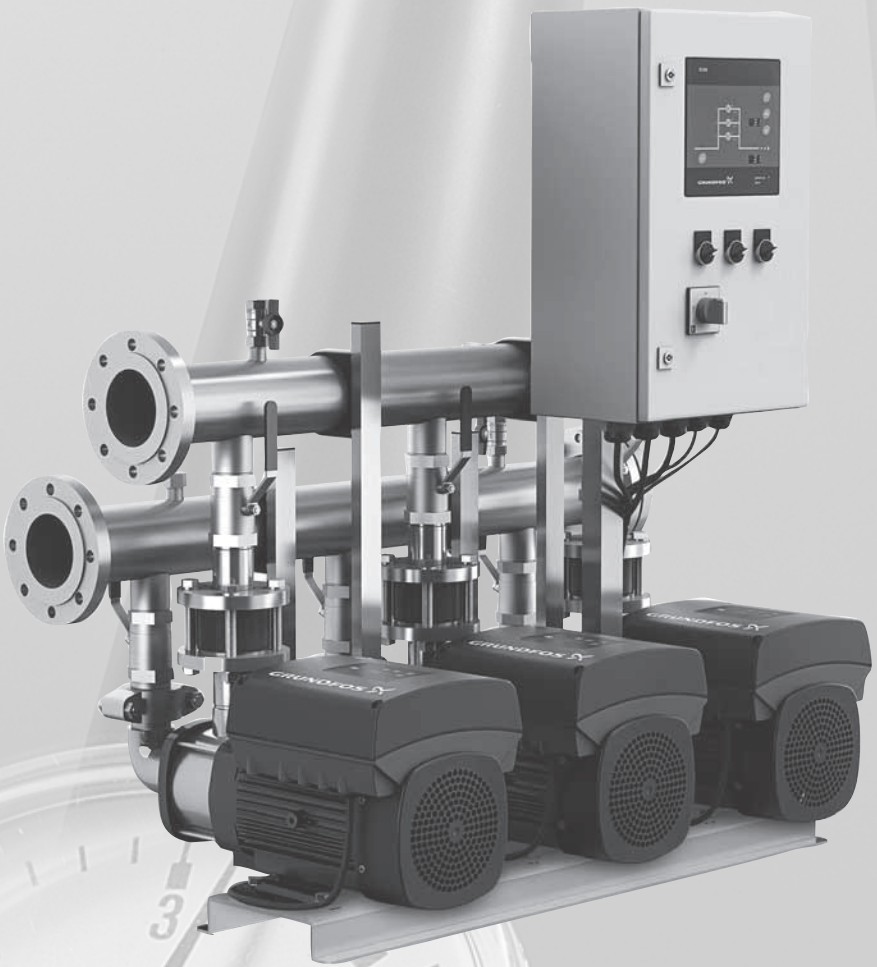
Hydro Multi-B

Booster systems with 2 or 3 pumps

60 Hz North America

CLASSIFIED
C UL US
WATER QUALITY
Drinking Water System Component
NSF / ANSI 61
NSF / ANSI 372



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1. Introduction

The Grundfos Hydro Multi-B booster systems are designed to maintain a constant pressure, regardless of flow fluctuations.

The system can be installed in buildings where the mains water supply does not deliver a sufficient pressure or is unstable.

The system is ideal for any clean-water pressure-boosting application where adaptability and user comfort are in focus.

Examples:

- office buildings
- apartment buildings
- hotels
- shopping centers
- hospitals
- schools.

As standard, the Hydro Multi-B booster systems consist of two or three CME pumps coupled in parallel and mounted on a common base frame with a control cabinet and all the necessary fittings.

The pumps are controlled in automatic cascade via the control cabinet. The CU 323 control unit controls the speed of the CME pumps and starts and stops the required number of CME pumps to adapt perfectly to the water demand of the application.

Benefits

Pressure boosting made simple

Hydro Multi-B is developed with focus on user-friendliness and ease of operation.

The pumps are controlled via the CU 323 control unit which features a simple interface that makes it easy to control and monitor the system.

When the system has been set up, the control unit takes care of the daily operation.

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Fig. 1 CU 323

Compact and designed to last

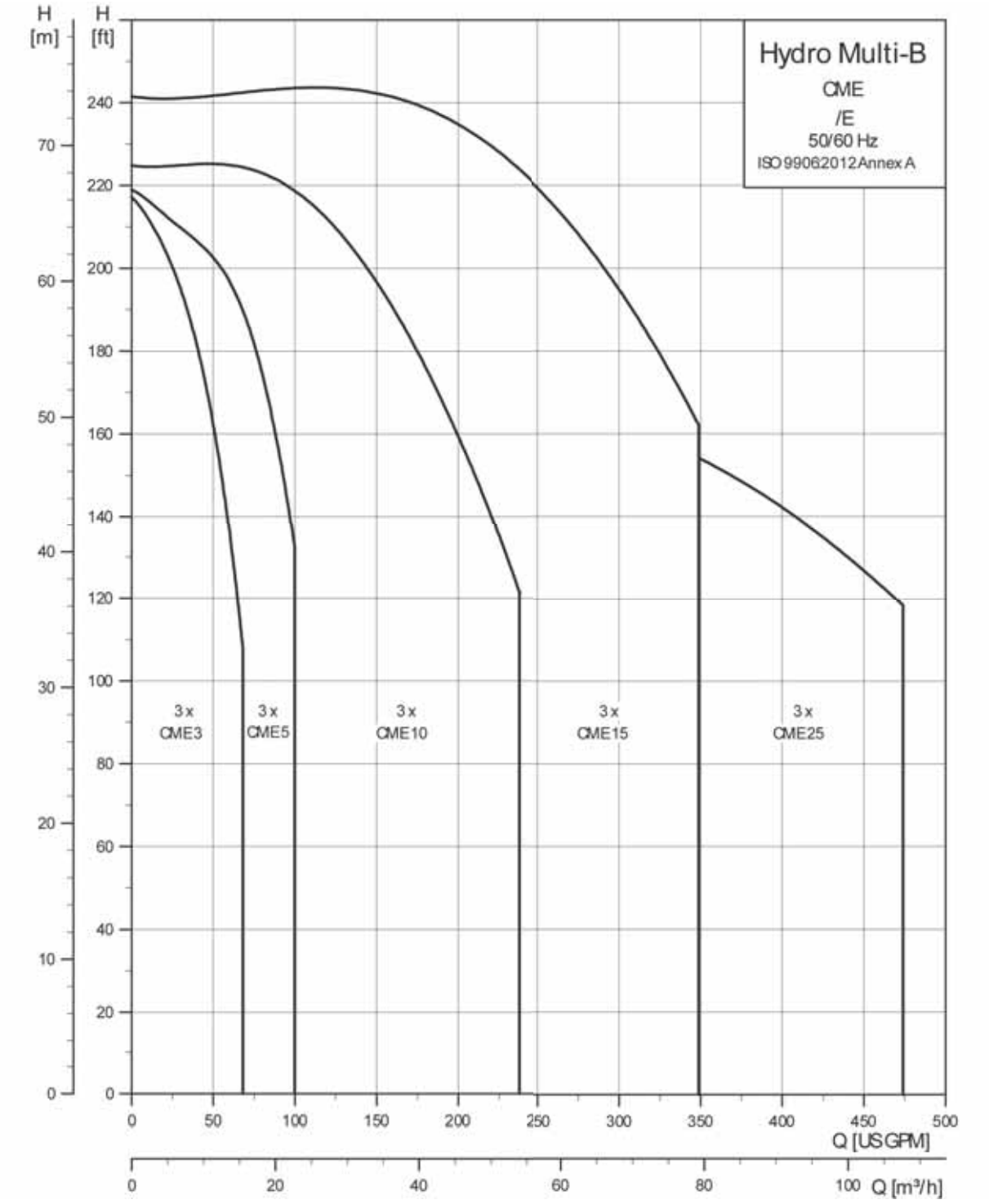
The components and design of Hydro Multi-B have been chosen with focus on robustness and compactness. The booster system offers the user all the benefits of a complete solution with a single supplier who takes the responsibility for the complete system.

Ready, Set, Pump

Grundfos does not compromise when it comes to quality. Therefore, every system is thoroughly tested before it leaves the factory. The system is completely assembled, tested and, after commissioning, is ready to pump as soon as it is connected to the water and power supplies.

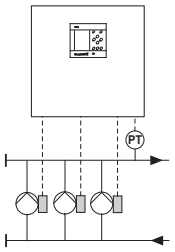
2. Product data

Performance range, 60 Hz



Note: The performance range is based on the standard range of the CME pumps.

Product range



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Control variant	Hydro Multi-B E
Hydraulic data	
Maximum head [ft. (m)]	231 (70)
Flow rate [gpm (m^3/h)]	0 to 475 (0 to 108)
Liquid temperature [°F (°C)]	0 to 140 (0 to +60)
Maximum operating pressure [psi (bar)]	145 (10)
Pump and motor data	
Number of pumps	2 or 3
Motor power [hp (kW)]	1.5 to 7.5 (1.1 to 5.5)
Shaft seal	
AQQE (SiC/SiC/EPDM)	•
Materials	
CM, CME 3 to CM, CME 25: A-version CI/304 SS	•
Manifold: 316 Stainless Steel Schedule 5S	•
Pipe connection	
NPT	1.5" to 2.5"
ANSI flange	3" and 4"
Approvals	
UL Listed - packaged pumping systems	Category QCZJ
NSF 61 - NSF 372	Drinking water system component approved
Functions	
Constant-pressure control	•
Pump cascade control	•
Automatic pump changeover	•
Stop function	•
Integrated frequency converter	•
Water shortage protection	•
CIM (Communication Interface Module)	❍
Redundant primary sensor	❍
Standby pumps	❍

• Available as standard.
❍ Can be configured with a PC Tool, available as an accessory.

Type key

Code	Example	Hydro Multi-B	E	2 CME 10-3 A	3 x 460 V, 60 Hz
	Type range				
E	**System variant** Two or three pumps with integrated frequency converter				
A	**Number of pumps with integrated frequency converter, pump type and pump material** Cast iron (EN-GJL-200)				
	Supply voltage, frequency				

Operating conditions

Maximum operating pressure

As standard, the maximum operating pressure is 145 psi (10 bar).

Temperatures

Liquid temperature: 0 °F to 140 °F (0 °C to +60 °C).

Ambient temperature: 0 °F to 104 °F (0 °C to +40 °C).

Relative humidity

Maximum 95 %.

3. Construction

Pump

The Grundfos CME pumps are non-self-priming, horizontal, multistage, end-suction centrifugal pumps. The pumps are of the close-coupled type.

CME pumps have an integrated frequency converter. CME pumps have mechanical shaft seals.

CME

Cast-iron version

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Fig. 2 Grundfos CME pumps

The compactness of Hydro Multi-B is achievable due to the unique combination of size and performance offered by the Grundfos CM, CME pumps. Certain dimensions of the CM, CME pumps are 30 % smaller than those of corresponding pumps with identical performance.

For further details on the pumps, see the following data booklets:

Title	Publication number
CM, CME	L-CM-PG-001 (98435269)
Grundfos E-pumps	L-ML-PG-001

Integrated variable frequency drive

The MLE motor (E-motor) fitted to the CME pumps used in the Hydro Multi-B systems incorporate an integrated variable frequency drive (VFD). The E-motors are permanent magnet motors and have a total efficiency (combined VFD and motor) that exceeds NEMA premium efficiency levels of motors alone.

Manifold

A 316 stainless-steel manifold is fitted on the inlet and outlet side of the pumps.

An isolating valve and a non-return valve are fitted between the outlet manifold and the individual pumps.

The inlet manifold is secured to the base frame by special supports that keep the manifold in the right position and ensure that no stress is transferred to the pumps.

Control cabinet and CU 323

The control cabinet contains all the necessary electrical components to control the pumps. The CU 323 control unit is located in the cabinet front.

CU 323 has two digital displays, two system indicator lights and three additional indicator lights per pump in the system. Furthermore, it has indicator lights for water shortage and sensor fault. CU 323 has four buttons plus one button per pump in the system.

The operating panel enables manual setting and change of parameters such as setpoint, start/stop of system or individual pumps, resetting of alarms and monitoring of system performance.

CU 323 comes with software for constant pressure boosting as standard.

Base frame

The Hydro Multi-B booster system has a common base frame. The pumps are secured to the base frame by bolts. The control cabinet is secured to the base frame by means of a stand.

System components

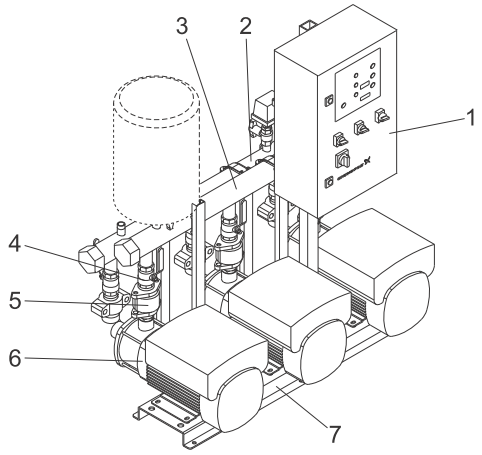


Fig. 3 Front view of the Hydro Multi-B booster system

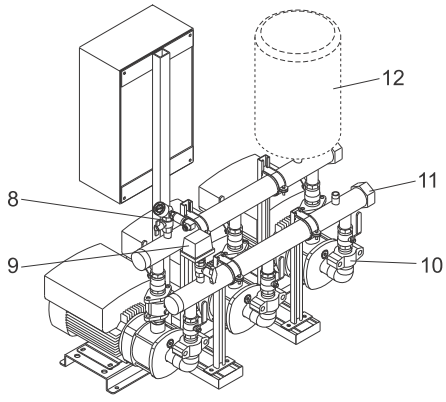


Fig. 4 Rear view of the Hydro Multi-B booster system

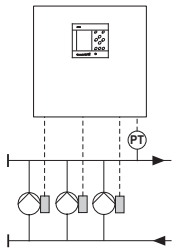
Pos.	Description	Quantity
1	Control cabinet	1
2	Inlet manifold (316 SS)	1
3	Outlet manifold (316 SS)	1
4	Isolating valve (nickel plated brass)	2 per pump
5	Non-return valve (Polyacetal (POM))	1 per pump
6	Pump (CME A-version CI/304 SS)	2-3
7	Base frame (304 SS)	1
8	Pressure transmitter and pressure gauge	1
9	Inlet pressure switch and pressure gauge	1
10	Oval flange connection (CME 3 - CME 10)	2 per pump
	Intermediate adapter connection (CME 15 & CME 25)	1 per pump
11	Screw cap or blanking flange	2
12	Optional diaphragm tank, available as an accessory	

4. Functions

Control variants

Control variant E

Two or three speed-controlled CME pumps



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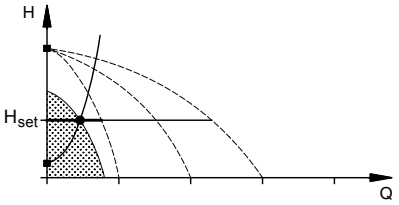
One CME pump in operation.



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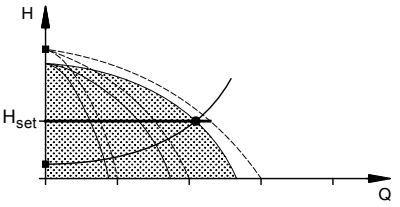
Three CME pumps in operation.



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- Control variant E for constant-pressure applications maintains a constant pressure through continuous adjustment of the speed of the pumps.
- The system performance is adjusted to the demand by cutting the required number of pumps in and out and through parallel speed control of the pumps in operation.
- Changeover among the pumps is automatic and depends on load, time and fault.

Overview of functions

	Constant-pressure boosting
Control variants	**E**
Functions via the CU 323 operating panel	
Pump cascade control	•
Automatic pump changeover	•
Standby pumps	❍
Redundant primary sensor	❍
Digital input for external start/stop relay	•
Water shortage protection	•
Alarm and operation outputs	•
Motor protection	•
Maximum pressure protection	•
Protection in case of sensor fault	•
Button lock function	•
Communication	
CIM module (CIM = Communication Interface Module)	❍
External GENIbus connection (option)	❍

• Standard.
❍ Requires a PC Tool or a service engineer to configure.

Description of selected functions

Pump cascade control

Hydro Multi-B automatically ensures that the required number of pumps are running so that the system demand is met in the most efficient way. Furthermore, the speed-controlled pumps in the system are ramped up and down according to the demand, thus offering perfect constant-pressure control.

Water shortage protection

The inlet pressure of the booster system or the level in a tank, if any, on the inlet side is monitored. If the inlet pressure or the water level is too low, all pumps will be stopped.

The pressure or level can be monitored by one of the following:

- float switch
- analog sensor
- external electrode relay
- pressure transmitter
- pressure switch. (standard).

Furthermore, the system can be set to be reset and restarted manually or automatically after a water shortage situation.

Stop function and low-flow mode

The stop function makes it possible to stop the last pump in operation if there is no or a very small consumption. This function also prevents heating of the pumped liquid.

The operation of Hydro Multi-B is continuously monitored to detect a low flow rate. If the CU 323 detects no or a low flow rate ($Q < Q_{min}$), it changes from normal constant-pressure operation to on/off control of the last pump in operation. As long as the flow rate is lower than Q_{min}, the pump runs in on/off operation. If the flow rate is increased to more than Q_{min}, the system returns to normal constant-pressure operation.

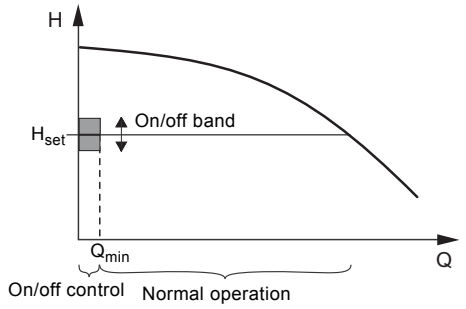

Fig. 5 On/off band

Automatic pump changeover

CU 323 automatically ensures an equal number of operating hours of the pumps by always cutting in the pump with the lowest number of operating hours. This function also ensures that, if a running pump fails, the next available pump is started.

Standby pumps

It requires a PC Tool to configure standby pumps.

This function makes it possible to limit the maximum performance of the Hydro Multi-B by selecting one or more pumps as standby pumps.

If a three-pump system has one standby pump, maximum two pumps are allowed to operate at a time.

If one of the two pumps in operation has a fault and is stopped, the standby pump will be started. The performance of the booster system is thus not reduced.

The status as standby pump alternates between all pumps.

This function is optional and available on request.

Note: This function must be configured by a Grundfos service engineer.

Protection functions

- Maximum number of starts and stops per hour
- minimum time between start and stop
- water shortage protection
- protection in case of sensor fault
- maximum-pressure alarms
- motor protection.

Communication options

Hydro Multi-B can be fitted with a communication module that enables it to communicate with a SCADA system or a mobile phone. The communication interface module (CIM) card is available as an accessory and can be installed in the CU 323 control unit.

5. Installation

Mechanical installation

Location

Install the Hydro Multi-B in a well ventilated room to ensure sufficient cooling of the control cabinet and pumps.

Note: The booster system is not designed for outdoor installation and must not be exposed to direct sunlight.

Place the booster system with a 3 ft. (0.9 m) clearance on all sides for inspection and removal.

Pipes

Arrows on the pump base show the direction of flow of water through the pump.

Note: The pipes connected to the booster system must be of adequate size.

Connect the pipes to the manifolds of the booster system. Either end can be used. Apply sealing compound to the unused end of the manifold, and fit the screw cap. For manifolds with flanges, fit a blanking flange with gasket.

We recommend that you fit pipe supports for the inlet and outlet pipes. See fig. 6.

If booster systems are installed where the first consumer on the line is close to the booster system, we recommend that you fit expansion joints on the inlet and outlet pipes to prevent that vibrations are transmitted through the pipes.

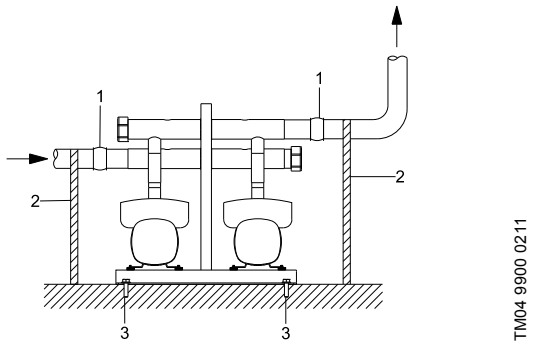

Fig. 6 Example showing the position of expansion joints, pipe supports and mounting bolts

Pos.	Description
1	Expansion joint (recommended accessory) (Good location for system isolating valves.)
2	Pipe support
3	Mounting bolt

Note: Expansion joints, pipe supports and mounting bolts shown in fig. 6 above are not included in a standard booster system.

Fasten the pipes to parts of the building to ensure that they cannot move or be twisted.

Foundation

Position the booster system on an even and solid surface, such as a concrete floor or foundation. Bolt the booster system to the floor or foundation.

Note: As a rule of thumb, the weight of a concrete foundation must be 1.5 times the weight of the booster system.

Expansion joints

Expansion joints provide these advantages:

- absorption of thermal expansion and contraction of pipes caused by variations in liquid temperature.
- reduction of mechanical influences in connection with pressure surges in the pipes.
- isolation of structure-borne noise in the pipes (only rubber bellows expansion joints).

Note: Do not fit expansion joints to compensate for inaccuracies in the pipes, such as center displacement of flanges.

Fit expansion joints at a distance of minimum 1 to 1.5 times the nominal flange diameter from the manifold on the inlet as well as on the outlet side. This prevents the development of turbulence in the expansion joints, resulting in better inlet conditions and a minimum pressure loss on the outlet side.

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Fig. 7 Examples of rubber bellows expansion joints with and without limiting rods

Expansion joints with limiting rods can be used to minimize the forces caused by the expansion joints. We recommend that you always use expansion joints with limiting rods for flanges larger than 4".

Anchor the pipes so that they do not stress the expansion joints, manifolds and the pump. Follow the supplier's instructions and pass them on to advisers or pipe installers.

Electrical installation

The electrical installation must be carried out by an authorized person in accordance with local regulations and the relevant wiring diagram.

- The electrical installation of the booster system must be carried out in accordance with enclosure class UL type 3R.
- Check that the power supply and frequency correspond to the values stated on the nameplate. Contact Grundfos if you have special voltage requirements.
- Make sure that the wire cross-section meets the specifications in the wiring diagram.

6. Sizing

When sizing a booster system, take the following parameters into account:

- The performance of the booster system must meet the highest possible demand, both in terms of flow rate and pressure.
- The booster system must not be oversized. This is important in relation to installation and operating costs.

You can size Grundfos Hydro Multi-B booster systems via Grundfos Product Center or this data booklet.

Sizing in Grundfos Product Center

We recommend that you size your Hydro Multi-B booster system in Grundfos Product Center, which is a selection program offered by Grundfos. For further information, see page 28.

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

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Fig. 8 Sizing in Grundfos Product Center

Sizing via this data booklet

There are seven steps:

1. maximum flow requirement
2. required outlet pressure
3. system layout
4. consumption profile and load profile
5. inlet pressure
6. selection of booster system
7. accessories.

Selection of diaphragm tank

We recommend that the Hydro Multi-B booster sets are equipped with a diaphragm tank due to the stop function. Hydro Multi-B systems with the following pump types on system have the corresponding recommended diaphragm tank size:

Recommended diaphragm tank size	
Pump type	**Tank size [gal (L)]**
CME 3	4.4 (17)
CME 5	4.4 (17)
CME 10	10.3 (39)
CME 15	34 (129)
CME 25	34 (129)

1. Maximum flow requirement

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

Consumer	Unit	Qyear	Consumption period	Qday	fd	Q(m)day	ft (m)	Maximum flow rate
		gal/year	days/year	gal/day		gal/day		gpm (m^3/h)
Residence building	Residence (2.5 persons)	48,343.5	365	132.4	1.3	172.1	0.51 (1.7)	0.203 (0.046)
Office building	Employee	6,604.3	250	26.4	1.2	31.7	1,10(3.6)	0.8 (0.181
Shopping center	Employee	6,604.3	300	22.0	1.2	26.4	1,31(4.3)	0.078 (0.017)
Supermarket	Employee	21,133.8	300	70.4	1.5	105.6	0,91(3.0)	0.22 (0.049)
Hotel	Bed	47,551	365	130.3	1.5	195.5	1,22(4.0)	0.54 (0.122)
Hospital	Bed	79,251.6	365	217.1	1.2	260.5	0,91(3.0)	0.54 (0.122)
School	Pupil	2,113.4	200	10.6	1.3	13.8	0,76(2.5)	0.023 (0.005)

fd: Maximum consumption factor, day
ft: Maximum consumption factor, hour

Example: Hotel with 540 beds

Number of beds: n.
Total annual consumption: Qyear x n.
Consumption period: d.
Average consumption per day: (Qyear x n)/d.
Maximum consumption per day: Q(m)day = fd x Qday.
Maximum flow requirement per hour: Qmax = maximum flow rate/hour x the number of beds.

Calculation

n = 540 beds.
Qyear x n = 47,551 x 540 = 25,677,540 gal/year.
d = 365 days/year.
(Qyear x n)/d = 25,677,540/365 = 70,349.4 gal/day.
Q(m)day = fd x Qday = 1.5 x 70,349.4 = 105,524.1 gal/day.
Qmax = Maximum flow rate/min x number of beds = 0.54 x 540 = 292 gpm (66.32 m^3h).

2. Required outlet pressure

The required outlet pressure, p_{set}, of the Hydro Multi-B can be calculated from the following formula:

$p_{set} = p_{tap(min)} + (p_f/2.31) + (h_{max}/2.31)$

$p_{boost} = p_{set} - p_{in(min)}$

Key

p_{set} = Required outlet pressure [psi (bar)].

$p_{tap(min)}$ = Required minimum pressure at the highest tapping point [psi (bar)].

p_f = Total pipe friction loss [ft (m)].

h_{max} = Height from booster outlet port to highest tapping point [ft (m)].

$p_{in(min)}$ = Minimum inlet pressure [psi (bar)].

p_{boost} = Required boost [psi (bar)].

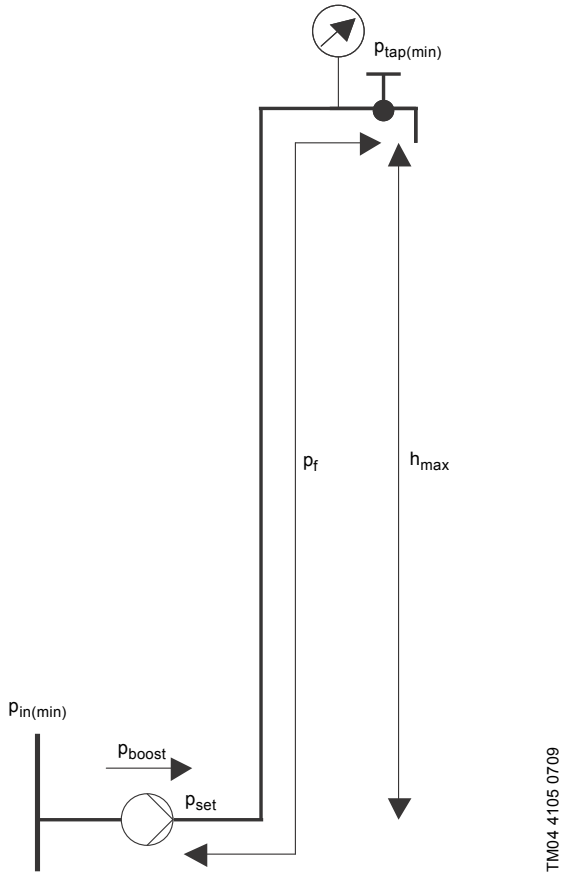

Fig. 9 Calculation of required outlet pressure

Calculation

$p_{tap(min)}$ = 45 psi (3 bar)

p_f = 25 ft. (7.62 m)

h_{max} = 50 ft. (15.24 m)

$p_{in(min)}$ = 30 psi (2 bar)

p_{set} = 45 + (25/2.31) + (50/2.31) = **77.5 psi (5 bar)**

p_{boost} = 77.5 - 30 = 47.5 psi (3.2 bar)

5. Inlet pressure

The inlet pressure must be taken into consideration to ensure safe operation.

The values for inlet pressure and operating pressure must not be considered individually, but must always be compared.

6. Selection of booster system

Select the booster system on the basis of these factors: maximum flow requirement, required outlet pressure, load profile, number of pumps required and any standby pumps

7. Accessories

When the optimum Hydro Multi-B booster system has been selected, consider whether accessories are required.

Water shortage protection

Any booster system must be protected against water shortage.

The inlet conditions determine the type of water shortage protection to be used:

- If the system draws water from a tank or well, select a float switch, analog sensor or external electrode relay.
- If the system has an inlet pressure, select a pressure transmitter or a pressure switch.

Understanding the curve charts

The x-axis showing the flow rate (Q) in gpm and m^3/h is common to all the curves; the y-axis showing the head (H) in ft. and m has been adapted to the individual pump type.

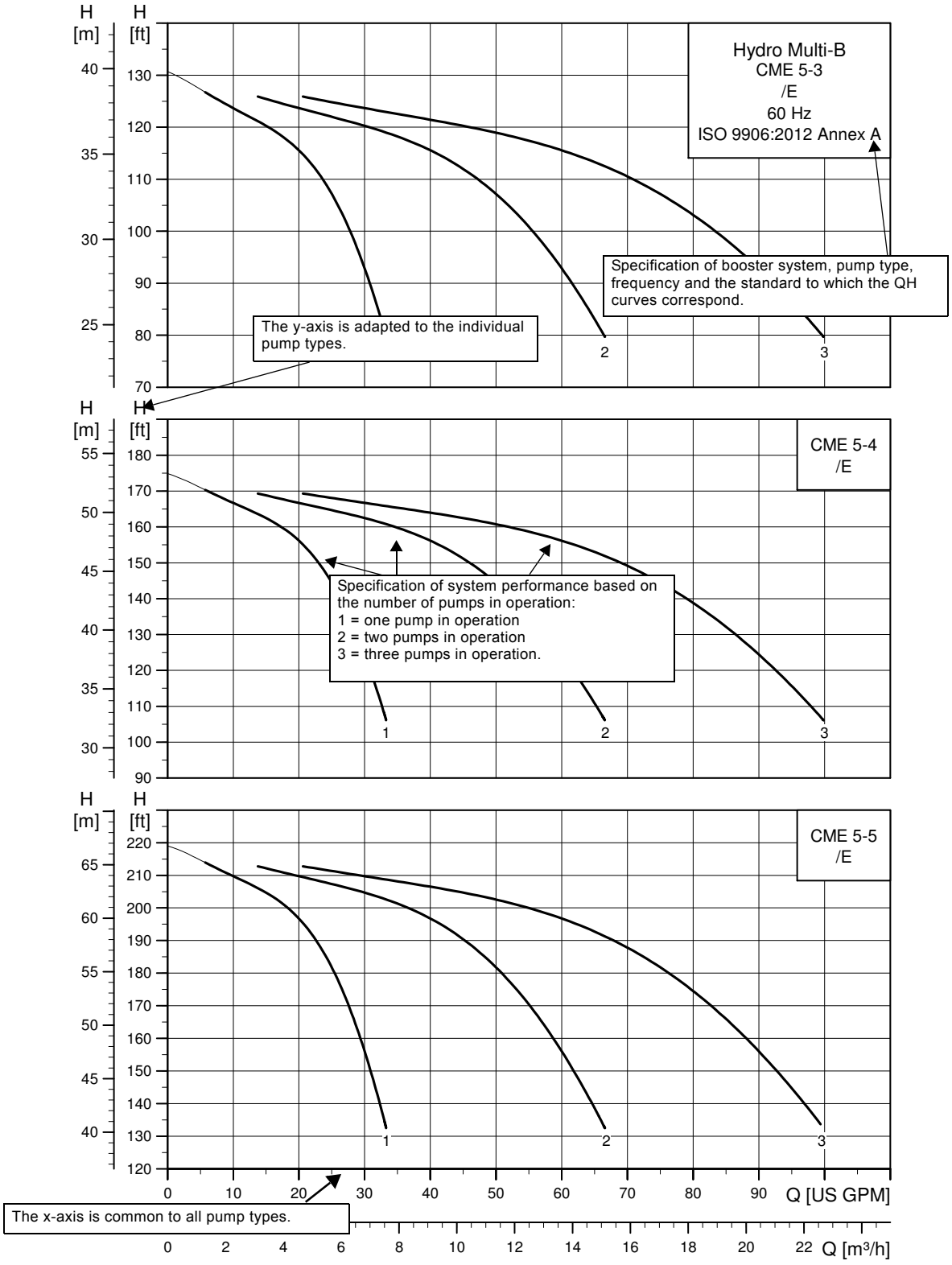

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Fig. 10 Understanding the curve charts

How to select a system, example

- A flow rate of 312 gpm (70.9 m^3/h) is required.
- A head of 175 ft (53.34 m) is required.

Draw a vertical line from the specified flow rate.

Draw a horizontal line from the head required.

The intersection of the two lines gives the number of pumps required for the system, i.e. three CME 15-3 pumps.

The pump type best meeting this specification is found by means of the y-axis, for instance three CME 15-3 pumps.

Select only booster systems with performance ranges within the hatched area in the example.

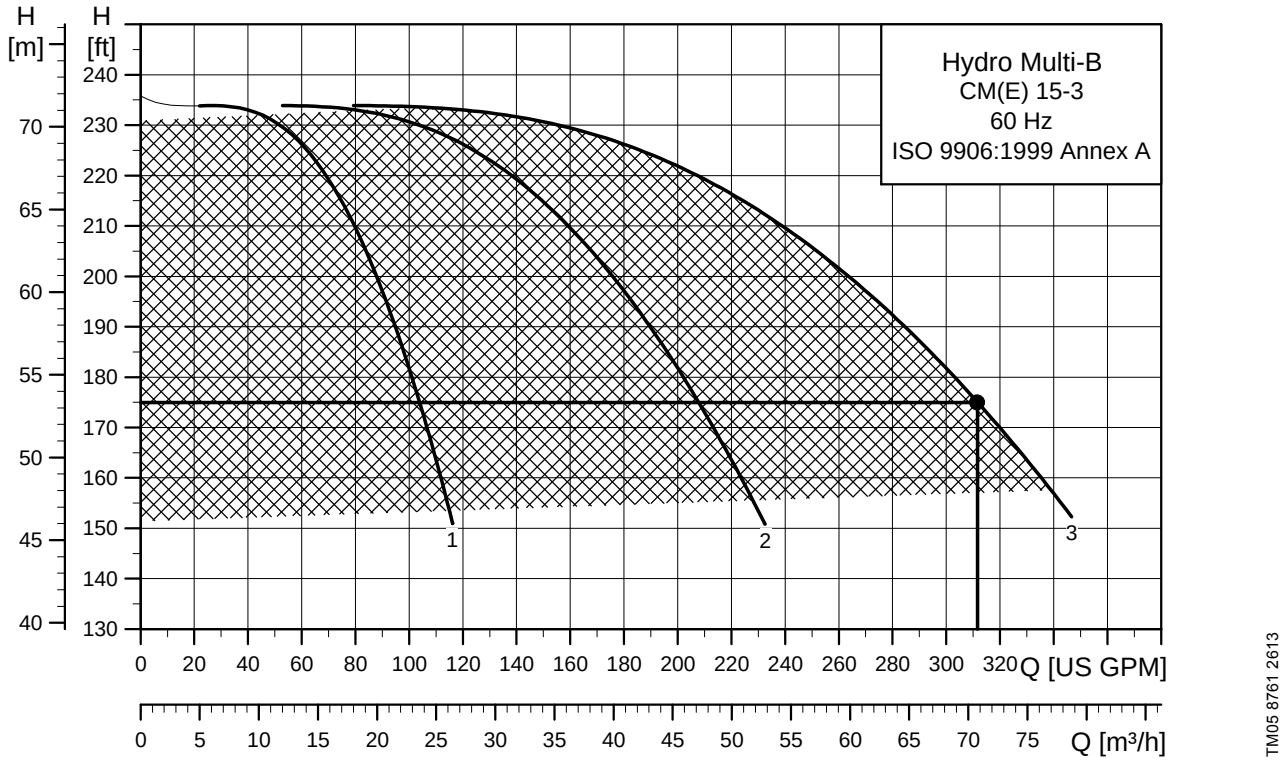


Fig. 11 Example of selection of system

7. Curve conditions

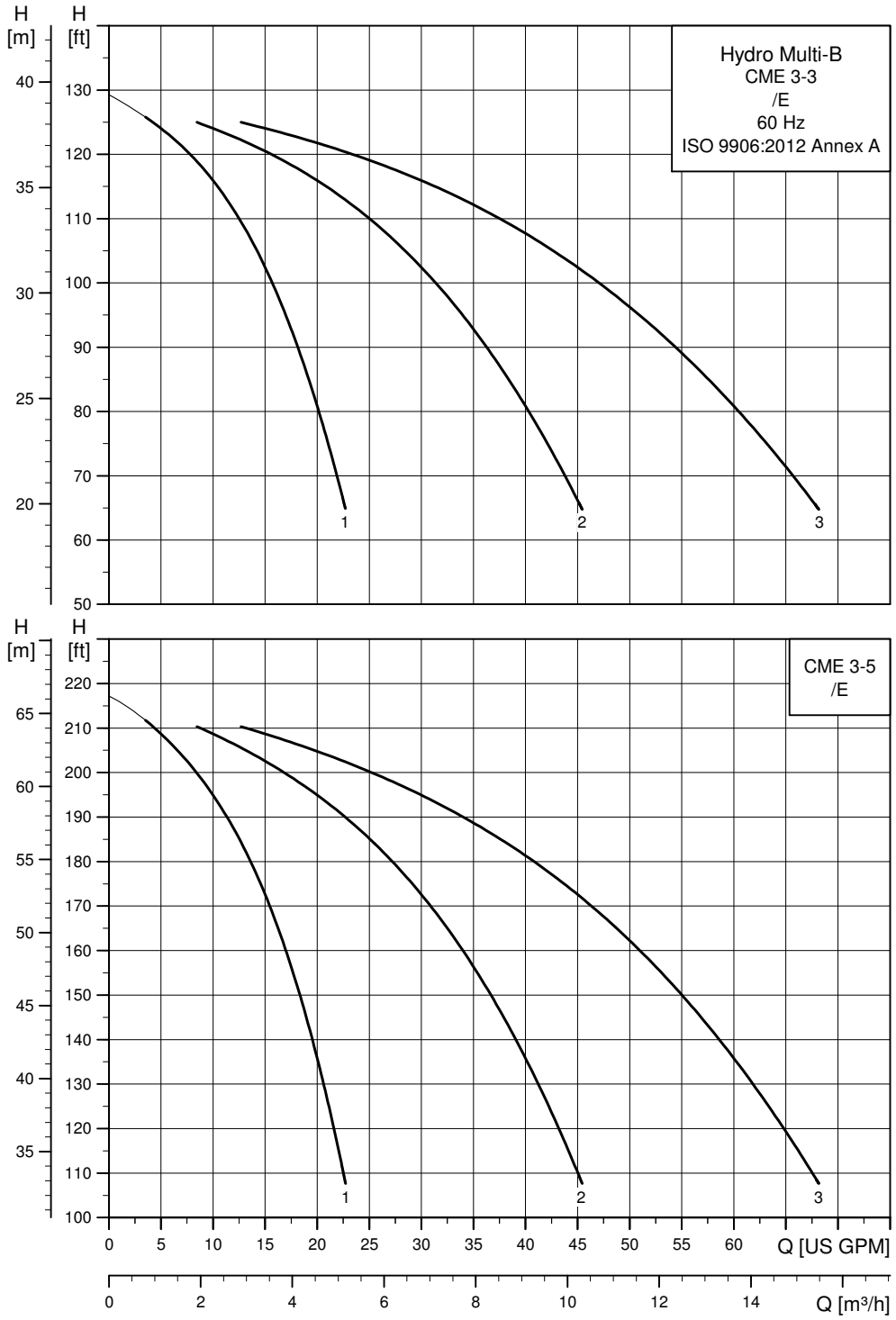
How to read the curve charts

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

- Tolerances to ISO 9906, Annex A, if indicated.
- Measurements have been made with airless water at a temperature of 68 °F (+20 °C).
- The curves apply to the following kinematic viscosity: υ = 1 mm^2/s (1 cSt).
- The QH curves apply to fixed speed 3480 min^{-1} (60 Hz).
  Note: Please refer to Grundfos Product Center for pump curves which include the characteristic of the selected motor. In Grundfos Product Center, you can also adjust the curves, depending on the density and viscosity.

8. Performance curves

Hydro Multi-B E with CME 3



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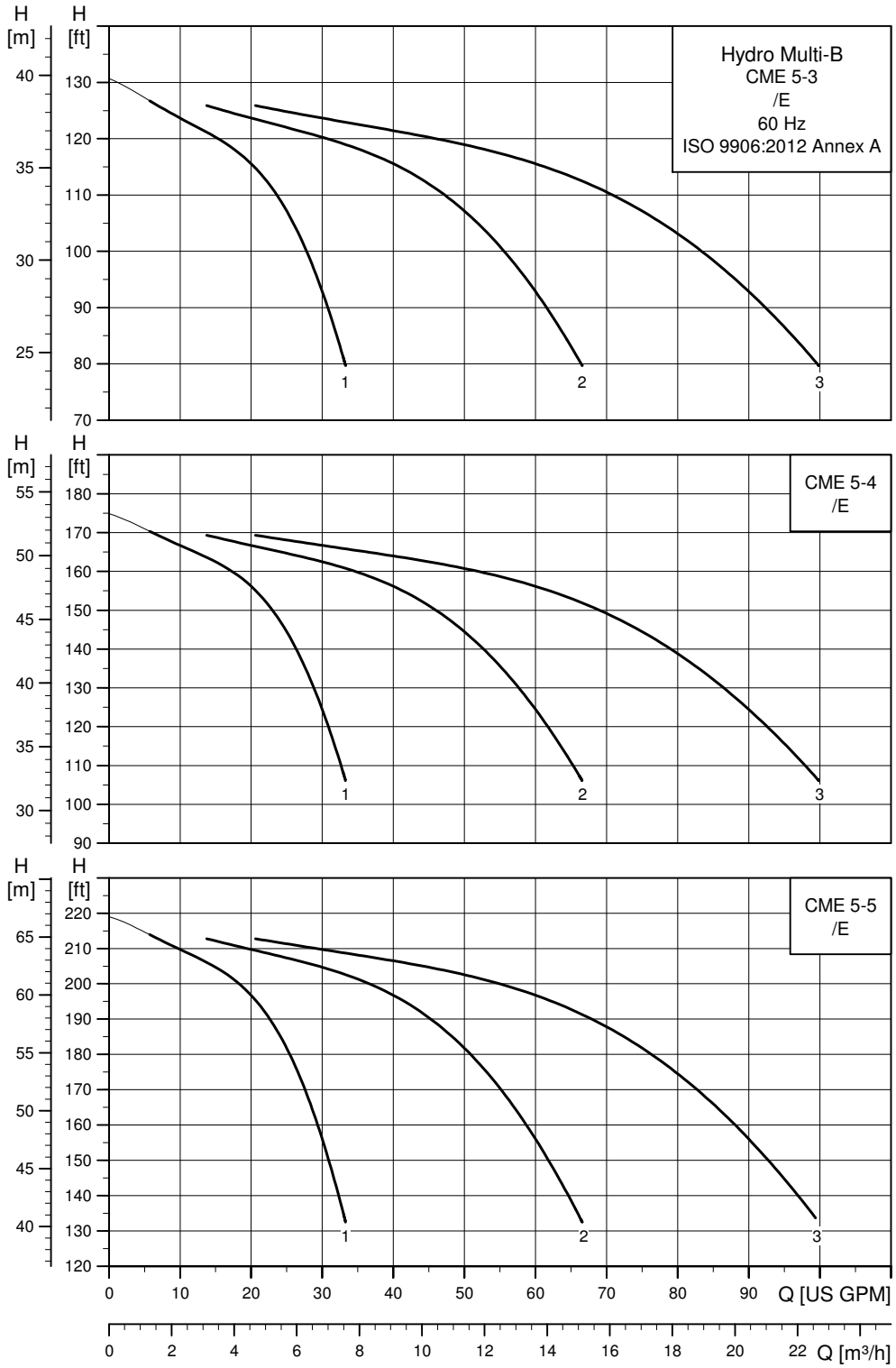
Hydro Multi-B E with CME 5



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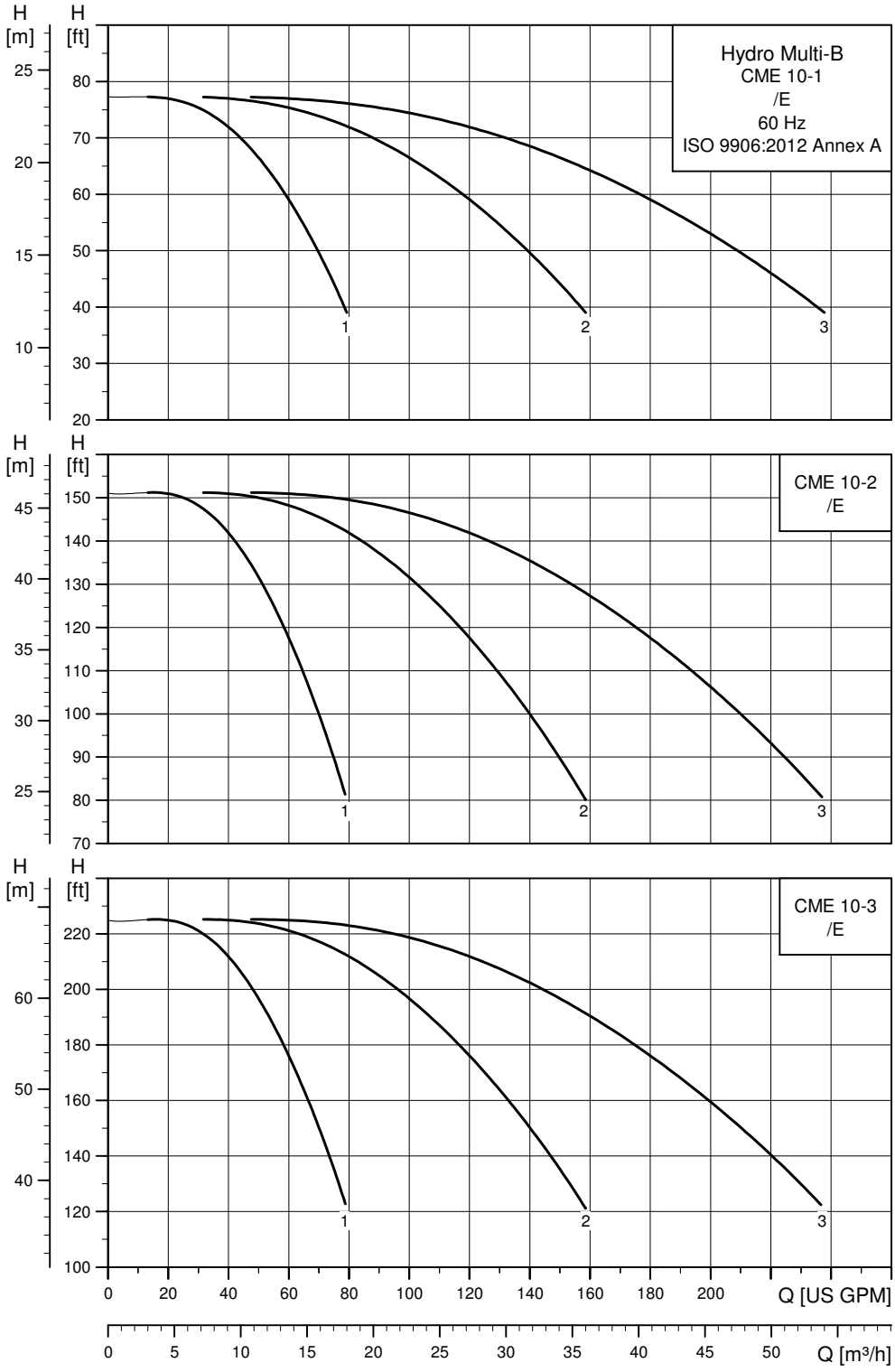
Hydro Multi-B E with CME 10



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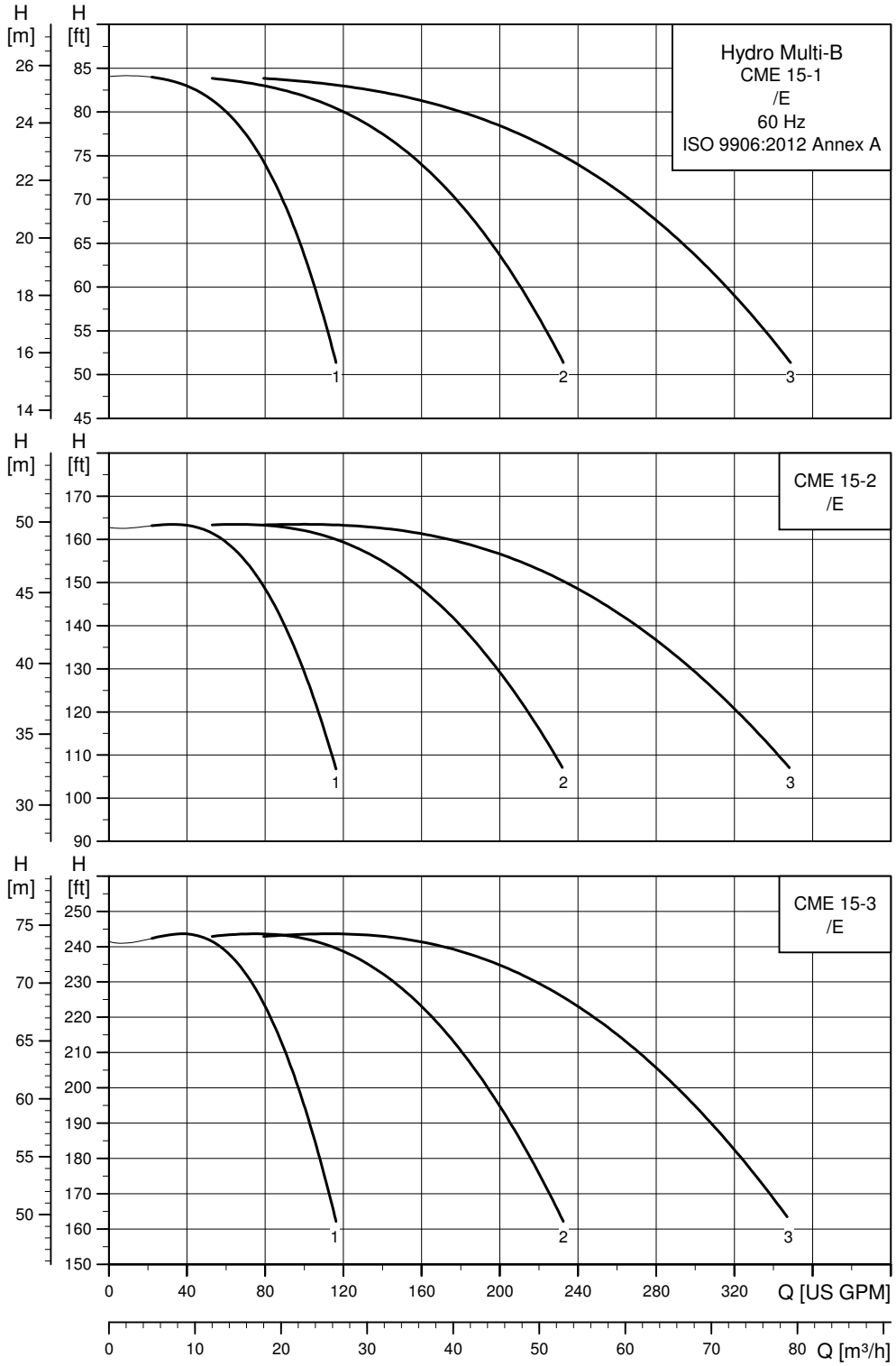
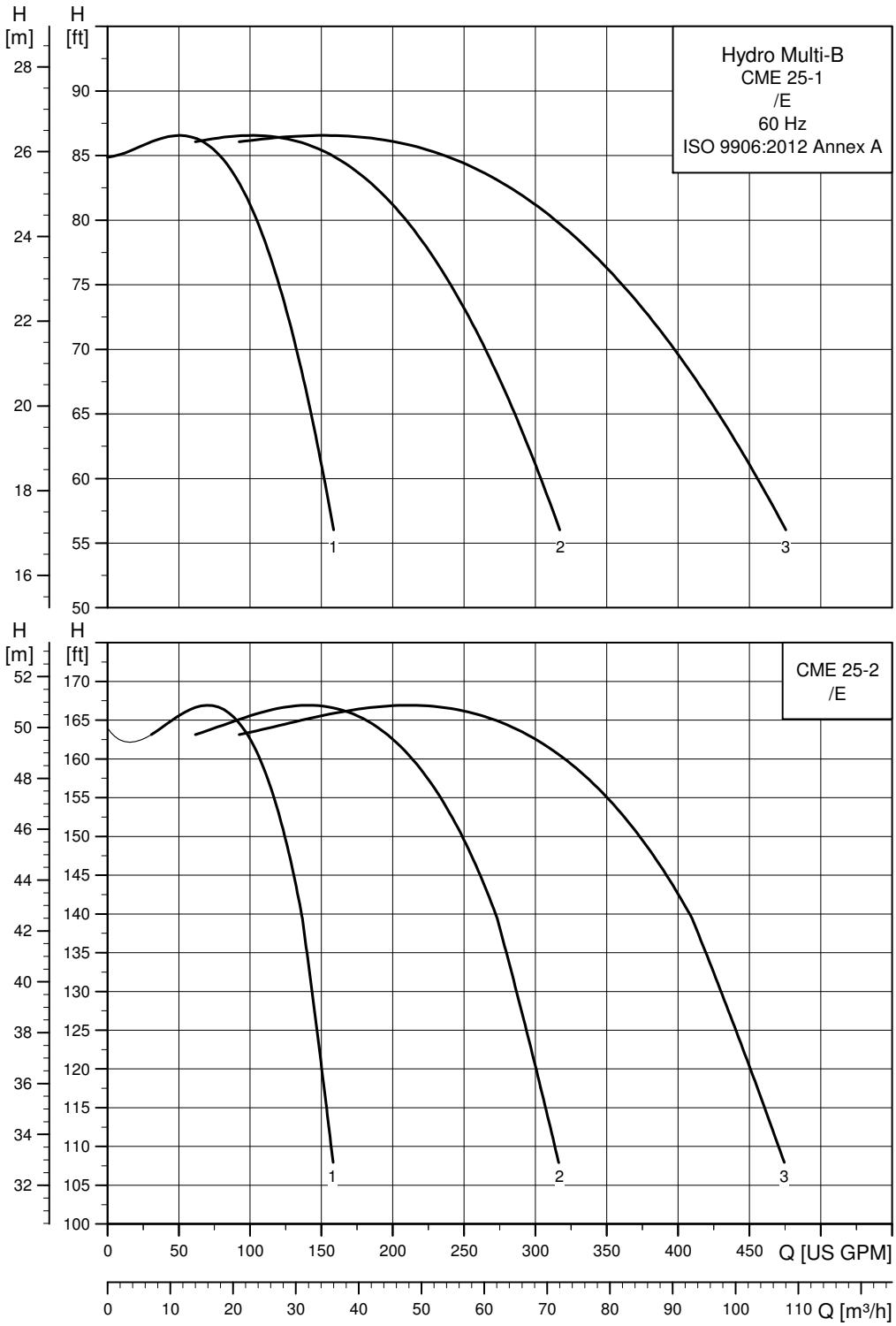
Hydro Multi-B E with CME 15



TM05 8765 3517

Hydro Multi-B E with CME 25



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9. Technical data

Dimensional sketches

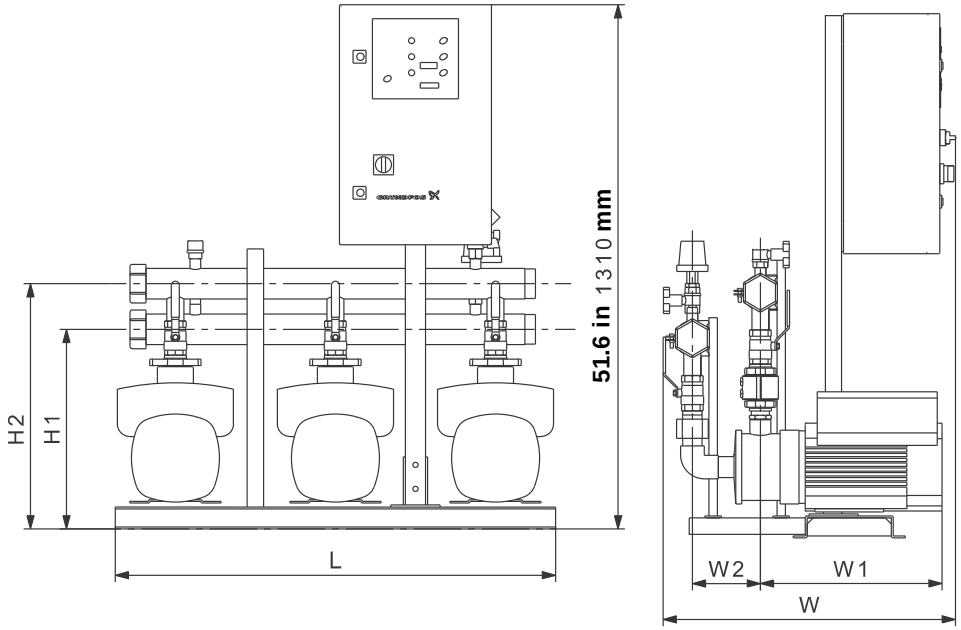


Fig. 12 Hydro Multi-B booster system with three CM, CME pumps

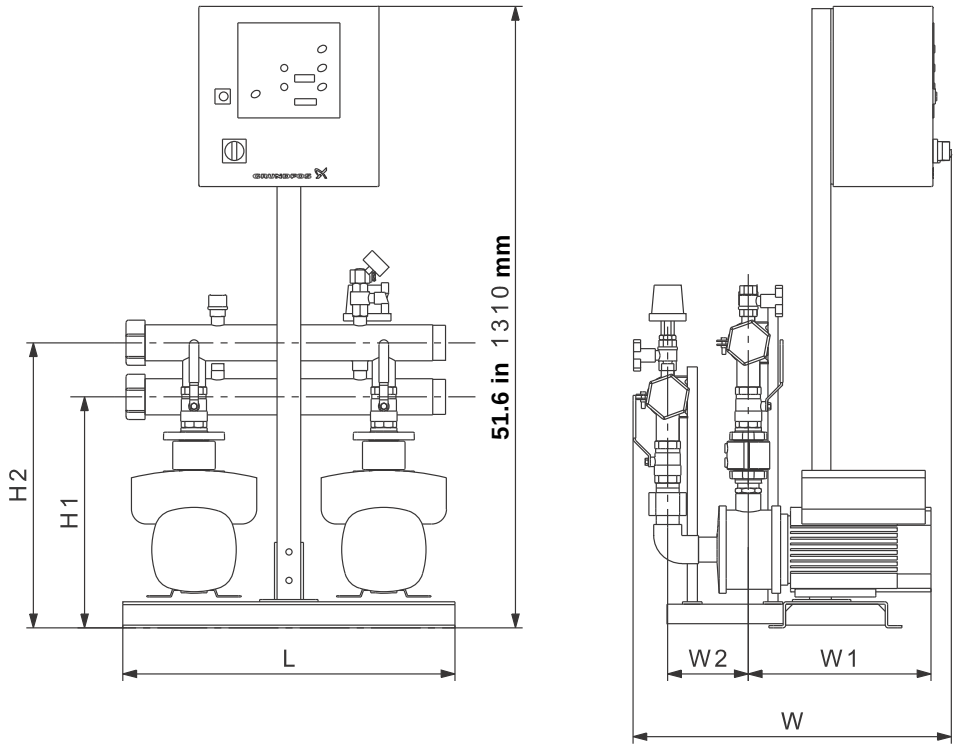


Fig. 13 Hydro Multi-B booster system with two CM, CME pumps

Hydro Multi-B E with CME 3

No. of pumps	Pump type	Motor [hp (kW)]	Voltage code	FLA [Amps] U1 / U2 / U3	Connection size [in]	L [in (mm)]	W [in (mm)]	W1 [in (mm)]	W2 [in (mm)]	H1 [in (mm)]	H2 [in (mm)]	Tank [gal (L)]	Wt. [lbs (kg)]
2	CME 3-3	1.5 (1.1)	U1	20.2	2" NPT	27.6 (701)	23.9 (607)	18.4 (467)	5.9 (150)	18.1 (460)	23.9 (607)	4.4 (17)	175 (79)
	CME 3-5	1.5 (1.1)	U1	20.2		27.6 (701)	26.2 (665)	19.9 (505)	7.3 (185)	18.1 (460)	23,9 (607)	4.4 (17)	178 (81)
3	CME 3-3	1.5 (1.1)	U1	29.3	2" NPT	43.3 (1099)	22.9 (582)	18.4 (467)	5.9 (150)	18.1 (460)	23,9 (607)	4.4 (17)	242 (110)
	CME 3-5	1.5 (1.1)	U1	29.3		43.3 (1099)	24.4 (620)	19.9 (505)	7.3 (185)	18.1 (460)	23,9 (607)	4.4 (17)	244 (111)

Hydro Multi-B E with CME 5

No. of pumps	Pump type	Motor [hp (kW)]	Voltage code	FLA [Amps] U1 / U2 / U3	Connection size [in]	L [in (mm)]	W [in (mm)]	W1 [in (mm)]	W2 [in (mm)]	H1 [in (mm)]	H2 [in (mm)]	Tank [gal (L)]	Wt. [lbs (kg)]
2	CME 5-3	1.5 (1.1)	U1	20,2	2" NPT	27.6 (701)	25.9 (658)	20.4 (518)	7.5 (191)	19.3 (490)	24.2 (615)	4.4 (17)	175 (79)
	CME 5-4	2 (1.4)	U1, U2, U3	20.2 / 17.8 / 9.6		26.6 (676)	25.5 (648)	20.4 (518)	7,5 (191)	19.3 (490)	25.7 (653)	4.4 (17)	200 (91)
	CME 5-5	2 (1.4)	U2, U3	17.8 / 9,6		27.6 (701)	26.4 (671)	20.9 (518)	8,4 (213)	19.3 (490)	25.7 (653)	4.4 (17)	202 (92)
3	CME 5-3	1.5 (1.1)	U1	29.3	2" NPT	43.3 (1099)	24.9 (632)	20.4 (518)	7,5 (191)	19.3 (490)	24.2 (615)	4.4 (17)	242 (110)
	CME 5-4	2 (1.4)	U1, U2, U3	29.3 / 25.7 / 13.4		43.3 (1099)	24.6 (625)	20.4 (518)	7,5 (191)	19.3 (490)	25.7 (653)	4.4 (17)	279 (127)
	CME 5-5	2 (1.4)	U2, U3	25.7 / 13.4		43.3 (1099)	25.4 (645)	20.9 (518)	8,4 (213)	19.3 (490)	25.7 (653)	4.4 (17)	282 (128)

Hydro Multi-B E with CME 10

No. of pumps	Pump type	Motor [hp (kW)]	Voltage code	FLA [Amps] U1 / U2 / U3	Connection size [in]	L [in (mm)]	W [in (mm)]	W1 [in (mm)]	W2 [in (mm)]	H1 [in (mm)]	H2 [in (mm)]	Tank [gal (L)]	Wt. [lbs (kg)]
2	CME 10-1	1.5 (1.1)	U1	20.2	2.5" NPT	27.6 (701)	25.0 (635)	20,9 (518)	7.4 (188)	21.5 (546)	27,5 (699)	10.3 (39)	238 (108)
	CME 10-2	3 (2.2)	U2, U3	17.8 / 9.6		27.6 (701)	26,8 (681)	25,2 (640)	7.4 (188)	21.5 (546)	27.5 (699)	10.3 (39)	264 (120)
	CME 10-3	5 (3.7)	U2, U3	42.0 / 20.2		27.6 (701)	29,3 (744)	28,8 (732)	8.6 (218)	22.0 (559)	27.9 (709)	10.3 (39)	405 (184)
3	CME 10-1	1.5 (1.1)	U1	29.3	2.5" NPT	43.3 (1099)	25.4 (645)	20,9 (518)	7.4 (188)	21.5 (546)	27.5 (699)	10.3 (39)	334 (152)
	CME 10-2	3 (2.2)	U2, U3	25.7 / 13.4		43.3 (1099)	26,3 (668)	25,2 (640)	7.4 (188)	21.5 (546)	27.5 (699)	10.3 (39)	373 (169)
	CME 10-3	5 (3.7)	U2, U3	62.0 / 29.3		43.3 (1099)	28,8 (732)	28,8 (732)	8.6 (218)	22.0 (559)	27.9 (709)	10.3 (39)	585 (265)

Hydro Multi-B E with CME 15

No. of pumps	Pump type	Motor [hp (kW)]	Voltage code	FLA [Amps] U1 / U2 / U3	Connection size [in]	L [in (mm)]	W [in (mm)]	W1 [in (mm)]	W2 [in (mm)]	H1 [in (mm)]	H2 [in (mm)]	Tank [gal (L)]	Wt. [lbs (kg)]
2	CME 15-1	3 (2.2)	U2, U3	17.8 / 9.6	3" ANSI 150#	27.6 (701)	30.4 (772)	27.7 (704)	9.6 (244)	23.6 (599)	28.5 (723)	34.0 (129)	300 (136)
	CME 15-2	5 (3.7)	U2, U3	42.0 / 20.2		27.6 (701)	31.0 (787)	30.1 (765)	9.6 (244)	23.6 (599)	28.5 (723)	34.0 (129)	441 (200)
	CME 15-3	7.5 (5.5)	U2, U3	42.0 / 20.2		27.6 (701)	32.1 (815)	31.3 (795)	9.6 (244)	23.6 (599)	28.5 (723)	34.0 (129)	460 (209)
3	CME 15-1	3 (2.2)	U2, U3	25.7 / 13.4	4" ANSI 150#	43.3 (1099)	29.4 (747)	27.7 (704)	9.6 (244)	22.7 (577)	27.0 (685)	34.0 (129)	443 (200)
	CME 15-2	5 (3.7)	U2, U3	62.0 / 29.3		43.3 (1099)	30.7 (780)	30.1 (765)	9.6 (244)	23.2 (589)	27.5 (698)	34.0 (129)	654 (297)
	CME 15-3	7.5 (5.5)	U2, U3	62.0 / 29.3		43.3 (1099)	31.9 (810)	31.3 (795)	10.8 (274)	23.2 (589)	27.5 (698)	34.0 (129)	683 (310)

Hydro Multi-B E with CME 25

No. of pumps	Pump type	Motor [hp (kW)]	Voltage code	FLA [Amps] U1 / U2 / U3	Connection size [in]	L [in (mm)]	W [in (mm)]	W1 [in (mm)]	W2 [in (mm)]	H1 [in (mm)]	H2 [in (mm)]	Tank [gal (L)]	Wt. [lbs (kg)]
2	CME 25-1	5 (3.7)	U2, U3	42.0 / 20.2	4" ANSI 150#	27.6 (701)	31.3 (795)	30.1 (765)	9,6 (244)	23.2 (589)	27.5 (698)	34.0 (129)	483 (219)
	CME 25-2	7.5 (5.5)	U2, U3	42.0 / 20.2		27.6 (701)	30,6 (777)	30.2 (767)	10,8 (274)	23.2 (589)	27.5 (698)	34.0 (129)	503 (228)
3	CME 25-1	5 (3.7)	U2, U3	62.0 / 29.3	4" ANSI 150#	43.3 (1099)	30,7 (780)	30.1 (765)	9,6 (244)	23.2 (589)	27.5 (698)	34.0 (129)	650 (295)
	CME 25-2	7.5 (5.5)	U2, U3	62.0 / 29.3		43.3 (1099)	30,8 (782)	30.2 (767)	9,6 (244)	23.2 (589)	27.5 (698)	34.0 (129)	679 (308)

E system with two or three CME pumps.
Voltage code U1: 1 x 208-230 V - 10 %/+ 10 %, N, PE.
Voltage code U2: 3 x 208-230 V - 5 %/+ 5 %, N, PE.
Voltage code U3: 3 x 460-480 V - 10 %/+ 10 %, N, PE.
Dimensions may vary by ± 1 in.

10. Accessories

CIM communication module

CU 323 can be connected to an external communication network via an add-on fieldbus Communication Interface Module (CIM).

Module	Fieldbus protocol	Location	Product number
CIM 050	GENIbus	In the CU 323	96824631
CIM 110	LonWorks		96824798
CIM 200	Modbus RTU		96824796
CIM 250	GSM		96824795
CIM 300	BACnet MS/TP		96893770
CIM 500	Modbus TCP		98301408

For further information about communication via CIM , data transfer and fieldbus protocols, see the CIM documentation available on www.grundfos.com (Grundfos Product Center).

Additional documentation

The publication numbers below refer to the printed documentation for Hydro Multi-B, Group versions.

Document	Publication number
Installation and operating instructions	98504518
Quick guide	98515759

In addition to the printed documentation, Grundfos offers product information in Grundfos Product Center at www.grundfos.com. See also page 28.

11. Grundfos Product Center

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

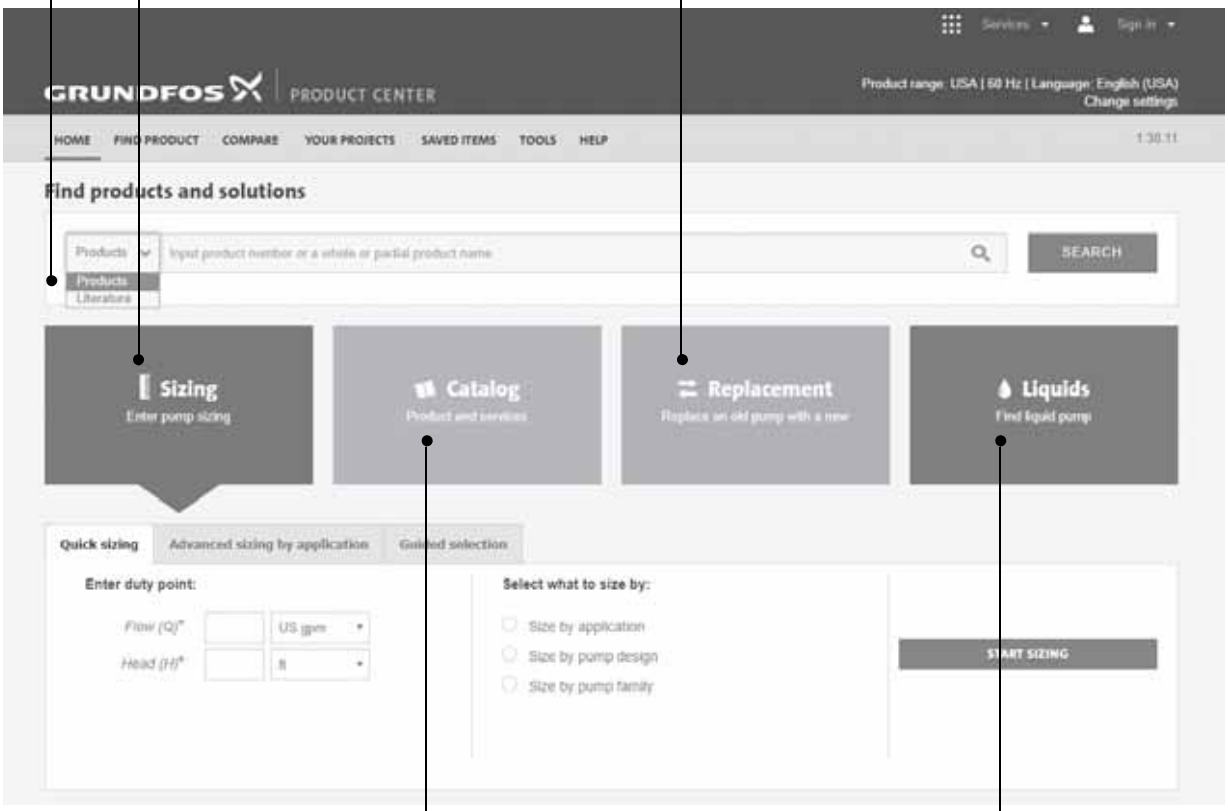
http://product-selection.grundfos.com

This drop-down menu enables you to set the search function to "Products" or "Literature".

"SIZING" enables you to size a pump based on entered data and selection choices.

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

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



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