

TRUMPF TruLaser Cell 7040

Technical Data Sheet — 5-Axis 3D Multifunctional Laser System

The TruLaser Cell 7040 is a high-productivity modular laser system designed for cutting and welding of 2D and 3D components, including tubes and profiles. Its 5-axis 3D head enables machining of flat parts, closed profiles, and complex shapes. Primary applications include the automotive, aerospace, and machine-building industries.

Control System

Parameter	Specification
Control type	TRUMPF CNC based on Siemens SINUMERIK 840D / 840D SL
Older variants (pre-2012)	TRUMPF TruControl 1000
Operator interface	Movable control panel with touchscreen + 6D mouse
Mobile application	MobileControl App (operation from any position)
Industry 4.0 connectivity	OPC/UA communication interface
3D programming software	TruTops Cell / TruTops Boost

Axis Travel Ranges (TruLaser Cell 7040 Fiber)

Axis	Travel Range
X	4,000 mm
Y	1,500 mm / 2,000 mm (optional)
Z	750 mm / 1,000 mm (optional)
B (rotation)	± 135°
C (rotation)	n × 360°
Dynamic cutting optics	± 9 mm

Maximum Axis Speeds

Axis	Maximum Speed
X (axially parallel)	100 m/min
Y (axially parallel)	100 m/min
Z (axially parallel)	100 m/min
Simultaneous (all axes)	173 m/min
B axis	90 rpm

Axis	Maximum Speed
C axis	90 rpm

Maximum Axis Accelerations

Axis	Maximum Acceleration
X	9 m/s ²
Y	10 m/s ²
Z	10 m/s ²
B axis	200 rad/s ²
C axis	100 rad/s ²
Dynamic cutting optics	40 m/s ²

Positioning Accuracy

Parameter	Value
Linear axes (X, Y, Z)	0.08 mm
Rotary axis (B)	0.015°

Laser Source

Parameter	Specification
Maximum laser power	3,000 W – 6,000 W
Available sources	TruDisk (solid-state disk), TruFiber (fiber)
CO ₂ variants (legacy)	TruFlow 3,200 / 4,000 / 5,000 W
Laser light cable	2-in-1 LLK (cutting + welding + LMD with single cable)

General Machine Data

Parameter	Value
Machine length	~10,718 mm
Machine width	~9,420 mm
Machine height	~3,800 mm
Machine weight (CO ₂ version)	~16,850 kg

Parameter	Value
Machine weight (Fiber version)	~8,400 kg
Maximum workpiece weight	2,000 kg

Available Processes

Process	Description
2D Laser Cutting	Flat part cutting with dynamic cutting head
3D Laser Cutting	Complex parts, tubes, profiles, deep-drawn components
Laser Welding	BrightLine Weld — virtually spatter-free, up to +300% productivity
Laser Metal Deposition (LMD)	Component repair and coating with special alloys

Key Options & Features

Option	Benefit
FastLine Cell	Piercing on-the-fly — significant cycle time reduction
Smart Approach	Cycle time reduction of up to 9%
BrightLine Weld	Spatter-free welding, up to 40% energy cost reduction
Two-Station (partition wall)	Loading/unloading parallel to production
Rotational Changer	Single loading/unloading position for series production
VisionLine	Automatic detection of geometric features on components
ObserveLine Professional	Periodic optical positioning accuracy verification
X-Blast Technology	Robust cutting processes for complex geometries; extended nozzle life
Smart Optics Setup	Automated optics calibration via standardized macros

Source: TRUMPF GmbH + Co. KG — trumpf.com | Technical data is indicative and may vary depending on configuration.