

m^odule
ONE

Generating

HSC m^odule ONE

VIRTUALLY THE POWER OF TWO GENERATORS IN ONE



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 freeform idea. Individual freeform lenses are now the top product in the market, and SCHNEIDER has grown to be the premier equipment manufacturer 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 is a highly integrated system solution: SCHNEIDER's Modulo Line.

Following a new self-organizing philosophy, the cognitive machines manage the production flow all by themselves – fully self-sufficient. The result is an unprecedented level of equipment utilization and unmatched throughput. Designed for utmost flexibility, the unique arrangement and plug-and-play connection allows adding new modules in any order, with minimal disruption.

The Modulo Control Center interacts with the intelligent machines and provides centralized production control. At a glance, the smart dashboard presents all the key information and functions to run the lab at highest efficiency. Significant cost and time savings as well as maximum equipment utilization are guaranteed.



Drastic throughput increase
The new kinematic concept and powerful process technology boost throughput by 50% or more.



Lowest cost per lens
Significant savings in investment cost and space along with the increased throughput offer a cost per lens at an all time low.



Highest uptime
Optimized for easiest access of all crucial parts, the upkeep and maintenance can be carried out in no time.

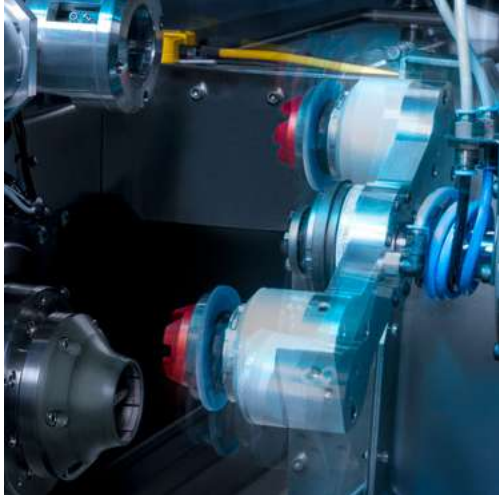


HSC modulo ONE

From the freeform pioneers comes a new one-of-a-kind generator that excels on every level. With an added performance of more than 50%, HSC Modulo ONE is not just a little bit better but a revolution. It is virtually the power of two generators in ONE and forms the very heart of the Power Lab of the Next Decade – Modulo ONE.

What makes HSC Modulo ONE so exceptionally fast? It is built on a brand new kinematic concept facilitating even faster process times. The high-performance generator relies on the proven two-motor concept featuring the most powerful XS-Tec motor for maximum dynamics and highest quality. The proven RS-Tec motor is known for its high robustness and provides added versatility. A new ultra-fast workpiece changer transfers the lenses and facilitates shortest chip to chip times. The result is insane generating speed and performance at the same great lens quality you know from SCHNEIDER generators.

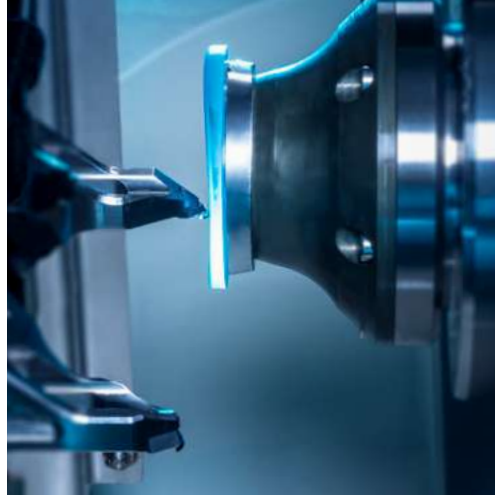
Ultimately, HSC Modulo ONE provides significantly increased throughput in an even smaller footprint than before. Get the power of two generators in ONE.



The high-speed workpiece changer paves the way for shortest chip to chip times.



The high-performance milling spindle and smart algorithms guarantee ultra-fast stock removal.



The versatile two-motor concept offers the very best individual processing combinations.

The power of two in ONE

Where there used to be two machines, there is now just one. Labs save an entire machine, the automation and peripheral equipment to go with it. The result is a smaller investment in a reduced space at almost the same throughput. Ultimately, labs benefit from very low cost per lens.

Entirely different kinematic concept

Since SCHNEIDER premiered the freeform technology, the HSC+G kinematics have been the state-of-the-art in high speed cutting.

HSC Modulo ONE now breaks with the proven logic. It is the first generator that is based on an entirely new kinematic concept. It combines the two key machining elements – milling and lathe turning – in a way that they perfectly complement each other without negative effects.

Just the very best in HSC generating

HSC Modulo ONE features the best of the best components in SCHNEIDER high-speed generating.

HSC Modulo ONE is built on an especially stiff structure that allows for highest speed processing and provides utmost process stability.

High-performance milling – The extra robust milling spindle and proven milling algorithms take care of the heavy lifting, removing the largest part of the stock at utmost force and highest rpm. The oil-mist lubricated spindle has been designed for extra longevity.

Proven two-motor concept – HSC Modulo ONE is equipped with the highly dynamic and versatile two-motor concept. The powerful XS-Tec motor is known for its exceptional acceleration of up to 40 times the gravitational speed. It supports single-tool as well as twin-tool operation. The proven and robust RS-Tec motor complements the XS-Tec motor with the proven and robust RS-Tec motor ideally.

Ultimately, this setup allows labs to select the perfect individual combination of milling and turning processes and ideally meets the conditions to surface even extra strong curvatures.

Labs benefit from super-fast but highly accurate movements that provide the highest surface smoothness. The result is exceptional lens quality.

Effective swarf management – For the first time, fumes are directly extracted at the point of origin. The swarf is contained in the encapsulated chamber and managed effectively to keep the machine clean and operational.

High-speed workpiece changer – The lenses are transferred at highest speed with the new workpiece changer. It drastically reduces the time in between processing steps and provides the shortest chip to chip times.

Easiest upkeep and maintenance

HSC Modulo ONE has been designed based on the input of the SCHNEIDER service experts to guarantee easiest upkeep and maintenance. The result is most convenient access to all the essential components for minimum downtime.

Visual image-based machine diagnosis

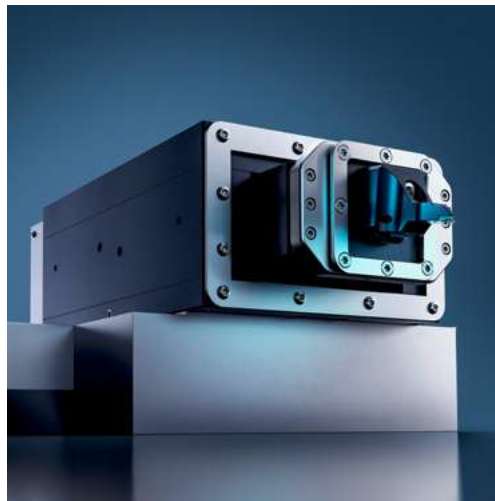
HSC Modulo ONE is the first machine featuring 3D-visualizations for highly intuitive and interactive operation. Ideal diagnostic options for trouble shooting.

The Modulo advantage

HSC Modulo ONE comes with an on-board global interface philosophy that allows connection to the Modulo system. Once connected to the Modulo system, the machine works as an integral part of this one-of-a-kind solution and is subject to the centralized monitoring Control Center. The lab manager is fully informed about the current status of the machine. Therefore, critical situations and downtime can be avoided before they arise. Higher uptimes and increased yields are assured.

Benefits

- Significantly higher throughput (50%+)
- Drastic savings in investment and space
- Lowest cost per lens
- Superior design replication
- Unsurpassed surface roughness
- Effective swarf management
- Easy upkeep and maintenance
- Supports the cognitive Modulo machine philosophy



The super dynamic XS-Tec motor sets the benchmark for ultra-fast turning.



technical data

lens diameter	up to ø 96 mm
clamping system	block ø 43 mm
material	CR39, Hi-index, Polycarbonate, Trivex®
curve range	concave 0 – 14 (extendable to 30) diopters convex 0 – 30 diopters
power consumption	12 kVA avg.
air requirement	6 bar (87 psi)
weight machine	approx. 3099 kg (6832 lb.)
dimensions without control panel (width x depth x height)	approx. 1685 x 2150 x 1993 mm (67 x 85 x 79 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 and Thailand we support our customers at any time – worldwide, with fascination for innovation.

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