

■ **Trumpf Werkzeugmaschinen GmbH & Co. KG, Germany**

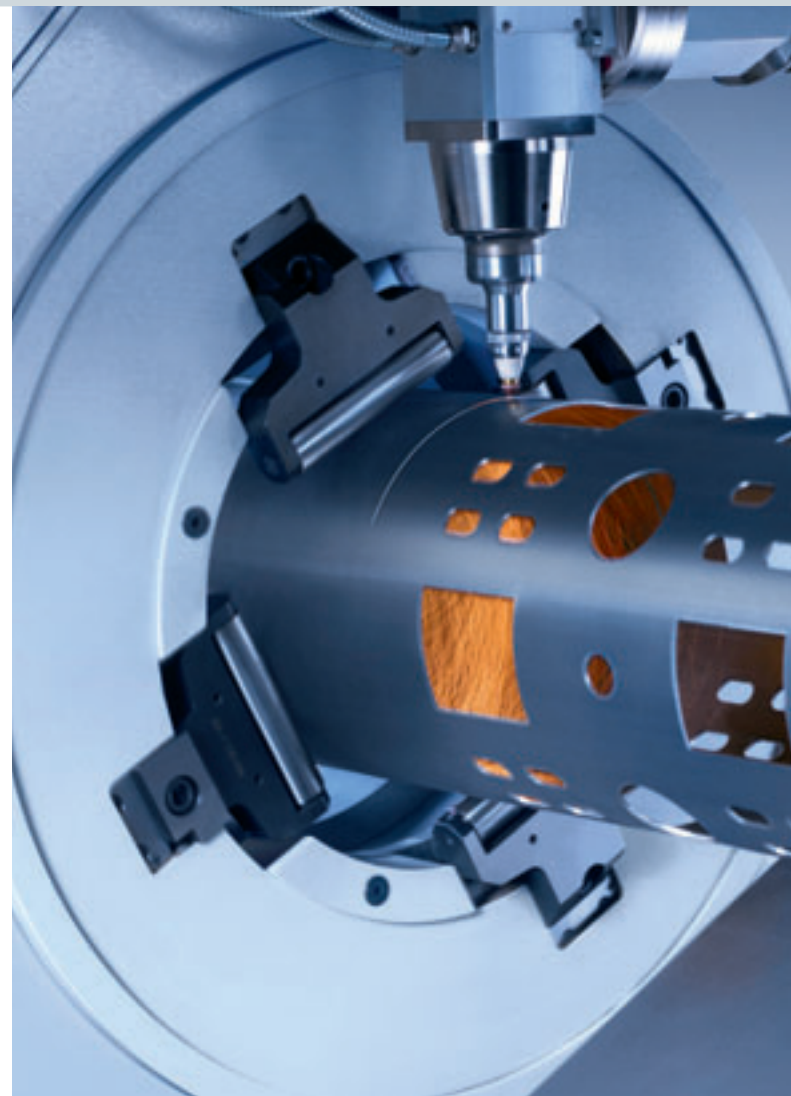
Let There Be Light

The TruLaser Tube 7000 laser tube-cutting system from Trumpf is quick, accurate and suitable for a vast range of applications.

In the TruLaser Tube 7000, Ditzingen-based German manufacturer Trumpf has developed a laser tube-cutting system that is designed to tackle heavy tubes and also boasts a large clamping area. These features make the system highly flexible and capable of a wide range of applications. When you see the new TruLaser Tube 7000 in action, the first thing you will notice is that it's like a tube within a tube. The laser cutting system machines tubes in a tunnel-like protective cab; once machining is complete, the tubes (depending on their size) are transported forward to the brush table or, if required, to the rear and into a container. The TruLaser Tube 7000 looks impressive even before it sets to work. This high-end piece of machinery boasts a modern design, strong drives, and a high level of automation – all of which combine to open up entirely new areas of application.

Higher productivity ...

The benefit that the TruLaser Tube 7000 has over conventional approaches such as sawing, drilling and milling is the substantial increase in productivity that it delivers. The system can cut even large-diameter, thick-walled tubes and profiles without

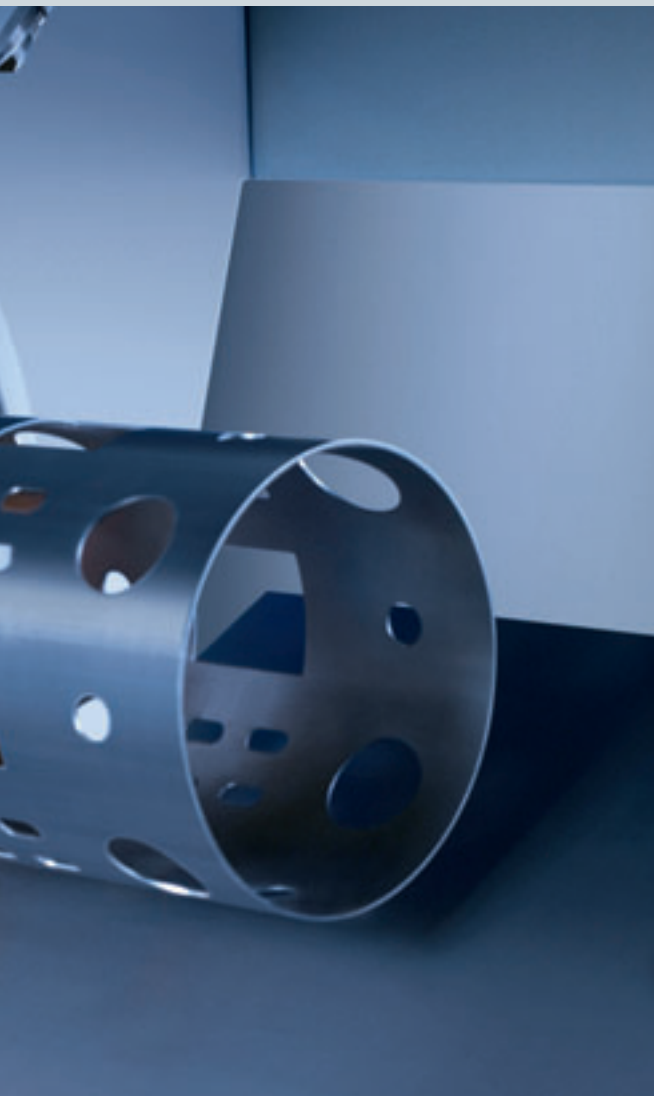


seeing any dip in productivity. Boasting a clamping range of 0.591 inch to 7.87 inch, it also covers an extremely broad range of uses. In the 6.56 yard format, the maximum workpiece weight is 330 pound. There is also an option to machine tubes with a diameter of up to 9.84 inch and weighing up to 496 pound. The system can be configured with a laser capacity of up to 3.6 kilowatts, allowing it to cut even substantial wall thicknesses. The maximum wall thickness for tubes to be machined is 0.135 inch.

The FocusLine function automatically tailors the focal position of the laser beam to the type and thickness of the material being machined. The machinery software automatically sets the focal position detailed in the technology table, saving time by eliminating the need for additional settings. Another new feature is the extremely slimline cutting head with 6.1 inch and safety magnetic coupling, which offers extremely flexible operation.

... through innovative control and drive technology ...

Trumpf has equipped the system with the Sinumerik 840D sl controller, Sinamics S120 drives and 1FT7 motors – a fact to which the short machining times



Trumpf Werkzeugmaschinen GmbH & Co. KG

The precision clamping technology of the TruLaser Tube enables accurate machining of parts

attest. The parts program controls almost all profile-specific machinery and loading unit settings – the operator doesn't need to intervene.

In order to ensure optimum harmony between the controller and the machinery technology, Trumpf integrates its own compile cycles into the Sinumerik and uses the openness of the Sinumerik 840D sl in the HMI area to adapt a user interface that is tailored perfectly to the technology. This approach raises the bar in terms of productivity.

A particular highlight of the new development is the laser cutting axis spacer, which is linked directly with the drive for the first time and also sees the OEM functionality of the drives utilized for the first time. This innovative connection makes the machinery even more dynamic and boosts productivity even further.

Naturally, innovative machinery such as this, featuring NC control, requires an ultra-modern motor.

For this reason, the new 1FT7 series synchronous motors are used. These extremely dynamic, high-precision motors put in a captivating performance that makes them the ideal solution for this ultra-dynamic machine tool.

... and state-of-the-art automation systems

The LoadMaster Tube, with a tube store that can hold up to four metric tons of raw material, enables complete automation of the TruLaser Tube 7000. A swiveling bundle support ensures that the tubes are always held in place. The loading device uses a plausibility test to compare the tube geometry with the parts program. Special profiles and small batches can be fed in via a swiveling conveyor belt. The LoadMaster Tube automatically measures the length of each tube and, where necessary, adjusts the position of the loading gripper.

The self-centering clamping jaws are suitable for any tube diameter up to 7.87 inch, which means they do not need to be changed each time. The step rollers on the base of the machinery that support the tubes and provide lateral guidance also adjust automatically to the various diameters. The system has been perfectly planned right down to the integrated scrap containers that collect the off cuts and then empty themselves automatically.

Easy operation

The system has a swiveling control panel designed to provide particularly ergonomic working conditions; the panel is secured to the machining station and can be pushed in whatever direction the operator requires. The interactive touch screen control concept is another convenience feature – the status of the machinery is illustrated graphically, allowing operators to gain a quick overview.

A new version of the TruTops Tube software is now available for program creation, offering sophisticated machining strategies. The database that forms the basis for the software contains the full scope of the technological expertise that Trumpf has developed over the years and worked continuously to enhance. The new software version makes the machining of complex tube designs considerably more simple, accurate and reliable.

3D tubes can be easily linked, and the development of individual structures for each tube is a thing of the past. The new system also saves time, as parameters such as length, width, height, wall thickness and the distance from openings can be quickly adjusted to take account of different options. ■

info
contact

www.siemens.com/sinumerik
gerhard.rastaetter@siemens.com