Organic acids with HT 200 S

Application APP-PHM-0011

EN

General
Organic acids are an important parameter when it comes to evaluating biological processes in a digestion tower and in activated sludge. Determination of organic acids also plays a significant role in fermenter monitoring at fermentation plants.
Firstly, organic acids are contained by degradative processes in the sewage network and in preliminary sedimentation of activated sludge, and they affect the level of denitrification and the elimination of biological phosphates.
Secondly, if the fermentation process is sound, the values of the low-molecular fatty acids are to be collectively recorded as an acetic acid equivalent, and a concentration between 500 mg/l and 3000 mg/l is to be maintained. Larger concentrations can cause a change in the pH value, which would lead to a serious malfunction of the fermentation plant.

With **LCK365**, the concentration of organic acids can be easily recorded and photometrically determined.
During the ten-minute heating up period (at 100° C), the organic acids are esterified, stained and then photometrically determined.

Method
As per the LCK365 instructions, the LT 200 thermostat is pre-heated to 100° C for esterification, and the cuvettes are heated at 100° C for ten minutes.

The **LCK365** can also be implemented with HACH LANGE HT 200 S thermostats. The method can be manually stored, the pre-heating process eliminated and the end of the reaction time indicated by means of an audio signal.

Material

- LCK365 Cuvette test for organic acids
- LTV077 HT 200 S High temperature thermostat
- HACH LANGE Photometer

Determining the content

Sample preparation
The samples to be examined must be free of particles and filtered if necessary. The digested sludge must always be filtered or centrifuged.

Work process
To program the HT 200 S for the organic acid test, the HT 200 S is started first of all, and then the following programming procedure is performed:

⇩ **PRG**	Cuvette test of organic acids
⇩ **PRG NAME**	Use the left button to scroll through the alphabet and the numerical sequence. Use the 2nd button from the left to insert an additional character. (For example, OA for organic acids)
OK	Confirm entry
⇩ **PRG TEMP [°C]**	Use the left button to scroll through the temperatures in increments of 5° C up to 100° C.
OK	Confirm entry
⇩ **PRG TIME [minutes]**	Use the left button to scroll through the reaction times in intervals of 5 minutes up to 10 minutes.
OK	Confirm entry
⇩ **PRG POSITION**	Use the left button to select the position currently free where the program is to be saved.
OK	Confirm entry
⇩	Confirm programming

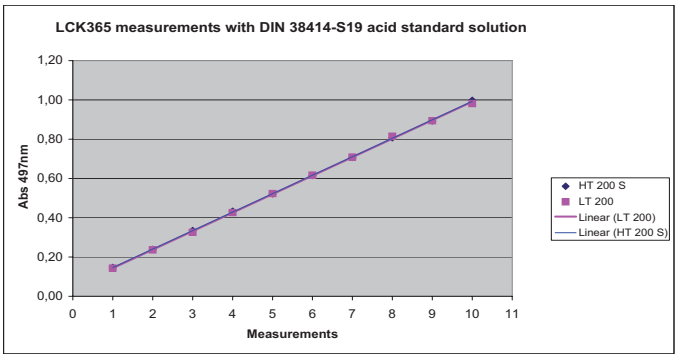
To select the newly programmed method, press the ***arrow***, select the programmed method name, and then confirm.

Program overview

Name:	e.g. OA
Temperature:	100° C
Time:	10 minutes

At the end of the program, the audio signal will sound; the cuvettes can now be taken out of the thermostat to cool down (**warning:** hot! 50° C). After exposure, please shake the cuvettes by inverting.

The test results obtained from heating in the LT 200 can be compared with the results obtained from heating in the HT 200 S.



Curve chart: standard measurements with DIN acid standard solution after exposure in the LT 200 thermostat and HT 200 S high temperature thermostat. Measurement in DR5000 at 497 nm.

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