

Diamonds

The Laser MicroJet[®] has many proven advantages over conventional lasers for cutting diamonds.

While conventional lasers have conical laser beams, Synova's water jet-guided laser technology provides a cylindrical beam resulting in a parallel cutting surface and reduced weight loss when diamonds are cut. The water cooling process reduces heat damage, improves surface quality and reduces the possibility of breakage in high risk diamonds. In addition, the water jet expels burnt carbon resulting in a smooth cut surface.

The Laser MicroJet[®] is particularly suited for cutting larger diamonds having a size of 5 mm or more. Since no focal adjustment is required, a working distance of up to 30 mm is possible. Thus, a diamond can be cut in a single setting rather than from both sides as is the case in conventional lasers.

Crucial parameters such as laser power and cutting speeds can be adapted to suit the material structure of the raw diamond. Since the beam diameter can be as small as 30 to 50 microns, the water jet-guided laser is ideally suited for high value diamonds where a precise cut is needed with a minimum wastage. Therefore, the DCS 300 Diamond Cutting System can pay for itself in a matter of months.

