

Thermo Scientific SamStat & SamStat-C

Representative and Continuous Sampling Systems for Slurries

Thermo Scientific slurry samplers provide reliable, continuous representative sampling of slurry streams. The standard Thermo Scientific SamStat system provides period composite samples for metallurgical accounting. The Thermo Scientific SamStat-C system generates a continuous representative flow for an online analyzer. These systems enable improvements in accountability, process efficiency and profitability.



Features

- **Reliable Operation:**
Requires very little supervision;
Ideal for large, modern plants
- **Open, Visible System:**
Performance can be easily monitored
- **Low-Flow Velocity:**
Less wear and fewer
maintenance requirements
- **Cutters Replaceable Online:**
Excellent availability

Correct sampling is essential for accurate process control and metallurgical accounting. Thermo Scientific metallurgical slurry samplers provide reliable continuous representative sampling of slurry streams.

The standard Thermo Scientific SamStat sampling system is a full-flow representative sampling station. This version of the SamStat uses a final-stage cross-cut sampler for the collection of period composite samples.

The Thermo Scientific SamStat-C continuous sampling system produces a representative sample flow to a multi-stream online analyzer, such as the Thermo Scientific MSA. Continuous sampling enables plant operators to accurately follow process trends in real time.

The SamStat metallurgical slurry sampling systems provide the following benefits:

- Sampling is continuous and proportional. This means that the sample truly reflects process variability, both in terms of the amount sampled and the frequently-encountered cyclical variations in time.

These are major advantages over conventional intermittent sampling systems that require complicated, in-plant time/variographic studies to ensure a representative sample is taken.

- With the lowest slurry head loss of any available metallurgical sampler, SamStat sampling systems do not require pumps or sample transport lines. This minimizes capital and operating costs.
- Compact, multiple stages can be sized to handle any flow rate (available in one to four stages as a function of the flow rate).
- Flange-to-flange supply offers savings in engineering design and construction costs for new plants. Low head loss equates to lower plant elevation and reduced construction costs.
- Kits of key components can be supplied, allowing local fabrication of steel tanks.
- Customized solutions are possible utilizing a SamStat tank for collection and distribution of process streams.

Specifications

The following options are available:

- Built-in flexible screens with automatic dump valves can provide rejection of oversized particles.
- Variations of the SamStat can be configured to combine metallurgical accounting sampling and sample off-take for continuous particle size monitoring (the Thermo Scientific PSM-400 MPX).
- Incorporating the easy-to-add Thermo Scientific Multi-Element Probe (MEP) can offer elemental analysis if required at a later date.

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General Specifications

Design/Methodology	Sampler design proportional and continuous; Minimum of five vertical cutters sample homogenized stream at overflow weir; Minimum flow of 5% sampled at each stage
Sample Flow Rate	Accommodates any flow rate (available in one to four stages as function of flow rate); Standard tank widths and combinations used; Tank volume designed to ensure de-aeration of slurry prior to probe analysis zone

Utilities Required (Standard SamStat only)

Electrical Power	Factory selectable 380/415/440/460 VAC $\pm 10\%$, 3-phase, 48-62 Hz ± 2 Hz (3-wire plus earth)
Power Consumption	Maximum 200 W electronics; 100 W sampler motor, 750 W mixer for certain models

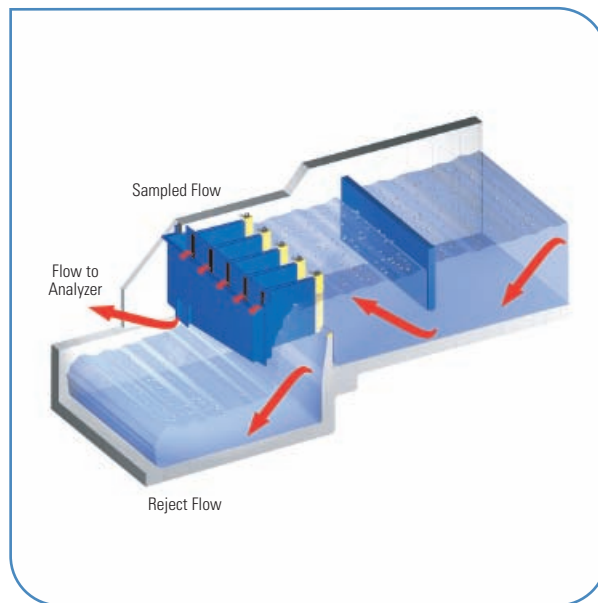
Physical Specifications

SamStat Controller Dimensions	330 mm (13.0 in) L x 600 mm (23.6 in) W x 1200 mm (47.3 in) H
SamStat Controller Weight	50 kg (110.2 lb)
Metallurgical Sampler Weight	30 kg (66.1 lb)
Tank Weight	Varies with size and material from a minimum of 400 mm (15.75 in) wide, weighing 320 kg (705.5 lb) empty
Construction Materials/ Surface Treatments	Rubber-lined, mild steel tank (Shore A = 40); Non-wetted parts dual coated with 100 micron epoxy base and acrylic finish; Polyurethane cutters

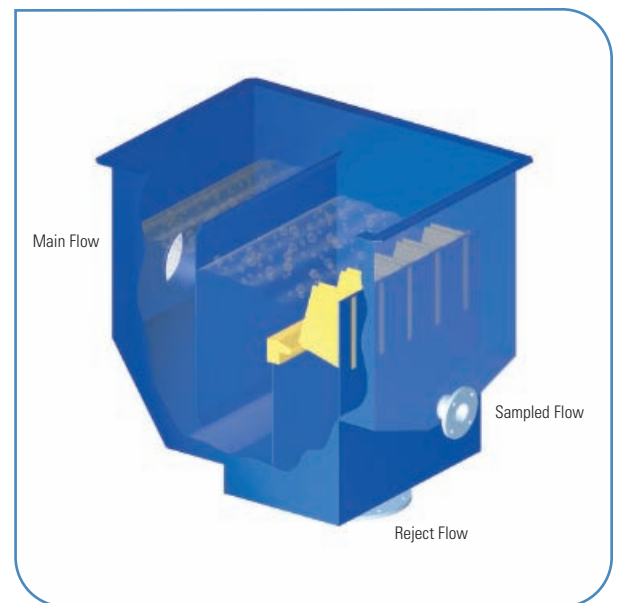
Standards

Electrical Rating	IP66
Quality Assurance	Adelaide manufacturing facility ISO-9001:2000 certified

Flow Pattern in SamStat



Cutaway View of SamStat-C



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