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# GRUNDFOS HYDROGEN SULPHIDE SOLUTION

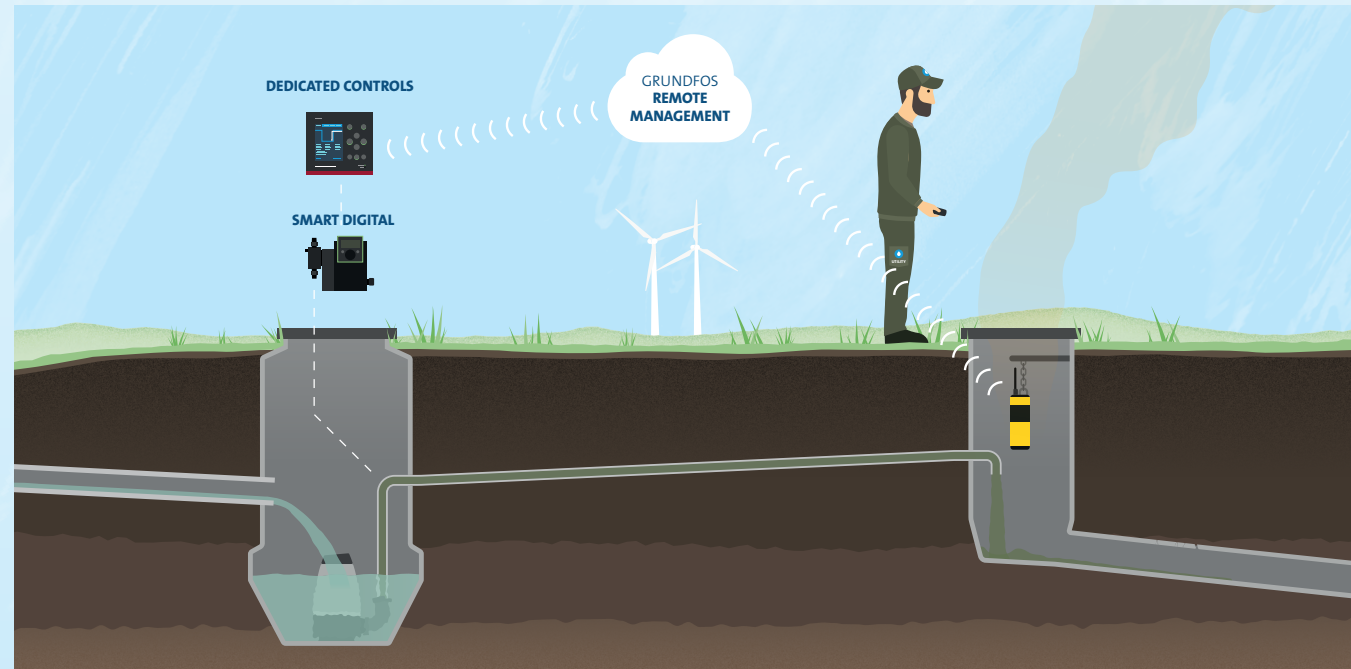
INTEGRATED GRUNDFOS COMPONENTS SOLVE  
A COMMON PROBLEM IN THE WASTEWATER SECTOR





# Tried and tested solution for HYDROGEN SULPHIDE ISSUES

Bad smell. Corrosion of pipes and pumps. Health and safety issues. All over the world, hydrogen sulphide in pressurised pipes is creating problems for utility companies. Many different factors contribute to hydrogen sulphide formation, and problems can therefore be hard to solve. In many cases, however, the **Grundfos Hydrogen Sulphide Solution** can efficiently register and eliminate odour and corrosion issues.



## Value through integration of individual components

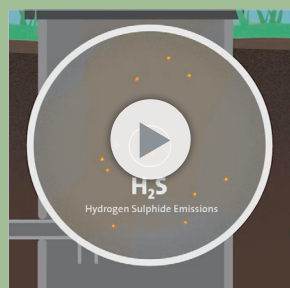
The fully automatic Grundfos Hydrogen Sulphide Solution consists of a number of Grundfos components. The components combine to deliver an effective and reliable solution for hydrogen sulphide issues in manholes and pumping stations in A to B single-line sewer installations.

A gasphase logger in the manhole measures H<sub>2</sub>S levels at short intervals, sending the results to **Grundfos Remote Management (GRM)** which also receives flow measurements from the unique **Grundfos Dedicated Controls**. An advanced 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 with great accuracy, even at varying flow patterns. The **CIU communication** unit handles the necessary communication between the components.

This makes for an efficient and reliable solution where the interaction between the individual components creates value.

Read more on the individual components on the next page.



How is hydrogen sulphide formed in wastewater, and which problems does it create?

Watch an animated film about the problem at [www.grundfos.com/h2s](http://www.grundfos.com/h2s).



A Danish utility company has achieved good results with the Grundfos Hydrogen Sulphide Solution.

Read the case story at [www.grundfos.com/h2s](http://www.grundfos.com/h2s).

## INDIVIDUAL COMPONENTS/FACTS



### SMART Digital dosing pumps

Digital membrane dosing pumps with powerful, variable stepper motors that allow for extremely accurate dosing of even small liquid volumes. The SMART Digital series is resistant to virtually all chemicals, and the advanced motor technology lowers energy consumption and contributes to more economical pump operation.

#### Benefits

- Extremely accurate – at flows above 50 ml/h, the actual dosed amount deviates less than one percent from the setpoint.

- Modular – the flexible mounting plate allows you to mount the pump at different angles.
- User friendly – the control features make configuration, control and operation easy.
- Intelligent – pump surveillance features monitor the entire dosing process, raising an alarm in case of problems.

#### Technical details

- Operating pressure: 4 to 16 bar.
- Flow: 0.0025 to 30 l/h.
- Turn-down ratio: up to 1:3000.



### DEDICATED CONTROLS

Complete control for wastewater pumps able to control up to six pumps and configurable for many different applications. The system can be integrated with surveillance, control and optimisation equipment.

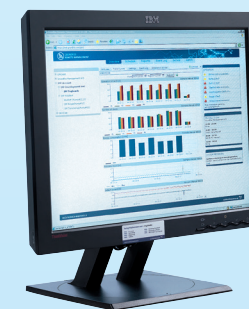
#### Benefits

- Unique optimisation features – the system offers anti blocking features and automatic energy optimisation based on actual operating conditions.
- User friendly – easy installation and configuration via a start-up guide.

- Great customisation options – in addition to the built-in basic features, additional inputs and outputs may be added as needed.

#### Technical details

- Control of up to six pumps with grouping options.
- Many communication options including a USB port for PC-tool, text/SMS warnings, BMS and SCADA systems through GSM/GPRS, GENIbus for readout on ICS installations, and Grundfos Remote Management.
- Advanced calculation features for e.g. overflow volume, inlet volume and pump capacity.



### GRUNDFOS REMOTE MANAGEMENT (GRM)

Internet-based system for monitoring and controlling pumping installations in e.g. wastewater treatment plants. The system receives and stores data from connected pumps, sensors, meters and controls. The data can be accessed over the internet, reducing the need for onsite inspection. In case of problems, the person on duty is immediately notified through a text message.

#### Benefits

- Complete overview – the entire controlled facility can be monitored, analysed and optimised from the computer.

- Better planning – service and maintenance can be scheduled based on actual operation data.
- Fewer onsite inspections – an online overview of your operations reduces the need for time-consuming onsite inspections at e.g. pumping stations.

#### Tekniske detaljer

- Internet-based solution with full data backup on Grundfos servers.
- Pumps, controls, gasphase loggers etc. can be connected directly or through CIM/CIU communication units.
- Data traffic, hosting, support and backup covered by a fixed monthly fee.



### CIM/CIU

The CIM/CIU communication units enable data communication between pumps, pressure boosters and controls through open and compatible networks. They are based on standard functional profiles, allowing for easy integration in networks and easy interpretation of data points. The units are easy to install and commission.

#### Benefits

- Compatible with existing installations – CIM/CIU are based on standard function profiles.

- Future proof – the system has been prepared for future communication standards.
- Integrated – CIM/CIU support several Grundfos products.

#### Technical details

- Support LON, PROFIBUS DP, Modbus RTU, SMS/GSM/GPRS, and BACnet MS/TP.
- Integrated 24 to 240 V power supply (CIU).
- Prepared for wall mounting or DIN rail mounting (CIU).