



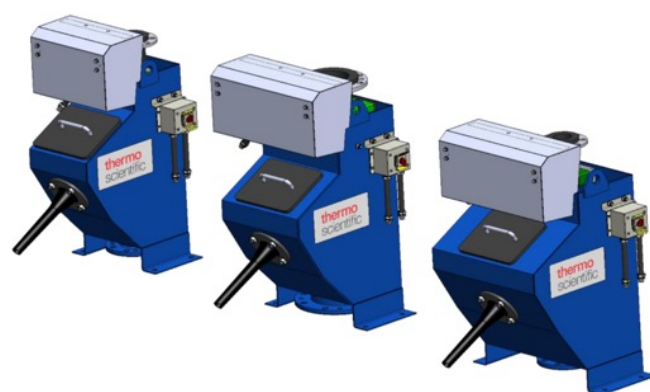
## Thermo Scientific X-Cut 30 Linear Cross Cut Sampler

The Thermo Scientific™ X-Cut 30 Linear Cross Cut Sampler representatively samples slurry streams flowing in gravity lines to consistently deliver composite samples for dewatering and assay. By providing automated, precision sampling for survey and shift samples it allows mineral processors to reliably access vital information, including data for metallurgical accounting, with minimal manual input.

### Key features:

- Very low head loss, minimizing the need for plant elevation and/or pumping. This means easier installation and simpler, more economic plant designs.
- Flexibility to handle full or fractional flows depending on flow rate and process requirements. For lower flow rate streams the X-Cut 30 can accept the full flow. Alternatively, it can be used in combination with a primary sampling device such as Thermo Scientific™ SamStat-30, Pressure Pipe Sampler or Gravity Process Sampler for composite sampling.
- Metallurgical accounting quality sampling (in full flow or when used in combination with an appropriate primary sampler such as the SamStat-30).
- Three size variants for the optimization of flowrate and sample size for each application; connection via a standard 80 or 150 mm nominal bore inlet flange.
- Suitable for standalone operation or integration with existing, centralized process control systems (PCS) depending on plant requirements.
- Randomized sampling within a configurable time interval to avoid cyclical bias and ensure an optimized sampling regime.

The X-Cut 30 Linear Cross Cut Sampler uses a horizontal slot cutter to periodically extract a fraction of the incoming stream. The cutter is parked outside of the flowing slurry column, minimizing flow disturbance, and periodically driven through it to intercept and divert a representative “slice” that truly reflects process flowrate variability. The resulting sample flows into a bucket or optional vacuum filter.



The three variants of the X-Cut 30 Linear Cross Cut Sampler, from left to right, Standard, Large High Flowrate, Large High Cut ratio

## X-Cut 30 Controller

The sampler is powered and activated by the X-Cut 30 Controller which allows for standalone operation (Auto Mode) or integration into a plant's central control system, for the alignment of survey or shift sampling (Remote Mode).

In Auto Mode a sample is taken in a randomized manner within a configurable time interval, to avoid any potential for bias from cyclical plant behaviour.

Time interval is user-adjustable to suit slurry flow rate and required sample volume. In Remote Mode this same process is controlled via a central PCS. In either mode sampling can be manually initiated at the local controller to test operation or collect a spot sample.

## X-Cut 30 Linear Cross Cut Sampler specifications

Parameter	Specification
Stroke	260 mm (Standard version) or 400 mm (Large High Cut ratio LHC or Large High Flow LHF versions)
Speed	330 mm/sec. Acceleration and dynamic deceleration take place over approx. 15 mm at each end of stroke whilst the cutter is out of the stream
Slurry volume (min. –max.)	5–15 m <sup>3</sup> /hr (Standard), 0.5–5 m <sup>3</sup> /hr (20 intermittent) (LHC), 10–45 m <sup>3</sup> /hr (LHF)
Tank width	300 mm (Standard), 536 mm (LHC), 400 mm (LHF)
Drive	Electric
Motor	90 W DC IP56 with integrated reduction drive
Stalling force	150 Newtons (motor protected by controller)
Head loss	Less than 1.1 m flange-to-flange
Flange sizes (NB)	80 mm in / 100 mm out (Standard and LHC) 150 mm in / 200 mm out (LHF)
Weight	80 kg (Standard), 110 kg (LHC), 120 kg (LHF)

## X-Cut 30 Controller specifications

Item	Specification
Dimensions	500 wide x 500 high x 200 deep overall plus mounting brackets, RH hinged door
Weight	15 kg
Environmental	Operating temperature: -10 °C to +55 °C Maximum air temperature: -10 °C to +35 °C Must be shaded from direct sun in high temperatures
Power requirements	Three Phase, 50-60 Hz, any international "standard" voltage in the range 380-600 Vac (see below). Demand: continuous < 20 W, increasing to 100 W for about one second while cutting
Mains voltages	Set by transformer taps: 380, 400, 420, 440, 460, 480, 505, 525, 545, 560, 580, 600 Vac nominal
Tolerance	+/- 6% variation within the nominal voltage
Connecting cable	The cable that connects the Sampler Head to the Controller is normally supplied by Thermo Fisher Scientific. The standard length is 6 m but can be extended up to 20 m
Enclosure	316 stainless steel rated IP65 to AS/NZS 60529-2004
Operation modes	Manual Cut, Remote or Automatic
HMI controls	Sealed (IP65) panel with LCD display and keys Rotary switch mounted on Sampler to select operating mode
Remote control	One isolated input to initiate a cut in Remote Mode
Plant feedback (status)	Two isolated voltage free contacts