

**SEEPEX.**  
ALL THINGS FLOW

# EVERYTHING UNDER CONTROL

## CO – CONTROL SYSTEMS

CO



## INTEGRATED APPROACH.

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**ABOUT US**

**PUMPING SOLUTIONS  
SINCE 1972**

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**PRODUCTS**

- Progressive cavity pumps
  - Macerators
  - Control systems
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**CORE COMPETENCIES**

- Comprehensive consulting
  - First-class service
  - Customer-specific solutions
  - Continuous innovation
  - Modular pump system
- 

**EMPLOYEES**

**OVER 700  
WORLDWIDE**

SEEPEX is a leading global specialist in pump technologies. Our progressive cavity pumps, macerators and control systems are used wherever thin to highly viscous, abrasive or aggressive media needs to be pumped with minimal pulsation and the highest precision.

Thanks to our modular system with market-specific product groups and high-performance ranges, SEEPEX finds the optimal solution for every industry and application – even for extremely challenging applications.

SEEPEX is far more than just a pump manufacturer. The highly qualified engineers and technicians at SEEPEX consider every project from an integrated perspective and are able to apply their technical knowledge to deliver individual and comprehensive advice to customers from all branches of industry.

Furthermore, SEEPEX offers a wide range of service programs, which ensure long-term value, optimal operation and minimize life cycle costs of the pump.

SEEPEX was founded in Bottrop in 1972. Today the company is represented in over 70 countries and has over 700 employees worldwide.

# OPTIMALLY COORDINATED.

## INDUSTRIES

- Food and beverage
- Environmental engineering
- Potable water
- Renewable energies
- Pulp and paper
- Oil, gas and petrochemicals
- Chemical
- Pharmaceuticals and personal care
- Additional markets

## ABBREVIATIONS

- **SLCO** = Sludge Conditioning
- **FPPU** = Filter Press Pump Feeding
- **BGDC** = Biogas Dosing Control
- **MPPC** = Multi Phase Pump Control
- **LVCL** = Level Control
- **DOSC** = Dosing Control
- **SDP** = Smart Dosing Pump

SEEPEx control systems (CO) are high-performance systems for the automated control of pumping operations. They are used specifically for process optimization, monitoring and management functions, and they are custom-designed for integration into the customers' processes. SEEPEx control systems optimize customers' processes by increasing repeatability, enhancing reliability and reducing life cycle costs.

Standardized control modules are available for metering and dosing systems or as protection against overpressure and dry running. Furthermore, SEEPEx can develop customer-specific control solutions, from individual components to complex systems complete with process visualization.

Whether standardized or customer-specific: from development through to commissioning and service, we are your partner in process optimization.

## BENEFITS AND PROPERTIES

- Custom-fit solutions that will integrate into existing plants
- Optimization of pump performance
- Reduced life cycle costs
- Standardized and custom control functions
- Network-capable compact control systems
- Development of customer-specific solutions

With our customer-specific solutions, we develop SEEPEx control systems for your applications. All you have to do is contact us.



# SLCO DOSING CONTROL SYSTEM.

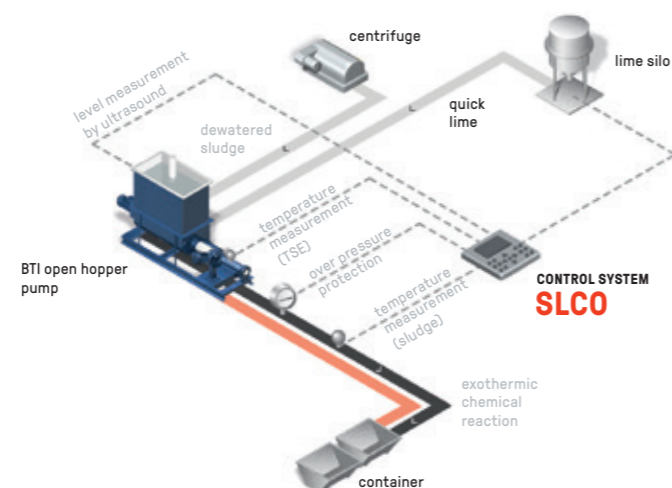
**For conditioning sludge with quick lime, SEEPEX pumps are used to mix and pump dewatered sludge from centrifuges and belt filter presses. The SLCO control system has been specially developed for conditioning sewage sludge.**

In this process, dewatered sludge is discharged into the hopper of a SEEPEX BTI pump (hopper with integrated bridge breaker). At the same time, lime is fed into the hopper of the pump via an adjustable screw dosing system and mixed in by the bridge breaker.

By conditioning dewatered sludge using quick lime, an exothermal reaction takes place, increasing the dry solids content as well as raising the pH value in order to kill pathogens. SEEPEX pumps mix and pump the conditioned sludge in a closed system and optimize it e.g. for agricultural use.

## BENEFITS

The SEEPEX SLCO controller regulates and monitors the pump during lime stabilization, ensuring the correct ratio of quick lime to dewatered sludge is added and mixed within the pump. This ensures reliable sanitization and long-term stabilization. The various protection functions safeguard the pump and its components against overloading, and assure reliable operation.



# FEATURES

## APPLICATIONS

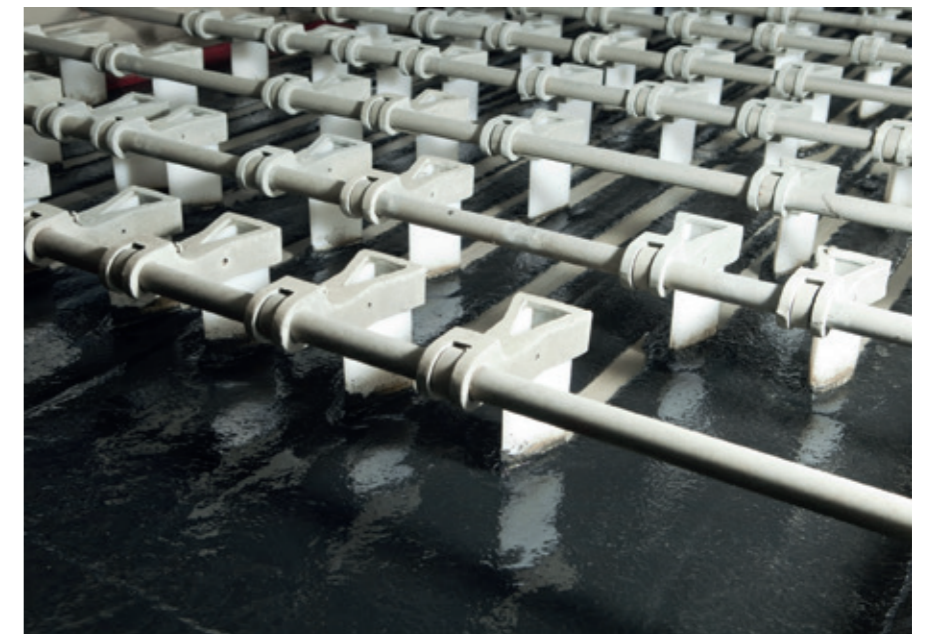
Conveying and conditioning of sewage sludge

## KEY FACTS

- Display: 3.5" TFT color
- Dimensions (L x W x H): 203 x 56 x 145 mm
- Protection class: IP65 (front)



- Convenient operation through process visualization
- Integrated signal recorder allows simple process analysis
- Level control in the pump hopper
- Monitoring of temperature in order to prevent excessive lime dosing
- Clearly structured display of operating and error messages
- Optional: Communication via conventional fieldbus systems
- Integrated resettable operating hours counter for each pump
- Dry-running monitoring to protect the rotor and stator conveying elements
- Overpressure protection with freely adjustable cut-off pressure
- Various operating languages available



# FPPU FILTER PRESS FEEDING SYSTEM.

**With the combination of the FPPU filter press feeding system and BN range pumps, SEEPEX offers an intelligent system for feeding plate and frame filter presses in sludge dewatering applications.**

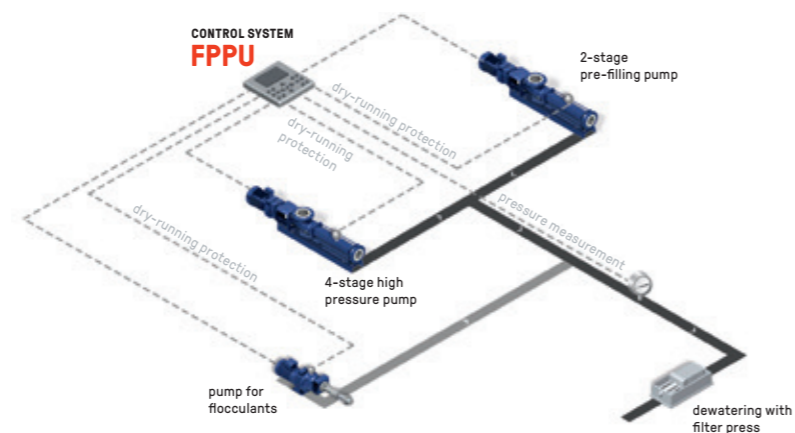
The FPPU control system optimizes the control and filling of plate and frame filter presses. The FPPU controller maximizes flow during the fill cycle and precisely controls pressure in the final compaction phase. Strict control over the process reduces overall cycle times and maximizes the dewatering capability of the press. The flow and pressure control system permits as many as 100 separate flow vs. pressure set points during the process to achieve optimal dewatering with maximum process throughput.

If faster filter press cycle times are desired, the FPPU control system permits the use of a two pump system consisting of a single high-volume pump and a second smaller, high pressure pump.

## BENEFITS

Adjustment of the conveying capacity/pressure characteristic curve allows the capacity of the pump(s) to be optimally adapted to the sludge to be dewatered. This prevents premature compaction of the sludge on the filter cloths.

The FPPU control system enables plate and frame filter presses to be filled significantly more efficiently: the entire process of sludge dewatering is thus optimized. Dry-running and overpressure protection are also integrated, which results in major advantages in terms of operating reliability.



## FEATURES

### APPLICATIONS

Sludge dewatering with filter presses

### KEY FACTS

- Display: 10.1" TFT color
- Dimensions (L x W x H): 276 x 51 x 172 mm
- Protection class: IP65 (front)



- Simple operation through visual representation of the filling process
- Shorter filling times through optional pre-filling pump
- Optional addition of flocculants by a SEEPEX dosing pump
- Efficient filling through the use of individually adjustable performance curves
- Formulation memory for saving performance curves
- Integrated signal recorder allows simple process analysis
- Clearly structured display of operating and error messages
- Optional: Communication via conventional fieldbus systems
- Integrated resettable operating hours counter for each pump
- Dry-running monitoring to protect the rotor and stator conveying elements
- Overpressure protection with freely adjustable cut-off pressure
- Various operating languages available



# BGDC MIXING AND DOSING CONTROL SYSTEM.

**The BGDC controller is a dosing, mixing and pumping system specially designed for biogas generation.**

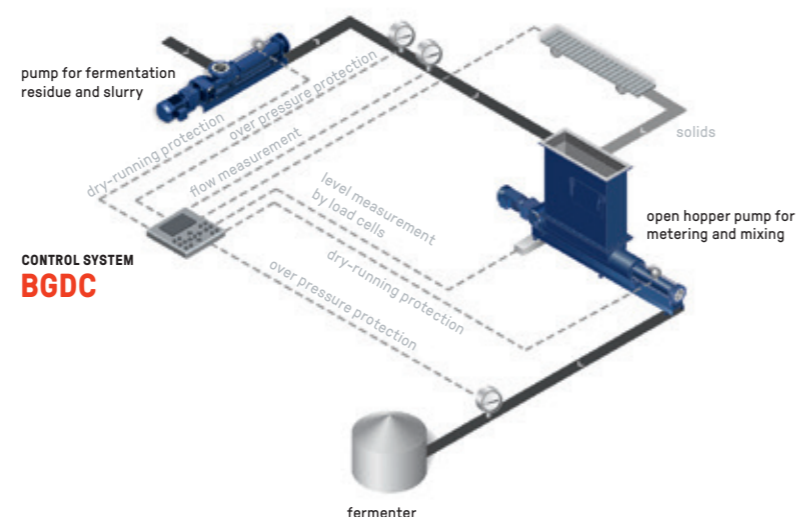
During biogas generation, organic materials are broken down by means of fermentation. The BGDC is designed for charging the fermenters of biogas plants, along with controlling dosing and mixing of liquids and solids.

In this process, a BN range pump transfers a constant flow rate of fermentation residues into the feed hopper of a SEEPEX open hopper pump. At the same time, solids are added into the hopper of the pump, e.g. via a screw conveyor. The mixing ratio can be individually adjusted by means of a factor. The filling level in the pump hopper is kept constant by means of a controller. To this end, the pump weight is continuously measured with the help of load cells. Fermentation residues and solids are mixed by the hopper screw and subsequently pumped into the fermenter.

## BENEFITS

The BGDC control system provides the customer with a dosing, mixing and pumping solution in a single system.

The pump media is ideally combined to achieve a predefined ratio, thoroughly mixed, and thus optimally prepared for the next stage of the process. The various protection functions ensure fault-free operation.



## APPLICATIONS

Fermenter charging in biogas plants

## KEY FACTS

- Display: 5.7" LC b/w
- Dimensions (L x W x H): 205 x 111 x 220 mm
- Protection class: IP65 (front)



## FEATURES

- Convenient operation through process visualization
- Individually adjustable mixing ratio of liquids and solids
- Level control in the pump hopper
- Clearly structured display of operating and error messages
- Optional: Communication via conventional fieldbus systems
- Integrated resettable operating hours counter for each pump
- Dry-running monitoring to protect the rotor and stator conveying elements
- Overpressure protection with freely adjustable cut-off pressure
- Various operating languages available



# MPPC MULTIPHASE CONTROLLER.

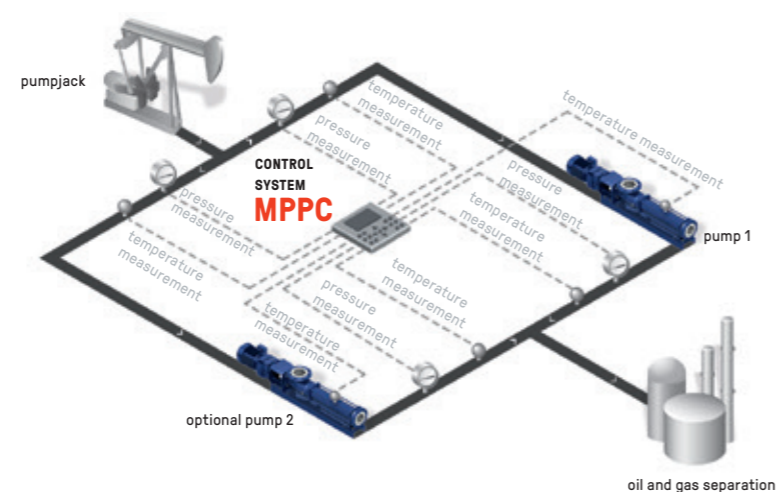
In multi-phase pumping, crude oil is transported over long distances, together with its associated gaseous, liquid and solid substances. In this process, the MPPC multiphase controller ensures the optimal operating point, thus achieving maximum pumping capacity while simultaneously protecting the SEEPEX progressive cavity pump.

The wide range and often very varied loads necessitate the comprehensive logging of measurement data directly at the pump. With this measurement data, the MPPC is capable of setting the optimal operating point during all phases of operation, thus avoiding overloading the pump. In the event of an increase in pump load, the pump is not simply switched off, but the capacity of the pump is reduced to a level at which the load no longer represents a problem.

## BENEFITS

In the event of critical pump loads, intelligent pump regulation ensures longer pumping times and pump protection.

This principle of the MPPC controller facilitates longer pumping times and thus higher capacity on the pump parts. In conditions where pure gas needs to be 'pumped', circulation fluids can be used to prevent dry-running damage. To increase the output two pumps can operate in parallel within the same system.



# FEATURES

## APPLICATIONS

Multiphase applications in the oil and gas industry

## KEY FACTS

- Display: 10.4" TFT color
- Dimensions (L x W x H): 323 x 86 x 358 mm
- Protection class: IP65 (front)



- Convenient operation through process visualization
- Integrated 24h signal recorder for each pump
- Operation of one or two multiphase pumps and additional injection pumps
- Password-protected parameters
- Long-term measurement data storage on USB stick (csv format)
- Integrated system diagnosis manager (SDM) allows control diagnosis, even in the event of display failure
- Modbus interface integrated, additional fieldbus systems optional
- Clearly structured display of operating and error messages
- Integrated resettable operating hours counter for each pump
- Dry-running monitoring to protect the rotor and stator conveying elements
- Overpressure protection with freely adjustable cut-off pressure
- Various operating languages available



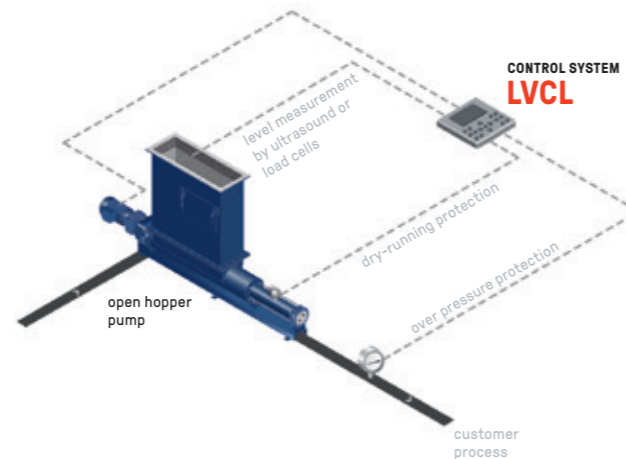
# LVCL LEVEL CONTROL.

**A wide range of customer processes require the product level in the pump hopper to be optimized with the incoming feed rate and the SEEPEX pump output capacity. SEEPEX supplies a solution with the LVCL control system to precisely and continuously regulate the level by changing the pump speed.**

The level of the pump medium is measured by means of ultrasonic, laser, pressure transducer or load cells, and is adjusted to a pre-set target value. The process is monitored by the SEEPEX control system. If faults occur, these are reported and the process is stopped, if necessary, in order to avoid damage to the pump and the plant.

## BENEFITS

Optimal control of the pump in relationship to pump hopper level/input feed. Pump and drive service life is increased due to the elimination of frequent start and stops. Automatic operation reduces the number of people required to monitor the dewatering functions.



# FEATURES

## APPLICATIONS

Various industries/sectors

## KEY FACTS

- Integrated LC display
- Dimensions (L x W x H): 153 x 46 x 120 mm
- Protection class IP65 (front)



- Simple operation
- Constant filling level regulation
- Clearly structured display of operating and error messages
- Optional: Communication via fieldbus systems
- Integrated resettable operating hours counter
- Dry-running monitoring to protect the rotor and stator conveying elements
- Overpressure protection with freely adjustable cut-off pressure
- Various operating languages available





# DOSC DOSING CONTROL SYSTEM.

**In many branches of industry, e.g. in the food, beverage, pharmaceutical or cosmetics sectors, it is necessary for materials to be dosed or portioned.**

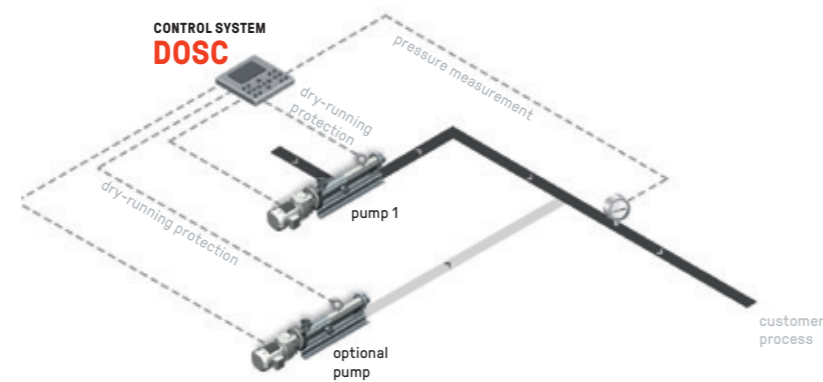
The DOSC controller enables precise dosing of such materials. Two separate processes are considered here. During dosing, a continuous volume flow rate is added to the process. Portioning is used for dispensing specific quantities.

While only the volume flow rate is defined for dosing processes, portioning requires both the dosing time and the dosing quantity to be set as parameters. The control system measures the volume flow rate using flow meters, or alternatively using a pulse generator at the motor shaft.

Additionally, pumps following the same signal at different ratios can be integrated into the control system.

## BENEFITS

For countless applications, the DOSC means high dosing accuracy and smooth processes. Tried and tested protection mechanisms against dry running and overpressure protect the pump and pump components and ensure a long, repeatable, reliable and cost-effective operation.



# FEATURES

## APPLICATIONS

Dosing of additives

## KEY FACTS

- Display: Integrated LC display
- Dimensions (L x W x H): 153 x 46 x 120 mm
- Protection class IP65 (front)



- Simple operation
- Costs reduced because of highly precise dosing
- Additional dosing pumps can be integrated
- Clearly structured display of operating and error messages
- Optional: Communication via conventional fieldbus systems
- Integrated resettable operating hours counter for each pump
- Dry-running monitoring to protect the rotor and stator conveying elements
- Overpressure protection with freely adjustable cut-off pressure
- Various operating languages available



# SMART DOSING PUMP (SDP).

**The great challenge for plant operators and designers in all branches of industry is to ensure cost-effective and energy-efficient operation, optimized processes and minimize downtime. With the Smart Dosing Pump (SDP), SEEPEX offers an intelligent dosing pump for all applications, from complex dosing tasks in industrial settings to laboratory applications.**

The new Smart Dosing Pump with integrated controls combines the classic benefits of a progressive cavity pump with modern, decentralized control concepts.

SEEPEX progressive cavity pumps are the first choice for pumping media with high dosing accuracy and minimal pulsation, making them resource-efficient. They are applied successfully in virtually all industries and pump thin to highly viscous media, as well as solids-containing and chemically aggressive media.

With the SDP, SEEPEX is launching a control technology where the functionality of the programmable logic controller is already integrated into both the hardware and software of the pump.

## BENEFITS

This significantly reduces the work involved in integration and maintenance. Instead of complex implementation in superordinate control systems, the Smart Dosing Pump requires only target values and user commands to be transmitted. The complex dosing or portioning process is implemented independently by the pump.

## APPLICATIONS

- Environmental engineering
- Water processing
- Chemical and biochemical industries
- Oil, gas and petrochemicals
- Food & beverage industry
- Pharmaceutical and cosmetic industry
- Additional markets

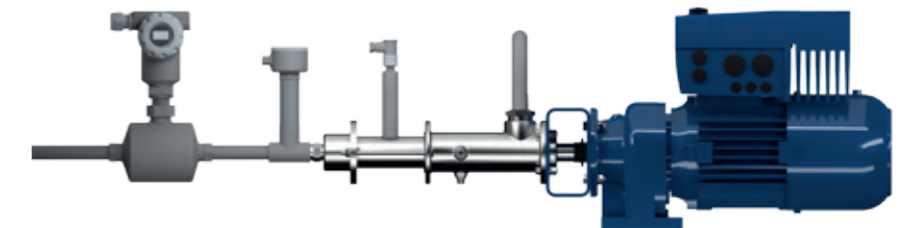
## KEY FACTS

- Conveying capacity: up to 2,000 l/h (8.81 USGPM)
- Pressure: up to 48 bar (700 psi)

# FEATURES

- Simple implementation of complex dosing and portioning processes
- Realization of short dispensing times and simultaneous resource-efficient media pumping
- Cost reductions due to high dosing accuracy and minimal pulsation
- Easy integration into plant automation control systems
- Operation via handheld panel, or optionally via various fieldbus systems
- Wide pumping capacity range thanks to modular system
- Dry-running monitoring to protect the rotor and stator conveying elements
- Pressure monitoring

## SDP



**SEEPEX.**  
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**SEEPEX GmbH**  
[www.seepex.com](http://www.seepex.com)