Complete solutions for process automation from Phoenix Contact

- Easy commissioning with the industry-specific water process library Waterwork
- Easy integration of measuring and control technology with pre-programmed function blocks
- Permanent system overview with integrated visualization on site and in the control room
- Reliable transmission of all relevant process data for almost all communication networks such as mobile, public telephone network, HDSSL, wired and radio systems
- Support of all standard communication interfaces such as PROFINET®, PROFIBUS® and Modbus
- Reliable remote communication via standardised protocols such as IEC 60870-5-101/104, ODP and DNP3

Valve technology from VAG – VAG EROX® plus penstock

- Complete solutions for process automation from PHOENIX CONTACT

> PHOENIX CONTACT is the worldwide market leader in components, systems and solutions in the areas of electrical engineering, electronics and automation. The Phoenix Contact Group has ten companies as well as 50 sales and service locations in Europe and overseas.

Jet cleaner for rainwater retention basins Wilo-EMU SR

- For cleaning rain overflow basins even during the emptying stage
- To prevent penetration from the introduction of air during extended period of water held in the rainwater basin
- For stirring organic and inorganic substances
- With submersible sewage pump with self-cooling motor, protection class IP68
- The rainwater present is used for cleaning purposes
- Introduction of oxygen during operation via a separate induction pipe
- Length of the jet and air induction pipe can be individually adjusted
- Circulation rate: 100–200 m³
- Pressure connection: DN100 or DN150

Measuring technology from KROHNE

- TIDALFLUX 2300 F, electromagnetic flowmeter for partially filled pipes (DN200–1600/8–64”) for measuring flow and level in the pipe as well as the output of both parameters via separate analogue outputs, approved for ATEX Zone 1
- SMARTFLO COND 5200, conductive conductivity sensor with integrated temperature sensor plus amplifier/transmitter integrated in the sensor for monitoring the rainwater properties with a large measuring range from 10 µS/cm to 15 mS/cm (c = 1)
- OPTITEMP 4400, switch for level detection and overflow protection, insensitive to build-up or foam
- OPTITEMP TRA-511, screw-in resistance thermometer with OPTITEMP TT 20 C transmitter for general applications
- OPTIBAR LC 1010, immersion probe (Ø 22 mm/0.87”) with ceramic membrane for the hydrostatic level measurement of water and sewage

Our cooperation – your solution

Visualisation/HMI SCADA from VIDEC

- Operate and observe on-site, the SCADA system in the control centre
- Consistent, object-oriented planning of measuring device down to command level
- Latest Web technology (without plug-in) on any terminal device – even mobile
- ACRON analysis and reporting functions integrated in HMI SCADA
- Alarm management for small and large facilities – also with external systems
- Water and sewage object library for Phoenix Contact automation appliances
- Short planning times – flexible solutions

Joint demonstration model rainwater management

PHOENIX CONTACT

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VAG Armaturenbau GmbH

- VAG Armaturenbau GmbH is a German company with more than 140 years of experience in the design and manufacturing of heavy-duty valves for all kinds of water applications. With more than 1,200 employees worldwide, the valve manufacturer is a globally active company and is setting new standards as a solution provider in the field of water and wastewater technology.

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KROHNE Measutechnik GmbH

- KROHNE Measutechnik GmbH headquartered in Duisburg, develops, produces and sells products in the field of flow, level, temperature, analysis and pressure measurement technology. KROHNE is one of the market leaders in industrial process measuring technology.

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Wilo SE

- Wilo SE, headquarter in Dortmund is one of the world’s leading manufacturers of pumps and pump systems for HVAC, water supply as well as wastewater treatment and disposal.

VIDEC Data Engineering GmbH

- VIDEC Data Engineering GmbH is an easily-tailored software solution in the automation and information technology sector. We are happy to provide our customers with our long-standing technical expertise as part of consulting, support and training services.

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With the help of rainwater basins, which in principle are set up in sewer networks for the temporary storage of rainwater, the inflow to a wastewater treatment plant and to a body of receiving water can be controlled.

There is a distinction here between:
- Rainwater retention basins (mixed and separate systems)
- Rainwater overflow basins (mixed system)
- Rainwater purification basins (separate system)

Due to new legal framework conditions and structural changes to the operator, automation of the structures is becoming increasingly necessary.

During heavy rainfall, the excess water from the sewage system is temporarily stored, for example, in a rainwater retention basin and gradually forwarded to the wastewater treatment plant or receiving water to protect these from a possible overload.

The flow measurement in the inlet sewer to the waste treatment plant, which is typically designed as a gravity sewer, specifies the control variable for the regulating plate on the discharge control system. The regulating plate is activated by the automation technology used, which also ensures the connection to the control centre. The data recorded is made available here for logging and analysis purposes as well as for the control technology. The level measurement and flow measurement installed in the rainwater basin ensures that the overflow volume and hence the capacity of the basin is permanently monitored. An optionally available conductivity measurement enables the rainwater properties and the pollution level to be monitored. Future analytical measurement requirements are therefore already ensured.

In order to prevent contamination and deposits in the rainwater basin after the emptying process, installed jet cleaners provide additional cleaning efficiency from a defined level.

This solution thus contributes to a sustainable sewer network management system as well as to active water protection.

You benefits
- Continuous inflow monitoring and control (mixed system) assures smooth treatment process
- Continuous process data monitoring ensures legal thresholds are complied with when water is fed into a body of receiving water
- Jet cleaners controlled by level measurements enable an optimised cleaning efficiency of the basins
- Servicing and maintenance costs are minimised thanks to Web-based location-independent access to the control technology and hence to all the relevant process data from the field
- Simple engineering and simple commissioning process thanks to coordinated drive, measuring and control technology