

Hydro Solo-E and Hydro Solo-E Optimum

Complete Booster Systems 50/60 Hz



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1. Product introduction



TM076248

Left to right: Hydro Solo-E, Hydro Solo-E Optimum

Hydro Solo-E Optimum

The Hydro Solo-E Optimum is a fully-optimised package with constant pressure control, flow estimation and plug-and-pump installation for immediate, always-optimised operation. The graphical display built into the pump provides a real-time overview of booster set performance.

Hydro Solo-E

The Hydro Solo-E booster system is a turnkey solution enabling you to keep a constant pressure in your system at all times. Hydro Solo-E consists of a Grundfos CRE pump fitted with isolating valve, non-return valve, outlet pipe, pressure transmitter, pressure gauge and pressure tank. Hydro Solo-E is ready for operation on delivery.

1.1 Features and benefits

- Easy installation.
- Constant pressure.
- Speed-controlled pump.
- Low energy consumption.
- No need for motor protection.
- Compact design.

1.2 Applications

Hydro Solo-E is designed for systems where it is crucial to keep a constant pressure. This makes Hydro Solo-E suitable for these applications:

- Cluster homes
- blocks of flats
- schools
- hotels or guest houses
- office buildings
- industrial water supply systems
- water treatment systems
- water filtration systems
- small industries
- washing and cleaning systems.

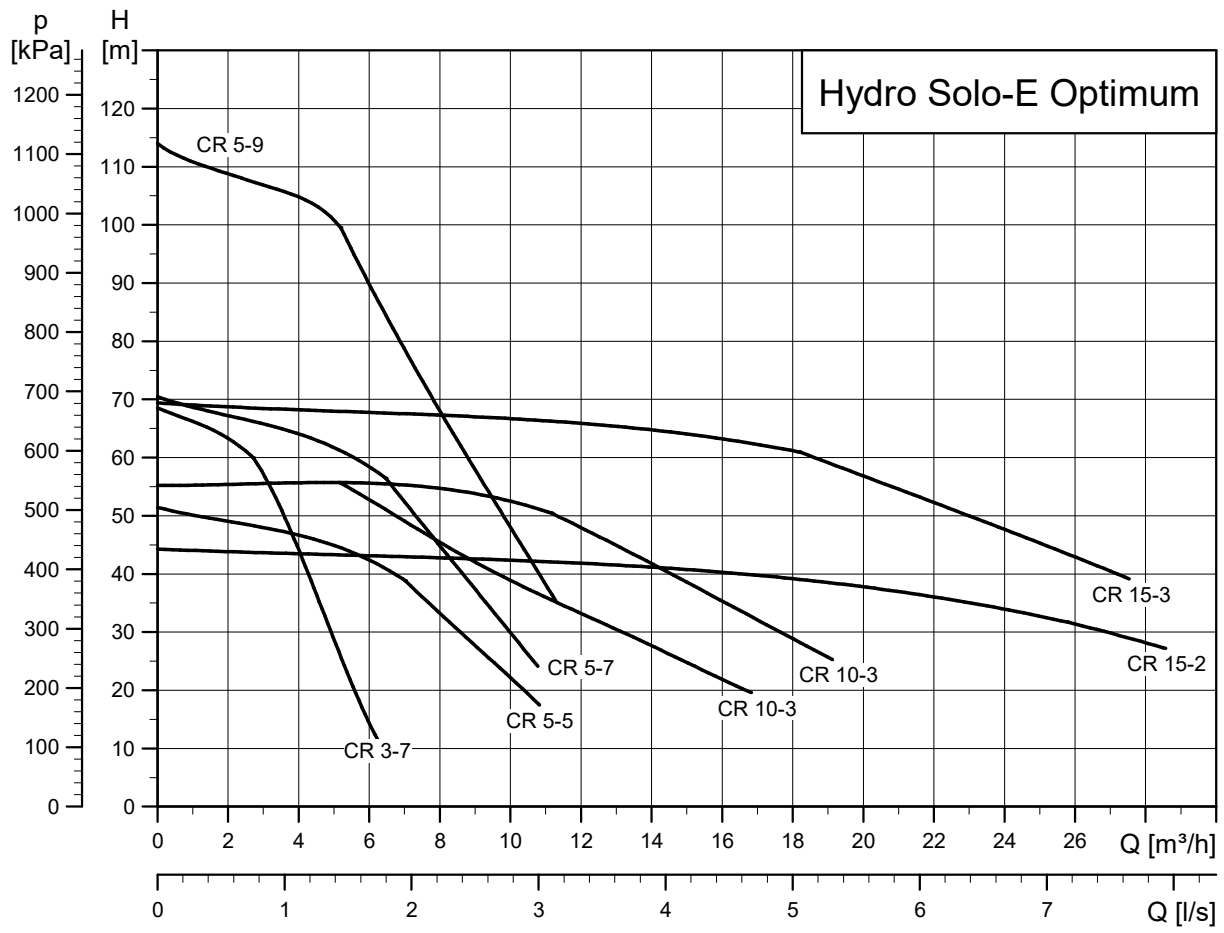
1.3 Construction of Hydro Solo-E Optimum vs. Hydro Solo-E

	Hydro Solo-E	Hydro Solo-E Optimum
Pump	CRE	CRIE
Suction manifold	-	✓
Discharge manifold	✓	✓
Dry-running protection	-*	✓
Base plate	-	✓
Vibration dampers	-	✓
Non-return valve	✓	✓
Isolating valve	✓	✓
Pressure transmitter	✓	✓
Pressure gauge	✓	-
Pressure tank with FlowJet	✓	✓
Graphical display	-	✓

* Dry-running protection can be added to Hydro Solo-E variants as an accessory.

1.4 Performance range

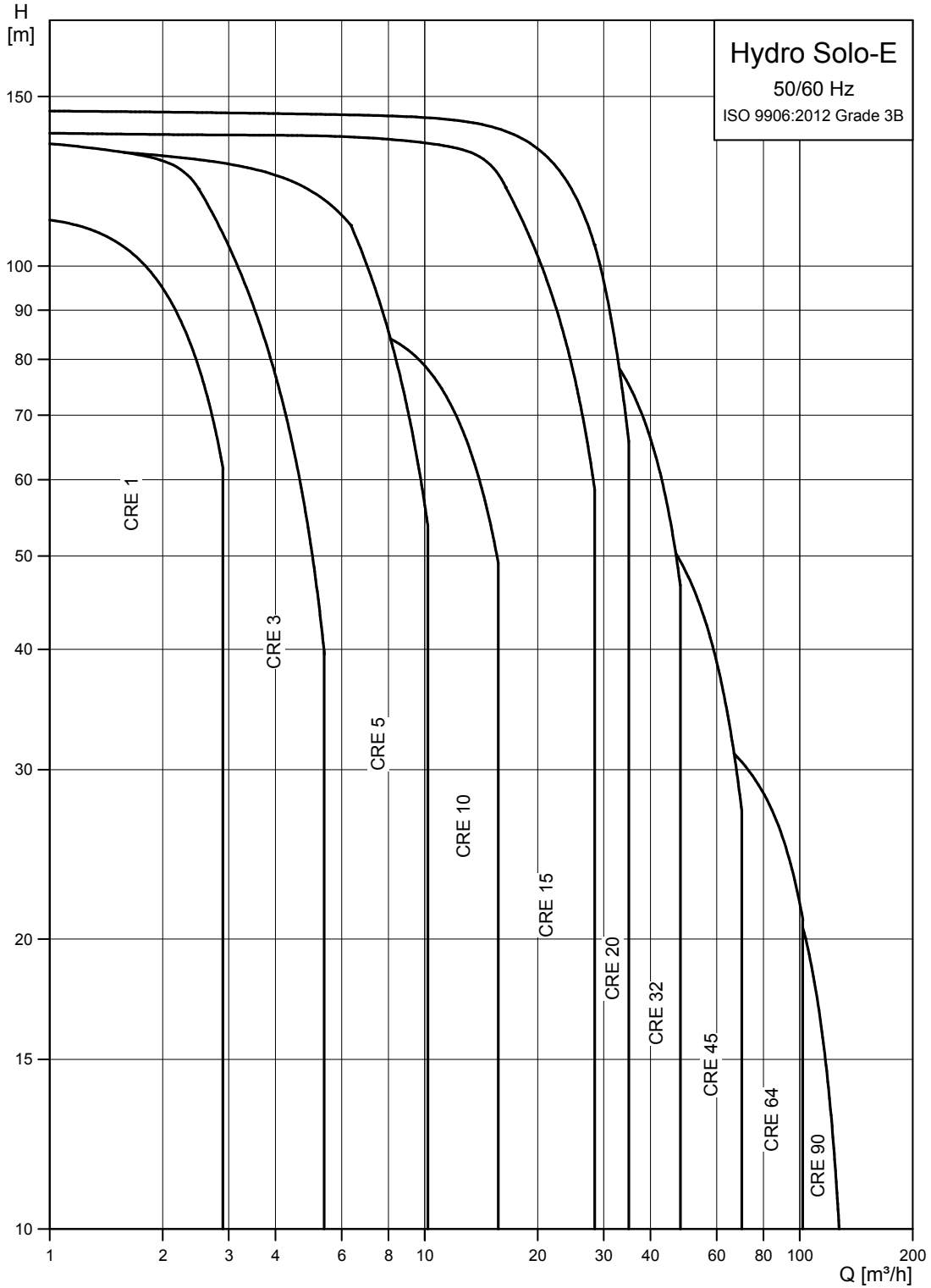
Hydro Solo-E Optimum



TM070142

Hydro Solo-E Optimum performance range

Hydro Solo-E



TM059028

Hydro Solo-E performance range

1.5 Identification

1.5.1 Type key

Example: HYDRO SOLO-E CRE 15-3 U8 A- A- A- A- ABCDE

Code	Designation	Explanation
HYDRO SOLO	Product name	
E	System type	E: The motor has a built-in frequency converter
CRE X-Y	Pump model	CRE: Cast iron and stainless materials CRIE: Stainless materials only
CRIE X-Y		X: Flow rate m ³ /h Y: Number of impellers
U2	Supply voltage	3 x 380 - 500 V, PE, 50/60 Hz
U7		1 x 200 - 240 V, PE, 50/60 Hz
U8		1 x 200 - 240 V, N, PE, 50/60 Hz
UX		Custom voltage rating (CSU variant)
A	Pump design	Standard range
C		OPTIMUM
A	Starting method	Electronic (frequency converter)
A	Material combination	Stainless steel outlet manifold
B		Stainless steel outlet manifold and stainless steel inlet manifold
C		Galvanised steel manifold
D		Galvanised steel manifold and base frame
X		Customised
A	Drinking water approvals	ACS-approved components
B		Belgaqua-approved components
D		DVGW-approved components
K		KIWA-approved components
N		NFS-approved components
V		WRAS-approved components
Y		No special approval
A	Option	Standard hydraulics
B		Base frame
C		Base frame with machine shoes
D		Sensor as dry-running protection
E		Pressure switch as dry-running protection
F		Level switch for dry-running protection
G		CIM module included
H		Without non-return valve
L		Non-return valve on the inlet side
M		Pressure gauge on the inlet side
S	CSU variant	
U	Undersized motor	
X	More than five options	

2. Installation and operation

2.1 Mechanical installation

Location



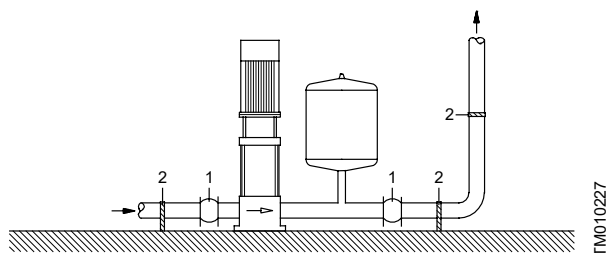
The booster system is not designed for outdoor installation and must not be exposed to direct sunlight. Allow sufficient clearance around the booster system to enable the operator to work freely. Enclosure class: IP55. Insulation class: F.

Install the booster system in a well-ventilated room to ensure sufficient cooling of the pump.

Pipes

The system in which Hydro Solo-E is incorporated must be designed for the maximum pump pressure. The pipes connected to the booster system must be of adequate size. To avoid resonance, expansion joints must be fitted both in the outlet and inlet pipes. Connect the pipes to the outlet pipe and the pump inlet port.

Tighten the booster system before startup. We recommend fitting pipe supports on the inlet and outlet side.



Pipes

Foundation

Position the booster system on an even and solid surface, such as a concrete floor or foundation. If the booster system is not fitted with vibration dampers, bolt it to the floor or foundation.

Pressure tank

The pressure tank is pre-charged to the correct pressure. If the setpoint is altered, a new pre-charge pressure must be calculated to obtain the optimum duty.

Calculation of pre-charge pressure: pre-charge pressure is equal to 0.7 x setpoint. Measure the pre-charge pressure of the pressure tank in a pressureless system.

We recommend that you refill the tank with nitrogen.

2.2 Electrical installation



The 4.0 - 7.5 kW motors must be connected to especially reliable and sturdy earth connections due to an earth leakage current above 3.5 mA.



Do not switch the power on/off more than four times a day.

The electrical installation and protection must be carried out in accordance with local regulations.

- The pump must always be correctly earthed.
- The pump requires no external motor protection. The motor incorporates thermal protection against slow overloading and blocking.

2.2.1 Additional protection

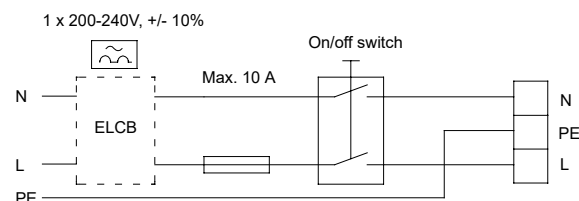
Connecting the pump to an electric installation with an earth leakage circuit breaker (ELCB) is not a requirement. However, if you choose to use this additional protection, the earth leakage circuit breakers must be marked with the following symbols:

Single-phase



TM072868

The earth leakage circuit breakers must trip out when earth fault currents with DC content (pulsating DC) occur.



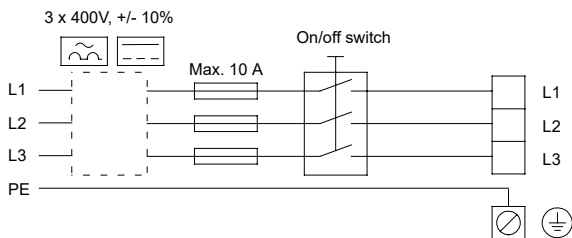
Wiring diagram, single phase

Three-phase



TM072869

The earth leakage circuit breakers must trip out when earth fault currents with DC content (pulsating DC) and smooth DC earth fault currents occur.



TM009270

Wiring diagram, three-phase, 2.2-7.5 kW

2.2.2 Float switch

It is optional to add a float/level switch to Hydro Solo-E and Hydro Solo-E Optimum systems.

Hydro Solo-E Optimum

For more information on adding the float/level switch to Hydro Solo-E Optimum and to access the wiring diagram, scan the QR code to access the quick guide:

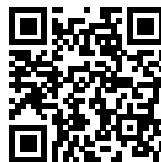


QR9838821

net.grundfos.com/qr/i/99838821

Hydro Solo-E

For more information on adding the float/level switch to Hydro Solo-E and to access the wiring diagram, scan the QR code to access the quick guide:

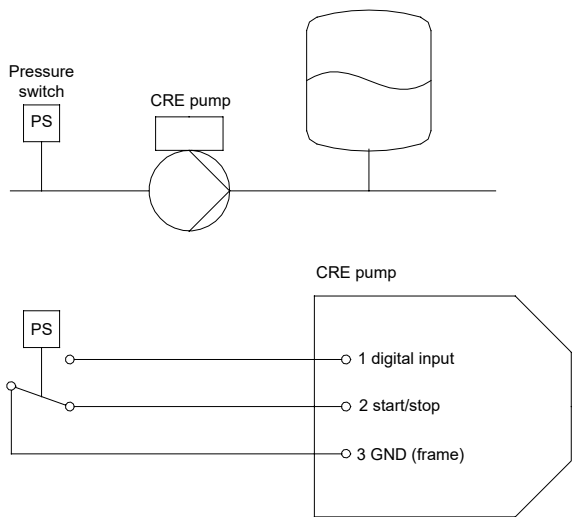


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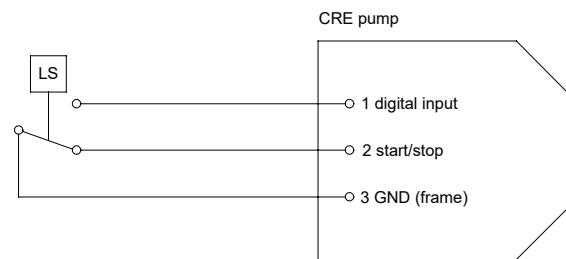
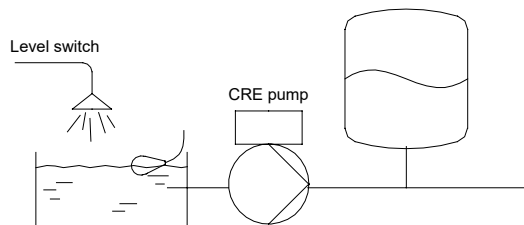
2.3 Reset after water shortage

Automatic reset



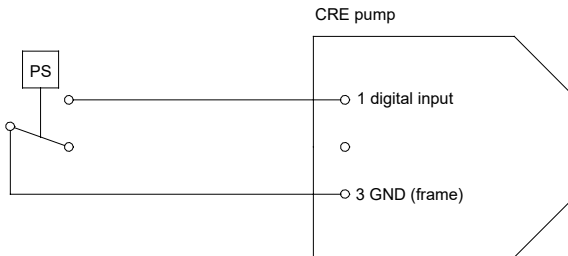
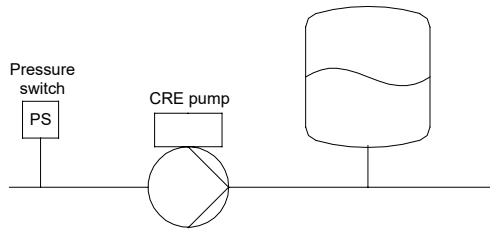
TM022560

Automatic reset with pressure switch

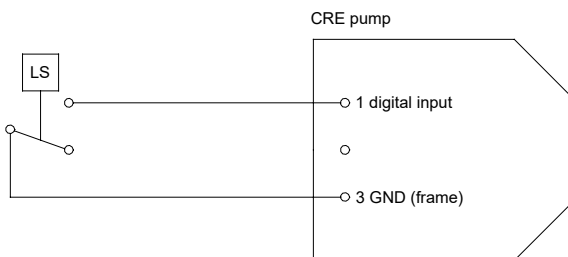
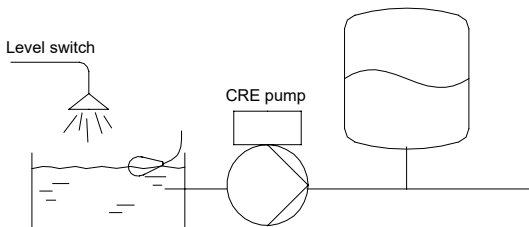


TM022589

Automatic reset with float/level switch

Manual reset

TM022561

Manual reset with pressure switch

TM022590

Manual reset with float/level switch**2.4 Control of CRE pumps****2.4.1 Communication with CRE pumps**

Communication with CRE pumps is possible via:

- A central building management system
- Grundfos GO Remote
- a control panel.

Central building management system

The operator can communicate with a CRE pump at a distance. Communication can take place via a central building management system allowing the operator to monitor and change control modes and setpoint settings. The communication interface between the CRE pump and central building management systems varies depending on the pump size.



TM056174

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2.4.2 Grundfos GO Remote support

With Grundfos GO Remote, you can monitor the product, change settings, collect data and make reports. A user-friendly interface provides you with all the information and help you need, as well as live pump data monitoring and easy-to-follow tips and guides.

You can use Grundfos GO Remote for the following functions:

- reading operating data
- reading warning and alarm indicators
- setting the control mode and the application (emptying or filling)
- setting the control mode and the application (dewatering or filling)
- setting the time (real-time clock)
- setting the user-configurable log
- storing and recalling configuration.

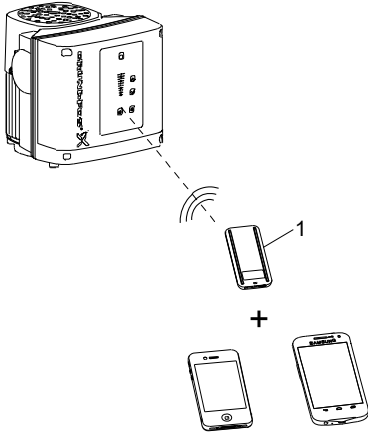
2.4.2.1 Grundfos GO Remote

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

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

Use Grundfos GO Remote together with this mobile interface:

- Grundfos MI 301.



TM066256

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 via a Bluetooth connection.

3. Hydro Solo-E Optimum



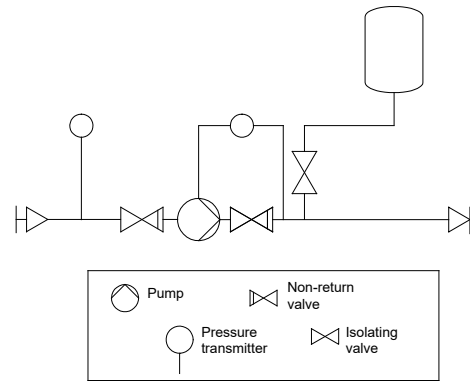
TM076324

Hydro Solo-E Optimum

The Grundfos Hydro Solo-E Optimum booster system is a turnkey solution enabling you to keep constant pressure in your system at all times.

Hydro Solo-E Optimum consists of the following:

- inline vertical multistage centrifugal (CRIE) pump with IE5 motor and integrated VFD with graphical display
- isolating valves for easy maintenance of the system
- analog pressure sensor for monitoring of inlet conditions and prevention of dry running of the pump
- inlet and outlet manifold in stainless steel
- analog pressure sensor for monitoring and control of discharge pressure
- main switch
- non-return valve for prevention of backflow when the pump is stopped
- pressurised diaphragm tank to enable the stopping of the pump at low flow to increase system efficiency
- flowjet valve – special ball valve for pressure tank connection to ensure water circulation inside the tank
- stainless-steel, factory-mounted baseplate with vibration dampers.



Schematic of Hydro Solo-E Optimum

TM076293

3.1 Features and benefits of Optimum range

3.1.1 Easy installation

Hydro Solo-E Optimum is fully pre-assembled, enabling a quick and easy installation. The system needs to be connected, primed and then it is ready for operation. Compactness of the system reduces the space needed in installation.

3.1.2 Low energy consumption

The Grundfos E-motor with a built-in frequency converter enables variable speed operation and high efficiency, resulting in extensive energy savings.

3.1.3 Motor protection

The Hydro Solo-E systems require no external motor protection. The motor incorporates thermal protection against slow overloading and blocking.

3.1.4 Pre-programmed functions

- Pressure boosting - Home display.
- Constant pressure control.
- Low-flow stop activated - setup according to tank size.
- Stop at minimum speed activated (30 sec).
- Dry-running protection activated (0.5 bar - adjustable).
- Flow estimation.
- Anti-cavitation protection (flow limit).
- Alarm/Pump running signal relays.

3.1.5 Grundfos GO Remote

The product is designed for Bluetooth communication with Grundfos GO Remote.

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

3.2 Protection features

3.2.1 Dry-running protection

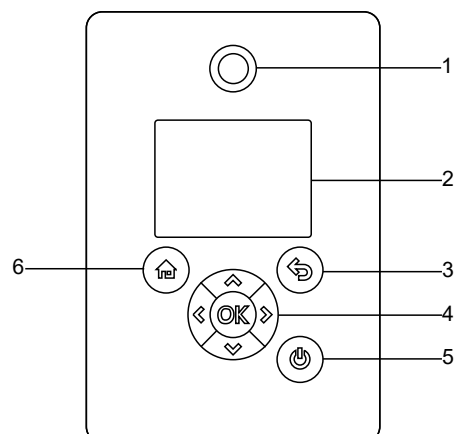
The product incorporates dry-running protection that automatically stops the pump from running without liquid. Dry-running protection means less risk of pump damage and lower maintenance costs.

3.2.2 Anti-cavitation

The pump comes pre-programmed with a flow limit to protect against cavitation.

3.3 Control panel

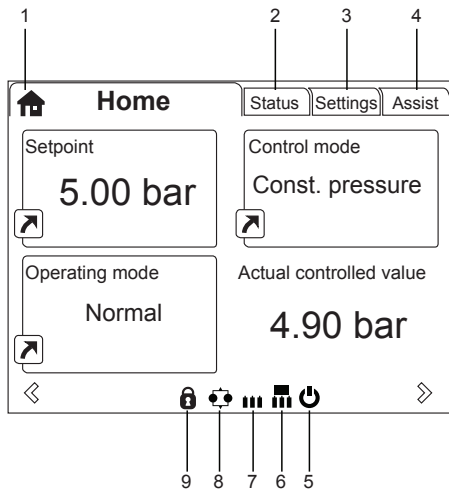
3.3.1 Hydro Solo-E Optimum



TM054849

Pos.	Sym- bol	Description
1		Grundfos Eye: The indicator light shows the operating status of the product.
2	-	Graphic colour display.
3		Back: Press the button to go one step back.
4		Left/Right: Press the buttons to navigate between main menus, displays and digits. When you change the menu, the display shows the top display of the new menu.
		Up/Down: Press the buttons to navigate between submenus or change the value settings. If you have disabled the possibility to make settings with the Enable/disable settings function, you can enable it again temporarily by pressing these buttons simultaneously for at least 5 seconds.
5		OK: Press the button to do the following: <ul style="list-style-type: none"> • Save changed values, reset alarms and expand the value field. • Enable radio communication with Grundfos GO Remote and other products of the same type. When you try to establish radio communication between the product and Grundfos GO Remote or another product, the green indicator light in Grundfos Eye flashes. In the controller display, a note states that a wireless device wants to connect to the product. Press OK on the product operating panel to allow radio communication with Grundfos GO Remote and other products of the same type.
6		Start/Stop: Press the button to make the product ready for operation or to start and stop the product. Start: If you press the button when the product is stopped, the product starts if no other functions with higher priority have been enabled. Stop: If you press the button when the product is running, the product always stops. When you press the button, the stop icon appears at the bottom of the display.
6		Home: Press the button to go to the Home menu.

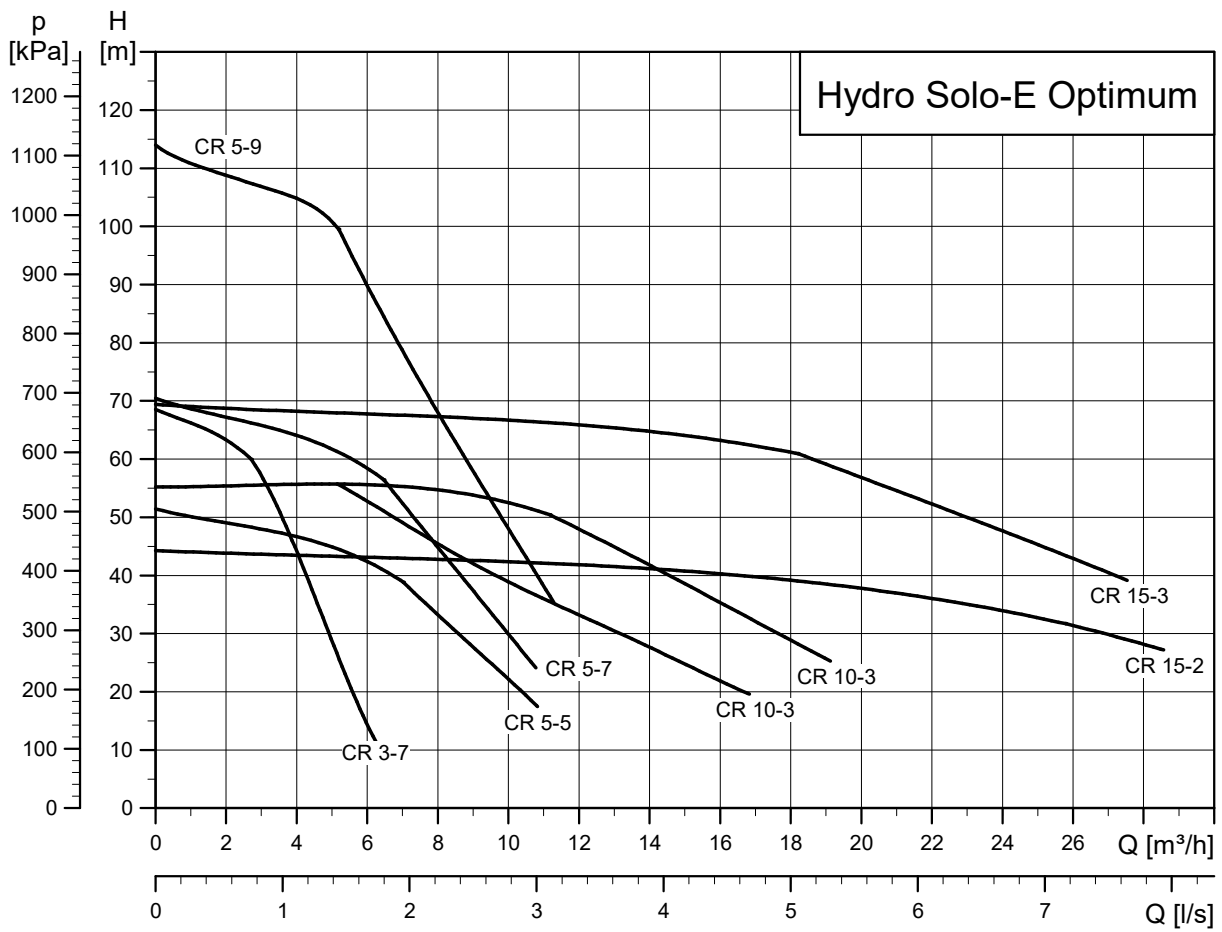
3.3.1.1 Home display



TM0064516

Pos.	Symbol	Description
1		Home: This menu shows up to four user-defined parameters. You can access each parameter directly from this menu.
2	-	Status: This menu shows the status of the product and system, warnings and alarms.
3	-	Settings: This menu gives access to all setting parameters. The menu also allows you to make detailed settings.
4	-	Assist: This menu enables assisted setup, provides a short description of the control modes and offers fault-finding advice.
5		Start/Stop: The icon indicates that the product was stopped with the Start/Stop button.
6		Master: The icon indicates that the product is functioning as the master in a system with products of the same type and size.
7		Slave: The icon indicates that the product is functioning as a slave in a system with products of the same type and size.
8		Multioperation: The icon indicates that the product is operating in a system with products of the same type and size.
9		Lock: The icon indicates that the possibility to make settings has been disabled for protective reasons.

3.4 Performance curves

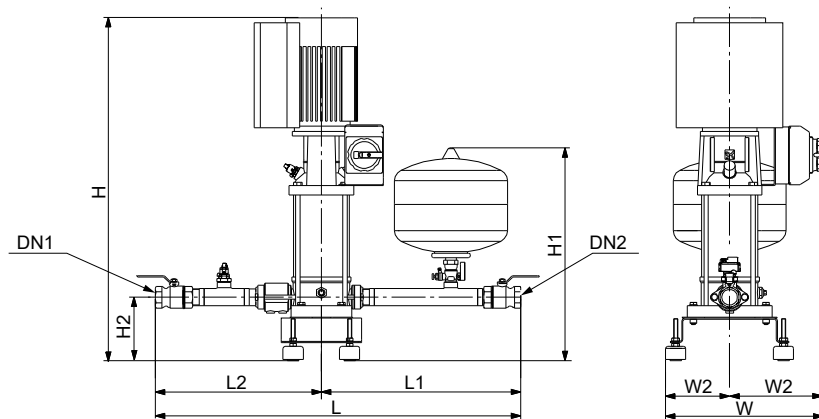


TM070142

Hydro Solo-E Optimum performance range

3.5 Technical data

3.5.1 Dimensions and weights



TM071315

Dimensions

Pump type	H	H1	H2	W	W1	W2	L	L1	L2
CRIE 3-7	611	465	112	403	244	159	912	568	344
CRIE 5-5	620	465	112	403	244	159	912	568	344
CRIE 5-7	710	465	112	403	244	159	912	568	344
CRIE 5-9	804	465	112	403	244	159	912	568	344
CRIE 10-3	739	465	142	479	259	220	969	599	370
CRIE 15-2	816	465	152	467	259	208	1188	681	507
CRIE 15-3	861	465	152	467	259	208	1188	681	507

Weights

Pump type	Net Weight [kg]	Gross Weight [kg]
CRIE 3-7	41	50
CRIE 5-5	44	52
CRIE 5-7	48	57
CRIE 5-9	48	57
CRIE 10-3	70	84
CRIE 15-2	79	103
CRIE 15-3	79	103

3.5.2 Electrical data

Pump Type	Motor [kW]	Full-Load Current [A]	Supply Voltage [V]	Tank Volume [l]	Connection In/Outlet
CRIE 3-7	0.75	4.70-3.90	1 x 200-240 V	18	Rp 1" 1/4
CRIE 5-5	1.1	6.70-5.60	1 x 200-240 V	18	Rp 1" 1/4
CRIE 5-7	1.5	9.10-7.60	1 x 200-240 V	18	Rp 1" 1/4
CRIE 5-9	2.2	4.15-3.40	3 x 380-500 V	18	Rp 1" 1/4
CRIE 10-3	1.5	9.10-7.60	1 x 200-240 V	18	Rp 1" 1/2
CRIE 10-3	2.2	4.15-3.40	3 x 380-500 V	18	Rp 1" 1/2
CRIE 15-2	3.0	6.20-5.00	3 x 380-500 V	18	Rp 2"
CRIE 15-3	4.0	7.60-6.50	3 x 380-500 V	18	Rp 2"

3.5.3 Operating temperature

Liquid temperature		0-60 °C
Ambient temperature	CRE 0.37 - 11 kW	0-50 °C

3.5.4 Minimum inlet pressure

The minimum inlet pressure H in metres head required to avoid cavitation in the pump is calculated as follows:

H	= $P_b \times 10.2 - \text{NPSH} - H_f - H_v - H_s$
P_b	= Barometric pressure in bar. Barometric pressure can be set to 1, if required.
NPSH	= Net Positive Suction Head in metres head. NPSH can be read from the NPSH curve at the maximum capacity at which the pump will run.
H_f	= Friction loss in inlet pipe in metres head.
H_v	= Vapour pressure in metres head.
H_s	= Safety margin of minimum 0.5 metres head.

3.5.5 Maximum inlet and system pressures

Hydro Solo-E Optimum	Maximum inlet pressure [bar]	System pressure [bar]
CRIE 3-7	6	10
CRIE 5-5	6	10
CRIE 5-9	6	16
CRIE 10-3	6	10
CRIE 15-2	6	10
CRIE 15-3	6	10

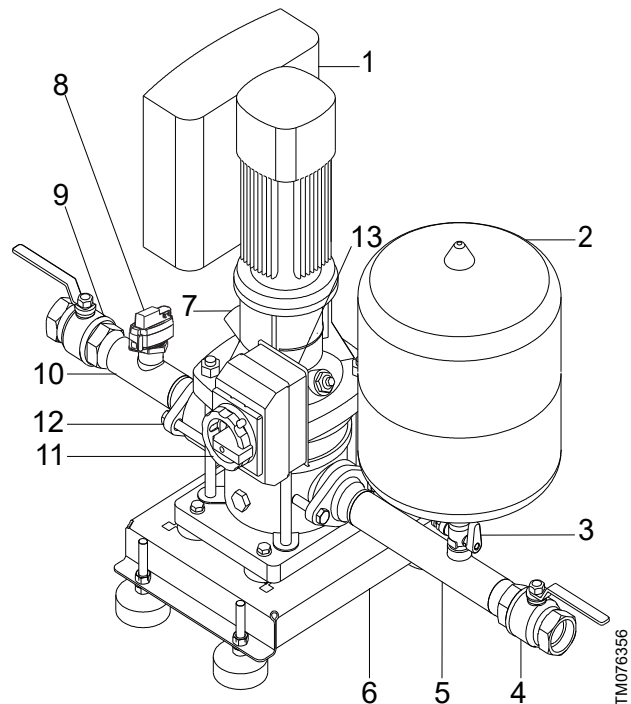
3.5.6 Construction of Hydro Solo-E Optimum

System components

The inlet side is fitted with a stainless steel inlet pipe (EN/DIN 1.4401 or EN/DIN 1.4571) and a non-return valve. The inlet pipe is fitted with a isolating valve and a inlet pressure sensor.

The outlet side of the pump is fitted with a isolation valve, flow jet valve and pressure tank.

The pump is fitted with and off/on switch for supply voltage, a discharge pressure sensor and a graphical display.



Pos.	Description	Quantity
1	CRIE pump with graphical display	1
2	Pressure tank	1
3	Flow jet valve for pressure tank	1
4	Isolating valve	1
5	Outlet pipe, stainless steel	1
6	Base plate with vibration dampers	1
7	Discharge pressure sensor	1
8	Inlet pressure sensor	1
9	Isolating valve	1
10	Inlet pipe, stainless steel	1
11	On/Off switch	1
12	Non-return valve	1
13	Nameplate	1

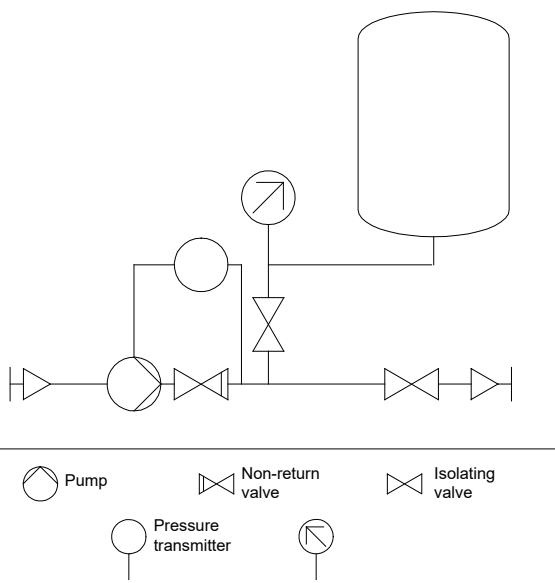
4. Hydro Solo-E



TM076249

Hydro Solo-E

The Grundfos Hydro Solo-E booster system is a turnkey solution enabling you to keep a constant pressure in your system at all times. Hydro Solo-E consists of a Grundfos CRE pump fitted with isolating valve, non-return valve, outlet pipe, pressure transmitter, pressure gauge and pressure tank. Hydro Solo-E is ready for operation on delivery.



TM008427

Schematic of Hydro Solo-E

4.1 Features and benefits

- Easy installation.
- Constant pressure.
- Speed-controlled pump.
- Low energy consumption.
- No need for motor protection.
- Compact design.

4.1.1 Easy installation

Hydro Solo-E Optimum is fully pre-assembled, enabling a quick and easy installation. The system needs to be connected, primed and then it is ready for operation. Compactness of the system reduces the space needed in installation.

4.1.2 Motor protection

The Hydro Solo-E systems require no external motor protection. The motor incorporates thermal protection against slow overloading and blocking.

4.1.3 Grundfos GO Remote

The product is designed for Bluetooth communication with Grundfos GO Remote.

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

4.2 Protection features

4.2.1 Dry-running protection

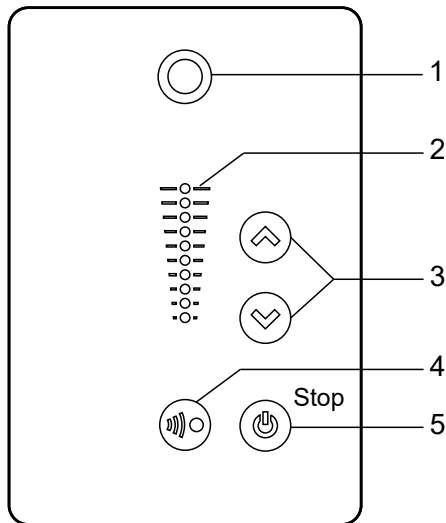
The product incorporates dry-running protection that automatically stops the pump from running without liquid. Dry-running protection means less risk of pump damage and lower maintenance costs.

4.2.2 Anti-cavitation

The pump comes pre-programmed with a flow limit to protect against cavitation.

4.3 Control panel

4.3.1 Hydro Solo-E



TM054848

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

4.4 Technical data

4.4.1 Operating temperature

Liquid temperature		0-60 °C
Ambient temperature	CRE 0.37 - 11 kW	0-50 °C

4.4.2 Minimum inlet pressure

The minimum inlet pressure H in metres head required to avoid cavitation in the pump is calculated as follows:

H	= $P_b \times 10.2 - NPSH - H_f - H_v - H_s$
P_b	= Barometric pressure in bar. Barometric pressure can be set to 1, if required.
NPSH	= Net Positive Suction Head in metres head. NPSH can be read from the NPSH curve at the maximum capacity at which the pump will run.
H_f	= Friction loss in inlet pipe in metres head.
H_v	= Vapour pressure in metres head.
H_s	= Safety margin of minimum 0.5 metres head.

4.4.3 Maximum inlet and system pressures

International range

Pump type	Maximum inlet pressure [bar]	System pressure [bar]
CRE 1-4, 1-9	10	10
CRE 1-13, 1-17	10	16
CRE 3-4, 3-8, 3-11	10	10
CRE 3-11, 3-15	10	16
CRE 5-2, 5-5, 5-9	10	10
CRE 5-12	10	16
CRE 10-1, 10-3	8	10
CRE 10-5	10	10
CRE 15-2	8	10
CRE 15-3, 15-4	10	10
CRE 20-2, 20-3	10	10
CRE 32-2-2	4	10
CRE 45-1	4	10

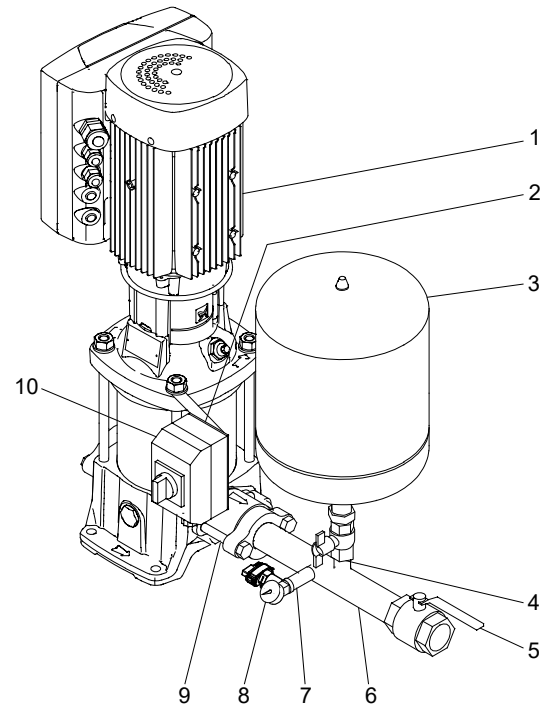
Southern European range

Pump type	Maximum inlet pressure [bar]	System pressure [bar]
CRE 1-4, 1-6, 1-9, 1-13, 1-17	10	16
CRE 3-4, 3-5, 3-8, 3-11, 1-15	10	16
CRE 5-2, 5-4, 5-5, 5-9	10	10
CRE 5-12	15	16
CRE 10-1, 10-2, 10-3, 10-5	8	10
CRE 10-6	15	10
CRE 15-2	8	10
CRE 15-3, 15-4	10	10
CRE 20-2, 20-3	10	10
CRE 32-2-2	4	10
CRE 45-1	4	10

4.4.4 Construction of Hydro Solo-E

System Components

The outlet side of the pump is fitted with a non-return valve, a stainless-steel outlet pipe (EN/DIN 1.4401 or EN/DIN 1.4571), and an isolating valve. The outlet pipe is fitted with a pressure transmitter and an isolating valve for the pressure gauge and the pressure tank. The pump is fitted with an on/off switch for the supply voltage.



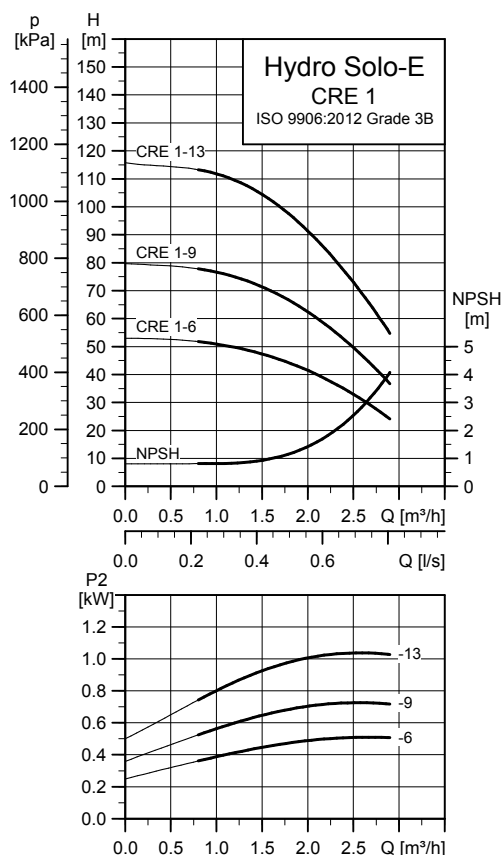
TM027562

Hydro Solo-E

Pos.	Description	Quantity
1	CRE pump	1
2	Nameplate	1
3	Pressure tank	1
4	Isolating valve for pressure tank and pressure gauge	1
5	Isolating valve	1
6	Outlet pipe, stainless steel	1
7	Pressure transmitter	1
8	Pressure gauge	1
9	Non-return valve	1
10	On/off switch	1

4.5 Data sheets

4.5.1 Hydro Solo-E with CRE1



TM059020

4.5.1.1 Electrical data

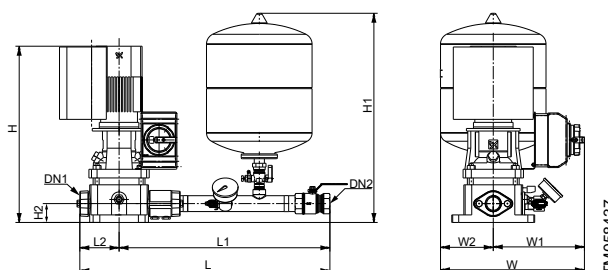
International range

Pump type	Motor [kW]	Full-load current [A]	Supply Voltage [V]
CRE 1-4	0.37	2.40 - 2.10	1 x 200-240 V
CRE 1-6	0.55	3.45 - 2.90	1 x 200-240 V
CRE 1-9	0.75	4.70 - 3.90	1 x 200-240 V
CRE 1-13	1.10	6.70 - 5.60	1 x 200-240 V
CRE 1-17	1.50	9.10 - 7.60	1 x 200-240 V

Southern European range

Pump type	Motor [kW]	Full-load current [A]	Supply Voltage [V]
CRE 1-6	0.55	3.45 - 2.90	1 x 200-240 V
CRE 1-9	0.75	4.70 - 3.90	1 x 200-240 V
CRE 1-13	1.10	6.70 - 5.60	1 x 200-240 V

4.5.1.2 Dimensions and weights



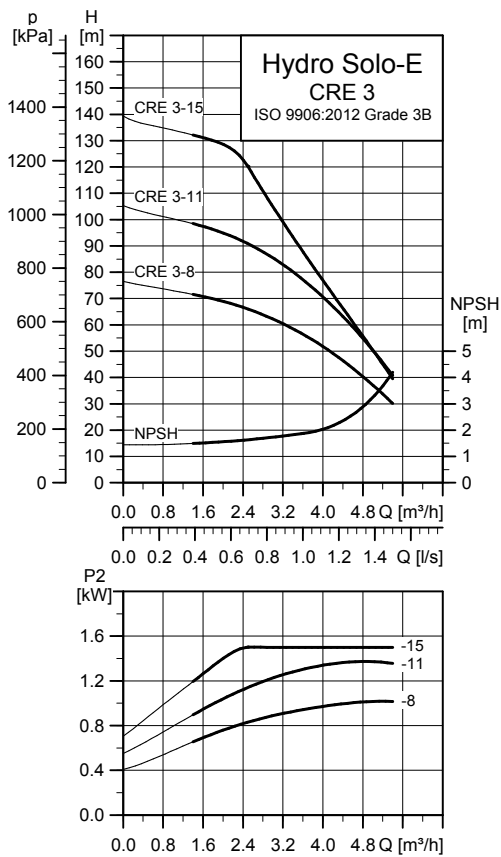
International range

Pump type	Tank Volume [l]	Connection Inlet/Outlet	Net weight [kg]	Gross weight [kg]	H [mm]	H1 [mm]	H2 [mm]	W [mm]	W1 [mm]	W2 [mm]	L [mm]	L1 [mm]	L2 [mm]
CRE 1-4	18	Rp 1" 1/4	38	41	486	465	50	384	244	140	749	591	102
CRE 1-6	18	Rp 1" 1/4	48	51	522	465	50	384	244	140	749	591	102
CRE 1-9	18	Rp 1" 1/4	50	53	582	465	50	384	244	140	749	591	102
CRE 1-13	12	Rp 1" 1/4	45	54	654	466	50	384	244	115	749	591	102
CRE 1-17	12	Rp 1" 1/4	48	51	762	466	50	383	244	115	673	591	102

Southern European range

Pump type	Tank Volume [l]	Connection Inlet/Outlet	Net weight [kg]	Gross weight [kg]	H [mm]	H1 [mm]	H2 [mm]	W [mm]	W1 [mm]	W2 [mm]	L [mm]	L1 [mm]	L2 [mm]
CRE 1-6	18	Rp 1" 1/4	57	77	522	649	50	377	237	140	713	555	102
CRE 1-9	18	Rp 1" 1/4	59	79	582	649	50	377	237	140	713	555	102
CRE 1-13	12	Rp 1" 1/4	62	82	654	649	50	377	237	140	713	555	102

4.5.2 Hydro Solo-E with CRE3



TM059021

4.5.2.1 Electrical data

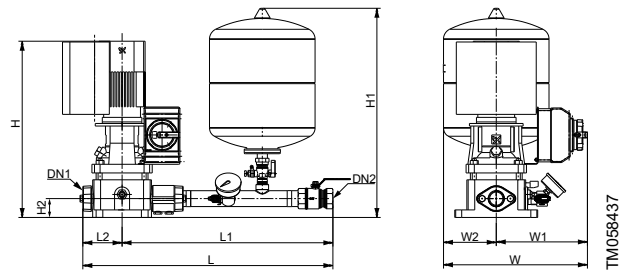
International range

Pump type	Motor [kW]	Full-load current [A]	Supply Voltage [V]
CRE 3-4	0.55	3.45 - 2.90	1 x 200-240 V
CRE 3-5	0.75	4.70 - 3.90	1 x 200-240 V
CRE 3-8	1.10	6.70 - 5.60	1 x 200-240 V
CRE 3-11	1.50	9.10 - 7.60	1 x 200-240 V
CRE 3-15	2.20	4.15 - 3.4	3 x 380-500 V

Southern European range

Pump type	Motor [kW]	Full-load current [A]	Supply Voltage [V]
CRE 3-8	1.10	6.70 - 5.60	1 x 200-240 V
CRE 3-11	1.50	9.10 - 7.60	1 x 200-240 V
CRE 3-15	2.20	4.15 - 3.40	3 x 380-500 V

4.5.2.2 Dimensions and weights



TM058437

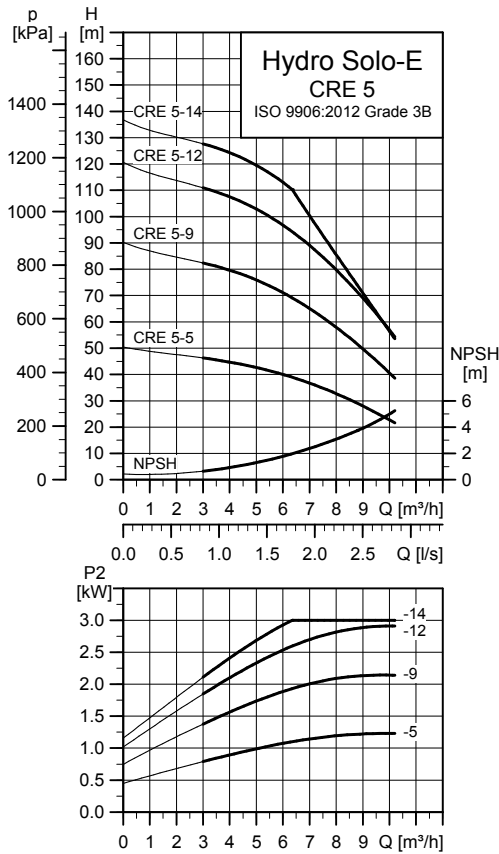
International range

Pump type	Tank Volume [l]	Connection Inlet/Outlet	Net weight [kg]	Gross weight [kg]	H [mm]	H1 [mm]	H2 [mm]	W [mm]	W1 [mm]	W2 [mm]	L [mm]	L1 [mm]	L2 [mm]
CRE 3-4	18	Rp 1" 1/4	38	41	486	465	420	420	244	140	749	591	102
CRE 3-5	18	Rp 1" 1/4	41	44	510	465	420	420	244	140	749	591	102
CRE 3-8	18	Rp 1" 1/4	43	51	606	465	50	384	244	140	749	591	104
CRE 3-11	12	Rp 1" 1/4	48	74	654	466	50	384	244	115	749	591	104
CRE 3-15	12	Rp 1" 1/4	58	64	813	466	420	420	244	115	749	591	102

Southern European range

Pump type	Tank Volume [l]	Connection Inlet/Outlet	Net weight [kg]	Gross weight [kg]	H [mm]	H1 [mm]	H2 [mm]	W [mm]	W1 [mm]	W2 [mm]	L [mm]	L1 [mm]	L2 [mm]
CRE 3-8	25	Rp 1" 1/4	59	79	564	649	50	377	237	140	713	555	102
CRE 3-11	25	Rp 1" 1/4	65	85	654	649	50	377	237	140	713	555	102
CRE 3-15	25	Rp 1" 1/4	69	89	726	649	50	377	237	140	713	555	102

4.5.3 Hydro Solo-E with CRE5



TM059022

4.5.3.1 Electrical data

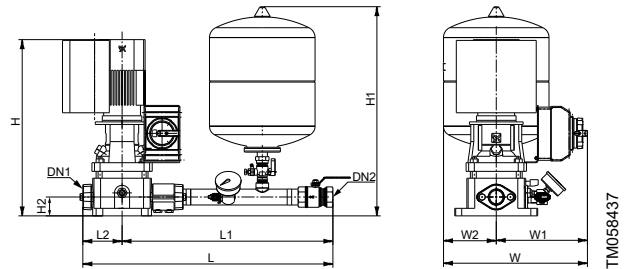
International range

Pump type	Motor [kW]	Full-load current [A]	Supply Voltage [V]
CRE 5-2	0.55	3.45 - 2.90	1 x 200-240 V
CRE 5-5	1.50	9.10 - 7.60	1 x 200-240 V
CRE 5-9	2.20	4.15 - 3.40	3 x 380-500 V
CRE 5-12	3.00	6.20 - 5.00	3 x 380-500 V
CRE 5-14	3.00	5.80 - 4.80	3 x 380-480 V

Southern European range

Pump type	Motor [kW]	Full-load current [A]	Supply Voltage [V]
CRE 5-5	1.50	9.10 - 7.60	1 x 200-240 V
CRE 5-9	2.20	4.15 - 3.40	3 x 380-415 V
CRE 5-12	3.00	6.20 - 5.00	3 x 380-415 V
CRE 5-14	3.00	5.80 - 4.80	3 x 380-480 V

4.5.3.2 Dimensions and weights



TM056437

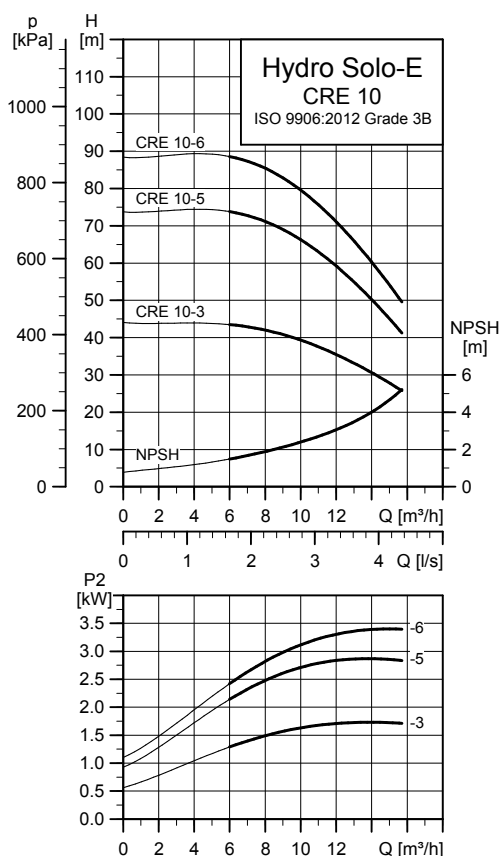
International range

Pump type	Tank Volume [l]	Connection Inlet/Outlet	Net weight [kg]	Gross weight [kg]	H [mm]	H1 [mm]	H2 [mm]	W [mm]	W1 [mm]	W2 [mm]	L [mm]	L1 [mm]	L2 [mm]
CRE 5-2	18	Rp 1" 1/4	44	47	468	465	420	420	244	140	749	591	102
CRE 5-5	18	Rp 1" 1/4	53	55	591	465	50	384	244	140	749	591	102
CRE 5-9	18	Rp 1" 1/4	99	101	738	465	50	384	244	140	749	591	104
CRE 5-12	12	Rp 1" 1/4	73	76	884	649	50	377	237	140	756	555	102
CRE 5-14	12	Rp 1" 1/4	60	69	938	466	50	384	244	115	792	591	102

Southern European range

Pump type	Tank Volume [l]	Connection Inlet/Outlet	Net weight [kg]	Gross weight [kg]	H [mm]	H1 [mm]	H2 [mm]	W [mm]	W1 [mm]	W2 [mm]	L [mm]	L1 [mm]	L2 [mm]
CRE 5-5	25	Rp 1" 1/4	64	84	591	649	50	377	237	140	713	555	102
CRE 5-9	25	Rp 1" 1/4	67	87	739	649	50	377	237	140	713	555	102
CRE 5-12	25	Rp 1" 1/4	85	105	884	649	50	377	237	140	756	555	102
CRE 5-14	25	Rp 1" 1/4	56	74	938	466	50	384	244	115	792	591	102

4.5.4 Hydro Solo-E with CRE10



TM059023

4.5.4.1 Electrical data

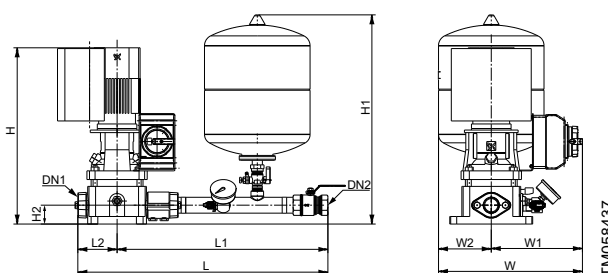
International range

Pump type	Motor [kW]	Full-load current [A]	Supply Voltage [V]
CRE 10-1	0.75	4.70 - 3.90	1 x 200-240 V
CRE 10-3	2.20	4.15 - 3.40	3 x 380-500 V
CRE 10-5	3.00	6.20 - 5.00	3 x 380-500 V
CRE 10-6	4.00	7.60 - 6.20	3 x 380-500 V

Southern European range

Pump type	Motor [kW]	Full-load current [A]	Supply Voltage [V]
CRE 10-3	2.20	4.15 - 3.40	3 x 380-480 V
CRE 10-5	3.00	6.20 - 5.00	3 x 380-480 V
CRE 10-6	4.00	8.10 - 6.60	3 x 380-480 V

4.5.4.2 Dimensions and weights



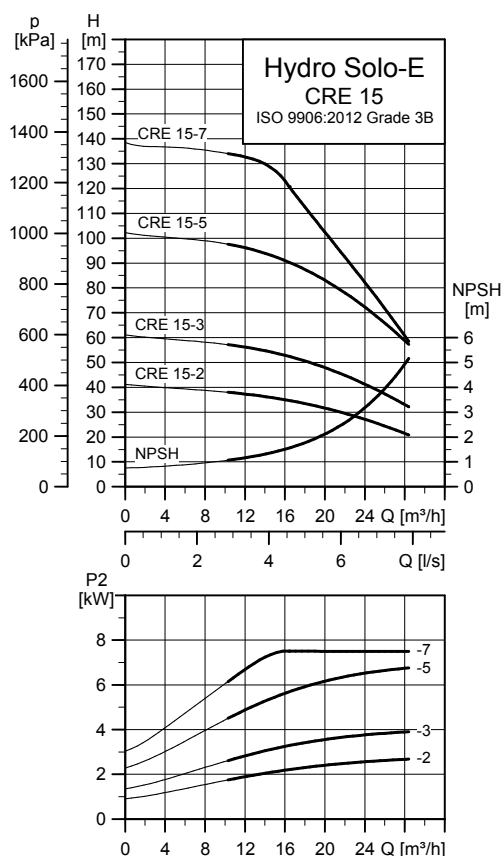
International range

Pump type	Tank Volume [l]	Connection Inlet/Outlet	Net weight [kg]	Gross weight [kg]	H [mm]	H1 [mm]	H2 [mm]	W [mm]	W1 [mm]	W2 [mm]	L [mm]	L1 [mm]	L2 [mm]
CRE 10-1	18	Rp 1" 1/2	58	61	561	495	80	399	259	140	785	627	127
CRE 10-3	18	Rp 1" 1/2	62	89	667	495	80	424	259	140	785	627	127
CRE 10-5	33	Rp 1" 1/2	83	86	792	578	80	456	259	177	828	627	127
CRE 10-6	12	Rp 1" 1/2	78	103	822	496	80	427	259	115	828	627	127

Southern European range

Pump type	Tank Volume [l]	Connection Inlet/Outlet	Net weight [kg]	Gross weight [kg]	H [mm]	H1 [mm]	H2 [mm]	W [mm]	W1 [mm]	W2 [mm]	L [mm]	L1 [mm]	L2 [mm]
CRE 10-3	25	Rp 1" 1/2	75	95	667	682	80	392	252	140	752	594	127
CRE 10-5	25	Rp 1" 1/2	93	113	792	682	80	397	252	145	795	594	127
CRE 10-6	25	Rp 1" 1/2	105	125	822	682	80	397	252	145	795	594	127

4.5.5 Hydro Solo-E with CRE15



4.5.5.1 Electrical data

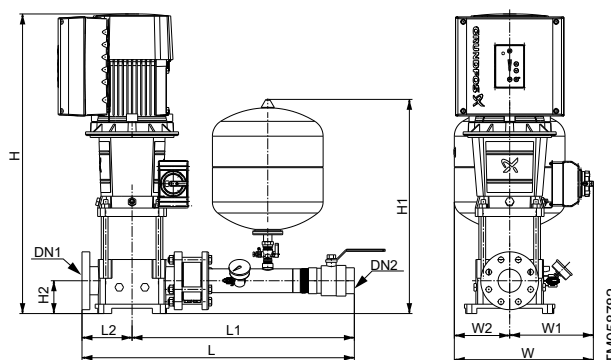
International range

Pump type	Motor [kW]	Full-load current [A]	Supply Voltage [V]
CRE 15-2	3.00	6.20 - 5.00	3 x 380-480 V
CRE 15-3	4.00	8.10 - 6.60	3 x 380-480 V
CRE 15-5	7.50	14.10 - 11.20	3 x 380-500 V
CRE 15-7	7.50	14.10 - 11.20	3 x 380-500 V

Southern European range

Pump type	Motor [kW]	Full-load current [A]	Supply Voltage [V]
CRE 15-2	3.00	6.20 - 5.00	3 x 380-480 V
CRE 15-3	4.00	8.10 - 6.60	3 x 380-480 V
CRE 15-5	7.50	14.10 - 11.20	3 x 380-415 V
CRE 15-7	7.50	14.10 - 11.20	3 x 380-415 V

4.5.5.2 Dimensions and weights



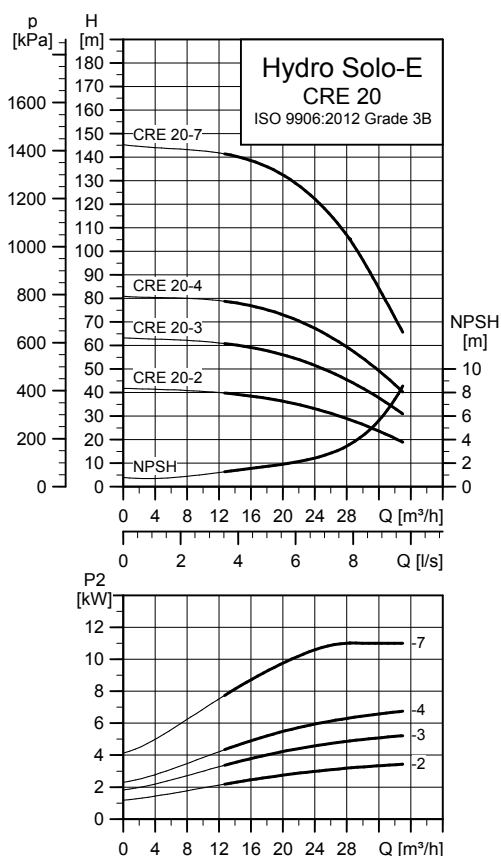
International range

Pump type	Tank Volume [l]	Connection Inlet	Connection Outlet	Net weight [kg]	Gross weight [kg]	H [mm]	H1 [mm]	H2 [mm]	W [mm]	W1 [mm]	W2 [mm]	L [mm]	L1 [mm]	L2 [mm]
CRE 15-2	18	DN 50	Rp 2"	86	89	754	505	90	404	259	140	882	681	150
CRE 15-3	18	DN 50	Rp 2"	98	101	799	505	90	404	259	140	882	681	150
CRE 15-5	12	DN 50	Rp 2"	111	135	976	506	90	404	259	115	918	681	150
CRE 15-7	12	DN 50	Rp 2"	115	139	1066	506	90	404	259	115	918	681	150

Southern European range

Pump type	Tank Volume [l]	Connection Inlet	Connection Outlet	Net weight [kg]	Gross weight [kg]	H [mm]	H1 [mm]	H2 [mm]	W [mm]	W1 [mm]	W2 [mm]	L [mm]	L1 [mm]	L2 [mm]
CRE 15-2	25	DN 50	Rp 2"	99	119	754	698	90	397	252	145	866	665	150
CRE 15-3	25	DN 50	Rp 2"	111	131	799	698	90	397	252	145	866	665	150
CRE 15-5	25	DN 50	Rp 2"	110	120	976	698	90	427	252	175	902	665	150
CRE 15-7	25	DN 50	Rp 2"	114	140	1066	698	90	427	252	175	902	665	150

4.5.6 Hydro Solo-E with CRE20



4.5.6.1 Electrical data

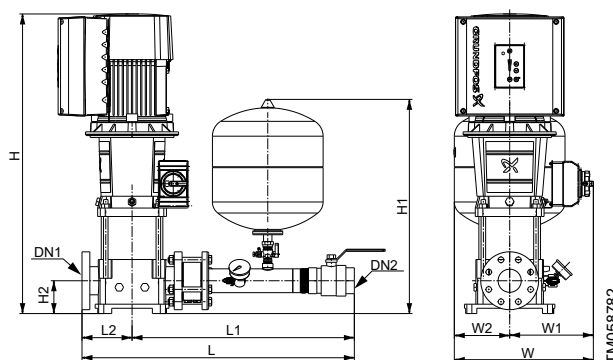
International range

Pump type	Motor [kW]	Full-load current [A]	Supply Voltage [V]
CRE 20-2	4.00	8.10 - 6.60	3 x 380-480 V
CRE 20-3	5.50	11.00 - 8.80	3 x 380-480 V
CRE 20-4	7.50	14.10 - 11.20	3 x 380-500 V
CRE 20-7	11.00	20.30 - 16.00	3 x 380-500 V

Southern European range

Pump type	Motor [kW]	Full-load current [A]	Supply Voltage [V]
CRE 20-2	4.00	8.10 - 6.60	3 x 380-480 V
CRE 20-3	5.50	11.00 - 8.80	3 x 380-480 V
CRE 20-4	7.50	14.10 - 11.20	3 x 380-415 V
CRE 20-7	11.00	20.30 - 16.00	3 x 380-415 V

4.5.6.2 Dimensions and weights



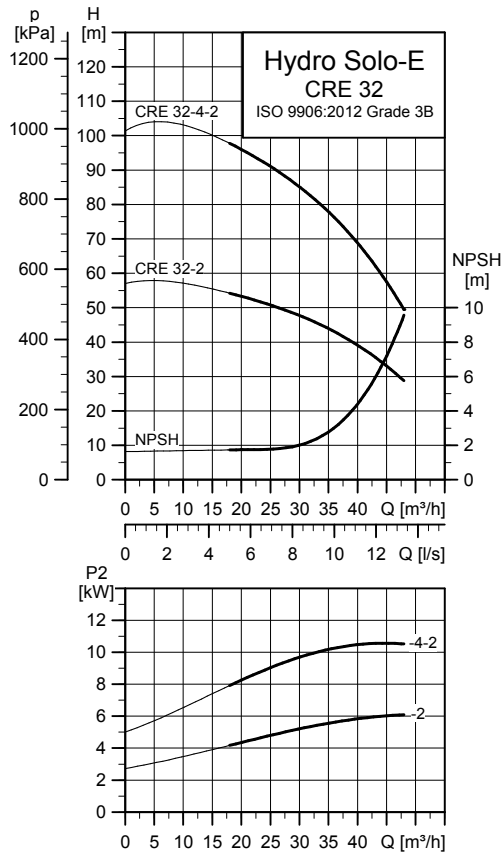
International range

Pump type	Tank Volume [l]	Connection Inlet	Connection Outlet	Net weight [kg]	Gross weight [kg]	H [mm]	H1 [mm]	H2 [mm]	W [mm]	W1 [mm]	W2 [mm]	L [mm]	L1 [mm]	L2 [mm]
CRE 20-2	18	DN 50	Rp 2"	94	105	754	588	90	436	259	177	882	681	150
CRE 20-3	18	DN 50	Rp 2"	113	124	862	588	90	436	259	177	869	681	150
CRE 20-4	33	DN 50	Rp 2"	109	130	931	588	90	436	259	177	918	681	150
CRE 20-7	12	DN 50	Rp 2"	138	162	1160	506	90	436	257	155	989	681	150

Southern European range

Pump type	Tank Volume [l]	Connection Inlet	Connection Outlet	Net weight [kg]	Gross weight [kg]	H [mm]	H1 [mm]	H2 [mm]	W [mm]	W1 [mm]	W2 [mm]	L [mm]	L1 [mm]	L2 [mm]
CRE 20-2	25	DN 50	Rp 2"	110	130	754	698	90	397	252	145	866	665	150
CRE 20-3	25	DN 50	Rp 2"	128	148	862	698	90	402	252	150	866	665	150
CRE 20-4	25	DN 50	Rp 2"	110	120	931	698	90	427	252	175	902	665	150
CRE 20-7	25	DN 50	Rp 2"	137	147	1160	698	90	427	252	175	902	665	150

4.5.7 Hydro Solo-E with CRE32



TM059026

4.5.7.1 Electrical data

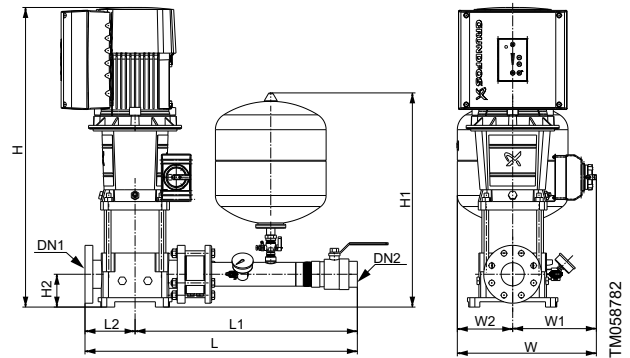
International range

Pump type	Motor [kW]	Full-load current [A]	Supply Voltage [V]
CRE 32-2	7.50	14.10 - 11.20	3 x 380-500 V

Southern European range

Pump type	Motor [kW]	Full-load current [A]	Supply Voltage [V]
CRE 32-2	7.50	14.10 - 11.20	3 x 380-500 V

4.5.7.2 Dimensions and weights



International range

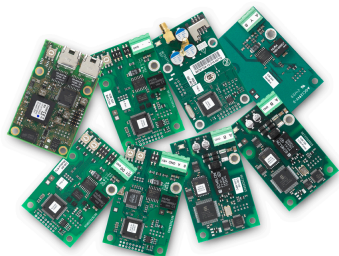
Pump type	Tank Volume [l]	Connection Inlet/Outlet	Net weight [kg]	Gross weight [kg]	H [mm]	H1 [mm]	H2 [mm]	W [mm]	W1 [mm]	W2 [mm]	L [mm]	L1 [mm]	L2 [mm]
CRE 32-2	33	DN 65	118	129	960	603	105	449	272	177	932	695	160

Southern European range

Pump type	Tank Volume [l]	Connection Inlet/Outlet	Net weight [kg]	Gross weight [kg]	H [mm]	H1 [mm]	H2 [mm]	W [mm]	W1 [mm]	W2 [mm]	L [mm]	L1 [mm]	L2 [mm]
CRE 32-2	33	DN 65	203	213	964	722	105	438	263	175	921	684	160

5. Accessories

5.1 Fieldbus communication interfaces



GR-1015444

The Grundfos fieldbus concept is the ideal solution for complete control of pumps and pump systems. The Communication Interface Module (CIM) enables data communication via open and interoperable networks.

Protocol	Name	Product Number
LON	CIM 100	96824797
Profibus DP	CIM 150	96824793
Modbus RTU	CIM 200	96824796
GSM/GRPS	CIM 250	96824795
GRM	CIM 270	96898815
BACnet	CIM 300	96893770
PROFITNET IO		
MODBUS TCB	CIM 500	98301408
BACnet IP		
GRM IP		

5.2 Grundfos GO Remote



GR-1015578

Grundfos GO Remote offers intuitive, handheld assistance and access to various Grundfos online tools to help you monitor the product, change settings, collect data and make reports

Grundfos GO Remote variant	Product number
Grundfos MI 204*	98424092
Grundfos MI 204 kit*	98612711
Grundfos MI 301	98046408

* This product is discontinued and can only be replaced with Grundfos MI 301.

5.3 Float switch



GR-1031152

The MS1 float switches are ON/OFF switches. Float switch MS 1 ACS is the ideal solution to control liquids with high hygienic requirements, for example in wells, bottling plants and drinking water reservoirs.

Product Name	Cable Length	Product Number
1 float switch MS1 ACS	10 meters	99023672
1 float switch MS1 ACS	20 meters	99023669

5.4 Dry-running protection

Dry-running protection automatically stops the pump from running without liquid. The dry-running protection unit is installed on-site.

Product Name	Pressure [bar]	Product Number
Hydro Solo-E*	0.11 - 2	96421253
	0.22 - 4	96421254
	0.5 - 8	96421255

* Only available as an accessory for Hydro Solo-E variants.

6. Product numbers

Hydro Solo-E Optimum

Product number	Pump type	Voltage [V]	Stainless steel	Cast iron	Product range
99432874	Hydro Solo-E CRIE 3-7	1 x 200-240	•		International
99432875	Hydro Solo-E CRIE 5-5	1 x 200-240	•		International
99432876	Hydro Solo-E CRIE 5-7	1 x 200-240	•		International
99432877	Hydro Solo-E CRIE 5-9	3 x 380-500	•		International
99432878	Hydro Solo-E CRIE 10-3	1 x 200-240	•		International
99432879	Hydro Solo-E CRIE 10-3	3 x 380-500	•		International
99432880	Hydro Solo-E CRIE 15-2	3 x 380-500	•		International
99432881	Hydro Solo-E CRIE 15-3	3 x 380-500	•		International

Hydro Solo-E

Product number	Pump type	Voltage [V]	Stainless steel	Cast iron	Product range
98453506	Hydro Solo-E CRE 1-4	1 x 200-240		•	International
98769669	Hydro Solo-E CRE 1-6	1 x 200-240		•	International
98453546	Hydro Solo-E CRE 1-9	1 x 200-240		•	International
98453507	Hydro Solo-E CRE 1-13	1 x 200-240		•	International
98453508	Hydro Solo E CRE 1-17	1 x 200-240		•	International
98453542	Hydro Solo-E CRE 3-4	1 x 200-240		•	International
98453509	Hydro Solo-E CRE 3-5	1 x 200-240		•	International
98453510	Hydro Solo-E CRE 3-8	1 x 200-240		•	International
98453543	Hydro Solo-E CRE 3-11	1 x 200-240		•	International
98453544	Hydro Solo-E CRE 3-15	3 x 380-500		•	International
91048901	Hydro Solo-E CRE 3-15	3 x 380-500		•	International
98453511	Hydro Solo-E CRE 5-2	1 x 200-240		•	International
98453512	Hydro Solo-E CRE 5-5	1 x 200-240		•	International
98453513	Hydro Solo-E CRE 5-9	3 x 380-500		•	International
91048902	Hydro Solo-E CRE 5-12	3 x 380-500		•	International
91048903	Hydro Solo-E CRE 5-14	3 x 380-480		•	International
98453519	Hydro Solo-E CRE 10-1	1 x 200-240		•	International
98453520	Hydro Solo-E CRE 10-3	3 x 380-500		•	International
91048904	Hydro Solo-E CRE 10-5	3 x 380-500		•	International
91048905	Hydro Solo-E CRE 10-6	3 x 380-500		•	International
99150625	Hydro Solo-E CRE 15-2	3 x 380-480		•	International
99150626	Hydro Solo-E CRE 15-3	3 x 380-480		•	International
91048907	Hydro Solo-E CRE 15-5	3 x 380-500		•	International
91048908	Hydro Solo-E CRE 15-7	3 x 380-500		•	International
91048909	Hydro Solo-E CRE 20-2	3 x 380-480		•	International
91048910	Hydro Solo-E CRE 20-3	3 x 380-480		•	International
91048911	Hydro Solo-E CRE 20-4	3 x 380-500		•	International
99150631	Hydro Solo-E CRE 20-7	3 x 380-500		•	International
91048913	Hydro Solo-E CRE 32-2	3 x 380-500		•	International
91048917	Hydro Solo-E CRE 64-1	3 x 380-415		•	International
98488802	Hydro Solo-E CRE 1-6	1 x 200-240		•	Southern European
98478534	Hydro Solo-E CRE 1-9	1 x 200-240		•	Southern European
98478535	Hydro Solo-E CRE 1-13	1 x 200-240		•	Southern European
98478540	Hydro Solo-E CRE 3-8	1 x 200-240		•	Southern European
98478541	Hydro Solo-E CRE 3-11	1 x 200-240		•	Southern European
99172030	Hydro Solo-E CRE 3-15	3 x 380-500		•	Southern European
98478545	Hydro Solo-E CRE 5-5	1 x 200-240		•	Southern European
98478546	Hydro Solo-E CRE 5-9	3 x 380-415		•	Southern European
99172032	Hydro Solo-E CRE 5-12	3 x 380-415		•	Southern European

Product number	Pump type	Voltage [V]	Stainless steel	Cast iron	Product range
99172044	Hydro Solo-E CRE 5-14	3 x 380-415		•	Southern European
98478550	Hydro Solo-E CRE 10-3	3 x 380-480		•	Southern European
99172045	Hydro Solo-E CRE 10-5	3 x 380-480		•	Southern European
99172046	Hydro Solo-E CRE 10-6	3 x 380-480		•	Southern European
99172049	Hydro Solo-E CRE 15-2	3 x 380-480		•	Southern European
99172051	Hydro Solo-E CRE 15-3	3 x 380-480		•	Southern European
99172054	Hydro Solo-E CRE 15-5	3 x 380-415		•	Southern European
99172055	Hydro Solo-E CRE 15-7	3 x 380-415		•	Southern European
99172058	Hydro Solo-E CRE 20-2	3 x 380-480		•	Southern European
99172059	Hydro Solo-E CRE 20-3	3 x 380-480		•	Southern European
99172060	Hydro Solo-E CRE 20-4	3 x 380-415		•	Southern European
99172061	Hydro Solo-E CRE 20-7	3 x 380-415		•	Southern European
99172063	Hydro Solo-E CRE 32-2	3 x 380-500		•	Southern European
99172066	Hydro Solo-E CRE 64-1	3 x 380-500		•	Southern European
99507461	Hydro Solo-E CRIE 3-4	1 x 200-240	•		Netherlands
99617989	Hydro Solo-E CRIE 3-5	1 x 200-240	•		Netherlands
99204952	Hydro Solo-E CRIE 3-8	1 x 200-240	•		Netherlands
99204953	Hydro Solo-E CRIE 5-5	1 x 200-240	•		Netherlands
99204954	Hydro Solo-E CRIE 5-9	3 x 380-500	•		Netherlands
99204955	Hydro Solo-E CRIE 10-3	3 x 380-500	•		Netherlands
99204956	Hydro Solo-E CRIE 10-5	3 x 380-500	•		Netherlands
99204957	Hydro Solo-E CRIE 15-3	3 x 380-500	•		Netherlands

7. Grundfos Product Center

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

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

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.

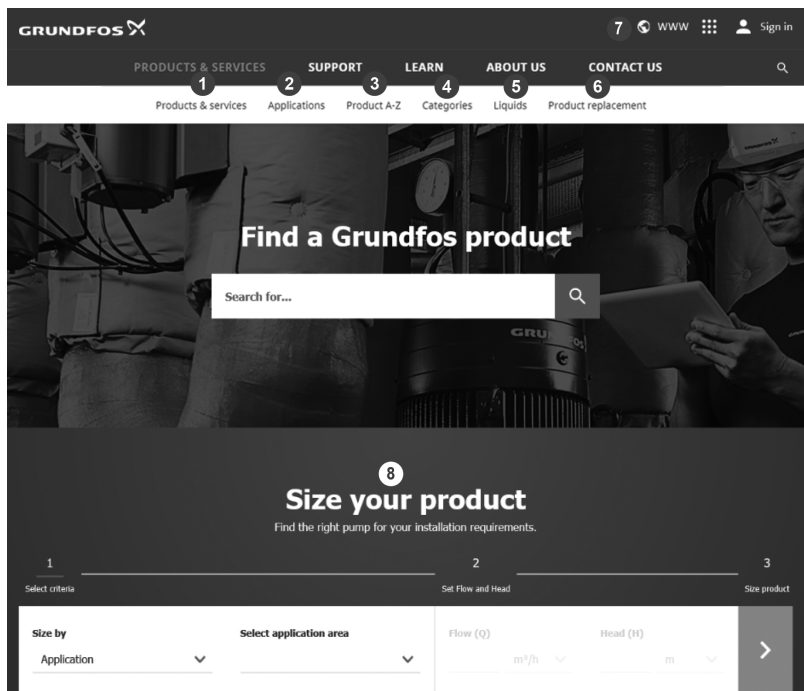
Downloads

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.

Example: <https://product-selection.grundfos.com/uk>



Pos.	Description
1	Products & services enables you to find products and documents by typing a product number or name into the search field.
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.

