

# Overall construction of CENTRIGAS®

## Pre-acidification in the FFF process

The substrate for the biogas plant is introduced in the pre-acidification system. The potential to adjust the desired content of dry substances exists here as well. The pre-acidification begins as an automatic process after this has been completed.

The partitioning from the methanization allows the adherence to optimum conditions for this process. Only complete and well acidified products allow an optimum energy yield with a high methane content of approx. 70% and more in the gas.

**FFF process:** already acidified and non-acidified constituents are selected during rhythmic changes of agitating and filling the methane reactor.

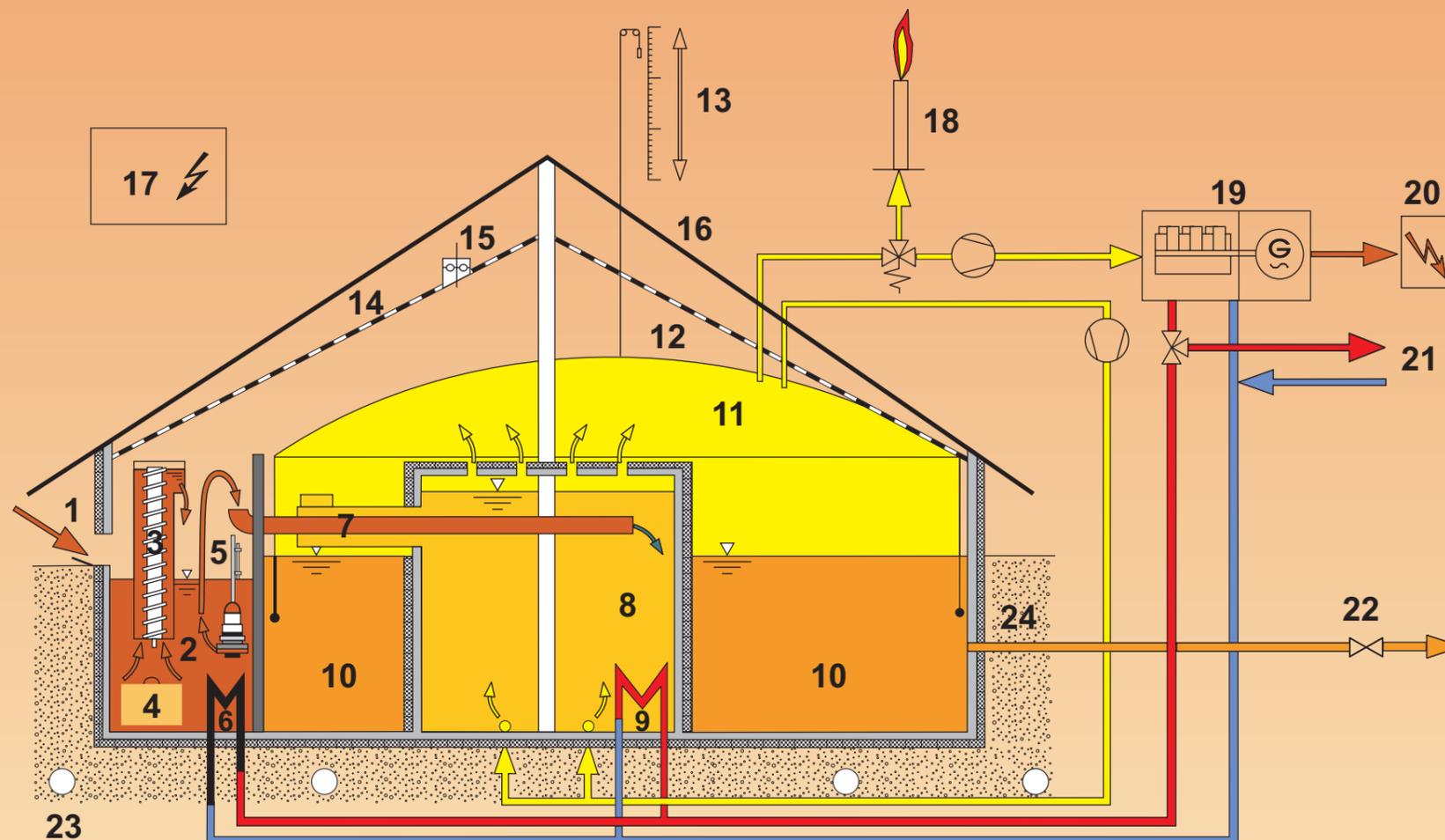
## Methane reactor

Methane bacteria change the organic acids into biogas in the fermenter. This process preferably occurs at temperatures of approximately 35°C and is very stable due to the separate pre-acidification. High methane contents are achieved in the biogas due to multi-staging, which secures a maximum energy yield and with which any motor can be operated.

## Biomass storage with subsequent gassing

The post-fermenting tank, arranged in a circle around the fermenter, is also covered by the gas storage membrane. This arrangement can also be used to trap the remaining biogas with especially high methane content, since the gas production only subsides slowly. A long delay can be secured by this method. A systematic flow leads the substrate around the reactor to the removing point in a circle. The fermenting tank is dimensioned generously and simultaneously allows the removal of fertilizer at any time.

Important nutrients, such as nitrate and phosphate are retained during the entire **CENTRIGAS®** process. They are available in the fermented substrate as a valuable, mild fertilizer, which is also well suited for the surface fertilization.



- 1 Regulated substrate addition
- 2 Pre-acidification with FFF process
- 3 Circulation of pre-acidification
- 4 Rock and sand trap
- 5 Filler pump
- 6 Pre-acidification heater
- 7 Fermenter filling with a heat exchanger
- 8 Fermenter
- 9 Fermenter heater
- 10 Subsequent gassing / storage
- 11 Gas tank
- 12 Gas membrane
- 13 Filling level measurement, gas membrane
- 14 Intermediate insulation
- 15 Fan for roof heat utilization
- 16 Storm and UV resistant all-weather cover
- 17 Central control unit
- 18 Pressureless torch
- 19 Combined heat and power station
- 20 Power supply
- 21 Heat energy distribution
- 22 Substrate removal
- 23 Drainage
- 24 Exterior insulation