CLEAR PHOTON



THE FLAGSHIP

CP-VERTEX

See what you machine. Through-the-lens vision, zoom expander and camera-guided set-up.

5 MP
through-the-lens camera

13 to 20 µm
spot, set by zoom expander

< 2 µm
absolute with Precision package

Laser not included · Budgetary pricing on request

Product brochure · November 2026 · Preliminary

Why CP-VERTEX

CP-VERTEX is the complete CP-Series station. A 5 MP camera looks through the scan lens, so you align to fiducials, check the result and measure the spot without taking the part out. A motorised zoom expander sets the spot size per job, and the Precision package brings absolute accuracy below 2 µm.

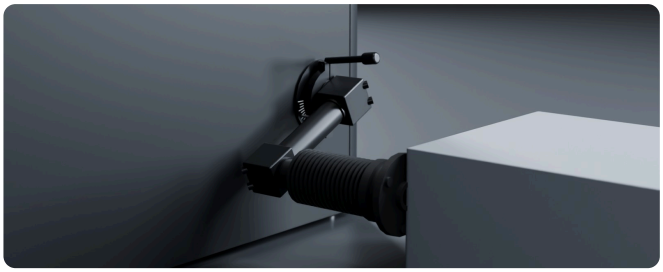
Camera-guided from set-up to inspection

Click a feature on the 10.1-inch screen and the machine moves there. Teach points, align to fiducials and inspect the result with coaxial light, all through the same lens the laser uses.



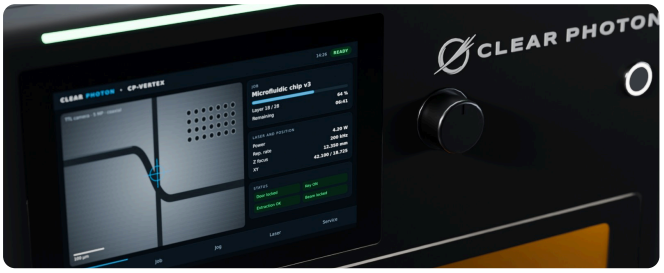
Built like a metrology tool

Polymer-concrete casting, XY stage fixed on the base, scan head on a stiff Z axis. First structural mode above 150 Hz, no fans in the process chamber.



Bring your own laser

A rotating periscope arm meets any beam height from 40 to 300 mm. The docking bridge seals light-tight onto an adapter plate on your laser head.



Made for the lab

Flush 10.1-inch display with navigation knob, a status light blade visible across the room, fanless electronics behind honeycomb grilles.



Safe by design

Class 1 with guard-locked door, PL e shutter, hard-wired interlocks, laser key switch and a single-shot button under a hinged cover.

UPGRADE PATH, SAME ENCLOSURE AND FRONT PANEL

CP-ORIGIN	CP-NEXUS	CP-VERTEX
Fixed plate, manual Z	+ CP-Motion kit	+ CP-Vision kit

Technical specifications

Standard 1030 nm configuration, telecentric f = 100 mm lens, after warm-up, lab stable within ±0.5 K.

Motion architecture	XY stage on the metrology casting, scan head moves in Z
XY travel	150 × 150 mm, motorised, linear encoders
XY repeatability / accuracy	< 2 µm / < 5 µm (mapped)
XY speed	up to 100 mm/s
Z travel (scan head)	150 mm, motorised with brake, < 2 µm
Largest part	300 × 300 mm footprint, 150 mm tall, up to 25 kg
Scan field (f = 100 telecentric)	approx. 44 × 44 mm
Focused spot (1/e²)	13 to 20 µm, motorised zoom expander
Galvo repeatability	< 1 µm
Field accuracy after calibration	< ±3 µm
Machine vision	5 MP through-the-lens camera, coaxial light
Automated focus	Yes
Beam pointing	Active stabilisation after docking and during jobs
Operator interface	10.1-inch display with knob, 3-axis twist joystick, single-shot button, web HMI
Software	CLEARPHOTON STUDIO
Dimensions (W x D x H)	600 × 700 × 800 mm
Mass	approx. 125 kg
Power	100 to 240 VAC, 50/60 Hz, < 400 W (laser not included)

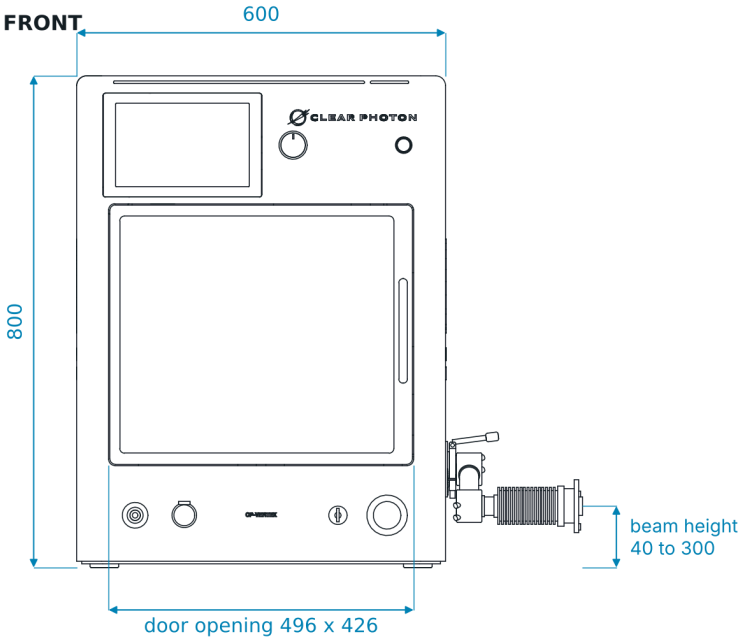
Laser compatibility

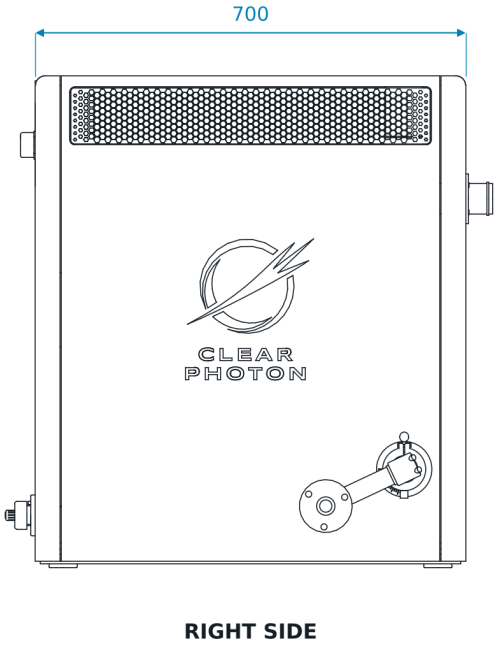
Wavelength	1030 to 1064 nm (515 nm and 343 nm as factory variants)
Average power / pulse energy	up to 20 W / up to 200 µJ
Pulse duration	approx. 150 fs to 10 ps (ns and CW on request)
Input beam	1 to 6 mm, expander matched to your laser
Beam input	Rotating periscope arm, 40 to 300 mm above the bench, light-tight docking bridge on an adapter plate

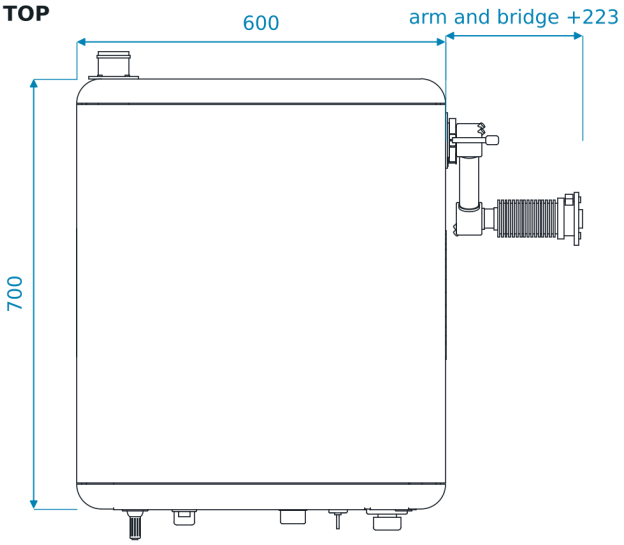
Rear laser interface. SMA: gate, trigger, laser clock in, 0 to 10 V · D-sub 15: ready, error, shutter, reset, enable · M12: 2-channel interlock loop, external E-stop, laser-active output · RS-232, USB, Ethernet, HDMI

Safety and conformity. Class 1 to IEC 60825-1, one amber window to EN 60825-4 for 343, 515 and 1030 nm (OD 7+), interlocks to ISO 13849-1 PL d, electrical to EN 60204-1. CE and UKCA on delivery.

Dimensions







Site requirements

Bench
≥ 250 kg, approx. 1200 × 800 mm for station and laser

Access
100 mm at the rear, door swing approx. 500 mm

Environment
18 to 26 °C, ±0.5 K for full accuracy

Extraction
60 to 120 m³/h, HEPA and carbon, Ø50 mm

Power
1 × 100 to 240 VAC socket

Install
By you, with setup wizard and remote support

Talk to us about your application.

Try It Out rental from EUR 5 000 per month, job-shop processing and process development through our partner network. Budgetary pricing on request, laser not included.

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