

modulo
ONE



All-In-One Surfacing

Modulo Center ONE^{PRO}

MAXIMUM PRODUCTIVITY FROM EVERY SQUARE FOOT



Fascination for Innovation

Modulo Line

SCHNEIDER had the vision to manufacture individual lenses based on freely definable mathematical descriptions. The HSC generators and CCP polishers have become the tools used to develop the free-form idea in the ophthalmic industry. Individual freeform lenses are now the top product in the market, and SCHNEIDER has grown to be the premier manufacturer of freeform equipment worldwide. The innovative machines have also made their way into standard Rx production, leading to higher productivity and quality of virtually all lenses surfaced today.

The next step has been SCHNEIDER's Modulo Line, the large industrial production system with its unique combination of high level intelligence and plug-and-play simplicity. Following a self-organizing philosophy, the cognitive machines manage the production flow all by themselves – fully self-sufficient and with the highest level of equipment utilization.

For the small and mid-sized lab, SCHNEIDER extends the Modulo offer with the Modulo Centers. The same idea but different, they combine everything needed to surface a lens in one highly integrated ready-made machine.

All-in-one Surfacing Center



4
processes



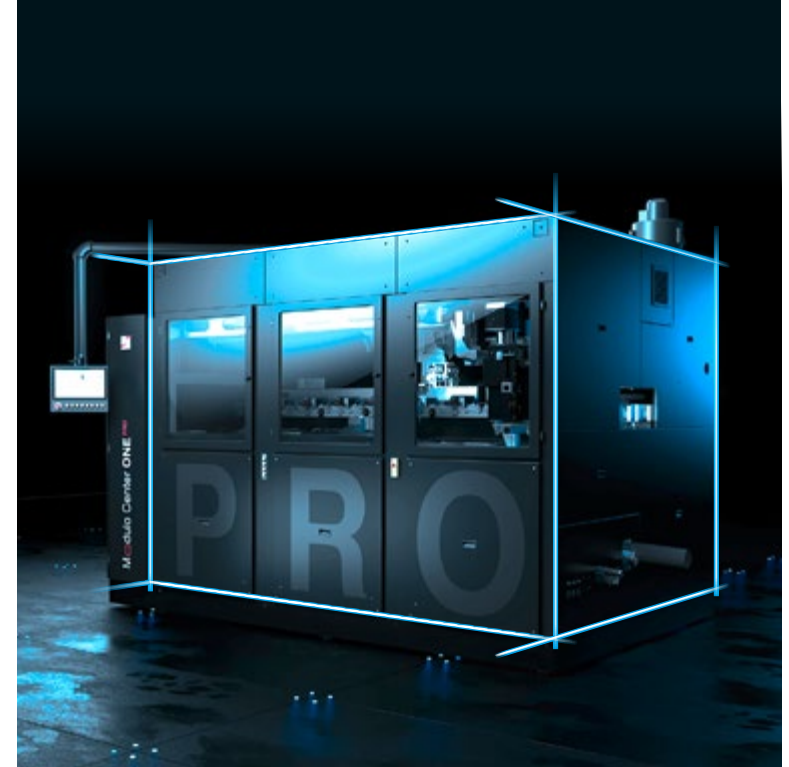
up to 120
lenses



in 1
hour



92
sq. ft.



Modulo Center ONE^{PRO}

Modulo Center ONE just went Pro. We've taken our proven all-in-one concept – installed in labs worldwide – to the next level.

With a throughput of up to 120 lenses per hour – a 40% increase in productivity – Modulo Center ONE Pro delivers exceptional production power in a remarkably compact footprint.

In just 92 sq. ft. (8.5 m²), it combines the capabilities of a full production line: **a milling station, lathe turning station, two four-spindle polishing units, and your choice of laser technologies – CO₂ laser and optionally a DPSS or excimer laser.** Everything is fully integrated, running simultaneously and perfectly synchronized for maximum efficiency. There is no faster way to surface a lens.

And it's not just for labs where space is limited. For high-volume operations, the equation is equally compelling: High output. Exceptional flexibility. Low cost per lens. Maximum productivity from every square foot.

Blanks in. Surfaced lenses out. With all essential components on board and processes fully automated, little to no operator intervention is required.

Easy on space. Big on output. Serious production power.

All-in-one, taken further

When we first envisioned an all-in-one surfacing center, we set out to find a solution for the challenges labs were facing: rising costs, growing price sensitivity, and increasingly expensive labor and floor space.

Our answer: The Modulo Centers. We brought all surfacing processes close together, reduced conveyor automation, and cut redundant components. We condensed proven technology into the smallest footprint possible. The result: more output per square foot, lower cost per lens, and maximum uptime. A success in labs around the world.

Now, we doubled down on everything that made Modulo Center ONE successful – and took it to the next level: introducing Modulo Center ONE Pro.

The center is virtually 4 machines in ONE: a generator, two four-spindle polishers and up to two lasers. Even washing and drying after polishing are integrated.

The individual stations are positioned very close together and linked by an internal conveyor. High-speed handling systems swiftly transfer the lenses.

Milling and lathe turning – The two processes are fully decoupled, operating autonomously in separate, vibration-isolated stations. This allows the center to run both processes in parallel, significantly streamlining overall production time.

An ultra-fast workpiece changer transfers lenses from milling to lathe turning in a very short time – minimizing chip to chip times and keeping both processes running virtually uninterrupted.

The milling station combines an extra-robust, high-performance milling spindle with proven milling algorithms for powerful and fast machining, maximum process stability, and uptime.

At the lathe turning station, the proven, powerful XS-Tec motor supports twin-tool operation with a dual-diamond-concept (R2 and R5) for greater flexibility and processing efficiency. The larger radius enables faster stock removal and shorter process times, while the smaller radius handles challenging geometries and steep curvatures.

opt. optional



Polishing – The center features two fully independent four-spindle polishing units plus a dedicated cleaning and drying station afterwards. Two separate handling systems with four-finger grippers ensure fast transfer without contaminating the lenses.

The intelligent production logic keeps time-consuming complex jobs from slowing down overall production. Smart bypassing automatically routes each lens to the next available polishing station, balancing variations in polishing time due to material or job complexity.

Labs can choose between one- or two-step polishing, depending on their requirements. Just a single pad covers the full range, eliminating tool changes and saving time. Long pad lifetime ensures uninterrupted polishing throughout the shift.

Laser marking – Labs can customize the laser setup to match their individual needs. They can both choose the laser technology and specify the process setup with one or two lasers.

The CO₂ laser is a proven, reliable, and highly cost-effective technology for marking before polishing. If markings after polishing are required, labs can select between DPSS or excimer technology. The gas-free DPSS laser is a versatile all-rounder, combining excellent marking quality with high efficiency and low running costs. For applications requiring exceptional marking quality, the excimer laser is a premium alternative.

A typical setup might combine a CO₂ laser for job-number engravings before polishing, with a DPSS or excimer laser for semi-visible and brand markings afterward.

The Modulo advantage

Modulo Center ONE comes with its dedicated Control Center (MES) providing real time information about the current status, production parameters, and efficiency. It also includes tool wear statistics, errors and alarms, as well as maintenance information.

Benefits
Fully automated all-in-one surfacing center
All the technology to surface 120 l/h
Highest throughput per sq. ft.
Full surfacing capability for all curves and materials
Proven and reliable components
Fully automated tool and lens handling
Dedicated Control Center (MES)
CO ₂ , Excimer and DPSS laser option



Add ZERO to create an alloy-free super cell

Combine Modulo Center ONE Pro with CCU Modulo ZERO, our alloy-free hybrid linking technology.

Modulo ZERO offers the advantages of alloy blocking – without the alloy. It combines vacuum-based fixation with a unique support that adapts precisely to each individual lens geometry.

No tape, no blocking medium, no cool-down time, no waste. Just outstanding cost-effectiveness.

It cuts multiple conventional processes and workflows and become more ecological at the same time.



technical data	
lens diameter	up to ø 90 mm
clamping system	block ø 43 mm
lens material	CR39, Hi-index, Polycarbonate, Trivex®
curve range	concave 0 – 18 diopters
power consumption	5.4 kVA avg.
air requirement	6 bar (87 psi)
weight machine	approx. 6500 kg (14330 lb.)
dimensions without control panel (width x depth x height)	approx. 3560 x 2402 x 2452 mm (140 x 95 x 97 inches)

All data subject to change without notice. Please verify details with SCHNEIDER.



SCHNEIDER

We are one of the world's leading suppliers of processing solutions to the ophthalmic and (ultra-)precision optical industry. Founded in 1986 our company is known as the pioneer of freeform and setting the pace. We are distinctive for our development of new technologies and swift translation of technological concepts into customer-oriented innovations. Our success stems from the creativity, commitment and enthusiasm of our highly qualified team.

With our locations in Germany, the US, Brazil, China, Thailand, India, and Hungary we support our customers at any time – worldwide, with Fascination for Innovation.

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