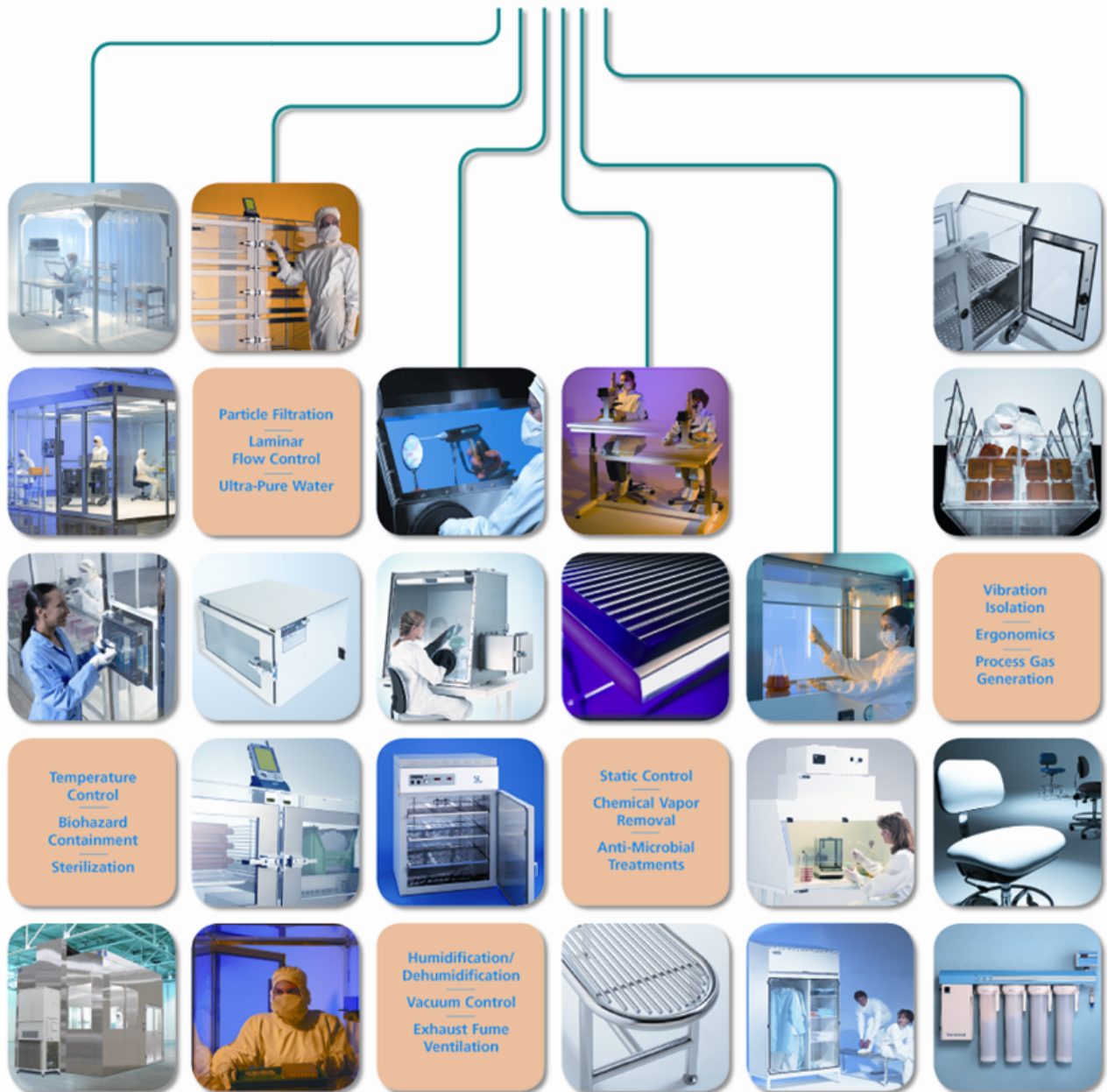


Adjustable Diamond Scriber

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Your Comprehensive Equipment Source





Adjustable Diamond Scriber

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Safety Notice

A thorough familiarity with all operating guidelines is essential to safe operation of the product. Failure to observe safety precautions could result in poor performance, damage to the system or other property, or serious bodily injury or death.



CAUTION

Cautions are used when failure to observe instructions could result in significant damage to equipment.

The following symbols are intended to call your attention to two levels of hazard involved in operation:



WARNING

Warnings are used when failure to observe instructions or precautions could result in injury or death.

The information presented here is subject to change without notice.

1.0 Introduction

This manual provides information on installing and operating your Terra Universal Adjustable Diamond Scriber.

By studying this document carefully, you can be assured of a long, efficient service life from the unit.

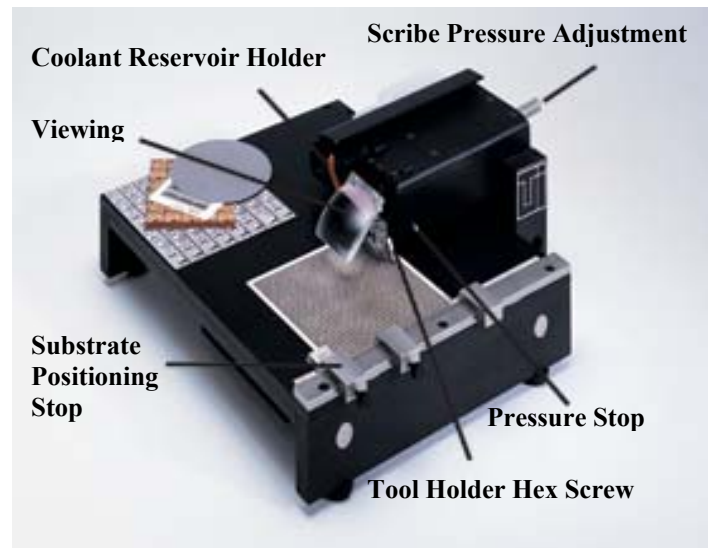
2.0 Description

- Performs fast, easy scribing on a variety of substrates.
- Features four-edged diamond for efficient operation, with fully adjustable scribing force.
- Mechanical stop ensures precise stepping and repeat.
- Adjustable optical lens enhances visual control of operation.
- Easy to maintain.

This reliable Diamond Scriber performs fast, easy scribing and cutting of silicon wafers, as well as ceramic and glass substrates, for thick and thin-film circuits.

It scribes the precise grooves necessary for effective glass or ceramic cutting: shallow, even and continuous. The scribing force is fully adjustable to ensure optimal flexibility and repeatable results. In addition, an adjustable dispensing head releases an alcohol coolant to increase operating efficiency and prolong the life of the cutting diamond.

The system includes a measuring gauge, scribe head with diamond cutting tool and viewing lens.





3.0 Installation

Before assembly and operation, carefully unpack the Adjustable Diamond Scriber and check for signs of damage or missing parts.

The complete unit consists of

- A chassis containing the sliding scribe head, a measuring rule, and three adjustable stops (one with horizontal positioning stop)
 - A scribe tool with embedded diamond (located in box with viewing lens)
 - A coolant reservoir
 - A viewing lens
1. To install the scribe head, loosen the screw on the tool holder (located on the front edge of the scribing head) until you can insert the scribe tool. Be sure to remove the rubber cap from the diamond tip before inserting into the holder, and take care to avoid contact with the diamond tip. The tip should protrude from the lower edge of the scribing head just far enough to ensure contact with the plate when the scribing head is depressed.
 2. The optical lens clips to the front edge of the scribing head, immediately above the scribing tool. Position it so that the area around the tip of the scribing tool is clearly visible.
 3. The coolant reservoir sits in the slot on the left side of the scribing head. It should be positioned so that the dispensing tube points toward the scribing tool. If the dispensing tip has not already been placed into the reservoir, simply cut the long end of the tube at an angle so that it extends to the bottom of the reservoir and insert it through the cap.

4.0 Operation

Begin by positioning the adjustable stops so that the substrate is firmly anchored against the base plate (the side of the plate with the rule) with the scribing line directly aligned with the scribing tool. By moving these stops at precise increments along the measuring rule, you can perform step-and-repeat scribing on substrates up to 4" x 4".

Turn scribe pressure adjustment knob clockwise until it stops. Back off (counter clockwise) scribe pressure adjustment knob 1/4 turn; this represents maximum scribe pressure of \approx 800 grams. Backing off the scribe pressure adjustment knob an additional 1/2 turn (total 3/4 turn counter clockwise) brings the tool to the minimum scribe pressure of \approx 200 grams. Adjustments between 1/4 and 3/4 of a turn sets intermediate pressures.

To begin scribing, slide the scribing head all the way towards the base plate, positioned above the beginning of your scribing line. When you press on the scribing head, a spring-loaded mechanism adjusts the force of the scribing pressure.

Apply the desired scribing pressure on the scribing head and move the head away from the base plate in a smooth motion. In most applications with silicon substrates, applying enough pressure to keep the pressure stop positioned in the center of the pressure cut-out during the scribing motion produces satisfactory results. By experimenting with your own substrate, you can determine the amount of pressure required for your application.

To maximize the life of your scribing tool, Terra recommends that you use alcohol or other coolant during scribing (always test for chemical compatibility before selecting a coolant). By pressing gently on the coolant reservoir during the scribing motion, you can adjust the flow of the coolant onto the scribing platform.

NOTE: The diamond tip of the scribing tool features four diamond edges (labeled on the tip with the numbers 1-4). Periodically, as one edge wears down, you can reposition the tool in the holder to cut with a fresh edge.



5.0 Warranty

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Generally, customers can improve the chance of collecting on a freight claim by following these procedures: 1) formally requesting that the carrier inspect the shipment immediately upon suspecting damage or shortage to verify condition; 2) notifying the carrier upon discovery of concealed damage and requesting an inspection within 15 days of receipt, both in person or phone and following up via mail; 3) keeping the shipment as intact as possible, including retaining original packaging materials and keeping the product as close to the original receiving location as possible; 4) holding salvage for disposition by the carrier.

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**Thank you for ordering from
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