Rollomatic introduces high-velocity super-fine laser cutting and ablation machine at IMTS 2020 for high-performance PCD tools and other super-hard materials

Mundelein, April 2020. Rollomatic, a leading machine tool manufacturer based in Le Landeron, Switzerland, is exhibiting at the IMTS (International Manufacturing Technology Show) in September in Chicago, IL.

Rollomatic maintains its global leadership position in laser cutting diamond tooling by announcing a the new model LaserSmart® LS510 with up to 4 times faster feedrates without compromising cutting edge quality and surface finish. This machine produces the sharpest corner radius in the PCD industry with a maximum radius on the cutting edge below 0.5 micron. In addition, a defined radius of 3, 6 and 9 microns can also be produced consistently. Tools with HSK63 shanks can now also be accommodated on this machine. Rollomatic will showcase this new LaserSmart® laser cutting/ablation machine in full cutting mode during the IMTS. The strategy for this machine is to offer a more cost-effective way and higher quality in the production of high-performance PCD polycrystalline diamond, cBN cubic boron nitride and CVD chemical vapor deposited cutting tools which traditionally require to be produced by a double process of spark erosion and polish grinding.

- Up to 4 times faster feedrates with identical edge and surface quality
- 3D machining of drill points and endmill cutting geometries
  Fine-laser cutting achieves a superfine cutting edge with a surface finish that is unachievable by grinding/EDM.
  Best possible surface finish in this industry (Ra below 2.5 micro inches or 0.1 micron)
- Conventional grinding with diamond wheels will invariably “pull out” an entire PCD crystals, while laser cutting will “slice” through the crystal and leave a portion of the crystal in the matrix, thus providing a razor-sharp cutting edge, unattainable by EDM, EDG (electro-discharge) or grinding
- Linear technology on linear and rotary axes provides highly accurate trajectories for the complex cutting paths
- Continuous field testing have shown that sharper cutting edges and superior surface quality on PCD tools deliver longer tool life and higher feed rates during machining
- Laser ablation allows the freedom to optimize tool geometries
- Manufacturing chip form geometries in PCD is easily performed by the LaserSmart® using the ablation process as a cost-effective and powerful alternative to existing complicated and expensive conventional methods

Rollomatic provides outstanding service/support from its North American headquarters in Mundelein, IL, and satellite offices in CA, FL, IN, MA. For more information visit: www.RollomaticUSA.com or e-mail solutions@RollomaticUSA.com.