.NEW

PFO 20

For highly dynamic welding and cleaning applications

01
Robust design

02
High productivity

03
Flexible combination

04
High process stability

TRUMPF

Machine tools/Power tools
Laser technology/Electronics

01

Robust design

The digital galvanometer drive architecture ensures the lowest drift rates throughout temperature changes in the environment or in the drive itself. This enables reliable results, even in very demanding applications. The protective glass between the LLK plug and collimator lens ensures the PFO 20 is robust when plugging the laser light cable. In the event of contamination, the protective glass can be easily replaced. Many other features such as LLK scattered light monitoring and temperature protection in the deflection mirror and base body support the robustness of the PFO.

02

High productivity

The base body has been completely redeveloped. Laser power of up to 6 kW is possible thanks to the optimized cooling system. The new quartz aperture increases the systems resistance against back-reflections. The lightweight mirrors with optimized substrate geometry reduce the moment of inertia, which means they can be moved with higher acceleration. The Class D amplifier stage increases the efficiency of the drive system and thus the reliability of the optics in high-frequency vibration applications.

03

Flexible combination

The PFO 20 can be configured for various laser beam sources such as TruFiber, TruDisk and TruMicro. Different objective lenses can be selected to match the requirements of the process and the part. Our VisionLine product family offers a wide range of image processing solutions – from simple observation to sophisticated image processing with VisionLine Detect. This can be combined with CalibrationLine Power for power measurement and CalibrationLine Focus for focus position measurement.

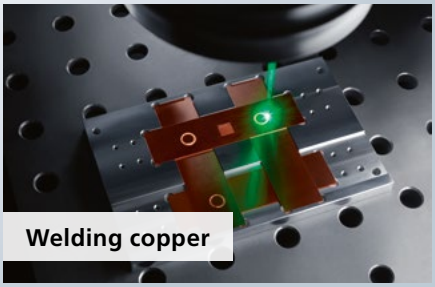
04

High process stability

The PFO control system ensures that the scan mirrors actually move by constantly monitoring the nominal and actual values of the motor positions. This contributes to safe operation also in sensitive applications such as battery welding. With the Real-time Contour Check, warning and error limits can be defined in TruControl, allowing even more precise monitoring of contour precision.

Power electronics

Cleaning battery cells



Welding copper

Technical data		
Maximum power	kW	Up to 6 (cw)
Numerical aperture		typically 0.11; maximum 0.12
Standard collimation	mm	90 (TruDisk, TruFiber multi mode, TruMicro 7000), 100 | 175 (TruFiber single mode)
Available focal lengths	mm	100 | 135 | 160 | 264 | 315 | 400
Focal length field size	mm²	51 × 37 (f100) | 78 × 57 (f135) | 92 × 71 (f160) | 180 × 148 (f264) | 250 × 188 (f315) | 320 × 237 (f400)
Available lasers		TruDisk, TruFiber multi mode, TruFiber single mode, TruMicro 7000
Laser light cable type		LLK-D
Available sensor systems		VisionLine Cam/Basic/Detect/Project, CalibrationLine Focus and Power
Available software options		TruTops PFO, PFO SmartTeach app
Dimensions (L × W × D)	mm	202 × 227 × 197 (configuration example with fc90 and f264)
Weight	kg	approx. 30
Available options		Crossjet, MVE nozzle, camera monitoring, sensor interface, lighting, smoke bell, beam shaping for green lasers (BSG), Real-time Contour Check (RCC)

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