

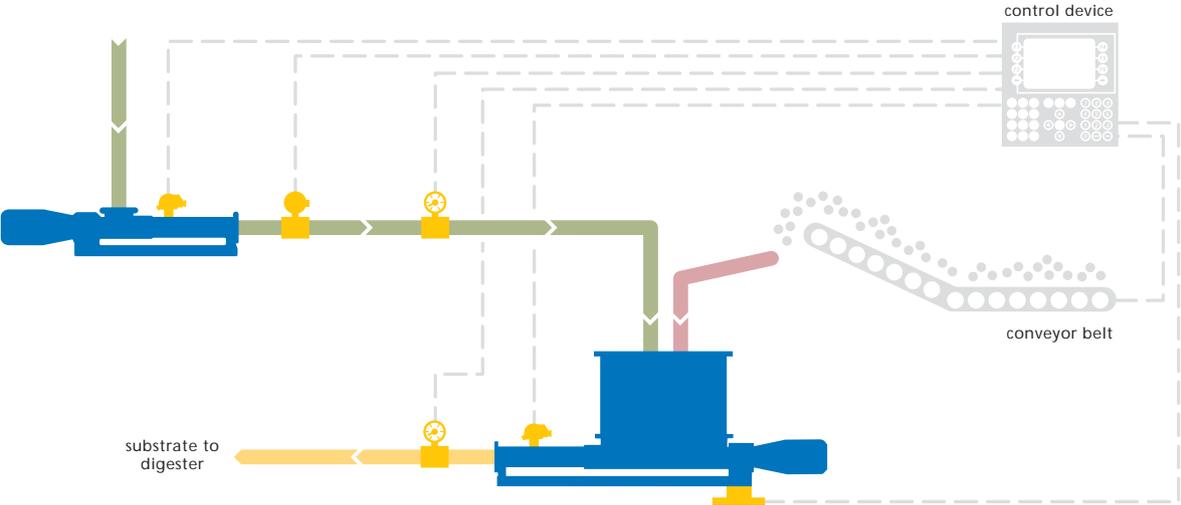
## Mixing and dosing control BGDC

### The seepex system solution for introducing substrate into the process of biogas generation

Various types of anaerobic microorganisms are involved in the production of biogas. Almost all organic substances can be broken down by fermentation because of the adaptability of these organisms to the conditions of the process. High water content in the output substrate is a prerequisite for successful formation. The internal microbiological process for producing methane gas has been largely unexplored. For this reason it is difficult to establish general process parameters for the process of methane generation. The process parameters are usually acquired through practical experience.

These parameters, such as the dosing of liquid and solid substances as well as the mixing of these substances, are important procedural dimensions, and it must be possible to adjust these as required. Similarly it should be possible to save the optimised process settings and download them at any time. The **seepex** control offers all of these important control properties. In addition this complete solution of pumps and control facilitates transportation of the substrate to feed the fermenter.

<b>Insertion of fermentation residues</b>	These are monitored by a flow meter. The <b>seepex</b> control regulates the value measured against the prescribed set value.
<b>Insertion of solids</b>	This setting depends on the quantity of fermentation residues. The ratio is highly adjustable.
<b>Monitoring of introduction of substances</b>	This is guaranteed via a set value comparison between the substances introduced during the process and the batch size of the fermenter.
<b>Optimal mixing</b>	This is guaranteed by the level control device in the pump hopper. Here it is important that the level of substrate remains inside the open hopper screw. Influence may also be exerted through the separate screw drive.
<b>Dry running protection</b>	for protecting the pumping elements rotor and stator against dry running.
<b>Overpressure protection</b>	with freely adjustable shut-off pressure.
<b>Settable parameters</b>	Plant and control parameters such as drive data and limit values can be set. All the entries are password-protected.
<b>Connection to site systems</b>	Connection to a site control system is possible through various bus systems.



## Characteristics of the seepex mixing and dosing control BGDC

- ~ Simple operation through various display pages
- ~ Different operating languages can be set
- ~ Membrane keyboard for parameter entry and switching the control functions
- ~ Storage of the control parameters in the user ROM that is not affected by power loss
- ~ Simple and cost-efficient adaptation to the particular customer demands due to a modular structure
- ~ Integrated resettable operating hours meter



Control device with various display pages permits simple and user-friendly operation

## Technical Data

<b>Structure:</b>	PLC with integrated LC-display	<b>Processor</b>	
<b>Supply:</b>	24V DC	<b>Command and cycle time:</b>	approx. 0.4µs (with 70% bit and 30% analogue processing)
<b>Power consumption:</b>	max. 20W	<b>Memory structure:</b>	User RAM 700 kByte System PROM 600 kByte FlashPROM User PROM 1.4 MByte FlashPROM
<b>Front:</b>	LC-display: 5,7", 320 x 240 pixels, monochrome Multilingual display Membrane keyboard with 40 keys 16 keys with LEDs Protection class IP65 (front)	<b>Signals:</b>	30 digital inputs  4 analogue power inputs 0 (4) - 20 mA (optionally 0 - 10 V DC possible)  18 digital outputs, maximum load 400 mA  1 digital relay output  2 analogue power outputs 0 (4) - 20 mA (optionally 0 - 10V DC possible)
<b>Dimensions:</b>	220 x 205 x 111 (HxWxD)	<b>Expansions:</b>	Expansion slots on the back of the device and additional control expansion via CAN-Bus module at the mounting plate of the switch cabinet.
<b>Installation:</b>	in the control cabinet door and CAN-Bus expansion on mounting plate	<b>Buffer battery:</b>	Lithium battery 3V / 950 mAh, life cycle approx. 5 years