

StamoLys CA 50 Sedimentation Unit for Sample Conditioning

Operating Instructions

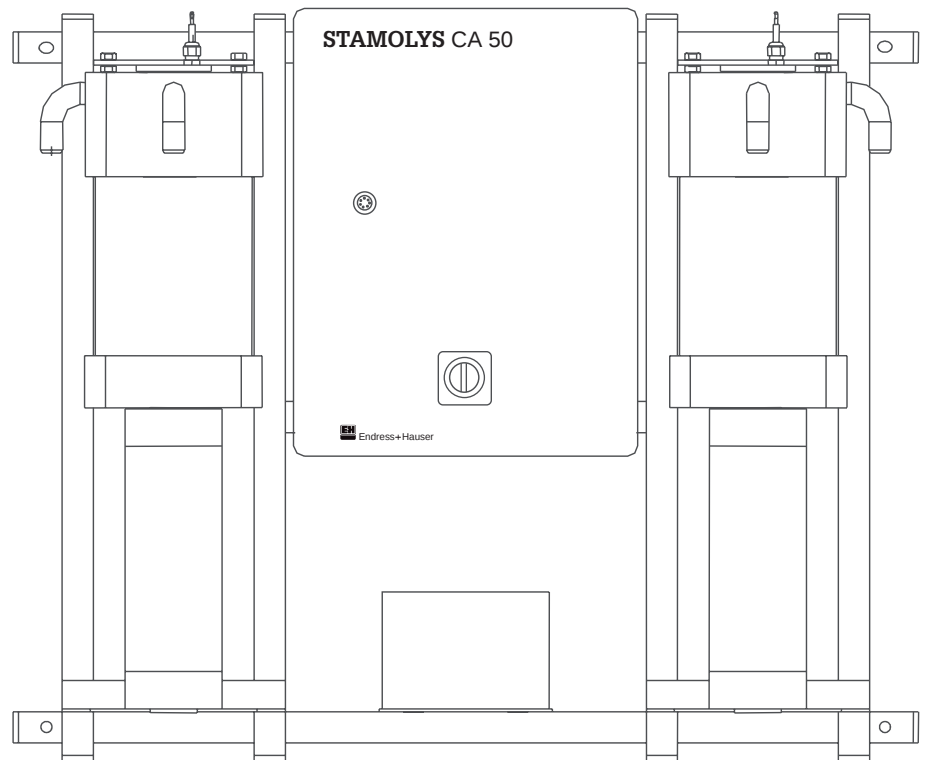


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1 Safety instructions

1.1 Intended application

The CA 50 sedimentation unit is a sample conditioning system for max. 3 concatenated StamoLys CA 70 Analyzers for use in sewage treatment plants.

1.2 General safety instructions

The instrument has been designed according to the state of the art and complies with the applicable regulations and EN standards (see "Technical Data"). It is built in accordance with EN 61010-1 and has left our plant in perfect condition with regard to safety aspects.

However, if it is used improperly or other than for its intended purpose, it may pose a hazard, e.g. due to improper connection.

1.2.1 Safety instructions for the instrument

- If the device is used for any application other than those described in these operating instructions, it may lead to unsafe and improper functioning of the measuring system and is therefore not permitted.
- Make sure you strictly adhere to the warnings and notes in these operating instructions.
- Technical personnel must be familiar with the instructions in this manual and must adhere to them. Personal injury and damage to property can occur as a result of improper handling.
- Only trained skilled personnel authorised by the plant operator may carry out installation, electrical connection, start-up, operation and maintenance of the measuring system.
- Before connecting the instrument, ensure that the mains supply complies with the ratings specified on the nameplate.
- A clearly marked mains disconnecting device must be installed in the vicinity of the instrument.
- Before switching on the system check all the connections again for correctness.
- Switch off the main switch before intervention in the controller or in the mechanics (danger of limbs being crushed by moving parts).
- Do not operate damaged instruments, which could pose a danger, and mark them as defective.
- Measuring point faults may only be repaired by authorised and trained personnel.
- If faults cannot be repaired, the instrument must be taken out of service and secured against unintentional start-up.
- Repairs not described in these operating instructions may only be carried out directly by the manufacturer or by the Endress+Hauser service organisation.

1.2.2 Safety instructions for handling cleaning concentrates

- Refer to the safety data sheets when handling cleaning concentrates.
- Wear protective clothing, protective gloves and protective goggles when handling cleaning concentrates.
- Never add water to cleaning concentrates! There is a danger of splashing and heat generation.

1.3 Safety symbols

**Warning!**

This symbol alerts you to hazards which could cause serious injuries as well as damage to the instrument if ignored.

**Caution!**

This symbol alerts you to possible faults which could arise from incorrect operation. They could cause damage to the instrument if ignored.

**Note:**

This symbol indicates important items of information.

2 Instrument description

2.1 Design and functional description of the instrument

The mechanics of the sedimentation unit are designed to condition samples for water analysis. A sampling vessel is mounted in the basin and it fills up with the basin medium via a non-return valve protected against soiling. This fills the sedimentation cylinder. Optionally, the sampling vessel can also be filled by a pump.

After a variable sedimentation time, sludge becomes deposited in the cylinder so that a zone of clear water forms in the upper section. A sample free from solids can then be drawn in by the downstream analyzers through a sintering filter which is cleaned with compressed air after every measuring cycle. After the sample is taken, the sedimentation cylinder is emptied by the O-ring piston and cleaned.

In 2-channel mode (sampling from two measuring points) the 2 sedimentation cylinders are filled at staggered times so that each basin has identical measuring intervals.

The minimum possible measuring cycle is dependent on the distance to the sampling point and on the settling behaviour of the sludge. On 2-channel instruments the process time of the analyzers must be considered.

The sedimentation unit controller switches automatically to automatic mode when the power is switched on. Manual starting is not necessary.

An optional LCD operator terminal can be plugged into the parameter entry port to enter set-up parameters and carry out maintenance. All functions can then be controlled by hand and the process times in automatic mode are preselectable. Current system states are displayed. However, the function terminal is not required for the control program to run.

The parameter entry function can define whether the controller operates as a single-channel or 2-channel instrument or what channel is switched to active. For example, Basin 1 can be switched off if no analysis is conducted there.

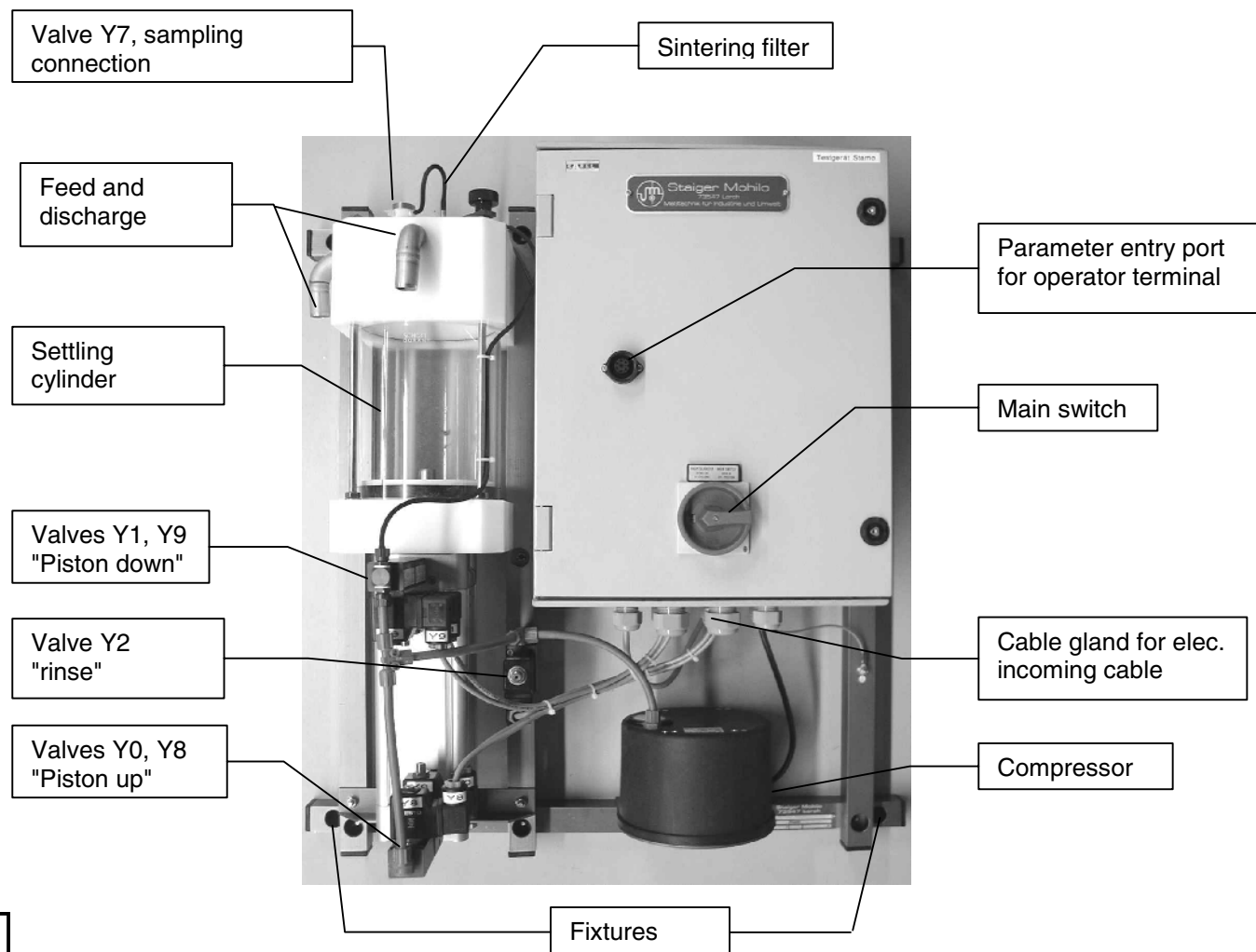
All operating parameters are saved to a flash EPROM which is holding on supply failure. A back-up battery is not required.

A switch strip in the control cabinet provides for auxiliary operation and single channel activation. This does not require the operator terminal. However, it is not possible to change the parameter entry with the control switches.

Defining modes

Sedimentation cylinder	left	right
Channel	1	2
Assign measurement	1 or 2	2 or 1

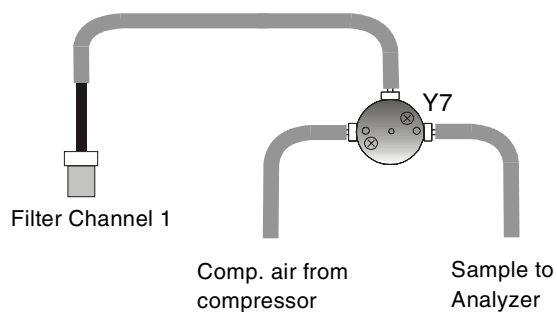
2.2 Mechanical design of 1-channel version



Note:

- The connections for feed and discharge are freely assignable.

2.2.1 Sampling valves in 1-channel version



Note:

- Depending on the number of analyzers connected, this combination is provided one to three times.

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