

GTS1 Thin Section Cut-Off and Trim Saw



Introduction:

In the production of geological thin sections, it is usual for a saw to be used for both cutting the bulk rock to size and for thinning the slide-mounted rock chip prior to final lapping. When cutting the mounted rock, there are two main considerations: the thinned rock sample should be as thin as possible, in order to reduce the subsequent lapping time, and the cut should be of the highest possible quality, to ensure that sub-surface damage is kept to a minimum.

Both cutting and precise thinning operations are easily accomplished on the **GTS1 Thin Section Cut-off and Trim Saw**.

The GTS1 offers a number of advantages over other saws. In particular, the **variable speed linear drive system** and **feed rate monitor** allow the operator to control the rate at which the samples move through the blade. This avoids many of the problems associated with gravity-fed systems, such as slides shattering if the entire cutting force is exerted on a small part of the sample at the end of the cutting operation. Furthermore, samples can be repeatedly trimmed to as thin as 200µm, saving lapping time and increasing productivity.

Features:

The GTS1 is a compact, bench-top unit, made of cast aluminium and stainless steel throughout. The saw has been designed to allow automatic operation during the cutting of bulk rocks and the thinning of mounted sections; it also allows cutting by hand to take place, should this be required.

An **acrylic hood** encloses the work area during automatic operation, eliminating splashing and reducing noise. If manual cutting operations are necessary, an acrylic splash shield and coolant deflector are easily fitted.

Bulk material is either mounted on the sample table or may be fed through the blade by hand. For subsequent thinning operations, the **vacuum chuckface** is easily attached to the sample table with two screws. This vacuum chuck slide holder accepts a variety of slide sizes and configurations. The maximum standard slide size is 102x76mm (4x3"), of which two may be cut at one time, but twelve 28x48mm (1.10x1.89") slides, for example, can be fitted with equal ease. Special chuckfaces, such as for 150x100mm (6x4"), can be made to order.

- **Pre-thinning of slides to selected thickness**
- **Accepts multiple slides of varying sizes, up to 12 slides of 28x48mm**
- **Positive drive feed of samples with feed rate monitor**
- **Automatic operating cycle**
- **Excellent cut quality and uniformity, trimming to as thin as 200µm**

The slide holder passes parallel to the saw blade at an adjustable distance, from approximately 0.75mm (0.03") to 38mm (1.5") to allow for slide thickness variation and rock slice thickness. This distance can be accurately set by way of a **dial gauge** fitted to the sample table. The GTS1 also allows the pre-cutting of sections up to 125x100mm (5x4") in size from bulk material. The table can be moved to the rear of the workdeck, clear of the blade edge, to allow manual trimming and slabbing operations to take place.

The chuckface **linear drive system** feeds the samples through the saw blade at a rate controlled from the saw's user-friendly control panel. Using the **feed rate monitor**, the operator can set the optimum rate for the material being cut; this avoids the problems caused by forcing the samples through the blade too quickly and allows the user greater first-time success when changing from one type of rock to another. Equally, this reduces excessive wear on the blade, prolonging its life and making the saw even more economical.

Options:

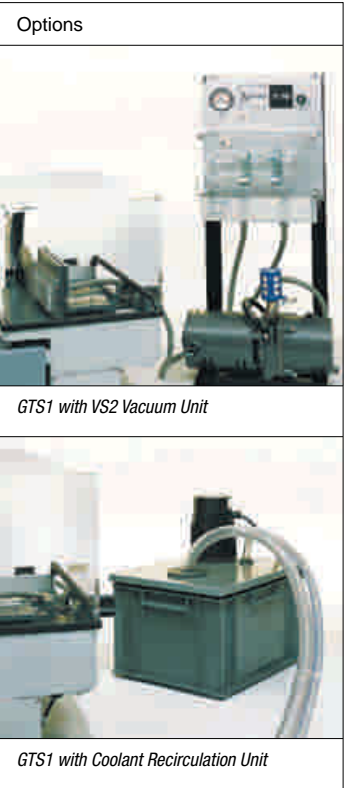
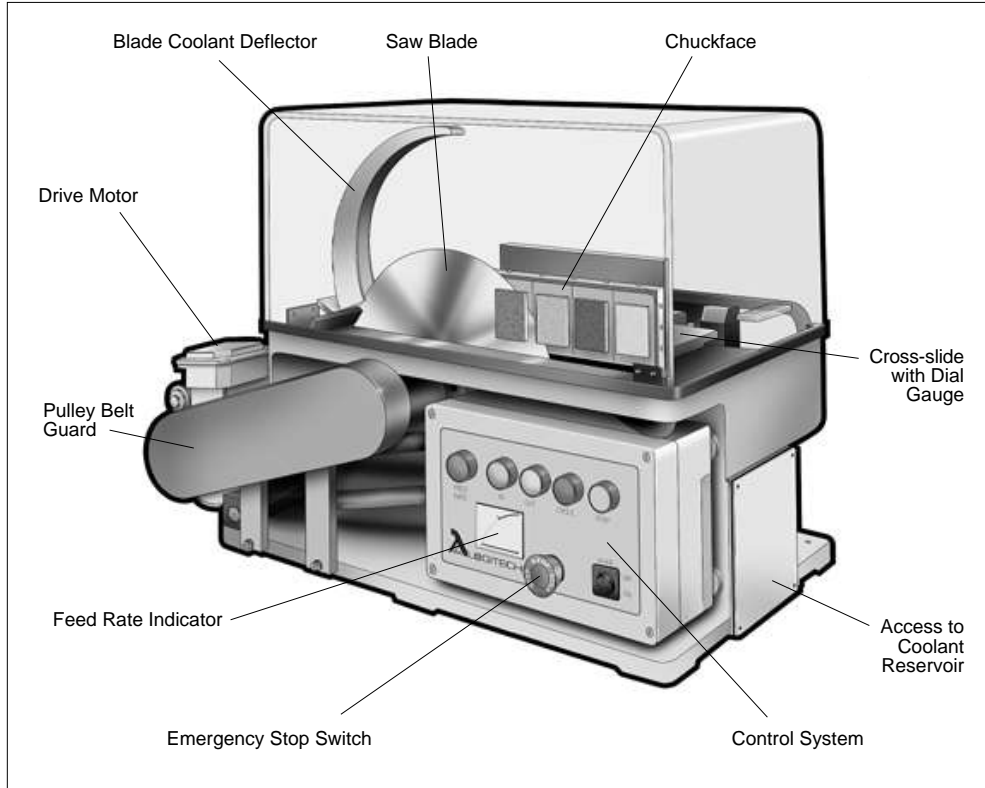
For vacuum mounting of samples on the GTS1 chuckface, the **VS2 Vacuum System** comprises a single stage rotary vacuum pump, water trap, drain and air admittance valve, assembled together on a frame for wall or bench mounting.

A **Coolant Recirculation Unit** is available if required. It comprises a 20 litre capacity coolant tank, constructed from high density polyurethane, and includes a 50W induction pump. While the coolant is recycled, it retains debris from cutting within the unit, ensuring a cleaner cutting operation. The pump is fitted with a corrosion resistant stem and impeller. Inlet and outlet ports are fitted to a plate which attaches to the front of the saw.

Applications:

The GTS1 Thin Section Cut-off and Trim Saw is ideal for production and research environments in all geological application areas - cutting hard or soft rocks, concretes, cements, etc. It is particularly suited to the operator who requires to produce high volumes of thin sections up to 150x100mm in size.

Technical Data



Specifications:

Power Supply:	220V/240V, 50Hz 110V, 50-60Hz
Main Drive Motor:	0.55kW
Dimensions:	Height: 510mm Length: 720mm Width: 400mm
Packing Dimensions:	813 x 506 x 560mm
Net weight:	59.5kg
Gross weight (packed):	85kg approx.
Diamond blade:	300mm diameter 2.0mm thick D181 diamond grade / 80/100 US Mesh
Standard slide capacities:	12 x 28x48mm 7 x 25x76mm 3 x 50x76mm 1 x 110x76mm

Ordering Data:

Cat. No.	Description
1GTS1	GTS1 Thin Section Cut-off Saw (220V, 50Hz)
1GTS2	GTS1 Thin Section Cut-off Saw (110V, 50/60Hz)
1CRU3	Coolant Recirculation Unit (220V, 50Hz)
1CRU4	Coolant Recirculation Unit (110V, 50/60Hz)
1VS21	VS2 Vacuum Unit (220V, 50Hz)
1VS22	VS2 Vacuum Unit (110V, 50/60Hz)
0CON-329	12"/300mm Diamond Blade
1GTS1-0100	Chuckface for 150x100mm slide



Certificate No. FM 12025



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