



Settler unit – Improve analysis by removing particles

Sampling Conditioning Systems (SCS) from Metrohm Process Analytics

HIGHLIGHTS

- **Increased analyzer uptime** due to problem free sampling
- **SCS fully controlled** by your Metrohm Process Analyzer
- **Minimum maintenance** due to lack of filter elements; therefore, blockage is unlikely
- **Automated «settling time» calculation** using the State-of-the-art software by Metrohm Process Analytics
- **Multiple materials** of construction options to adapt to the nature of the sample

Push your analytical analysis with optimal sampling systems

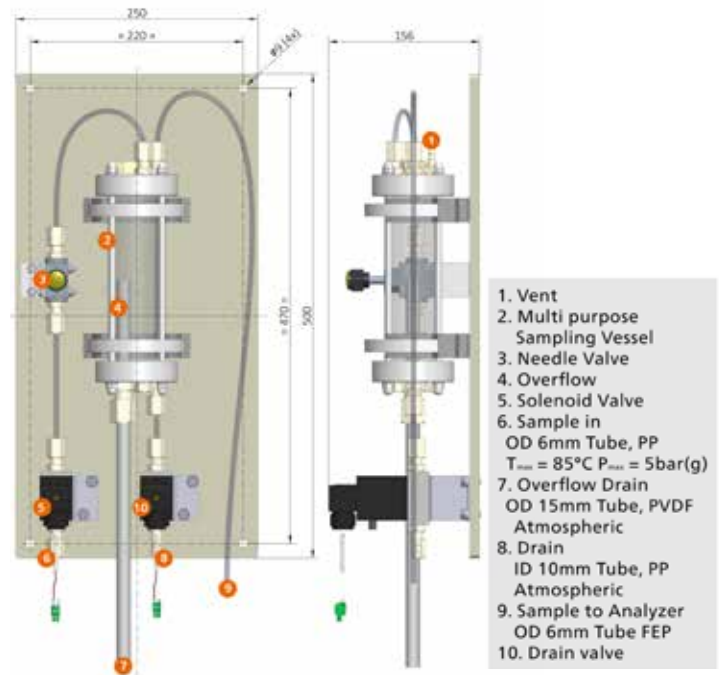
This sample conditioning system is designed for the settling of particles (particulate material) and solids from the incoming sample prior to entering a process analyzer. Without the removal of the sample solids and particles, the analyzer would be prone to failure and not able to obtain a representative sample to measure. The particulate material would potentially cause blockage in the pipeline during sample transport but more critically clog analyzer sample valves/pumps and even interfere with the analysis measurement itself.

OPERATION PRINCIPLE

With a simple design, heavy solids first settle to the bottom of a Multi-Purpose Sampling Vessel «MPSV» (Step 1) before being sent at time of analysis (Step 2). With the solenoid valve (N° 5a) in the open position, incoming sample flow (up to 5 bar (g) max) is finely tuned to a workable flow rate using a needle valve and continuously flows through an overflow pipe (N° 4) to atmospheric drain and returns back to the process.

Following step with the drain valve (N° 8) now closed, fresh sample enters the MPSV and allows to «settle» for a duration depending on the amount and type of solids present. This «settling time» is calculated on a time basis controlled by the analyzers user program. Samples that are free from the settled solids that have fallen to the bottom layer are drawn into the analyzer using an installed sample pump based on the positioning of the sample inlet tube in the top clean layer (N° 9). The duration of sample flow is programmed until a representative sample is captured in the internal sampler in the analyzer.

Just prior to the next sample analysis, the drain valve is opened to let the remaining solids drain out aided by the head pressure of the liquid present in the vessel. An additional step can also be programmed in the analyzer to flush any residues left in the MPSV with new sample out to drain.



Settler front and side view.

SPECIFICATIONS

Instrument	
Dimensions	250 x 500 x 156 mm (W x H x D)
Liquid contacting materials	Polycarbonate, polypropylene, EPDM
Sample temperature range	0–90 °C
Max. Allowable sample pressure*	300 kPag (3 barg)
Volume	~390 ml
Multiple connections	6 mm OD tube

* The total system design must be considered when applying the maximum allowable pressure and temperature ratings.