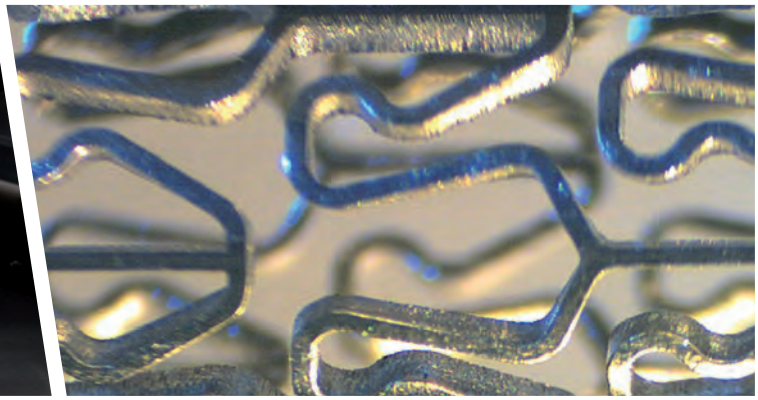
PRECITEC

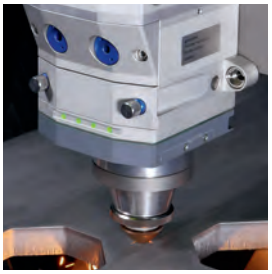
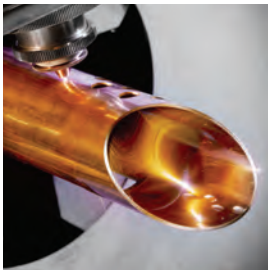
THE SMART WAY TO LASER

PRODUCT OVERVIEW OF 2D AND 3D LASER CUTTING



2D laser

macro applications

	product		options / features	fladbed cutting	tube cutting
					
Solid-state laser	ProCutter	< 8 kW	manual or motorized focal position adjustment | flexible focal length (Zoom) | various monitoring | system status portable via Bluetooth® | straight and angled version	■	■
Solid-state laser	SpeedCutter	< 6 kW	very high cutting speed and good edge quality | protective glass | extremely light weight | adjustment of focal position in lateral and vertical direction	■	
Solid-state laser	LightCutter	< 2 kW	protective window cartridge | straight and angled version	■	■
Solid-state laser	MiniCutter	< 1 kW	protective window cartridge | straight version	■	■
Solid-state laser	FineCutter	< 500 W	integrated camera monitoring, illumination, beam bender | lens adjustable under pressure | also suitable for UKP lasers		
Solid-state laser	SolidCutter	< 4 kW	high cutting speeds for 3D components | fully-sealed design | easily accessible media connections | straight and angled version		
Solid-state laser	FormCutter Plus	< 4 kW	XY-axes system performs exact, high-dynamic cutting movement | time-saving with teach-in | cycle-time reduction thanks to high-speed paths | welding system easy to retrofit	■	
Solid-state laser	YK52	< 5,5 kW	slim design | small measuring spot | lightweight		
CO_2-laser	HP1.5" HP1.5" M	< 6 kW	changeable focal lengths | manual or motorized focal position adjustment | piercing and tear detection	■	■
CO_2-laser	HP2" HP2" M	< 8 kW	changeable focal lengths | manual or motor focal position adjustment | piercing and cut interruption detection	■	■
CO_2-laser	DS1.5"	< 6 kW	changeable focal lengths | piercing and cut interruption detection		

cutting

micro applications

fladbed cutting

tube cutting

3D laser cutting

macro applications

robot cutting

bevel cutting

fladbed cutting

tube cutting

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PROCESSING HEADS FOR LASER CUTTING

Laser cutting offers various benefits over conventional processes, creating flexibility, productivity and reduced material consumption. One single tool cuts virtually any shape at a high speed – optimum for small batch sizes and for just-intime production. The last link in the chain of a laser cutting machine, the processing optics, is especially important. Precitec has the right cutting head and matching integrated sensor system for every application. Be that for cutting out 2D components from flat sheet metal or holes and breakouts from 3D components, or processing tubes, profiles or beveling cuts, these optics are employed in the most diverse industrial sectors all over world.

TEMPERATURE-STABLE DISTANCE SENSORS

No matter which application, every processing head has integrated temperature-stable, fast and completely drift-free distance sensors. These sensors measure and control the distance required between cutting nozzle and workpiece via a fully-automated process. Material unevenness is equalized. And so the cutting head performs complex two-dimensional or three-dimensional cuts with high accuracy and at high speed. Thereby guaranteeing a stable cutting process.

RELIABLE PROCESS MONITORING

The sensor technology for process monitoring and control is becoming increasingly important on systems that produce around the clock. They ensure compliance with the specified parameters and cutting qualities, and offer the safety required for automated processes in high-production systems. Using the analysis of the emissions generated during the cutting process, the piercing sensor monitors the piercing and cutting process online. This gives the piercing process an enormous time advantage over preprogrammed times. Cut interruptions are also detected. The usage is especially advantageous when cutting stainless steel and thick gauge sheet metal, because any errors can be corrected immediately, thereby significantly reducing production rejects. The plasma activity is also monitored in CO_2 systems.

SAFER PROCESS THANKS TO SENSOR SYSTEMS

With all cutting heads, the temperature of the sensor insert is measured as standard. Additional automation options, such as motorized focal position adjustment, support a safe, fully automated cutting operation. To ensure a reliable function, the cutting heads for solid state lasers are additionally equipped with protective window contamination detector and pressure-tight protective window cartridge. Every head in this series has a sealed beam path, focusing lenses are protected and sealed dust-tight. Quality optics and the toughest quality standards for production ensure optimum shaping and guiding of the laser beam. This makes the cutting heads ideal for self-monitoring, automated systems.

In CO_2 systems, the lens break sensor detects focusing lens damage and also larger spatters. A cutting gas pressure measurement is possible in many of these processing optics.

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