



User Manual



Made in The Netherlands
by SGT-Middelburg B.V.
US Patent: US-A-6,708,857
EP-B-1 021 381

SGT Capillary Column Cutter with Rotating Diamond Blade SHORTIX®

The SGT Capillary Column Cutter is a tool for the precision cutting of fused silica capillaries. This tool permits a novice to make the clean, straight cuts that are required for high quality chemical analysis. Two versions of this device are available. One is intended to be used with fused silica GC capillaries, the other specifically for CE/CEC capillaries. The devices differ in the load of the internal spring pressing the diamond on the capillary.

Directions for Use

- A. Column Locking Wheel
- B. Diamond Cutter Wheel
- C. Diamond Blade Release Button (with red dot)
- D. Column Entrance
- E. Magnifying Lens (20X) for column examination.

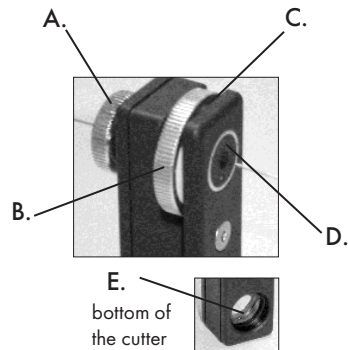


Figure 1

Cutting Procedures

Wear safety glasses during the entire column cutting procedure.

1. Before cutting column, install ferrule and nut if needed for subsequent installation to inlet or detector.
2. Using a tissue moistened with acetone, wipe clean the last 10 cm of the fused silica column.

Note: CE/CEC columns may be cut with or without the polyimide outside coating.

3. Unwind approximately 30 cm of the capillary column from the column basket.
4. Loosen the *Column Locking Wheel* (A) by turning counter clockwise (2 turns).
5. Press and hold the *Blade Release Button* (C). Insert 3 to 5 cm of the column into *Column Entrance* (D).

Caution:

Blade Release Button (C) must be depressed when column is inserted in the cutter. Failure to depress button may damage the diamond blade resulting in poor cuts.

6. Continue to press the *Blade Release Button (C)*. Lock the column into the Column Cutter by turning the *Locking Wheel (A)* clockwise until snug.
7. Release the *Blade Release Button (C)*. The diamond cutting blade will now be positioned at the surface of the fused-silica column.
8. Position the column in a straight line with no stress on the column, as shown in Figure 2. The column must remain in this position during the cutting process.

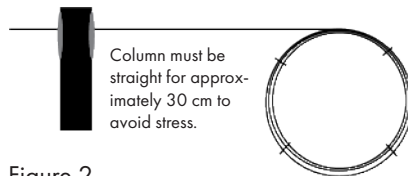


Figure 2

9. Turn the *Diamond Cutter Wheel (B)* in one direction until the column breaks, approximately 3-6 turns. Do not change directions during a cut. Rotate the *Diamond Cutter Wheel* smoothly using long strokes.
10. Open the Column Cutter and remove the waste piece of fused silica:
 - a. Press the *Blade Release Button (C)* to withdraw the diamond blade from the column surface.
 - b. Continue to press the *Blade Release Button (C)* while you loosen the *Locking Wheel (A)* counter-clockwise (2 turns).
 - c. Remove the waste piece of fused silica from the Column Cutter

11. Inspect the column cut using the *Magnifying Lens (E)* in the handle of the column cutter.
 - a. Examine the cut to insure it is straight and free of fused silica particles and polyimide debris.
 - b. Repeat if the cut is unsatisfactory.

Column Cutter Maintenance

Fused-silica particles must be periodically removed from the diamond blade. Clean the column cutter after every 5 cuts, or immediately after a poor cut. To clean, briefly blow particles out of the column path using a clean compressed gas source.

Caution: Wear safety glasses.

Easy-to-use tool with exact results

The operation of the Column Cutter is quite simple. A column, inserted into the cutter, is immobilized by tightening a locking wheel. Rotation of the cutter wheel causes a diamond blade to travel around the circumference of the column.

The blade cuts through the polyimide coating and precisely scores the fused silica. This creates a cut that is 90° to the axis of the column. This tool removes the variability in column cutting that is found with the use of diamond or sapphire pens, ceramic wafers or other manual scoring tools.

Replacement Parts

A replacement kit is available and includes a diamond cutting wheel with installed diamond, O-rings for locking wheel, and a tool to open the SGT Capillary Column Cutter.

Description	Part No.
GC Capillary Column Cutter (black housing)	23026
Diamond Blade Replacement Kit for GC Column Cutter	23027
CE/CEC Capillary Column Cutter (blue housing)	574781
Diamond Blade Replacement Kit for CE/CEC Column Cutter	568366