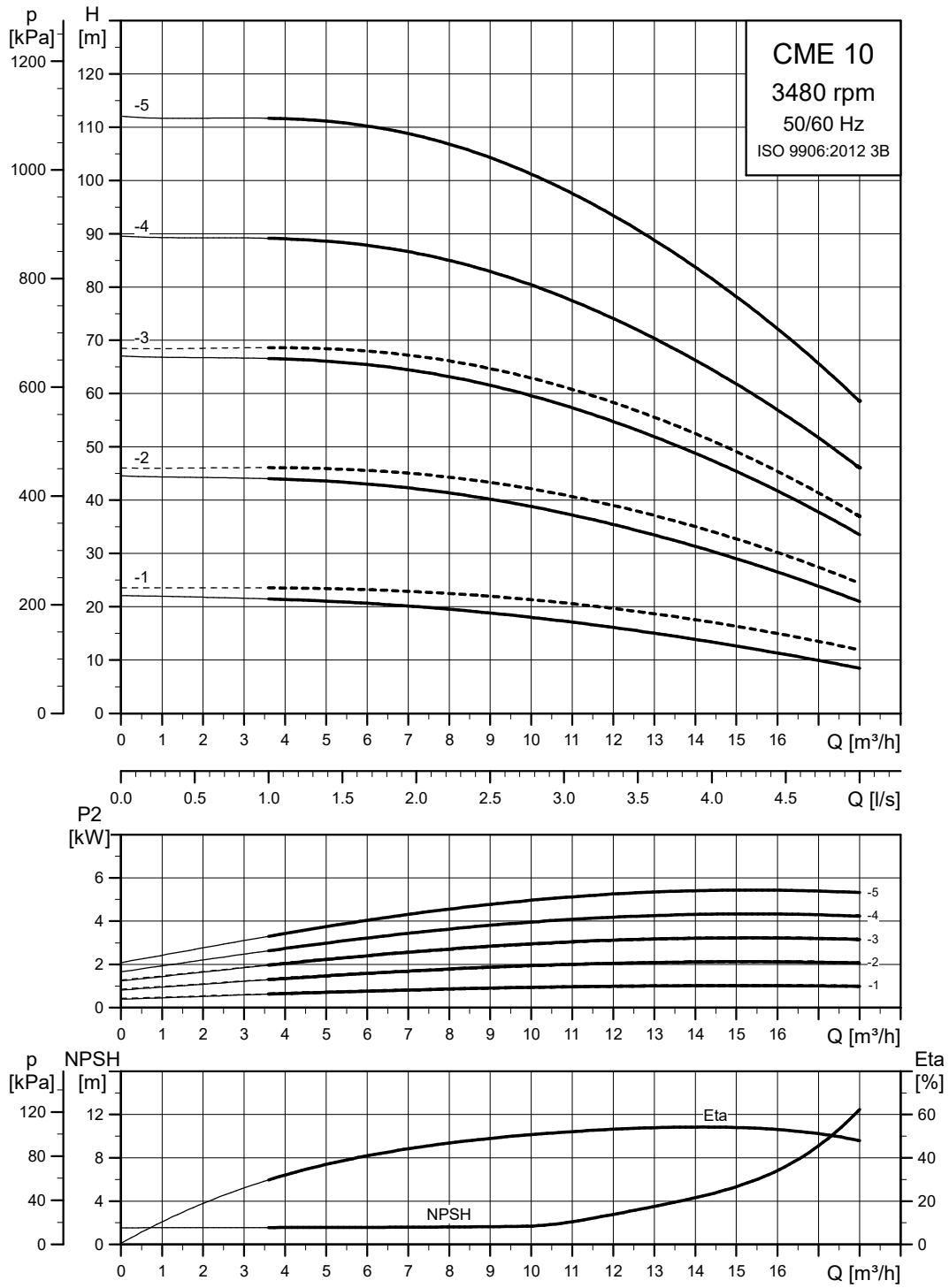


----- CME-A
—— CME-I/G

Irrespective of the input frequency, the 100 % speed of CME pumps is approximately 3400 min^{-1} .

TM043571

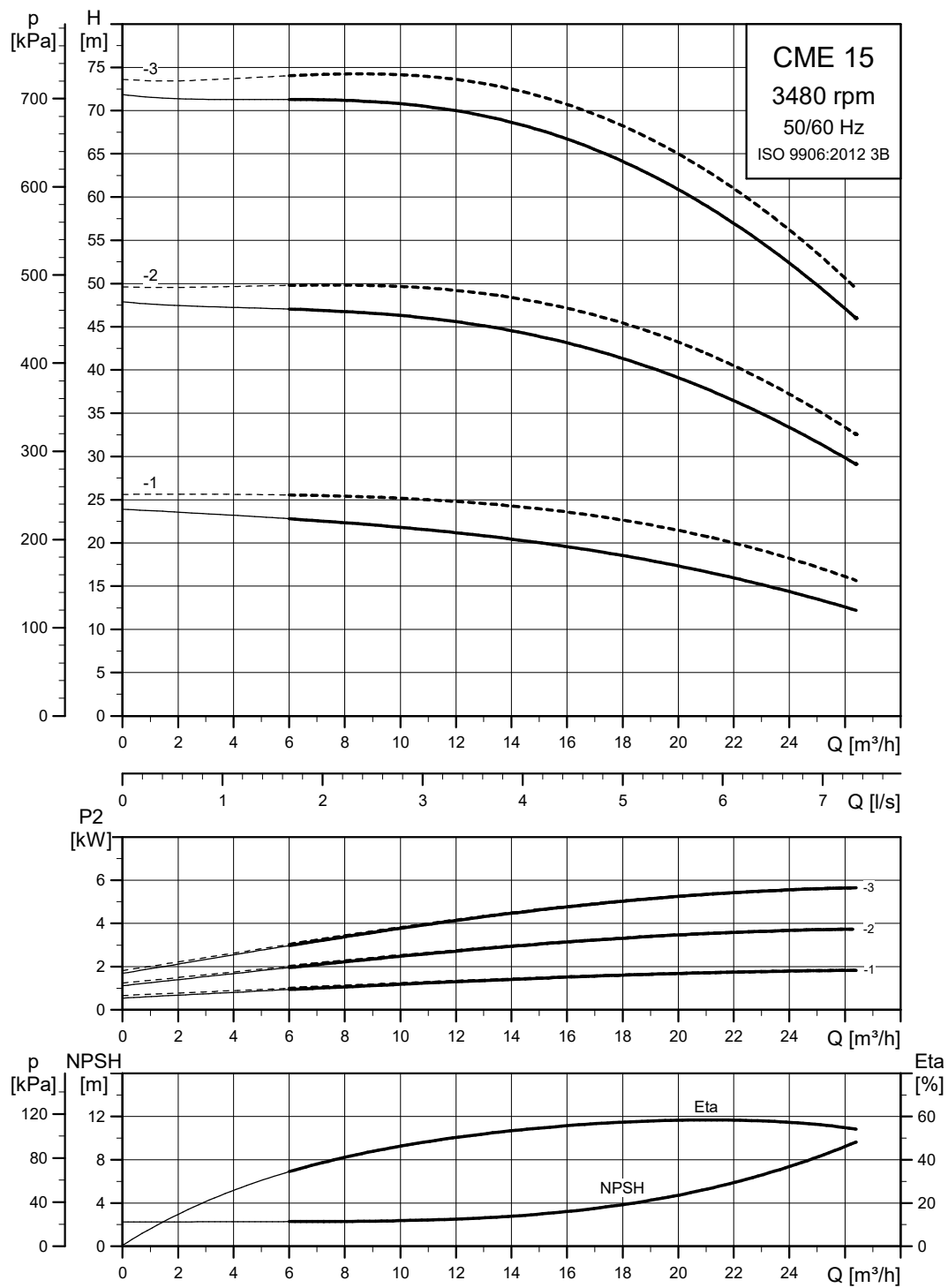
CME 10



Irrespective of the input frequency, the 100 % speed of CME pumps is approximately 3400 min⁻¹.

TM043572

CME 15

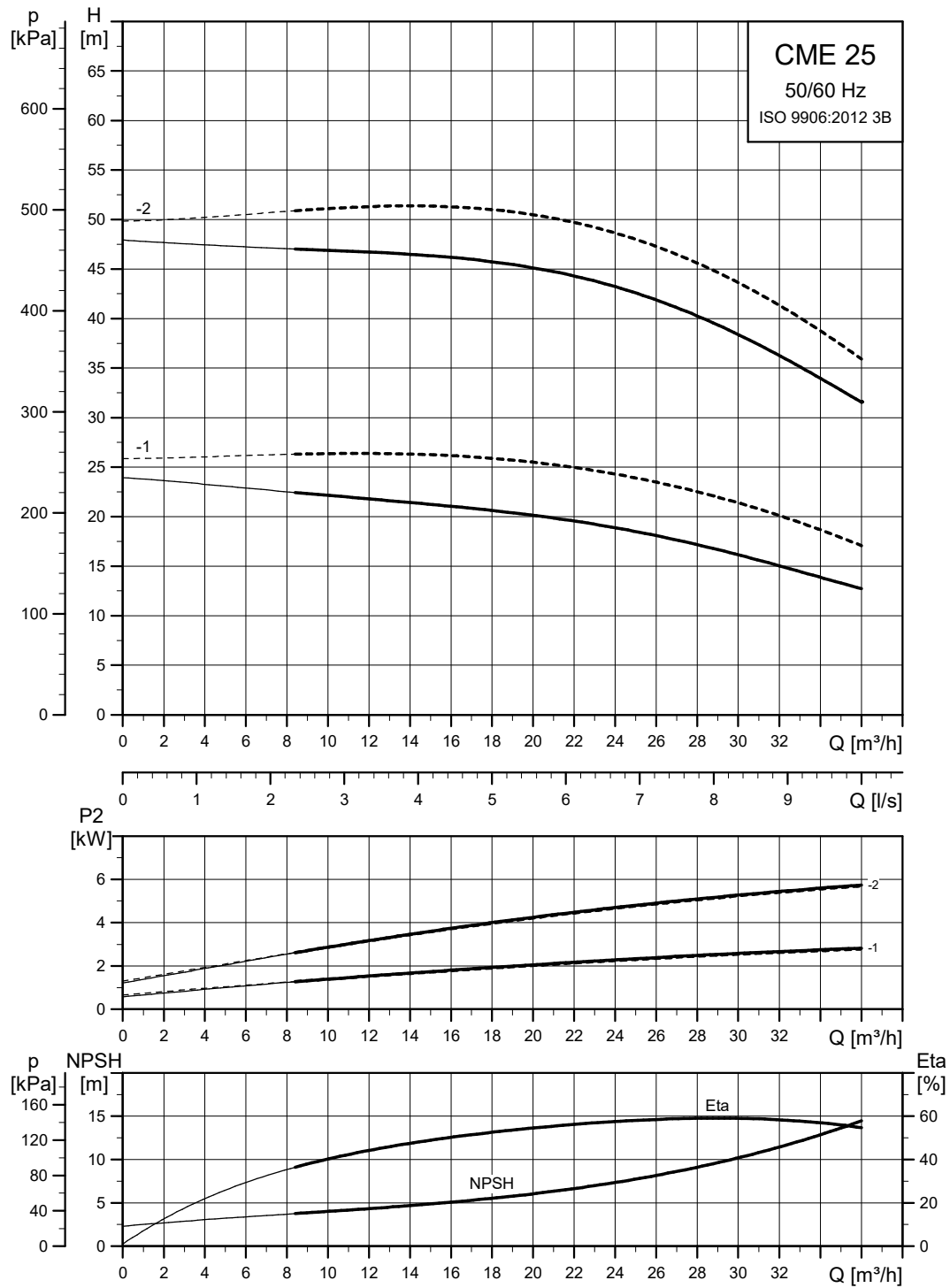


----- CME-A
—— CME-I/G

Irrespective of the input frequency, the 100 % speed of CME pumps is approximately 3400 min⁻¹.

TM043573

CME 25



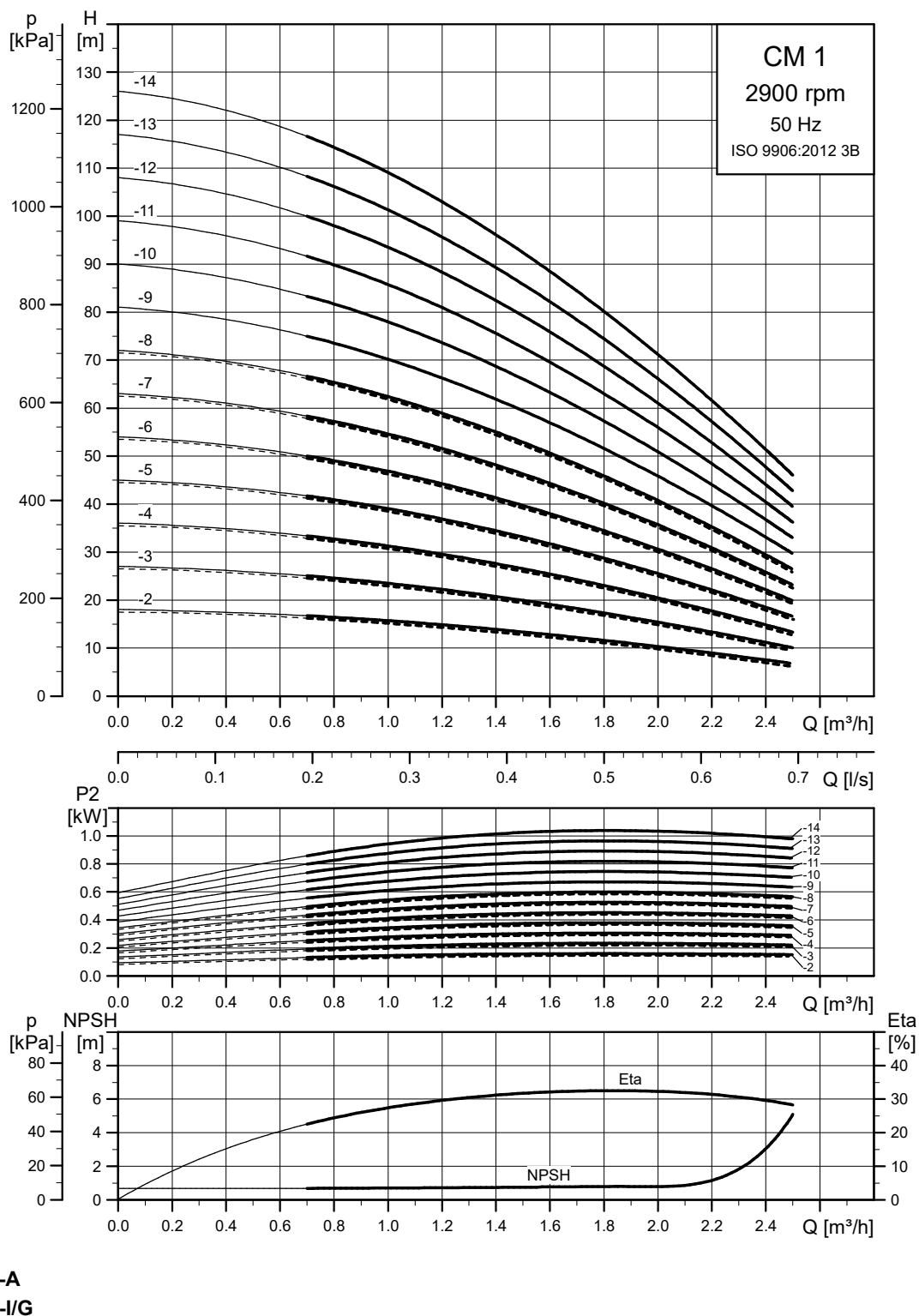
----- CME-A
 ——— CME-I/G

Irrespective of the input frequency, the 100 % speed of CME pumps is approximately 3400 min⁻¹.

TM043574

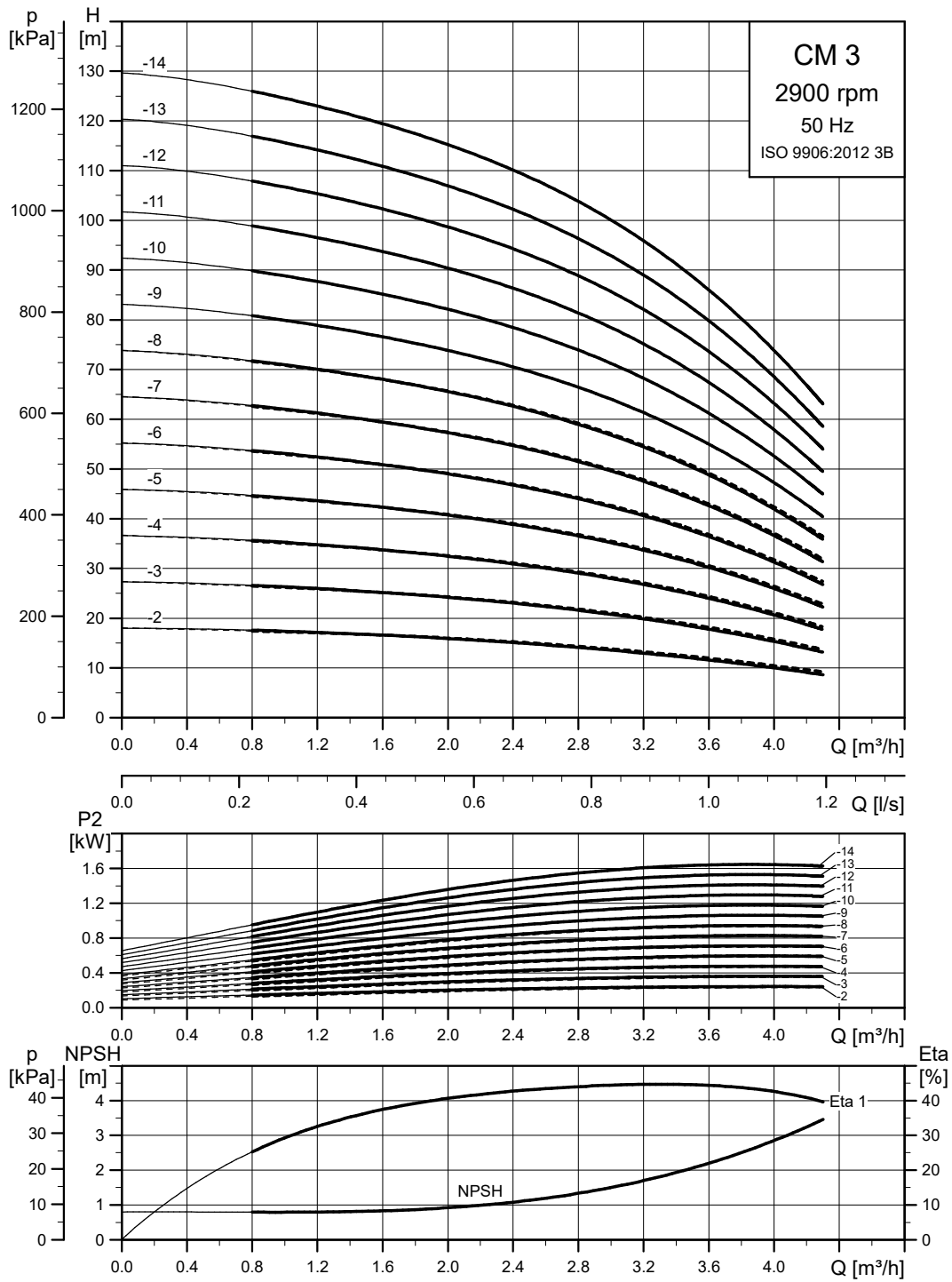
17. Performance curves, CM 50 Hz

CM 1



TM043334

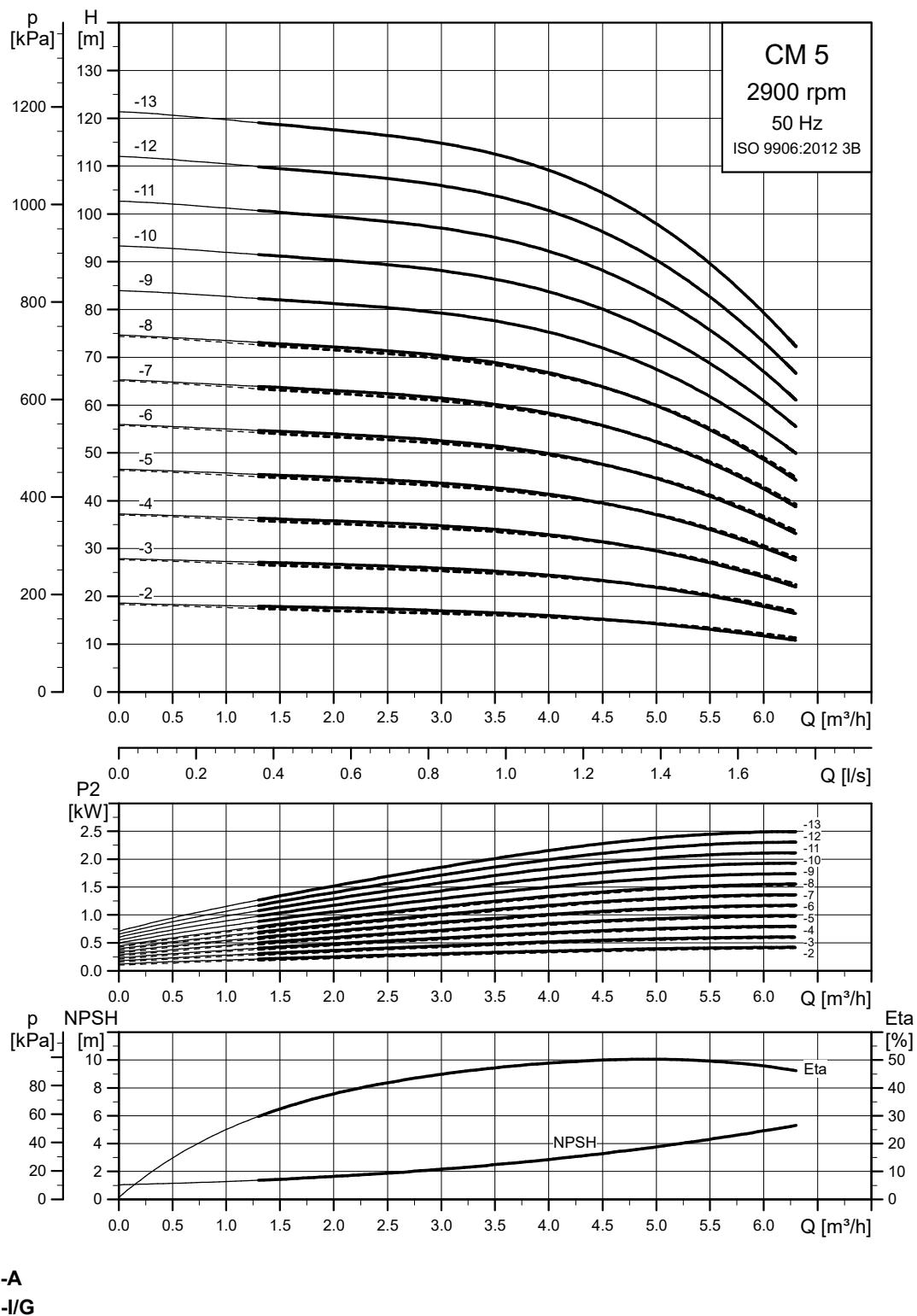
CM 3



----- CM-A
 ——— CM-I/G

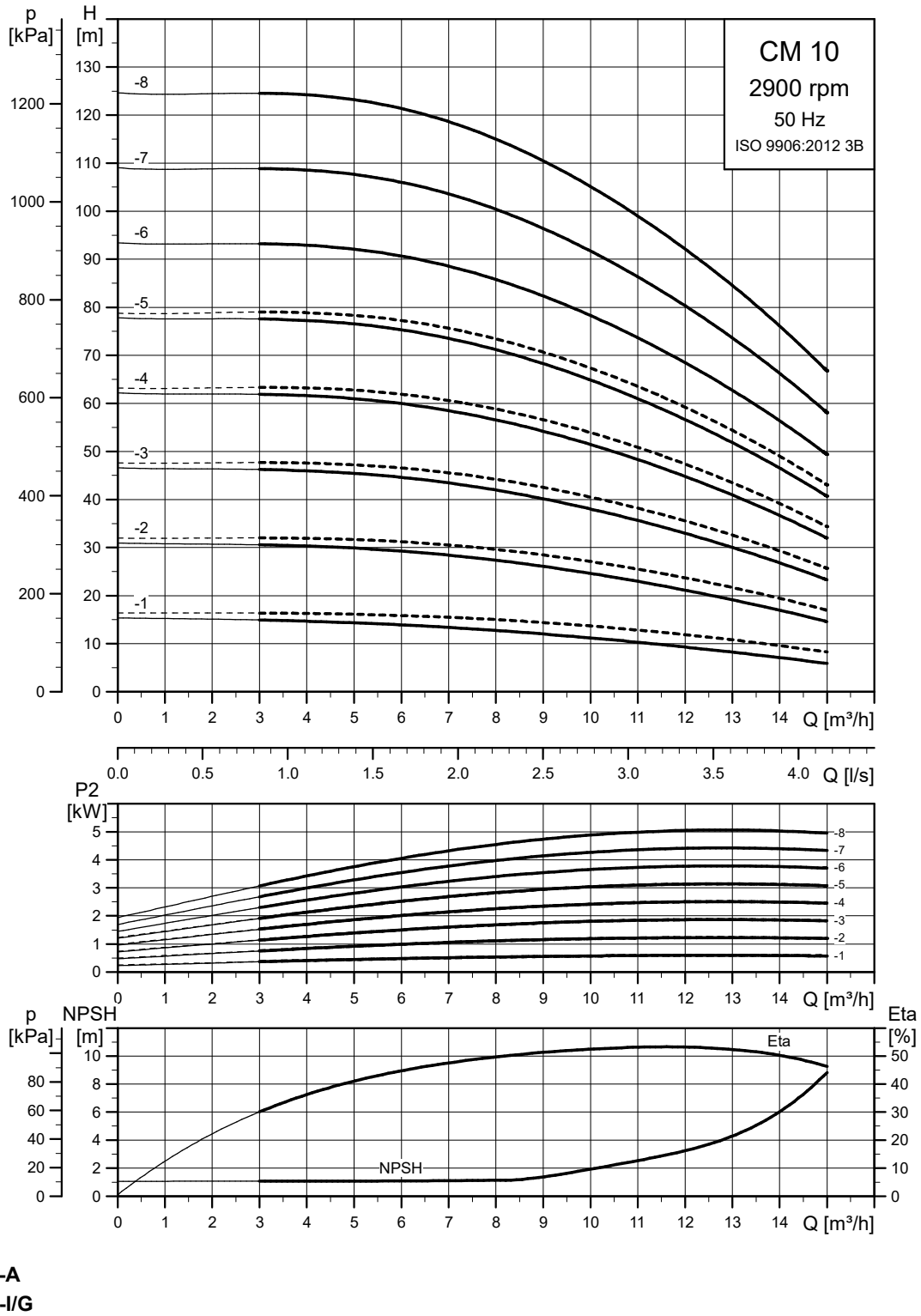
TM043335

CM 5



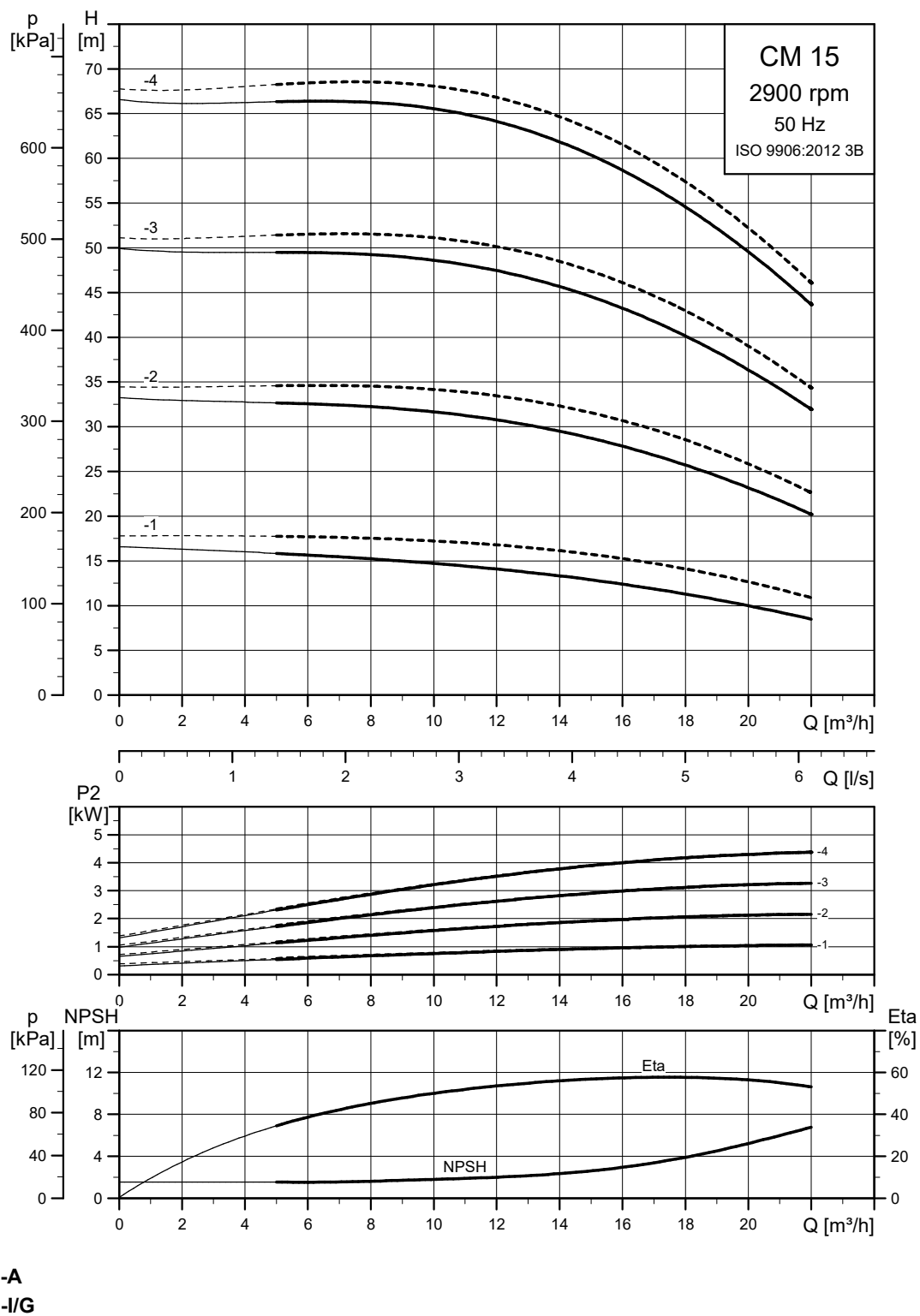
TM043396

CM 10



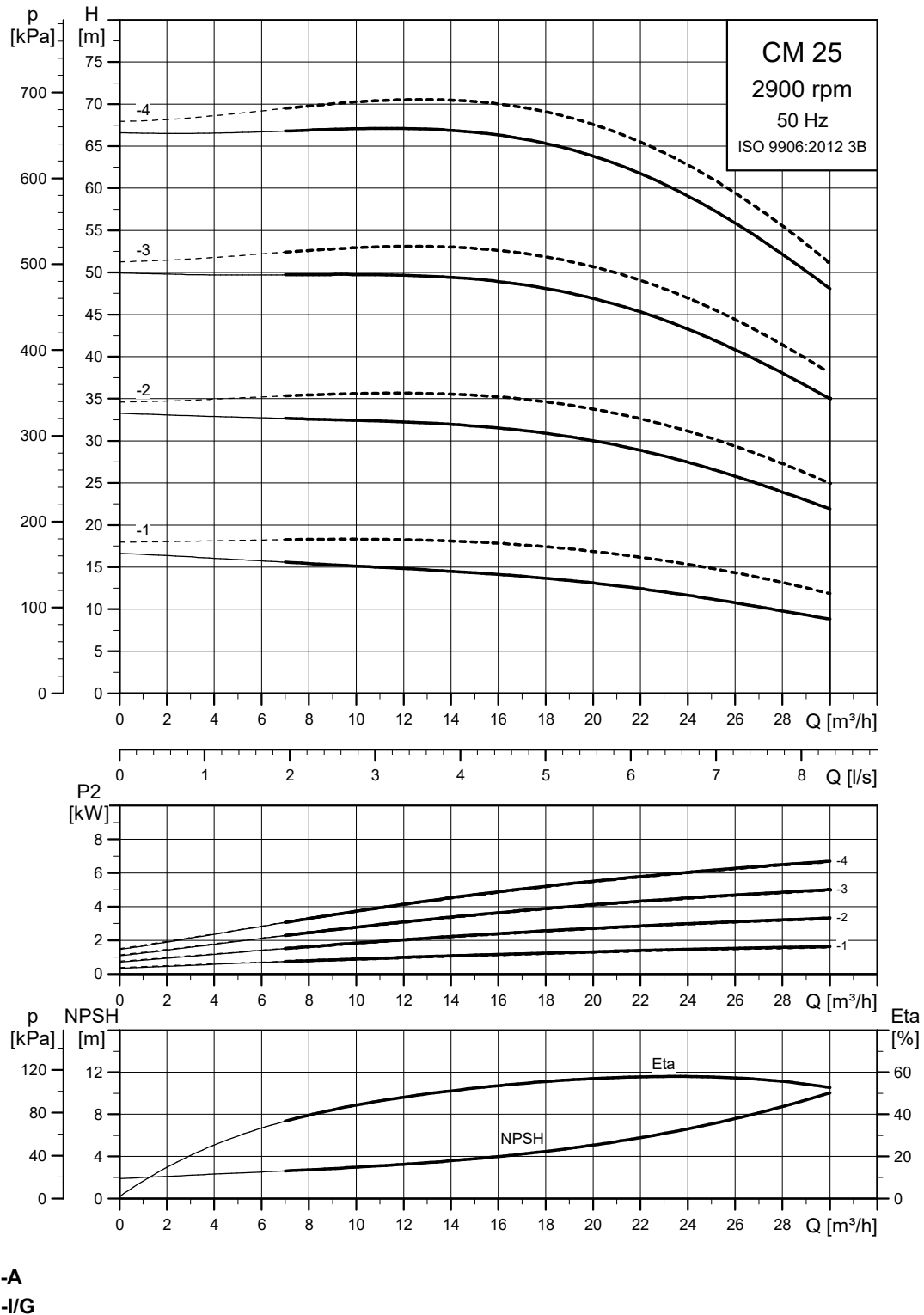
TM043337

CM 15



TM043338

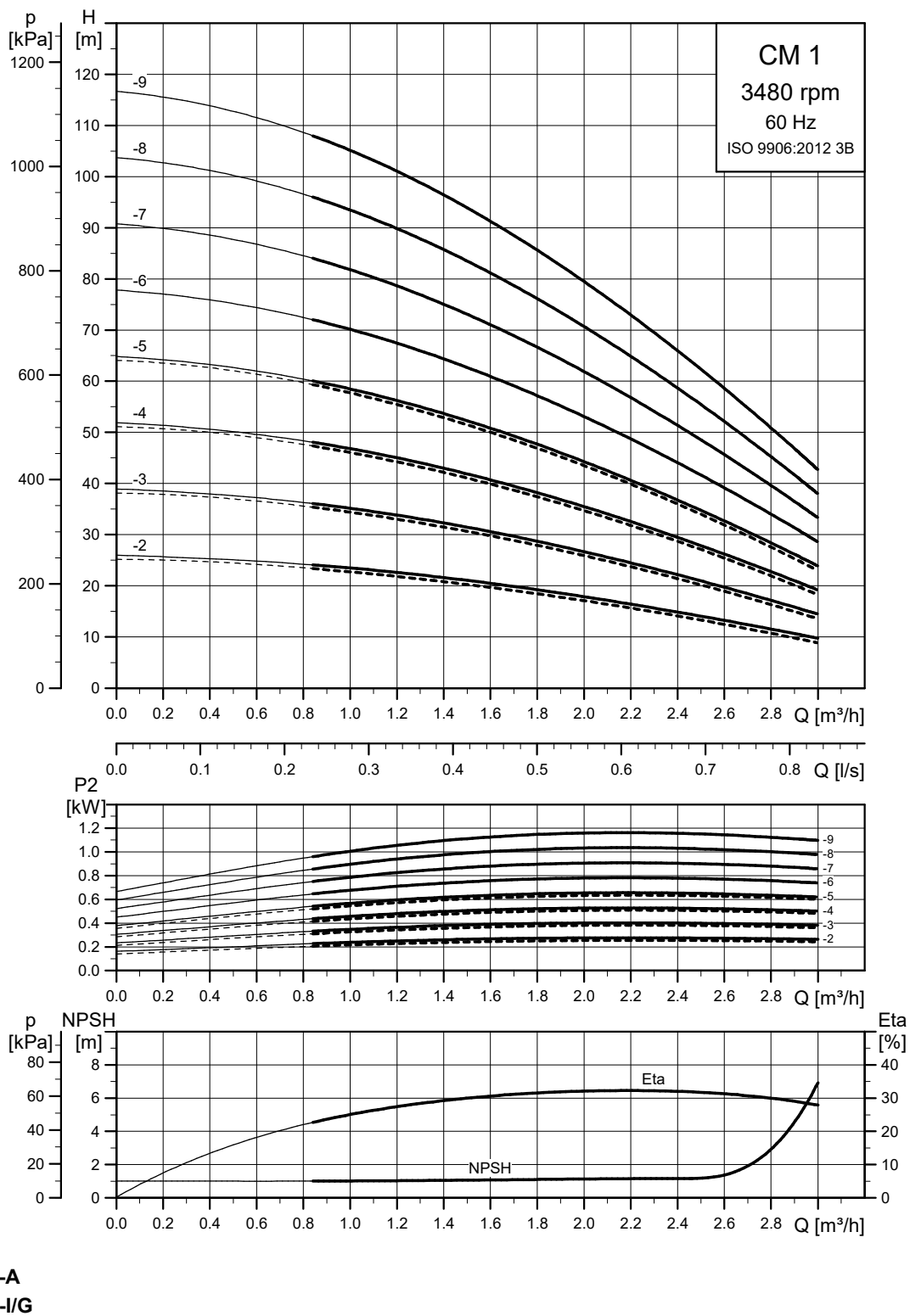
CM 25



TM043339

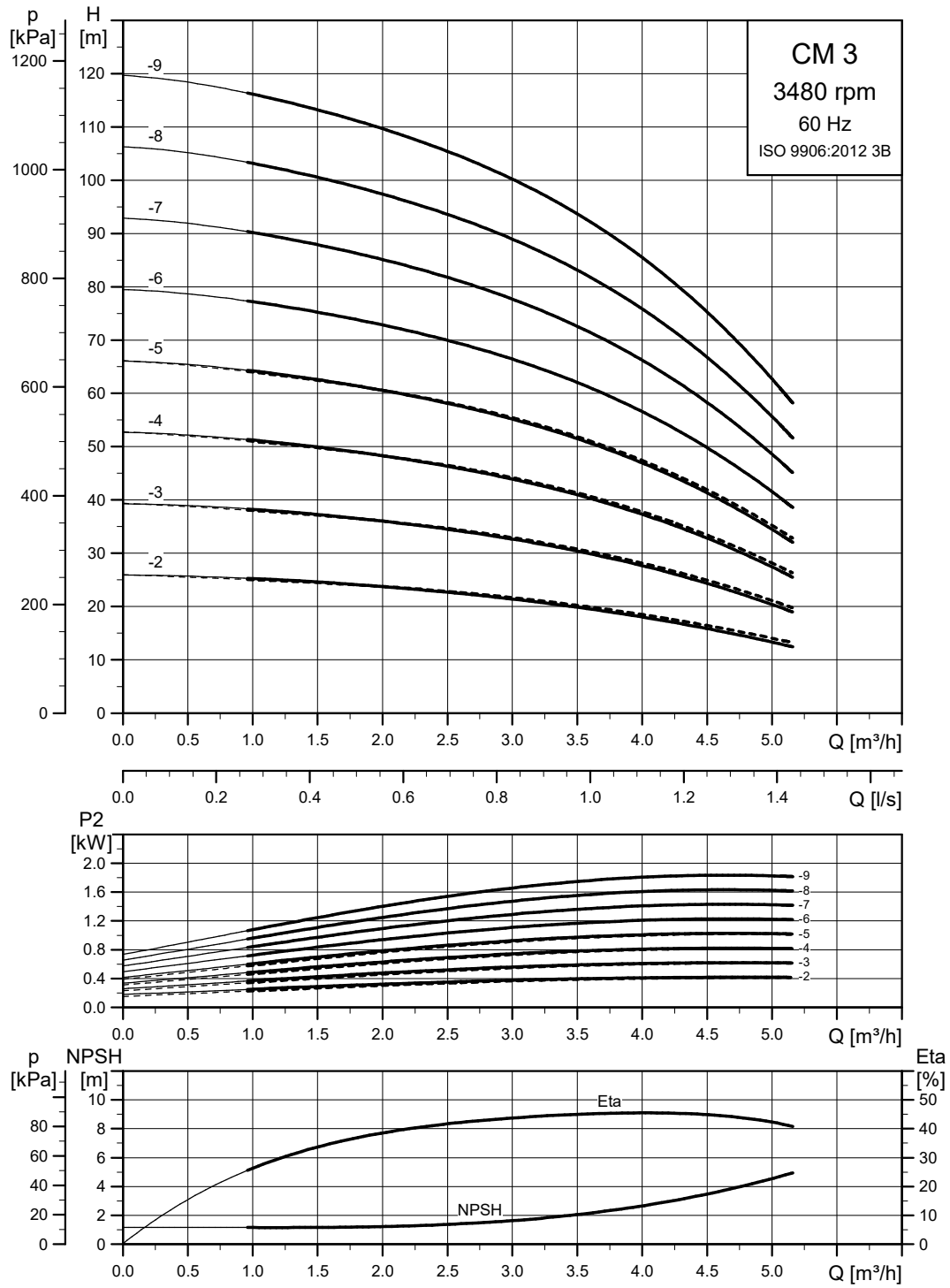
18. Performance curves, CM 60 Hz

CM 1



TM043370

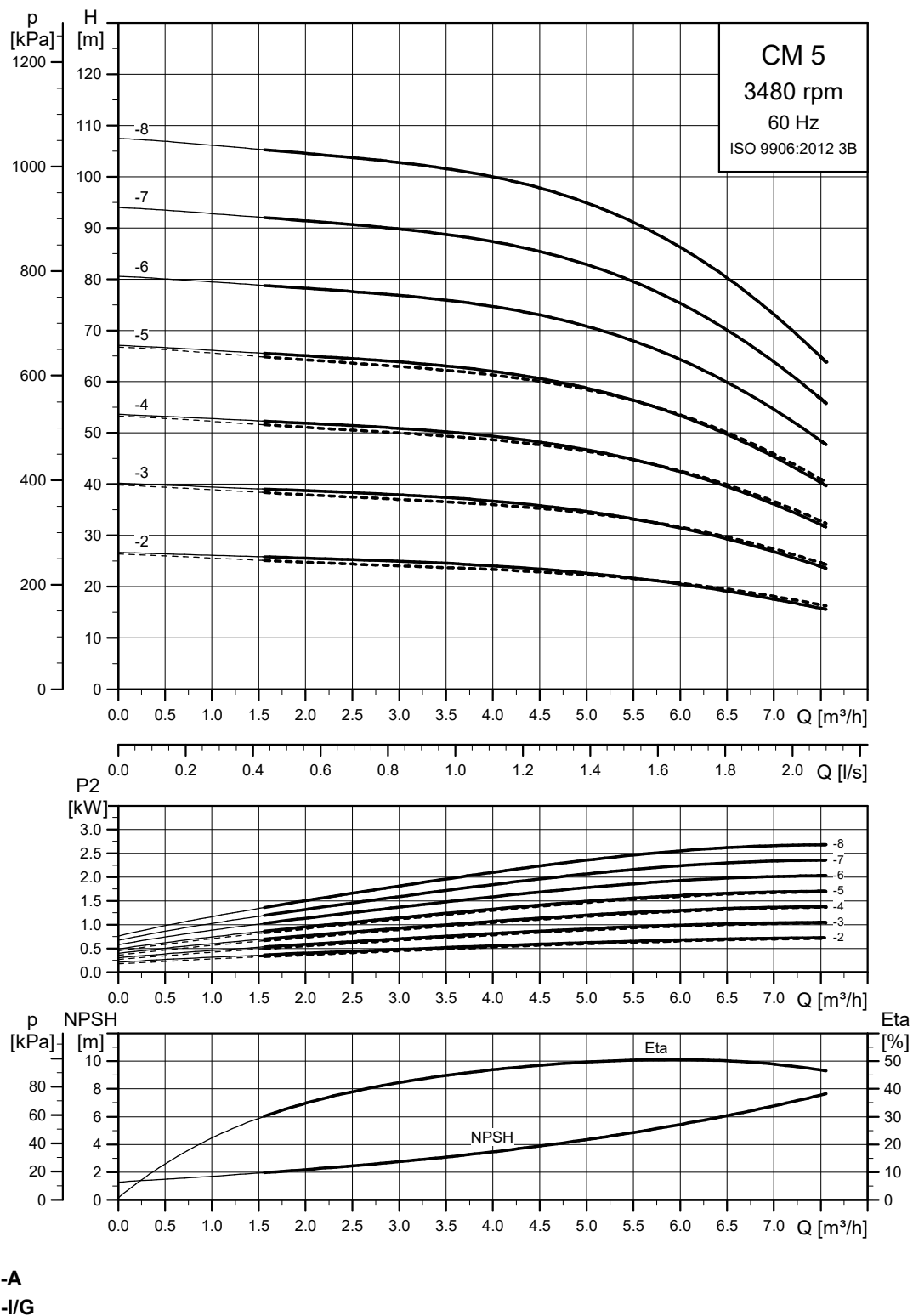
CM 3



----- CM-A
 ——— CM-I/G

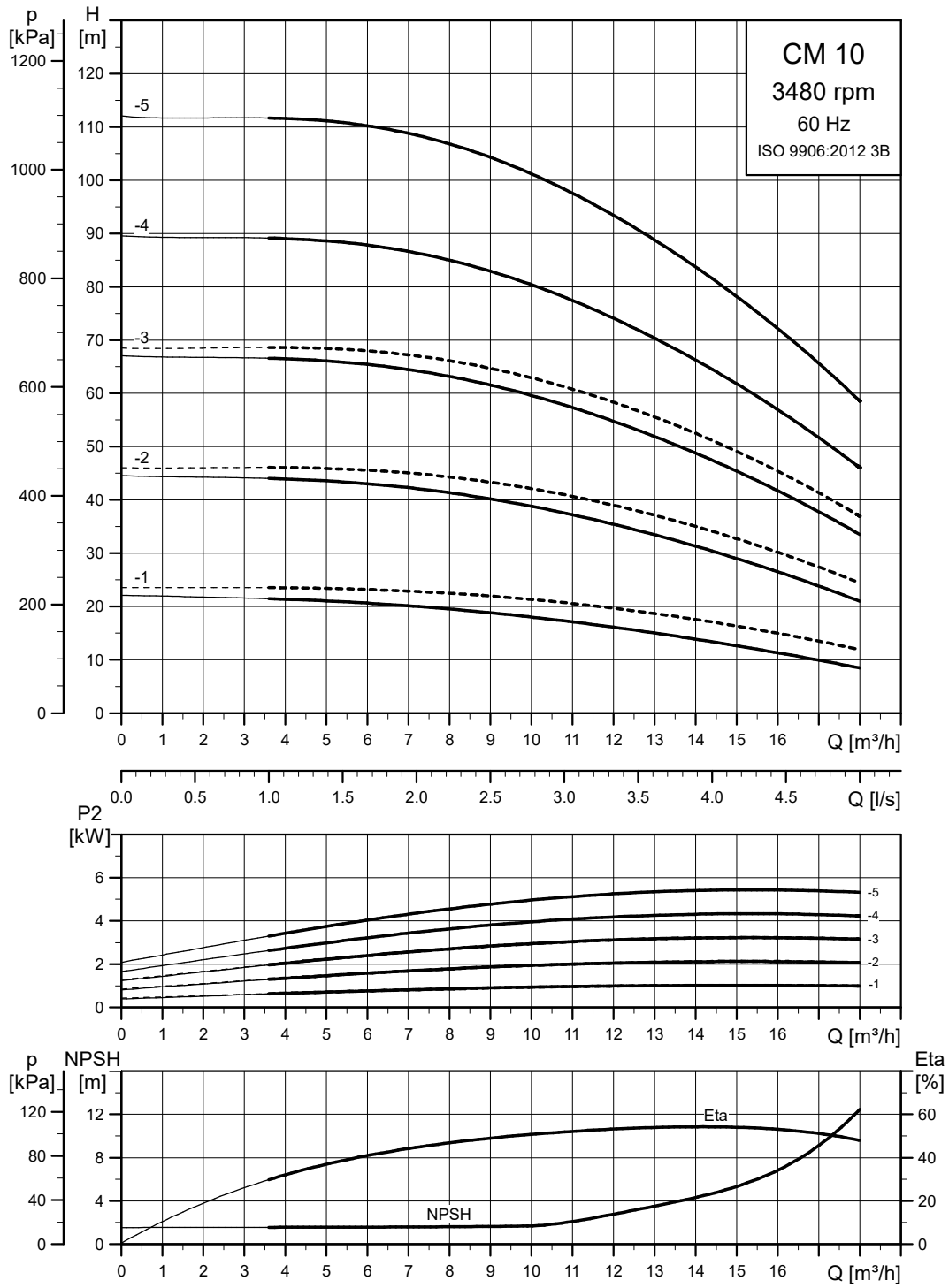
TM043371

CM 5



TM043372

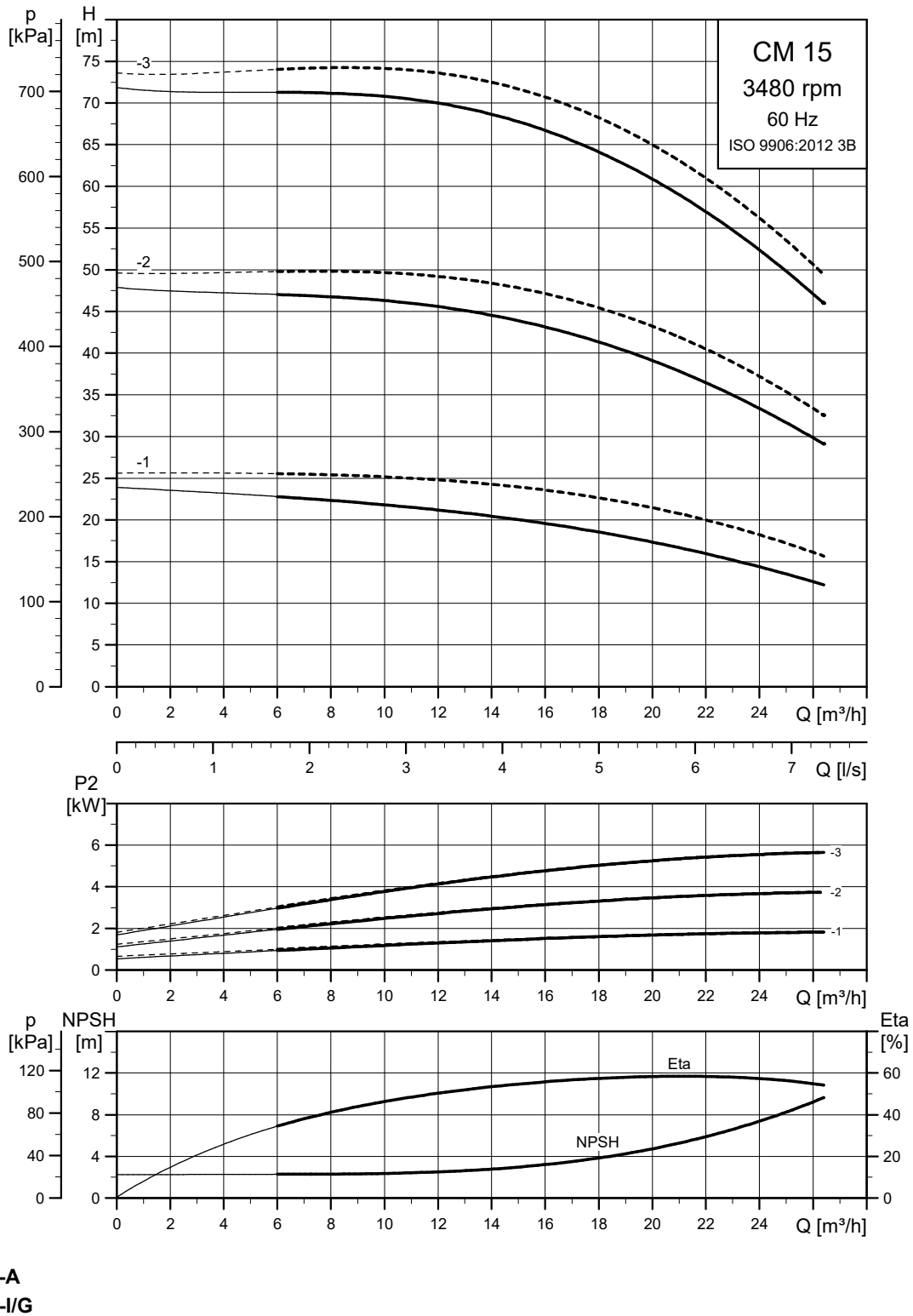
CM 10



----- CM-A
—— CM-I/G

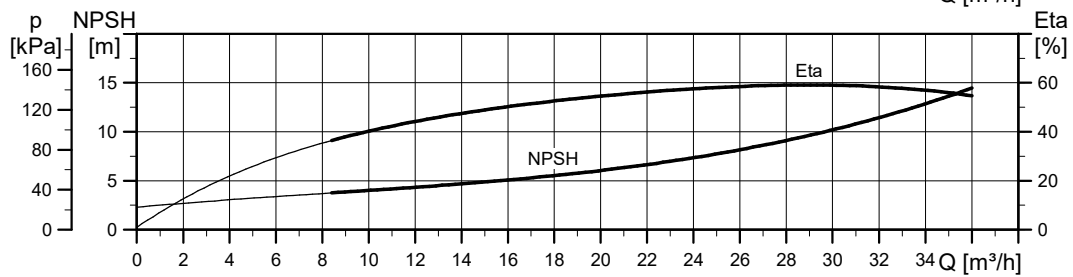
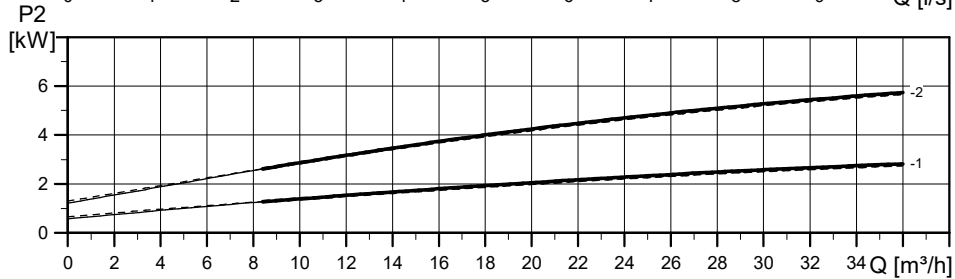
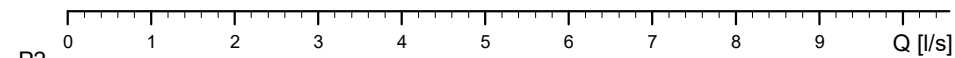
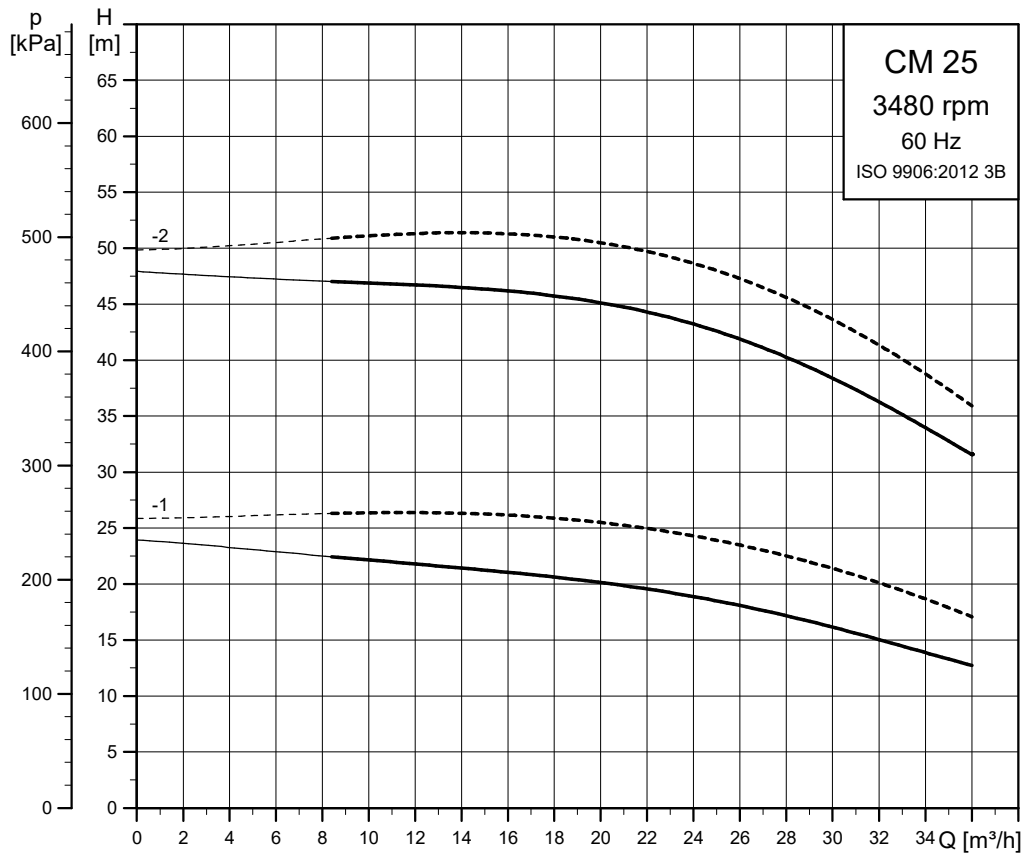
TM043373

CM 15



TM043374

CM 25

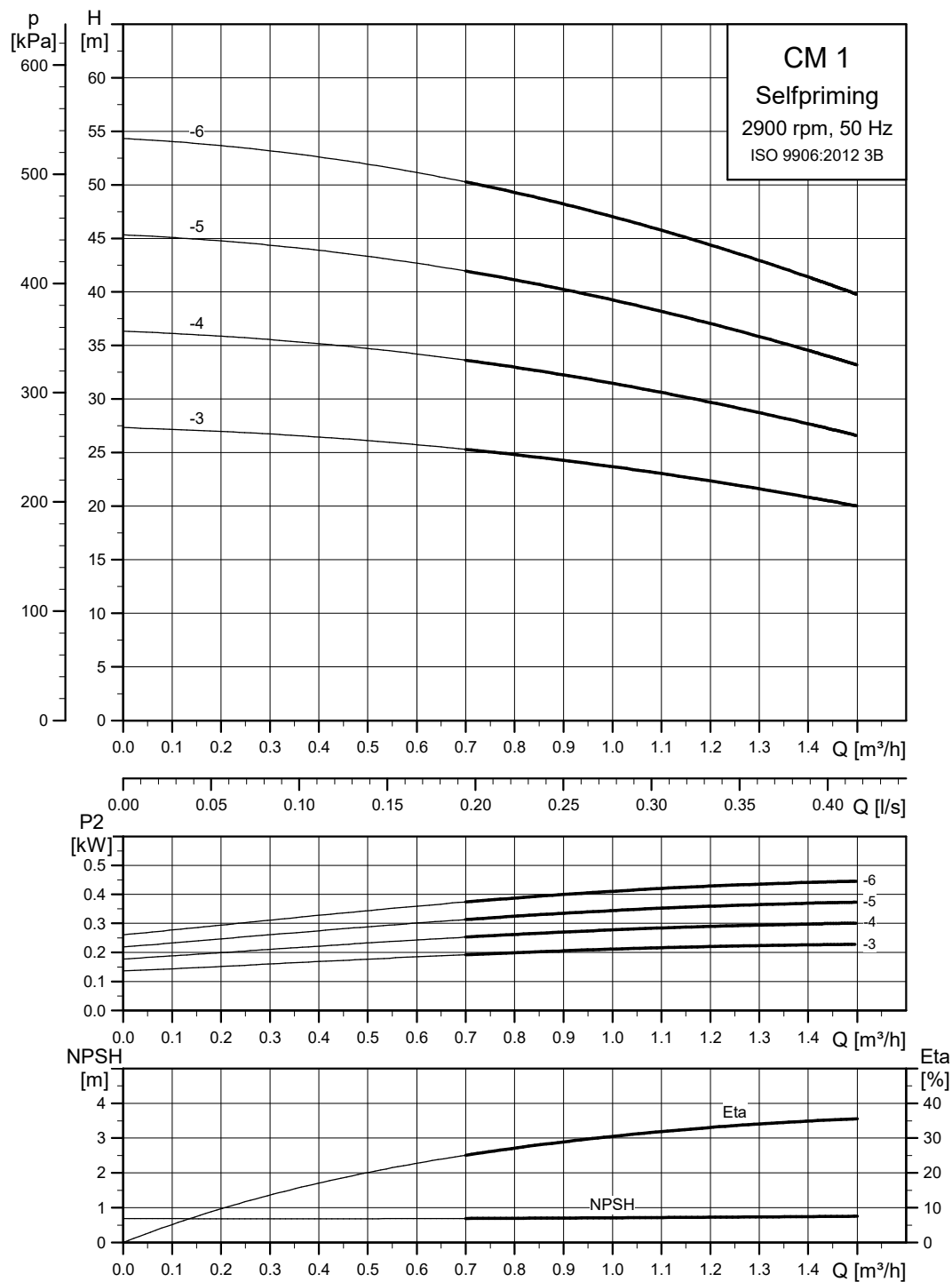


----- CM-A
—— CM-I/G

TM043375

19. Performance curves, CM self-priming, 50 Hz

CM 1



TM058756

Pump performance is influenced by the suction lift. See the section on pump performance in relation to suction lift.

Related information

[Pump performance in relation to suction lift](#)

Pump performance in relation to suction lift

CM 1-3

Pump head [m]		Flow [m ³ /h]						
		0	0.25	0.5	0.75	1	1.25	1.5
Suction lift [m]	0	27.3	26.9	26.1	25.1	23.7	22.0	20.0
	1	26.3	25.9	25.1	24.1	22.7	21.0	19.0
	2	25.3	24.9	24.1	23.1	21.7	20.0	18.0
	3	24.3	23.9	23.1	22.1	20.7	19.0	17.0
	4	23.3	22.9	22.1	21.1	19.7	18.0	16.0

CM 1-4

Pump head [m]		Flow [m ³ /h]						
		0	0.25	0.5	0.75	1	1.25	1.5
Suction lift [m]	0	36.3	35.7	34.7	33.3	31.5	29.2	26.6
	1	35.3	34.7	33.7	32.3	30.5	28.2	25.6
	2	34.3	33.7	32.7	31.3	29.5	27.2	24.6
	3	33.3	32.7	31.7	30.3	28.5	26.2	23.6
	4	32.3	31.7	30.7	29.3	27.5	25.2	22.6

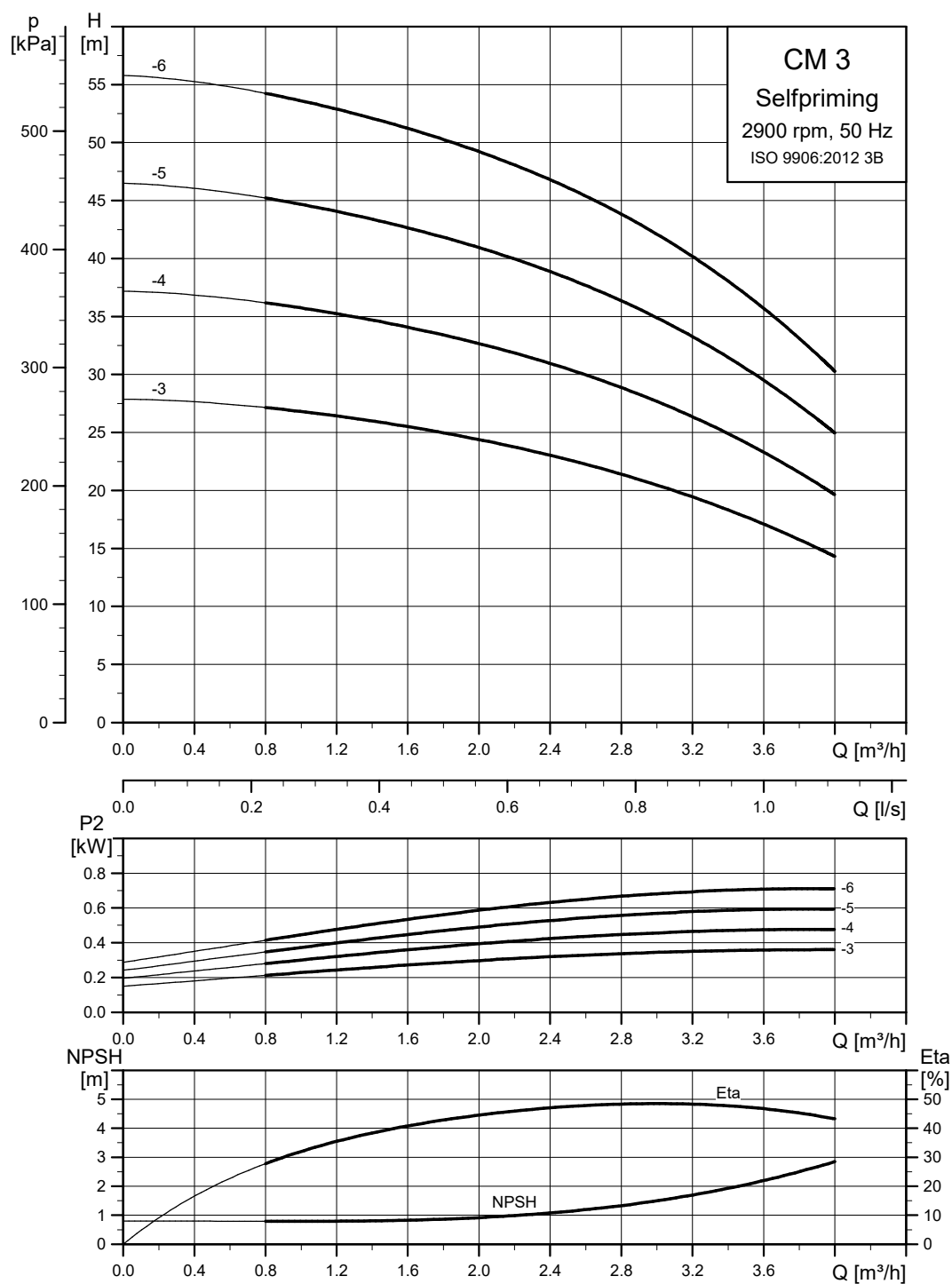
CM 1-5

Pump head [m]		Flow [m ³ /h]						
		0	0.25	0.5	0.75	1	1.25	1.5
Suction lift [m]	0	45.3	44.6	43.3	41.6	39.3	36.5	33.2
	1	44.3	43.6	42.3	40.6	38.3	35.5	32.2
	2	43.3	42.6	41.3	39.6	37.3	34.5	31.2
	3	42.3	41.6	40.3	38.6	36.3	33.5	30.2
	4	41.3	40.6	39.3	37.6	35.3	32.5	29.2

CM 1-6

Pump head [m]		Flow [m ³ /h]						
		0	0.25	0.5	0.75	1	1.25	1.5
Suction lift [m]	0	54.3	53.4	51.9	49.8	47.0	43.7	39.8
	1	53.3	52.4	50.9	48.8	46.0	42.7	38.8
	2	52.3	51.4	49.9	47.8	45.0	41.7	37.8
	3	51.3	50.4	48.9	46.8	44.0	40.7	36.8
	4	50.3	49.4	47.9	45.8	43.0	39.7	35.8

CM 3



TM058757

Pump performance is influenced by the suction lift. See the section on pump performance in relation to suction lift.

Related information

[Pump performance in relation to suction lift](#)

Pump performance in relation to suction lift

CM 3-3

Pump head [m]	Flow [m ³ /h]									
	0	0.5	1	1.5	2	2.5	3	3.5 ¹⁹⁾	4 ¹⁹⁾	
Suction lift [m]	0	27.9	27.5	26.8	25.8	24.4	22.7	20.5	17.7	14.3
	1	26.9	26.5	25.8	24.8	23.4	21.7	19.5	16.7	13.3
	2	25.9	25.5	24.8	23.8	22.4	20.7	18.5	15.7	12.3
	3	24.9	24.5	23.8	22.8	21.4	19.7	17.5	14.7	11.3
	4	23.9	23.5	22.8	21.8	20.4	18.7	16.5	13.7	10.3
	5 ²⁰⁾	22.9	22.5	21.8	20.8	19.4	17.7	15.5	-	-
	6 ²⁰⁾	21.9	21.5	20.8	19.8	18.4	16.7	14.5	-	-
	7 ²⁰⁾	20.9	20.5	19.8	18.8	17.4	15.7	-	-	-
	8 ²⁰⁾	19.9	19.5	18.8	17.8	-	-	-	-	-

¹⁹⁾ Only available in S-version.

²⁰⁾ Only available in O-version.

CM 3-4

Pump head [m]	Flow [m ³ /h]									
	0	0.5	1	1.5	2	2.5	3	3.5 ¹⁹⁾	4 ¹⁹⁾	
Suction lift [m]	0	37.2	36.7	35.7	34.4	32.7	30.5	27.7	24.1	19.6
	1	36.2	35.7	34.7	33.4	31.7	29.5	26.7	23.1	18.6
	2	35.2	34.7	33.7	32.4	30.7	28.5	25.7	22.1	17.6
	3	34.2	33.7	32.7	31.4	29.7	27.5	24.7	21.1	16.6
	4	33.2	32.7	31.7	30.4	28.7	26.5	23.7	20.1	15.6
	5 ²⁰⁾	32.2	31.7	30.7	29.4	27.7	25.5	22.7	-	-
	6 ²⁰⁾	31.2	30.7	29.7	28.4	26.7	24.5	21.7	-	-
	7 ²⁰⁾	30.2	29.7	28.7	27.4	25.7	23.5	-	-	-
	8 ²⁰⁾	29.2	28.7	27.7	26.4	-	-	-	-	-

CM 3-5

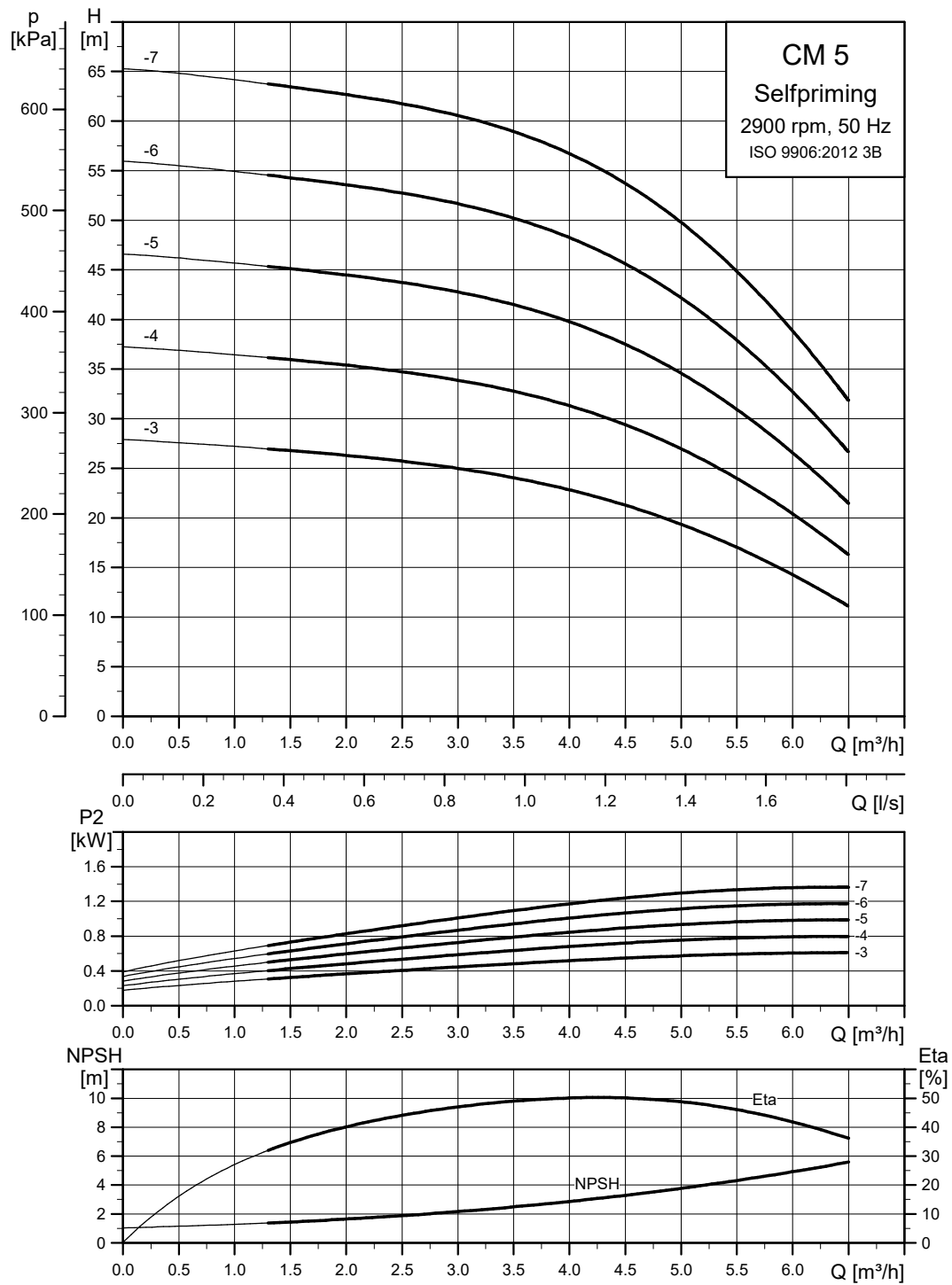
Pump head [m]	Flow [m ³ /h]									
	0	0.5	1	1.5	2	2.5	3	3.5 ¹⁹⁾	4 ¹⁹⁾	
Suction lift [m]	0	46.5	45.9	44.7	43.0	40.9	38.3	34.9	30.5	25.0
	1	45.5	44.9	43.7	42.0	39.9	37.3	33.9	29.5	24.0
	2	44.5	43.9	42.7	41.0	38.9	36.3	32.9	28.5	23.0
	3	43.5	42.9	41.7	40.0	37.9	35.3	31.9	27.5	22.0
	4	42.5	41.9	40.7	39.0	36.9	34.3	30.9	26.5	21.0
	5 ²⁰⁾	41.5	40.9	39.7	38.0	35.9	33.3	29.9	-	-
	6 ²⁰⁾	40.5	39.9	38.7	37.0	34.9	32.3	28.9	-	-
	7 ²⁰⁾	39.5	38.9	37.7	36.0	33.9	31.3	-	-	-
	8 ²⁰⁾	38.5	37.9	36.7	35.0	-	-	-	-	-

CM 3-6

Pump head [m]	Flow [m ³ /h]									
	0	0.5	1	1.5	2	2.5	3	3.5 ¹⁹⁾	4 ¹⁹⁾	
Suction lift [m]	0	55.8	55.0	53.6	51.7	49.2	46.1	42.1	36.9	30.3
	1	54.8	54.0	52.6	50.7	48.2	45.1	41.1	35.9	29.3
	2	53.8	53.0	51.6	49.7	47.2	44.1	40.1	34.9	28.3
	3	52.8	52.0	50.6	48.7	46.2	43.1	39.1	33.9	27.3
	4	51.8	51.0	49.6	47.7	45.2	42.1	38.1	32.9	26.3
	5 ²⁰⁾	50.8	50.0	48.6	46.7	44.2	41.1	37.1	-	-
	6 ²⁰⁾	49.8	49.0	47.6	45.7	43.2	40.1	36.1	-	-
	7 ²⁰⁾	48.8	48.0	46.6	44.7	42.2	39.1	-	-	-
	8 ²⁰⁾	47.8	47.0	45.6	43.7	-	-	-	-	-

Depending on the pump model, the maximum suction depth varies between 7.5 and 8.5 m.

CM 5



Pump performance is influenced by the suction lift. See the section on pump performance in relation to suction lift.

Related information

[Pump performance in relation to suction lift](#)

TM058758

Pump performance in relation to suction lift

CM 5-3

Pump head [m]	Flow [m ³ /h]													
	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5 ²¹⁾	6 ²¹⁾	6.5 ²¹⁾
0	27.9	27.6	27.2	26.8	26.3	25.7	25.0	24.0	22.8	21.3	19.4	17.0	14.3	11.1
1	26.9	26.6	26.2	25.8	25.3	24.7	24.0	23.0	21.8	20.3	18.4	16.0	13.3	10.1
2	25.9	25.6	25.2	24.8	24.3	23.7	23.0	22.0	20.8	19.3	17.4	15.0	12.3	-
3	24.9	24.6	24.2	23.8	23.3	22.7	22.0	21.0	19.8	18.3	16.4	-	-	-
4	23.9	23.6	23.2	22.8	22.3	21.7	21.0	20.0	18.8	17.3	-	-	-	-
5 ²²⁾	22.9	22.6	22.2	21.8	21.3	20.7	20.0	19.0	17.8	-	-	-	-	-
6 ²²⁾	21.9	21.6	21.2	20.8	20.3	19.7	19.0	-	-	-	-	-	-	-
7 ²²⁾	20.9	20.6	20.2	19.8	19.3	-	-	-	-	-	-	-	-	-
8 ²²⁾	19.9	19.6	19.2	18.8	-	-	-	-	-	-	-	-	-	-

²¹⁾ Only available in S-version.

²²⁾ Only available in O-version.

CM 5-4

Pump head [m]	Flow [m ³ /h]													
	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5 ²¹⁾	6 ²¹⁾	6.5 ²¹⁾
0	37.3	36.9	36.4	35.9	35.4	34.7	33.9	32.8	31.3	29.4	27.0	24.0	20.4	16.3
1	36.3	35.9	35.4	34.9	34.4	33.7	32.9	31.8	30.3	28.4	26.0	23.0	19.4	15.3
2	35.3	34.9	34.4	33.9	33.4	32.7	31.9	30.8	29.3	27.4	25.0	22.0	18.4	-
3	34.3	33.9	33.4	32.9	32.4	31.7	30.9	29.8	28.3	26.4	24.0	-	-	-
4	33.3	32.9	32.4	31.9	31.4	30.7	29.9	28.8	27.3	25.4	-	-	-	-
5 ²²⁾	32.3	31.9	31.4	30.9	30.4	29.7	28.9	27.8	26.3	-	-	-	-	-
6 ²²⁾	31.3	30.9	30.4	29.9	29.4	28.7	27.9	-	-	-	-	-	-	-
7 ²²⁾	30.3	29.9	29.4	28.9	28.4	-	-	-	-	-	-	-	-	-
8 ²²⁾	29.3	28.9	28.4	27.9	-	-	-	-	-	-	-	-	-	-

CM 5-5

Pump head [m]	Flow [m ³ /h]													
	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5 ²¹⁾	6 ²¹⁾	6.5 ²¹⁾
0	46.6	46.2	45.7	45.1	44.5	43.7	42.8	41.5	39.8	37.5	34.6	30.9	26.5	21.5
1	45.6	45.2	44.7	44.1	43.5	42.7	41.8	40.5	38.8	36.5	33.6	29.9	25.5	20.5
2	44.6	44.2	43.7	43.1	42.5	41.7	40.8	39.5	37.8	35.5	32.6	28.9	24.5	-
3	43.6	43.2	42.7	42.1	41.5	40.7	39.8	38.5	36.8	34.5	31.6	-	-	-
4	42.6	42.2	41.7	41.1	40.5	39.7	38.8	37.5	35.8	33.5	-	-	-	-
5 ²²⁾	41.6	41.2	40.7	40.1	39.5	38.7	37.8	36.5	34.8	-	-	-	-	-
6 ²²⁾	40.6	40.2	39.7	39.1	38.5	37.7	36.8	-	-	-	-	-	-	-
7 ²²⁾	39.6	39.2	38.7	38.1	37.5	-	-	-	-	-	-	-	-	-
8 ²²⁾	38.6	38.2	37.7	37.1	-	-	-	-	-	-	-	-	-	-

Depending on the pump model, the maximum suction depth varies between 7.5 and 8.5 m.

CM 5-6

Pump head [m]	Flow [m ³ /h]														
	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5 ²¹⁾	6 ²¹⁾	6.5 ²¹⁾	
0	55.9	55.5	54.9	54.3	53.6	52.7	51.7	50.2	48.2	45.6	42.2	37.9	32.7	26.6	
1	54.9	54.5	53.9	53.3	52.6	51.7	50.7	49.2	47.2	44.6	41.2	36.9	31.7	25.6	
2	53.9	53.5	52.9	52.3	51.6	50.7	49.7	48.2	46.2	43.6	40.2	35.9	30.7	-	
3	52.9	52.5	51.9	51.3	50.6	49.7	48.7	47.2	45.2	42.6	39.2	-	-	-	
4	51.9	51.5	50.9	50.3	49.6	48.7	47.7	46.2	44.2	41.6	-	-	-	-	
5 ²²⁾	50.9	50.5	49.9	49.3	48.6	47.7	46.7	45.2	43.2	-	-	-	-	-	
6 ²²⁾	49.9	49.5	48.9	48.3	47.6	46.7	45.7	-	-	-	-	-	-	-	
7 ²²⁾	48.9	48.5	47.9	47.3	46.6	-	-	-	-	-	-	-	-	-	
8 ²²⁾	47.9	47.5	46.9	46.3	-	-	-	-	-	-	-	-	-	-	

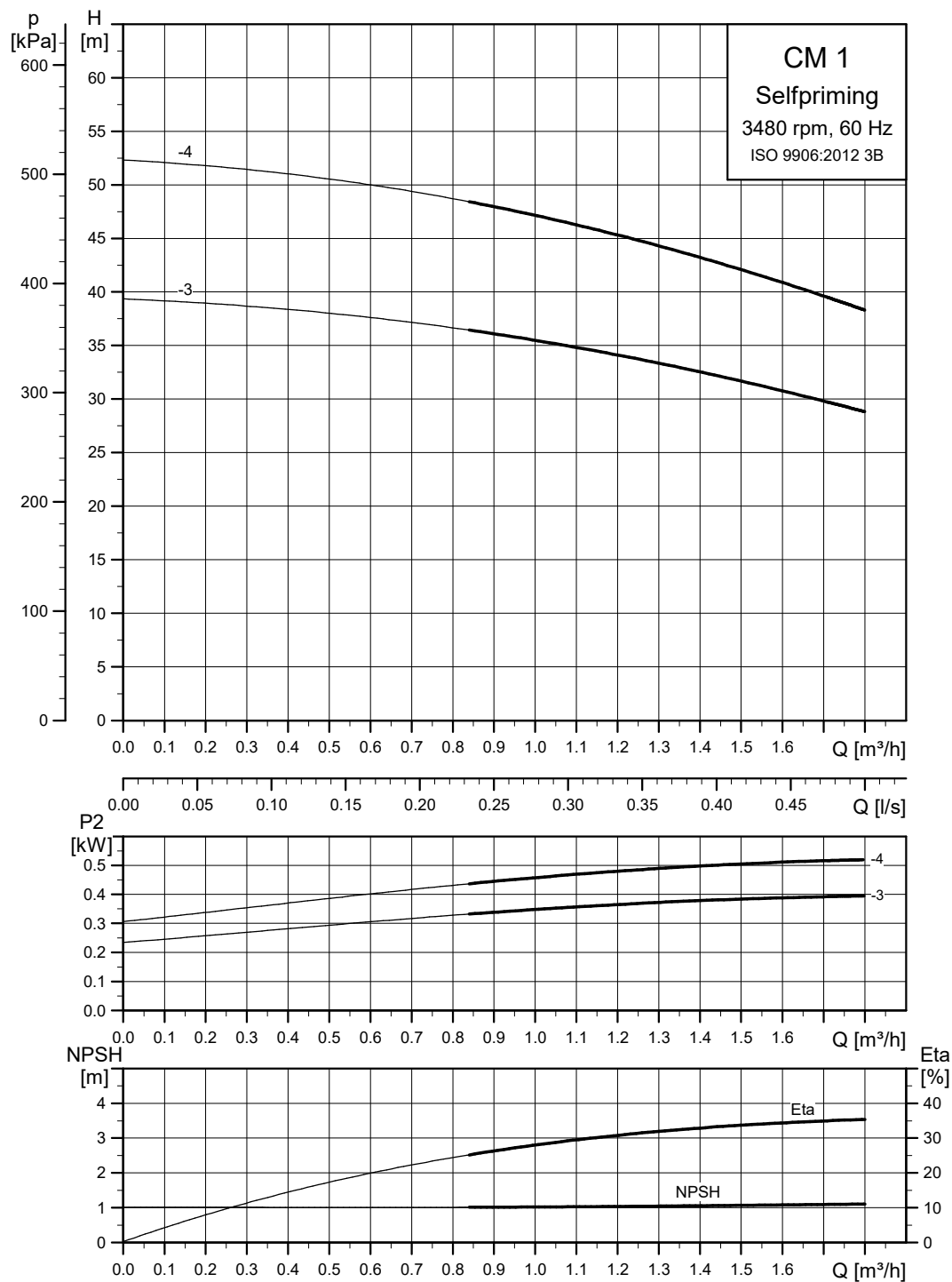
CM 5-7

Pump head [m]	Flow [m ³ /h]														
	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5 ²¹⁾	6 ²¹⁾	6.5 ²¹⁾	
0	65.3	64.8	64.2	63.4	62.7	61.7	60.6	58.9	56.7	53.7	49.8	44.8	38.8	31.1	
1	64.3	63.8	63.2	62.4	61.7	60.7	59.6	57.9	55.7	52.7	48.8	43.8	37.8	30.1	
2	63.3	62.8	62.2	61.4	60.7	59.7	58.6	56.9	54.7	51.7	47.8	42.8	36.8	-	
3	62.3	61.8	61.2	60.4	59.7	58.7	57.6	55.9	53.7	50.7	46.8	-	-	-	
4	61.3	60.8	60.2	59.4	58.7	57.7	56.6	54.9	52.7	49.7	-	-	-	-	
5 ²²⁾	60.3	59.8	59.2	58.4	57.7	56.7	55.6	53.9	51.7	-	-	-	-	-	
6 ²²⁾	59.3	58.8	58.2	57.4	56.7	55.7	54.6	-	-	-	-	-	-	-	
7 ²²⁾	58.3	57.8	57.2	56.4	55.7	-	-	-	-	-	-	-	-	-	
8 ²²⁾	57.3	56.8	56.2	55.4	-	-	-	-	-	-	-	-	-	-	

Depending on the pump model, the maximum suction depth varies between 7.5 and 8.5 m.

20. Performance curves, CM self-priming, 60 Hz

CM 1



TM058793

Pump performance is influenced by the suction lift. See the section on pump performance in relation to suction lift.

Related information

[Pump performance in relation to suction lift](#)

Pump performance in relation to suction lift

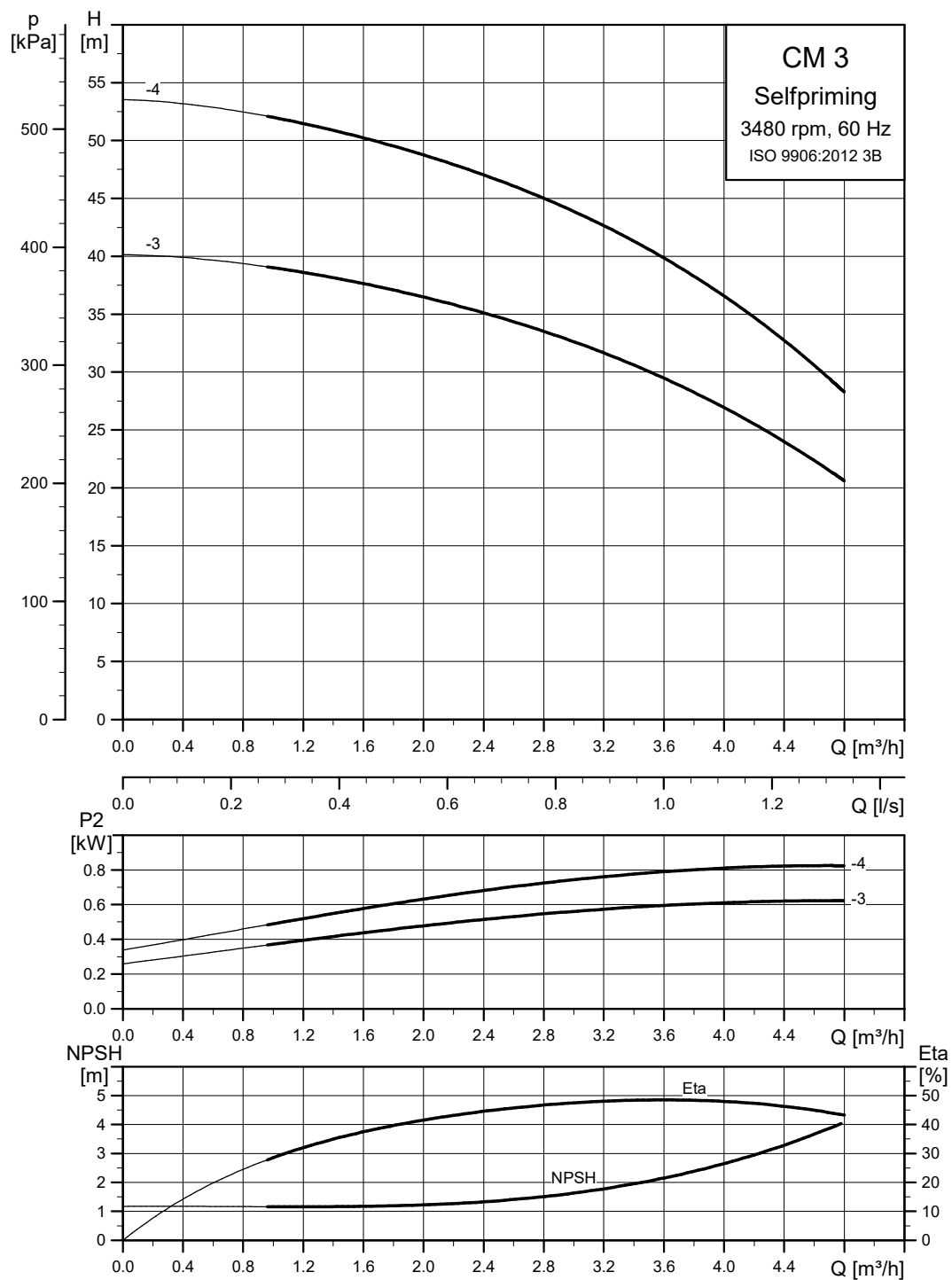
CM 1-3

Pump head [m]	Flow [m ³ /h]											
	0	0.25	0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	
Suction lift [m]	0	39.4	38.8	38.0	36.9	35.5	33.7	31.7	29.3	26.7	23.8	20.8
	1	38.4	37.8	37.0	35.9	34.5	32.7	30.7	28.3	25.7	22.8	19.8
	2	37.4	36.8	36.0	34.9	33.5	31.7	29.7	27.3	24.7	21.8	18.8
	3	36.4	35.8	35.0	33.9	32.5	30.7	28.7	26.3	23.7	20.8	17.8
	4	35.4	34.8	34.0	32.9	31.5	29.7	27.7	25.3	22.7	19.8	16.8

CM 1-4

Pump head [m]	Flow [m ³ /h]											
	0	0.25	0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	
Suction lift [m]	0	52.3	51.6	50.5	49.1	47.2	44.8	42.1	39.0	35.5	31.7	27.7
	1	51.3	50.6	49.5	48.1	46.2	43.8	41.1	38.0	34.5	30.7	26.7
	2	50.3	49.6	48.5	47.1	45.2	42.8	40.1	37.0	33.5	29.7	25.7
	3	49.3	48.6	47.5	46.1	44.2	41.8	39.1	36.0	32.5	28.7	24.7
	4	48.3	47.6	46.5	45.1	43.2	40.8	38.1	35.0	31.5	27.7	23.7

CM 3



TM056794

Pump performance is influenced by the suction lift. See the section on pump performance in relation to suction lift.

Related information

[Pump performance in relation to suction lift](#)

Pump performance in relation to suction lift

CM 3-3

Pump head [m]	Flow [m ³ /h]										
	0	0.5	1	1.5	2	2.5	3	3.5	4 ²³⁾	4.5 ²³⁾	5 ²³⁾
0	40.1	39.8	39.0	37.9	36.5	34.7	32.6	30.1	26.9	23.2	18.7
1	39.1	38.8	38.0	36.9	35.5	33.7	31.6	29.1	25.9	22.2	17.7
2	38.1	37.8	37.0	35.9	34.5	32.7	30.6	28.1	24.9	21.2	16.7
3	37.1	36.8	36.0	34.9	33.5	31.7	29.6	27.1	23.9	20.2	-
4	36.1	35.8	35.0	33.9	32.5	30.7	28.6	26.1	22.9	-	-
5 ²⁴⁾	35.1	34.8	34.0	32.9	31.5	29.7	27.6	-	-	-	-
6 ²⁴⁾	34.1	33.8	33.0	31.9	30.5	28.7	26.6	-	-	-	-
7 ²⁴⁾	33.1	32.8	32.0	30.9	29.5	27.7	-	-	-	-	-
8 ²⁴⁾	32.1	31.8	31.0	29.9	-	-	-	-	-	-	-

²³⁾ Only available in S-version.

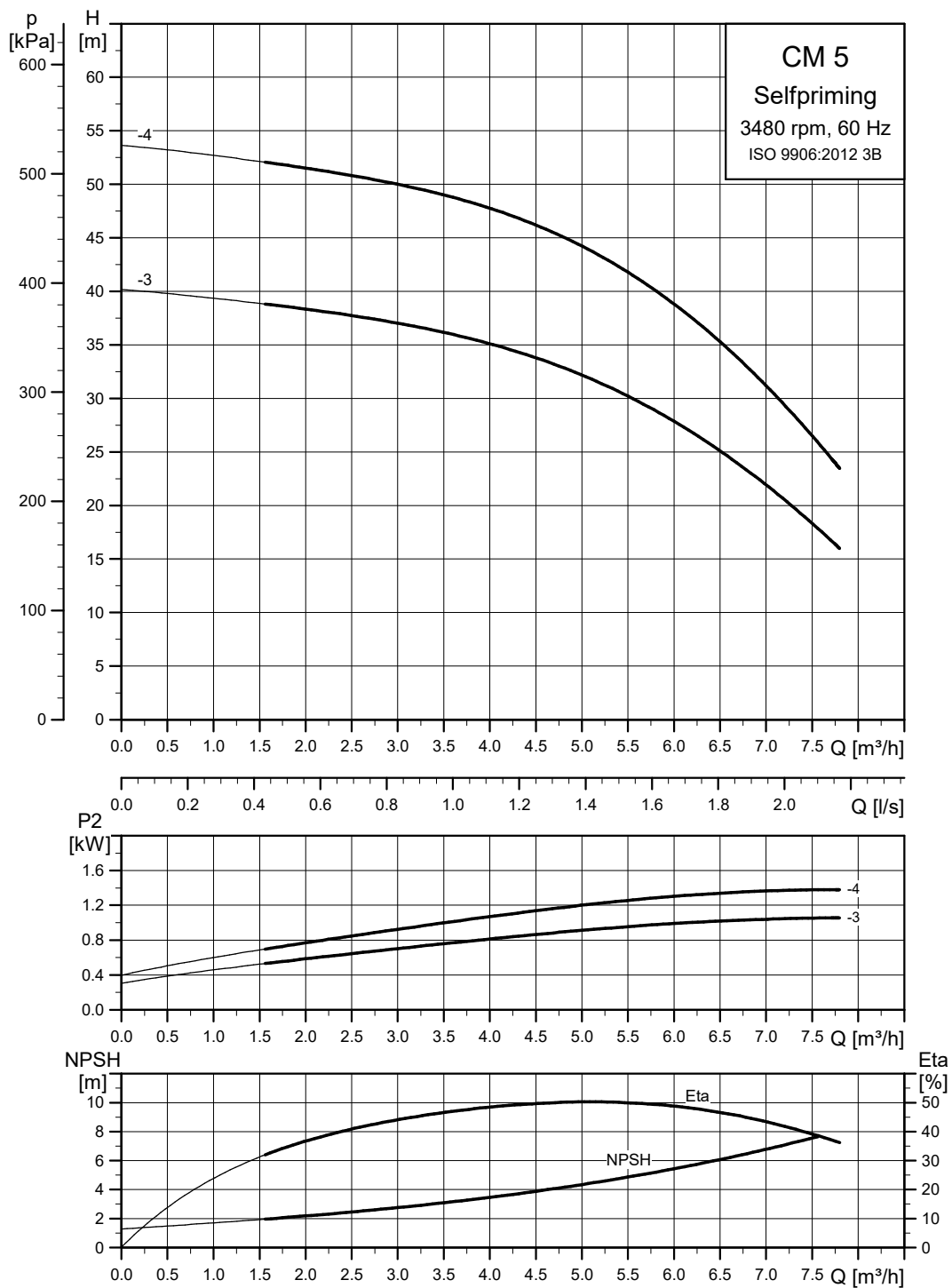
²⁴⁾ Only available in O-version.

CM 3-4

Pump head [m]	Flow [m ³ /h]										
	0	0.5	1	1.5	2	2.5	3	3.5	4 ²³⁾	4.5 ²³⁾	5 ²³⁾
0	53.5	53.0	52.0	50.6	48.8	46.6	43.9	40.6	36.6	31.7	25.8
1	52.5	52.0	51.0	49.6	47.8	45.6	42.9	39.6	35.6	30.7	24.8
2	51.5	51.0	50.0	48.6	46.8	44.6	41.9	38.6	34.6	29.7	23.8
3	50.5	50.0	49.0	47.6	45.8	43.6	40.9	37.6	33.6	28.7	-
4	49.5	49.0	48.0	46.6	44.8	42.6	39.9	36.6	32.6	-	-
5 ²⁴⁾	48.5	48.0	47.0	45.6	43.8	41.6	38.9	-	-	-	-
6 ²⁴⁾	47.5	47.0	46.0	44.6	42.8	40.6	37.9	-	-	-	-
7 ²⁴⁾	46.5	46.0	45.0	43.6	41.8	39.6	-	-	-	-	-
8 ²⁴⁾	45.5	45.0	44.0	42.6	-	-	-	-	-	-	-

Depending on the pump model, the maximum suction depth varies between 7.5 and 8.5 m.

CM 5



TM058795

Pump performance is influenced by the suction lift. See the section on pump performance in relation to suction lift.

Related information

[Pump performance in relation to suction lift](#)

Pump performance in relation to suction lift

CM 5-3

Pump head [m]	Flow [m ³ /h]															
	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5 ²⁵⁾	7 ²⁵⁾	7.5 ²⁵⁾
0	40.2	39.8	39.4	38.9	38.3	37.7	37.0	36.2	35.1	33.8	32.2	30.2	27.9	25.1	21.9	18.3
1	39.2	38.8	38.4	37.9	37.3	36.7	36.0	35.2	34.1	32.8	31.2	29.2	26.9	24.1	-	-
2	38.2	37.8	37.4	36.9	36.3	35.7	35.0	34.2	33.1	31.8	30.2	28.2	25.9	-	-	-
Suction lift [m]	3	37.2	36.8	36.4	35.9	35.3	34.7	34.0	33.2	32.1	30.8	29.2	-	-	-	-
	4	36.2	35.8	35.4	34.9	34.3	33.7	33.0	32.2	31.1	29.8	-	-	-	-	-
	5 ²⁶⁾	35.2	34.8	34.4	33.9	33.3	32.7	32.0	31.2	30.1	-	-	-	-	-	-
	6 ²⁶⁾	34.2	33.8	33.4	32.9	32.3	31.7	31.0	-	-	-	-	-	-	-	-
	7 ²⁶⁾	33.2	32.8	32.4	31.9	31.3	-	-	-	-	-	-	-	-	-	-
	8 ²⁶⁾	32.2	31.8	31.4	30.9	-	-	-	-	-	-	-	-	-	-	-

²⁵⁾ Only available in S-version.

²⁶⁾ Only available in O-version.

CM 5-4

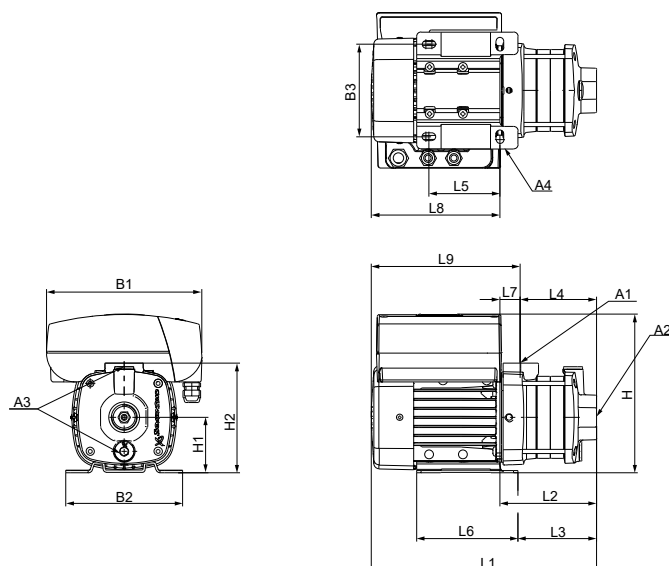
Pump head [m]	Flow [m ³ /h]															
	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5 ²⁵⁾	7 ²⁵⁾	7.5 ²⁵⁾
0	53.6	53.2	52.7	52.1	51.5	50.8	50.0	49.0	47.8	46.2	44.2	41.8	38.8	35.3	31.2	26.5
1	52.6	52.2	51.7	51.1	50.5	49.8	49.0	48.0	46.8	45.2	43.2	40.8	37.8	34.3	-	-
2	51.6	51.2	50.7	50.1	49.5	48.8	48.0	47.0	45.8	44.2	42.2	39.8	36.8	-	-	-
Suction lift [m]	3	50.6	50.2	49.7	49.1	48.5	47.8	47.0	46.0	44.8	43.2	41.2	-	-	-	-
	4	49.6	49.2	48.7	48.1	47.5	46.8	46.0	45.0	43.8	42.2	-	-	-	-	-
	5 ²⁶⁾	48.6	48.2	47.7	47.1	46.5	45.8	45.0	44.0	42.8	-	-	-	-	-	-
	6 ²⁶⁾	47.6	47.2	46.7	46.1	45.5	44.8	44.0	-	-	-	-	-	-	-	-
	7 ²⁶⁾	46.6	46.2	45.7	45.1	44.5	-	-	-	-	-	-	-	-	-	-
	8 ²⁶⁾	45.6	45.2	44.7	44.1	-	-	-	-	-	-	-	-	-	-	-

Depending on the pump model, the maximum suction depth varies between 7.5 and 8.5 m.

21. Dimensions, CME 60 Hz and 50/60 Hz

CME 1-A

(A = cast iron EN-GJL-200)



TM067510

Dimensions

3 x 380-500 V, 50/60 Hz (supply voltage S)

3 x 440-480 V, 50/60 Hz (supply voltage T)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME1-2	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	149	348	112	87	85	96	137	27	236	263
CME1-3	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	149	366	130	105	103	96	137	27	236	263
CME1-4	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	149	384	148	123	121	96	137	27	236	263
CME1-5	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	149	402	166	141	139	96	137	27	236	263

1 x 200-240 V, 50/60 Hz (supply voltage U)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME1-2	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	149	308	112	87	85	96	137	27	196	223
CME1-3	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	149	326	130	105	103	96	137	27	196	223
CME1-4	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	149	344	148	123	121	96	137	27	196	223
CME1-5	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	149	362	166	141	139	96	137	27	196	223

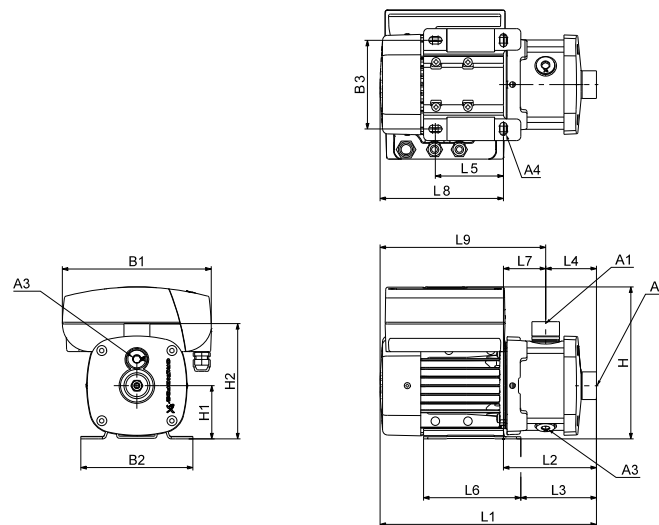
3x 200-240 V, 50/60 Hz (supply voltage V)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME1-5	80	1.10	1"	1"	3/8"	10.5	267	158	125	233	75	151	402	166	141	139	96	137	27	236	263

All dimensions are in millimetres unless otherwise stated.

CME 1-I and CME 1-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067508

Dimensions

3 x 380-500 V, 50/60 Hz (supply voltage S)

3 x 440-480 V, 50/60 Hz (supply voltage T)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME1-2	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	165	368	132	107	72	96	137	60	236	296
CME1-3	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	165	368	132	107	72	96	137	60	236	296
CME1-4	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	165	386	150	125	90	96	137	60	236	296
CME1-5	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	165	404	168	143	108	96	137	60	236	296
CME1-6	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	165	440	204	179	144	96	137	60	236	296
CME1-7	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	165	440	204	179	144	96	137	60	236	296
CME1-8	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	165	476	240	215	180	96	137	60	236	296
CME1-9	90	1.50	1"	1"	3/8"	10.5	267	178	140	248	90	181	483	285	270	180	125	155	105	198	303

1 x 200-240 V, 50/60 Hz (supply voltage U)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME1-2	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	165	328	132	107	72	96	137	60	196	256
CME1-3	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	165	328	132	107	72	96	137	60	196	256
CME1-4	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	165	346	150	125	90	96	137	60	196	256
CME1-5	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	165	364	168	143	108	96	137	60	196	256
CME1-6	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	165	400	204	179	144	96	137	60	196	256
CME1-7	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	165	400	204	179	144	96	137	60	196	256
CME1-8	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	165	436	240	215	180	96	137	60	196	256
CME1-9	90	1.50	1"	1"	3/8"	10.5	212	178	140	248	90	181	443	285	270	180	125	155	105	158	263

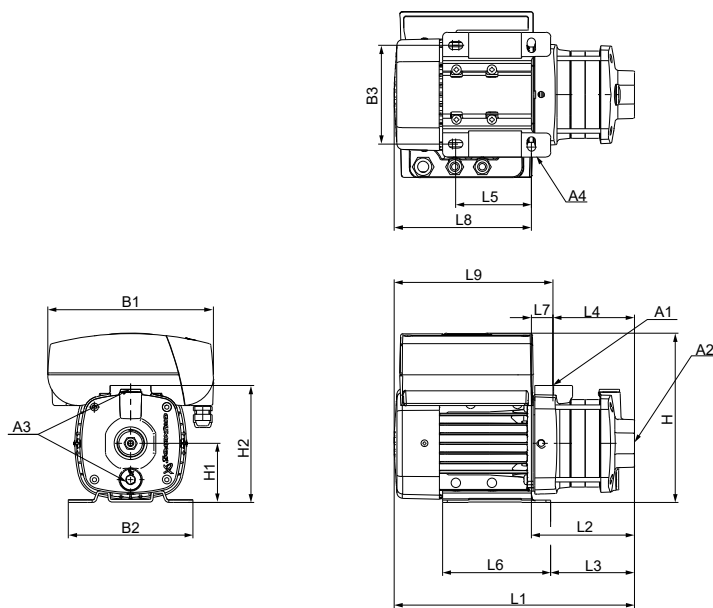
3 x 200-240 V, 50/60 Hz (supply voltage V)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME1-5	80	1.10	1"	1"	3/8"	10.5	267	158	125	233	75	165	404	168	143	108	96	137	60	236	296
CME1-6	80	1.10	1"	1"	3/8"	10.5	267	158	125	233	75	165	440	204	179	144	96	137	60	236	296
CME1-7	80	1.10	1"	1"	3/8"	10.5	267	158	125	233	75	165	440	204	179	144	96	137	60	236	296
CME1-8	80	1.10	1"	1"	3/8"	10.5	267	158	125	233	75	165	476	240	215	180	96	137	60	236	296
CME1-9	90	1.50	1"	1"	3/8"	10.5	267	178	140	248	90	181	483	285	270	180	125	155	105	198	303

All dimensions are in millimetres unless otherwise stated.

CME 3-A

(A = cast iron EN-GJL-200)



TM067510

Dimensions

3 x 380-500 V, 50/60 Hz (supply voltage S)

3 x 440-480 V, 50/60 Hz (supply voltage T)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME3-2	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	149	348	112	87	85	96	137	27	236	263
CME3-3	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	149	366	130	105	103	96	137	27	236	263
CME3-4	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	149	384	148	123	121	96	137	27	236	263
CME3-5	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	149	402	166	141	139	96	137	27	236	263

1 x 200-240 V, 50/60 Hz (supply voltage U)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME3-2	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	149	308	112	87	85	96	137	27	196	223
CME3-3	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	149	326	130	105	103	96	137	27	196	223
CME3-4	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	149	344	148	123	121	96	137	27	196	223
CME3-5	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	149	362	166	141	139	96	137	27	196	223

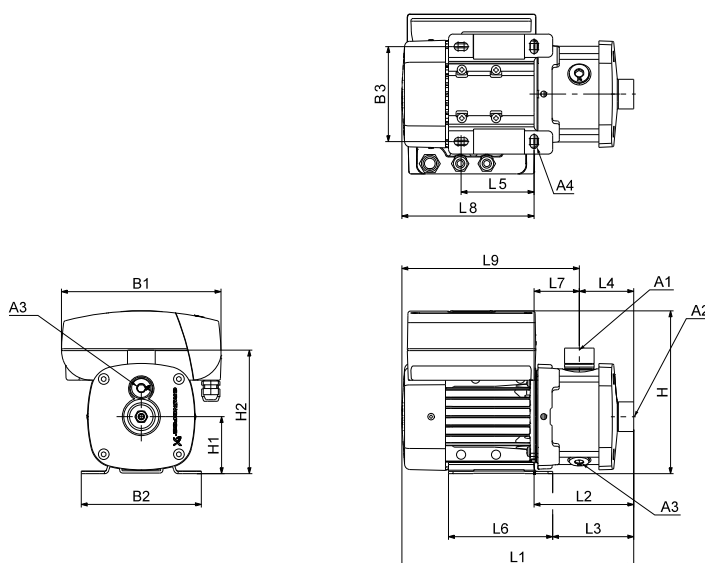
3 x 200-240 V, 50/60 Hz (supply voltage V)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME3-3	80	1.10	1"	1"	3/8"	10.5	267	158	125	233	75	151	366	130	105	103	96	137	27	236	263
CME3-4	80	1.10	1"	1"	3/8"	10.5	267	158	125	233	75	151	384	148	123	121	96	137	27	236	263
CME3-5	80	1.10	1"	1"	3/8"	10.5	267	158	125	233	75	151	402	166	141	139	96	137	27	236	263

All dimensions are in millimetres unless otherwise stated.

CME 3-I and CME 3-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM0067508

Dimensions

3 x 380-500 V, 50/60 Hz (supply voltage S)

3 x 440-480 V, 50/60 Hz (supply voltage T)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME3-2	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	165	368	132	107	72	96	137	60	236	296
CME3-3	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	165	368	132	107	72	96	137	60	236	296
CME3-4	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	165	386	150	125	90	96	137	60	236	296
CME3-5	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	165	404	168	143	108	96	137	60	236	296
CME3-6	90	1.50	1"	1"	3/8"	10.5	267	178	140	248	90	181	447	249	234	144	125	155	105	198	303
CME3-7	90	1.50	1"	1"	3/8"	10.5	267	178	140	248	90	181	447	249	234	144	125	155	105	198	303
CME3-8	90	2.20	1"	1"	3/8"	10.5	267	178	140	248	90	181	483	285	270	180	125	155	105	198	303
CME3-9	90	2.20	1"	1"	3/8"	10.5	267	178	140	248	90	181	483	285	270	180	125	155	105	198	303

1 x 200-240 V, 50/60 Hz (supply voltage U)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME3-2	71	0.55	1"	1"	3/8"	10.5	212	158	125	233	75	165	328	132	107	72	96	137	60	196	256
CME3-3	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	165	328	132	107	72	96	137	60	196	256
CME3-4	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	165	346	150	125	90	96	137	60	196	256
CME3-5	80	1.10	1"	1"	3/8"	10.5	212	158	125	233	75	165	364	168	143	108	96	137	60	196	256
CME3-6	90	1.50	1"	1"	3/8"	10.5	212	178	140	248	90	181	407	249	234	144	125	155	105	158	263
CME3-7	90	1.50	1"	1"	3/8"	10.5	212	178	140	248	90	181	407	249	234	144	125	155	105	158	263

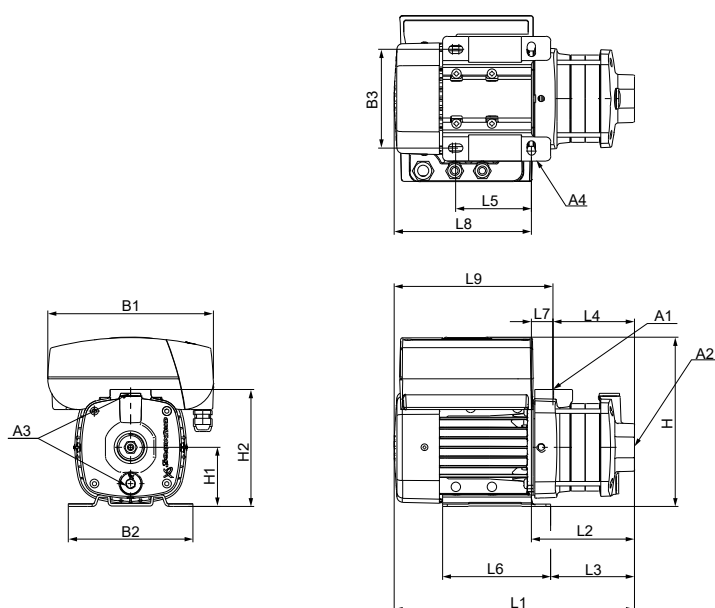
3 x 200-240 V, 50/60 Hz (supply voltage V)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME3-3	80	1.10	1"	1"	3/8"	10.5	267	158	125	233	75	165	368	132	107	72	96	137	60	236	296
CME3-4	80	1.10	1"	1"	3/8"	10.5	267	158	125	233	75	165	386	150	125	90	96	137	60	236	296
CME3-5	80	1.10	1"	1"	3/8"	10.5	267	158	125	233	75	165	404	168	143	108	96	137	60	236	296
CME3-6	90	1.50	1"	1"	3/8"	10.5	267	178	140	248	90	181	447	249	234	144	125	155	105	198	303
CME3-7	90	1.50	1"	1"	3/8"	10.5	267	178	140	248	90	181	447	249	234	144	125	155	105	198	303
CME3-8	100	2.20	1"	1"	3/8"	12.0	291	200	160	300	100	190	560	290	273	180	140	173	110	270	380
CME3-9	100	2.20	1"	1"	3/8"	12.0	291	200	160	300	100	190	560	290	273	180	140	173	110	270	380

All dimensions are in millimetres unless otherwise stated.

CME 5-A

(A = cast iron EN-GJL-200)



TM067510

Dimensions

3 x 380-500 V, 50/60 Hz (supply voltage S)

3 x 440-480 V, 50/60 Hz (supply voltage T)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME5-2	80	1.10	1"	1 1/4"	3/8"	10.5	212	158	125	233	75	149	348	112	87	85	96	137	27	236	263
CME5-3	80	1.10	1"	1 1/4"	3/8"	10.5	212	158	125	233	75	149	366	130	105	103	96	137	27	236	263
CME5-4	90	1.50	1"	1 1/4"	3/8"	10.5	267	178	140	248	90	202	391	193	178	108	125	155	85	198	283
CME5-5	90	2.20	1"	1 1/4"	3/8"	10.5	267	178	140	248	90	202	409	211	196	126	125	155	85	198	283

1 x 200-240 V, 50/60 Hz (supply voltage U)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME5-2	80	1.10	1"	1 1/4"	3/8"	10.5	212	158	125	233	75	149	308	112	87	85	96	137	27	196	223
CME5-3	80	1.10	1"	1 1/4"	3/8"	10.5	212	158	125	233	75	149	326	130	105	103	96	137	27	196	223
CME5-4	90	1.50	1"	1 1/4"	3/8"	10.5	212	178	140	248	90	202	351	193	178	108	125	155	85	158	243

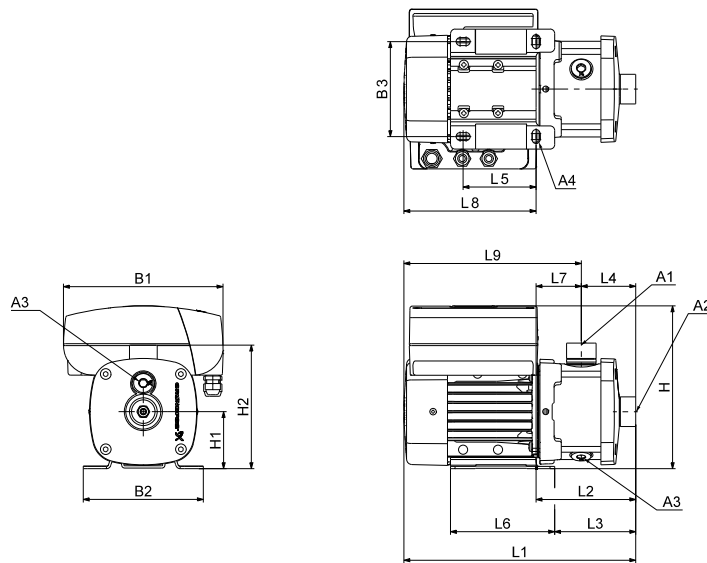
3 x 200-240 V, 50/60 Hz (supply voltage V)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME5-2	80	1.10	1"	1 1/4"	3/8"	10.5	267	158	125	233	75	151	348	112	87	85	96	137	27	236	263
CME5-3	80	1.10	1"	1 1/4"	3/8"	10.5	267	158	125	233	75	151	366	130	105	103	96	137	27	236	263
CME5-4	90	1.50	1"	1 1/4"	3/8"	10.5	267	178	140	248	90	202	391	193	178	108	125	155	85	198	283
CME5-5	100	2.20	1"	1 1/4"	3/8"	12.0	291	200	160	300	100	211	486	216	199	126	140	173	90	270	361

All dimensions are in millimetres unless otherwise stated.

CME 5-I and CME 5-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067508

Dimensions

3 x 380-500 V, 50/60 Hz (supply voltage S)

3 x 440-480 V, 50/60 Hz (supply voltage T)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME5-2	80	1.10	1"	1 1/4"	3/8"	10.5	212	158	125	233	75	165	368	132	107	72	96	137	60	236	296
CME5-3	80	1.10	1"	1 1/4"	3/8"	10.5	212	158	125	233	75	165	368	132	107	72	96	137	60	236	296
CME5-4	90	1.50	1"	1 1/4"	3/8"	10.5	267	178	140	248	90	181	393	195	180	90	125	155	105	198	303
CME5-5	90	2.20	1"	1 1/4"	3/8"	10.5	267	178	140	248	90	181	411	213	198	108	125	155	105	198	303
CME5-6	90	2.20	1"	1 1/4"	3/8"	10.5	267	178	140	248	90	181	447	249	234	144	125	155	105	198	303
CME5-7	100	3.00	1"	1 1/4"	3/8"	12.0	291	200	160	300	100	190	524	254	237	144	140	173	110	270	380
CME5-8	100	3.00	1"	1 1/4"	3/8"	12.0	291	200	160	300	100	190	560	290	273	180	140	173	110	270	380

1 x 200-240 V, 50/60 Hz (supply voltage U)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME5-2	80	1.10	1"	1 1/4"	3/8"	10.5	212	158	125	233	75	165	328	132	107	72	96	137	60	196	256
CME5-3	80	1.10	1"	1 1/4"	3/8"	10.5	212	158	125	233	75	165	328	132	107	72	96	137	60	196	256
CME5-4	90	1.50	1"	1 1/4"	3/8"	10.5	212	178	140	248	90	181	353	195	180	90	125	155	105	158	263

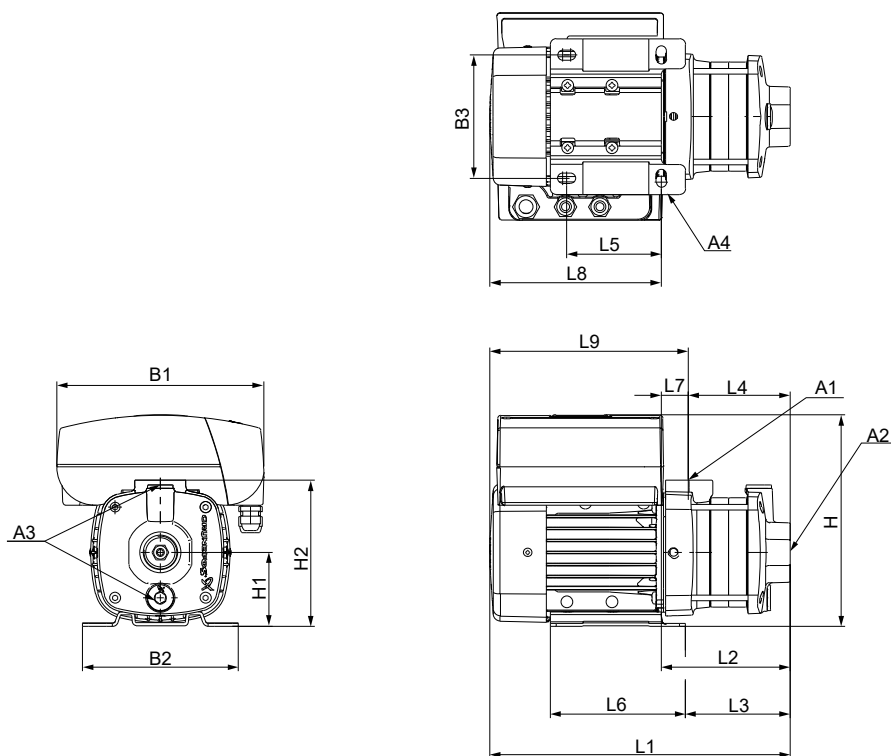
3 x 200-240 V, 50/60 Hz (supply voltage V)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME5-2	80	1.10	1"	1 1/4"	3/8"	10.5	267	158	125	233	75	165	368	132	107	72	96	137	60	236	296
CME5-3	80	1.10	1"	1 1/4"	3/8"	10.5	267	158	125	233	75	165	368	132	107	72	96	137	60	236	296
CME5-4	90	1.50	1"	1 1/4"	3/8"	10.5	267	178	140	248	90	181	393	195	180	90	125	155	105	198	303
CME5-5	100	2.20	1"	1 1/4"	3/8"	12.0	291	200	160	300	100	190	488	218	201	108	140	173	110	270	380
CME5-6	100	2.20	1"	1 1/4"	3/8"	12.0	291	200	160	300	100	190	524	254	237	144	140	173	110	270	380
CME5-7	100	3.00	1"	1 1/4"	3/8"	12.0	291	200	160	300	100	190	524	254	237	144	140	173	110	270	380
CME5-8	100	3.00	1"	1 1/4"	3/8"	12.0	291	200	160	300	100	190	560	290	273	180	140	173	110	270	380

All dimensions are in millimetres unless otherwise stated.

CME 10-A

(A = cast iron EN-GJL-200)



TM067510

Dimensions

3 x 380-500 V, 50/60 Hz (supply voltage S)

3 x 440-480 V, 50/60 Hz (supply voltage T)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME10-1	80	1.10	1 1/2"	1 1/2"	3/8"	10.5	212	158	125	258	100	242	392	155	131	97	95	137	58	236	295
CME10-2	90	2.20	1 1/2"	1 1/2"	3/8"	12.0	267	199	160	258	100	242	388	180	165	97	140	170	82	209	291
CME10-3	112	4.00	1 1/2"	1 1/2"	3/8"	12.0	291	230	190	312	112	254	496	232	212	127	140	180	105	264	369

1 x 200-240 V, 50/60 Hz (supply voltage U)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME10-1	80	1.10	1 1/2"	1 1/2"	3/8"	10.5	212	158	125	258	100	242	352	155	131	97	95	137	58	196	255

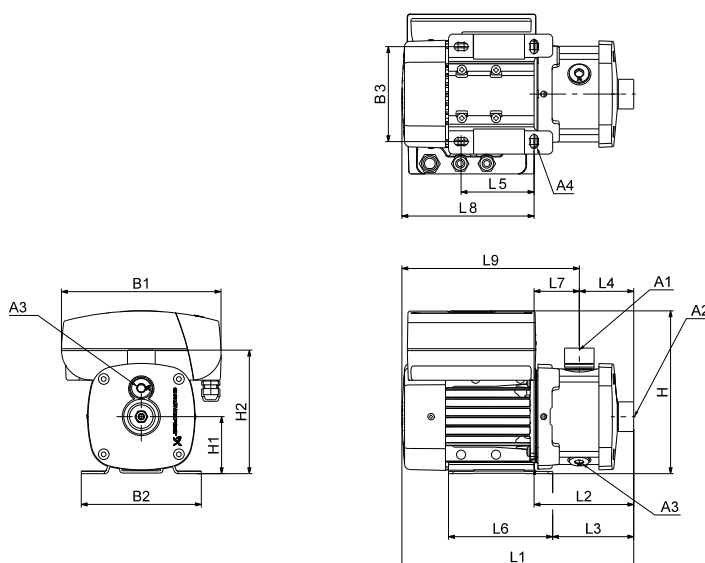
3 x 200-240 V, 50/60 Hz (supply voltage V)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME10-1	80	1.10	1 1/2"	1 1/2"	3/8"	10.5	267	158	125	258	100	242	392	155	131	97	95	137	58	236	295
CME10-2	100	2.20	1 1/2"	1 1/2"	3/8"	12.0	291	200	160	300	100	242	466	196	179	97	140	173	98	270	369
CME10-3	112	4.00	1 1/2"	1 1/2"	3/8"	12.0	291	230	190	312	112	254	496	232	212	127	140	180	105	264	369

All dimensions are in millimetres unless otherwise stated.

CME 10-I and CME 10-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067508

Dimensions

3 x 380-500 V, 50/60 Hz (supply voltage S)

3 x 440-480 V, 50/60 Hz (supply voltage T)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME10-1	80	1.10	1 1/2"	1 1/2"	3/8"	10.5	212	158	125	258	100	219	422	185	161	105	95	137	80	236	317
CME10-2	90	2.20	1 1/2"	1 1/2"	3/8"	12.0	267	199	160	258	100	219	428	220	205	105	140	170	115	209	323
CME10-3	112	4.00	1 1/2"	1 1/2"	3/8"	12.0	291	230	190	312	112	230	506	242	222	105	140	180	137	264	401
CME10-4	112	5.50	1 1/2"	1 1/2"	3/8"	12.0	291	230	190	312	112	230	553	289	269	135	140	180	154	264	418
CME10-5	112	5.50	1 1/2"	1 1/2"	3/8"	12.0	291	230	190	312	112	230	613	349	329	195	140	180	154	264	418

1 x 200-240 V, 50/60 Hz (supply voltage U)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME10-1	80	1.10	1 1/2"	1 1/2"	3/8"	10.5	212	158	125	258	100	219	382	185	161	105	95	137	80	196	277

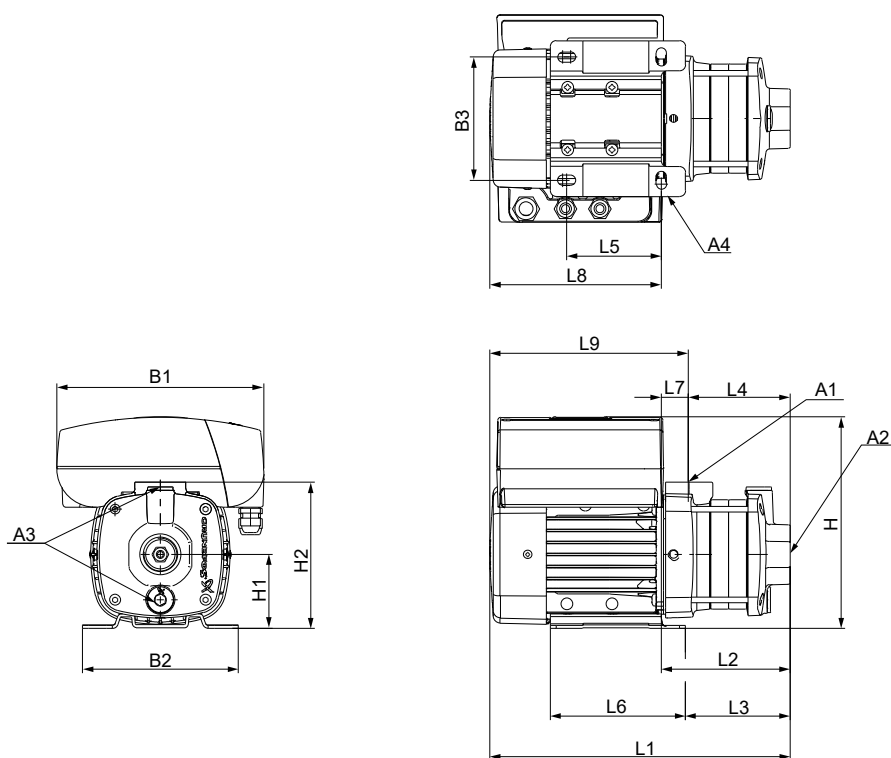
3 x 200-240 V, 50/60 Hz (supply voltage V)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME10-1	80	1.10	1 1/2"	1 1/2"	3/8"	10.5	267	158	125	258	100	219	422	185	161	105	95	137	80	236	317
CME10-2	100	2.20	1 1/2"	1 1/2"	3/8"	12.0	291	200	160	300	100	218	506	236	219	105	140	173	131	270	401
CME10-3	112	4.00	1 1/2"	1 1/2"	3/8"	12.0	291	230	190	312	112	230	506	242	222	105	140	180	137	264	401
CME10-4	132	5.50	1 1/2"	1 1/2"	3/8"	12.0	346	256	216	368	132	250	579	279	259	135	140	180	144	300	444
CME10-5	132	5.50	1 1/2"	1 1/2"	3/8"	12.0	346	256	216	368	132	250	639	339	319	195	140	180	144	300	444

All dimensions are in millimetres unless otherwise stated.

CME 15-A

(A = cast iron EN-GJL-200)



TM067510

Dimensions

3 x 380-500 V, 50/60 Hz (supply voltage S)

3 x 440-480 V, 50/60 Hz (supply voltage T)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME15-1	90	2.20	2"	2"	3/8"	12.0	267	199	160	258	100	242	388	180	165	97	140	170	82	209	291
CME15-2	112	4.00	2"	2"	3/8"	12.0	291	230	190	312	112	254	466	202	182	97	140	180	105	264	369
CME15-3	132	7.50	2"	2"	3/8"	12.0	346	256	216	368	132	274	539	239	219	127	140	180	112	300	412

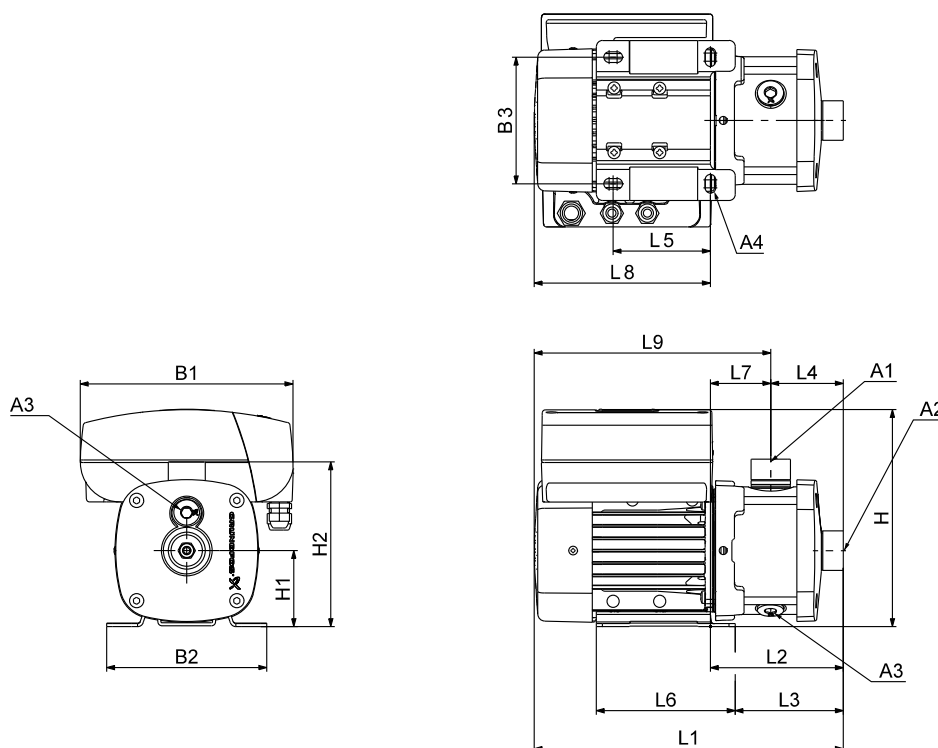
3 x 200-240 V, 50/60 Hz (supply voltage V)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME15-1	100	2.20	2"	2"	3/8"	12.0	291	200	160	300	100	242	466	196	179	97	140	173	98	270	369
CME15-2	112	4.00	2"	2"	3/8"	12.0	291	230	190	312	112	254	466	202	182	97	140	180	105	264	369
CME15-3	132	5.50	2"	2"	3/8"	12.0	346	256	216	368	132	274	539	239	219	127	140	180	112	300	412

All dimensions are in millimetres unless otherwise stated.

CME 15-I and CME 15-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067508

Dimensions

3 x 380-500 V, 50/60 Hz (supply voltage S)

3 x 440-480 V, 50/60 Hz (supply voltage T)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME15-1	90	2.20	2"	2"	3/8"	12.0	267	199	160	258	100	217	428	220	205	105	140	170	115	209	323
CME15-2	112	4.00	2"	2"	3/8"	12.0	291	230	190	312	112	229	506	242	222	105	140	180	137	264	401
CME15-3	132	7.50	2"	2"	3/8"	12.0	346	256	216	368	132	249	549	249	229	105	140	180	144	300	444

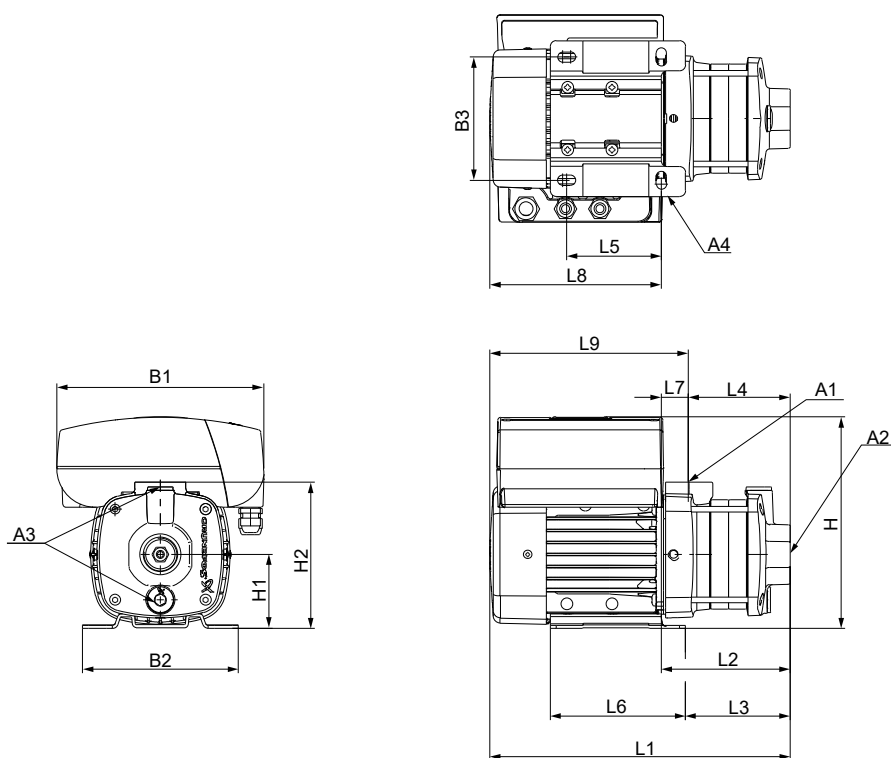
3 x 200-240 V, 50/60 Hz (supply voltage V)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME15-1	100	2.20	2"	2"	3/8"	12.0	291	200	160	300	100	217	506	236	219	105	140	173	131	270	401
CME15-2	112	4.00	2"	2"	3/8"	12.0	291	230	190	312	112	229	506	242	222	105	140	180	137	264	401
CME15-3	132	5.50	2"	2"	3/8"	12.0	346	256	216	368	132	249	549	249	229	105	140	180	144	300	444

All dimensions are in millimetres unless otherwise stated.

CME 25-A

(A = cast iron EN-GJL-200)



TM067510

Dimensions

3 x 380-500 V, 50/60 Hz (supply voltage S)

3 x 440-480 V, 50/60 Hz (supply voltage T)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME25-1	100	3.00	2"	2"	3/8"	12.0	291	200	160	300	100	242	466	196	179	97	140	173	98	270	369
CME25-2	132	7.50	2"	2"	3/8"	12.0	346	256	216	368	132	274	509	209	189	97	140	180	112	300	412

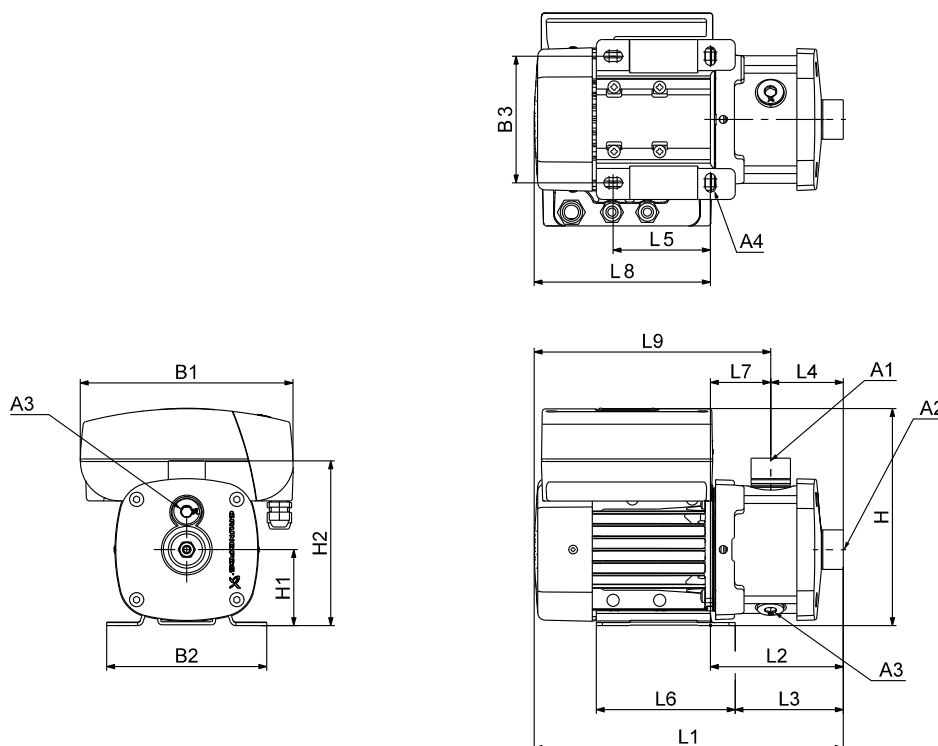
3 x 200-240 V, 50/60 Hz (supply voltage V)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME25-1	100A	3.00	2"	2"	3/8"	12.0	291	200	160	300	100	242	466	196	179	97	140	173	98	270	369
CME25-2	132F	5.50	2"	2"	3/8"	12.0	346	256	216	368	132	274	509	209	189	97	140	180	112	300	412

All dimensions are in millimetres unless otherwise stated.

CME 25-I and CME 25-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067508

Dimensions

3 x 380-500 V, 50/60 Hz (supply voltage S)

3 x 440-480 V, 50/60 Hz (supply voltage T)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME25-1	100	3.00	2"	2"	3/8"	12.0	291	200	160	300	100	217	506	235	219	105	140	173	130	270	401
CME25-2	132	7.50	2"	2"	3/8"	12.0	346	256	216	368	132	249	549	249	229	105	140	180	144	300	444

3 x 200-240 V, 50/60 Hz (supply voltage V)

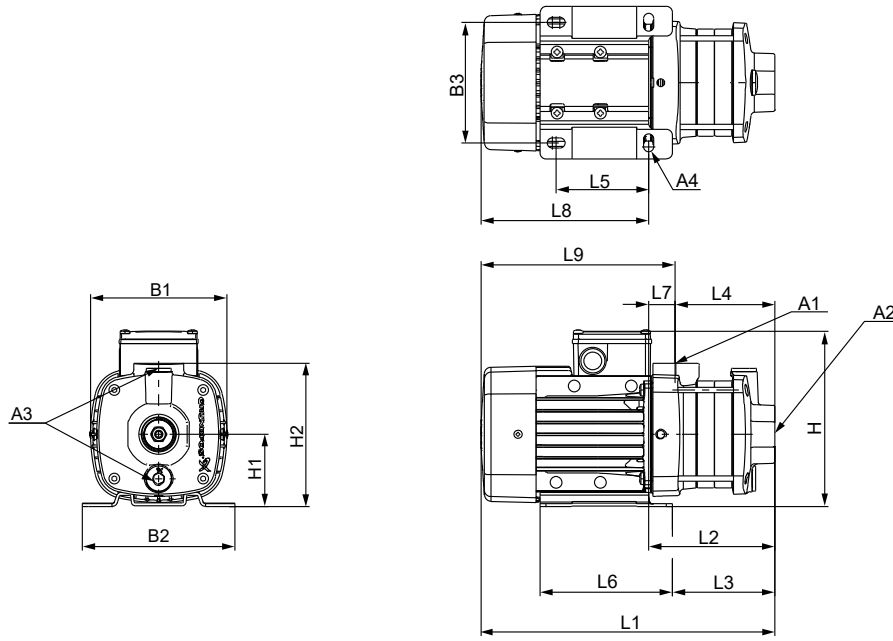
Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CME25-1	100	3.00	2"	2"	3/8"	12.0	291	200	160	300	100	217	506	236	219	105	140	173	131	270	401
CME25-2	132	5.50	2"	2"	3/8"	12.0	346	256	216	368	132	249	549	249	229	105	140	180	144	300	444

All dimensions are in millimetres unless otherwise stated.

22. Dimensions, CM 50 Hz

CM 1-A

(A = cast iron EN-GJL-200)



TM067509

Dimensions

3 x 220-240/380-415 V, 50 Hz (supply voltage F)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM1-2	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	149	286	112	88	85	96	137	27	174	201
CM1-3	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	149	304	130	106	103	96	137	27	174	201
CM1-4	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	149	322	148	124	121	96	137	27	174	201
CM1-5	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	149	340	166	142	139	96	137	27	174	201
CM1-6	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	149	358	184	160	157	96	137	27	174	201
CM1-7	71	0.60	1"	1"	3/8"	10.5	141	158	125	184	75	149	376	202	178	175	96	137	27	174	201
CM1-8	71	0.60	1"	1"	3/8"	10.5	141	158	125	184	75	149	394	220	196	193	96	137	27	174	201

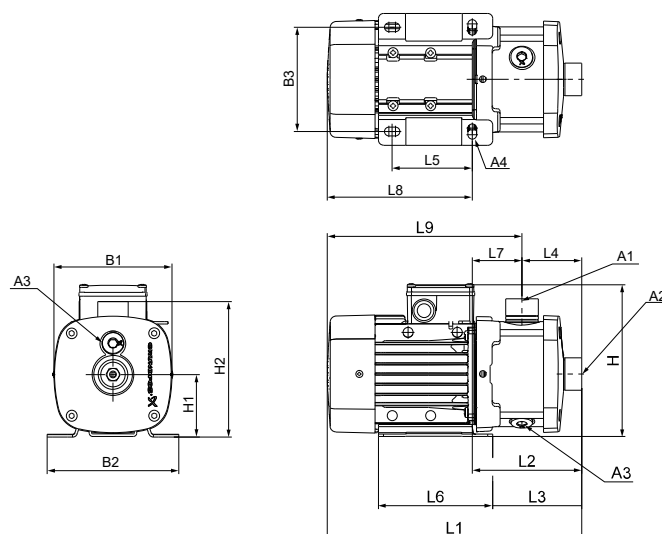
1 x 220-230 V, 50 Hz (supply voltage C1)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM1-2	71	0.30	1"	1"	3/8"	10.5	141	158	125	208	75	149	286	112	88	85	96	137	27	174	201
CM1-3	71	0.30	1"	1"	3/8"	10.5	141	158	125	208	75	149	304	130	106	103	96	137	27	174	201
CM1-4	71	0.30	1"	1"	3/8"	10.5	141	158	125	208	75	149	322	148	124	121	96	137	27	174	201
CM1-5	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	149	340	166	142	139	96	137	27	174	201
CM1-6	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	149	358	184	160	157	96	137	27	174	201
CM1-7	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	149	376	202	178	175	96	137	27	174	201
CM1-8	80	0.67	1"	1"	3/8"	10.5	141	158	125	208	75	149	434	220	196	193	96	137	27	214	241

All dimensions are in millimetres unless otherwise stated.

CM 1-I and CM 1-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067507

Dimensions

3 x 220-240/380-415 V, 50 Hz (supply voltage F)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM1-2	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM1-3	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM1-4	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	165	324	150	126	90	96	137	60	174	234
CM1-5	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	165	342	168	144	108	96	137	60	174	234
CM1-6	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	165	378	204	180	144	96	137	60	174	234
CM1-7	71	0.60	1"	1"	3/8"	10.5	141	158	125	184	75	165	378	204	180	144	96	137	60	174	234
CM1-8	71	0.65	1"	1"	3/8"	10.5	141	158	125	184	75	165	414	240	216	180	96	137	60	174	234
CM1-9	71	0.60	1"	1"	3/8"	10.5	141	158	125	184	75	165	414	240	216	180	96	137	60	174	234
CM1-10	80	1.10	1"	1"	3/8"	10.5	141	158	125	184	75	165	510	276	252	216	96	137	60	234	294
CM1-11	80	1.10	1"	1"	3/8"	10.5	141	158	125	184	75	165	510	276	252	216	96	137	60	234	294
CM1-12	80	1.10	1"	1"	3/8"	10.5	141	158	125	184	75	165	564	330	306	270	96	137	60	234	294
CM1-13	80	1.10	1"	1"	3/8"	10.5	141	158	125	184	75	165	564	330	306	270	96	137	60	234	294
CM1-14	80	1.10	1"	1"	3/8"	10.5	141	158	125	184	75	165	564	330	306	270	96	137	60	234	294

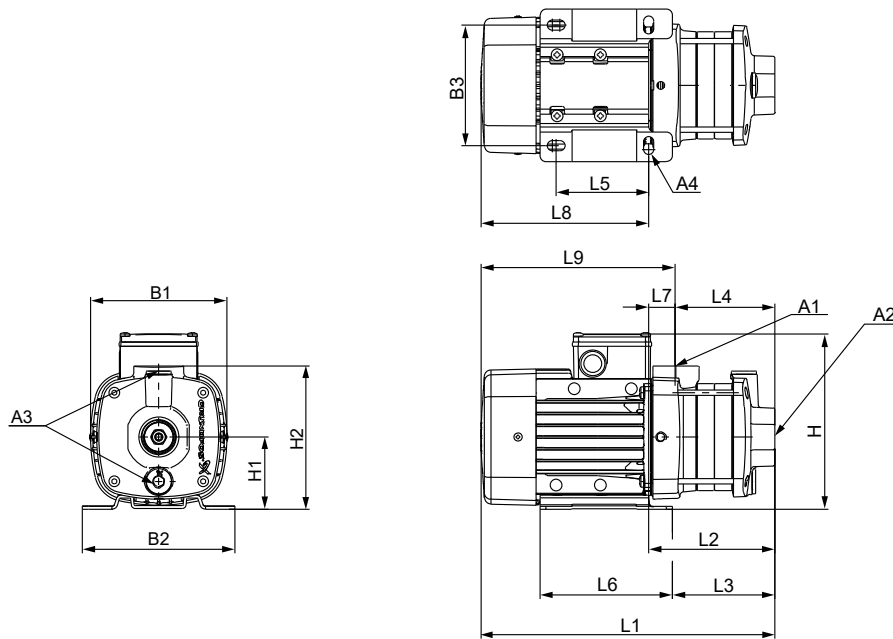
1 x 220-230 V, 50 Hz (supply voltage C1)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM1-2	71	0.30	1"	1"	3/8"	10.5	141	158	125	208	75	165	306	132	108	72	96	137	60	174	234
CM1-3	71	0.30	1"	1"	3/8"	10.5	141	158	125	208	75	165	306	132	108	72	96	137	60	174	234
CM1-4	71	0.30	1"	1"	3/8"	10.5	141	158	125	208	75	165	324	150	126	90	96	137	60	174	234
CM1-5	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	165	342	168	144	108	96	137	60	174	234
CM1-6	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	165	378	204	180	144	96	137	60	174	234
CM1-7	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	165	378	204	180	144	96	137	60	174	234
CM1-8	80	0.67	1"	1"	3/8"	10.5	141	158	125	208	75	165	454	240	216	180	96	137	60	214	274
CM1-9	80	0.67	1"	1"	3/8"	10.5	141	158	125	208	75	165	454	240	216	180	96	137	60	214	274
CM1-10	80	0.67	1"	1"	3/8"	10.5	141	158	125	208	75	165	490	276	252	216	96	137	60	214	274
CM1-11	80	0.90	1"	1"	3/8"	10.5	141	158	125	208	75	165	510	276	252	216	96	137	60	234	294
CM1-12	80	0.90	1"	1"	3/8"	10.5	141	158	125	208	75	165	564	330	306	270	96	137	60	234	294
CM1-13	80	0.90	1"	1"	3/8"	10.5	141	158	125	208	75	165	564	330	306	270	96	137	60	234	294
CM1-14	90	1.30	1"	1"	3/8"	10.0	178	178	140	229	90	180	595	371	356	270	125	155	101	224	325

All dimensions are in millimetres unless otherwise stated.

CM 3-A

(A = cast iron EN-GJL-200)



TM067509

Dimensions

3 x 220-240/380-415 V, 50 Hz (supply voltage F)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM3-2	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	149	286	112	88	85	96	137	27	174	201
CM3-3	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	149	304	130	106	103	96	137	27	174	201
CM3-4	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	149	322	148	124	121	96	137	27	174	201
CM3-5	71	0.60	1"	1"	3/8"	10.5	141	158	125	184	75	149	340	166	142	139	96	137	27	174	201
CM3-6	71	0.65	1"	1"	3/8"	10.5	141	158	125	184	75	149	358	184	160	157	96	137	27	174	201
CM3-7	80	1.10	1"	1"	3/8"	10.5	141	158	125	184	75	149	436	202	178	175	96	137	27	234	261
CM3-8	80	1.10	1"	1"	3/8"	10.5	141	158	125	184	75	149	454	220	196	193	96	137	27	234	261

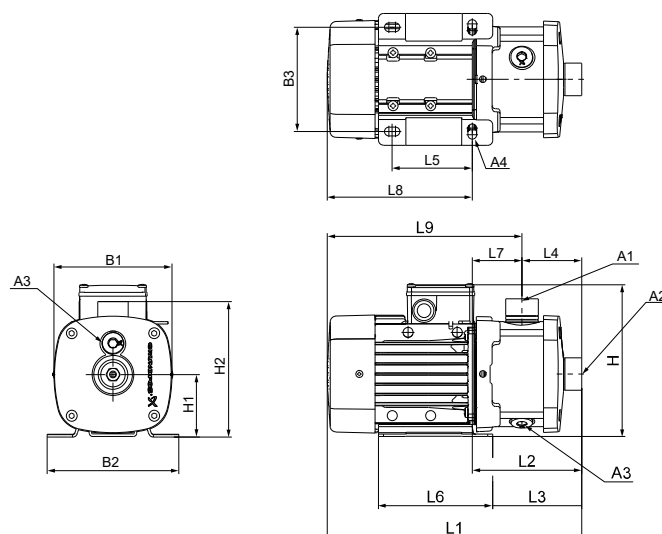
1 x 220-230 V, 50 Hz (supply voltage C1)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM3-2	71	0.30	1"	1"	3/8"	10.5	141	158	125	208	75	149	286	112	88	85	96	137	27	174	201
CM3-3	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	149	304	130	106	103	96	137	27	174	201
CM3-4	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	149	322	148	124	121	96	137	27	174	201
CM3-5	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	149	340	166	142	139	96	137	27	174	201
CM3-6	80	0.67	1"	1"	3/8"	10.5	141	158	125	208	75	149	398	184	160	157	96	137	27	214	241
CM3-7	80	0.90	1"	1"	3/8"	10.5	141	158	125	208	75	149	436	202	178	175	96	137	27	234	261
CM3-8	80	0.90	1"	1"	3/8"	10.5	141	158	125	208	75	149	454	220	196	193	96	137	27	234	261

All dimensions are in millimetres unless otherwise stated.

CM 3-I and CM 3-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067507

Dimensions

3 x 220-240/380-415 V, 50 Hz (supply voltage F)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM3-2	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM3-3	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM3-4	71	0.46	1"	1"	3/8"	10.5	141	158	125	184	75	165	324	150	126	90	96	137	60	174	234
CM3-5	71	0.60	1"	1"	3/8"	10.5	141	158	125	184	75	165	342	168	144	108	96	137	60	174	234
CM3-6	71	0.65	1"	1"	3/8"	10.5	141	158	125	184	75	165	378	204	180	144	96	137	60	174	234
CM3-7	80	1.10	1"	1"	3/8"	10.5	141	158	125	184	75	165	438	204	180	144	96	137	60	234	294
CM3-8	80	1.10	1"	1"	3/8"	10.5	141	158	125	184	75	165	474	240	216	180	96	137	60	234	294
CM3-9	80	1.10	1"	1"	3/8"	10.5	141	158	125	184	75	165	474	240	216	180	96	137	60	234	294
CM3-10	90	1.50	1"	1"	3/8"	10.0	178	178	140	200	90	180	541	317	302	216	125	155	101	224	325
CM3-11	90	1.50	1"	1"	3/8"	10.0	178	178	140	200	90	180	541	317	302	216	125	155	101	224	325
CM3-12	90	1.50	1"	1"	3/8"	10.0	178	178	140	200	90	180	595	371	356	270	125	155	101	224	325
CM3-13	90	2.20	1"	1"	3/8"	10.0	178	178	140	200	90	180	635	371	356	270	125	155	101	264	365
CM3-14	90	2.20	1"	1"	3/8"	10.0	178	178	140	200	90	180	635	371	356	270	125	155	101	264	365

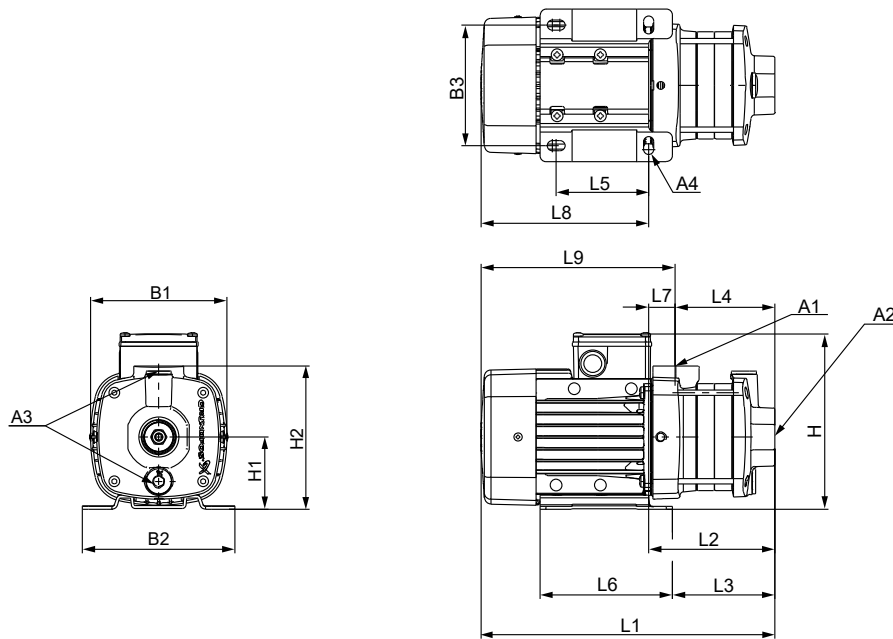
1 x 220-230 V, 50 Hz (supply voltage C1)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM3-2	71	0.30	1"	1"	3/8"	10.5	141	158	125	208	75	165	306	132	108	72	96	137	60	174	234
CM3-3	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	165	306	132	108	72	96	137	60	174	234
CM3-4	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	165	324	150	126	90	96	137	60	174	234
CM3-5	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	165	342	168	144	108	96	137	60	174	234
CM3-6	80	0.67	1"	1"	3/8"	10.5	141	158	125	208	75	165	418	204	180	144	96	137	60	214	274
CM3-7	80	0.90	1"	1"	3/8"	10.5	141	158	125	208	75	165	438	204	180	144	96	137	60	234	294
CM3-8	80	0.90	1"	1"	3/8"	10.5	141	158	125	208	75	165	474	240	216	180	96	137	60	234	294
CM3-9	90	1.30	1"	1"	3/8"	10.0	178	178	140	229	90	180	505	281	266	180	125	155	101	224	325
CM3-10	90	1.30	1"	1"	3/8"	10.0	178	178	140	229	90	180	541	317	302	216	125	155	101	224	325
CM3-11	90	1.30	1"	1"	3/8"	10.0	178	178	140	229	90	180	541	317	302	216	125	155	101	224	325
CM3-12	90	1.30	1"	1"	3/8"	10.0	178	178	140	229	90	180	595	371	356	270	125	155	101	224	325
CM3-13	90	1.70	1"	1"	3/8"	10.0	178	178	140	229	90	180	635	371	356	270	125	155	101	264	365
CM3-14	90	1.70	1"	1"	3/8"	10.0	178	178	140	229	90	180	635	371	356	270	125	155	101	264	365

All dimensions are in millimetres unless otherwise stated.

CM 5-A

(A = cast iron EN-GJL-200)



TM067509

Dimensions

3 x 220-240/380-415 V, 50 Hz (supply voltage F)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM5-2	71	0.46	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	149	286	112	88	85	96	137	27	174	201
CM5-3	71	0.60	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	149	304	130	106	103	96	137	27	174	201
CM5-4	80	1.10	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	149	382	148	124	121	96	137	27	234	261
CM5-5	80	1.10	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	149	400	166	142	139	96	137	27	234	261
CM5-6	90	1.50	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	201	449	225	210	144	125	155	81	224	306
CM5-7	90	1.50	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	201	467	243	228	162	125	155	81	224	306
CM5-8	90	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	201	525	261	246	180	125	155	81	264	346

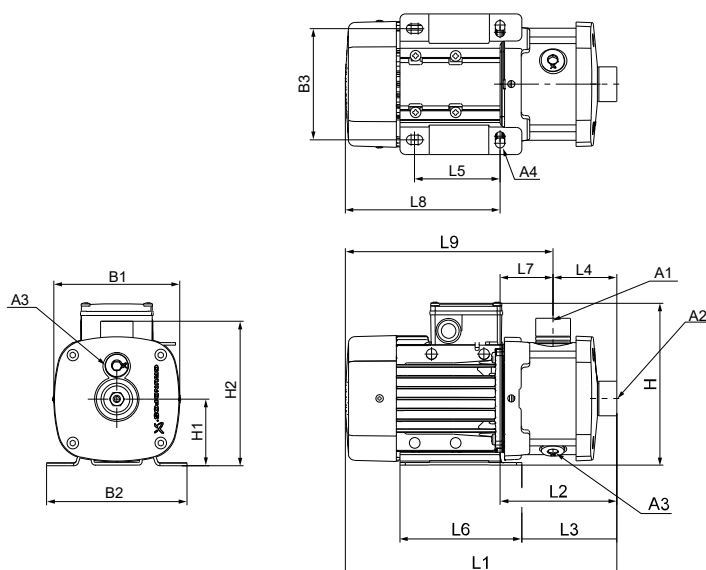
1 x 220-230 V, 50 Hz (supply voltage C1)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM5-2	71	0.50	1"	1 1/4"	3/8"	10.5	141	158	125	208	75	149	286	112	88	85	96	137	27	174	201
CM5-3	71	0.50	1"	1 1/4"	3/8"	10.5	141	158	125	208	75	149	304	130	106	103	96	137	27	174	201
CM5-4	80	0.67	1"	1 1/4"	3/8"	10.5	141	158	125	208	75	149	362	148	124	121	96	137	27	214	241
CM5-5	80	0.90	1"	1 1/4"	3/8"	10.5	141	158	125	208	75	149	380	166	142	139	96	137	27	214	241
CM5-6	90	1.30	1"	1 1/4"	3/8"	10.0	178	178	140	229	90	201	449	225	210	144	125	155	81	224	306
CM5-7	90	1.30	1"	1 1/4"	3/8"	10.0	178	178	140	229	90	201	467	243	228	162	125	155	81	224	306
CM5-8	90	1.70	1"	1 1/4"	3/8"	10.0	178	178	140	229	90	201	525	261	246	180	125	155	81	264	346

All dimensions are in millimetres unless otherwise stated.

CM 5-I and CM 5-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067507

Dimensions

3 x 220-240/380-415 V, 50 Hz (supply voltage F)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM5-2	71	0.46	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM5-3	71	0.60	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM5-4	80	1.10	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	165	384	150	126	90	96	137	60	234	294
CM5-5	80	1.10	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	165	402	168	144	108	96	137	60	234	294
CM5-6	90	1.50	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	180	469	245	230	144	125	155	101	224	325
CM5-7	90	1.50	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	180	469	245	230	144	125	155	101	224	325
CM5-8	90	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	180	545	281	266	180	125	155	101	264	365
CM5-9	90	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	180	545	281	266	180	125	155	101	264	365
CM5-10	90	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	180	581	317	302	216	125	155	101	264	365
CM5-11	90	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	180	581	317	302	216	125	155	101	264	365
CM5-12	100	3.00	1"	1 1/4"	3/8"	12.0	198	199	160	220	100	190	651	378	363	270	140	170	108	273	381
CM5-13	100	3.00	1"	1 1/4"	3/8"	12.0	198	199	160	220	100	190	651	378	363	270	140	170	108	273	381

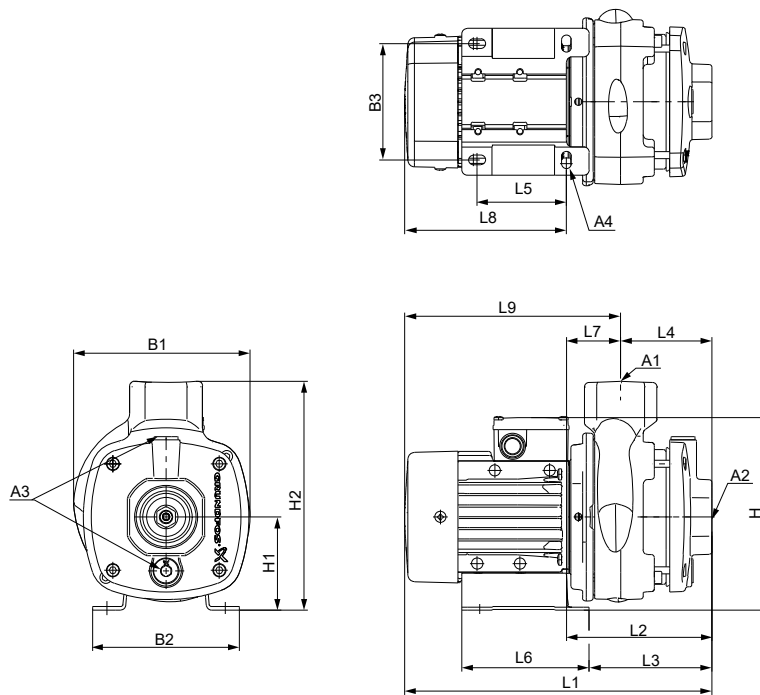
1 x 220-230 V, 50 Hz (supply voltage C1)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM5-2	71	0.50	1"	1 1/4"	3/8"	10.5	141	158	125	208	75	165	306	132	108	72	96	137	60	174	234
CM5-3	71	0.50	1"	1 1/4"	3/8"	10.5	141	158	125	208	75	165	306	132	108	72	96	137	60	174	234
CM5-4	80	0.67	1"	1 1/4"	3/8"	10.5	141	158	125	208	75	165	364	150	126	90	96	137	60	214	274
CM5-5	80	0.90	1"	1 1/4"	3/8"	10.5	141	158	125	208	75	165	402	168	144	108	96	137	60	234	294
CM5-6	90	1.30	1"	1 1/4"	3/8"	10.0	178	178	140	229	90	180	469	245	230	144	125	155	101	224	325
CM5-7	90	1.30	1"	1 1/4"	3/8"	10.0	178	178	140	229	90	180	469	245	230	144	125	155	101	224	325
CM5-8	90	1.70	1"	1 1/4"	3/8"	10.0	178	178	140	229	90	180	545	281	266	180	125	155	101	264	365
CM5-9	90	1.70	1"	1 1/4"	3/8"	10.0	178	178	140	229	90	180	545	281	266	180	125	155	101	264	365

All dimensions are in millimetres unless otherwise stated.

CM 10-A

(A = cast iron EN-GJL-200)



TM067512

Dimensions**3 x 220-240/380-415 V, 50 Hz (supply voltage F)**

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM10-1	71	0.60	1 1/2"	1 1/2"	3/8"	10.5	190	158	125	209	100	242	330	156	131	97	95	137	59	174	232
CM10-2	90	1.50	1 1/2"	1 1/2"	3/8"	12.0	190	199	160	210	100	242	411	179	164	97	140	170	82	232	314
CM10-3	90	2.20	1 1/2"	1 1/2"	3/8"	12.0	190	199	160	210	100	242	481	209	194	127	140	170	82	272	354
CM10-4	100	3.0	1 1/2"	1 1/2"	3/8"	12.0	198	199	160	220	100	242	527	254	239	157	140	170	97	273	370
CM10-5	100	3.0	1 1/2"	1 1/2"	3/8"	12.0	198	199	160	220	100	242	557	284	269	187	140	170	97	273	370

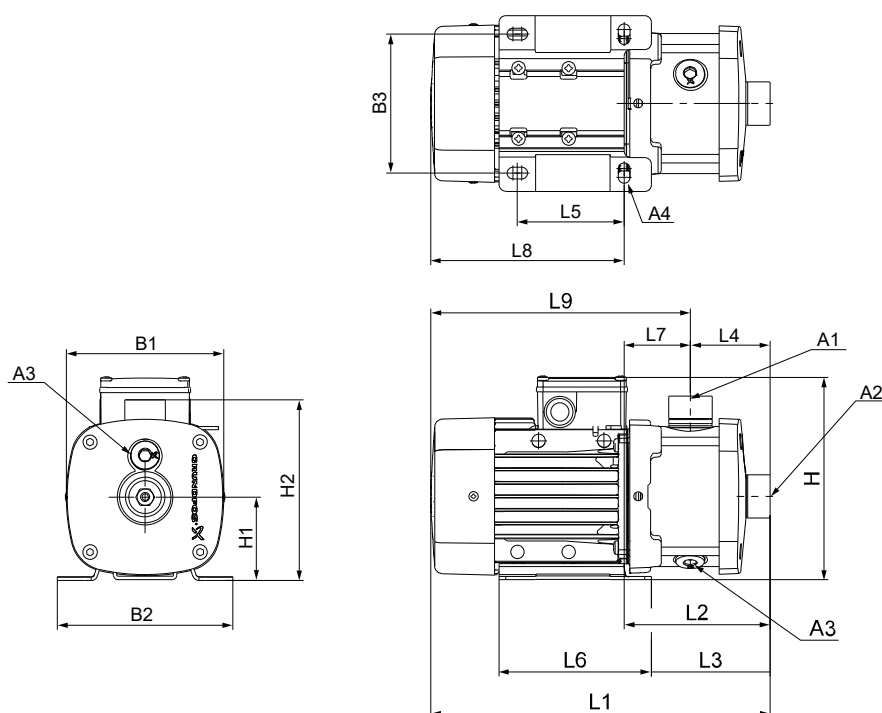
1 x 220-230 V, 50 Hz (supply voltage C1)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM10-1	80	0.67	1 1/2"	1 1/2"	3/8"	10.5	190	158	125	233	100	242	370	156	131	97	95	137	59	214	272
CM10-2	90	1.30	1 1/2"	1 1/2"	3/8"	12.0	190	199	160	239	100	242	411	179	164	97	140	170	82	232	314
CM10-3	90	1.70	1 1/2"	1 1/2"	3/8"	12.0	190	199	160	239	100	242	481	209	194	127	140	170	82	272	354

All dimensions are in millimetres unless otherwise stated.

CM 10-I and CM 10-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067507

Dimensions

3 x 220-240/380-415 V, 50 Hz (supply voltage F)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM10-1	71	0.60	1 1/2"	1 1/2"	3/8"	10.5	180	158	125	209	100	219	360	186	161	105	95	137	81	174	255
CM10-2	90	1.50	1 1/2"	1 1/2"	3/8"	12.0	178	199	160	210	100	219	451	219	204	105	140	170	114	232	346
CM10-3	90	2.20	1 1/2"	1 1/2"	3/8"	12.0	178	199	160	210	100	219	491	219	204	105	140	170	114	272	386
CM10-4	100	3.00	1 1/2"	1 1/2"	3/8"	12.0	198	199	160	220	100	219	537	264	249	135	140	170	129	273	402
CM10-5	100	3.00	1 1/2"	1 1/2"	3/8"	12.0	198	199	160	220	100	219	597	324	309	195	140	170	129	273	402
CM10-6	112	4.00	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	650	348	332	195	140	172	153	302	455
CM10-7	132	5.50	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	710	408	392	255	140	172	153	302	455
CM10-8	132	5.50	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	710	408	392	255	140	172	153	302	455

Please note that the dimension H is smaller than H2 for CM 10-1, CM 10-2 and CM 10-3.

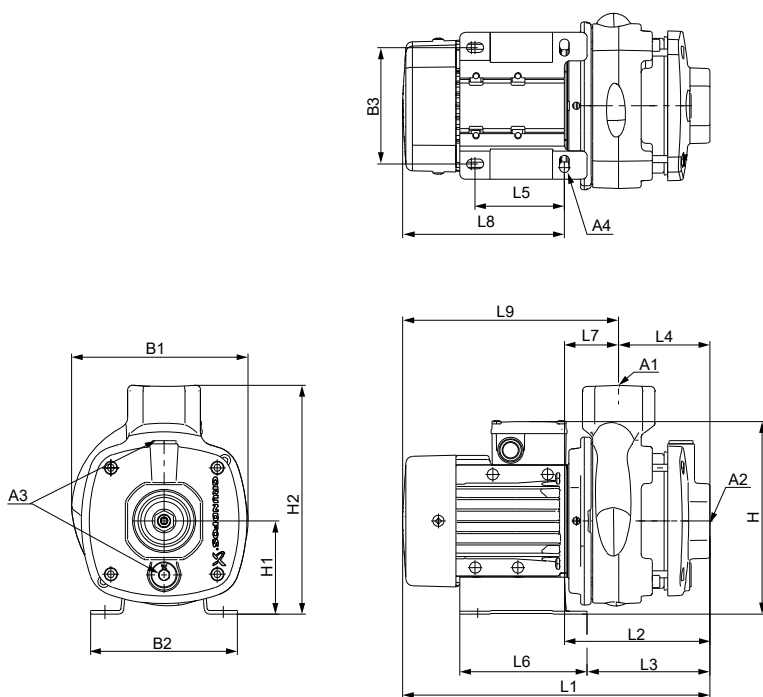
1 x 220-230 V, 50 Hz (supply voltage C1)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM10-1	80	0.67	1 1/2"	1 1/2"	3/8"	10.5	141	158	125	233	100	219	400	186	161	105	95	137	81	214	295
CM10-2	90	1.30	1 1/2"	1 1/2"	3/8"	12.0	178	199	160	239	100	219	451	219	204	105	140	170	114	232	346
CM10-3	90	1.70	1 1/2"	1 1/2"	3/8"	12.0	178	199	160	239	100	219	491	219	204	105	140	170	114	272	386

All dimensions are in millimetres unless otherwise stated.

CM 15-A

(A = cast iron EN-GJL-200)



TM067512

Dimensions

3 x 220-240/380-415 V, 50 Hz (supply voltage F)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM15-1	80	1.1	2"	2"	3/8"	10.5	190	158	125	209	100	242	390	156	131	97	95	137	59	234	292
CM15-2	90	2.2	2"	2"	3/8"	12.0	190	199	160	210	100	242	451	179	164	97	140	170	82	272	354
CM15-3	112	4.0	2"	2"	3/8"	12.0	220	228	190	246	112	254	550	248	232	127	140	172	120	302	423
CM15-4	132	5.5	2"	2"	3/8"	12.0	220	228	190	246	112	254	580	278	262	157	140	172	120	302	423

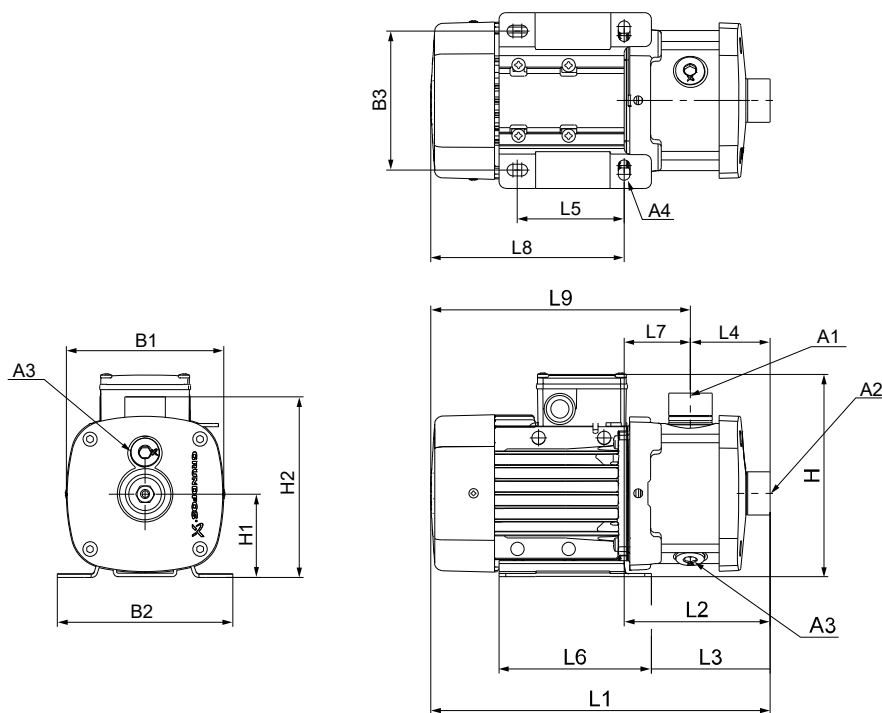
1 x 220-230 V, 50 Hz (supply voltage C1)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM15-1	90	1.30	2"	2"	3/8"	12.0	190	199	160	239	100	242	411	179	164	97	140	170	82	232	314

All dimensions are in millimetres unless otherwise stated.

CM 15-I and CM 15-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067507

Dimensions

3 x 220-240/380-415 V, 50 Hz (supply voltage F)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM15-1	80	1.10	2"	2"	3/8"	10.5	141	158	125	209	100	217	420	186	161	105	95	137	81	234	315
CM15-2	90	2.20	2"	2"	3/8"	12.0	178	199	160	210	100	217	491	219	204	105	140	170	114	272	386
CM15-3	112	4.00	2"	2"	3/8"	12.0	220	228	190	246	112	229	560	258	242	105	140	172	153	302	455
CM15-4	132	5.50	2"	2"	3/8"	12.0	220	228	190	246	112	229	590	288	272	135	140	172	153	302	455

Please note that the dimension H is smaller than H2 for CM 15-1 and CM 15-2.

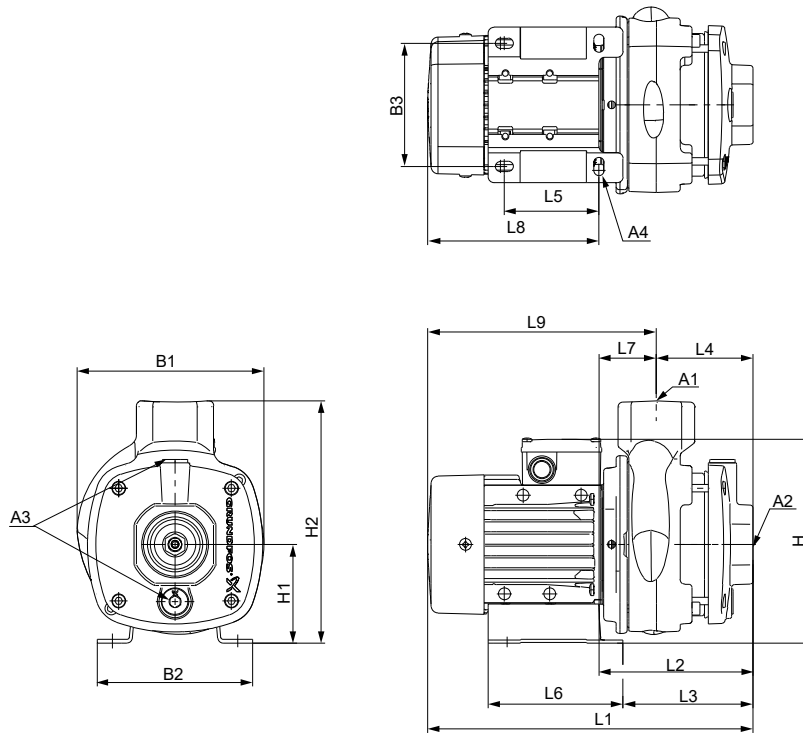
1 x 220-230 V, 50 Hz (supply voltage C1)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM15-1	90SA	1.3	2"	2"	3/8"	12.0	178	199	160	239	100	217	451	219	204	105	140	170	114	232	346

All dimensions are in millimetres unless otherwise stated.

CM 25-A

(A = cast iron EN-GJL-200)



TM067512

Dimensions

3 x 220-240/380-415 V, 50 Hz (supply voltage F)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM25-1	90	2.20	2"	2"	3/8"	12.0	190	199	160	210	100	242	451	179	164	97	140	170	82	272	354
CM25-2	112	4.0	2"	2"	3/8"	12.0	220	228	190	246	112	254	520	218	202	97	140	172	120	302	423
CM25-3	132	5.50	2"	2"	3/8"	12.0	220	228	190	246	112	254	550	248	232	127	140	172	120	302	423
CM25-4	132	7.50	2"	2"	3/8"	12.0	263	244	216	291	132	273	559	269	257	157	140	164	112	290	402

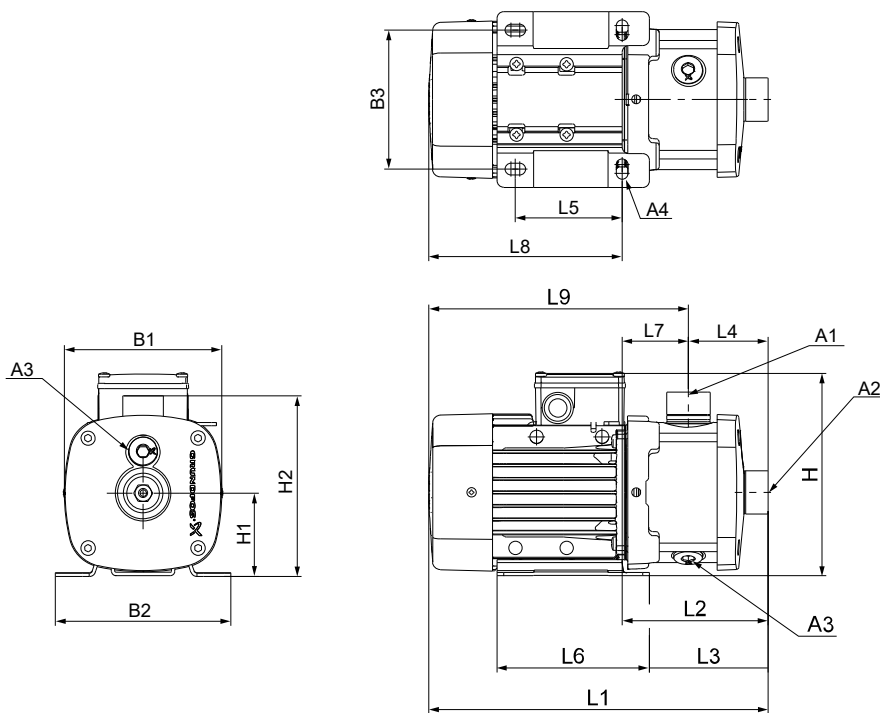
1 x 220-230 V, 50 Hz (supply voltage C1)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM25-1	90	1.70	2"	2"	3/8"	12.0	190	199	160	239	100	242	451	179	164	97	140	170	82	272	354

All dimensions are in millimetres unless otherwise stated.

CM 25-I and CM 25-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067507

Dimensions

3 x 220-240/380-415 V, 50 Hz (supply voltage F)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM25-1	90	2.20	2"	2"	3/8"	12.0	178	199	160	210	100	217	491	219	204	105	140	170	114	272	386
CM25-2	112	4.00	2"	2"	3/8"	12.0	220	228	190	246	112	229	560	258	242	105	140	172	153	302	455
CM25-3	132	5.50	2"	2"	3/8"	12.0	220	228	190	246	112	229	560	258	242	105	140	172	153	302	455
CM25-4	132	7.50	2"	2"	3/8"	12.0	263	244	216	291	132	248	569	279	267	135	140	164	144	290	434

Please note that the dimension H is smaller than H2 for CM 25-1.

1 x 220-230 V, 50 Hz (supply voltage C1)

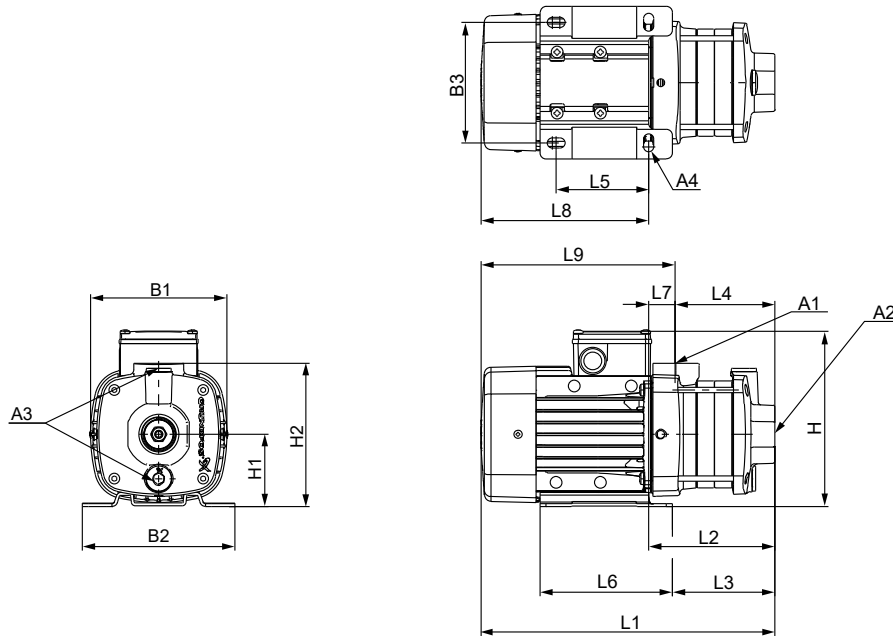
Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM25-1	90	1.70	2"	2"	3/8"	12.0	178	199	160	239	100	217	491	219	204	105	140	170	114	272	386

All dimensions are in millimetres unless otherwise stated.

23. Dimensions, CM 60 Hz and 50/60 Hz

CM 1-A

(A = cast iron EN-GJL-200)



TM067509

Dimensions

3 x 208-230/440-480 V, 60 Hz (supply voltage E)

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM1-2	71	0.25/0.43 ²⁷⁾	0.43/0.74 ²⁷⁾	1"	1"	3/8"	10.5	141	158	125	184	75	149	286	112	88	85	96	137	27	174	201
CM1-3	71	0.25/0.43 ²⁷⁾	0.43/0.74 ²⁷⁾	1"	1"	3/8"	10.5	141	158	125	184	75	149	304	130	106	103	96	137	27	174	201
CM1-4	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	149	322	148	124	121	96	137	27	174	201
CM1-5	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	149	340	166	142	139	96	137	27	174	201

²⁷⁾ Applies to supply voltage O.

3 x 575 V, 60 Hz (supply voltage H)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM1-4	80	1.10	1"	1"	3/8"	10.5	141	158	125	192	75	149	382	148	124	121	96	137	27	234	261
CM1-5	80	1.10	1"	1"	3/8"	10.5	141	158	125	192	75	149	400	166	142	139	96	137	27	234	261

1 x 115/230 V, 60 Hz (supply voltage B, B1)

1 x 230 V, 60 Hz (supply voltage B2)

1 x 220 V, 60 Hz (supply voltage A)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM1-2	71	0.60	1"	1"	3/8"	10.5	141	158	125	208	75	149	286	112	88	85	96	137	27	174	201
CM1-3	71	0.60	1"	1"	3/8"	10.5	141	158	125	208	75	149	304	130	106	103	96	137	27	174	201
CM1-4	71	0.60	1"	1"	3/8"	10.5	141	158	125	208	75	149	322	148	124	121	96	137	27	174	201
CM1-5	71	0.60	1"	1"	3/8"	10.5	141	158	125	208	75	149	340	166	142	139	96	137	27	174	201

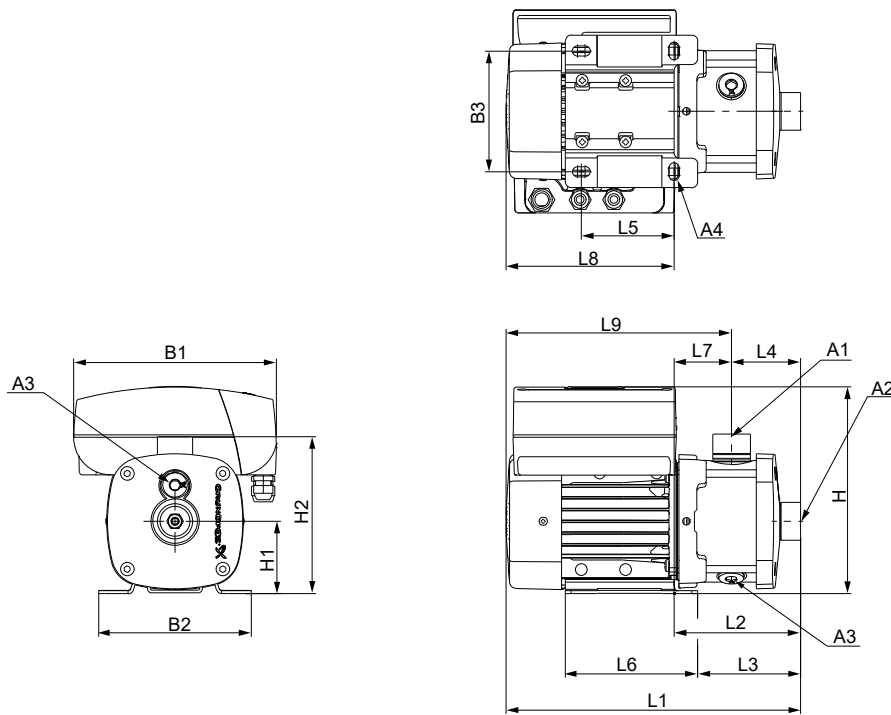
3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM1-2	71	0.25	0.43	1"	1"	3/8"	10.5	141	158	125	184	75	149	286	112	88	85	96	137	27	174	201
CM1-3	71	0.25	0.43	1"	1"	3/8"	10.5	141	158	125	184	75	149	304	130	106	103	96	137	27	174	201
CM1-4	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	149	322	148	124	121	96	137	27	174	201
CM1-5	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	149	340	166	142	139	96	137	27	174	201

All dimensions are in millimetres unless otherwise stated.

CM 1-I and CM 1-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067508

Dimensions

3 x 208-230/440-480 V, 60 Hz (supply voltage E)

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM1-2	71	0.25/0.43 ²⁸⁾	0.43/0.74 ²⁸⁾	1"	1"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM1-3	71	0.25/0.43 ²⁸⁾	0.43/0.74 ²⁸⁾	1"	1"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM1-4	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	165	324	150	126	90	96	137	60	174	234
CM1-5	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	165	342	168	144	108	96	137	60	174	234
CM1-6	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	165	378	204	180	144	96	137	60	174	234
CM1-7	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	165	378	204	180	144	96	137	60	174	234
CM1-8	80	0.64	1.10	1"	1"	3/8"	10.5	141	158	125	184	75	165	474	240	216	180	96	137	60	234	294
CM1-9	80	0.64	1.10	1"	1"	3/8"	10.5	141	158	125	184	75	165	474	240	216	180	96	137	60	234	294

²⁸⁾ Applies to supply voltage O.

3 x 575 V, 60 Hz (supply voltage H)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM1-4	80	1.10	1"	1"	3/8"	10.5	141	158	125	192	75	165	384	150	126	90	96	137	60	234	294
CM1-5	80	1.10	1"	1"	3/8"	10.5	141	158	125	192	75	165	402	168	144	108	96	137	60	234	294
CM1-6	80	1.10	1"	1"	3/8"	10.5	141	158	125	192	75	165	438	204	180	144	96	137	60	234	294
CM1-7	80	1.10	1"	1"	3/8"	10.5	141	158	125	192	75	165	438	204	180	144	96	137	60	234	294
CM1-8	80	1.10	1"	1"	3/8"	10.5	141	158	125	192	75	165	474	240	216	180	96	137	60	234	294
CM1-9	90	1.50	1"	1"	3/8"	10.0	178	178	140	200	90	180	505	281	266	180	125	155	101	224	325

1 x 115/230 V, 60 Hz (supply voltage B, B1)

1 x 230 V, 60 Hz (supply voltage B2)

1 x 220 V, 60 Hz (supply voltage A)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM1-2	71	0.60	1"	1"	3/8"	10.5	141	158	125	208	75	165	306	132	108	72	96	137	60	174	234
CM1-3	71	0.60	1"	1"	3/8"	10.5	141	158	125	208	75	165	306	132	108	72	96	137	60	174	234
CM1-4	71	0.60	1"	1"	3/8"	10.5	141	158	125	208	75	165	324	150	126	90	96	137	60	174	234
CM1-5	71	0.60	1"	1"	3/8"	10.5	141	158	125	208	75	165	342	168	144	108	96	137	60	174	234
CM1-6	80	0.84 ²⁹⁾ /0.78	1"	1"	3/8"	10.5	141	158	125	208	75	165	418	204	180	144	96	137	60	214	274
CM1-7	80	1.14 ²⁹⁾ /1.10	1"	1"	3/8"	10.5	206	158	125	208	75	165	418	204	180	144	96	137	60	214	274
CM1-8	80	1.14 ²⁹⁾ /1.10	1"	1"	3/8"	10.5	206	158	125	208	75	165	454	240	216	180	96	137	60	214	274
CM1-9	80	1.14 ²⁹⁾ /1.10	1"	1"	3/8"	10.5	206	158	125	208	75	165	454	240	216	180	96	137	60	214	274

²⁹⁾ Applies to supply voltage A.

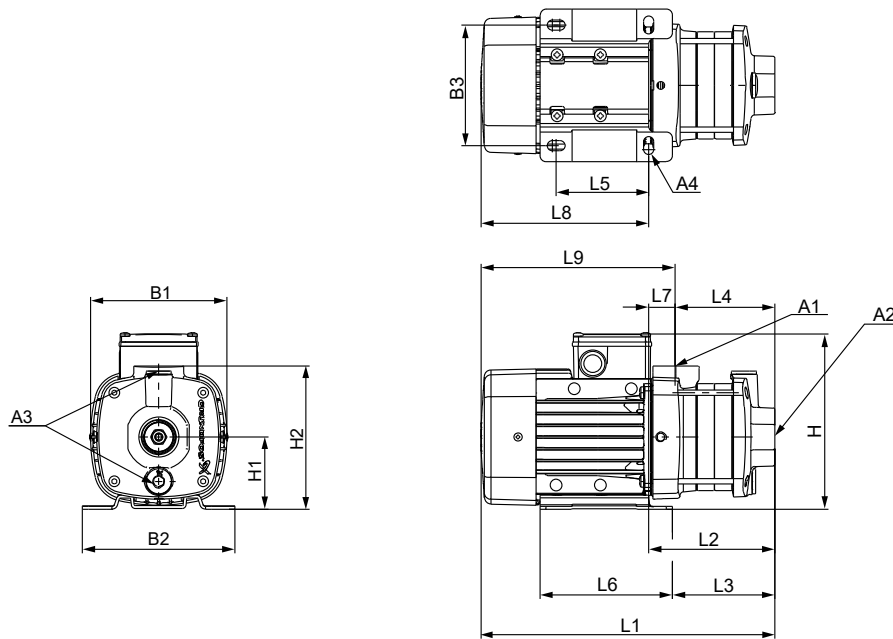
3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM1-2	71	0.25	0.43	1"	1"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM1-3	71	0.25	0.43	1"	1"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM1-4	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	165	324	150	126	90	96	137	60	174	234
CM1-5	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	165	342	168	144	108	96	137	60	174	234
CM1-6	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	165	378	204	180	144	96	137	60	174	234
CM1-7	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	165	378	204	180	144	96	137	60	174	234
CM1-8	80	0.74	1.28	1"	1"	3/8"	10.5	141	158	125	184	75	165	474	240	216	180	96	137	60	234	294
CM1-9	80	0.74	1.28	1"	1"	3/8"	10.5	141	158	125	184	75	165	474	240	216	180	96	137	60	234	294

All dimensions are in millimetres unless otherwise stated.

CM 3-A

(A = cast iron EN-GJL-200)



TM067509

Dimensions

3 x 208-230/440-480 V, 60 Hz (supply voltage E)

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM3-2	71	0.25/0.43 ³⁰⁾	0.43/0.74 ³⁰⁾	1"	1"	3/8"	10.5	141	158	125	184	75	149	286	112	88	85	96	137	27	174	201
CM3-3	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	149	304	130	106	103	96	137	27	174	201
CM3-4	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	149	322	148	124	121	96	137	27	174	201
CM3-5	80	0.64	1.10	1"	1"	3/8"	10.5	141	158	125	184	75	149	400	166	142	139	96	137	27	234	261

³⁰⁾Applies to supply voltage O.

3 x 575 V, 60 Hz (supply voltage H)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM3-3	80	1.10	1"	1"	3/8"	10.5	141	158	125	192	75	149	364	130	106	103	96	137	27	234	261
CM3-4	80	1.10	1"	1"	3/8"	10.5	141	158	125	192	75	149	382	148	124	121	96	137	27	234	261
CM3-5	80	1.10	1"	1"	3/8"	10.5	141	158	125	192	75	149	400	166	142	139	96	137	27	234	261

1 x 115/230 V, 60 Hz (supply voltage B, B1)

1 x 230 V, 60 Hz (supply voltage B2)

1 x 220 V, 60 Hz (supply voltage A)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM3-2	71	0.60	1"	1"	3/8"	10.5	141	158	125	208	75	149	286	112	88	85	96	137	27	174	201
CM3-3	71	0.60	1"	1"	3/8"	10.5	141	158	125	208	75	149	304	130	106	103	96	137	27	174	201
CM3-4	80	0.84 ³¹⁾ /0.78	1"	1"	3/8"	10.5	141	158	125	208	75	149	362	148	124	121	96	137	27	214	241
CM3-5	80	1.14 ³¹⁾ /1.10	1"	1"	3/8"	10.5	206	158	125	208	75	149	380	166	142	139	96	137	27	214	241

³¹⁾ Applies to supply voltage A.

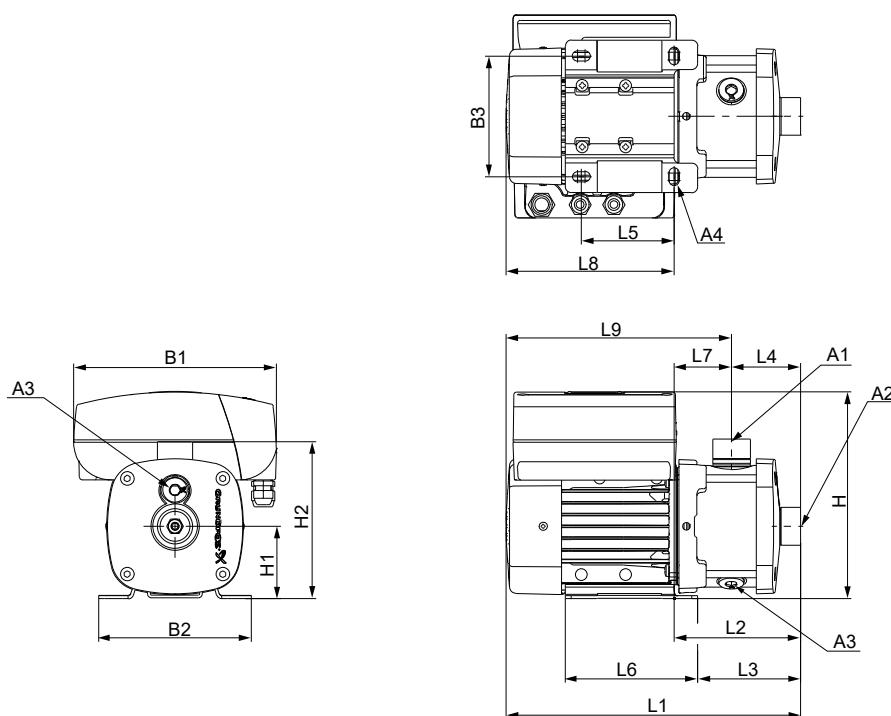
3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM3-2	71	0.25	0.43	1"	1"	3/8"	10.5	141	158	125	184	75	149	286	112	88	85	96	137	27	174	201
CM3-3	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	149	304	130	106	103	96	137	27	174	201
CM3-4	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	149	322	148	124	121	96	137	27	174	201
CM3-5	80	0.74	1.28	1"	1"	3/8"	10.5	141	158	125	184	75	149	400	166	142	139	96	137	27	234	261

All dimensions are in millimetres unless otherwise stated.

CM 3-I and CM 3-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067508

Dimensions

3 x 208-230/440-480 V, 60 Hz (supply voltage E)

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM3-2	71	0.25/0.43 ³²⁾	0.43/0.74 ³²⁾	1"	1"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM3-3	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM3-4	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	165	324	150	126	90	96	137	60	174	234
CM3-5	80	0.64	1.10	1"	1"	3/8"	10.5	141	158	125	184	75	165	402	168	144	108	96	137	60	234	294
CM3-6	90	1.27	2.20	1"	1"	3/8"	10	178	178	140	200	90	180	509	245	230	144	125	155	101	264	365
CM3-7	90	1.27	2.20	1"	1"	3/8"	10	178	178	140	200	90	180	509	245	230	144	125	155	101	264	365
CM3-8	90	1.27	2.20	1"	1"	3/8"	10	178	178	140	200	90	180	545	281	266	180	125	155	101	264	365
CM3-9	90	1.27	2.20	1"	1"	3/8"	10	178	178	140	200	90	180	545	281	266	180	125	155	101	264	365

³²⁾ Applies to supply voltage O.

3 x 575 V, 60 Hz (supply voltage H)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM3-3	80	1.10	1"	1"	3/8"	10.5	141	158	125	192	75	165	366	132	108	72	96	137	60	234	294
CM3-4	80	1.10	1"	1"	3/8"	10.5	141	158	125	192	75	165	384	150	126	90	96	137	60	234	294
CM3-5	80	1.10	1"	1"	3/8"	10.5	141	158	125	192	75	165	402	168	144	108	96	137	60	234	294
CM3-6	90	1.50	1"	1"	3/8"	10.0	178	178	140	200	90	180	469	245	230	144	125	155	101	224	325
CM3-7	90	2.20	1"	1"	3/8"	10.0	178	178	140	200	90	180	509	245	230	144	125	155	101	264	365
CM3-8	90	2.20	1"	1"	3/8"	10.0	178	178	140	200	90	180	545	281	266	180	125	155	101	264	365
CM3-9	90	2.20	1"	1"	3/8"	10.0	178	178	140	200	90	180	545	281	266	180	125	155	101	264	365

1 x 115/230 V, 60 Hz (supply voltage B, B1)

1 x 230 V, 60 Hz (supply voltage B2)

1 x 220 V, 60 Hz (supply voltage A)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM3-2	71	0.60	1"	1"	3/8"	10.5	141	158	125	208	75	165	306	132	108	72	96	137	60	174	234
CM3-3	71	0.60	1"	1"	3/8"	10.5	141	158	125	208	75	165	306	132	108	72	96	137	60	174	234
CM3-4	80	0.84 ³³⁾ /0.78	1"	1"	3/8"	10.5	141	158	125	208	75	165	364	150	126	90	96	137	60	214	274
CM3-5	80	1.14 ³³⁾ /1.10	1"	1"	3/8"	10.5	206	158	125	208	75	165	382	168	144	108	96	137	60	214	274
CM3-6	90	1.54 ³³⁾ /1.50	1"	1"	3/8"	10.0	178	178	140	229	90	180	469	245	230	144	125	155	101	224	325
CM3-7	90	1.54 ³³⁾ /1.50	1"	1"	3/8"	10.0	178	178	140	229	90	180	469	245	230	144	125	155	101	224	325
CM3-8	90	1.54 ³³⁾ /1.50	1"	1"	3/8"	10.0	178	178	140	229	90	180	505	281	266	180	125	155	101	224	325

³³⁾ Applies to supply voltage A.

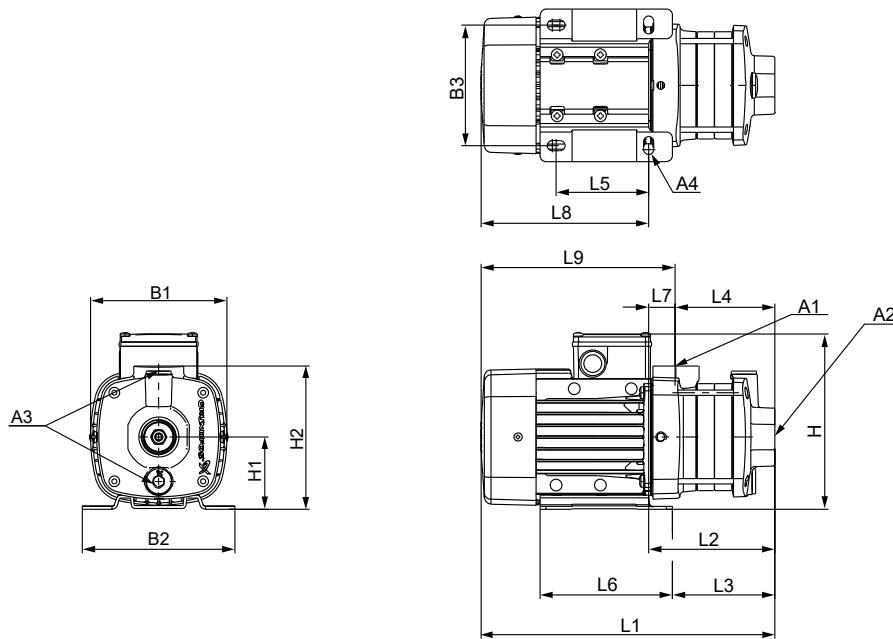
3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM3-2	71	0.25	0.43	1"	1"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM3-3	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM3-4	71	0.43	0.74	1"	1"	3/8"	10.5	141	158	125	184	75	165	324	150	126	90	96	137	60	174	234
CM3-5	80	0.74	1.28	1"	1"	3/8"	10.5	141	158	125	184	75	165	402	168	144	108	96	137	60	234	294
CM3-6	80	0.74	1.28	1"	1"	3/8"	10.5	141	158	125	184	75	165	438	204	180	144	96	137	60	234	294
CM3-7	90	1.27	2.20	1"	1"	3/8"	10.0	178	178	140	200	90	180	509	245	230	144	125	155	101	264	365
CM3-8	90	1.27	2.20	1"	1"	3/8"	10.0	178	178	140	200	90	180	545	281	266	180	125	155	101	264	365
CM3-9	90	1.27	2.20	1"	1"	3/8"	10.0	178	178	140	200	90	180	545	281	266	180	125	155	101	264	365

All dimensions are in millimetres unless otherwise stated.

CM 5-A

(A = cast iron EN-GJL-200)



TM067509

Dimensions

3 x 208-230/440-480 V, 60 Hz (supply voltage E)

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM5-2	71	0.43	0.74	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	149	286	112	88	85	96	137	27	174	201
CM5-3	80	0.64	1.10	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	149	364	130	106	103	96	137	27	234	261
CM5-4	90	1.27	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	201	453	189	174	108	125	155	81	264	346
CM5-5	90	1.27	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	201	471	207	192	126	125	155	81	264	346

3 x 575 V, 60 Hz (supply voltage H)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM5-2	80	1.10	1"	1 1/4"	3/8"	10.5	141	158	125	192	75	149	346	112	88	85	96	137	27	234	261
CM5-3	80	1.10	1"	1 1/4"	3/8"	10.5	141	158	125	192	75	149	364	130	106	103	96	137	27	234	261
CM5-4	90	1.50	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	201	413	189	174	108	125	155	81	224	306
CM5-5	90	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	201	471	207	192	126	125	155	81	264	346

1 x 115/230 V, 60 Hz (supply voltage B, B1)

1 x 230 V, 60 Hz (supply voltage B2)

1 x 220 V, 60 Hz (supply voltage A)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM5-2	80	0.84 ³⁴⁾ /0.78	1"	1 1/4"	3/8"	10.5	141	158	125	208	75	149	326	112	88	85	96	137	27	214	241
CM5-3	80	1.14 ³⁴⁾ /1.10	1"	1 1/4"	3/8"	10.5	206	158	125	208	75	149	344	130	106	103	96	137	27	214	241
CM5-4	90	1.54 ³⁴⁾ /1.50	1"	1 1/4"	3/8"	10.0	178	178	140	229	90	201	413	189	174	108	125	155	81	224	306

³⁴⁾ Applies to supply voltage A.

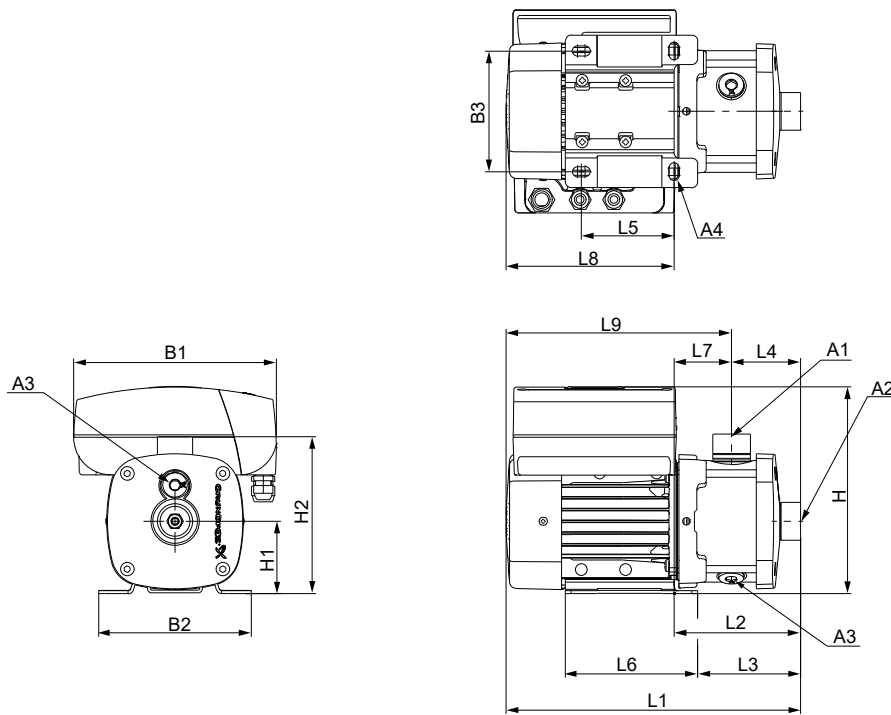
3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM5-2	71	0.43	0.74	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	149	286	112	88	85	96	137	27	174	201
CM5-3	80	0.74	1.28	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	149	364	130	106	103	96	137	27	234	261
CM5-4	90	1.27	2.2	1"	1 1/4"	3/8"	10	178	178	140	200	90	201	453	189	174	108	125	155	81	264	346
CM5-5	90	1.27	2.2	1"	1 1/4"	3/8"	10	178	178	140	200	90	201	471	207	192	126	125	155	81	264	346

All dimensions are in millimetres unless otherwise stated.

CM 5-I and CM 5-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067508

Dimensions

3 x 208-230/440-480 V, 60 Hz (supply voltage E)

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM5-2	71	0.43	0.74	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM5-3	80	0.64	1.10	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	165	366	132	108	72	96	137	60	234	294
CM5-4	90	1.27	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	180	455	191	176	90	125	155	101	264	365
CM5-5	90	1.27	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	180	473	209	194	108	125	155	101	264	365
CM5-6	90	1.27	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	180	509	245	230	144	125	155	101	264	365
CM5-7	100	1.68	2.90	1"	1 1/4"	3/8"	12.0	198	199	160	220	100	190	525	252	237	144	140	170	108	273	381
CM5-8	100	1.68	2.90	1"	1 1/4"	3/8"	12.0	198	199	160	220	100	190	561	288	273	180	140	170	108	273	381

3 x 575 V, 60 Hz (supply voltage H)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM5-2	80	1.10	1"	1 1/4"	3/8"	10.5	141	158	125	192	75	165	366	132	108	72	96	137	60	234	294
CM5-3	80	1.10	1"	1 1/4"	3/8"	10.5	141	158	125	192	75	165	366	132	108	72	96	137	60	234	294
CM5-4	90	1.50	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	180	415	191	176	90	125	155	101	224	325
CM5-5	90	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	180	473	209	194	108	125	155	101	264	365
CM5-6	90	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	180	509	245	230	144	125	155	101	264	365
CM5-7	100	3.00	1"	1 1/4"	3/8"	12.0	198	199	160	220	100	190	525	252	237	144	140	170	108	273	381
CM5-8	100	3.00	1"	1 1/4"	3/8"	12.0	198	199	160	220	100	190	561	288	273	180	140	170	108	273	381

1 x 115/230 V, 60 Hz (supply voltage B, B1)

1 x 230 V, 60 Hz (supply voltage B2)

1 x 220 V, 60 Hz (supply voltage A)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM5-2	80	0.84 ³⁵⁾ /0.78	1"	1 1/4"	3/8"	10.5	141	158	125	208	75	165	346	132	108	72	96	137	60	214	274
CM5-3	80	1.14 ³⁵⁾ /1.10	1"	1 1/4"	3/8"	10.5	206	158	125	208	75	165	346	132	108	72	96	137	60	214	274
CM5-4	90	1.54 ³⁵⁾ /1.50	1"	1 1/4"	3/8"	10.0	178	178	140	229	90	180	415	191	176	90	125	155	101	224	325

³⁵⁾ Applies to supply voltage A.

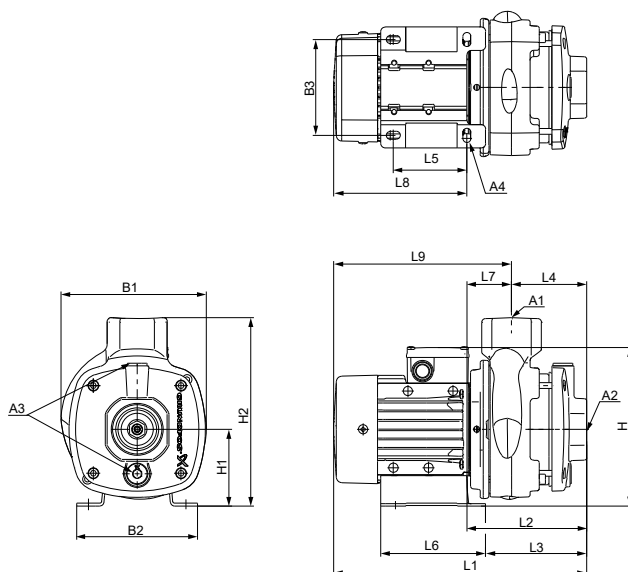
3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM5-2	71B	0.43	0.74	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	165	306	132	108	72	96	137	60	174	234
CM5-3	80C	0.74	1.28	1"	1 1/4"	3/8"	10.5	141	158	125	184	75	165	366	132	108	72	96	137	60	234	294
CM5-4	90LE	1.27	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	180	455	191	176	90	125	155	101	264	365
CM5-5	90LE	1.27	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	180	473	209	194	108	125	155	101	264	365
CM5-6	90LE	1.27	2.20	1"	1 1/4"	3/8"	10.0	178	178	140	200	90	180	509	245	230	144	125	155	101	264	365
CM5-7	100LC	1.68	2.90	1"	1 1/4"	3/8"	12.0	198	199	160	220	100	190	525	252	237	144	140	170	108	273	381
CM5-8	100LC	1.68	2.90	1"	1 1/4"	3/8"	12.0	198	199	160	220	100	190	561	288	273	180	140	170	108	273	381

All dimensions are in millimetres unless otherwise stated.

CM 10-A

(A = cast iron EN-GJL-200)



TM067512

Dimensions**3 x 208-230/440-480 V, 60 Hz (supply voltage E)****3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)****3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)**

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM10-1	80	0.64	1.10	1 1/2"	1 1/2"	3/8"	10.5	190	158	125	209	100	242	390	156	131	97	95	137	59	234	292
CM10-2	90	1.27	2.2	1 1/2"	1 1/2"	3/8"	12	190	199	160	210	100	242	451	179	164	97	140	170	82	272	354
CM10-3	112	2.3	4.0	1 1/2"	1 1/2"	3/8"	12	220	228	190	246	112	254	550	248	232	127	140	172	120	302	423

3 x 575 V, 60 Hz (supply voltage H)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM10-1	80	1.1	1 1/2"	1 1/2"	3/8"	10.5	190	158	125	217	100	242	390	156	131	97	95	137	59	234	292
CM10-2	100	3.0	1 1/2"	1 1/2"	3/8"	12	198	199	160	220	100	242	467	194	179	97	140	170	97	273	370
CM10-3	112	4.0	1 1/2"	1 1/2"	3/8"	12	220	228	190	246	112	254	550	248	232	127	140	172	120	302	423
CM10-5	132	7.5	1 1/2"	1 1/2"	3/8"	12	262	228	190	271	112	231	633	359	343	195	140	172	164	274	438

1 x 115/230 V, 60 Hz (supply voltage B, B1)**1 x 230 V, 60 Hz (supply voltage B2)****1 x 220 V, 60 Hz (supply voltage A)**

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM10-1	80	1.14 ³⁶⁾ /1.10	1 1/2"	1 1/2"	3/8"	10.5	255	158	125	233	100	242	370	156	131	97	95	137	59	214	272

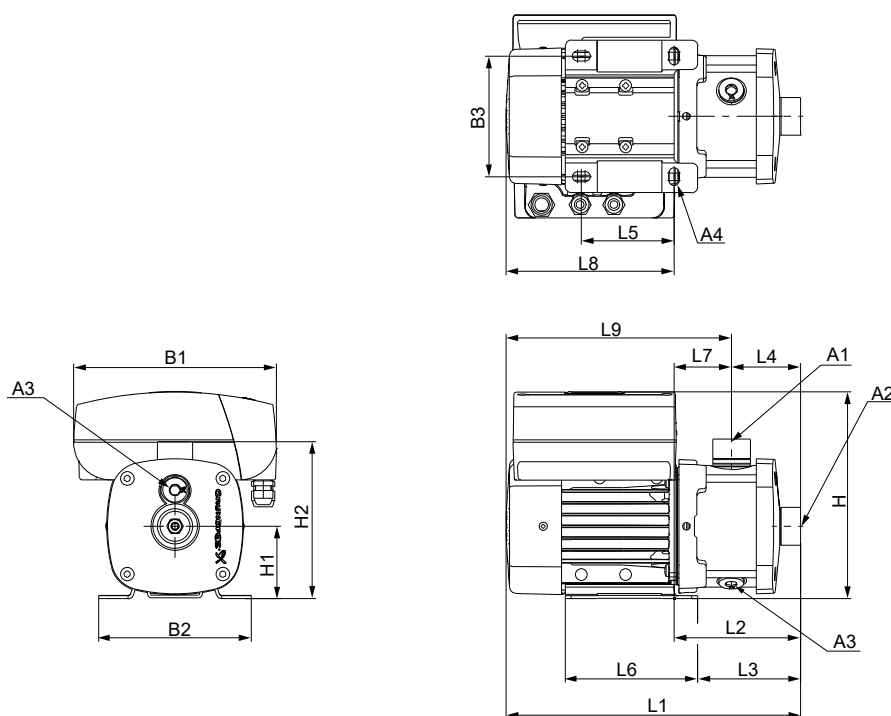
³⁶⁾Applies to supply voltage A.**3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)**

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM10-1	80	0.74	1.28	1 1/2"	1 1/2"	3/8"	10.5	190	158	125	209	100	242	390	156	131	97	95	137	59	234	292
CM10-2	90	1.27	2.20	1 1/2"	1 1/2"	3/8"	12.0	190	199	160	210	100	242	451	179	164	97	140	170	82	272	354
CM10-3	112	2.30	4.00	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	254	550	248	232	127	140	172	120	302	423

All dimensions are in millimetres unless otherwise stated.

CM 10-I and CM 10-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067508

Dimensions

3 x 208-230/440-480 V, 60 Hz (supply voltage E)

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM10-1	80	0.64	1.10	1 1/2"	1 1/2"	3/8"	10.5	141	158	125	209	100	219	420	186	161	105	95	137	81	234	315
CM10-2	90	1.27	2.20	1 1/2"	1 1/2"	3/8"	12.0	178	199	160	210	100	219	491	219	204	105	140	170	114	272	386
CM10-3	112	2.30	4.00	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	560	258	242	105	140	172	153	302	455
CM10-4	132	3.18	5.50	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	590	288	272	135	140	172	153	302	455
CM10-5	132	3.18	5.50	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	650	348	332	195	140	172	153	302	455

Please note that the dimension H is smaller than H2 for CM 10-1 and CM 10-2.

3 x 575 V, 60 Hz (supply voltage H)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM10-1	80	1.10	1 1/2"	1 1/2"	3/8"	10.5	141	158	125	217	100	219	420	186	161	105	95	137	81	234	315
CM10-2	100	3.00	1 1/2"	1 1/2"	3/8"	12.0	198	199	160	220	100	219	507	234	219	105	140	170	129	273	402
CM10-3	112	4.00	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	560	258	242	105	140	172	153	302	455
CM10-4	132	5.50	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	590	288	272	135	140	172	153	302	455

Please note that the dimension H is smaller than H2 for CM 10-1 and CM 10-2.

1 x 115/230 V, 60 Hz (supply voltage B)

1 x 230 V, 60 Hz (supply voltage B2)

1 x 220 V, 60 Hz (supply voltage A)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM10-1	80	1.14 ³⁷⁾ /1.10	1 1/2"	1 1/2"	3/8"	10.5	206	158	125	233	100	219	400	186	161	105	95	137	81	214	295

³⁷⁾Applies to supply voltage A.

3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

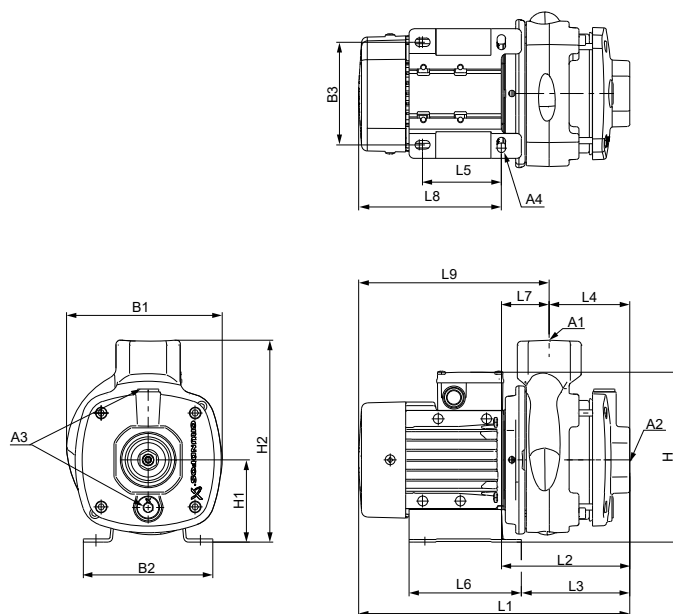
Pump type	Frame size	P ₂ [kW]						Dimensions [mm]														
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM10-1	80	0.74	1.28	1 1/2"	1 1/2"	3/8"	10.5	141	158	125	209	100	219	420	186	161	105	95	137	81	234	315
CM10-2	90	1.27	2.20	1 1/2"	1 1/2"	3/8"	12.0	178	199	160	210	100	219	491	219	204	105	140	170	114	272	386
CM10-3	112	2.30	4.00	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	560	258	242	105	140	172	153	302	455
CM10-4	132	3.18	5.50	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	590	288	272	135	140	172	153	302	455
CM10-5	132	3.18	5.50	1 1/2"	1 1/2"	3/8"	12.0	220	228	190	246	112	231	650	348	332	195	140	172	153	302	455

Please note that the dimension H is smaller than H2 for CM 10-1 and CM 10-2.

All dimensions are in millimetres unless otherwise stated.

CM 15-A

(A = cast iron EN-GJL-200)



TM067512

Dimensions

3 x 208-230/440-480 V, 60 Hz (supply voltage E)

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM15-1	90	1.27	2.20	2"	2"	3/8"	12	190	199	160	210	100	242	451	179	164	97	140	170	82	272	354
CM15-2	112	2.30	4.00	2"	2"	3/8"	12	220	228	190	246	112	254	520	218	202	97	140	172	120	302	423
CM15-3	132	3.70	6.40	2"	2"	3/8"	12	220	228	190	246	112	254	550	248	232	127	140	172	120	302	423

3 x 575 V, 60 Hz (supply voltage H)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM15-1	90	2.20	2"	2"	3/8"	12.0	190	199	160	210	100	242	451	179	164	97	140	170	82	272	354
CM15-2	112	4.00	2"	2"	3/8"	12.0	220	228	190	246	112	254	520	218	202	97	140	172	120	302	423
CM15-3	132	7.50	2"	2"	3/8"	12.0	262	228	190	271	112	254	533	259	243	127	140	172	132	274	406

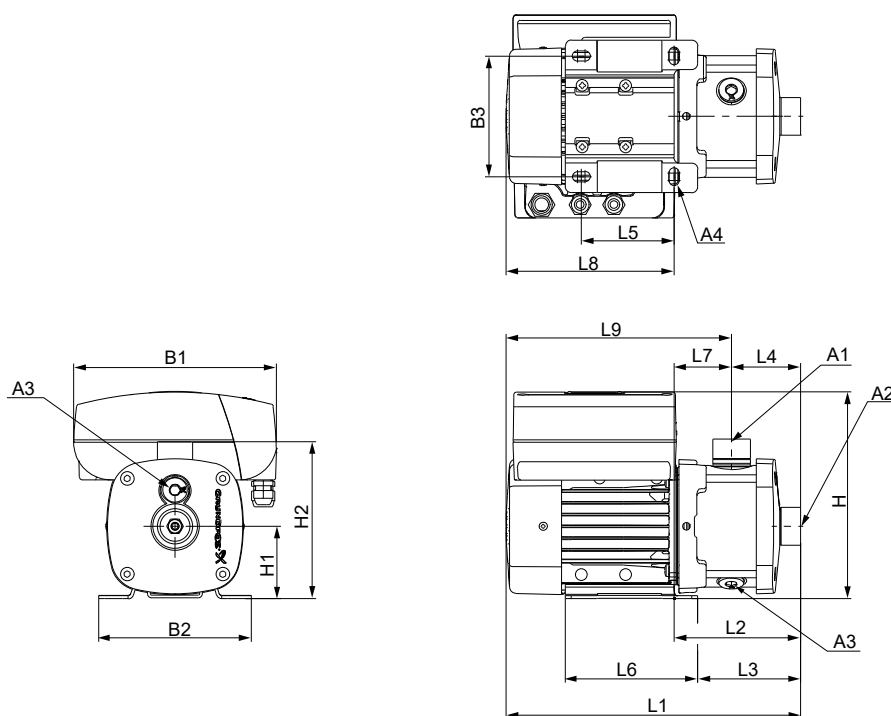
3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM15-1	90	1.27	2.20	2"	2"	3/8"	12.0	190	199	160	210	100	242	451	179	164	97	140	170	82	272	354
CM15-2	112	2.30	4.00	2"	2"	3/8"	12.0	220	228	190	246	112	254	520	218	202	97	140	172	120	302	423
CM15-3	132	3.70	6.40	2"	2"	3/8"	12.0	220	228	190	246	112	254	550	248	232	127	140	172	120	302	423

All dimensions are in millimetres unless otherwise stated.

CM 15-I and CM 15-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067508

Dimensions

3 x 208-230/440-480 V, 60 Hz (supply voltage E)

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM15-1	90	1.27	2.20	2"	2"	3/8"	12.0	178	199	160	210	100	217	491	219	204	105	140	170	114	272	386
CM15-2	112	2.30	4.00	2"	2"	3/8"	12.0	220	228	190	246	112	229	560	258	242	105	140	172	153	302	455
CM15-3	132	3.70	6.40	2"	2"	3/8"	12.0	220	228	190	246	112	229	560	258	242	105	140	172	153	302	455

Please note that the dimension H is smaller than H2 for CM 15-1.

3 x 575 V, 60 Hz (supply voltage H)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM15-1	90	2.20	2"	2"	3/8"	12.0	178	199	160	210	100	217	491	219	204	105	140	170	114	272	386
CM15-2	112	4.00	2"	2"	3/8"	12.0	220	228	190	246	112	229	560	258	242	105	140	172	153	302	455
CM15-3	132	7.50	2"	2"	3/8"	12.0	262	228	190	271	112	229	543	269	253	105	140	172	164	274	438

Please note that the dimension H is smaller than H2 for CM 15-1.

3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

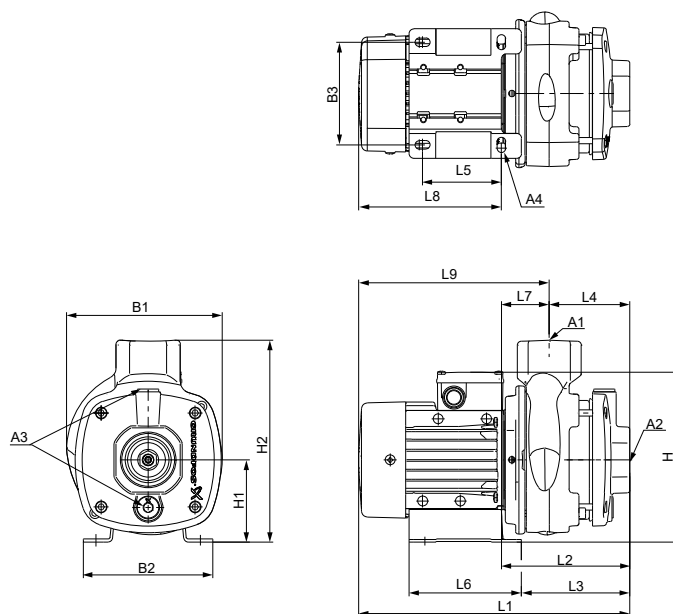
Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM15-1	90	1.27	2.20	2"	2"	3/8"	12	178	199	160	210	100	217	491	219	204	105	140	170	114	272	386
CM15-2	112	2.30	4.00	2"	2"	3/8"	12	220	228	190	246	112	229	560	258	242	105	140	172	153	302	455
CM15-3	132	3.70	6.40	2"	2"	3/8"	12	220	228	190	246	112	229	560	258	242	105	140	172	153	302	455

Please note that the dimension H is smaller than H2 for CM 15-1.

All dimensions are in millimetres unless otherwise stated.

CM 25-A

(A = cast iron EN-GJL-200)



TM067512

Dimensions

3 x 208-230/440-480 V, 60 Hz (supply voltage E)

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM25-1	112	2.30	4.00	2"	2"	3/8"	12.0	220	228	190	246	112	254	520	218	202	97	140	172	120	302	423
CM25-2	132	3.70	6.40	2"	2"	3/8"	12.0	220	228	190	246	112	254	520	218	202	97	140	172	120	302	423

3 x 575 V, 60 Hz (supply voltage H)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM25-1	112	4.00	2"	2"	3/8"	12.0	220	228	190	246	112	254	520	218	202	97	140	172	120	302	423
CM25-2	132	7.50	2"	2"	3/8"	12.0	262	228	190	271	112	254	503	229	213	97	140	172	132	274	406

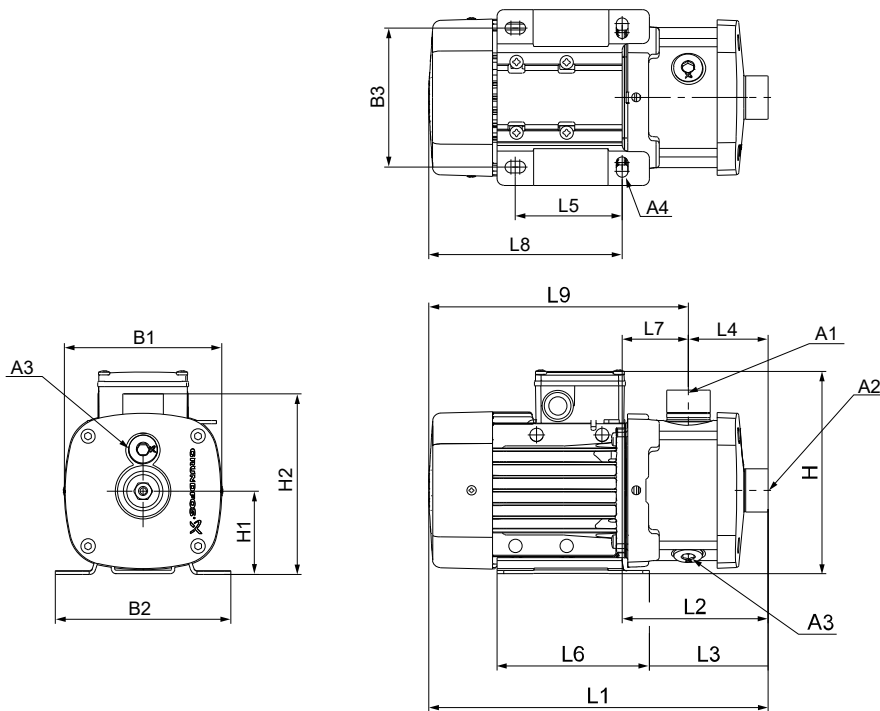
3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM25-1	112	2.30	4.00	2"	2"	3/8"	12.0	220	228	190	246	112	254	520	218	202	97	140	172	120	302	423
CM25-2	132	3.70	6.40	2"	2"	3/8"	12.0	220	228	190	246	112	254	520	218	202	97	140	172	120	302	423

All dimensions are in millimetres unless otherwise stated.

CM 25-I and CM 25-G

(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)



TM067507

Dimensions

3 x 208-230/440-480 V, 60 Hz (supply voltage E)

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM25-1	112	2.30	4.00	2"	2"	3/8"	12.0	220	228	190	246	112	229	560	258	242	105	140	172	153	302	455
CM25-2	132	3.70	6.40	2"	2"	3/8"	12.0	220	228	190	246	112	229	560	258	242	105	140	172	153	302	455

3 x 575 V, 60 Hz (supply voltage H)

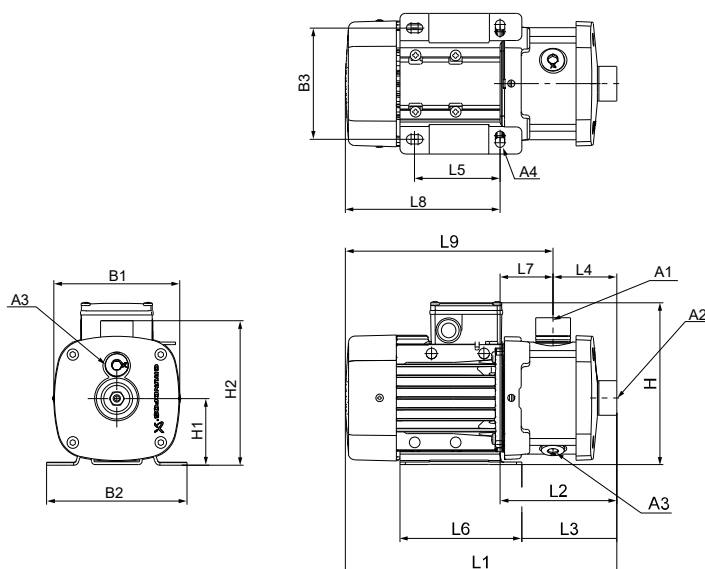
Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM25-1	112	4.00	2"	2"	3/8"	12.0	220	228	190	246	112	229	560	258	242	105	140	172	153	302	455
CM25-2	132	7.50	2"	2"	3/8"	12.0	262	228	190	271	112	229	543	269	253	105	140	172	164	274	438

3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

Pump type	Frame size	P ₂ [kW]		Dimensions [mm]																		
		50 Hz	60 Hz	A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM25-1	112	2.30	4.00	2"	2"	3/8"	12.0	220	228	190	246	112	229	560	258	242	105	140	172	153	302	455
CM25-2	132	3.70	6.40	2"	2"	3/8"	12.0	220	228	190	246	112	229	560	258	242	105	140	172	153	302	455

All dimensions are in millimetres unless otherwise stated.

24. Dimensions, CM self-priming 50 Hz and 60 Hz



TM067507

Dimensions

1 x 220-230 V, 50 Hz (supply voltage C1)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM 1-3	71	0.30	1"	1"	3/8"	10.5	141	158	125	208	75	165	378	204	180	144	96	137	60	174	234
CM 1-4	71	0.30	1"	1"	3/8"	10.5	141	158	125	208	75	165	378	204	180	144	96	137	60	174	234
CM 1-5	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	165	414	240	216	180	96	137	60	174	234
CM 1-6	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	165	414	240	216	180	96	137	60	174	234
CM 3-3	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	165	378	204	180	144	96	137	60	174	234
CM 3-4	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	165	378	204	180	144	96	137	60	174	234
CM 3-5	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	165	414	240	216	180	96	137	60	174	234
CM 3-6	80	0.67	1"	1"	3/8"	10.5	141	158	125	208	75	165	454	240	216	180	96	137	60	214	274
CM 5-3	71	0.50	1"	1"	3/8"	10.5	141	158	125	208	75	165	378	204	180	144	96	137	60	174	234
CM 5-4	80	0.67	1"	1"	3/8"	10.5	141	158	125	208	75	165	418	204	180	144	96	137	60	214	274
CM 5-5	80	0.90	1"	1"	3/8"	10.5	141	158	125	208	75	165	454	240	216	180	96	137	60	214	274
CM 5-6	90	1.30	1"	1"	3/8"	10.0	178	178	140	229	90	180	505	281	266	180	125	155	101	224	325
CM 5-7	90	1.30	1"	1"	3/8"	10.0	178	178	140	229	90	180	541	317	302	216	125	155	101	224	325

1 x 220 V, 60 Hz (supply voltage A)

Pump type	Frame size	P ₂ [kW]	Dimensions [mm]																		
			A1	A2	A3	A4	B1	B2	B3	H	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8	L9
CM 1-3	71	0.60	1"	1"	3/8"	10.5	141	158	125	208	75	165	378	204	180	144	96	137	60	174	234
CM 1-4	71	0.60	1"	1"	3/8"	10.5	141	158	125	208	75	165	378	204	180	144	96	137	60	174	234
CM 3-3	71	0.60	1"	1"	3/8"	10.5	141	158	125	208	75	165	378	204	180	144	96	137	60	174	234
CM 3-4	80	0.84	1"	1"	3/8"	10.5	141	158	125	208	75	165	418	204	180	144	96	137	60	214	274
CM 5-3	80	1.14	1"	1"	3/8"	10.5	141	158	125	208	75	165	418	204	180	144	96	137	60	214	274
CM 5-4	90	1.54	1"	1"	3/8"	10.0	178	178	140	229	90	180	469	245	230	144	125	155	101	224	325

All dimensions are in millimetres unless otherwise stated.

25. Weights and shipping volume

All weights and volumes refer to pumps with standard pipe connections.

Overview

Pump type	Material variant
CME non-self-priming	Cast iron
	Stainless steel
CM non-self-priming	Cast iron
	Stainless steel
CM self-priming	Stainless steel

Related information

[CME non-self-priming pumps, cast iron](#)

[CME non-self-priming pumps, stainless steel](#)

[CM non-self-priming pumps, cast iron](#)

[CM non-self-priming pumps, stainless steel](#)

[CM self-priming pumps](#)

CME non-self-priming pumps, cast iron

Cast iron (A = cast iron EN-GJL-200)

CME non-self-priming pumps Cast iron (A = cast iron EN-GJL-200)		Pump type	Net weight [kg]	Gross weight [kg]	Shipping volume [m ³]	
3 x 380-500 V, 50/60 Hz (supply voltage S) 3 x 440-480 V, 50/60 Hz (supply voltage T)		CME 1-2	15.47	18.97	0.04	
		CME 1-3	15.75	19.25	0.04	
		CME 1-4	16.02	19.52	0.04	
		CME 1-5	17.10	20.60	0.04	
		CME 3-2	15.47	18.97	0.04	
		CME 3-3	16.56	20.06	0.04	
		CME 3-4	16.82	20.32	0.04	
		CME 3-5	17.10	20.60	0.04	
		CME 5-2	16.18	19.68	0.04	
		CME 5-3	16.46	19.96	0.04	
		CME 5-4	19.93	21.66	0.04	
		CME 5-5	19.36	21.24	0.05	
		CME 10-1	25.31	27.04	0.04	
		CME 10-2	28.96	30.69	0.04	
		CME 10-3	41.31	44.81	0.08	
		CME 15-1	27.65	29.38	0.04	
		CME 15-2	39.94	43.44	0.08	
		CME 15-3	53.51	57.27	0.21	
		CME 25-1	36.06	39.56	0.08	
		CME 25-2	52.81	56.56	0.21	
1 x 200-240 V, 50/60 Hz (supply voltage U)		CME 1-2	13.65	17.15	0.03	
		CME 1-3	13.93	17.43	0.04	
		CME 1-4	14.19	17.69	0.04	
		CME 1-5	15.32	18.82	0.04	
		CME 3-2	13.65	17.15	0.03	
		CME 3-3	14.77	18.27	0.04	
		CME 3-4	15.04	18.54	0.04	
		CME 3-5	15.32	18.82	0.04	
		CME 5-2	14.40	17.90	0.03	
		CME 5-3	14.67	18.17	0.04	
		CME 5-4	18.19	21.69	0.04	
		CME 10-1	23.52	25.25	0.04	
	3 x 200-240 V, 50/60 Hz (supply voltage V)		CME 1-5	16.98	18.86	0.05
			CME 3-3	16.43	18.16	0.04
		CME 3-4	16.70	18.43	0.04	
		CME 3-5	16.98	18.86	0.05	
		CME 5-2	16.06	17.79	0.04	
		CME 5-3	16.33	18.06	0.04	
		CME 5-4	20.45	22.18	0.04	
		CME 5-5	27.34	30.84	0.08	
		CME 10-1	25.18	26.91	0.04	
		CME 10-2	34.74	38.24	0.08	
		CME 10-3	38.81	42.31	0.08	
		CME 15-1	33.44	36.94	0.08	
		CME 15-2	37.44	40.94	0.08	
		CME 15-3	52.57	56.33	0.21	
	CME 25-1	33.52	37.02	0.08		
	CME 25-2	51.87	55.63	0.21		

CME non-self-priming pumps, stainless steel

Stainless steel (I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)

CME non-self-priming pumps Stainless steel (I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)	Pump type	Net weight [kg]	Gross weight [kg]	Shipping volume [m ³]
	CME 1-2	16.11	19.61	0.04
	CME 1-3	16.19	19.69	0.04
	CME 1-4	16.52	20.02	0.04
	CME 1-5	17.67	21.17	0.04
	CME 1-6	18.27	21.77	0.04
	CME 1-7	18.35	21.85	0.04
	CME 1-8	18.95	22.45	0.04
	CME 1-9	20.39	22.27	0.05
	CME 3-2	16.11	19.61	0.04
	CME 3-3	17.00	20.50	0.04
	CME 3-4	17.32	20.82	0.04
	CME 3-5	17.67	21.17	0.04
	CME 3-6	19.63	21.51	0.05
	CME 3-7	19.71	21.59	0.05
	CME 3-8	21.71	23.59	0.05
	CME 3-9	21.79	23.67	0.05
	CME 5-2	16.89	20.39	0.04
	CME 5-3	16.97	20.47	0.04
	CME 5-4	18.66	20.39	0.04
	CME 5-5	20.40	22.28	0.05
	CME 5-6	21.00	22.88	0.05
	CME 5-7	29.30	32.80	0.08
	CME 5-8	29.89	33.39	0.08
	CME 10-1	20.70	22.58	0.05
	CME 10-2	23.91	25.79	0.05
	CME 10-3	35.76	39.26	0.08
	CME 10-4	45.88	49.38	0.08
	CME 10-5	47.28	50.78	0.08
	CME 15-1	23.60	25.48	0.05
	CME 15-2	35.44	38.94	0.08
	CME 15-3	48.52	52.28	0.21
	CME 25-1	32.00	35.50	0.08
	CME 25-2	48.31	52.07	0.21

3 x 380-500 V, 50/60 Hz (supply voltage S)

3 x 440-480 V, 50/60 Hz (supply voltage T)

CME non-self-priming pumps				
Stainless steel				
(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)				
	Pump type	Net weight [kg]	Gross weight [kg]	Shipping volume [m ³]
1 x 200-240 V, 50/60 Hz (supply voltage U)	CME 1-2	14.29	17.79	0.04
	CME 1-3	14.37	17.86	0.04
	CME 1-4	14.69	18.19	0.04
	CME 1-5	15.89	19.39	0.04
	CME 1-6	16.49	19.99	0.04
	CME 1-7	16.57	20.07	0.04
	CME 1-8	17.17	20.67	0.04
	CME 1-9	18.65	22.15	0.04
	CME 3-2	14.29	17.79	0.04
	CME 3-3	15.21	18.71	0.04
	CME 3-4	15.54	19.04	0.04
	CME 3-5	15.89	19.39	0.04
	CME 3-6	17.89	21.39	0.04
	CME 3-7	17.97	21.47	0.04
	CME 5-2	15.11	18.61	0.04
	CME 5-3	15.19	18.69	0.04
	CME 5-4	16.91	20.41	0.04
	CME 10-1	18.92	20.65	0.04
	3 x 200-240 V, 50/60 Hz (supply voltage V)	CME 1-5	20.67	22.55
CME 1-6		21.27	23.15	0.05
CME 1-7		21.35	23.23	0.05
CME 1-8		21.95	23.83	0.05
CME 1-9		20.91	22.79	0.05
CME 3-3		20.00	21.73	0.04
CME 3-4		20.32	22.06	0.04
CME 3-5		20.67	22.55	0.05
CME 3-6		20.15	22.03	0.05
CME 3-7		20.23	22.11	0.05
CME 3-8		27.44	30.94	0.08
CME 3-9		27.52	31.02	0.08
CME 5-2		19.89	21.62	0.04
CME 5-3		19.97	21.70	0.04
CME 5-4		19.17	20.90	0.04
CME 5-5		26.14	29.64	0.08
CME 5-6		26.74	30.24	0.08
CME 5-7		26.90	30.40	0.08
CME 5-8		27.49	30.99	0.08
CME 10-1		20.57	22.45	0.05
CME 10-2		29.69	33.19	0.08
CME 10-3		33.26	36.76	0.08
CME 10-4		48.53	52.30	0.21
CME 10-5		49.93	53.69	0.21
CME 15-1		29.38	32.88	0.08
CME 15-2		32.94	36.44	0.08
CME 15-3		47.58	51.34	0.21
CME 25-1		29.46	32.96	0.08
CME 25-2		47.37	51.13	0.21

CM non-self-priming pumps, cast iron

Cast iron (A = cast iron EN-GJL-200)

CM non-self-priming pumps Cast iron (A = cast iron EN-GJL-200)	Pump type	Net weight [kg]	Gross weight [kg]	Shipping volume [m ³]	
1 x 220 V, 60 Hz (supply voltage A)	CM 1-2	11.71	14.21	0.02	
	CM 1-3	11.98	14.48	0.02	
	CM 1-4	12.25	14.75	0.02	
	CM 1-5	12.53	15.03	0.02	
	CM 3-2	11.71	14.21	0.02	
	CM 3-3	11.98	14.48	0.02	
	CM 3-4	13.65	16.15	0.03	
	CM 3-5	15.03	17.52	0.03	
	CM 5-2	13.01	15.51	0.02	
	CM 5-3	14.38	16.88	0.02	
	CM 5-4	24.22	26.72	0.04	
	CM 10-1	23.40	25.90	0.04	
	1 x 115/230 V, 60 Hz (supply voltage B, B1) 1 x 230 V, 60 Hz (supply voltage B2)	CM 1-2	11.71	14.21	0.02
		CM 1-3	11.98	14.48	0.02
CM 1-4		12.25	14.75	0.02	
CM 1-5		12.53	15.03	0.02	
CM 3-2		11.71	14.21	0.02	
CM 3-3		11.98	14.48	0.02	
CM 3-4		13.65	16.15	0.03	
CM 3-5		15.03	17.52	0.04	
CM 5-2		13.01	15.51	0.02	
CM 5-3		14.38	16.88	0.04	
CM 5-4		24.22	26.72	0.04	
CM 5-5		24.50	27.00	0.04	
CM 10-1		23.40/22.20 ³⁸⁾	25.90/24.70 ³⁸⁾	0.08	

CM non-self-priming pumps				
Cast iron				
(A = cast iron EN-GJL-200)				
	Pump type	Net weight [kg]	Gross weight [kg]	Shipping volume [m ³]
1 x 220-230 V, 50 Hz (supply voltage C1)	CM 1-2	11.01	13.51	0.02
	CM 1-3	11.28	13.78	0.02
	CM 1-4	12.25	14.75	0.02
	CM 1-5	12.53	15.03	0.02
	CM 1-6	12.79	15.29	0.03
	CM 1-7	13.07	15.57	0.03
	CM 1-8	14.73	17.23	0.03
	CM 3-2	11.01	13.51	0.02
	CM 3-3	11.98	14.48	0.02
	CM 3-4	12.25	14.75	0.02
	CM 3-5	12.53	15.03	0.02
	CM 3-6	14.19	16.69	0.03
	CM 3-7	16.57	19.07	0.03
	CM 3-8	16.84	19.34	0.03
	CM 5-2	11.61	14.11	0.02
	CM 5-3	11.88	14.38	0.02
	CM 5-4	13.55	16.05	0.03
	CM 5-5	15.93	18.43	0.03
	CM 5-6	22.66	25.16	0.04
	CM 5-7	22.94	25.44	0.04
	CM 5-8	24.51	27.01	0.04
	CM 10-1	22.2	24.7	0.04
	CM 10-2	29.84	32.34	0.04
	CM 10-3	33.95	36.45	0.04
	CM 15-1	28.54	31.04	0.04
CM 15-2	32.58	35.08	0.04	
CM 25-1	31.94	34.34	0.04	
3 x 220-240/380-415 V, 50 Hz (supply voltage F)	CM 1-2	11.01	13.51	0.02
	CM 1-3	11.28	13.78	0.02
	CM 1-4	11.55	14.05	0.02
	CM 1-5	11.82	14.32	0.02
	CM 1-6	12.09	14.59	0.03
	CM 1-7	13.07	15.57	0.03
	CM 1-8	13.34	15.84	0.03
	CM 3-2	11.01	13.51	0.02
	CM 3-3	11.28	13.78	0.02
	CM 3-4	11.55	14.05	0.02
	CM 3-5	12.53	15.03	0.02
	CM 3-6	12.79	15.29	0.03
	CM 3-7	16.17	18.67	0.03
	CM 3-8	16.43	18.93	0.04
	CM 5-2	10.91	13.41	0.02
	CM 5-3	11.88	14.38	0.02
	CM 5-4	15.25	17.75	0.03
	CM 5-5	15.53	18.03	0.03
	CM 5-6	23.27	25.77	0.04
	CM 5-7	23.55	26.05	0.04
	CM 5-8	27.61	30.11	0.05
	CM 10-1	20.90	23.40	0.04
	CM 10-2	30.48	32.98	0.04
	CM 10-3	35.00	37.50	0.04
	CM 10-4	37.32	39.82	0.05
CM 10-5	38.01	40.51	0.05	

CM non-self-priming pumps Cast iron (A = cast iron EN-GJL-200)	Pump type	Net weight [kg]	Gross weight [kg]	Shipping volume [m ³]
	CM 15-1	22.54	25.04	0.04
	CM 15-2	33.63	36.13	0.04
	CM 15-3	48.16	50.66	0.05
	CM 15-4	55.85	58.35	0.08
	CM 25-1	32.98	35.48	0.04
	CM 25-2	47.45	49.95	0.04
	CM 25-3	55.16	57.66	0.05
	CM 25-4	54.77	57.27	0.08
	CM 1-2	11.01	13.51	0.02
	CM 1-3	11.28	13.78	0.02
	CM 1-4	12.25	14.75	0.02
	CM 1-5	12.53	15.03	0.02
	CM 3-2	11.01	13.51	0.02
	CM 3-3	11.98	14.48	0.02
	CM 3-4	12.25	14.75	0.02
	CM 3-5	16.02	18.52	0.03
	CM 5-2	11.61	14.11	0.02
	CM 5-3	15.38	17.88	0.03
	CM 5-4	26.36	28.86	0.04
	CM 5-5	26.63	29.13	0.04
	CM 10-1	24.40	26.90	0.04
	CM 10-2	34.13	36.63	0.04
	CM 10-3	52.12	54.62	0.05
	CM 15-1	32.83	35.33	0.04
	CM 15-2	50.75	53.25	0.04
	CM 15-3	54.76	57.26	0.05
	CM 25-1	50.11	52.61	0.04
	CM 25-2	54.05	56.55	0.04

3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

CM non-self-priming pumps				
Cast iron				
(A = cast iron EN-GJL-200)				
Pump type	Net weight [kg]	Gross weight [kg]	Shipping volume [m ³]	
CM 1-2	11.01 / 11.71 ³⁹⁾	13.51 / 14.21 ³⁹⁾	0.02	
CM 1-3	11.28 / 11.98 ³⁹⁾	13.78 / 14.48 ³⁹⁾	0.02	
CM 1-4	12.25	14.75	0.02	
CM 1-5	12.53	15.03	0.02	
CM 3-2	11.01 / 11.71 ³⁹⁾	13.51 / 14.21 ³⁹⁾	0.02	
CM 3-3	11.98	14.48	0.02	
CM 3-4	12.25	14.75	0.02	
CM 3-5	15.53 / 15.63 ³⁹⁾	18.02 / 18.13 ³⁹⁾	0.03	
CM 5-2	11.61	14.11	0.02	
CM 5-3	14.88 / 14.98 ³⁹⁾	17.38 / 17.48 ³⁹⁾	0.03	
CM 5-4	26.53	29.03	0.04	
CM 5-5	26.80	29.3	0.04	
CM 10-1	23.10 / 23.20 ³⁹⁾	25.60 / 25.70 ³⁹⁾	0.04	
CM 10-2	34.29 / 34.30 ³⁹⁾	36.79 / 36.80 ³⁹⁾	0.04	
CM 10-3	52.12 / 56.02 ³⁹⁾	54.62 / 58.52 ³⁹⁾	0.05	
CM 15-1	32.99 / 33.00 ³⁹⁾	35.49 / 35.5 ³⁹⁾	0.04	
CM 15-2	50.75 / 54.65 ³⁹⁾	53.25 / 57.15 ³⁹⁾	0.04	
CM 15-3	54.76	57.26	0.05	
CM 25-1	50.11 / 54.01 ³⁹⁾	52.61	0.04	
CM 25-2	54.05	56.55	0.04	
CM 1-4	14.75	17.25	0.03	
CM 1-5	15.03	17.52	0.03	
CM 3-3	14.48	16.98	0.03	
CM 3-4	14.75	17.25	0.03	
CM 3-5	15.03	17.52	0.03	
CM 5-2	14.11	16.61	0.03	
CM 5-3	14.38	16.88	0.03	
CM 5-4	23.88	26.38	0.03	
CM 5-5	26.17	28.67	0.04	
CM 10-1	24.30	26.80	0.04	
CM 10-2	40.32	42.82	0.04	
CM 10-3	52.12	54.62	0.05	
CM 10-5	52.12	54.62	0.08	
CM 15-1	32.35	34.85	0.04	
CM 15-2	50.75	53.25	0.04	
CM 15-3	54.76	57.26	0.08	
CM 25-1	50.11	52.61	0.04	
CM 25-2	54.05	56.55	0.08	

3 x 208-230/440-480 V, 60 Hz (supply voltage E, E1)

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

3 x 575 V, 60 Hz (supply voltage H)

³⁸⁾ Values for supply voltage B2.

³⁹⁾ Values for supply voltage O.

CM non-self-priming pumps, stainless steel

Stainless steel (I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)

CM non-self-priming pumps Stainless steel (I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)	Pump type	Net weight [kg]	Gross weight [kg]	Shipping volume [m ³]
1 x 220 V, 60 Hz (supply voltage A)	CM 1-2	12.34	14.84	0.02
	CM 1-3	12.42	14.92	0.02
	CM 1-4	12.75	15.25	0.02
	CM 1-5	13.10	15.60	0.02
	CM 1-6	15.09	17.59	0.03
	CM 1-7	16.27	18.77	0.03
	CM 1-8	16.87	19.37	0.04
	CM 1-9	16.95	19.45	0.04
	CM 3-2	12.34	14.84	0.02
	CM 3-3	12.42	14.92	0.02
	CM 3-4	14.15	16.65	0.03
	CM 3-5	15.60	18.10	0.03
	CM 3-6	23.92	26.42	0.04
	CM 3-7	24.00	26.50	0.04
	CM 3-8	24.60	27.10	0.04
	CM 5-2	13.71	16.21	0.03
	CM 5-3	14.89	17.39	0.03
	CM 5-4	22.95	25.45	0.04
	CM 10-1	18.79	21.29	0.04
	1 x 115/230 V, 60 Hz (supply voltage B, B1) 1 x 230 V, 60 Hz (supply voltage B2)	CM 1-2	12.34	14.84
CM 1-3		12.42	14.92	0.02
CM 1-4		12.75	15.25	0.02
CM 1-5		13.10	15.60	0.02
CM 1-6		15.09	17.59	0.03
CM 1-7		16.27	18.77	0.04
CM 1-8		16.87	19.37	0.04
CM 1-9		16.95	19.45	0.04
CM 3-2		12.34	14.84	0.02
CM 3-3		12.42	14.92	0.02
CM 3-4		14.15	16.65	0.03
CM 3-5		15.60	18.10	0.04
CM 3-6		23.92	26.42	0.04
CM 3-7		24.00	26.50	0.04
CM 3-8		24.60	27.10	0.04
CM 5-2		13.71	16.21	0.03
CM 5-3		14.89	17.39	0.04
CM 5-4		22.95	25.45	0.04
CM 5-5		23.30	25.80	0.04
CM 10-1		18.79/17.59 ⁴⁰⁾	21.29/20.09 ⁴⁰⁾	0.04

CM non-self-priming pumps				
Stainless steel				
(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)				
	Pump type	Net weight [kg]	Gross weight [kg]	Shipping volume [m ³]
1 x 220-230 V, 50 Hz (supply voltage C1)	CM 1-2	11.64	14.14	0.02
	CM 1-3	11.72	14.22	0.02
	CM 1-4	12.75	15.25	0.02
	CM 1-5	13.10	15.60	0.02
	CM 1-6	13.69	16.19	0.03
	CM 1-7	13.77	16.27	0.03
	CM 1-8	15.77	18.27	0.04
	CM 1-9	15.85	18.35	0.04
	CM 1-10	16.47	18.97	0.04
	CM 1-11	18.64	21.14	0.04
	CM 1-12	19.51	22.01	0.05
	CM 1-13	19.58	22.08	0.05
	CM 1-14	24.29	26.79	0.08
	1 x 220-230 V, 50 Hz (supply voltage C1)	CM 3-2	11.64	14.14
CM 3-3		12.42	14.92	0.02
CM 3-4		12.75	15.25	0.02
CM 3-5		13.10	15.60	0.02
CM 3-6		15.09	17.59	0.03
CM 3-7		17.27	19.77	0.03
CM 3-8		17.87	20.37	0.04
CM 3-9		22.58	25.08	0.04
CM 3-10		23.20	25.70	0.05
CM 3-11		23.27	25.77	0.05
CM 3-12		25.44	27.94	0.08
CM 3-13		25.31	28.01	0.08
CM 3-14		27.69	30.19	0.08
1 x 220-230 V, 50 Hz (supply voltage C1)		CM 5-2	12.31	14.81
	CM 5-3	12.39	14.89	0.02
	CM 5-4	14.12	16.62	0.03
	CM 5-5	15.57	18.07	0.03
	CM 5-6	21.8	24.30	0.04
	CM 5-7	21.88	24.38	0.04
	CM 5-8	23.78	26.28	0.04
	CM 5-9	25.96	28.46	0.04
	CM 10-1	17.59	20.09	0.04
	CM 10-2	24.79	27.29	0.04
	CM 10-3	27.10	29.60	0.04
	CM 15-1	24.48	26.98	0.04
	CM 25-1	26.58	29.08	0.04
	3 x 220-240/380-415 V, 50 Hz (supply voltage F)	CM 1-2	11.64	14.14
CM 1-3		11.72	14.22	0.02
CM 1-4		12.05	14.55	0.02
CM 1-5		12.40	14.90	0.02
CM 1-6		12.99	15.49	0.03
CM 1-7		13.77	16.27	0.03
CM 1-8		14.37	16.87	0.03
CM 1-9		14.45	16.95	0.03
CM 1-10		18.57	21.07	0.04
CM 1-11		18.64	21.14	0.04
CM 1-12		19.51	22.01	0.05
CM 1-13		19.58	22.08	0.05
CM 1-14		19.66	22.16	0.05
CM 3-2		11.64	14.14	0.02

CM non-self-priming pumps Stainless steel (I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)	Pump type	Net weight [kg]	Gross weight [kg]	Shipping volume [m ³]
	CM 3-3	11.72	14.22	0.02
	CM 3-4	12.05	14.55	0.02
	CM 3-5	13.10	15.60	0.02
	CM 3-6	13.69	16.19	0.03
	CM 3-7	17.27	19.77	0.03
	CM 3-8	17.87	20.37	0.04
	CM 3-9	17.95	20.45	0.04
	CM 3-10	23.80	26.30	0.05
	CM 3-11	23.87	26.37	0.05
	CM 3-12	24.74	27.24	0.08
	CM 3-13	28.61	31.11	0.08
	CM 3-14	28.69	31.19	0.08
	CM 5-2	11.61	14.11	0.02
	CM 5-3	12.39	14.89	0.02
	CM 5-4	16.22	18.72	0.00
	CM 5-5	16.57	19.07	0.03
	CM 5-6	22.40	24.90	0.04
	CM 5-7	22.48	24.98	0.04
	CM 5-8	26.88	29.38	0.05
	CM 5-9	26.96	29.46	0.05
	CM 5-10	27.58	30.08	0.05
	CM 5-11	27.65	30.15	0.05
	CM 5-12	31.69	34.19	0.08
	CM 5-13	31.76	34.26	0.08
	CM 10-1	16.29	18.79	0.04
	CM 10-2	25.43	27.93	0.00
	CM 10-3	29.45	31.95	0.00
	CM 10-4	31.93	34.43	0.00
	CM 10-5	33.32	35.82	0.08
	CM 10-6	45.66	48.16	0.08
	CM 10-7	54.15	56.65	0.08
	CM 10-8	54.35	56.85	0.08
3 x 220-240/380-415 V, 50 Hz (supply voltage F)	CM 15-1	18.48	20.98	0.04
	CM 15-2	29.13	31.63	0.04
	CM 15-3	43.17	45.67	0.05
	CM 15-4	51.01	53.51	0.08
	CM 25-1	28.93	31.43	0.04
	CM 25-2	42.96	45.46	0.05
	CM 25-3	50.17	52.67	0.05
	CM 25-4	49.94	52.44	0.08
	CM 1-2	11.64	14.14	0.02
	CM 1-3	11.72	14.22	0.02
	CM 1-4	12.75	15.25	0.02
	CM 1-5	13.10	15.60	0.02
	CM 1-6	13.69	16.19	0.03
	CM 1-7	13.77	16.27	0.03
3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)	CM 1-8	17.87	20.37	0.04
	CM 1-9	17.95	20.45	0.04
	CM 3-2	11.64	14.14	0.02
	CM 3-3	12.42	14.92	0.02
	CM 3-4	12.75	15.25	0.02
	CM 3-5	16.60	19.10	0.03
	CM 3-6	17.19	19.69	0.03

CM non-self-priming pumps				
Stainless steel				
(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)				
Pump type	Net weight [kg]	Gross weight [kg]	Shipping volume [m ³]	
CM 3-7	26.14	28.64	0.04	
CM 3-8	26.74	29.24	0.05	
CM 3-9	26.82	29.32	0.05	
CM 5-2	12.31	14.81	0.02	
CM 5-3	15.89	18.39	0.03	
CM 5-4	25.09	27.59	0.04	
CM 5-5	25.44	27.94	0.04	
CM 5-6	26.03	28.53	0.04	
CM 5-7	29.46	31.96	0.05	
CM 5-8	30.06	32.56	0.05	
CM 10-1	19.79	22.29	0.04	
CM 10-2	29.09	31.59	0.04	
CM 10-3	46.58	49.08	0.05	
CM 10-4	51.12	53.62	0.05	
CM 10-5	52.52	55.02	0.08	
CM 15-1	28.78	31.28	0.04	
CM 15-2	46.26	48.76	0.05	
CM 15-3	49.77	52.27	0.05	
CM 25-1	46.06	48.56	0.05	
CM 25-2	49.56	52.06	0.05	
CM 1-2	12.34	14.84	0.02	
CM 1-3	12.42	14.92	0.02	
CM 1-4	12.75	15.25	0.02	
CM 1-5	13.10	15.60	0.02	
CM 1-6	13.69	16.19	0.03	
CM 1-7	13.77	16.27	0.03	
CM 1-8	17.87	20.37	0.04	
CM 1-9	17.95	20.45	0.04	
CM 3-2	12.34	14.84	0.02	
CM 3-3	12.42	14.92	0.02	
CM 3-4	12.75	15.25	0.02	
CM 3-5	16.60	19.10	0.03	
CM 3-6	26.23	28.73	0.04	
CM 3-7	26.31	28.81	0.04	
CM 3-8	26.91	29.41	0.05	
CM 3-9	26.99	29.49	0.05	
CM 5-2	12.31	14.81	0.02	
CM 5-3	15.89	18.39	0.03	
CM 5-4	25.26	27.76	0.04	
CM 5-5	25.61	28.11	0.04	
CM 5-6	26.20	28.70	0.04	
CM 5-7	29.46	31.96	0.05	
CM 5-8	30.06	32.56	0.05	
CM 10-1	18.59	21.09	0.04	
CM 10-2	29.25	31.75	0.04	
CM 10-3	50.48	52.98	0.05	
CM 10-4	51.12	53.62	0.05	
CM 10-5	52.52	55.02	0.08	
CM 15-1	28.94	31.44	0.04	
CM 15-2	50.16	52.66	0.05	
CM 15-3	49.77	52.27	0.05	
CM 25-1	49.96	52.46	0.05	
CM 25-2	49.56	52.06	0.05	

3 x 208-230/440-480 V, 60 Hz (supply voltage E, E1)

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

CM non-self-priming pumps				
Stainless steel				
(I = EN 1.4301/AISI 304 and G = EN 1.4401/AISI 316)				
	Pump type	Net weight [kg]	Gross weight [kg]	Shipping volume [m³]
	CM 1-4	16.15	18.65	0.03
	CM 1-5	16.50	19.00	0.03
	CM 1-6	17.09	19.59	0.03
	CM 1-7	17.17	19.67	0.03
	CM 1-8	17.77	20.27	0.04
	CM 1-9	24.34	26.84	0.04
	CM 3-3	15.82	18.32	0.03
	CM 3-4	16.15	18.65	0.03
	CM 3-5	16.50	19.00	0.03
	CM 3-6	23.58	26.08	0.04
	CM 3-7	25.68	28.18	0.04
	CM 3-8	26.27	28.77	0.05
	CM 3-9	26.35	28.85	0.05
	CM 5-2	15.71	18.21	0.03
	CM 5-3	15.79	18.29	0.03
	CM 5-4	22.61	25.11	0.03
	CM 5-5	24.97	27.47	0.04
	CM 5-6	25.57	28.07	0.04
	CM 5-7	32.36	34.86	0.05
	CM 5-8	32.96	35.46	0.05
	CM 10-1	19.69	22.19	0.04
	CM 10-2	35.27	37.77	0.04
	CM 10-3	46.58	49.08	0.05
	CM 10-4	47.42	49.92	0.05
	CM 15-1	28.30	30.80	0.04
	CM 15-2	46.26	48.76	0.05
	CM 15-3	49.77	52.27	0.08
	CM 25-1	46.06	48.56	0.05
	CM 25-2	49.56	52.06	0.08

3 x 575 V, 60 Hz (supply voltage H)

⁴⁰⁾ Values for supply voltage B2.

CM self-priming pumps

Stainless steel (I = EN 1.4301/AISI 304)

CM self-priming pumps Stainless steel (I = EN 1.4301/AISI 304)	Pump type	Net weight [kg]	Gross weight [kg]	Shipping volume [m ³]
1 x 220 V, 60 Hz (supply voltage A)	CM 1-3	13.86	16.36	0.03
	CM 1-4	14.02	16.52	0.03
	CM 3-3	13.86	16.36	0.03
	CM 3-4	15.42	17.92	0.03
	CM 5-3	16.33	18.83	0.03
	CM 5-4	24.22	26.72	0.04
1 x 220-230 V, 50 Hz (supply voltage C1)	CM 1-3	13.15	15.65	0.03
	CM 1-4	14.02	16.52	0.03
	CM 1-5	14.53	17.03	0.03
	CM 1-6	14.81	17.31	0.03
	CM 3-3	13.86	16.36	0.03
	CM 3-4	14.02	16.52	0.03
	CM 3-5	14.53	17.03	0.03
	CM 3-6	16.21	18.71	0.04
	CM 5-3	13.83	16.33	0.03
	CM 5-4	15.39	17.89	0.03
	CM 5-5	17.01	19.51	0.04
	CM 5-6	22.92	25.42	0.04
	CM 5-7	23.33	25.83	0.05

26. Electrical data

Speed-controlled motors

3 x 380-500 V, 50/60 Hz (supply voltage S)

Frame size	P ₂		Service factor	I _{1/1} [A]	Service factor current [A]	Cos φ _{1/1}
	[kW]	[hp]				
71A	0.55	0.75	-	1.35 - 1.30	-	0.77 - 0.61
80B	1.10	1.50	-	2.20 - 1.90	-	0.89 - 0.79
90C	1.50	2.00	-	2.90 - 2.40	-	0.92 - 0.85
90D	2.20	3.00	-	4.15 - 3.40	-	0.93 - 0.87
100A	3.00	4.00	-	5.80 - 4.80	-	0.91 - 0.86
112C	4.00	5.00	-	7.60 - 6.20	-	0.92 - 0.87
112E	5.50	7.50	-	10.3 - 8.20	-	0.92 - 0.88
132F	7.50	10.0	-	14.10 - 11.20	-	0.93 - 0.89

3 x 440-480 V, 50/60 Hz (supply voltage T)

Frame size	P ₂		Service factor	I _{1/1} [A]	Service factor current [A]	Cos φ _{1/1}
	[kW]	[hp]				
71A	0.55	0.75	1.25	1.35	1.70	0.68
80B	1.10	1.50	1.15	2.05	2.40	0.84
90C	1.50	2.00	1.15	2.65	3.00	0.87
90D	2.20	3.00	1.15	3.80	4.30	0.89
112C	3.70	5.00	1.15	6.20 - 5.80	7.00 - 6.60	0.90 - 0.88
112E	5.50	7.50	1.15	9.10 - 8.50	10.4 - 9.70	0.91 - 0.89
132F	7.50	10.00	1.15	12.40 - 11.50	14.20 - 13.00	0.91 - 0.90

1 x 200-240 V, 50/60 Hz (supply voltage U)

Frame size	P ₂		Service factor	I _{1/1} [A]	Service factor current [A]	Cos φ _{1/1}
	[kW]	[hp]				
71A	0.55	0.75	-	3.45 - 2.90	-	0.98
80B	1.10	1.50	-	6.70 - 5.60	-	0.99
90C	1.50	2.00	-	9.10 - 7.60	-	0.99

3 x 200-240 V, 50/60 Hz (supply voltage V)

Frame size	P ₂		Service factor	I _{1/1} [A]	Service factor current [A]	Cos φ _{1/1}
	[kW]	[hp]				
80B	1.10	1.50	-	4.10 - 3.50	-	0.92
90C	1.50	2.00	-	5.40 - 4.60	-	0.92
100A	2.20	3.00	-	7.80 - 6.50	-	0.94
100A	3.00	4.00	-	10.50 - 8.80	-	0.94
112C	4.00	5.00	-	14.10 - 11.80	-	0.94
132F	5.50	7.50	-	19.60 - 16.30	-	0.94

Mains-operated motors, 50 Hz

1 x 220-240 V, 50 Hz (supply voltage C1)

Frame size	P ₂ [kW]	I _{1/1} [A]	Cos φ _{1/1}	η [%]	I _{start} [A]	Speed [min ⁻¹]
71A	0.3	2.1 / 2.05	0.99 - 0.99	67.1 - 67.1	7.63 - 8.19	2800-2820
71B	0.5	3.3 / 3.15	0.99 - 0.99	73 - 73	10.4 - 10.86	2750-2780
80B	0.67	4.3 / 4.15	0.99 - 0.98	76.1 - 76.1	15.86 - 16.61	2810-2830
80C	0.9	5.72 / 5.6	0.98 - 0.96	78.5 - 78.5	21.41 - 22.57	2790-2810
90SE	1.3	8.2 / 7.95	0.97 - 0.97	80.7 - 80.7	40.95 - 43.81	2880-2890
90LE	1.7	10.2 / 9.75	0.99 - 0.99	81.9 - 81.9	44.2 - 46.6	2870-2880

3 x 220-240/380-415 V, 50 Hz (supply voltage F)

Frame size	P ₂ [kW]	I _{1/1} [A]	Cos φ _{1/1}	η [%]	I _{start} [A]	Speed [min ⁻¹]
71A ⁴¹⁾	0.46	2.0 - 2.2 / 1.0 - 1.2	0.83 - 0.75	73.4 - 73.6	9.8 - 11.7 / 4.9 - 6.4	2770-2820
71B ⁴¹⁾	0.60	2.5 - 2.6 / 1.5 - 1.5	0.83 - 0.74	78.6 - 78.2	9.8 - 16.6 / 9.0 - 15.5	2820-2860
71B ⁴¹⁾	0.65	2.8 - 3.1 / 1.6 - 1.8	0.82 - 0.72	73.9 - 72.9	16.2 - 19.2 / 9.3 - 11.2	2770-2820
80C	1.1	4.4 - 4.5 / 2.55 - 2.6	0.82 - 0.74	83.1 - 83.4	31.7 - 35.1 / 18.4 - 20.3	2830-2860
90SD	1.50	5.70 - 5.70 / 3.30 - 3.30	0.84 - 0.78	84.2 - 84.2	40.5 - 45.0 / 23.4 - 26.1	2890-2910
90LE	2.20	8.00 - 8.00 / 4.60 - 4.60	0.86 - 0.80	85.9 - 85.9	67.2 - 73.6 / 38.6 - 42.3	2890-2910
100LC	3.0	11.0 - 11.0 / 6.30 - 6.30	0.87 - 0.82	87.2 - 87.1	92.4 - 101.2 / 52.9 - 58.0	2900-2920
112MC	4.0	13.8 - 13.2 / 8.00 - 7.65	0.89 - 0.86	89.2 - 89.2	154.6 - 162.4 / 89.6 - 94.1	2920-2940
132SC	5.5	19.0 - 19.0 / 11.0 - 11.0	0.87 - 0.82	89.9 - 90.2	212.8 - 243.2 / 123.2 - 140.8	2920-2940
132SB	7.5	25.0 - 24.2 / 14.4 - 14.0	0.88 - 0.82	90.1 - 90.4	195.0 - 220.2 / 112.3 - 127.4	2910-2920

⁴¹⁾ Available with IE3 motor.

Mains-operated motors, 60 Hz

1 x 220 V, 60 Hz (supply voltage A)

Frame size	P ₂		Service factor	I _{1/1} [A]	Service factor current	Cos φ _{1/1}	η [%]	I _{start} [A]	Speed [min ⁻¹]
	[kW]	[hp]							
71B	0.60	0.80	1	4.1	1	0.98	71	16.8	3300
80A	0.84	1.1	1	5.8	1	0.98	69.8	18.6	3150
80B	1.14	1.5	1	7.35	1	0.99	73.5	19.8	3270
90SB	1.54	2.0	1	9.8	1	0.98	74.8	37.2	3330

1 x 115/230 V, 60 Hz (supply voltage B, B1)

Frame size	P ₂		Service factor	I _{1/1} [A]	Service factor current	Cos φ _{1/1}	η [%]	I _{start} [A]	Speed [min ⁻¹]
	[kW]	[hp]							
71BA	0.60	0.8	1	7.6 / 3.9	7.6 / 3.9	0.76	69	19.8 / 10.1	3240
80AA	0.78	1.06	1	10.6 / 5.4	10.6 / 5.4	0.65	69	31.8 / 16.2	3240
80BA	1.10	1.50	1	14.6 / 7.3	14.6 / 7.3	0.94	71	46.7 / 23.4	3320
90CC	1.50	2.03	1	18.8 / 9.8	18.8 / 9.8	0.97	72.9	75.2 / 39.2	3360

1 x 230 V, 60 Hz (supply voltage B2)

Frame size	P ₂		Service factor	I _{1/1} [A]	Service factor current	Cos φ _{1/1}	η [%]	I _{start} [A]	Speed [min ⁻¹]
	[kW]	[hp]							
71BA	0.60	0.8	1	3.9	3.9	0.76	66	10.1	3240
80AA	0.78	1.06	1	5.4	5.4	0.65	68	16.2	3240
80BA	1.10	1.50	1	7.3	7.3	0.94	69	23.4	3320
90CC	1.50	2.03	1	9.8	9.8	0.97	69	39.2	3360

3 x 208-230/440-480 V, 60 Hz (supply voltage E, E1)

Frame size	P ₂		Service factor	I _{1/1} [A]	Service factor current	Cos φ _{1/1}	η [%]	I _{start} [A]	Speed [min ⁻¹]
	[kW]	[hp]							
71AA	0.43	0.58	1	1.9 - 1.7 / 1.0 - 0.8	1.9 - 1.7 / 1.0 - 0.8	0.85 - 0.81 / 0.85 - 0.81	76.0 - 78.6	11.2 - 11.1 / 5.9 - 5.2	3360-3420
71BA ⁴²⁾	0.74	1.0	1	3.4 - 3.6 / 1.7 - 1.8	3.4 - 3.6 / 1.7 - 1.8	0.89 - 0.83 / 0.89 - 0.83	76.0 - 78.4	20.1 - 23.4 / 10.0 - 11.7	3220-3370
80CB	1.1	1.47	1	5.2 - 5.1 / 2.55 - 2.65	5.2 - 5.1 / 2.55 - 2.65	0.81 - 0.73 / 0.81 - 0.73	84.8 - 84.7	35.4 - 39.3 / 17.3 - 20.4	3430-3470
90HA	2.20	2.95	1	8.50 - 8.20 / 4.10 - 4.25	8.50 - 8.20 / 4.10 - 4.25	0.85 - 0.82	86.5 - 86.5	79.05 - 80.36 / 40.18 - 41.65	3500-3520
100DA	2.9	3.9	1	10.8 - 10.5 / 5.25 - 5.3	10.8 - 10.5 / 5.25 - 5.3	0.85 - 0.78 / 0.85 - 0.78	88.0 - 88.2	129.6 - 91.4 / 63.0 - 46.1	3520-3530
112CA	4.0	5.36	1	14.6 - 13.6 / 6.95 - 6.65	14.6 - 13.6 / 6.95 - 6.65	0.9 - 0.86 / 0.9 - 0.86	88.6 - 88.5	131.4 - 156.4 / 62.6 - 76.5	3530-3540
132DA ⁴³⁾	5.5	7.37	1	20.4 - 19.8 / 9.95 - 9.85	20.4 - 19.8 / 9.95 - 9.85	0.84 - 0.78 / 0.84 - 0.78	90.1 - 90.0	259.1 - 277.2 / 126.4 - 137.9	3540-3550
132EB	6.4	8.57	1	23.6 - 22.8 / 11.6 - 11.6	23.6 - 22.8 / 11.6 - 11.6	0.84 - 0.78 / 0.84 - 0.78	90.1 - 89.9	144.0 - 143.6 / 70.8 - 73.1	3530-3550

⁴²⁾ The motor is rated for 3 x 220-230/440-480 V, 60 Hz, but can be used at 208 V.

⁴³⁾ The motor is rated for 3 x 220-230/440-480 V, 60 Hz.

3 x 575 V, 60 Hz (supply voltage H)

Frame size	P ₂		Service factor	I _{1/1} [A]	Service factor current	Cos φ _{1/1}	η [%]	I _{start} [A]	Speed [min ⁻¹]
	[kW]	[hp]							
71AA	0.43	0.58	1	0.7	1	0.84	-	4.55	3340
80CB	1.10	1.50	1	1.72	1	0.78	-	12.6	3450
90CD	1.50	2.00	1	2.20	1	0.82	-	21.1	3530
90HA	2.20	2.95	1	3.25	1	0.83	-	25.4	3510
100BB	3.0	4.0	1	4.25	1	0.83	-	63.8	3540
112CA	4.0	5.5	1	5.35	1	0.84	-	99.2	3550
132DA	5.5	7.5	1	7.55	1	0.81	-	116.3	3550
132FA	7.5	10	1	9.5	1	0.87	-	90.3	3530

Mains-operated motors, 50/60 Hz

3 x 220-240/380-415 V, 50 Hz; 3 x 220-255/380-440 V, 60 Hz (supply voltage O)

Frame size	P ₂ [kW]	Frequency [Hz]	I _{1/1} [A]	Cos φ _{1/1}	η [%]	I _{start} [A]	Speed [min ⁻¹]
71B ⁴⁴⁾	0.43	50	2.3 - 2.6 / 1.3 - 1.5	0.72 - 0.60	78 - 76	11.5 - 15.6 / 6.5 - 9.0	2870-2890
	0.74	60	3.1 - 2.75 / 1.78 - 1.58	0.87 - 0.84	75 - 77	15.5 - 16.5 / 8.9 - 9.5	3280-3350
80C	0.64	50	3.75 - 4.75 / 2.16 - 2.75	0.56 - 0.43	83.1 - 78.6	36.0 - 42.8 / 20.7 - 24.8	2920-2930
	1.1	60	4.30 - 4.25 / 2.48 - 2.44	0.83 - 0.72	84.6 - 85.4	28.4 - 33.2 / 16.4 - 19.0	3420-3470
90HA	1.27	50	5.60 - 6.25 / 3.30 - 3.60	0.70 - 0.59	83.5 - 83.5	61.6 - 71.9 / 36.3 - 41.4	2960-2970
	2.2	60	7.70 - 7.20 / 4.45 - 4.15	0.90 - 0.84	86.5 - 86.5	57.8 - 67.0 / 33.4 - 38.6	3470-3500
100LC	1.68	50	7.0 - 7.90 / 4.05 - 4.55	0.73 - 0.62	88.1 - 86.2	98.0 - 110.6 / 56.7 - 63.7	2950-2960
	2.90	60	10.2 - 9.10 / 5.85 - 5.25	0.90 - 0.85	86.9 - 88.5	88.7 - 88.3 / 50.9 - 50.9	3490-3520
112MC	2.3	50	9.95 - 10.6 / 5.75 - 6.1	0.73 - 0.63	88.4 - 86.7	159.2 - 173.8 / 92.0 - 100.0	2970-2970
	4	60	14.0 - 12.8 / 8.05 - 7.35	0.89 - 0.84	89.1 - 89.7	147.0 - 169.0 / 84.5 - 97.0	3520-3540
132SC	3.18	50	12.4 - 13.0 / 7.20 - 7.45	0.78 - 0.69	90.0 - 89.2	213.3 - 236.6 / 123.8 - 135.6	2960-2960
	5.5	60	19.0 - 16.8 / 11.0 - 9.75	0.91 - 0.86	89.5 - 90.4	201.4 - 231.0 / 116.6 - 134.1	3510-3530
132SD	3.7	50	16.4 - 18.4 / 9.45 - 10.6	0.69 - 0.57	89.6 - 87.8	272.2 - 311.0 / 156.9 - 179.1	2960-2970
	6.4	60	22.2 - 20.4 / 12.8 - 11.8	0.89 - 0.82	90.0 - 90.2	217.6 - 265.2 / 125.4 - 153.4	3510-3540

44) The motor is rated for 3 x 220-240/380-400 V, 50 Hz and 3 x 220-255/380-440 V, 60 Hz, but can be used at 415 V, 50 Hz.

3 x 380-415 V, 50 Hz; 3 x 440-480 V, 60 Hz (supply voltage J)

Frame size	P ₂ [kW]	Frequency [Hz]	I _{1/1} [A]	Cos φ _{1/1}	η [%]	I _{start} [A]	Speed [min ⁻¹]
71AA	0.25	50	0.55 - 0.65	0.77 - 0.71	77 - 76	4.0 - 5.1	2870-2890
	0.43	60	0.95 - 0.80	0.85 - 0.82	76.0 - 78.6	5.6 - 5.2	3360-3420
71BA	0.43	50	1.4 - 1.5	0.76 - 0.66	77 - 76	7.7 - 9.0	2860-2890
	0.74	60	1.7 - 1.8	0.89 - 0.83	76.0 - 78.4	10.0 - 11.7	3220-3380
80CB	0.64	50	1.82 - 1.98	0.67 - 0.56	84.2 - 83.1	16.9 - 19.2	2910-2920
	1.10	60	2.22 - 2.22	0.8 - 0.72	84.9 - 85.4	16.7 - 19.3	3440-3470
90HA	1.27	50	3.30 - 3.60	0.70 - 0.59	83.5 - 83.5	36.3 - 41.4	2960-2970
	2.2	60	4.15 - 4.00	0.84 - 0.80	86.5 - 86.5	38.6 - 42.0	3500-3530
100DA	1.68	50	4.05 - 4.60	0.73 - 0.62	88.1 - 86.2	48.6 - 62.1	2950-2960
	2.9	60	5.25 - 5.3	0.85 - 0.79	88.5 - 88.2	63.0 - 46.1	3520-3540
112CA	2.3	50	5.2 - 5.1	0.8 - 0.74	86.4 - 88.8	80.6 - 78.3	2960-2970
	4.0	60	6.95 - 6.65	0.88 - 0.84	88.7 - 88.5	84.1 - 89.1	3540-3550
132DA	3.18	50	7.2 - 7.45	0.78 - 0.69	90.0 - 89.2	123.8 - 135.6	2960-2960
	5.5	60	9.7 - 9.45	0.86 - 0.82	90.4 - 90.4	133.4 - 145.5	3530-3550
132EB	3.7	50	9.45 - 10.6	0.69 - 0.57	89.6 - 87.8	156.9 - 179.1	2960-2970
	6.4	60	11.8 - 12.0	0.82 - 0.74	90.6 - 90.2	153.4 - 174.0	3540-3550

3 x 200/346 V, 50 Hz; 3 x 200-220/346-380 V, 60 Hz (supply voltage G)

Frame size	P ₂ [kW]	Frequency [Hz]	I _{1/1} [A]	Cos φ _{1/1}	η [%]	I _{start} [A]	Speed [min ⁻¹]
71AA	0.25	50	1.6 / 1.0	0.65	77	11.7 / 7.3	2900
	0.43	60	2.0 - 1.8 / 1.15 - 1.05	0.85 - 0.8	76.0 - 78.6	11.8 - 11.7 / 6.8 - 6.8	3370-3424
71B	0.43	50	3.6 / 2.0	0.53	77	19.8 / 11.0	2904
	0.74	60	3.3 - 3.5 / 2.0 - 2.2	0.83 - 0.76	76 - 78.4	19.5 - 22.8 / 11.8 - 14.3	3380-3429
80C	0.74	50	5.95 / 3.45	0.46	78.1	37.5 / 21.7	2920
	1.28	60	5.5 - 5.65 / 3.15 - 3.25	0.80 - 0.71	84.4 - 84.3	34.4 - 37.9 / 19.7 - 21.8	3410-3450
90LE	1.27	50	6.75 / 3.90	0.62	83.5	77.6 / 44.9	2960
	2.2	60	8.60 - 8.00 / 5.00 - 4.60	0.89 - 0.84	86.5 - 86.5	66.2 - 72.8 / 38.5 - 41.9	3490-3510
100LC	1.68	50	7.45 / 4.30	0.73	88.1	59.6 / 34.4	2950
	2.90	60	10.8 - 10.4 / 6.25 - 6.0	0.91 - 0.87	86.9 - 88.1	81.0 - 96.7 / 46.9 - 55.8	3490-3510

Frame size	P ₂ [kW]	Frequency [Hz]	I _{1/1} [A]	Cos φ _{1/1}	η [%]	I _{start} [A]	Speed [min ⁻¹]
112MC	2.3	50	10.2 / 5.9	0.77	87.3	157.1 / 90.9	2960
	4	60	14.6 - 13.6 / 8.45 - 7.85	0.90 - 0.87	88.6 - 89.1	135.8 - 148.9 / 78.6 - 86.0	3520-3540
132SC	3.18	50	13.6 / 7.85	0.78	90.0	152.3 / 87.9	2960
	5.5	60	21.0 - 20.0 / 12.1 - 11.6	0.91 - 0.88	89.5 - 90.1	214.2 - 296.0 / 123.4 - 171.7	3510-3520
132SD	3.7	50	20.0 / 11.6	0.63	88.8	240.0 / 139.2	2970
	6.4	60	24.6 - 23.6 / 14.2 - 13.8	0.87 - 0.82	90.1 - 90.6	270.6 - 290.3 / 156.2 - 169.7	3520-3520

Additional data for speed-controlled motors

Single-phase supply voltage

1 x 200-240 V, 50/60 Hz (supply voltage U).

Recommended fuse size

Motor size [kW]	Min. [A]	Max. [A]
0.12 - 0.75	6	10
1.1 - 1.5	10	16

Motor size [kW]	Min. [A]	Max. [A]
0.25 - 0.75	6	10
1.1 - 1.5	10	16

You can use standard as well as quick-blow or slow-blow fuses.

Leakage current

Earth leakage current less than 3.5 mA, AC.

Earth leakage current less than 10 mA, DC.

The leakage currents are measured in accordance with EN 61800-5-1:2007.

Three-phase supply voltage

3 x 380-500 V, 50/60 Hz (supply voltage S)

3 x 440-480 V, 50/60 Hz (supply voltage T)

Recommended fuse size

Motor size [kW]	Min. [A]	Max. [A]
0.12 - 1.1	6	6
1.5	6	10
2.2	6	16
3	10	16
4	13	16
5.5	16	32
7.5	20	32
11	32	32

You can use standard as well as quick-blow or slow-blow fuses.

Leakage current, AC

Speed [min ⁻¹]	Power [kW]	Mains voltage [V]	Leakage current [mA]
2900-4000	0.25 - 2.2	≤ 400	< 3.5
		> 400	< 5
	3 - 5.5	≤ 400	< 3.5
		> 400	< 3.5
7.5 - 11	≤ 400	< 3.5	
	> 400	< 5	

Speed [min ⁻¹]	Power [kW]	Mains voltage [V]	Leakage current [mA]
4000-5900	0.25 - 2.2	≤ 400	< 3.5
		> 400	< 5
	3 - 5.5	≤ 400	< 3.5
		> 400	< 3.5
7.5 - 11	≤ 400	< 3.5	
	> 400	< 5	

The leakage currents are measured in accordance with EN 61800-5-1:2007.

Inputs and outputs**Earth reference, GND**

All voltages refer to GND.

All currents return to GND.

Absolute maximum voltage and current limits

Exceeding the following electrical limits may result in severely reduced operating reliability and motor life:

Relay 1:

Maximum contact load: 250 VAC, 2 A or 30 VDC, 2 A.

Relay 2:

Maximum contact load: 30 VDC, 2 A.

GENI terminals: -5.5 to +9.0 VDC or less than 25 mADC.

Other input or output terminals: -0.5 to +26 VDC or less than 15 mADC.

Digital inputs, DI

Internal pull-up current greater than 10 mA at V_i equal to 0 VDC.

Internal pull-up to 5 VDC (currentless for V_i greater than 5 VDC).

Low logic level: V_i less than 1.5 VDC.

High logic level: V_i greater than 3.0 VDC.

Hysteresis: No.

Screened cable: 0.5 - 1.5 mm², 28-16 AWG.

Maximum cable length: 500 m.

Open-collector digital outputs, OC

Current sinking capability: 75 mADC, no current sourcing.

Load types: Resistive or/and inductive.

Low-state output voltage at 75 mADC: Maximum 1.2 VDC.

Low-state output voltage at 10 mADC: Maximum 0.6 VDC.

Overcurrent protection: Yes.

Screened cable: 0.5 - 1.5 mm², 28-16 AWG.

Maximum cable length: 500 m.

Analog inputs, AI

Voltage signal ranges:

- 0.5 - 3.5 VDC, AL AU.
- 0-5 VDC, AU.
- 0-10 VDC, AU.

Voltage signal: R_i greater than 100 k Ω at 25 °C.

Leak currents may occur at high operating temperatures.

Keep the source impedance low.

Current signal ranges:

- 0-20 mADC, AU.
- 4-20 mADC, AL AU.

Current signal: R_i equal to 292 Ω .

Current overload protection: Yes. Change to voltage signal.

Measurement tolerance: 0/+ 3 % of full scale (maximum-point coverage).

Screened cable: 0.5 - 1.5 mm², 28-16 AWG.

Maximum cable length: 500 m, excl. potentiometer.

Potentiometer connected to +5 V, GND, any AI:

Use maximum 10 k Ω .

Maximum cable length: 100 m.

Analog output, AO

Current sourcing capability only.

Voltage signal:

- Range: 0-10 VDC.
- Minimum load between AO and GND: 1 k Ω .
- Short-circuit protection: Yes.

Current signal:

- Ranges: 0-20 and 4-20 mADC.
- Maximum load between AO and GND: 500 Ω .
- Open-circuit protection: Yes.

Tolerance: 0/+ 4 % of full scale (maximum-point coverage).

Screened cable: 0.5 - 1.5 mm², 28-16 AWG.

Maximum cable length: 500 m.

Pt100/1000 inputs, PT

Temperature range:

- Minimum -30 °C. 88 Ω / 882 Ω .
- Maximum 180 °C. 168 Ω / 1685 Ω .

Measurement tolerance: \pm 1.5 °C.

Measurement resolution: < 0.3 °C.

Automatic range detection. Pt100 or Pt1000: Yes.

Sensor fault alarm: Yes.

Screened cable: 0.5 - 1.5 mm², 28-16 AWG.

Use Pt100 for short wires.

Use Pt1000 for long wires.

LiqTec sensor inputs *

Use Grundfos LiqTec sensor only.

Screened cable: 0.5 - 1.5 mm², 28-16 AWG.

Grundfos Digital Sensor input and output, GDS *

Use Grundfos Digital Sensor only.

* Only applicable for TPE, TPED Series 2000 and TPE3, TPE3 D pumps.

Power supplies**+5 V:**

- Output voltage: 5 VDC - 5%/+5%.
- Maximum current: 50 mA DC, sourcing only.
- Overload protection: Yes.

+24 V:

- Output voltage: 24 VDC - 5%/+5%.
- Maximum current: 60 mA DC, sourcing only.
- Overload protection: Yes.

Digital outputs, relays

Potential-free changeover contacts.

Minimum contact load when in use: 5 VDC, 10 mA.

Screened cable: 0.5 - 2.5 mm², 28-12 AWG.

Maximum cable length: 500 m.

Bus input

Grundfos GENIbus protocol, RS-485.

Screened 3-core cable: 0.5 - 1.5 mm², 28-16 AWG.

Maximum cable length: 500 m.

EMC (electromagnetic compatibility)

Standard used: EN 61800-3.

The table below indicates the emission category of the motor.

C1: Fulfils the requirements for residential areas.

C3: Fulfils the requirements for industrial areas.

Motor [kW]	Emission category	
	1450-2000 min ⁻¹	2900-4000 min ⁻¹ 4000-5900 min ⁻¹
0.25	C1	C1
0.37	C1	C1
0.55	C1	C1
0.75	C1	C1
1.1	C1	C1
1.5	C1	C1
2.2	C1	C1
3	C1	C1
4	C1	C1
5.5	C3/C1 ⁴⁵⁾	C1
7.5	C3/C1 ⁴⁵⁾	C3/C1 ⁴⁵⁾
11	-	C3/C1 ⁴⁵⁾

⁴⁵⁾ C1, if equipped with an external Grundfos EMC filter.

Immunity: Fulfils the requirements for industrial areas.

Contact Grundfos for further information.

Enclosure class

Standard: IP55 (IEC 34-5).

Insulation class

F (IEC 85).

Standby power consumption

5-10 W.

Cable entries

Motor [kW]	Number and size of cable entries	
	2900-4000 min ⁻¹	4000-5900 min ⁻¹
0.25 - 1.5	4 x M20	4 x M20
2.2	4 x M20	4 x M20
3-4	1 x M25 + 4 x M20	1 x M25 + 4 x M20
5.5	1 x M25 + 4 x M20	1 x M25 + 4 x M20
7.5 - 11	1 x M32 + 5 x M20	1 x M32 + 5 x M20

Cable glands delivered with the pump

Motor [kW]	Quantity	Thread size	Cable diameter [mm]
0.25 - 2.2	2	M20 x 1.5	5
	1		7-14
3 - 5.5	4	M20 x 1.5	5
	1	M25 x 1.5	9-18
7.5 - 11	4	M20 x 1.5	5
	1	M32 x 1.5	14-25

Torques

Terminal	Thread size	Maximum torque [Nm]
L1, L2, L3, L, N	M4	1.8
NC, C1, C2, NO	M2.5	0.5
1-26 and A, Y, B	M2	0.5

Sound pressure level

Motor [kW]	Maximum speed stated on nameplate [min ⁻¹]	Speed [min ⁻¹]	Sound pressure level ISO 3743 [dB(A)]	
			1-phase motors	3-phase motors
0.25 - 0.75	2000	1500	38	38
		2000	42	42
	4000	3000	53	53
		4000	58	58
	5900	4000	58	58
		5900	68	68
1.1	2000	1500		38
		2000		42
	4000	3000	53	53
		4000	58	58
	5900	4000	58	58
		5900	68	68

Motor [kW]	Maximum speed stated on nameplate [min ⁻¹]	Speed [min ⁻¹]	Sound pressure level ISO 3743 [dB(A)]	
			1-phase motors	3-phase motors
1.5	2000	1500		39
		2000		46
	4000	3000	57	57
		4000	64	64
5900	4000	58	58	
	5900	68	68	
2.2	2000	1500		47
		2000		
	4000	3000		57
		4000		64
	5900	4000		58
		5900		68
3	2000	1500		48
		2000		54
	4000	3000		59
		4000		67
	5900	4000		63
		5900		73
4	2000	1500		48
		2000		55
	4000	3000		60
		4000		67
	5900	4000		63
		5900		73
5.5	2000	1500		54
		2000		60
	4000	3000		60
		4000		68
	5900	4000		63
		5900		73
7.5	2000	1500		55
		2000		61
	4000	3000		64
		4000		72
	5900	4000		68
		5900		79
11	4000	3000		65
		4000		73
	5900	4000		69
		5900		79

The grey fields indicate that the motor is not available in this MGE motor range.

27. Customisation

Although the Grundfos CME and CM product range offers a number of pumps for different applications, customers require specific pump solutions to satisfy their needs. Below are the options available for customising the CME and CM pumps.

Contact Grundfos for further information or for requests other than the ones mentioned below.

Motors

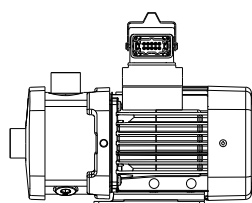
Motor with multiplug connection

Mains-operated motors fitted with a Harting® 10-pin multiplug connection, HAN 10 ES, enable easy connection to the mains.

Note that for CME pumps we offer the solutions shown in the section on plug-and-pump solution for CME pumps.

The purpose of a multiplug connection is to facilitate the electrical installation and service of the pump. The multiplug functions as a plug-and-pump device.

The figure below shows the position of the multiplug on the mains-operated motor.

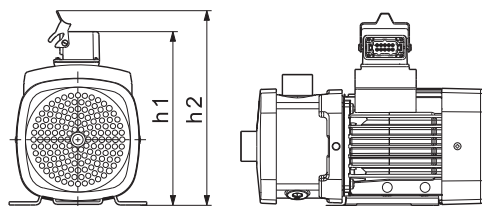


Motor with a multiplug connection



Multiplug logo

Dimensions

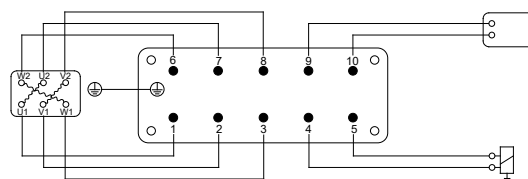


TM045847

Pump type	Frame size	h1	h2
	71	206	237
CM 1	80	206	237
CM 3	90	263	294
CM 5	100	283	314
	71	231	262
	80	231	262
CM 10	90	273	304
CM 15	100	283	314
CM 25	112	309	340
	132	309	340

Plug connections

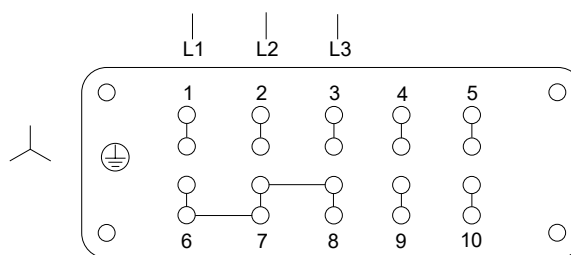
TM045846



TM018702

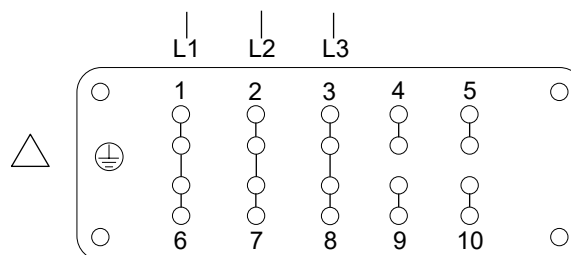
Plug connection from motor

TM020470



TM018703

Plug connection for star connection



TM018704

Plug connection for delta connection

Note that wire bridges for connections are located in the plug.

Related information

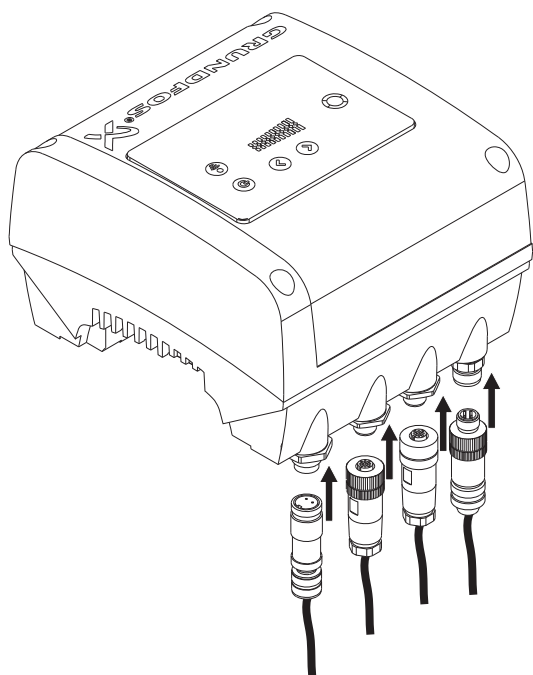
Plug-and-pump solution for CME pumps

Plug-and-pump solution for CME pumps

To facilitate electrical installation and service, we offer plug-and-pump solutions for CME pumps. These customised solutions are only available on request. Please contact Grundfos.

CME pumps can be fitted with receptacles in the cable entries of the motor for fast cable connection. Simply plug and pump.

The figure below shows how the CME pumps are connected.



TM057677

Fast connection of CME pumps

Motor with anti-condensation heater

CM



TM032440

Mains-operated motor with an anti-condensation heater

In applications where condensation in the motor may occur, we recommend that you install a motor with an anti-condensation heater on the stator coil ends. The heater keeps the motor temperature higher than the ambient temperature and prevents condensation.

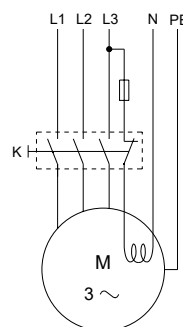
In areas with ambient temperatures below 0 °C, we recommend that you always use motors with an anti-condensation heater.

High humidity may cause condensation in the motor. Slow condensation occurs as a result of a decreasing ambient temperature; rapid condensation occurs as a result of shock cooling caused by direct sunlight followed by rain.

Note that rapid condensation is not to be confused with the phenomenon which occurs when the pressure inside the motor is lower than the atmospheric pressure. In such cases, moisture is sucked from the atmosphere into the motor through, for example, bearings and housings.

In applications with constant humidity levels above 85 %, the drain holes in the drive-end flange must be open. This changes the enclosure class to IPX5. If IP55 protection is required due to operation in dusty environments, we recommend that you install a motor with an anti-condensation heater.

The figure below shows a typical circuit of a three-phase motor with an anti-condensation heater.



TM034058

Three-phase motor with an anti-condensation heater

Legend

Symbol	Designation
K	Contactor
M	Motor

Note that you must connect the anti-condensation heater to the power supply so that it is on when the motor is switched off.

The following motor sizes are available with an anti-condensation heater:

Motors, 50/60 Hz	Power of heating unit [W]	
	1 x 24 V	1 x 190-250 V
Frame size		
71/80		23
90	38	31
100		38
112/132	2 x 38	2 x 38

CME

The MGE motors fitted to CME pumps incorporate a standstill heating function. No external heater on the stator coil is necessary.

The working principle is that AC voltage is applied to the motor windings. The applied AC voltage will not make the motor run, but will ensure that sufficient heat is generated to prevent condensation in the motor. The terminal box is kept warm and dry by the heat generated via the mains voltage connected. However, it is a condition that the terminal box is not exposed to open air. It must be provided with a suitable cover to protect it from rain and the drain plugs have to be removed to obtain ventilation in the motor and terminal box. See the section on operation in condensing environments.

Related information

[Operation in condensing environments](#)

Motors with PTC sensors



PTC sensor incorporated in windings

Built-in PTC sensors (thermistors) protect the motor against overheating. Single-phase motors are protected against slow and rapid overheating. Three-phase motors are protected against slow overheating.

We offer built-in PTC sensors to protect the motor.

Three-phase mains-operated motors of 3 kW and up have PTC sensors as standard.

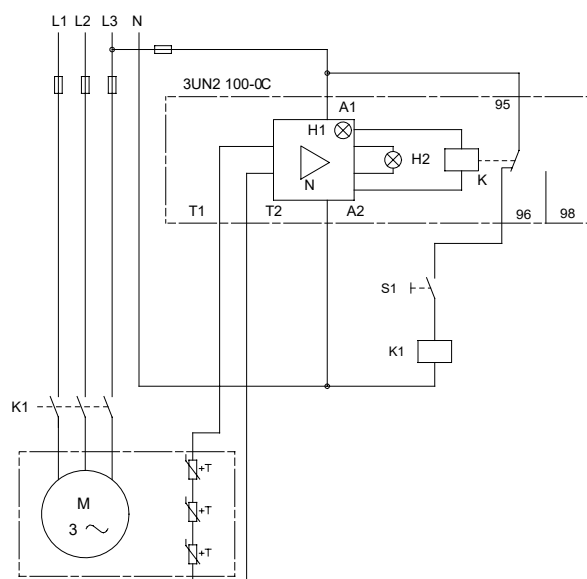
Note that PTC sensors must be connected to an external tripping unit connected to the control circuit.

Protection according to IEC 60034-11:

- slow and rapid overheating.

PTC sensors comply with DIN 44082. Maximum voltage at the terminals: $U_{max} = 2.5 \text{ VDC}$. All tripping units available for DIN 44082 PTC sensors meet this requirement.

The figure below shows a typical circuit of a three-phase motor with PTC sensors.



Three-phase motor with PTC sensors

Legend

Symbol	Designation
S1	On/off switch
K1	Contactora
+T	PTC sensor (thermistor) in motor
M	Motor
3UN2 100-0 C	Tripping unit with automatic resetting
N	Amplifier
K	Output relay
H1	LED "Ready"
H2	LED "Tripped"
A1, A2	Connection for control voltage
T1, T2	Connection for PTC sensor loop

TM027038

TM003965

Motors with thermal switches (PTO)



TM027042

Thermal switch incorporated in windings

Built-in thermal switches protect the motor against overheating. Single-phase motors are protected against slow and rapid overheating. Three-phase motors are protected against slow overheating.

We offer mains-operated motors with bimetallic thermal switches in the motor windings.

Three-phase mains-operated motors with supply voltages F, G and O are available with built-in thermal switches.

Note that thermal switches must be connected to an external control circuit to protect the motor against slow overheating. The thermal switches require no tripping unit.

Protection according to IEC 60034-11:

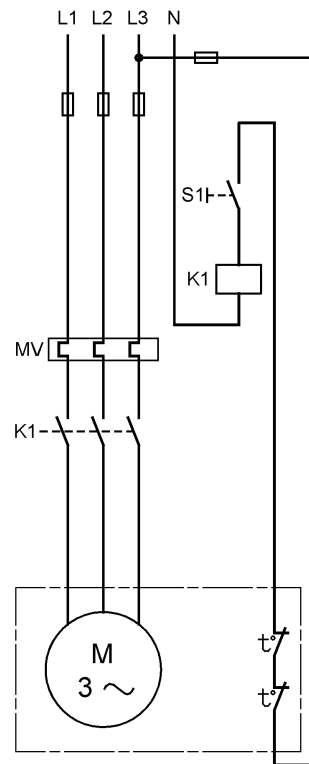
- slow and rapid overheating.

As protection against seizure, the motor must be connected to a motor-protective circuit breaker.

Thermal switches tolerate the following maximum loads:

U_{max}	250 VAC
I_N	1.5 A
I_{max}	5.0 A (locked-rotor and breaking current)

The figure below shows a typical circuit of a three-phase motor with built-in bimetallic thermal switches.



TM003964

Three-phase motor with thermal switches

Legend

Symbol	Designation
S1	On/off switch
K1	Contactor
t°	Thermal switch in motor
M	Motor
MV	Motor-protective circuit breaker

Undersize and oversize motors

Undersize and oversize motors are defined as the next kW size below or above the fitted standard motor.

Note that CM 1, 3 and 5 cannot be combined with frame sizes 112 and 132.

We recommend that you use an oversize motor if the operating conditions fall outside the standard conditions.

We especially recommend oversize motors in these cases:

- The pump is installed at an altitude of more than 1000 metres above sea level.
- The viscosity or density of the pumped liquid is higher than that of water.
- The ambient temperature exceeds 55 °C (CM).

We recommend that you use an undersize motor if the operating conditions do not at all reach the standard conditions.

We especially recommend undersize motors in these cases:

- The viscosity or density of the pumped liquid is lower than that of water.
- The duty point of the pump is constant, and the flow rate is significantly lower than the recommended maximum flow rate.

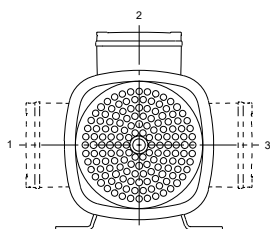
Related information

[Speed-controlled motors](#)

[Mains-operated motors, 50 Hz](#)

Terminal box positions

As standard the terminal box is mounted in 12 o'clock position as shown in the figure below. CM pumps with motor frame sizes of 71 and 80 are available with other terminal box positions on special request.



TM040357

Terminal box positions of frame sizes 71 and 80, as seen from the fan cover side

Pos.	Description
1	9 o'clock (on request)
2	12 o'clock (standard)
3	3 o'clock (on request)

Functional modules for CME pumps

CME pumps offer a number of advantages, depending on hardware combinations and software configuration of the motor. For example, various functional modules are available.

As standard, the CME pumps are fitted with the standard functional module. The basic or advanced module is available as a customised solution.

Basic functional module (FM 100)

The basic module has only the most necessary inputs for closed- and open-loop operation. The module also enables communication via a GENIbus connection.

The basic module has these connections:

- analog voltage input
- two digital inputs or one digital input and one open-collector output
- GENIbus connection.

Standard functional module (FM 200)

The standard module has more inputs and outputs than the basic module and is suitable for even more demanding applications.

The standard module has these connections:

- two analog inputs
- two digital inputs or one digital input and one open-collector output
- Grundfos Digital Sensor input and output
- two signal relay outputs
- GENIbus connection.

Advanced functional module (FM 300)

The advanced module has a number of inputs and outputs enabling the motor to be used in advanced applications where many inputs and outputs are required.

The advanced module has these connections:

- three analog inputs
- one analog output
- two dedicated digital inputs
- two configurable digital inputs or open-collector outputs
- Grundfos Digital Sensor input and output
- two Pt100/1000 inputs
- LiqTec sensor inputs
- two signal relay outputs
- GENIbus connection.

Pumps

Pumping of liquids down to -30 °C

We offer custom-built pumps for pumping liquids down to -30 °C. The pumps have an oversize neck ring ensuring that impellers do not seize up as a result of thermal expansion.

We offer the above solution for CME and CM in I and G versions (stainless steel).

Surface treatment

Cleaned and dried pumps

We recommend cleaned and dried pumps for use in applications involving strict demands on cleanliness and surface quality, such as low content of silicone. Before assembly, all pump parts are cleaned in 60 to 70 °C water with a cleaning agent. All pump parts are then thoroughly rinsed in de-ionised water and dried. The pump is assembled without any use of silicone lubricants.

Cleaned and dried pumps are not performance-tested.

Electropolished stainless-steel pumps

Electropolished pumps are often used in the pharmaceutical industry and in the food and beverage industry where materials and surface quality must meet strict requirements to hygiene or corrosion resistance.

Electropolishing removes burrs as well as metallic and non-metallic inclusions, providing a smooth, clean and corrosion-resistant stainless-steel surface.

First, all components are pickled in a mixture of nitric and hydrofluoric acid. Subsequently, the components are electropolished in a mixture of sulphuric and phosphoric acid. Finally, the components are passivated in nitric acid.

To meet the strict hygienic requirements to material and surface quality, we offer electropolished stainless-steel pumps with the following surface quality:

Surface quality: $Ra \leq 0.8 \mu\text{m}$.

Alternative colouring

We offer custom-built pumps in any NCS- or RAL-specified colour to suit your requirements.

The used paint is water-based. Painted parts correspond to corrosion class III.

All pump types and sizes are available with alternative colouring.

Customised nameplate

We offer additional customised nameplates attached to the pump:

- a nameplate supplied by you
- a Grundfos nameplate customised in terms of a specific duty point
- a Grundfos nameplate with a tag number.

Note that the Grundfos standard nameplate is always fitted to the pump.

Shaft seal arrangements

The shaft seal is developed with customisation in mind. Depending on the media, you may combine the seal faces in any way.

Available stationary seal faces: Q, B, U.

Available rotating seal faces: Q, V, U.

Rubber: E, V, K.

For further details about seal face material codes, see the section on identification.

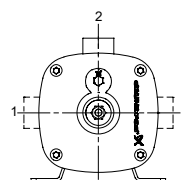
Related information

[Type key](#)

[Key to codes](#)

Alternative connection positions

The pump is available with various connection positions on special request. See the figure below.



TM038709

Alternative connection positions as seen from the pump inlet side

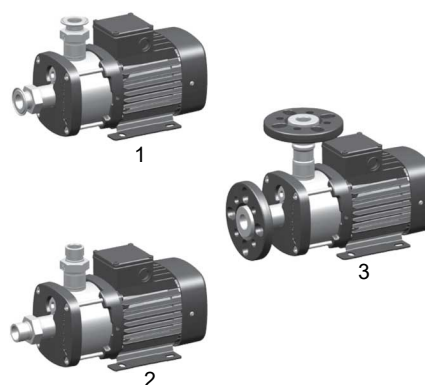
Pos.	Description
2	12 o'clock (standard)

Alternative pipe connections

A wide range of pipe connections are available for the CME and CM pumps:

- Tri-Clamp®
- DIN, JIS, ANSI flange (combi flange)
- Victaulic® coupling
- Whitworth thread Rp
- internal NPT thread.

The available pipe connections are shown in the figure below.



TM043937

Examples of pipe connections

Pos.	Description
1	Tri-Clamp®
2	Victaulic® coupling
3	DIN, JIS, ANSI flange

28. Accessories

Pipe connections

Various sets of flanges and couplings are available for pipe connection.

Flange sets for CME, CM (DIN/ANSI/JIS)

All materials in contact with the pumped liquids are made of stainless steel EN 1.4408/AISI 316.

The pipe stub is made of stainless steel EN 1.4408/AISI 316, the flange part is made of cast iron EN-GJL-200 and the O-rings are made of EPDM or FKM.

Flange	Pump type	Pipe connection	Pump thread	L ⁴⁶⁾ [mm]		Product number
				Flange mounted on pump inlet	Flange mounted on pump outlet	
	CM 1	DN 32	Rp	49.0	78.0	96904693
	CM 3		NPT			96904705
	CM 5		Rp			96904696
			NPT			96904708
	CM 10	DN 40	Rp	44.0	68.0	96904699
			NPT			96904711
	CM 15	DN 50	Rp	48.0	68.0	96904702
	CM 25		NPT			96904714

⁴⁶⁾ Length from the outer edge of the flange to the pump inlet or outlet port.

Please pay attention to the compatibility between the pump and flange before ordering. See tables below.

CM pumps compatible with DIN/ANSI/JIS flanges

Pump type	Material version	MG 71/80 1-ph	MG 71/80 3-ph	MG 90 1-ph	MG 90 3-ph	MG 100/112/132
CM 1, 3, 5	Cast iron		• ⁴⁷⁾	•	•	•
	Stainless steel	• ⁴⁷⁾	• ⁴⁸⁾	•	•	•
CM 10, 15, 25	Cast iron	•	•	•	•	•
	Stainless steel	•	•	•	•	•

⁴⁷⁾ 17 mm clearance.

⁴⁸⁾ 32 mm clearance.

CME pumps compatible with DIN/ANSI/JIS flanges

Pump type	Material version	MGE 71	MGE 80	MGE 90	MGE 90 3-ph	MGE 100	MGE 112/132
CM 1, 3, 5	Cast iron			• ⁴⁹⁾	•	•	
	Stainless steel				•	•	
CM 10, 15, 25	Cast iron		•	•	•	•	•
	Stainless steel		•	•	•	•	•

⁴⁹⁾ 13 mm clearance.

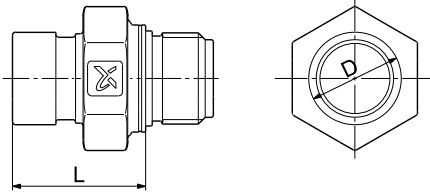
Tri-clamp and Victaulic connections for CME, CM

Pump type	Material version	MG, MGE 71	MG, MGE 80	MG, MGE 90	MG, MGE 100	MG, MGE 100/112/132
CM 1, 3, 5	Cast iron		•	•	•	•
	Stainless steel		•	•	•	•
CM 10, 15, 25	Cast iron		•	•	•	•
	Stainless steel		•	•	•	•

Victaulic® connections for CME, CM

All materials in contact with the pumped liquids are made of stainless steel EN 1.4408/AISI 316.

The pipe stub is made of stainless steel EN 1.4408/AISI 316, and the O-rings are made of EPDM or FKM.

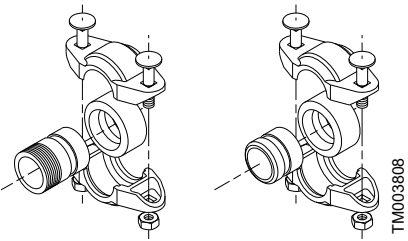
Victaulic® connection	Pump type	Pump thread	D [mm]	L ⁵⁰⁾ [mm]	Product number	
	CM 1	Rp	33.7	48.5	96904694	
	CM 3	NPT			96904706	
	CM 5	Rp	33.7 / 42.4	48.5	96904697	
		NPT			96904709	
	CM 10	Rp		48.3	48.5	96904700
		NPT			96904712	
	CM 15	Rp			96904703	
	CM 25	NPT		60.3	50.1	96904715

⁵⁰⁾ Length from the outer edge of the connection to the pump inlet or outlet port.

Coupling, pipe stub and gasket for Victaulic® connections

Parts in contact with the pumped liquid are made of stainless steel EN 1.4401/AISI 316 and rubber.

A Victaulic® coupling set consists of two coupling halves (Victaulic, type 77), one gasket, one pipe stub (for welding or threaded), bolts and nuts.

Coupling and pipe stub	Pump type	Pipe stub	Pipe connection	Rubber parts	Number of coupling sets required	Product number
	CM 1, CME 1	Threaded	R 1	EPDM	2	97575245
	CM 3, CME 3	For welding	DN 25	FKM	2	97575246
	CM 5, CME 5 ⁵¹⁾			EPDM	2	97575247
	CM 5, CME 5 ⁵²⁾	Threaded	R 1 1/4	EPDM	1	00419911
		For welding	DN 32	FKM	1	00419905
				EPDM	1	00419912
		Threaded	R 1 1/2	EPDM	2	97575249
	CM 10, CME 10	For welding	DN 40	FKM	2	97575250
				EPDM	2	97575251
	CM 15, CME 15 CM 25, CME 25	Threaded	R 2	EPDM	2	00339911
		For welding	DN 50	FKM	2	00339918
				EPDM	2	00339910
FKM		2	00339917			

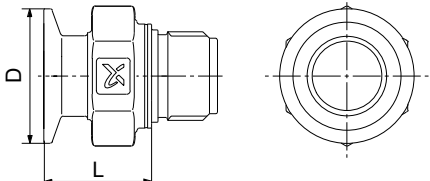
⁵¹⁾ For the outlet port. Note that only one coupling set is required for the outlet port.

⁵²⁾ For the inlet port.

Tri-Clamp® connections for CME, CM

All materials in contact with the pumped liquids are made of stainless steel EN 1.4408/AISI 316.

The pipe stub is made of stainless steel EN 1.4408/AISI 316, and the O-rings are made of EPDM or FKM.

Tri-Clamp®	Pump type	Pump thread	D [mm]	L ⁵³⁾ [mm]	Product number
	CM 1	Rp	50.4	40.3	96904695
	CM 3	NPT			96904707
	CM 5	Rp	50.4	35.3	96904698
		NPT			96904710
	CM 10	Rp	50.4	37.4	96904701
		NPT			96904713
	CM 15	Rp	63.9	37.4	96904704
	CM 25	NPT			96904716

⁵³⁾ Length from the outer edge of the Tri-Clamp® connection to the pump inlet or outlet port.

Clamping ring, pipe stub and gasket for Tri-Clamp® connections

Pump type	Nominal diameter [mm]	Clamping ring		Pipe stub				Gasket	
		A [mm]	B [mm]	A [mm]	B [mm]	C [mm]	D [mm]	A [mm]	B [mm]
CME, CM: 1, 3, 5, 10	38.0	92.0	59.5	21.5	50.5	35.6	38.6	35.3	50.5
CME, CM: 15, 25	51.0	104.4	74.0	21.5	64.0	48.6	51.6	48.0	64.0

The clamping ring is made of stainless steel EN 1.4301/AISI 304.

The pipe stub is made of stainless steel EN 1.4401/AISI 316.

The gasket is made of PTFE or EPDM.

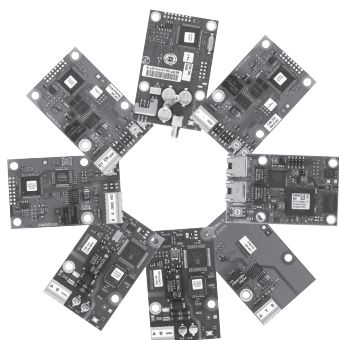
Pump type	Pipe connection	Connection material	Gasket	Pressure [bar]	Number of coupling sets required	Product number
CME, CM: 1, 3, 5, 10	DN 32	Stainless steel	EPDM	16	2	96515374
			PTFE		2	96515375
CME, CM: 15, 25	DN 50		EPDM		2	96515376
			PTFE		2	96515377

Potentiometer for CME

The potentiometer is for setpoint setting and start/stop of the CME pump.

Product	Product number
External potentiometer with cabinet for wall mounting	625468

Communication interface modules (CIM) for CME



TM076519

Grundfos CIM modules

A CIM module is an add-on communication interface module for MGE motors. The CIM module enables data transmission between the pump and an external system, for example a BMS (building management system) or SCADA system.

We offer the following CIM modules:

Description	Fieldbus protocol	Product number
CIM 050	GENIbus	96824631
CIM 100	LonWorks	96824797
CIM 150	PROFIBUS DP	96824793
CIM 200	Modbus RTU	96824796
CIM 300	BACnet MS/TP	96893770
CIM 500	BACnet IP	
CIM 500	EtherNet/IP	
CIM 500	GIC	98301408
CIM 500	GRM IP	
CIM 500	Modbus TCP	
CIM 500	PROFINET	

Grundfos GO

Use Grundfos GO for the following types of wireless communication with the pump:

- infrared
- radio
- Bluetooth.

MI 301

MI 301 is a module with built-in infrared and radio communication. It is required for Grundfos GO communication. MI 301 can be used together with Android or iOS-based smart devices with a Bluetooth connection. MI 301 has a rechargeable Li-ion battery and must be charged separately.



TM053890

MI 301

Supplied with the product:

- Grundfos MI 301
- sleeve
- battery charger
- quick guide.

Product numbers

Grundfos GO variant	Product number
Grundfos MI 301	98046408

Sensors for CME, CM

The sensors must be fitted to the pipe with suitable fittings.

Standard sensors for CME, CM

Accessory	Type	Measuring range	Connection	Product number	
				EPDM	FKM
Danfoss temperature sensor, Pt100B	Pt100B, with 2 m cable, 50 pieces, without O-rings	-50 - +200 °C	1/2"	99408847	
	Pt100B, with 2 m cable, one piece, with EPDM and FKM O-rings	-50 - +200 °C	1/2"	99501120	
	Pt100B, with 2 m cable, 50 pieces, with EPDM O-ring	-50 - +200 °C	1/4"	99239596	
	Pt100B, with 2 m cable, one piece, with EPDM O-ring	-50 - +200 °C	1/4"	99532820	
Accessories for Danfoss temperature sensor Pt100B	EPDM O rings, 50 pieces	-	-	99412727	
	FKM O rings, 50 pieces	-	-	99412883	
Hornsberg differential temperature sensor, ESTD	ESTD, 4-20 mA	0-20 °C	1/2"	96409362	
	ESTD, 4-20 mA	0-50 °C	1/2"	96409363	
Grundfos pressure transmitter, ISP40	ISP40 0-6b, with 5 m M12 cable	0-6 bar	1/2"	99792159	
	ISP40 0-10b, with 5 m M12 cable	0-10 bar	1/2"	99792175	
	ISP40 0-16b, with 5 m M12 cable	0-16 bar	1/2"	99792176	
Grundfos pressure manager, PM	PM2, 1 x 200-220 V, 0-40 °C	1.5 - 5 bar	G1"	96848738	
	PM2, 1 x 100-120 V, 0-40 °C	1.5 - 5 bar	G1"	96848750	


For more information, see Grundfos Product Center at www.grundfos.com.





Note that the CME and CM pumps are fitted with 3/8" plugs. In order to fit the sensors directly on the CME and CM pumps, an adapter must be used.

Related information

[29. Grundfos Product Center](#)

Direct sensors for CME, CM

Accessory	Type	Measuring range	Connection	Product number	
				EPDM	FKM
 <p>RPS, 0.5 - 3.5 V/4.1, plug and play set</p> <p>TM076692</p>		0 - 2.5 bar / 40 psig	1/2"	99472356	99472357
		0-4 bar / 60 psig	1/2"	99387871	99472358
		0-6 bar / 90 psig	1/2"	99472359	99472360
		0-10 bar / 150 psig	1/2"	99514113	99472355
		0-16 bar / 230 psig	1/2"	99514415	99514116

Accessory	Type	Measuring range	Connection	Product number	
				EPDM	FKM
Grundfos differential pressure and temperature sensor, DPS					
 TM076690	DPS, 0.5 - 3.5 V/4.1, plug and play set with AISI 316 housing and 6 mm tube adapters	0 - 2.5 bar / 40 psig	-	99472339	-
		0 - 4 bar / 60 psig	-	99472340	
Grundfos flow and temperature sensor, VFS					
 TM076695	VFS 0.5-3.5 V/4.1, plug and play set with BSPP brass fittings	1-20 lpm / 0.3 - 5.2 gpm	1/2"	98529414	99508194
		2-40 lpm / 0.5 - 10.5 gpm	3/4"	99508184	99508195
		5-100 lpm / 1.3 - 26.4 gpm	3/4"	99508185	99508196
		10-200 lpm / 2.6 - 52.8 gpm	3/4"	99508196	99508197
		20-400 lpm / 5.2 - 105.6 gpm	1.1/4"	99508187	99508198
Grundfos flow and temperature sensor, VFI/T					
 TM076694	VFI/T 0-10 V, plug and play set with BSPP fittings and cable	0.3 - 6 m ³ / h / 1.3 - 26.4 gpm	DN 18	97688334	97688342
		0.6 - 12 m ³ / h / 2.6 - 52.8 gpm	DN 25	99513543	99513547
		1.3 - 25 m ³ / h / 5.7 - 110 gpm	DN 32	99513544	99513549
		2-40 m ³ / h / gpm	DN 40	99513499	99513535
Grundfos pressure and temperature sensor, RPI/T					
 TM076691	RPI/T, plug and play, with 2 m cable	0 - 2.5 bar / 40 psig	1/2"	97748930	97748960
		0-4 bar / 60 psig	1/2"	97748941	97748961
		0-6 bar / 90 psig	1/2"	97748942	97748962
		0-10 bar / 150 psig	1/2"	97748944	97748963
		0-16 bar / 230 psig	1/2"	97748945	97748964
Accessories for RPS, DPS, and VFS sensors	CNV power supply and converter	-	-	96983684	-
	1200 mm cable	-	-	98515668	-
	2900 mm cable	-	-	98444532	-
Accessories for RPI and VFI sensors	2 m M12 cable	-	-	98515668	-
	5 m M12 cable	-	-	98444532	-

For more information, see Grundfos Product Center at www.grundfos.com.

Note that the CME and CM pumps are fitted with 3/8" plugs. In order to fit the sensors directly on the CME and CM pumps, an adapter must be used.

Related information

[29. Grundfos Product Center](#)

MP 204 motor protector



TM031471

MP 204

The MP 204 is an electronic motor protector and data collecting unit. Apart from protecting the motor, it can also send information to a control unit via GENIbus, such as the following:

- trip
- warning
- energy consumption
- input power
- motor temperature.

The MP 204 protects the motor primarily by measuring the motor current by means of a true RMS measurement.

The pump is protected secondarily by measuring the temperature with a Tempcon sensor, a Pt100/Pt1000 sensor and a PTC sensor or thermal switch.

The MP 204 is designed for single- and three-phase motors.

Note that the MP 204 must not be used together with frequency converters.

Features

- Phase-sequence monitoring
- indication of current or temperature
- input for PTC sensor or thermal switch
- indication of temperature in °C or °F
- 4-digit, 7-segment display
- setting and status reading with Grundfos GO
- setting and status reading via the Grundfos GENIbus fieldbus.

Tripping conditions

- Overload
- underload (dry running)
- temperature
- missing phase
- phase sequence
- overvoltage
- undervoltage
- power factor (cos ϕ)
- current unbalance.

Warnings

- Overload

- underload
- temperature
- overvoltage
- undervoltage
- power factor (cos ϕ)
- run capacitor (single-phase operation)
- starting capacitor (single-phase operation)
- loss of communication in network
- harmonic distortion.

Learning function

- Phase sequence (three-phase operation)
- run capacitor (single-phase operation)
- starting capacitor (single-phase operation)
- identification and measurement of Pt100/Pt1000 sensor circuit.

Product number

Description	Product number
MP 204 motor protector	96079927

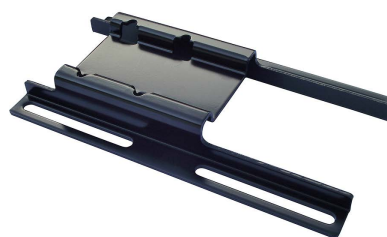
Cover for CM motor

The cover protects the motor from ingress of liquid, especially if the pump is installed in a vertically tilted position with the motor end pointing upwards.

Product number

Description	Product number
Cover for CM motors, frame sizes 71 and 80	97528743

Adapter base plates



TM085463

Adapter base plate

Adapter base plates allow CM pumps to be mounted on the surface of an old CH pump.

Description	Product number
Adapter base plate, CH 2, 4 to CM 1, 3, 5	96960786
Adapter base plate, CH 8, 12 to CM 10, 15, 25	96960787
Adapter base plate, CH1 to CM	96960788

29. Grundfos Product Center

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

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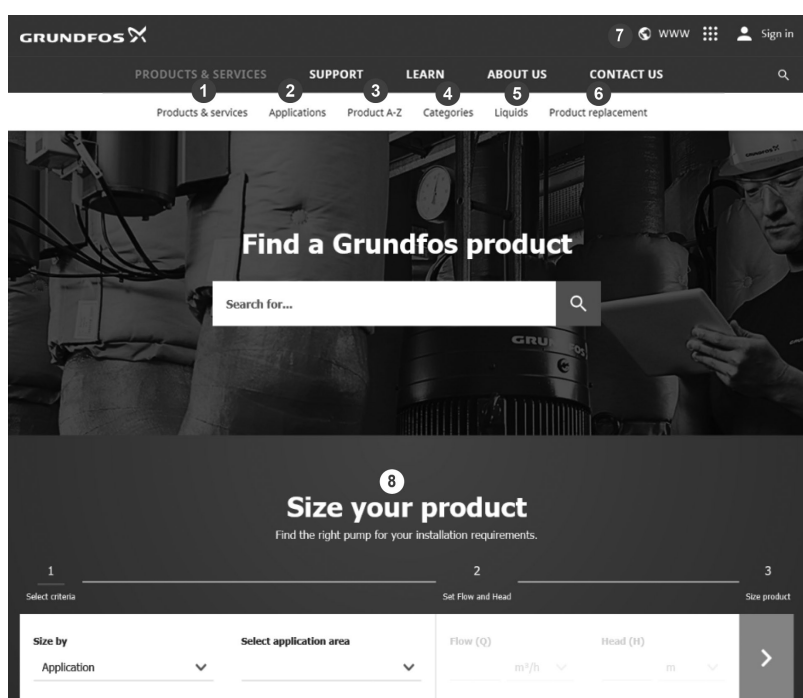
International view: <https://product-selection.grundfos.com>

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.



When you select your country, you will see the menus below. Note that some menus may not be available depending on the country.

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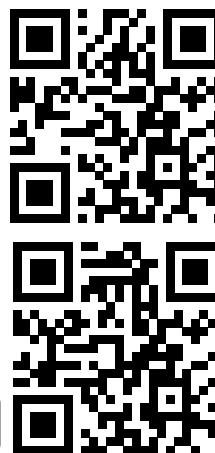
Pos.	Description
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2	Applications enables you to choose an application to see how Grundfos can help you design and optimise your system.
3	Products A-Z enables you to look through a list of all the Grundfos products.
4	Categories enables you to look for a product category.
5	Liquids enables you to find pumps designed for aggressive, flammable or other special liquids.
6	Product replacement enables you to find a suitable replacement.
7	WWW enables you to select the country, which changes the language, the available product range and the structure of the website.
8	Sizing enables you to size a product based on your application and operating conditions.

Grundfos GO

Mobile solution for professionals on the GO!

Grundfos GO is the mobile tool box for professional users on the go. It is the most comprehensive platform for mobile pump control and pump selection, including sizing,

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