

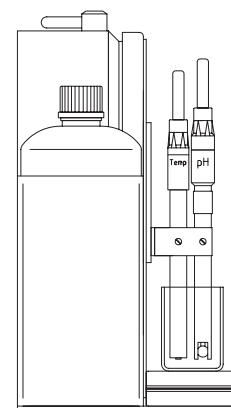
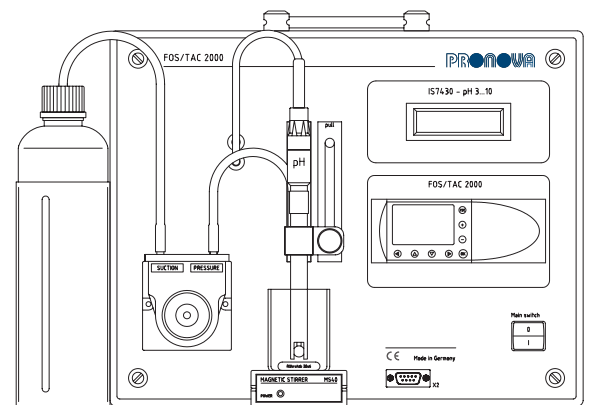


Application

The crucial parameter for assessing the fermentation process is the ratio of volatile organic acids (VOAs) and the capability of the fermentation substrate to neutralise acid formation, i.e. the buffer capacity (TAC). TAC means "Total Anorganic Carbon" and corresponds to the equivalent of all the buffer substances contained in the substrate. A rising VOA/TAC ratio means the risk of acidification of the fermenter substrate. Controlling the pH alone is often not sufficient, so that it is important to be able to determine the VOA/TAC values. The relatively simple VOA/TAC analysis enables the early detection of beginning acidification and its avoidance by suitable counter-measures (refer to diagram, page 2).

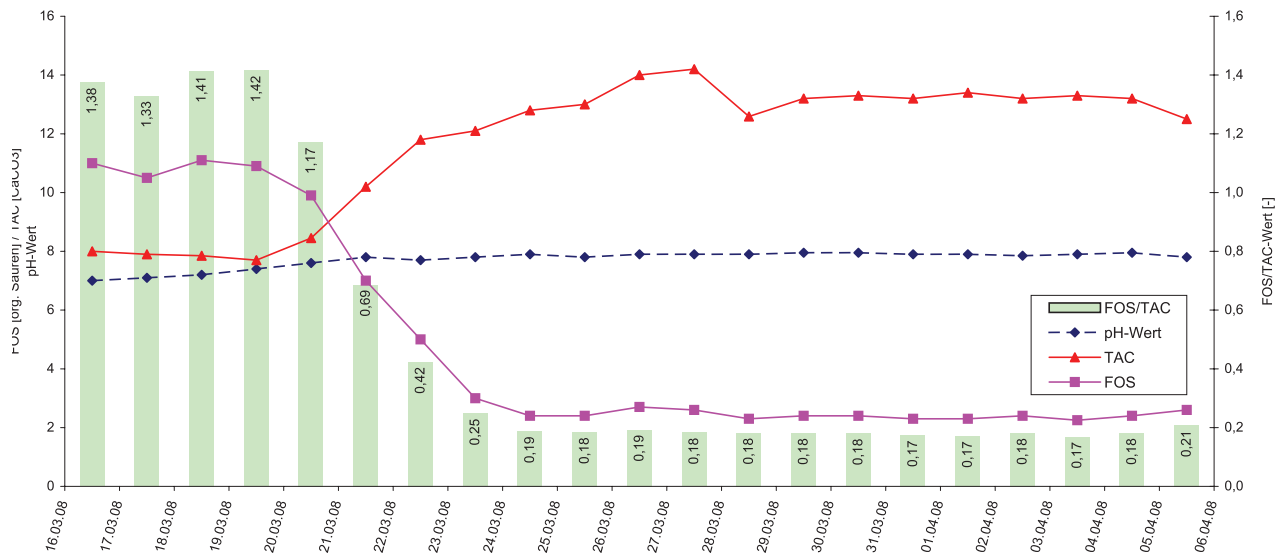
Description

The equipment user can use the FOS/TAC in order to perform the VOA/TAC analysis on his own. The fully automatic system reduces operator errors to a minimum and enables a high repeatability rate. This is important because the most recent result must always be evaluated in light of the previous results. 5 g of fermenter filtrate is necessary for the analysis and must be diluted to 20 g with distilled water. The subsequent titration process is fully automatic. The results for total acids (VOA), the buffer capacity (TAC) and the VOA/TAC value are displayed after a few minutes. The benefits of using the small, compact lab at the biogas plant are obvious: Analyses can be performed more frequently than before. Furthermore, the results are immediately available.



TECHNICAL SPECIFICATIONS

Measuring parameters:	VOA TAC VOA/TAC
Design:	portable steel sheet enclosure
Protection:	IP 20 according to DIN 40 050
Display:	two-line LC display (pH and temperature) four-line LC display (FOS, TAC und FOS/TAC)
Measuring principle:	pH measurement
Precision:	± 0,01 pH
Measuring ranges:	VOA: 1 to 10 g of organic acids per /kg of substrate TAC : 5 to 20 g of CaCO ₃ per /kg of substrate VOA/TAC: 0.05 to 2 [l]
Power supply:	via plug-in power supply unit 230 VAC, 50 Hz, 24 W
Equipment storage temperature	+5 °C to + 50 °C
Equipment operating temperature:	+ 10 °C to + 45 °C
Amount offer sample:	appr. 5 g of filtrate
Dimensions:	appr. 405 x 290 x 160 mm (BxHxT)
Weight:	appr. 7.5 kg



diagram

Scope of delivery

- FOS/TAC
- Plug-in power supply unit
- Buffer solutions pH 4 and pH 7, 100-ml bottle
- Spray bottle, 250 ml
- Titration solution, 1.0 l bottle
- Balance
- Safety kit
- Sieve

Spare parts/consumables

- Buffer/titration solutions
- pH electrode
- Hose pump set
- Magnetic stirrer
- Beaker

Option

- Case



FOS/TAC by case