



Thermo Scientific SamStat-30

Slurry Sampling Systems with Environmentally Hardened Cross Cut Sampler

The Thermo Scientific SamStat-30 is a representative slurry sampling station that provides composite samples for metallurgical accounting. Its unique design features allow for significant savings at design and construction stages. It can be configured to provide additional benefits including screening and distribution.

A well-designed, representative sampling station is essential for accurate process control, metallurgical accounting and the calibration of an online analysis system.

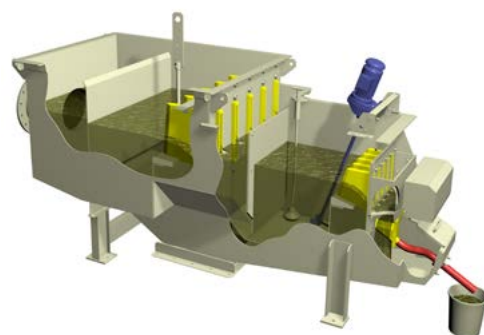
The Thermo Scientific SamStat-30 is a full-flow representative sampler incorporating multiple stages to progressively sub sample the slurry stream before delivering period composite samples through a final stage cross cutter. Each SamStat-30 is customized to suit the required flow rate by using various sized

tanks in a one-to-four stage system. With only two moving parts and few wear parts the SamStat-30 is a low maintenance system that requires minimal supervision, making it ideal for large plants. A dedicated multi-element immersion probe can be added to the final stage of the SamStat-30, making it an integrated sampling and analysis station, known as the Thermo Scientific AnStat-330.

The SamStat-30 is now available with a number of optional features including the SamStat-30C, a continuous sampling station that produces a representative flow to a multi-stream analyzer, such as the Thermo Scientific MSA-330. Other optional features include a pebble screen, outlet distributor and a reverse flow sampler, providing an ideal sample for particle size analysis.

Features

- Single or multiple inlets
- Fixed cutters that are replaceable online
- Variable speed mixer in the final zone
- Final stage cross-cut sampler
- Open, visible design
- Low flow velocity
- Reliable operation
- Low head



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Benefits of the SamStat-30

The sample provided by the SamStat-30 is proportional, meaning that it truly reflects process variability in terms of the amount sampled. This is a major advantage over conventional intermittent sampling systems that require correct variographic studies to ensure a representative sample is produced.

Benefits of the SamStat-30

- Provide enhanced process control
- A baffle and weir in each stage to de-aerate the slurry
- Fixed cutters, which are replaceable online
- A variable speed mixer in the last stage tank to ensure the sample is well mixed
- A final-stage, environmentally hardened cross-cut sampler, located at the outlet of the final stage sampling tank for process control and metallurgical sampling
- Multiple tanks of varying sizes to handle any flow rate
- An open, visible design, permitting easy performance monitoring
- Can be operated in manual, automatic or remote mode

Advantages of the SamStat-30

- Provides metallurgical accounting samples for online elemental analysis
- The lowest head loss of any available metallurgical sampler leading to lower plant elevation and reduced construction costs
- Flange-to-flange supply, offering savings in engineering design and construction costs in new plants
- No requirement for pumps or sample transport lines, minimizing capital and operating costs

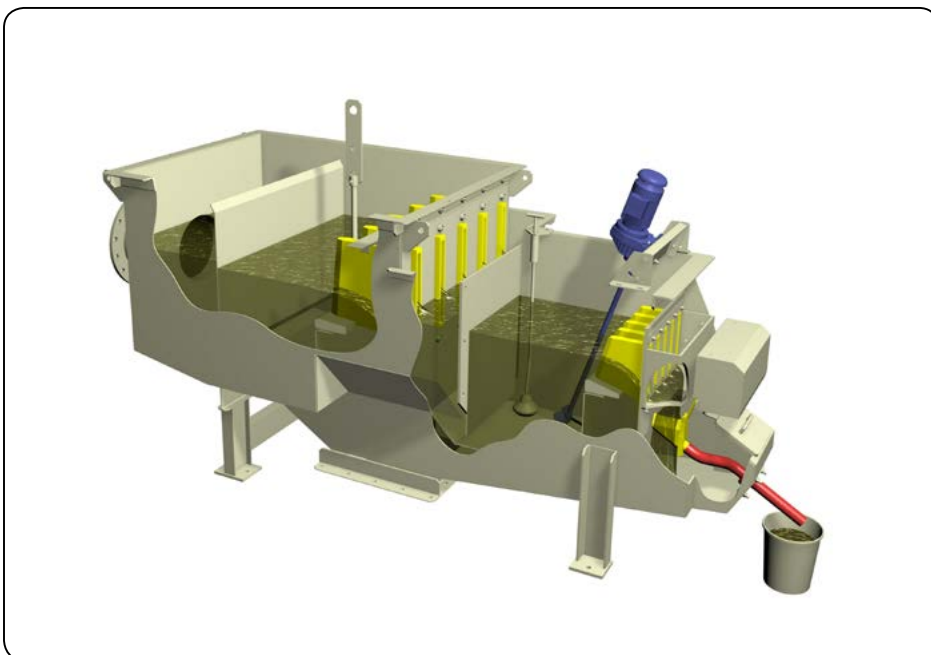
- Low-flow velocity, meaning less wear and fewer maintenance requirements
- Superior over Pressure and Gravity Samplers

1st and subsequent continuous sampling stages

- Full process flow continuously sampled
- Each tank contains a baffle and weir to ensure mixing and correct presentation of sample to fixed cutters
- Effective de-aeration of slurry while maintaining critical transport velocities
- Single or multiple inlets
- Optional expanded de-aeration zone for high froth streams
- Pneumatic dump valve option allows remote and automatic operation
- Pebble screen option captures coarse oversize from cyclone roping events

Cross Cut Sampler

- A final-stage, cross-cut sampler is located at the outlet of the analysis tank for calibration and metallurgical accounting sample acquisition
- Environmentally hardened to minimise maintenance and maximise availability
- Tooth pulley belt with electric motor drive for constant speed to comply with best design practices for cross cut sampling
- Programmable sample intervals



Thermo Scientific SamStat-30 Representative Sampling Station

Optional Features

Continuous sample

The SamStat-30C is a continuous flow sampling station designed to provide a representative flow to an online analyzer. Continuous sampling enables plant operators to accurately follow process trends in real time. This one, two or three stage system incorporates many of the same features as the SamStat-30, including the fixed cutters.

Pebble screen

This feature, designed specifically for cyclone overflow streams, is placed in the first stage tank to ensure it screens the full flow. The SamStat-30P has an automated dump valve located under the screen and opens when triggered by an adjustable timer, returning any oversize particles to the grinding mill. A float switch is also installed, overriding the timer to open the dump valve when required. Screens with various slot sizes are available to suit different applications.

Outlet distributors

A distributor can be incorporated into the design of the SamStat-30, dividing the flow into two or more separate streams (SamStat-30D). Varying percentages of the flow volume can be sent to each of the streams.

Take off point for particle size analysis

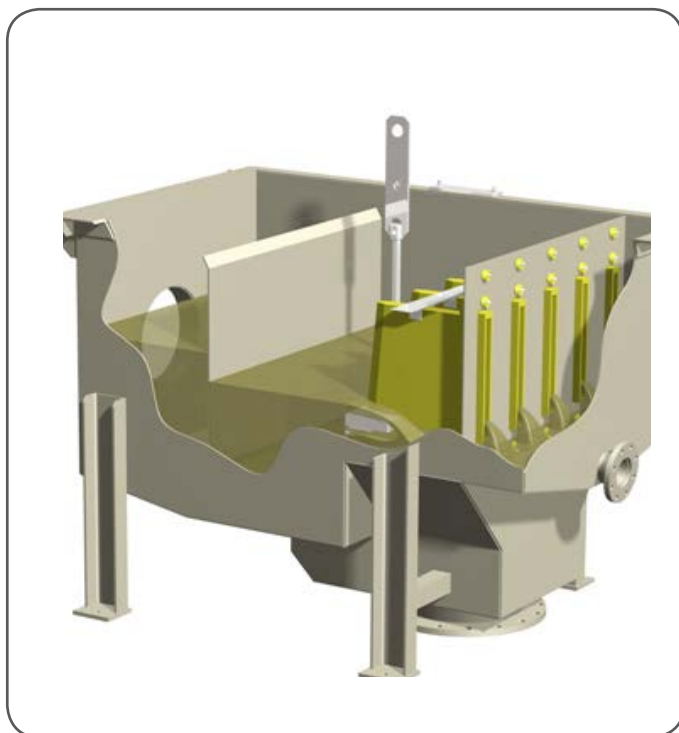
The correct reverse flow sampling condition can be engineered into the SamStat-30, providing the ideal sampling conditions for particle size analysis (SamStat-30T). The sample intake of the Thermo Scientific PSM-500MPX particle size monitor can then be attached to provide continuous particle size analysis.

Tank expansion for high/sticky froth streams

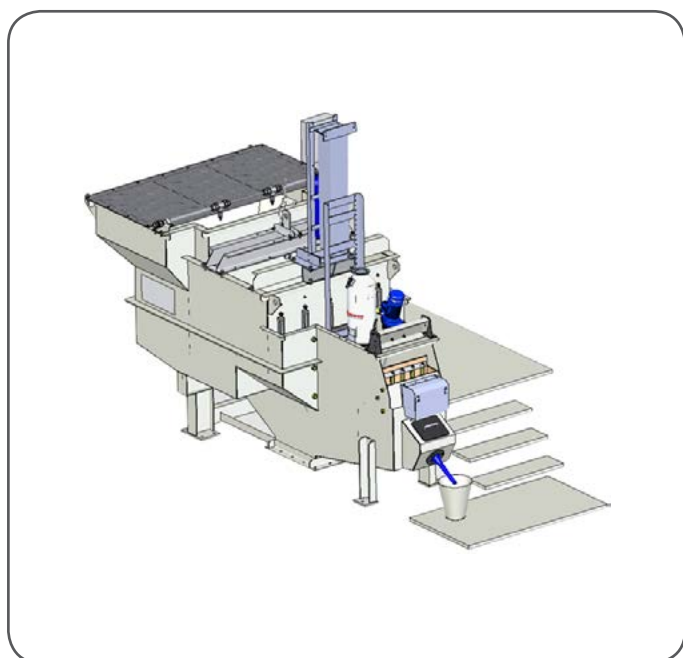
An expanded inlet section is available to ensure that high-froth streams can be correctly sampled (SamStat-30F).

Elemental analysis

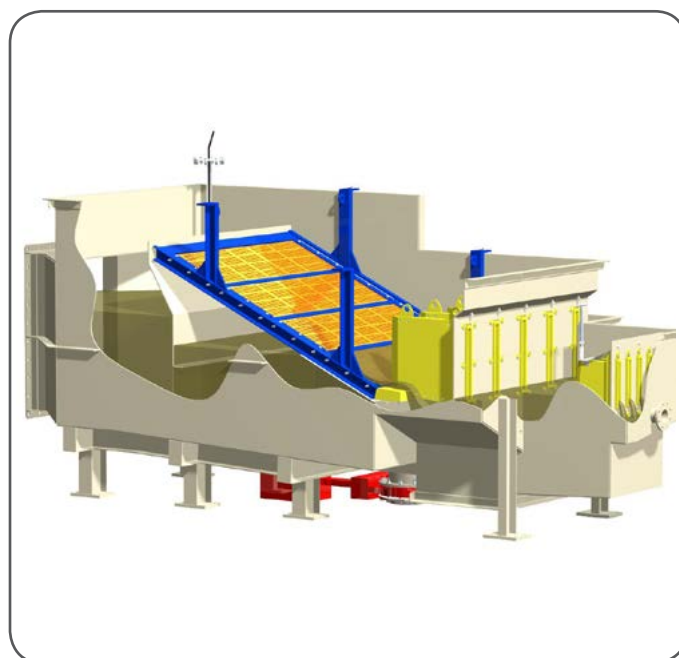
A multi-element immersion probe can be added to the final stage of the SamStat-30, converting it to an AnStat-330, Sampling and Analysis Station. Refer to separate AnStat-330 product specification sheet.



Thermo Scientific SamStat-30C Continuous Sampling Station



Thermo Scientific SamStat-30F sampler with expanded inlet section for high froth streams



Thermo Scientific SamStat-30CP continuous sampler with pebble screen

Thermo Scientific™ SamStat-30

General Specifications

Design/Methodology	Sampler design is proportional and continuous. A minimum of 5 vertical cutters sample the homogenized stream at an overflow weir. A minimum flow of 4% is sampled at each stage.
Sample Flow Rate	Sizes available to accommodate any flow-rate from 4 to 36,000 m ³ /h. Standard tank widths and combinations used. Tank designed to ensure deaeration of slurry prior to the probe analysis zone.

Utilities Required (SamStat-30 only)

Electrical Power	Three Phase AC, 48-62 Hz. May be factory or field set (by changing transformer taps) to any international “standard” voltage in the range 380-600 volts. Voltage fluctuations should not exceed ±6% of the nominal voltage. Feed required: three wires + earth (no neutral).
Power Consumption	Approx. 800 W (including 550 W stirrer).

Dimensions and Weights

Dimensions and Weights	Request installation drawing for specific equipment dimensions & weights.
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Standards

Electrical Enclosure	IP65; SS316
Quality Assurance	Adelaide manufacturing facility ISO-9001:2000 certified

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or email Sales.AUADL@thermofisher.com



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