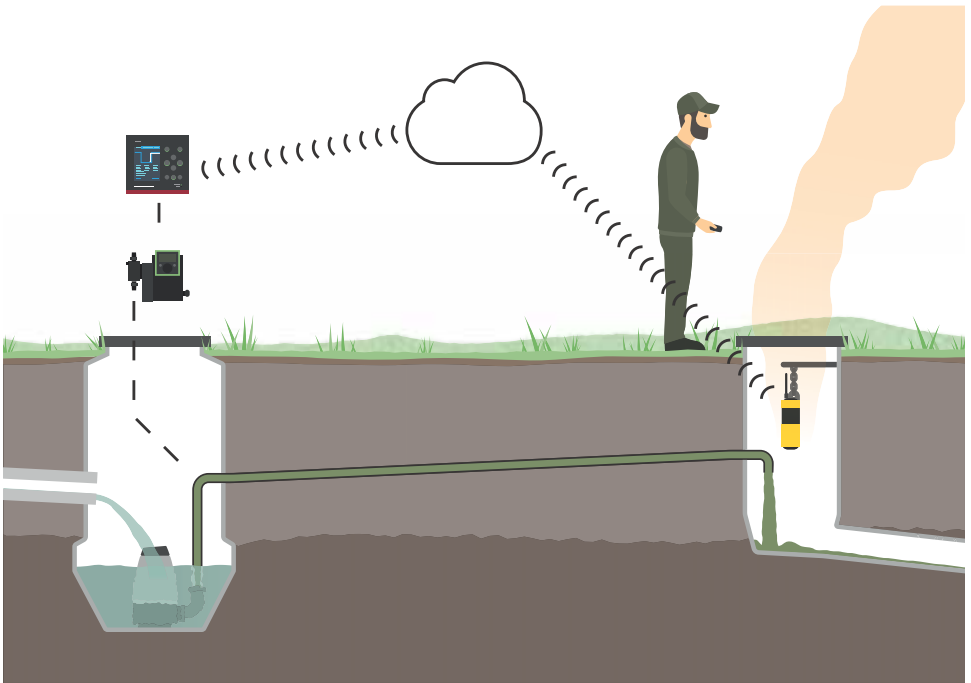


Grundfos Hydrogen Sulphide Solution

Installation and operating instructions



English (GB) Installation and operating instructions

Original installation and operating instructions

These installation and operating instructions describe Grundfos Hydrogen Sulphide Solution.

Sections 1-5 give the information necessary to be able to install and start up the products in a safe way.

Sections 6-10 give important information about operating the setup, as well as information on service, fault finding and disposal of the product.

CONTENTS

	Page
1. General information	2
1.1 Hazard statements	2
1.2 Notes	3
1.3 Target group	3
2. Receiving the products	3
2.1 Scope of delivery	3
2.2 Inspecting the products	3
3. Overview of the solution	4
3.1 Intended use	5
4. Installing and starting up the solution	5
4.1 Locations	6
4.2 Installation steps	6
4.3 Hosing diagram	8
4.4 Electrical diagram	9
5. Performance test	11
6. Setting the solution	11
6.1 Changing the threshold setpoint	11
6.2 Increasing the dosing setpoint	11
6.3 Checking the chemical dosage when a new tank is installed	11
6.4 Adjusting to maximum dosing time	11
7. Handling the solution	11
8. Servicing the solution	12
8.1 Maintenance and repair	12
8.2 Exchanging the gasphase logger	12
8.3 Service kits	12
9. Fault finding the solution	13
10. Disposing of the products	13

1. General information

1.1 Hazard statements

The symbols and hazard statements below may appear in Grundfos installation and operating instructions, safety instructions and service instructions.

DANGER



Indicates a hazardous situation which, if not avoided, will result in death or serious personal injury.

WARNING



Indicates a hazardous situation which, if not avoided, could result in death or serious personal injury.

CAUTION



Indicates a hazardous situation which, if not avoided, could result in minor or moderate personal injury.

The hazard statements are structured in the following way:

SIGNAL WORD



Description of hazard

Consequence of ignoring the warning.
- Action to avoid the hazard.



Read this document before installing the product. Installation and operation must comply with local regulations and accepted codes of good practice.

1.2 Notes

The symbols and notes below may appear in Grundfos installation and operating instructions, safety instructions and service instructions.



Observe these instructions for explosion-proof products.



A blue or grey circle with a white graphical symbol indicates that an action must be taken.



A red or grey circle with a diagonal bar, possibly with a black graphical symbol, indicates that an action must not be taken or must be stopped.



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



Tips and advice that make the work easier.

1.3 Target group

These installation and operating instructions assume that the reader is familiar with commissioning of several Grundfos products: SMART Digital dosing pump, Dedicated Controls, CU 362, CIU 270 and Grundfos Remote Management.



Before any installation or service is carried out, the reader must first read the installation and operating instructions, safety instructions and service instructions for the individual products including any accessory instructions and the Odalog RTX manual.

2. Receiving the products

2.1 Scope of delivery

These installation and operating instructions apply to Grundfos Hydrogen Sulphide Solution. The solution consists of minimum these Grundfos products and one sourced product:

- SMART Digital dosing pump
- Dedicated Controls
- Grundfos Remote Management (GRM)
- CU 362
- CIU 270
- and the Odalog RTX (sourced product).

Further documentation supplied with Grundfos Hydrogen Sulphide Solution:

- Installation and operating instructions and safety instructions for the above-mentioned Grundfos products
- safety instructions for Grundfos Hydrogen Sulphide Solution.

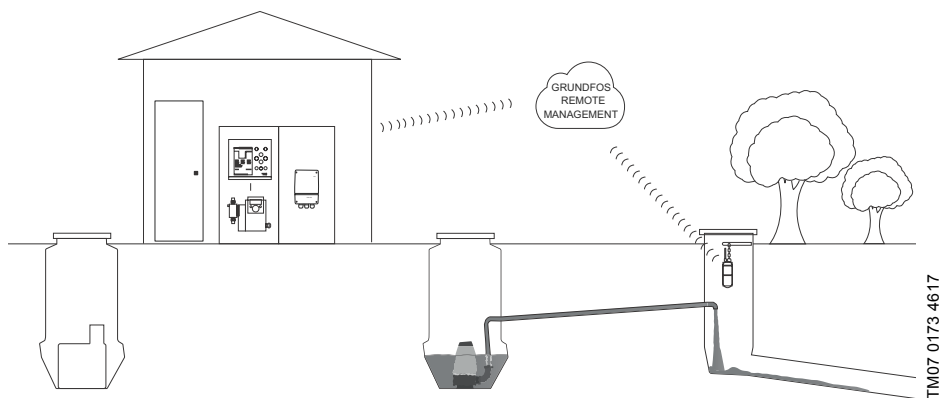
Additional requirements for the installation of Grundfos products are only described in these instructions when it is important for the setup. For further information on the products, see the installation and operating instructions for these products.

2.2 Inspecting the products

Before installing the products, do the following:

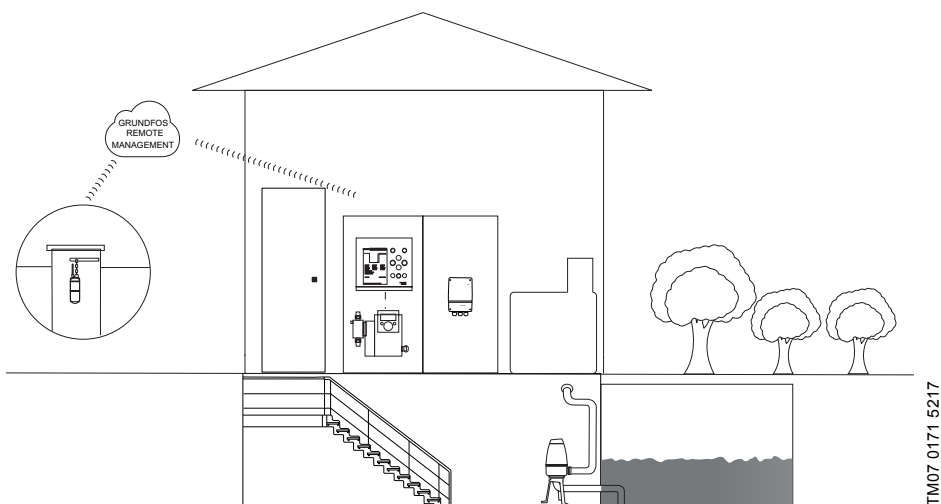
1. Check the products for transport damage. Contact the transporter immediately in case of damage.
2. Check that the delivered products correspond to the order.
3. Check the hosing diagram and electrical diagram to see how the different products are connected to each other.

3. Overview of the solution



TM07 0173 4617

Fig. 1 Example of setup with submerged chemical tank



TM07 0171 5217

Fig. 2 Example of setup with gasphase logger placed elsewhere

3.1 Intended use

Grundfos Hydrogen Sulphide Solution measures and minimises odour and corrosion issues. It must not be used as a safety device for ensuring a non-toxic atmosphere and therefore Grundfos always recommends the use of atmospheric monitoring equipment for personal protection.

The products are combined to deliver an effective and reliable solution for hydrogen sulphide issues in a manhole or a pumping station. The solution will only perform efficiently in a wastewater single line system, where wastewater is pumped from one station to a manhole or pumping station without connecting pipes. This is due to the feedback control loop in the solution. It will solve hydrogen sulphide (H_2S) odour problems as well as corrosion. H_2S problems related to the working environment cannot be solved with Grundfos Hydrogen Sulphide Solution. The products must not be used in an explosive environment.

The Odalog RTX is placed in the manhole (gas measuring site) and measures H_2S levels at short intervals, sending the results to Grundfos Remote Management (GRM) which also receives flow measurements from the unique Grundfos Dedicated Controls. An control algorithm in GRM then calculates the dosing setpoint for chemicals accurately and proportionally with system flow. The dosing data is sent to the SMART Digital dosing pump which handles the chemical dosing, even at varying flow patterns. The communication unit (CIU 270) handles the necessary communication between the components.

Over time, dosage is regulated to meet daily and seasonal variations.

For further information about the solution, see www.grundfos.com/h2s.

Chemical handling

Chemicals must be kept in a chemical storage tank with direct connection of the inlet hose. A tank can be located in a well or on the ground above a pit.

Grundfos does not supply chemicals. Chemicals must always be stored according to local regulations and the data sheet of the chemical provided by the manufacturer of the chemical. Regarding chemical handling in regards to the dosing pump, see the product's own installation and operating instructions.

List of recommended chemicals for this setup:

- Solutions of iron salt (for example $FeSO_4$)
- solutions of nitrate salts (for example $CaNO_3$).

4. Installing and starting up the solution

DANGER

Installation and startup

- Death or serious personal injury
- Read and follow the safety instructions for all the products delivered with Grundfos Hydrogen Sulphide Solution.
 - The installation must be carried out by qualified persons.



DANGER

Fire and explosion

- Death or serious personal injury
- The Odalog RTX must not be used in hazardous areas where an explosive atmosphere can occur.



DANGER

Electric shock

- Death or serious personal injury
- Before starting any work on the product, make sure that the power supply has been switched off and that it cannot be accidentally switched on.



WARNING

Falling into the pumping station

- Death or serious personal injury
- Follow local working environment regulations.
 - Mark the area when the hatch is open.
 - Use a safety line and proper equipment when working around the pumping station. One person must always be on guard at the surface.



DANGER

Explosive environment

- Death or serious personal injury
- Follow local regulations for working in hazardous areas where an explosive atmosphere can occur.
 - Measure the level of explosive gases to ensure a safe working environment.



WARNING**Biological hazard**

Death or serious personal injury

- Read and follow the safety instructions for Odalog RTX before installation.
- Read the installation instructions for the injection valve.
- Ensure pipes are pressureless during installation of the injection valve.
- Always wear atmospheric monitoring equipment when working close to the manhole due to the risk of H₂S emission.
- Wear personal protective equipment and clothing when working close to wastewater and potentially toxic liquids.

**4.1 Locations**

The setup is divided into three subareas:

1. Gas measuring site
2. dosing site
3. control system.

4.2 Installation steps**4.2.1 Installation in the gas measuring site (manhole)**

1. Find the Odalog setup file. It is located on Grundfos Technical Information site under Service Support Tools (folder: ODALOG).*
2. Load the Odalog setup file to Odalog RTX by using the Odastat-G software.*
3. Install Odalog RTX on the site according to its own manual.
4. Switch on Odalog RTX and activate the transmit mode.
5. Make sure that the signal from Odalog RTX is sufficient and that data are sent to Grundfos Remote Management.

For further information about the Odalog RTX, see its manual as well as videos available on Grundfos Technical Information.

- * Step 1 and 2 can also be prepared before visiting the site.

4.2.2 Installation at the dosing site (pumping station)

1. Mount CIM 050 in CU 362 according to the installation and operating instructions for CU 362.
2. Mount CU 362 according to its installation and operating instructions.
3. Mount CIU 270 according to its installation and operating instructions.
4. Mount the dosing pump according to its installation and operating instructions. It must be close to the chemical storage tank so the cable from the suction lance can be connected.
5. Attach the hose from the suction line to the dosing pump. See fig 3.
6. Attach the cable from the suction line to the dosing pump.

For installation with a suction lance: Mount the suction line. Drill a hole (2") in the lid of the IBC tank (pallet tank) to insert the suction line. For other kinds of tanks, contact Grundfos about the installation.



When you replace the chemical tank, you can reuse the old lid to avoid drilling a new hole.

7. Attach hoses.
 - Screw the injection valve into the clamp saddle on the pressurised wastewater pipe. The clamp saddle must be made of corrosion resistant material since many applied chemicals are corrosive.
 - Attach the hose from the dosing pump to the injection valve.
8. Attach cables. See figs 4 and 5.

Next, CU 362 must be configured. The maximum dosing time is controlled by CU 362 in both setups. Here it is described how to set this time in seconds (1800 s is used).

Configuration of CU 362 with pump control

With this configuration, CU 362 controls the pumping station and Grundfos Hydrogen Sulphide Solution.

1. Switch on the power.
2. In menu 4.2.9.1, configure "User-def. function 1".
 - The function must be set to "Enabled".
 - Set "1st source" to "Internal CU362 states" and "Min. one pump runs".
 - Set "2nd source" to "Constant value" and "Constantly high".
 - Set "Logical operator" to "AND".
 - Set "Maximum hold time" to 1800 s.
 - Set "Name" to "Rain condition".

The above settings will switch off the dosing pump if a pump is running for more than 1800 s (30 min). This can be adjusted if needed.

3. In menu 4.4.4.1, set Digital output 1 of CU362 to "Rain Condition".

Configuration of CU 362 without pump control

With this configuration, CU 362 controls Grundfos Hydrogen Sulphide Solution.

1. Switch on the power.
2. In menu 4.4.2.1, set "Digital Input 1" to "Contactor feedback, pump 1".
3. In menu 4.4.2.2, set "Digital Input 2" to "Contactor feedback, pump 2".
4. In menu 4.2.9.1, configure "User-def. function 1".
 - The function must be set to "Enabled".
 - Set "1st source" to "DI1 (CU 362) [10]".
 - Set "2nd source" to "DI2 (CU 362) [12]".
 - Set "Logical operator" to "OR".
 - Set "Maximum hold time" to 1800 s.
 - Set "Name" to "Rain condition".


The above settings will switch off the dosing pump if a pump is running for more than 1800 s (30 min). This can be adjusted if needed.

5. In menu 4.4.4.1, set Digital output 1 of CU362 to "Rain Condition".

Configuration of CIU 270

For configuration of CIU 270, see the product's installation and operating instructions.

Configuration of the dosing pump

1. Switch on the dosing pump.
2. Make the following settings on the dosing pump:
 - "Setup" > "Input/Output" > "External Stop" = "NC".
 - "Setup" > "Bus" > "Bus address" = 54.
 - "Setup" > "Bus" > "Bus control active" = check mark.
3. Go back to the front page and press the Start/stop button on the operating panel to set the dosing pump in standby mode ().

All the products have been installed and configured now. Next, you must set up Grundfos Remote Management.

4.2.3 Grundfos Remote Management setup

Register the gasphase logger

1. Log in to Grundfos Remote Management with your supplied username and password.
2. Find the section name in the list to the left.
3. Right-click on the name and select "Add" to register the gasphase logger.
4. Select "Register new Odalog Communication Device".
5. In the dialog box, enter the serial number for the gasphase logger in both "Oialog id" fields.
6. Click "Next" and enter the following information:
 - "Installation name": "Oialog".
 - "Installation type": "Water Utilities" and "Waste Water Transport".
7. Click "Next" twice and click "Finish".

The gasphase logger is now registered. Next step is to activate the H₂S algorithm in Grundfos Remote Management.

Activate the H₂S algorithm

1. Find the section name in the list to the left.
2. Right-click on the name and select "Edit" to enable the algorithm.
3. Make sure that "Enabled" is selected under "H₂S Analysis Setup".
4. Fill out the following fields:
 - "Analysis type" ("S-ALG").
 - "H₂S reference" (5ppm is recommended).
 - "Applied Chemical" (Iron2 or nitrate).
 - "Chemical resolution".
 - "Pump(s) approximated nominal flow".
5. Click "Submit".
6. Click on "Reports" in the top bar.
7. Make sure that "Automated Hydrogen Sulphide removal" is selected.
8. Exit Grundfos Remote Management.



You can check that Grundfos Remote Management is receiving data by viewing the last updated date in the section name.

4.3 Hosing diagram

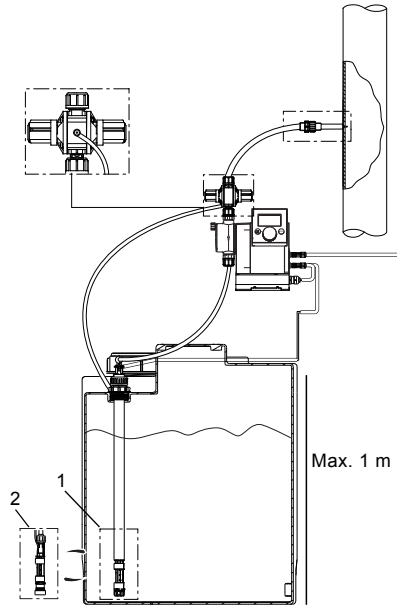


Fig. 3 Example of hose diagram

For chemical tanks stored above the ground, use the suction lance (1).

For chemical tanks stored below the ground, use the flexible suction line (2).

TM06 9825 0718

4.4 Electrical diagram

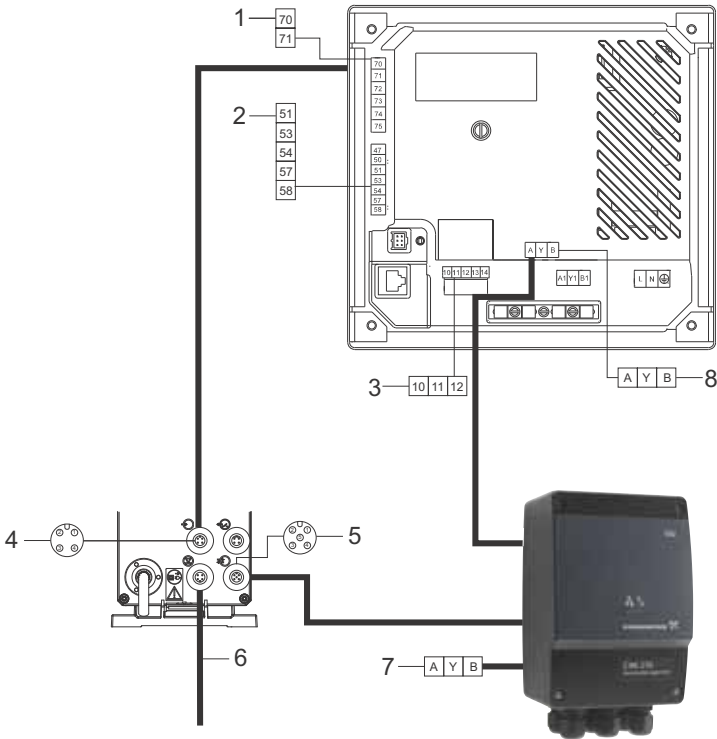


Fig. 4 Setup without pump control

Pos.	Pin number	Description
1	70: Relay 1 NO 71: Relay 2 C	Brown Blue
2	51: AI1 58: GND	Signal from flow meter
3	10: DI1 11: GND 12: DI2	Pump 1 - Pump 2
4	1: GND 3: External stop	Brown Blue
5	2: GENIbus TXD 3: GENIbus RXD 5: GENI	White Blue Yellow and green
6	-	Signal from suction lance
7*	A: GENIbus terminal A (positive data signal) Y: GENIbus terminal Y B: GENIbus terminal B (negative data signal)	White Yellow and green Blue
8*	A: GENIbus terminal A (positive data signal) Y: GENIbus terminal Y B: GENIbus terminal B (negative data signal)	

* Connect CIM 050 to the same sockets on CIU 270 (A, Y, B) as the dosing pump.

TM06 9951 5217

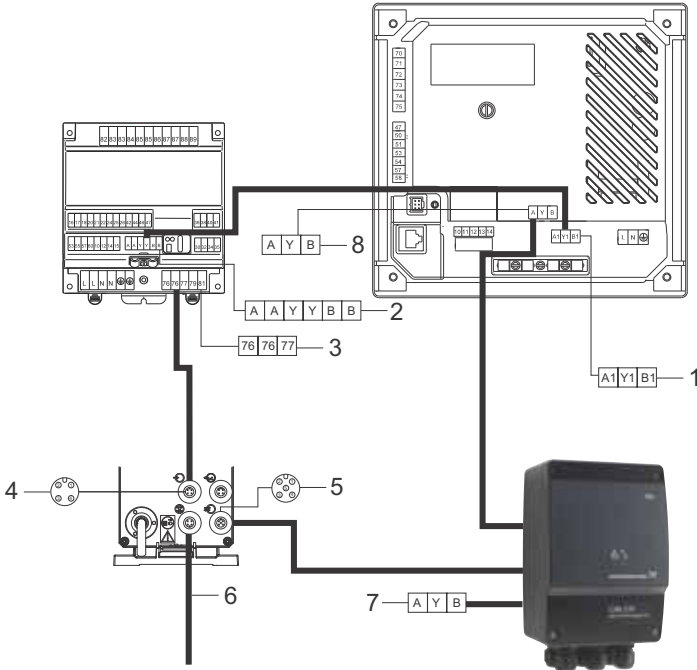


Fig. 5 Setup with pump control

TN07 0266 5217

Pos.	Pin number	Description
1	A1 Y1 B1	GENIbus
2	A A Y Y B B	-
3	76: Relay 1 NO 77: Relay 1 C	Brown Blue
4	1: GND 3: External stop	Brown Blue
5	2: GENIbus TXD 3: GENIbus RXD 5: GENI	White Blue Yellow and green
6	-	Signal from suction lance
7*	A: GENIbus terminal A (positive data signal) Y: GENIbus terminal Y B: GENIbus terminal B (negative data signal)	White Yellow and green Blue
8*	A: GENIbus terminal A (positive data signal) Y: GENIbus terminal Y B: GENIbus terminal B (negative data signal)	

* Connect CIM 050 to the same sockets on CIU 270 (A, Y, B) as the dosing pump.

5. Performance test

After installing the products and configuring Grundfos Remote Management, the performance test can be carried out onsite. An internet connection to Grundfos Remote Management is a prerequisite.

1. Log in to Grundfos Remote Management with your supplied username and password.
2. Find the section name in the list to the left.
3. Click on the section name to expand it.
4. Click on the CIU module.
5. Select the dosing pump from the window to the right.
6. Click on "Unit view" in the top bar and set the setpoint to 10 % of the pump capacity.
7. During the next pump run or a manual pump start, check that the dosing pump delivers the new setpoint. This can be read in the dosing pump display.

In the first week after the installation, the solution must be followed in the Grundfos Remote Management system to ensure that everything works.

Check the following:

- The setpoint is changing (see "Unit view").
- The concentration of H₂S measured in the manhole must decrease or disappear. Select "Odialog" to the left and click on "Trend Curves" to view the concentration.

Over time, the dosing must go up and down. To check this:

1. Select the CIU module in the list to the left.
2. Select the dosing pump from the window to the right.
3. Click on "Trend Curves" in the top bar and find "Set point".

6. Setting the solution



Make regular visual inspections of the pump pit and the injection point to minimise corrosion damage.

6.1 Changing the threshold setpoint

1. Log in to Grundfos Remote Management with your supplied username and password.
2. Find the section in the list to the left.
3. Right-click on the name and select "Edit" to enable the algorithm.
4. Under "H₂S Analysis Setup", you can change the setpoint under "H₂S reference".

6.2 Increasing the dosing setpoint

1. Log in to Grundfos Remote Management with your supplied username and password.
2. Find the section name in the list to the left.
3. Click on the section name to expand it.
4. Click on the CIU module.
5. Select the dosing pump from the window to the right.
6. Click on "Unit view" in the top bar.
7. Enter the setpoint manually into the edit field and press "Submit".

It will take some time to connect to the dosing pump. The new setpoint will appear in the message log.

6.3 Checking the chemical dosage when a new tank is installed

You can check that the chemical is being dosed after exchanging the chemical tank.

1. Log in to Grundfos Remote Management with your supplied username and password.
2. Find the section name in the list to the left.
3. Click on the section name to expand it.
4. Click on the CIU module.
5. Select the dosing pump from the window to the right.
6. Click on "Trend Curves" in the top bar and look at the volume graph.

6.4 Adjusting to maximum dosing time

In CU 362, a maximum dosing time is set at 1800 s. This is done to avoid emptying the chemical tank during rain in a combined systems. If H₂S is measured at the measuring site, the maximum dosing time could be too short and the time must be raised in steps of five minutes (300 s). See [4.2.2 Installation at the dosing site \(pumping station\)](#).

Contact Grundfos if you need help.

7. Handling the solution

Regarding handling of the different Grundfos products, see the individual products' installation and operating instructions including their safety instructions.

8. Servicing the solution

WARNING

Falling into the pumping station

- Death or serious personal injury
- Follow local working environment regulations.
 - Mark the area when the hatch is open.
 - Use a safety line and proper equipment when working around the pumping station. One person must always be on guard at the surface.



DANGER

Biological hazard

- Death or serious personal injury
- Read and follow the safety instructions for all the products delivered with Grundfos Hydrogen Sulphide Solution.
 - Ensure pipes are pressureless during service of the injection valve.
 - Always wear atmospheric monitoring equipment when working close to the manhole due to the risk of H₂S emission.
 - Wear personal protective equipment and clothing when working close to wastewater and potentially toxic liquids.
 - Follow local regulations for working in areas where a toxic atmosphere can occur.



DANGER

Explosive environment

- Death or serious personal injury
- Follow local regulations for working in hazardous areas where an explosive atmosphere can occur.
 - Measure the level of explosive gases to ensure a safe working environment.



DANGER

Servicing the product

- Death or serious personal injury
- Service and maintenance work must be carried out by qualified persons.
 - Only use original Grundfos spare parts. Contact Grundfos if you need help.



Over time, the pump pipe must be checked for damages caused by corrosion.

Odalog RTX needs service every six months. You can set an alarm in Grundfos Remote Management to notify you when service is needed.

Contact Grundfos for a local service agreement.

8.1 Maintenance and repair

Regarding maintenance and repair of the different Grundfos products, see the individual products' installation and operating instructions and safety instructions including their service instructions.

You can also contact Grundfos.

8.2 Exchanging the gasphase logger

1. Exchange the gasphase logger in the manhole first.
2. Log in to Grundfos Remote Management with your supplied username and password.
3. Find the section name in the list to the left.
4. Click on the section name to expand it.
5. Right-click on the Odalog name and select "Edit".
6. Continue with step 5 in [Register the gasphase logger](#).

8.3 Service kits

Regarding available service kits for the different Grundfos products, see the individual products' service instructions.

For DDA specifically:

- Service kit DDA10-12: Kit, valve and diaphragm 97751491.

The dosing pump is set for a predefined service interval.

You can also contact Grundfos.

9. Fault finding the solution

DANGER

Electric shock



Death or serious personal injury

- Before starting any work on the product, make sure that the power supply has been switched off and that it cannot be accidentally switched on.

Fault	Cause	Remedy
1. The dosing pump cannot deliver chemicals.	a) The counter pressure is too high. The injection valve or hoses are clogged.	Check for varying pressure in the system. Check the injection valve as well as the inlet and outlet hoses for blockage.
2. The chemical is not effective.		Contact Grundfos.
3. There is no data from gasphase logger.	a) The battery is flat. b) The gasphase logger is flooded.	Exchange the battery. Exchange the gasphase logger and place it in correct height.
4. The Grundfos Remote Management algorithm is not active (the setpoint is constant).		Contact Grundfos.
5. Grundfos Remote Management is malfunctioning.		Contact Grundfos.

10. Disposing of the products

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.

Appendix

List of parts

This is a list of components that in combination will meet the specified solution in these installation and operating instructions. Some parts are delivered as part of the Grundfos Hydrogen Sulphide Solution and other parts must be purchased separately.

The list is fit to a solution with a maximal dosing capacity of 12 litres of chemical and a maximum pressure of 10 bars in the pressurised wastewater pipe. Contact Grundfos if you need help specifying your need or wish to order accessories.

Manhole (gas measuring site)

Part	Product number	Publication number
Odalog RTX	99094383	-
IR cable ¹	-	-
Magnet (delivered with Odalog RTX)	-	-
SIM card ¹	-	-
Chain ¹	-	-

¹ Not supplied by Grundfos.

Pumping station (dosing installation site)

Part	Product number	Publication number
DDA 12-10	97722040	95724708
Rigid suction lance with level	98071158	98131771
Dosing hose	91836504 (10m), 91835680 (50)	-
Injection unit (valve)	95730964	96709905
Backing nut G 2" for RSL		-
Multifunction valve	95704591	95731175 (Quick guide), 96772109 (I&O)
Cable 0/4-20 mA, GENIbus	96632922	-
Cable 0/4-20mA/pulse/ext.stop	96609016	-
Cable relay 1 and relay 2	96609019	-

Pump controller (control system)

Part	Product number	Publication number
CU 362	98146953	96842987
CIM 050	96824631	-
IO 351 B extension interface (also for GRM)	96161730	96604440

Grundfos Remote Management (control system)

Part	Product number	Publication number
CIU 270	97652942	97695338 (GRM) 96846333 (Quick guide) 96846337 (I&O CIU 270) 96861060 (I&O CIM 270)
SIM card ²	-	-
Antenna, Roof mounting cpl. GSM	97631956	96846337

² Must be ordered separately.

Argentina

Bombas GRUNDFOS de Argentina S.A.
Ruta Panamericana km. 37.500 Centro
Industrial Garin
1619 Garin Pcia. de B.A.
Phone: +54-3327 414 444
Telefax: +54-3327 45 3190

Australia

GRUNDFOS Pumps Pty. Ltd.
P.O. Box 2040
Regency Park
South Australia 5942
Phone: +61-8-8461-4611
Telefax: +61-8-8340 0155

Austria

GRUNDFOS Pumpen Vertrieb
Ges.m.b.H.
Grundfosstraße 2
A-5082 Grödig/Salzburg
Tel.: +43-6246-883-0
Telefax: +43-6246-883-30

Belgium

N.V. GRUNDFOS Bellux S.A.
Boomsesteenweg 81-83
B-2630 Aartselaar
Tél.: +32-3-870 7300
Télécopie: +32-3-870 7301

Belarus

Представительство ГРУНДФОС в
Минске
220125, Минск
ул. Шафарнянская, 11, оф. 56, БЦ
«Порт»
Тел.: +7 (375 17) 286 39 72/73
Факс: +7 (375 17) 286 39 71
E-mail: minsk@grundfos.com

Bosnia and Herzegovina

GRUNDFOS Sarajevo
Zmaj od Bosne 7-7A,
BH-71000 Sarajevo
Phone: +387 33 592 480
Telefax: +387 33 590 465
www.ba.grundfos.com
e-mail: grundfos@bih.net.ba

Brazil

BOMBAS GRUNDFOS DO BRASIL
Av. Humberto de Alencar Castelo
Branco, 630
CEP 09850 - 300
São Bernardo do Campo - SP
Phone: +55-11 4393 5533
Telefax: +55-11 4343 5015

Bulgaria

Grundfos Bulgaria EOOD
Slatina District
Iztochna Tangenta street no. 100
BG - 1592 Sofia
Tel. +359 2 49 22 200
Fax. +359 2 49 22 201
email: bulgaria@grundfos.bg

Canada

GRUNDFOS Canada Inc.
2941 Brighton Road
Oakville, Ontario
L6H 6C9
Phone: +1-905 829 9533
Telefax: +1-905 829 9512

China

GRUNDFOS Pumps (Shanghai) Co. Ltd.
10F The Hub, No. 33 Suhong Road
Minhang District
Shanghai 201106
PRC
Phone: +86 21 612 252 22
Telefax: +86 21 612 253 33

COLOMBIA

GRUNDFOS Colombia S.A.S.
Km 1.5 vía Siberia-Cota Conj. Potrero
Chico,
Parque Empresarial Arcos de Cota Bod.
1A.
Cota, Cundinamarca
Phone: +57(1)-2913444
Telefax: +57(1)-8764586

Croatia

GRUNDFOS CROATIA d.o.o.
Buzinski prilaz 38, Buzin
HR-10010 Zagreb
Phone: +385 1 6595 400
Telefax: +385 1 6595 499
www.hr.grundfos.com

GRUNDFOS Sales Czechia and Slovakia s.r.o.

Čajkovského 21
779 00 Olomouc
Phone: +420-585-716 111

Denmark

GRUNDFOS DK A/S
Martin Bachs Vej 3
DK-8850 Bjerringbro
Tlf.: +45-87 50 50 50
Telefax: +45-87 50 51 51
E-mail: info_GDK@grundfos.com
www.grundfos.com/DK

Estonia

GRUNDFOS Pumps Eesti OÜ
Peterburi tee 92G
11415 Tallinn
Tel: + 372 606 1690
Fax: + 372 606 1691

Finland

OY GRUNDFOS Pumput AB
Trukkikuja 1
FI-01360 Vantaa
Phone: +358-(0) 207 889 500

France

Pompes GRUNDFOS Distribution S.A.
Parc d'Activités de Chesnes
57, rue de Malacombe
F-38290 St. Quentin Fallavier (Lyon)
Tél.: +33-4 74 82 15 15
Télécopie: +33-4 74 94 10 51

Germany

GRUNDFOS GMBH
Schlüterstr. 33
40699 Erkrath
Tel.: +49-(0) 211 929 69-0
Telefax: +49-(0) 211 929 69-3799
e-mail: infoservice@grundfos.de
Service in Deutschland:
e-mail: kundendienst@grundfos.de

Greece

GRUNDFOS Hellas A.E.B.E.
20th km. Athinon-Markopoulou Av.
P.O. Box 71
GR-19002 Peania
Phone: +0030-210-66 83 400
Telefax: +0030-210-66 46 273

Hong Kong

GRUNDFOS Pumps (Hong Kong) Ltd.
Unit 1, Ground floor
Siu Wai Industrial Centre
29-33 Wing Hong Street &
68 King Lam Street, Cheung Sha Wan
Kowloon
Phone: +852-27861706 / 27861741
Telefax: +852-27858664

Hungary

GRUNDFOS Hungária Kft.
Park u. 8
H-2045 Törökbálint,
Phone: +36-23 511 110
Telefax: +36-23 511 111

India

GRUNDFOS Pumps India Private
Limited
118 Old Mahabalipuram Road
Thoraipakkam
Chennai 600 096
Phone: +91-44 2496 6800

Indonesia

PT. GRUNDFOS POMPA
Graha Intirub Lt. 2 & 3
Jln. Cililitan Besar No.454. Makasar,
Jakarta Timur
ID-Jakarta 13650
Phone: +62 21-469-51900
Telefax: +62 21-460 6910 / 460 6901

Ireland

GRUNDFOS (Ireland) Ltd.
Unit A, Merrywell Business Park
Ballymount Road Lower
Dublin 12
Phone: +353-1-4089 800
Telefax: +353-1-4089 830

Italy

GRUNDFOS Pompe Italia S.r.l.
Via Gran Sasso 4
I-20060 Truccazzano (Milano)
Tel.: +39-02-95838112
Telefax: +39-02-95309290 / 95838461

Japan

GRUNDFOS Pumps K.K.
1-2-3, Shin-Miyakoda, Kita-ku,
Hamamatsu
431-2103 Japan
Phone: +81 53 428 4760
Telefax: +81 53 428 5005

Korea

GRUNDFOS Pumps Korea Ltd.
6th Floor, Aju Building 679-5
Yeoksam-dong, Kangnam-ku, 135-916
Seoul, Korea
Phone: +82-2-5317 600
Telefax: +82-2-5633 725

Latvia

SIA GRUNDFOS Pumps Latvia
Deglava biznesa centrs
Augusta Deglava iela 60, LV-1035, Rīga,
Tālr.: + 371 714 9640, 7 149 641
Faks: + 371 914 9646

Lithuania

GRUNDFOS Pumps UAB
Smolensko g. 6
LT-03201 Vilnius
Tel: + 370 52 395 430
Fax: + 370 52 395 431

Malaysia

GRUNDFOS Pumps Sdn. Bhd.
7 Jalan Peguam U1/25
Glenmarie Industrial Park
40150 Shah Alam
Selangor
Phone: +60-3-5569 2922
Telefax: +60-3-5569 2866

Mexico

Bombas GRUNDFOS de México S.A. de
C.V.
Boulevard TLC No. 15
Parque Industrial Stiva Aeropuerto
Apodaca, N.L. 66600
Phone: +52-81-8144 4000
Telefax: +52-81-8144 4010

Netherlands

GRUNDFOS Netherlands
Veluwezoom 35
1326 AE Almere
Postbus 22015
1302 CA ALMERE
Tel.: +31-88-478 6336
Telefax: +31-88-478 6332
E-mail: info_gnl@grundfos.com

New Zealand

GRUNDFOS Pumps NZ Ltd.
17 Beatrice Tinsley Crescent
North Harbour Industrial Estate
Albany, Auckland
Phone: +64-9-415 3240
Telefax: +64-9-415 3250

Norway

GRUNDFOS Pumper A/S
Strømsveien 344
Postboks 235, Leirdal
N-1011 Oslo
Tlf.: +47-22 90 47 00
Telefax: +47-22 32 21 50

Poland

GRUNDFOS Pompy Sp. z o.o.
ul. Klonowa 23
Baranowo k. Poznania
PL-62-081 Przeźmierowo
Tel: (+48-61) 650 13 00
Fax: (+48-61) 650 13 50

Portugal

Bombas GRUNDFOS Portugal, S.A.
Rua Calvet de Magalhães, 241
Apartado 1079
P-2770-153 Paço de Arcos
Tel.: +351-21-440 76 00
Telefax: +351-21-440 76 90

Romania

GRUNDFOS Pompe România SRL
Bd. Biruintei, nr 103
Pantelimon county Ilfov
Phone: +40 21 200 4100
Telefax: +40 21 200 4101
E-mail: romania@grundfos.ro

Russia

ООО Грундфос Россия
ул. Школьная, 39-41
Москва, RU-109544, Russia
Тел. (+7) 495 564-88-00 (495)
737-30-00
Факс (+7) 495 564 8811
E-mail grundfos.moscow@grundfos.com

Serbia

Grundfos Srbija d.o.o.
Omladinskih brigada 90b
11070 Novi Beograd
Phone: +381 11 2258 740
Telefax: +381 11 2281 769
www.rs.grundfos.com

Singapore

GRUNDFOS (Singapore) Pte. Ltd.
25 Jalan Tukang
Singapore 619264
Phone: +65-6681 9688
Telefax: +65-6681 9689

Slovakia

GRUNDFOS s.r.o.
Prievozská 4D
821 09 BRATISLAVA
Phona: +421 2 5020 1426
sk.grundfos.com

Slovenia

GRUNDFOS LJUBLJANA, d.o.o.
Leskovoška 9e, 1122 Ljubljana
Phone: +386 (0) 1 568 06 10
Telefax: +386 (0) 1 568 06 19
E-mail: tehnika-si@grundfos.com

South Africa

GRUNDFOS (PTY) LTD
Corner Mountjoy and George Allen
Roads
Wilbart Ext. 2
Bedfordview 2008
Phone: (+27) 11 579 4800
Fax: (+27) 11 455 6066
E-mail: lsmart@grundfos.com

Spain

Bombas GRUNDFOS España S.A.
Camino de la Fuentequilla, s/n
E-28110 Algete (Madrid)
Tel.: +34-91-848 8800
Telefax: +34-91-628 0465

Sweden

GRUNDFOS AB
Box 333 (Lunnagårdsgatan 6)
431 24 Mölndal
Tel.: +46 31 332 23 000
Telefax: +46 31 331 94 60

Switzerland

GRUNDFOS Pumpen AG
Bruggacherstrasse 10
CH-8117 Fällanden/ZH
Tel.: +41-44-806 8111
Telefax: +41-44-806 8115

Taiwan

GRUNDFOS Pumps (Taiwan) Ltd.
7 Floor, 219 Min-Chuan Road
Taichung, Taiwan, R.O.C.
Phone: +886-4-2305 0868
Telefax: +886-4-2305 0878

Thailand

GRUNDFOS (Thailand) Ltd.
92 Chaloeang Phrakiat Rama 9 Road,
Dokmai, Pravej, Bangkok 10250
Phone: +66-2-725 8999
Telefax: +66-2-725 8998

Turkey

GRUNDFOS POMPA San. ve Tic. Ltd.
Sti.
Gebze Organize Sanayi Bölgesi
İhsan dede Caddesi,
2. yol 200. Sokak No. 204
41490 Gebze/ Kocaeli
Phone: +90 - 262-679 7979
Telefax: +90 - 262-679 7905
E-mail: satis@grundfos.com

Ukraine

Бізнес Центр Європа
Столичне шосе, 103
м. Київ, 03131, Україна
Телефон: (+38 044) 237 04 00
Факс.: (+38 044) 237 04 01
E-mail: ukraine@grundfos.com

United Arab Emirates

GRUNDFOS Gulf Distribution
P.O. Box 16768
Jebel Ali Free Zone
Dubai
Phone: +971 4 8815 166
Telefax: +971 4 8815 136

United Kingdom

GRUNDFOS Pumps Ltd.
Grovebury Road
Leighton Buzzard/Beds. LU7 4TL
Phone: +44-1525-850000
Telefax: +44-1525-850011

U.S.A.

GRUNDFOS Pumps Corporation
17100 West 118th Terrace
Olathe, Kansas 66061
Phone: +1-913-227-3400
Telefax: +1-913-227-3500

Uzbekistan

Grundfos Tashkent, Uzbekistan The Rep-
resentative Office of Grundfos Kazakhstan
in Uzbekistan
38a, Oybek street, Tashkent
Телефон: (+998) 71 150 3290 / 71 150
3291
Факс: (+998) 71 150 3292

Addresses Revised 09.08.2017

be think innovate

99352803 0318

ECM: 1218082

The name Grundfos, the Grundfos logo, and **be think innovate** are registered trademarks owned by Grundfos Holding A/S or Grundfos A/S, Denmark. All rights reserved worldwide.
© Copyright Grundfos Holding A/S

www.grundfos.com

GRUNDFOS 