



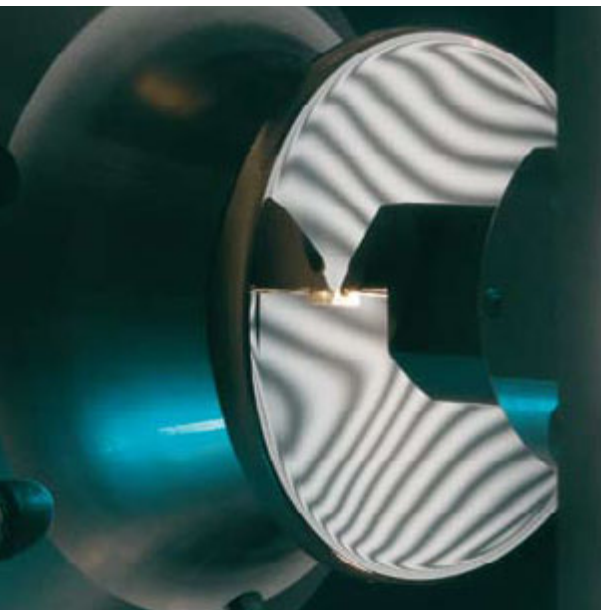
NEW
Version 2008

HSC master

The ultimate generator



Fascination for Innovation



High-Speed Cutting by SCHNEIDER

High-speed cutting (HSC) has been a continued success story in the ophthalmic industry for more than 10 years. The HSC technology gave rise to new production concepts which are now found everywhere in the world of ophthalmics from large corporations to small family-owned labs.

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

Now, you can gain the benefits of SCHNEIDER's time-tested HSC technology with a new innovative generator. Designed from the outset as "The Solution" for small and mid-sized labs, it offers a full range of capabilities for Rx and freeform production.

With unmatched quality, highest throughput, and industrial robustness, the HSC master sets the standard by which all freeform and Rx generators must be measured.

Introducing the HSC master

Have it all.

Today's diverse lens materials and different production environments demand a configurable generator capable of performing all processing needs. Addressing this challenge with industry-leading development and feedback from our valued customers resulted in the creation of the HSC Master – an unmatched combination of high-end technology and industrial strength. Whether excellent quality, high productivity, superior robustness or all three are required, the HSC Master will meet your needs. The surfacing motors utilize high-performance controllers enabling maximum communication speed and the highest resolution of data. What you get with our controllers is the most precise algorithmic translation of information to process any and all unique freeform and Rx lens designs! The motors are mounted on our proven inclined machine bed with vertical chip flow for easy swarf removal – perfect for polycarbonate processing.



Built for your lab.

Unique for an industrial generator, the fine turning process of the HSC Master can be equipped with one or two different motors. The option of a RS-Tec and/or an

US-Tec motor gives you the freedom to determine the performance level according to your competitive requirements.

The powerful RS-Tec motor enables high single-run stock removals up to 10 mm. Especially for strong curvatures, the RS-Tec can completely replace the milling step while keeping throughput up. The linear motor runs on high-precision guides and supports single-tool and twin-tool operation.

The alternative US-Tec motor can be used when ultimate surface quality is required. The previously unseen dynamics of the ultra-speed contour controller make this machine really fast and precise. Ultra-precise linear slides translate the motor motion into very accurate tool movement resulting in ultra-smooth surfaces.

The unique Real-time Performance Optimization feature analyses every new lens description and optimizes the cutting behaviour on the fly. The technology offers more throughput, more quality, or a mixture of both.

By combining the high stock removal rate of the RS-Tec motor and the extreme precision of the US-Tec motor, your lab can tackle even sophisticated geometries and materials at highest throughput. Regardless of which motor configuration you decide on, the excellent quality of the generated lens surface will result in a short polishing time. A big time savings!

And the optional on-board Laser Marking Unit adds precise high-quality markings right in the generator resulting in value-added lenses.

Keep it running.

To make unmatched productivity work for you, the HSC Master has to keep on running – nonstop. We have designed the HSC master with this goal in mind!

The generated swarf is contained within the encapsulated milling chamber leading to controlled swarf channeling and a clean workspace.

The processing of each lens is monitored by the new Feed Control System which swiftly adapts to any workload changes. This

technology minimizes machine breaks due to out-of-tolerance lens blanks.

Also unique is the Power Safety System which reacts within microseconds in the case of unexpected power failures eliminating the risk of machine damage.



SCHNEIDER kinematics HSC+G

Extremely fast, high-volume rough generating is the foundation for high-quality HSC processing – specially suited for polycarbonate.

With our experience of hundreds of HSC generators, running in the field, all relevant components and tools have been arranged for easy tool servicing and access.

The unparalleled performance of the HSC Master makes this generator the only choice for ambitious Rx and freeform production labs. Built on the most advanced and broadest expertise of direct-surfacing generators, the HSC Master will remain the best news in surfacing for years to come.

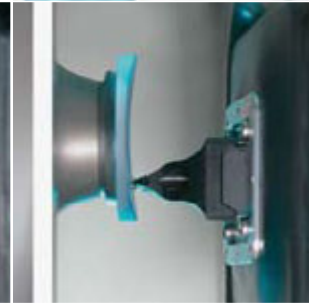
Benefits

- Premium quality with previously unseen throughput
- Best freeform surfaces
- Supports adaptive tool polishing
- Full surfacing capability for all lab configurations
- Full flexibility for all curves and materials
- Fast processing of PC and advanced materials
- Easy swarf removal
- Rugged industrial design
- Low cost of ownership



Automation

An extremely fast loading process ensures maximum productivity.



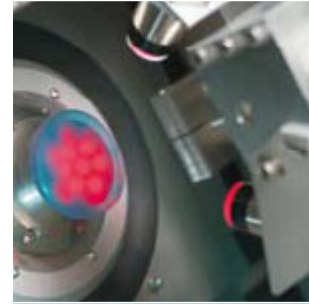
Tool system

The intelligent tool system allows quick and precise change of natural diamonds, new-generation PCDs and high-performance milling tools.



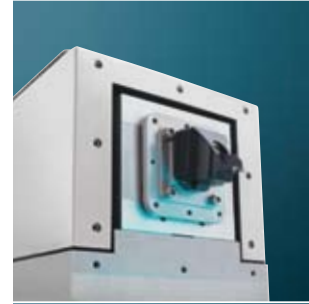
Swarf under control

A fully capsulated milling area channels the swarf drain and keeps the workspace clean.



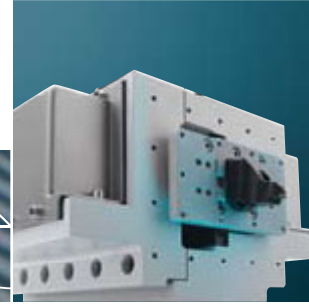
Auto Tool Detection

A reliable non-tactile optical system for precise auto tool adjustments.



US-Tec motor

Unique ultra-speed motor for ultimate surface quality.



RS-Tec motor

Powerful, highly dynamic motor for maximum stock removal.



technical data

lens diameter	up to \varnothing 92 mm
clamping system	block \varnothing 43 mm
material	CR39, Hi-index, Polycarbonate, Trivex®
curve range	concave 0 – 14 (extendable to 30) diopters convex 0 – 30 diopters
controller	32-bit High Performance CNC-controller in double-processor technique
power requirement	10 kW max.
air requirement	6 bar (90 psi) min.
weight machine	1530 kg (3,373 lb.)
machine with automation	1680 kg (3,701 lb.)
dimensions (w x d x h) machine	1160 x 2220 x 2050 mm (46 x 88 x 81 inches)
machine with automation	1532 x 2220 x 2050 mm (61 x 88 x 81 inches)



The HSC master is another module of the SCHNEIDER iRx concept.



Feed Control System



Laser Marking Unit



Real-Time Performance Optimization



Power Safety System



Auto Tool Detection

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