

SMART Digital - DDC

Installation and operating instructions



Original installation and operating instructions.

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Warning

Prior to installation, read these installation and operating instructions. Installation and operation must comply with local regulations and accepted codes of good practice.

1. Safety instructions

These installation and operating instructions contain general instructions that must be observed during installation, operation and maintenance of the pump. It must therefore be read by the installation engineer and the relevant qualified operator prior to installation and start-up, and must be available at the installation location at all times.

1.1 Symbols used in this document



Warning

If these safety instructions are not observed, it may result in personal injury.

Caution

If these safety instructions are not observed, it may result in malfunction or damage to the equipment.

Note

Notes or instructions that make the job easier and ensure safe operation.

1.2 Qualification and training of personnel

The personnel responsible for the installation, operation and service must be appropriately qualified for these tasks. Areas of responsibility, levels of authority and the supervision of the personnel must be precisely defined by the operator. If necessary, the personnel must be trained appropriately.

Risks of not observing the safety instructions

Non-observance of the safety instructions may have dangerous consequences for the personnel, the environment and the pump and may result in the loss of any claims for damages.

It may lead to the following hazards:

- Personal injury from exposure to electrical, mechanical and chemical influences.
- Damage to the environment and personal injury from leakage of harmful substances.

1.3 Safety instructions for the operator/user

The safety instructions described in these instructions, existing national regulations on health protection, environmental protection and for accident prevention and any internal working, operating and safety regulations of the operator must be observed. Information attached to the pump must be observed.

Leakages of dangerous substances must be disposed of in a way that is not harmful to the personnel or the environment.

Damage caused by electrical energy must be prevented, see the regulations of the local electricity supply company.

Before starting work on the pump, the pump must be in the "Stop" operating state or be disconnected from the power supply. The system must be pressureless!

Caution

Note

The mains plug is the separator separating the pump from the mains.

Only original accessories and original spare parts should be used. Using other parts can result in exemption from liability for any resulting consequences.

1.4 Safety of the system in the event of a failure in the dosing pump

The dosing pump was designed according to the latest technologies and is carefully manufactured and tested.

If it fails regardless of this, the safety of the overall system must be ensured. Use the relevant monitoring and control functions for this.

Make sure that any chemicals that are released from the pump or any damaged lines do not cause damage to system parts and buildings.

Caution

The installation of leak monitoring solutions and drip trays is recommended.

1.5 Dosing chemicals

Warning



Before switching the supply voltage back on, the dosing lines must be connected in such a way that any chemicals in the dosing head cannot spray out and put people at risk. The dosing medium is pressurised and can be harmful to health and the environment.

Warning



When working with chemicals, the accident prevention regulations applicable at the installation site should be applied (e.g. wearing protective clothing). Observe the chemical manufacturer's safety data sheets and safety instructions when handling chemicals!

Caution

A deaeration hose, which is routed into a container, e.g. a drip tray, must be connected to the deaeration valve.

Caution

The dosing medium must be in liquid aggregate state! Observe the freezing and boiling points of the dosing medium!

The resistance of the parts that come into contact with the dosing medium, such as the dosing head, valve ball, gaskets and lines, depends on the medium, media temperature and operating pressure.

Caution

Ensure that parts in contact with the dosing media are resistant to the dosing medium under operating conditions, see data booklet! Should you have any questions regarding the material resistance and suitability of the pump for specific dosing media, please contact Grundfos.

1.6 Diaphragm breakage

If the diaphragm leaks or is broken, dosing liquid escapes from the drain opening (fig. 23, pos. 11) on the dosing head. Observe section 7.6 *Diaphragm breakage*.

Warning

Danger of explosion, if dosing liquid has entered the pump housing! Operation with damaged diaphragm can lead to dosing liquid entering the pump housing.



In case of diaphragm breakage, immediately separate the pump from the power supply!

Make sure the pump cannot be put back into operation by accident! Dismantle the dosing head without connecting the pump to the power supply and make sure no dosing liquid has entered the pump housing. Proceed as described in section 7.6.1 Dismantling in case of diaphragm breakage.

To avoid any danger resulting from diaphragm breakage, observe the following:

- Perform regular maintenance. See section 7.1 *Regular maintenance*.
- Never operate the pump with blocked or soiled drain opening.
 - If the drain opening is blocked or soiled, proceed as described in section 7.6.1 *Dismantling in case of diaphragm breakage*.
- Never attach a hose to the drain opening. If a hose is attached to the drain opening, it is impossible to recognise escaping dosing liquid.
- Take suitable precautions to prevent harm to health and damage to property from escaping dosing liquid.
- Never operate the pump with damaged or loose dosing head screws.

2. General information



The DDC dosing pump is a self-priming diaphragm pump. It consists of a housing with stepper motor and electronics, a dosing head with diaphragm and valves and the control cube.

Excellent dosing features of the pump:

- Optimal intake even with degassing media, as the pump always works at full suction stroke volume.
- Continuous dosing, as the medium is sucked up with a short suction stroke, regardless of the current dosing flow, and dosed with the longest possible dosing stroke.

2.1 Applications

The pump is suitable for liquid, non-abrasive, non-flammable and non-combustible media strictly in accordance with the instructions in these installation and operating instructions.

Areas of application

- Drinking water treatment
- Wastewater treatment
- Swimming pool water treatment
- Boiler water treatment
- CIP (Clean-In-Place)
- Cooling water treatment
- Process water treatment
- Wash plants
- Chemical industry
- Ultrafiltration processes and reverse osmosis
- Irrigation
- Paper and pulp industry
- Food and beverage industries

2.2 Improper operating methods

The operational safety of the pump is only guaranteed if it is used in accordance with section 2.1 Applications.

Warning

Other applications or the operation of pumps in ambient and operating conditions, which are not approved, are considered improper and are not permitted. Grundfos cannot be held liable for any damage resulting from incorrect use.



Warning

The pump is NOT approved for operation in potentially explosive areas!



Warning

A sunscreen is required for outdoor installation!



Frequent disengagement from the mains voltage, e.g. via a relay, can result in damage to the pump electronics and in the breakdown of the pump. The dosing accuracy is also reduced as a result of internal start procedures.

Caution

Do not control the pump via the mains voltage for dosing purposes! Only use the "External stop" function to start and stop the pump!

2.3 Symbols on the pump

Symbol	Description
	Indication of universally dangerous spot.
	In case of emergency and prior to all maintenance work and repairs, take the mains plug out of the mains supply!
	The device complies with electrical safety class II.
	Connection for deaeration hose at dosing head. If the deaeration hose is not correctly connected, danger will arise due to possible leakage of dosing liquid!

2.4 Warranty

A guarantee claim in accordance with our general terms of sale and delivery is only valid if the following requirements are fulfilled:

- The pump is used in accordance with the information within this manual.
- The pump is not dismantled or incorrectly handled.
- The maintenance is carried out by authorised and qualified personnel.

2.5 Nameplate

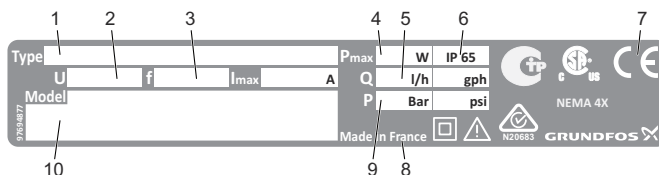


Fig. 1 Nameplate

Pos.	Description	Pos.	Description
1	Type designation	6	Enclosure class
2	Voltage	7	Mark of approval, CE mark, etc.
3	Frequency	8	Country of origin
4	Power consumption	9	Max. operating pressure
5	Max. dosing flow	10	Model

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2.6 Type key

The type key is used to identify the precise pump and is not used for configuration purposes.

Code	Example	DDC	6-	10	AR-	PP/	V/	C-	F-	3	1	U2U2	F	G
	Pump type													
	Max. flow [l/h]													
	Max. pressure [bar]													
	Control variant													
A	Standard													
AR	A with alarm relay and analog input													
	Dosing head material													
PP	Polypropylene													
PVC	PVC (polyvinyl chloride, only up to 10 bar)													
PV	PVDF (polyvinylidene fluoride)													
SS	Stainless steel DIN 1.4401													
	Gasket material													
E	EPDM													
V	FKM													
T	PTFE													
	Valve ball material													
C	Ceramic													
SS	Stainless steel DIN 1.4401													
	Control cube position													
F	Front-mounted (can be changed to the right or left)													
	Voltage													
3	1 x 100-240 V, 50/60 Hz													
	Valve type													
1	Standard													
2	Spring-loaded (HV version)													
	Suction/discharge side connection													
U2U2	Hose, 4/6 mm, 6/9 mm, 6/12 mm, 9/12 mm													
U7U7	Hose, 0.17" x 1/4"; 1/4" x 3/8"; 3/8" x 1/2"													
AA	Threaded Rp 1/4", female (stainless steel)													
VV	Threaded 1/4" NPT, female (stainless steel)													
XX	No connection													
	Installation set*													
I001	Hose, 4/6 mm (up to 7.5 l/h, 13 bar)													
I002	Hose, 9/12 mm (up to 60 l/h, 9 bar)													
I003	Hose, 0.17" x 1/4" (up to 7.5 l/h, 13 bar)													
I004	Hose, 3/8" x 1/2" (up to 60 l/h, 10 bar)													
	Mains plug													
F	EU													
B	USA, Canada													
G	UK													
I	Australia, New Zealand, Taiwan													
E	Switzerland													
J	Japan													
L	Argentina													
	Design													
G	Grundfos													

* Including: 2 pump connections, foot valve, injection unit, 6 m PE discharge hose, 2 m PVC suction hose, 2 m PVC deaeration hose (4/6 mm).

2.7 Product overview

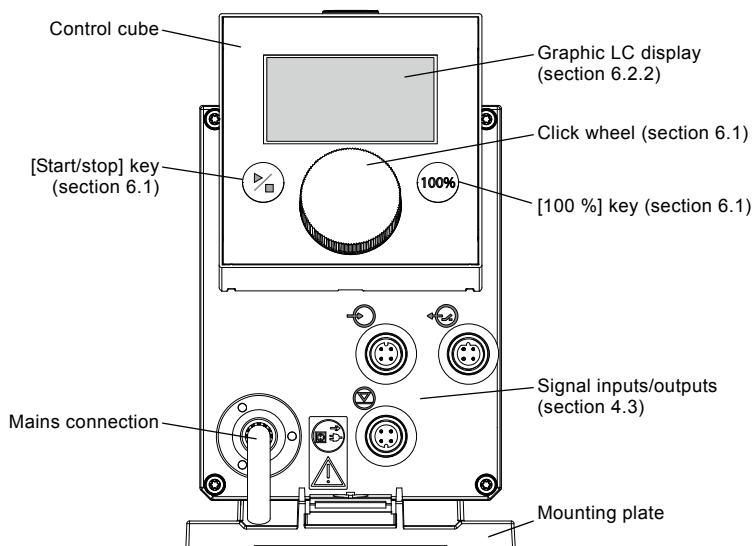


Fig. 2 Front view of the pump

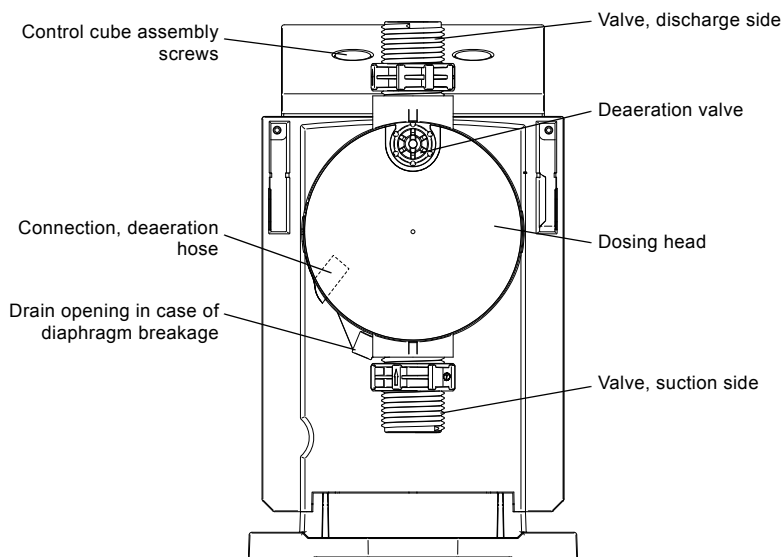


Fig. 3 Rear view of the pump

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3. Technical data / Dimensions



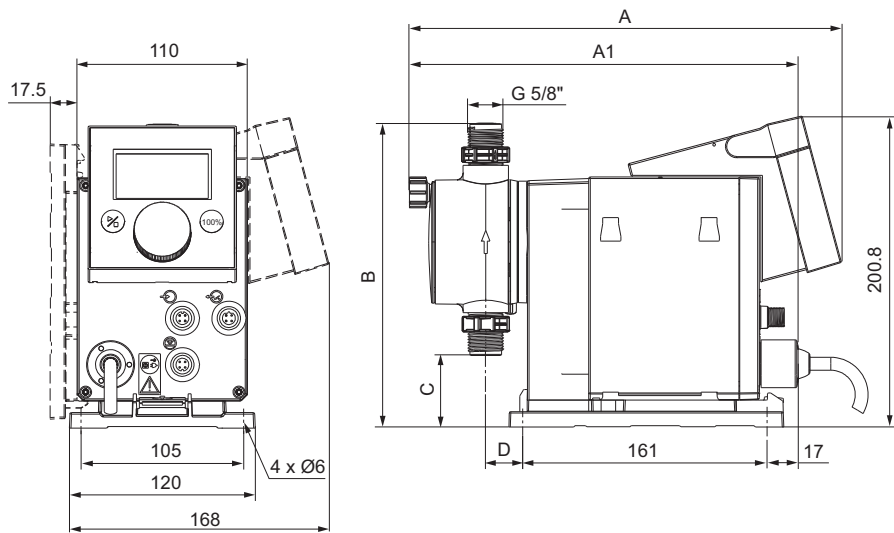
3.1 Technical data

Data		6-10	9-7	15-4
Mechanical data	Turndown ratio (setting range)	[1:X]	1000	1000
	Max. dosing capacity	[l/h]	6.0	9.0
		[gph]	1.5	2.4
	Max. dosing capacity with SlowMode 50 %	[l/h]	3.00	4.50
		[gph]	0.75	1.20
	Max. dosing capacity with SlowMode 25 %	[l/h]	1.50	2.25
		[gph]	0.38	0.60
	Min. dosing capacity	[l/h]	0.0060	0.0090
		[gph]	0.0015	0.0024
	Max. operating pressure	[bar]	10	7
		[psi]	150	100
	Max. stroke frequency ¹⁾	[strokes/min]	140	200
	Stroke volume	[ml]	0.81	0.84
	Accuracy of repeatability	[%]	± 1	
	Max. suction lift during operation ²⁾	[m]	6	
	Max. suction lift when priming with wet valves ²⁾	[m]	2	2
	Min. pressure difference between suction and discharge side	[bar]	1	
			3	
	Max. inlet pressure, suction side	[bar]	2	
	Max. viscosity in SlowMode 25 % with spring-loaded valves ³⁾	[mPas] (= cP)	2500	2000
	Max. viscosity in SlowMode 50 % with spring-loaded valves ³⁾	[mPas] (= cP)	1800	1300
	Max. viscosity without SlowMode with spring-loaded valves ³⁾	[mPas] (= cP)	600	500
	Max. viscosity without spring-loaded valves ³⁾	[mPas] (= cP)	50	50
	Min. internal hose/pipe diameter suction/discharge side ^{2), 4)}	[mm]	4	6
	Min. internal hose/pipe diameter suction/discharge side (high viscosity) ⁴⁾	[mm]	9	
	Min./Max. liquid temperature	[°C]	-10/45	
	Min./Max. ambient temperature	[°C]	0/45	
	Min./Max. storage temperature	[°C]	-20/70	
	Max. relative humidity (non-condensing)	[%]	96	
	Max. altitude above sea level	[m]	2000	

Data			6-10	9-7	15-4
Electrical data	Voltage	[V]	100-240 V, - 10 %/+ 10 %, 50/60 Hz		
	Length of mains cable	[m]	1.5		
	Max. inrush current for 2 ms (100 V)	[A]	8		
	Max. inrush current for 2 ms (230 V)	[A]	25		
	Max. power consumption P ₁	[W]	22		
	Enclosure class		IP65, Nema 4X		
	Electrical safety class		II		
	Pollution degree		2		
Signal input	Max. load for level input		12 V, 5 mA		
	Max. load for pulse input		12 V, 5 mA		
	Max. load for External stop input		12 V, 5 mA		
	Min. pulse length	[ms]	5		
	Max. pulse frequency	[Hz]	100		
	Impedance at 0/4-20 mA analog input	[Ω]	15		
	Accuracy of analog input (full-scale value)	[%]	± 1.5		
	Min. resolution of analog input	[mA]	0.05		
	Max. resistance in level/pulse circuit	[Ω]	1000		
Signal output	Max. ohmic load on relay output	[A]	0.5		
	Max. voltage on relay output	[V]	30 VDC / 30 VAC		
Weight/size	Weight (PVC, PP, PVDF)	[kg]	2.4		
	Weight (stainless steel)	[kg]	3.2		
	Diaphragm diameter	[mm]	44	50	
Sound pressure	Max. sound pressure level	[dB(A)]	60		
Approvals		CE, CB, CSA-US, NSF61, GOST/TR, C-Tick			

- 1) The maximum stroke frequency varies depending on calibration
- 2) Data is based on measurements with water
- 3) Maximum suction lift: 1 m, dosing capacity reduced (approx. 30 %)
- 4) Length of suction line: 1.5 m, length of discharge line: 10 m (at max. viscosity)

3.2 Dimensions



TM04 8169 3510

Fig. 4 Dimensional sketch

Pump type	A [mm]	A1 [mm]	B [mm]	C [mm]	D [mm]
DDC 6-10	280	251	196	46.5	24
DDC 9-7	280	251	196	46.5	24
DDC 15-4	280	251	200.5	39.5	24

4. Assembly and installation

For use in Australia:

Installation of this product must comply with AS/NZS3500!

Note

Certificate of suitability number: CS9431

C-tick number: N20683



4.1 Pump assembly

Warning

Install the pump in such a way that the plug can easily be reached by the operator during operation! This will enable the operator to separate the pump from the mains quickly in case of emergency!



The pump is delivered with a mounting plate. The mounting plate can be mounted vertically e.g. on a wall or horizontally e.g. on a tank. It takes just a few quick steps to firmly secure the pump to the mounting plate by means of a slot mechanism.

The pump can easily be released from the mounting plate for maintenance.

4.1.1 Requirements

- The mounting surface must be stable and must not vibrate.
- Dosing must flow upwards vertically.

4.1.2 Align and install mounting plate

- **Vertical installation:** Mounting plate slot mechanism must be above.
- **Horizontal installation:** Mounting plate slot mechanism must be opposite the dosing head.
- The mounting plate can be used as a drill template, please see fig. 4 for drill hole distances.

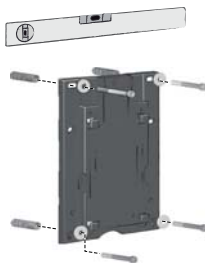


Fig. 5 Locate mounting plate

Warning

Make sure that you do not damage any cables and lines during installation!

1. Indicate drill holes.
2. Drill holes.
3. Secure mounting plate using four screws, diameter 5 mm, to the wall, on the bracket or the tank.

4.1.3 Engage pump in mounting plate

1. Attach the pump to the mounting plate support clamps and slide under slight pressure until it engages.

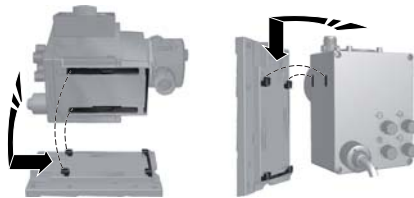


Fig. 6 Engaging the pump

4.1.4 Adjust control cube position

The control cube is fitted to the front of the pump on delivery. It can be turned by 90 ° so that the user can select to operate the pump from the right or left side.

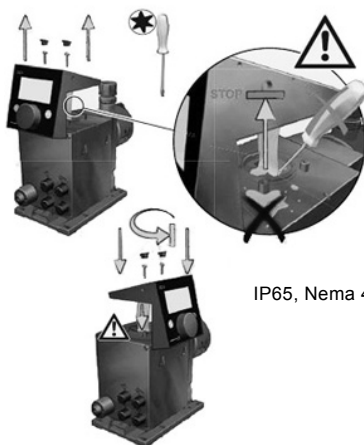
The enclosure class (IP65/Nema 4X) and shock protection are only guaranteed if the control cube is installed correctly!

Caution

Pump must be disconnected from the power supply!

Caution

1. Carefully remove both protective caps on the control cube using a thin screwdriver.
2. Loosen screws.
3. Carefully lift off control cube only so far from the pump housing that no tensile stress is produced on the flat band cable.
4. Turn control cube by 90 ° and re-attach.
 - Make sure the O-ring is secure.
5. Tighten screws slightly and attach protective caps.



IP65, Nema 4X

Fig. 7 Adjusting control cube

TM04 1159 0110

TM04 1162 0110

TM04 1182 0110

4.2 Hydraulic connection



Warning

Risk of chemical burns!

Wear protective clothing (gloves and goggles) when working on the dosing head, connections or lines!

The dosing head may contain water from the factory check!

Caution

When dosing media which should not come into contact with water, another medium must be dosed beforehand!

Caution

Faultless function can only be guaranteed in conjunction with lines supplied by Grundfos!

Caution

The lines used must comply with the pressure limits as per section 3.1 Technical data!

Important information on installation

- Observe suction lift and line diameter, see section 3.1 *Technical data*.
- Shorten hoses at right angles.
- Ensure that there are no loops or kinks in the hoses.
- Keep suction line as short as possible.
- Route suction line up towards the suction valve.
- Installing a filter in the suction line protects the entire installation against dirt and reduces the risk of leakage.

Hose connection procedure

1. Push union nut and tensioning ring across hose.
2. Push cone part fully into hose, see fig. 8.
3. Attach cone part with hose to corresponding pump valve.
4. Tighten union nut manually.
– Do not use tools!
5. Tighten up union nuts after 2-5 operating hours if using PTFE gaskets!
6. Attach deaeration hose to the corresponding connection (see fig. 3) and run into a container or a collecting tray.

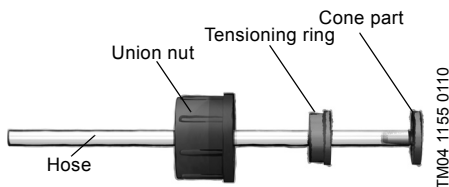


Fig. 8 Hydraulic connection

Note

Pressure differential between suction and discharge side must be at least 1 bar / 14.5 psi!

Caution

Tighten the dosing head screws with a torque wrench once before commissioning and again after 2-5 operating hours at 4 Nm.

Installation example

The pump offers various installation options. In the picture below, the pump is installed in conjunction with a suction line, level switch and multifunction valve on a Grundfos tank.

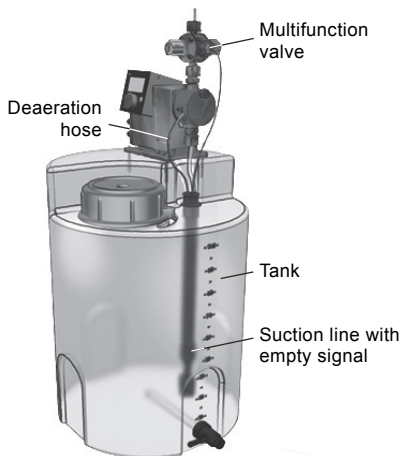


Fig. 9 Installation example

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TM04 1155 0110

4.3 Electrical connection


Warning

The enclosure class (IP65/Nema 4X) is only guaranteed if plugs or protective caps are correctly installed!


Warning

The pump can start automatically when the mains voltage is switched on!
Do not manipulate mains plug or cable!

Note

The mains plug is the separator separating the pump from the mains.

The rated voltage of the pump, see section 2.5 Nameplate, must conform to local conditions.

Signal connections


Warning

Electric circuits of external devices connected to the pump inputs must be separated from dangerous voltage by means of double or reinforced insulation!

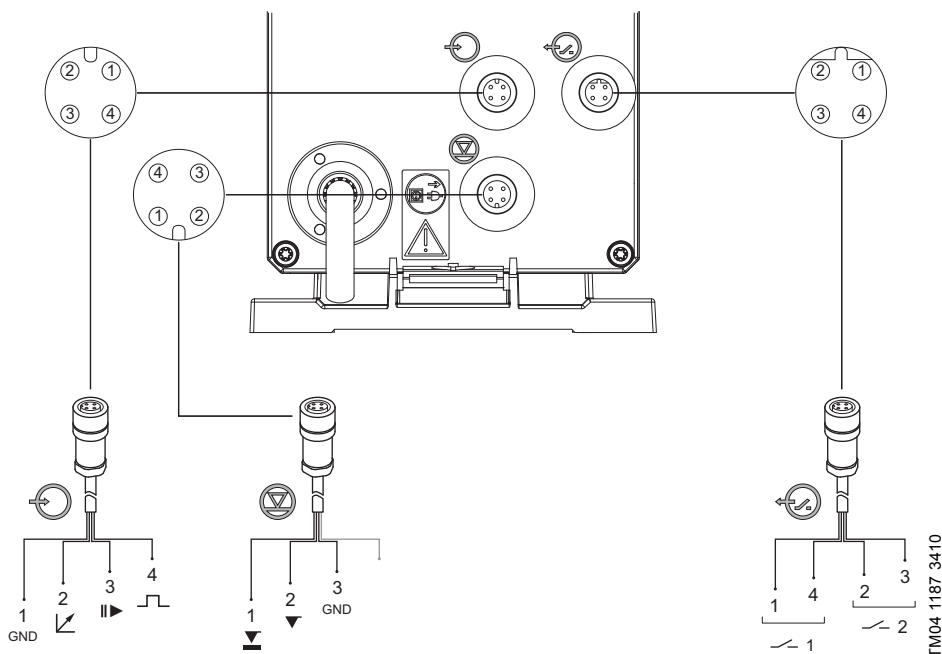


Fig. 10 Wiring diagram of the electrical connections

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Analog, External stop and pulse input

	Function	Pins				Plug type
		1/brown	2/white	3/blue	4/black	
	Analog	GND/(-) mA	(+) mA			mA signal
	External stop	GND		X		Pulse
	Pulse	GND			X	Pulse

Level signals: Empty signal and Low-level signal

	Function	Pins				Plug type
		1	2	3	4	
	Low-level signal	X		GND		Pulse
	Empty signal		X	GND		Pulse

Relay outputs*

	Function	Pins				Plug type
		1/brown	2/white	3/blue	4/black	
	Relay 1	X			X	Pulse
	Relay 2		X	X		Pulse

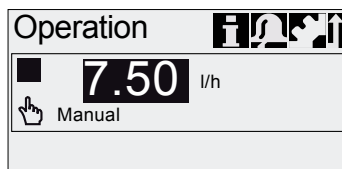
* Applies to DDC-AR control variant

5. Startup

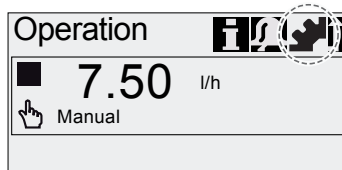
5.1 Setting the menu language

For description of control elements, see section 6.

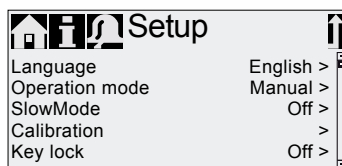
1. Turn click wheel to highlight the cog symbol.



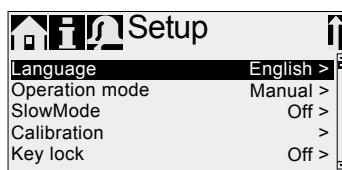
2. Press the click wheel to open the "Setup" menu.



3. Turn the click wheel to highlight the "Language" menu.



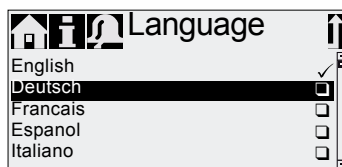
4. Press the click wheel to open the "Language" menu.



5. Turn the click wheel to highlight the desired language.



6. Press the click wheel to select the highlighted language.



7. Press the click wheel again to confirm the "Confirm settings?" prompt and apply the setting.

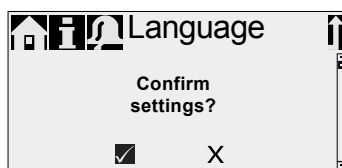


Fig. 11 Set menu language

5.2 Deaerating the pump



Warning

The deaeration hose must be connected correctly and inserted into a suitable tank!

1. Open deaeration valve by approximately half a turn.
2. Press and hold down the [100 %] key (deaeration key) until liquid flows continuously without any bubbles from the deaeration hose.
3. Close deaeration valve.

Press the [100 %] key and simultaneously turn the click wheel clockwise to increase the duration of the process to up to 300 seconds. After setting the seconds, do not press the key any longer.

Note

5.3 Calibrating the pump

The pump is calibrated in the factory for media with a viscosity similar to water at maximum pump backpressure (see section 3.1 *Technical data*).

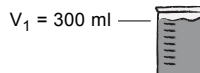
If the pump is operated with a backpressure that deviates or if dosing a medium whose viscosity deviates, the pump must be calibrated.

Requirements

- The hydraulics and electrics of the pump are connected (see section 4. *Assembly and installation*).
- The pump is integrated into the dosing process under operating conditions.
- The dosing head and suction hose are filled with dosing medium.
- The pump has been deaerated.

Calibration process - example for DDC 6-10

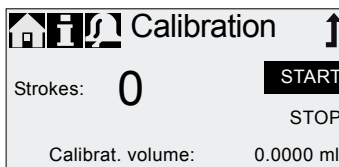
1. Fill a measuring beaker with dosing medium.
Recommended filling volumes V_1 :
 - DDC 6-10: 0.3 l
 - DDC 9-7: 0.5 l
 - DDC 15-4: 1.0 l



2. Read off and note down the fill volume V_1 (e.g. 300 ml).
3. Place the suction hose in the measuring beaker.



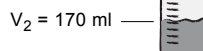
4. Start the calibration process in the "Setup > Calibration" menu.



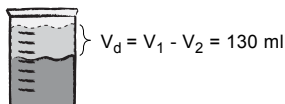
5. The pump executes 200 dosing strokes and displays the factory calibration value (e.g. 125 ml).



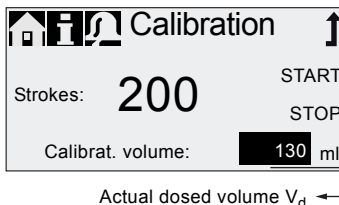
6. Remove the suction hose from the measuring beaker and check the remaining volume V_2 (e.g. 170 ml).



7. From V_1 and V_2 , calculate the actual dosed volume $V_d = V_1 - V_2$ (e.g. 300 ml - 170 ml = 130 ml).



8. Set and apply V_d in the calibration menu.
 - The pump is calibrated.



6. Operation

6.1 Control elements

The pump control panel includes a display and the following control elements.

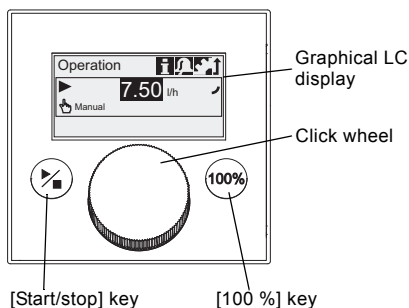


Fig. 12 Control panel

Keys

Key	Function
[Start/stop] key	Starting and stopping the pump.
[100 %] key	The pump doses at maximum flow regardless of the operation mode.

Click wheel

The click wheel is used to navigate through the menus, select settings and confirm them.

Turning the click wheel clockwise moves the cursor clockwise in increments in the display. Moving your finger counter-clockwise moves the cursor counter-clockwise.

6.2 Display and symbols

6.2.1 Navigation

In the "Info", "Alarm" and "Setup" main menus, the options and submenus are displayed in the rows below. Use the "Back" symbol to return to the higher menu level. The scroll bar at the right edge of the display indicates that there are further menu items which are not shown.

The active symbol (current cursor position) flashes. Press the click wheel to confirm your selection and open the next menu level. The active main menu is displayed as text, the other main menus are displayed as symbols. The position of the cursor is highlighted in black in the sub-menus.

When you position the cursor on a value and press the click wheel, a value is selected. Turning the click wheel clockwise increases the value, turning the click wheel counter-clockwise reduces the value. When you now press the click wheel, the cursor will be released again.

6.2.2 Operating states

The operating state of the pump is indicated by a symbol and display colour.

Display	Fault	Operating state		
White	-	Stop	Standby	
Green	-		Running	
Yellow	Warning	Stop	Standby	Running
Red	Alarm	Stop	Standby	

6.2.3 Sleep mode (energy-saving mode)

If in the "Operation" main menu the pump is not operated for 30 seconds, the header disappears. After two minutes, the display brightness is reduced.

If in any other menu the pump is not operated for two minutes, the display switches back to the "Operation" main menu and the display brightness is reduced. This state will be cancelled when the pump is operated or a fault occurs.

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6.2.4 Overview of display symbols

The following display symbols may appear in the menus.

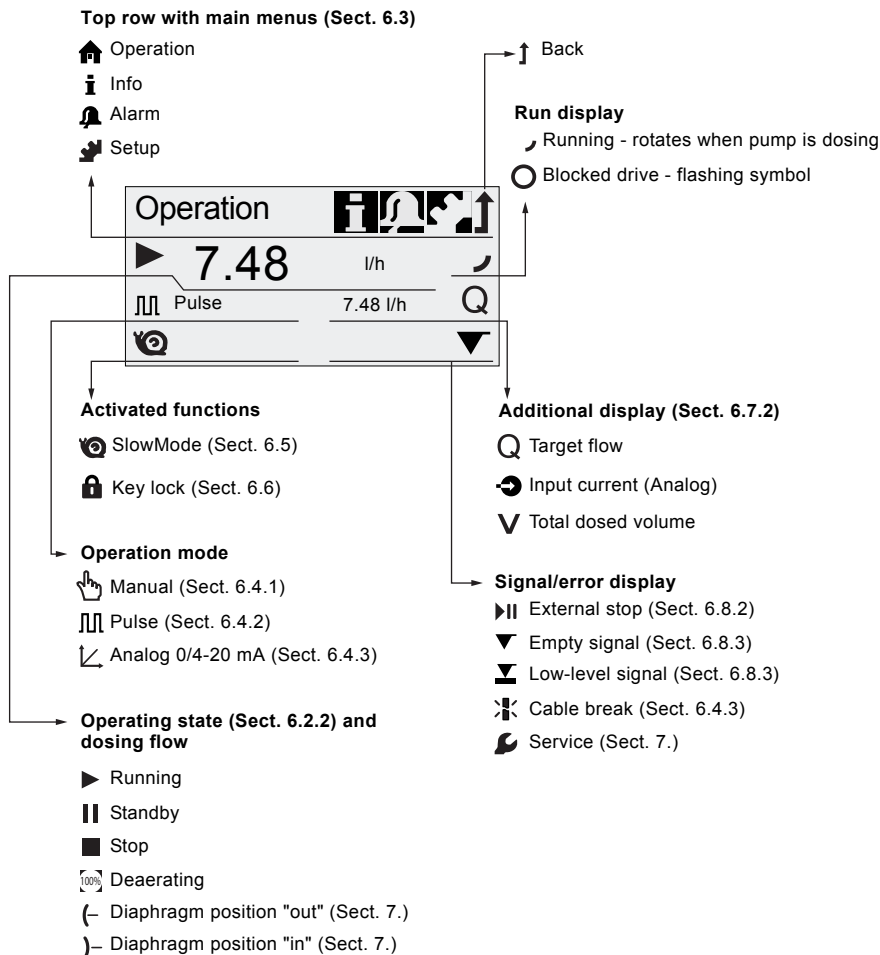


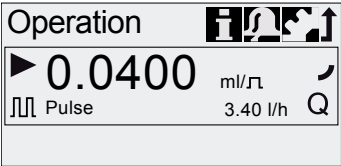
Fig. 13 Overview of display symbols

6.3 Main menus

The main menus are displayed as symbols at the top of the display. The currently active main menu is displayed as text.

6.3.1 Operation

Status information such as the dosing flow, selected operation mode and operating state is displayed in the "Operation" main menu.

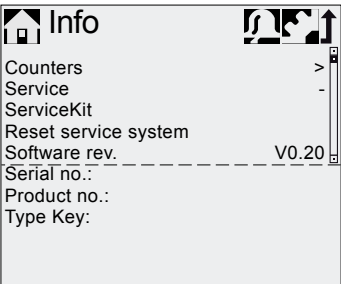


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6.3.2 Info

You can find various counters, product data and the service system status in the "Info" main menu. The information can be accessed during operation.

The service system can also be reset from here.



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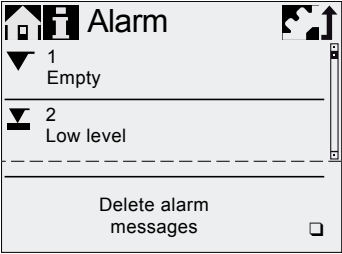
Counters

The "Info > Counters" menu contains the following counters:

Counters	Resettable
Volume	Yes
Total dosed volume [l] or US gallons	
Operating hours	No
Accumulated operating hours (pump switched on) [h]	
Motor runtime	No
Accumulated motor runtime [h]	
Strokes	No
Accumulated number of dosing strokes	
Power on/off	No
Accumulated frequency of switching mains voltage on	

6.3.3 Alarm

You can view errors in the "Alarm" main menu.

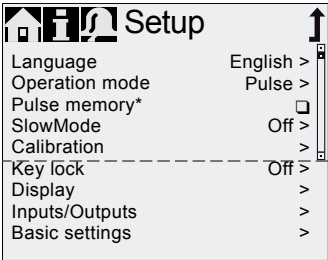


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Up to 10 warnings and alarms, together with their cause, are listed in chronological order. If the list is full, the oldest entry will be overwritten, see Section 8. *Faults*.

6.3.4 Setup

The "Setup" main menu contains menus for pump configuration. These menus are described in the following sections.



Section
5.1
6.4
6.4.2
6.5
5.3
6.6
6.7
6.8
6.9

* Menu "Pulse memory" is only displayed in operation mode "Pulse".

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6.4 Operation modes

Three different operation modes can be set in the "Setup > Operation mode" menu.

- Manual, see section 6.4.1
 - Pulse, see section 6.4.2
 - Analog 0-20mA, see section 6.4.3
- Analog 4-20mA, see section 6.4.3

6.4.1 Manual

In this operation mode, the pump constantly doses the dosing flow set with the click wheel. The dosing flow is set in l/h or ml/h in the "Operation" menu. The pump automatically switches between the units. Alternatively, the display can be reset to US units (gph). See section 6.7 *Display Setup*.

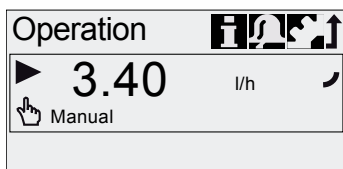


Fig. 14 Manual mode

The setting range depends on the pump type:

Type	Setting range*	
	[l/h]	[gph]
DDC 6-10	0.0060 - 6.0	0.0015 - 1.5
DDC 9-7	0.0090 - 9.0	0.0024 - 2.4
DDC 15-4	0.0150 - 15.0	0.0040 - 4.0

* When the "SlowMode" function is active, the maximum dosing flow is reduced, see section 3.1 *Technical data*.

6.4.2 Pulse

In this operation mode, the pump doses the set dosing volume for each incoming (potential-free) pulse, e.g. from a water meter. The pump automatically calculates the optimum stroke frequency for dosing the set volume per pulse.

The calculation is based on:

- the frequency of external pulses
- the set dosing volume/pulse.

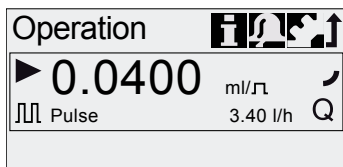


Fig. 15 Pulse mode

The dosing volume per pulse is set in ml/pulse in the "Operation" menu using the click wheel. The setting range for the dosing volume depends on the pump type:

Type	Setting range [ml/pulse]
DDC 6-10	0.0016 - 16.2
DDC 9-7	0.0017 - 16.8
DDC 15-4	0.0032 - 31.6

The frequency of incoming pulses is multiplied by the set dosing volume. If the pump receives more pulses than it can process at the maximum dosing flow, it runs at the maximum stroke frequency in continuous operation. Excess pulses will be ignored if the memory function is not enabled.

Memory function

When the "Setup > Pulse memory" function is enabled, up to 65,000 unprocessed pulses can be saved for subsequent processing.



Warning

Subsequent processing of saved pulses can cause local increase in concentration!

The contents of the memory will be deleted by:

- Switching off the power supply
- Changing the operation mode
- Interruption (e.g. alarm, External stop).

6.4.3 Analog 0/4-20 mA

Applies to DDC-AR control variant

In this operation mode, the pump doses according to the external analog signal. The dosing volume is proportional to the signal input value in mA.

Operation mode	Input value [mA]	Dosing flow [%]
4-20 mA	≤ 4.1	0
	≥ 19.8	100
0-20 mA	≤ 0.1	0
	≥ 19.8	100



If the input value in operation mode 4-20 mA falls below 2 mA, an alarm is displayed and the pump stops. A cable break or signal transmitter error has occurred. The "Cable break" symbol is displayed in the "Signal/error display" area of the display.

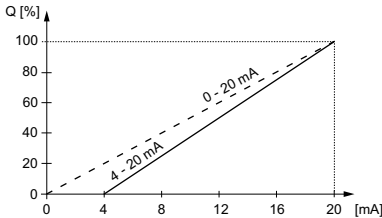


Fig. 16 Analog scaling

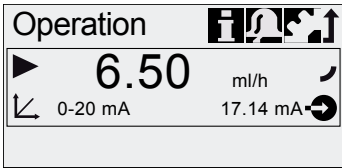


Fig. 17 Analog operation mode

6.5 SlowMode

When the "SlowMode" function is enabled, the pump slows down the suction stroke. The function is enabled in the "Setup > SlowMode" menu and is used to prevent cavitation in the following cases:

- for dosing media with a higher viscosity
- for degassing dosing media
- for long suction lines
- for large suction lift.

In the "Setup > SlowMode" menu, the speed of the suction stroke can be reduced to 50 % or 25 %.

Caution *Enabling the "SlowMode" function reduces the maximum dosing flow of the pump to the set percentage value!*

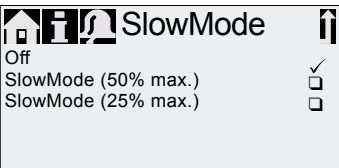


Fig. 18 SlowMode menu

6.6 Key lock



The key lock is set in the "Setup > Key lock" menu by entering a four-digit code. It protects the pump by preventing changes to settings. Two levels of key lock can be selected:

Level	Description
Settings	All settings can only be changed by entering the lock code. The [Start/stop] key and the [100 %] key are not locked.
Settings + keys	The [Start/stop] key and the [100 %] key and all settings are locked.

It is still possible to navigate in the "Alarm" and "Info" main menu and reset alarms.

6.6.1 Temporary deactivation

If the "Key lock" function is activated but settings need to be modified, the keys can be unlocked temporarily by entering the deactivation code. If the code is not entered within 10 seconds, the display automatically switches to the "Operation" main menu. The key lock remains active.

6.6.2 Deactivation

The key lock can be deactivated in the "Setup > Key lock" menu via the "Off" menu point. The key lock is deactivated after the general code "2583" or a pre-defined custom code has been entered.

6.7 Display Setup

Use the following settings in the "Setup > Display" menu to adjust the display properties:

- Units (metric/US)
- Display contrast
- Additional display.

6.7.1 Units

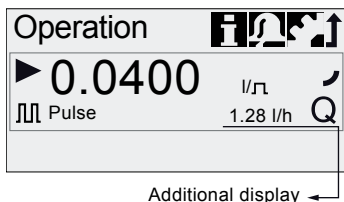
Metric units (litres/millilitres/bar) or US units (US gallons/PSI) can be selected. According to the operation mode and menu, the following units of measurement are displayed:

Operation mode/function	Metric units	US units
Manual control	ml/h or l/h	gph
Pulse control	ml/ $\square$	ml/ $\square$
0/4-20 mA	ml/h or l/h	gph
Analog control		
Calibration	ml	ml
Volume counter	l	gal

6.7.2 Additional display

The additional display provides additional information about the current pump status. The value is shown in the display with the corresponding symbol.

In "Pulse" mode the "Target flow" information can be displayed with Q = 1.28 l/h (see fig. 19).



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Fig. 19 Display with additional display

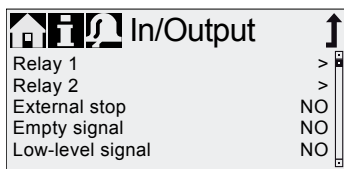
The additional display can be set as follows:

Setting	Description
Default display	Q Target flow (Pulse) ↻ Input current (analog) ¹⁾
Dosed volume	V Dosed vol. since last reset (see <i>Counters</i> on page 22)

¹⁾ only DDC-AR control variant

6.8 Inputs/Outputs

In the "Setup > Inputs/Outputs" menu, you can configure the two outputs "Relay 1 + Relay 2" and the signal inputs "External stop", "Empty signal" and "Low-level signal".



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Fig. 20 Inputs/Outputs menu

6.8.1 Relay outputs

Applies to DDC-AR control variant

The pump can switch two external signals using installed relays. The relays are switched by potential-free pulses. The connection diagram of the relays is shown in section 4.3 *Electrical connection*.

Both relays can be allocated with the following signals:

Relay 1 signal	Relay 2 signal	Description
Alarm*	Alarm	Display red, pump stopped (e.g. empty signal, etc.)
Warning*	Warning	Display yellow, pump is running (e.g. low-level signal, etc.)
Stroke signal	Stroke signal	Each full stroke
Pump dosing	Pump dosing*	Pump running and dosing
Pulse input**	Pulse input**	Each incoming pulse from pulse input

Contact type

NO*	NO*	Normally open contact
NC	NC	Normally closed contact

* Factory setting

** The correct transmission of incoming pulses can only be guaranteed up to a pulse frequency of 5 Hz.

6.8.2 External stop



The pump can be stopped via an external pulse, e.g. from a control room. When activating the external stop pulse, the pump switches from the operating state "Running" into the operating state "Standby". The corresponding symbol appears in the "Signal/error display" area of the display.

Frequent disengagement from the mains voltage, e.g. via a relay, can result in damage to the pump electronics and in the breakdown of the pump. The dosing accuracy is also reduced as a result of internal start procedures.

Caution

**Do not control the pump via the mains voltage for dosing purposes!
Only use the "External stop" function to start and stop the pump!**

The contact type is factory-set to closing contact (NO). In the "Setup > Inputs/Outputs > External stop" menu, the setting can be changed to opening contact (NC).

6.8.3 Empty and Low level signals ▼ ▮

In order to monitor the fill level in the tank, a dual-level control unit can be connected to the pump. The pump responds to the signals as follows:

Fill level sensor	Pump status
Low level	• Display is yellow
	• ▮ flashes
	• Pump continues running
Empty	• Display is red
	• ▼ flashes
	• Pump stops

Caution

When the tank is filled up again, the pump restarts automatically!

Both signal inputs are allocated to the closing contact (NO) in the factory. They can be re-allocated in the "Setup > Inputs/Outputs" menu to opening contact (NC).

6.9 Basic settings

All settings can be reset to the settings default upon delivery in the "Setup > Basic settings" menu.

Selecting "Save customer settings" saves the current configuration to the memory. This can then be activated using "Load customer settings".

The memory always contains the previously saved configuration. Older memory data is overwritten.

7. Service



In order to ensure a long service life and dosing accuracy, wearing parts such as diaphragms and valves must be regularly checked for signs of wear. Where necessary, replace worn parts with original spare parts made from suitable materials.

Should you have any questions, please contact your service partner.

7.1 Regular maintenance

Interval	Task
Daily	Check, if liquid leaks from the drain opening (fig. 23, pos. 11) and if the drain opening is blocked or soiled. If so, follow the instructions given in section 7.6 <i>Diaphragm breakage</i> .
	Check, if liquid leaks from the dosing head or valves. If necessary, tighten dosing head screws with a torque wrench at 4 Nm. If necessary, tighten valves and cap nuts, or perform service (see 7.4 <i>Perform service</i>).
	Check, if a service requirement is present at the pump display. If so, follow the instructions given in section 7.3 <i>Service system</i> .
Weekly	Clean all pump surfaces with a dry and clean cloth.
Every 3 months	Check dosing head screws. If necessary, tighten dosing head screws with a torque wrench at 4 Nm. Replace damaged screws immediately.

7.2 Cleaning

If necessary, clean all pump surfaces with a dry and clean cloth.

7.3 Service system

According to the motor runtime service requirements will appear. Service requirements appear regardless of the current operating state of the pump and do not affect the dosing process. If no service requirement has occurred, service has to be performed at least every two years.

Service requirement	Motor runtime [h]*
Service soon!	7500
Service now!	8000

* Since the last service system reset

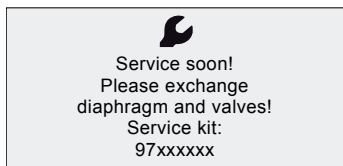


Fig. 21 Service soon!

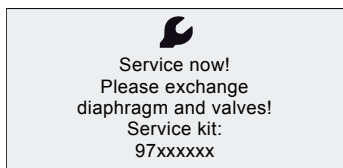


Fig. 22 Service now!

Caution

For media which result in increased wear, the service interval must be shortened.

The service requirement signals when the replacement of wearing parts is due and displays the number of the service kit. Press the click wheel to temporarily hide the service prompt.

When the "Service now!" message appears (displayed daily), the pump must be serviced immediately. The  symbol appears in the "Operation" menu.

The number of the service kit required is also displayed in the "Info" menu.

7.4 Perform service

Only spare parts and accessories from Grundfos should be used for maintenance. The usage of non-original spare parts and accessories renders any liability for resulting damages null and void.

Further information about carrying out maintenance can be found in the service kit catalog on our homepage www.grundfos.com.

Warning

Risk of chemical burns!

When dosing dangerous media, observe the corresponding precautions in the safety data sheets!



Wear protective clothing (gloves and goggles) when working on the dosing head, connections or lines!

Do not allow any chemicals to leak from the pump. Collect and dispose of all chemicals correctly!

Before any work to the pump, the pump must be in the "Stop" operating state or be disconnected from the power supply. The system must be pressureless!

Caution

7.4.1 Dosing head overview

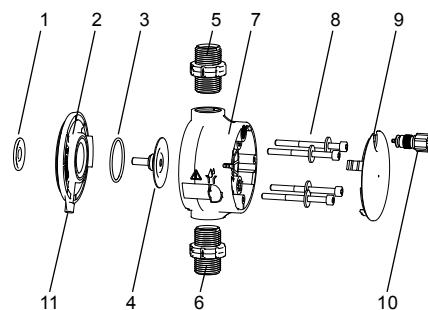


Fig. 23 Dosing head, exploded view

1	Safety diaphragm
2	Flange
3	O-ring
4	Diaphragm
5	Valve on discharge side
6	Valve on suction side
7	Dosing head
8	Screws with discs
9	Cover
10	Deaeration valve
11	Drain opening

7.4.2 Dismantling the diaphragm and valves

Warning

Danger of explosion, if dosing liquid has entered the pump housing!

If the diaphragm is possibly damaged, don't connect the pump to the power supply! Proceed as described in section 7.6 Diaphragm breakage!



This section refers to fig. 23.

1. Make system pressureless.
2. Empty dosing head before maintenance and flush it if necessary.
3. Set pump to "Stop" ■ operating state using the [Start/stop] key.
4. Press the [Start/stop] and [100 %] keys at the same time to put the diaphragm into "out" position.
 - Symbol — must be displayed (see fig. 13).
5. Take suitable steps to ensure that the returning liquid is safely collected.
6. Dismantle suction, pressure and deaeration hose.
7. Dismantle valves on suction and discharge side (5, 6).
8. Remove the cover (9).
9. Loosen screws (8) on the dosing head (7) and remove with discs.
10. Remove the dosing head (7).
11. Unscrew diaphragm (4) counter-clockwise and remove with flange (2).
12. Make sure the drain opening (11) is not blocked or soiled. Clean if necessary.
13. Check the safety diaphragm (1) for wear and damage. Replace if necessary.

If nothing indicates that dosing liquid has entered the pump housing, go on as described in section 7.4.3 *Reassembling the diaphragm and valves*. Otherwise proceed as described in section 7.6.2 *Dosing liquid in the pump housing*.

7.4.3 Reassembling the diaphragm and valves

The pump must only be reassembled, if nothing indicates that dosing liquid has entered the pump housing. Otherwise proceed as described in section 7.6.2 *Dosing liquid in the pump housing*.

This section refers to fig. 23.

1. Attach flange (2) correctly and screw on new diaphragm (4) clockwise.
 - Make sure that the O-ring (3) is seated correctly!
2. Press the [Start/stop] and [100 %] keys at the same time to put the diaphragm into "in" position.
 - Symbol — must be displayed (see fig. 13).
3. Attach the dosing head (7).
4. Install screws with discs (8) and cross-tighten with a torque wrench.
 - Torque: 4 Nm.
5. Attach the cover (9).
6. Install new valves (5, 6).
 - Do not interchange valves and pay attention to direction of arrow.
7. Connect suction, pressure and deaeration hose (see section 4.2 *Hydraulic connection*).
8. Press the [Start/stop] key to leave the service mode.

Tighten the dosing head screws with a torque wrench once before commissioning and again after 2-5 operating hours at 4 Nm.

Caution

9. Deaerate dosing pump (see section 5.2 *Deaerating the pump*).
10. Please observe the notes on commissioning in section 5. *Startup!*

7.5 Resetting the service system

After performing the service, the service system must be reset using the "Info > Reset service system" function.

7.6 Diaphragm breakage

If the diaphragm leaks or is broken, dosing liquid escapes from the drain opening (fig. 23, pos. 11) on the dosing head.

In case of diaphragm breakage, the safety diaphragm (fig. 23, pos. 1) protects the pump housing against ingress of dosing liquid.

When dosing crystallising liquids the drain opening can be blocked by crystallisation. If the pump is not taken out of operation immediately, a pressure can build up between the diaphragm (fig. 23, pos. 4) and the safety diaphragm in the flange (fig. 23, pos. 2). The pressure can press dosing liquid through the safety diaphragm into the pump housing.

Most dosing liquids don't cause any danger when entering the pump housing. However a view liquids can cause a chemical reaction with inner parts of the pump. In the worst case, this reaction can produce explosive gases in the pump housing.

Warning

Danger of explosion, if dosing liquid has entered the pump housing!

Operation with damaged diaphragm can lead to dosing liquid entering the pump housing.

In case of diaphragm breakage, immediately separate the pump from the power supply!

Make sure the pump cannot be put back into operation by accident!

Dismantle the dosing head without connecting the pump to the power supply and make sure no dosing liquid has entered the pump housing.

Proceed as described in section 7.6.1 Dismantling in case of diaphragm breakage.

To avoid any danger resulting from diaphragm breakage, observe the following:

- Perform regular maintenance. See section 7.1 *Regular maintenance*.
- Never operate the pump with blocked or soiled drain opening.
 - If the drain opening is blocked or soiled, proceed as described in section 7.6.1 *Dismantling in case of diaphragm breakage*.
- Never attach a hose to the drain opening. If a hose is attached to the drain opening, it is impossible to recognise escaping dosing liquid.
- Take suitable precautions to prevent harm to health and damage to property from escaping dosing liquid.
- Never operate the pump with damaged or loose dosing head screws.

7.6.1 Dismantling in case of diaphragm breakage

Warning

Danger of explosion, if dosing liquid has entered the pump housing!

Do not connect the pump to the power supply!



This section refers to fig. 23.

1. Make system pressureless.
2. Empty dosing head before maintenance and flush it if necessary.
3. Take suitable steps to ensure that the returning liquid is safely collected.
4. Dismantle suction, pressure and deaeration hose.
5. Remove the cover (9).
6. Loosen screws (8) on the dosing head (7) and remove with discs.
7. Remove the dosing head (7).
8. Unscrew diaphragm (4) counter-clockwise and remove with flange (2).
9. Make sure the drain opening (11) is not blocked or soiled. Clean if necessary.
10. Check the safety diaphragm (1) for wear and damage. Replace if necessary.

If nothing indicates that dosing liquid has entered the pump housing, go on as described in section 7.4.3 *Reassembling the diaphragm and valves*. Otherwise proceed as described in section 7.6.2 *Dosing liquid in the pump housing*.

7.6.2 Dosing liquid in the pump housing

Warning

Danger of explosion!

Immediately separate the pump from the power supply!

Make sure the pump cannot be put back into operation by accident!



If dosing liquid has entered the pump housing:

- Send the pump to Grundfos for repair, following the instructions given in section 7.7 *Repairs*.
- If a repair isn't economically reasonable, dispose of the pump observing the information in section 9. *Disposal*.

7.7 Repairs

Warning

The pump housing must only be opened by personnel authorised by Grundfos!



Repairs must only be carried out by authorised and qualified personnel!

Switch off the pump and disconnect it from the voltage supply before carrying out maintenance work and repairs!

After consulting Grundfos, please send the pump, together with the safety declaration completed by a specialist, to Grundfos. The safety declaration can be found at the end of these instructions. It must be copied, completed and attached to the pump.

The pump must be cleaned prior to dispatch!

If dosing liquid has possibly entered the pump housing, state that explicitly in the safety declaration!

Observe section 7.6 Diaphragm breakage.

Caution

If the above requirements are not met, Grundfos may refuse to accept delivery of the pump. The shipping costs will be charged to the sender.

8. Faults



In the event of faults in the dosing pump, a warning or an alarm is triggered.

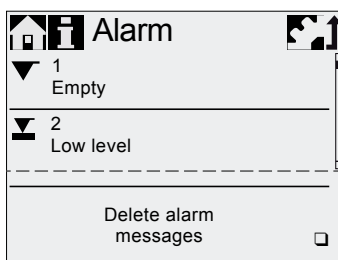
The corresponding fault symbol flashes in the "Operation" menu, see section 8.1 *List of faults*. The cursor jumps to the "Alarm" main menu symbol. Press the click wheel to open the "Alarm" menu and, where necessary, faults to be acknowledged will be acknowledged.

A yellow display indicates a warning and the pump continues running.

A red display indicates an alarm and the pump is stopped.

The last 10 faults are stored in the "Alarm" main menu. When a new fault occurs, the oldest fault is deleted.

The two most recent faults are shown in the display, you can scroll through all the other faults. The cause of the fault is displayed.



TM04 1109 1010

The list of faults can be deleted at the end of the list. If there is a service requirement, this appears when the "Alarm" menu is opened. Press the click wheel to temporarily close the service prompt (see section 7.3 *Service system*).

8.1 List of faults

8.1.1 Faults with error message

Display in the "Alarm" menu	Possible cause	Possible remedy
 Empty (Alarm)	Dosing medium tank empty	- Fill tank. - Check contact setting (NO/NC).
 Low level (Warning)	Dosing medium tank almost empty	
 Motor blocked (Alarm)	- Backpressure greater than nominal pressure - Damage to gears	- Reduce backpressure. - Arrange for repair to drive if necessary.
 Cable break (Alarm)	Defect in analog line 4-20 mA (input current < 2 mA)	- Check line/plug connections and replace, if necessary. - Check signal transmitter.
 Service now (Warning)	Time interval for service expired	Perform service (see section 7.4 <i>Perform service</i>).

8.1.2 General faults

Fault	Possible cause	Possible remedy
Dosing flow too high	Inlet pressure greater than backpressure	Install additional spring-loaded valve (approx. 3 bar) on the discharge side. Increase pressure differential.
	Incorrect calibration	Calibrate the pump (see section 5.3 <i>Calibrating the pump</i>).
No dosing flow or dosing flow too low	Air in dosing head	Deaerate the pump.
	Faulty diaphragm	Change the diaphragm (see section 7.4 <i>Perform service</i>).
	Leakage/fracture in lines	Check and repair lines.
	Valves leaking or blocked	Check and clean valves.
	Valves installed incorrectly	Check that the arrow on the valve housing is pointing in the direction of flow. Check whether all O-rings are installed correctly.
	Blocked suction line	Clean suction line/install filter.
	Suction lift too high	Reduce suction lift.
		Install priming aid.
	Viscosity too high	Enable "SlowMode" (see section 6.5 <i>SlowMode</i>).
		Enable "SlowMode" (see section 6.5 <i>SlowMode</i>).
		Use hose with larger diameter.
	Faulty calibration	Install spring-loaded valve on the discharge side.
		Calibrate the pump (see section 5.3 <i>Calibrating the pump</i>).
Irregular dosing	Deaeration valve open	Close the deaeration valve.
	Valves leaking or blocked	Tighten up valves, replace valves if necessary (see section 7.4 <i>Perform service</i>).
Liquid escaping from the drain opening on the flange	Backpressure fluctuations	Keep backpressure constant.
	Faulty diaphragm	Immediately separate the pump from the power supply! Observe section 7. <i>Service</i> and especially section 7.6 <i>Diaphragm breakage</i> .
Liquid escaping	Dosing head screws not tightened	Tighten up screws (see section 4.2 <i>Hydraulic connection</i>).
	Valves not tightened	Tighten up valves/union nuts (see section 4.2 <i>Hydraulic connection</i>).
Pump not sucking in	Suction lift too high	Reduce suction lift, if necessary provide positive inlet pressure.
	Backpressure too high	Open the deaeration valve.
	Soiled valves	Flush system, replace valves if necessary (see section 7.4 <i>Perform service</i>).

9. Disposal

This product or parts of it must be disposed of in an environmentally sound way:



1. Use the public or private waste collection service.
2. If this is not possible, contact the nearest Grundfos company or service workshop.

Subject to alterations.

Safety declaration

Please copy, fill in and sign this sheet and attach it to the pump returned for service.

Note Fill in this document using English or German language.

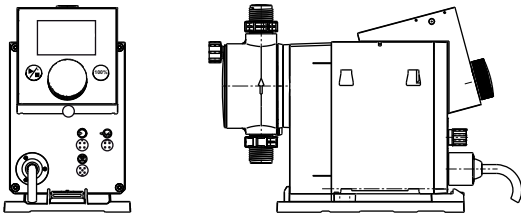
Product type (nameplate) _____

Model number (nameplate) _____

Dosing medium _____

Fault description

Please make a circle around the damaged parts.
In the case of an electrical or functional fault, please mark the cabinet.



Please describe the error/cause of the error in brief.

☐ Dosing liquid has possibly entered the pump housing.
The pump must not be connected to the power supply! Danger of explosion!

We hereby declare that the pump has been cleaned and is completely free from chemical, biological and radioactive substances.

Date and signature

Company stamp

TM04 8168 3510

Declaration of conformity

GB: EC declaration of conformity

We, Grundfos, declare under our sole responsibility that the products DDA, DDC and DDE, to which this declaration relates, are in conformity with these Council directives on the approximation of the laws of the EC member states:

- Machinery Directive (2006/42/EC).
Standards used: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Low Voltage Directive (2006/95/EC). *
Standard used: EN 61010-1: 2001 (second edition).
- EMC Directive (2004/108/EC).
Standards used: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Only for products with operating voltage > 50 VAC or > 75 VDC.

This EC declaration of conformity is only valid when published as part of the Grundfos installation and operating instructions.

BG: ЕС декларация за съответствие

Ние, фирма Grundfos, заявяваме с пълна отговорност, че продуктите DDA, DDC и DDE, за които се отнася настоящата декларация, отговарят на следните указания на Съвета за уеднаквяване на правните разпоредби на държавите членки на ЕС:

- Директива за машините (2006/42/EC).
Приложени стандарти: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Директива за нисковолтови системи (2006/95/EC). *
Приложен стандарт: EN 61010-1: 2001 (второ издание).
- Директива за електромагнитна съвместимост (2004/108/EC).
Приложени стандарти: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Само за продукти, работещи при напрежение > 50 VAC или > 75 VDC.

Тазя ЕС декларация за съответствие е валидна само когато е публикувана като част от инструкциите за монтаж и експлоатация на Grundfos.

CZ: ES prohlášení o shodě

My firma Grundfos prohlašujeme na svou plnou odpovědnost, že výrobky DDA, DDC a DDE, na něž se toto prohlášení vztahuje, jsou v souladu s ustanoveními směrnice Rady pro sblížení právních předpisů členských států Evropského společenství v oblastech:

- Směrnice pro strojní zařízení (2006/42/ES).
Použité normy: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Směrnice pro nízkonapětové aplikace (2006/95/ES). *
Použitá norma: EN 61010-1: 2001 (druhé vydání).
- Směrnice pro elektromagnetickou kompatibilitu (EMC) (2004/108/ES).
Použité normy: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Pouze pro výrobky s provozním napětím > 50 VAC nebo > 75 VDC.

Toto ES prohlášení o shodě je platné pouze tehdy, pokud je zveřejněno jako součást instalačních a provozních návodů Grundfos.

DK: EF-overensstemmelseserklæring

Vi, Grundfos, erklærer under ansvar at produkterne DDA, DDC og DDE som denne erklæring omhandler, er i overensstemmelse med disse af Rådets direktiver om indbyrdes tilnærmelse til EF-medlemsstaternes lovgivning:

- Maskindirektivet (2006/42/EF).
Anvendte standarder: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Lavspændingsdirektivet (2006/95/EF). *
Anvendt standard: EN 61010-1: 2001 (anden udgave).
- EMC-direktiv (2004/108/EF).
Anvendte standarder: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Gælder kun for produkter med driftsspænding > 50 VAC eller > 75 VDC.

Denne EF-overensstemmelseserklæring er kun gyldig når den publiceres som en del af Grundfos-monterings- og driftsinstruktioner.

DE: EG-Konformitätserklärung

Wir, Grundfos, erklären in alleiniger Verantwortung, dass die Produkte DDA, DDC und DDE, auf die sich diese Erklärung bezieht, mit den folgenden Richtlinien des Rates zur Angleichung der Rechtsvorschriften der EU-Mitgliedsstaaten übereinstimmen:

- Maschinenrichtlinie (2006/42/EG).
Normen, die verwendet wurden: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Niederspannungsrichtlinie (2006/95/EG). *
Norm, die verwendet wurde: EN 61010-1: 2001 (zweite Ausgabe).
- EMV-Richtlinie (2004/108/EG).
Normen, die verwendet wurden: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Nur für Produkte mit Betriebsspannungen > 50 VAC oder > 75 VDC.

Diese EG-Konformitätserklärung gilt nur, wenn sie in Verbindung mit der Grundfos Montage- und Betriebsanleitung veröffentlicht wird.

EE: EL vastavusdeklaratsioon

Meie, Grundfos, deklareerime enda ainuvastutusel, et tooted DDA, DDC ja DDE, mille kohta käesolev juhend käib, on vastavuses EÜ Nõukogu direktiividega EMÜ liikmesriikide seaduste ühitamise kohta, mis käsitlevad:

- Masinate ohutus (2006/42/EC).
Kasutatud standardid: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Madalpinge direktiiv (2006/95/EC). *
Kasutatud standard: EN 61010-1: 2001 (teine väljaanne).
- Elektromagnetilise ühilduvuse (EMC direktiiv) (2004/108/EC).
Kasutatud standardid: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Ainult toodete jaoks mille tööpinge on suurem kui > 50 VAC või suurem kui > 75 VDC.

Käesolev EL-i vastavusdeklaratsioon kehtib ainult siis, kui see avaldatakse Grundfos'i paigaldus- ja kasutusjuhendi osana.

GR: Δήλωση συμμόρφωσης EC

Εμείς, η Grundfos, δηλώνουμε με αποκλειστικά δική μας ευθύνη ότι τα προϊόντα DDA, DDC και DDE στα οποία αναφέρεται η παρούσα δήλωση, συμμορφώνονται με τις εξής Οδηγίες του Συμβουλίου περί προσεγγίσιων των νομοθεσιών των κρατών μελών της ΕΕ:

- Οδηγία για μηχανήματα (2006/42/EC).
Πρότυπα που χρησιμοποιήθηκαν: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Οδηγία χαμηλής τάσης (2006/95/EC). *
Πρότυπο που χρησιμοποιήθηκε: EN 61010-1: 2001 (δεύτερη έκδοση).
- Οδηγία Ηλεκτρομαγνητικής Συμβατότητας (EMC) (2004/108/EC).
Πρότυπα που χρησιμοποιήθηκαν: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Μόνο για προϊόντα με τάση λειτουργίας > 50 VAC ή > 75 VDC.

Αυτή η δήλωση συμμόρφωσης EC ισχύει μόνον όταν συνοδεύει τις οδηγίες εγκατάστασης και λειτουργίας της Grundfos.

FR: Déclaration de conformité CE

Nous, Grundfos, déclarons sous notre seule responsabilité, que les produits DDA, DDC et DDE, auxquels se réfère cette déclaration, sont conformes aux Directives du Conseil concernant le rapprochement des législations des Etats membres CE relatives aux normes énoncées ci-dessous :

- Directive Machines (2006/42/CE).
Normes utilisées : EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Directive Basse Tension (2006/95/CE). *
Norme utilisée : EN 61010-1: 2001 (deuxième édition).
- Directive Compatibilité Electromagnétique CEM (2004/108/CE).
Normes utilisées : EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Convient uniquement aux produits avec tension de service > 50 VAC ou > 75 VDC.

Cette déclaration de conformité CE est uniquement valide lors de sa publication dans la notice d'installation et de fonctionnement Grundfos.

IT: Dichiarazione di conformità CE

Grundfos dichiara sotto la sua esclusiva responsabilità che i prodotti DDA, DDC e DDE, ai quali si riferisce questa dichiarazione, sono conformi alle seguenti direttive del Consiglio riguardanti il riavvicinamento delle legislazioni degli Stati membri CE:

- Direttiva Macchine (2006/42/CE).
Norme applicate: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Direttiva Basse Tensione (2006/95/CE). *
Norma applicata: EN 61010-1: 2001 (seconda edizione).
- Direttiva EMC (2004/108/CE).
Norme applicate: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Solo per prodotti con tensione di alimentazione > 50 VAC o > 75 VDC.

Questa dichiarazione di conformità CE è valida solo quando pubblicata come parte delle istruzioni di installazione e funzionamento Grundfos.

LT: EB atitikties deklaracija

Mes, Grundfos, su visa atsakomybe pareiškiame, kad gaminiai DDA, DDC ir DDE, kuriems skirta ši deklaracija, atitinka šias Tarybos Direktyvas dėl Europos Ekonominės Bendrijos šalių narių įstatymų suderinimo:

- Mašinų direktyva (2006/42/EB).
Taikomi standartai: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Žemų įtampų direktyva (2006/95/EB). *
Taikomas standartas: EN 61010-1: 2001 (antrasis leidimas).
- EMS direktyva (2004/108/EB).
Taikomi standartai: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Tik produktams, kurių dirbinė įtampa yra > 50 V kintama arba > 75 V nuolatinė.

Ši EB atitikties deklaracija galioja tik tuo atveju, kai yra pateikta kaip "Grundfos" įrengimo ir naudojimo instrukcijos dalis.

ES: Declaración CE de conformidad

Nosotros, Grundfos, declaramos bajo nuestra entera responsabilidad que los productos DDA, DDC y DDE, a los cuales se refiere esta declaración, están conformes con las Directivas del Consejo en la aproximación de las leyes de los Estados Miembros del EM:

- Directiva de Maquinaria (2006/42/CE).
Normas aplicadas: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Directiva de Baja Tensión (2006/95/CE). *
Norma aplicada: EN 61010-1: 2001 (segunda edición).
- Directiva EMC (2004/108/CE).
Normas aplicadas: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Sólo para productos con tensión de funcionamiento > 50 VAC o > 75 VDC.

Esta declaración CE de conformidad sólo es válida cuando se publique como parte de las instrucciones de instalación y funcionamiento de Grundfos.

HR: EZ izjava o usklađenosti

Mi, Grundfos, izjavljujemo pod vlastitom odgovornošću da je proizvod DDA, DDC i DDE, na koji se ova izjava odnosi, u skladu s direktivama ovog Vijeća o usklađivanju zakona država članica EU:

- Direktiva za strojeve (2006/42/EZ).
Korištene norme: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Direktiva za niski napon (2006/95/EZ). *
Korištena norma: EN 61010-1: 2001 (drugo izdanje).
- Direktiva za elektromagnetsku kompatibilnost (2004/108/EZ).
Korištene norme: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Samo za proizvode s radnim naponom > 50 VAC ili > 75 VDC.

Ova EZ izjava o sukladnosti važeća je jedino kada je izdana kao dio Grundfos montažnih i pogonskih uputa.

LV: EK paziņojums par atbilstību prasībām

Sabiedrība GRUNDFOS ar pilnu atbildību dara zināmu, ka produkti DDA, DDC un DDE, uz kuriem attiecas šīs paziņojums, atbilst šādām Padomes direktīvām par tuvināšanos EK dalībvalstu likumdošanas normām:

- Mašīnbūvies direktīva (2006/42/EK).
Piemērotie standarti: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Zema sprieguma direktīva (2006/95/EK). *
Piemērotais standarts: EN 61010-1: 2001 (otrā versija).
- Elektromagnētiskās saderības direktīva (2004/108/EK).
Piemērotie standarti: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Tikai produktiem, kuru darba spriegums ir > 50 V maiņstrāvas vai > 75 V līdzstrāvas.

Šī EK atbilstības deklarācija ir derīga vienīgi tad, ja ir publicēta kā daļa no GRUNDFOS uzstādīšanas un ekspluatācijas instrukcijām.

HU: EK megfeleléségi nyilatkozat

Mi, a Grundfos, egyedül felelősséggel kijelentjük, hogy a DDA, DDC és DDC termékek, amelyekre jelen nyilatkozat vonatkozik, megfelelnek az Európai Unió tagállamainak jogi irányelveit összehangoló tanács alábbi előírásainak:

- Gépek (2006/42/EK).
Alkalmazott szabványok: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Kisfeszültségű Direktíva (2006/95/EK). *
Alkalmazott szabvány: EN 61010-1: 2001 (második kiadás).
- EMC Direktíva (2004/108/EK).
Alkalmazott szabványok: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Csak a > 50 VAC vagy > 75 VDC feszültségű magasabb üzemi feszültségű berendezések.

Ez az EK megfeleléségi nyilatkozat kizárólag akkor érvényes, ha Grundfos telepítési és üzemeltetési utasítás részeként kerül kiadásra.

NL: EC overeenkomstigheidsverklaring

Wij, Grundfos, verklaren geheel onder eigen verantwoordelijkheid dat de producten DDA, DDC en DDE waarop deze verklaring betrekking heeft, in overeenstemming zijn met de Richtlijnen van de Raad in zake de onderlinge aanpassing van de wetgeving van de EG Lidstaten betreffende:

- Machine Richtlijn (2006/42/EC).
Gebruikte normen: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Laagspannings Richtlijn (2006/95/EC).
Gebruikte norm: EN 61010-1: 2001 (tweede editie).
- EMC Richtlijn (2004/108/EC).
Gebruikte normen: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Alleen voor producten met bedrijfsspanning > 50 VAC of > 75 VDC.

Deze EC overeenkomstigheidsverklaring is alleen geldig wanneer deze gepubliceerd is als onderdeel van de Grundfos installatie- en bedieningsinstructies.

PL: Deklaracja zgodności WE

My, Grundfos, oświadczamy z pełną odpowiedzialnością, że nasze wyroby DDA, DDC oraz DDE, których deklaracja niniejsza dotyczy, są zgodne z następującymi wytycznymi Rady ds. ujednolicenia przepisów prawnych krajów członkowskich WE:

- Dyrektywa Maszynowa (2006/42/WE).
Zastosowane normy: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Dyrektywa Niskonapięciowa (LVD) (2006/95/WE).
Zastosowana norma: EN 61010-1: 2001 (drugie wydanie).
- Dyrektywa EMC (2004/108/WE).
Zastosowane normy: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Dotyczy produktów o napięciu zasilania > 50 VAC lub > 75 VDC.

Deklaracja zgodności WE jest ważna tylko i wyłącznie wtedy kiedy jest opublikowana przez firmę Grundfos i umieszczona w instrukcji montażu i eksploatacji.

RU: Декларация о соответствии ЕС

Мы, компания Grundfos, со всей ответственностью заявляем, что изделия DDA, DDC и DDE, к которым относится настоящая декларация, соответствуют следующим Директивам Совета Евросоюза об унификации законодательных предписаний стран-членов ЕС:

- Механические устройства (2006/42/EC).
Применявшиеся стандарты: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Низковольтное оборудование (2006/95/EC).
Применявшийся стандарт: EN 61010-1: 2001 (второе издание).
- Электромагнитная совместимость (2004/108/EC).
Применявшиеся стандарты: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Только для изделий с рабочим напряжением > 50 В AC или > 75 В DC.

Данная декларация о соответствии ЕС имеет силу только в случае публикации в составе инструкции по монтажу и эксплуатации на продукции производства компании Grundfos.

SK: Prehlásenie o konformite EÚ

My firma Grundfos prehlasujeme na svoju plnú zodpovednosť, že výrobky DDA, DDC a DDE, na ktoré sa toto prehlásenie vzťahuje, sú v súlade s ustanovením smernice Rady pre zblíženie právnych predpisov členských štátov Európskeho spoločenstva v oblastiach:

- Smernica pre stroje/zariadenie (2006/42/EC).
Použitá norma: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Smernica pre nízkonapäťové aplikácie (2006/95/EC).
Použitá norma: EN 61010-1: 2001 (druhé vydanie).
- Smernica pre elektromagnetickú kompatibilitu (2004/108/EC).
Použitá norma: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Len pre produkty s prevádzkovým napätím > 50 VAC or > 75 VDC.

Toto prehlásenie o konformite ES je platné iba vtedy, ak je zverejnené ako súčasť montážnych a prevádzkových pokynov Grundfos.

UA: Свідчення про відповідність вимогам ЄС

Компанія Grundfos заявляє про свою виключну відповідальність за те, що продукти DDA, DDC та DDE, на які поширюється дана декларація, відповідають таким рекомендаціям Ради з уніфікації правових норм країн - членів ЄС:

- Механічні прилади (2006/42/EC).
Стандарти, що застосовувалися: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Низька напруга (2006/95/EC).
Стандарти, що застосовувалися: EN 61010-1: 2001 (друге видання).
- Електромагнітна сумісність (2004/108/EC).
Стандарти, що застосовувалися: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Тільки для продуктів з робочою напругою > 50 VAC або > 75 VDC.

Ця декларація відповідності ЄС дійсна тільки в тому випадку, якщо публікується як частина інструкцій Grundfos з монтажу та експлуатації.

PT: Declaração de conformidade CE

A Grundfos declara sob sua única responsabilidade que os produtos DDA, DDC e DDE, aos quais diz respeito esta declaração, estão em conformidade com as seguintes Directivas do Conselho sobre a aproximação das legislações dos Estados Membros da CE:

- Directiva Máquinas (2006/42/CE).
Normas utilizadas: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Directiva Baixa Tensão (2006/95/CE).
Norma utilizada: EN 61010-1: 2001 (segunda edição).
- Directiva EMC (compatibilidade electromagnética) (2004/108/CE).
Normas utilizadas: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Apenas para produtos com tensão de funcionamento > 50 VCA ou > 75 VCC.

Esta declaração de conformidade CE é apenas válida quando publicada como parte das instruções de instalação e funcionamento Grundfos.

RO: Declarație de conformitate CE

Noi, Grundfos, declarăm pe propria răspundere că produsele DDA, DDC și DDE, la care se referă această declarație, sunt în conformitate cu aceste Directive de Consiliu asupra armonizării legilor Statelor Membre CE:

- Directiva Utilaje (2006/42/CE).
Standarde utilizate: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Directiva Tensiune Joasă (2006/95/CE).
Standard utilizat: EN 61010-1: 2001 (a doua editie).
- Directiva EMC (2004/108/CE).
Standarde utilizate: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Numai pentru produse cu tensiunea de funcționare > 50 VAC ori > 75 VDC.

Această declarație de conformitate CE este valabilă numai când este publicată ca parte a instrucțiunilor Grundfos de instalare și funcționare.

SI: ES izjava o skladnosti

V Grundfosu s polno odgovornostjo izjavljamo, da so naši izdelki DDA, DDC in DDE, na katere se ta izjava nanaša, v skladu z naslednjimi direktivami Sveta o približevanju zakonodaje za izenačevanje pravnih predpisov držav članic ES:

- Direktiva o strojih (2006/42/ES).
Uporabljeni normi: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Direktiva o nizki napetosti (2006/95/ES).
Uporabljena norma: EN 61010-1: 2001 (druga izdaja).
- Direktiva o elektromagnetni združljivosti (EMC) (2004/108/ES).
Uporabljeni normi: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Samo za izdelke z delovno napetostjo, večjo od 50 V AC ali manjšo od 75 V DC.

ES izjava o skladnosti velja samo kadar je izdana kot del Grundfos instalacije in navodil delovanja.

RS: EC deklaracija o konformitetu

Mi, Grundfos, izjavljujemo pod vlastitom odgovornošću da je proizvod DDA, DDC i DDE, na koji se ova izjava odnosi, u skladu sa direktivama Saveta za uskladjivanje zakona država članica EU:

- Direktiva za mašine (2006/42/EC).
Korišćeni standardi: EN 809: 1998,
EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Direktiva niskog napona (2006/95/EC). *
Korišćen standard: EN 61010-1: 2001 (drugo izdanje).
- EMC direktiva (2004/108/EC).
Korišćeni standardi: EN 61326-1: 2006,
EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Samo za proizvode sa radnim naponom > 50 VAC ili > 75 VDC.

Ova EC deklaracija o konformitetu važeća je jedino kada je izdata kao deo Grundfos uputstava za instalaciju i rad.

SE: EG-försäkran om överensstämmelse

Vi, Grundfos, försäkrar under ansvar att produkterna DDA, DDC och DDE, som omfattas av denna försäkran, är i överensstämmelse med rådets direktiv om inbördes närmande till EU-medlemsstaternas lagstiftning, avseende:

- Maskindirektivet (2006/42/EG).
Tillämpade standarder: EN 809: 1998,
EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Lågspänningsdirektivet (2006/95/EG). *
Tillämpad standard: EN 61010-1: 2001 (andra upplagan).
- EMC-direktivet (2004/108/EG).
Tillämpade standarder: EN 61326-1: 2006,
EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Endast för produkter med driftspänning > 50 VAC eller > 75 VDC.

Denna EG-försäkran om överensstämmelse är endast giltig när den publiceras som en del av Grundfos monterings- och driftsinstruktion.

CN: EC 产品合格声明书

我们格兰富在我们的全权责任下声明，产品 DDA, DDC 和 DDE，即该合格证所指之产品，符合欧共体使其成员国法律趋于一致的以下欧共体理事会指令：

- 机械设备指令 (2006/42/EC)。
所用标准：EN 809: 1998,
EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009。
- 低电压指令 (2006/95/EC)。*
所用标准：EN 61010-1: 2001 (第 2 版)。
- 电磁兼容性指令 (2004/108/EC)。
所用标准：EN 61326-1: 2006,
EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008。

* 仅适用于工作电压 > 50 VAC 或 > 75 VDC 的产品。

本 EC 合格性声明仅在作为格兰富安装与操作指导手册的一部分时有效。

KO: EC 적합성 선언

Grundfos 에서는 자사의 단독 책임에 따라 이 선언과 관련된 DDA, DDC 및 DDE 제품이 EC 회원국 법률에 기반한 다음 이사회 지침을 준수함을 선언합니다 :

- 기계류 지침 (2006/42/EC).
사용된 표준 : EN 809: 1998,
EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- 저전압 지침 (2006/95/EC). *
사용된 표준 : EN 61010-1: 2001 (제 2 출간).
- EMC 지침 (2004/108/EC).
사용된 표준 : EN 61326-1: 2006,
EN 61000-3-2: 2006+A1: 2009+A2: 2009,
EN 61000-3-3: 2008.

* 작동 전압 50 VAC 미만 또는 75 VDC 미만인 제품에만 해당 .

본 EC 인증은 그린포스에서 인쇄 배포한 설치 가이드 및 작업 매뉴얼에 포함되어 발행되었을 경우에만 유효합니다 .

FI: EY-vaatimusten mukaisuusvakuutus

Me, Grundfos, vakuutamme omalla vastuullamme, että tuotteet DDA, DDC ja DDE, joita tämä vakuutus koskee, ovat EY:n jäsenvaltioiden lainsäädännön yhdenmukaistamiseen tähtäävien Euroopan neuvoston direktiivien vaatimusten mukaisia seuraavasti:

- Konedirektiivi (2006/42/EY).
Sovellettavat standardit: EN 809: 1998,
EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Pienjännittdirektiivi (2006/95/EY). *
Sovellettu standardi: EN 61010-1: 2001 (uudistettu versio).
- EMC-direktiivi (2004/108/EY).
Sovellettavat standardit: EN 61326-1: 2006,
EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Vain laitteille, joiden käyttöjännite on > 50 VAC tai > 75 VDC.

Tämä EY-vaatimusten mukaisuusvakuutus on voimassa vain, kun se julkaistaan osana Grundfosin asennus- ja käyttöohjeita.

TR: EC uygunluk bildirgesi

Grundfos olarak bu beyannameye konu olan DDA, DDC ve DDE ürünlerimin, AB Üyesi Ülkelerin kanunlarını birbirine yaklaştırmaya üzerine KONSEY Direktifleriyle uyumlu olduğunun yalnızca bizim sorumluluğumuz altında olduğunu beyan ederiz:

- Makineler Yönetmeliği (2006/42/EC).
Kullanılan standartlar: EN 809: 1998,
EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Düşük Voltaj Yönetmeliği (2006/95/EC). *
Kullanılan standart: EN 61010-1: 2001 (ikinci baskı).
- EMC Direktifi (2004/108/EC).
Kullanılan standartlar: EN 61326-1: 2006,
EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Çalışma voltajı yalnızca > 50 VAC veya > 75 VDC değerinde olan ürünler için.

İşbu EC uygunluk bildirgesi, yalnızca Grundfos kurulum ve çalıştırma talimatlarının bir parçası olarak basıldığı takdirde geçerlilik kazanmaktadır.

JP: EC 適合宣言

Grundfos は、その責任の下に、DDA, DDC 製品および DDE 製品が EC 加盟諸国の法規に関連する、以下の詳細な指令に適合していることを宣言します：

- 機械指令 (2006/42/EC)。
適用規格：EN 809: 1998, EN ISO 12100-1+A1: 2009,
EN ISO 12100-2+A1: 2009。
- 低電圧指令 (2006/95/EC)。*
適用規格：EN 61010-1: 2001 (第 2 版)。
- EMC 指令 (2004/108/EC)。
適用規格：EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008。

* 動作電圧 > 50 VAC または > 75 VDC。

この EC 適合宣言は、グルンドフォス取扱説明書の一部に掲載される場合のみ有効です。

Pfinztal, 1 June 2011



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