

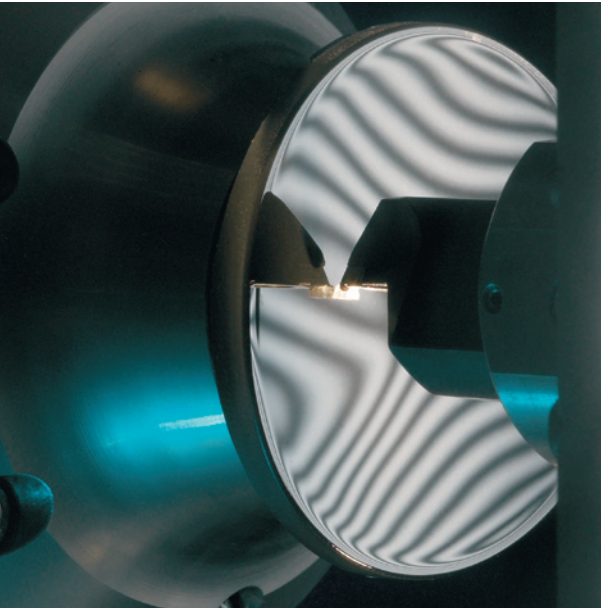


# HSC giant FF

First in productivity



Fascination for Innovation



## Introducing the HSC giant FF

### Running freeform full speed.

The freeform generator HSC giant FF has been specifically developed for modern labs which have a need for maximum throughput and minimum cost of ownership. The new machine design enables the simultaneous processing of two Rx or freeform lenses at incredible speed without compromising quality – even for highest standards.

At the heart of the HSC, the proprietary CS-tec motor guarantees smooth running and high stability during the lens processing. The small surface roughness of the lenses makes them perfectly prepared for polishing with adaptive tool technology for Rx and freeform lenses. The high-performance loading system optimally coordinates machine processes with up to three lenses at a time. State-of-the-art controls and high-performance processors

## High-Speed Cutting by SCHNEIDER

High-speed cutting (HSC) has been a continued success story in the ophthalmic industry. More than 10 years ago, the HSC technology gave rise to new production concepts now found everywhere in the ophthalmic world – from the big corporations to small family-owned labs.

SCHNEIDER had the vision to make individual lenses based on freely definable mathematical descriptions. And, it has been Schneider's HSC products which have become the tools to develop the revolutionary freeform idea in the ophthalmic industry. Individual freeform lenses are now the top product of the optical industry. And SCHNEIDER has grown to be the premier manufacturer of freeform equipment worldwide.

The innovative HSC designs of SCHNEIDER makes its way also into standard Rx production, leading to higher quality and productivity of virtually all lenses surfaced today.

Doubling the productivity of Rx and freeform production on a given footprint – this seemingly impossible goal has now been realized in the evolution of the most successful HSC generator line.



*The HSC giant FF is another module for the SCHNEIDER iRx concept.*



*Laser Marking Unit*



*Auto Tool Detection*



*Power Safety System*

work with highest resolution to drive the synchronous actions, resulting in very precise manufacturing of the surface descriptions.

The HSC giant FF brings freeform production to a new level of productivity. Industrial high-volume freeform lens production has arrived.

**Two independent workspaces.**

The innovative machine design of the HSC giant FF is the solution to one of the most critical challenges of today's high-powered multi-tasking generators – the control of cross vibrations between simultaneously running processes.

The new machine design with two decoupled workspaces in conjunction with specially developed damping controls allows reaching sub-micron accuracy during the fine turning process of a lens while the milling unit already cuts the next lens with full power.

An optional on-board laser unit writes the alignment marks and product identification onto the lens right after turning. This results in a very affordable solution that guarantees very fast marking and best accuracy without the need for an external marking unit.

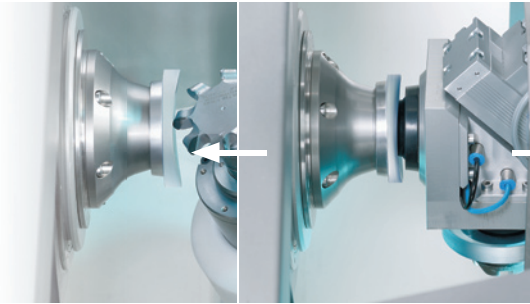
**Rugged design. High reliability.**

What used to be strong in current HSC generators has been made even stronger to handle the incredible throughput of the HSC giant FF.

The extremely stiff, inclined machine base has been specifically optimized for the simultaneous processing of two lenses. And this holds true of the other components as well: Stability and durability have been the design premise of the guidance system and the high-performance spindles.

SCHNEIDER's special vertical chip flow and upside-down configuration guarantees that the huge amount of swarf goes straight down into the drainage, supporting continuous processing of polycarbonate and other long-swarf materials.

The optional Auto Tool Detection uses a reliable non-tactile optical measurement system for precise Auto Tool Adjustments. Also an add-on, the Power Safety System reacts within micro seconds in the case of unexpected power failures eliminating the risk of machine damage.



**Lowest cost of ownership**

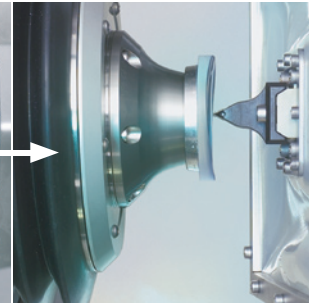
The efficient combination of the processing steps – rough generating, high-speed cutting, and automation – results in an unprecedented productivity of the HSC giant FF. Where several generators were needed in the past, now a single HSC giant FF gets the same Rx and freeform performance at significant lower cost.

**Benefits**

- Two lenses in the time of one
- Unsurpassed productivity for Rx and freeform
- Highest quality and form accuracy
- Supports adaptive-tool polishing
- Fast processing of polycarbonate and advanced materials
- Robust industrial design
- On-board laser marking
- Power Safety System
- Auto Tool Detection
- Easy access for fast tool change
- Highest throughput/footprint ratio
- Lowest cost of ownership
- Seamless integration into the SCHNEIDER iRx system



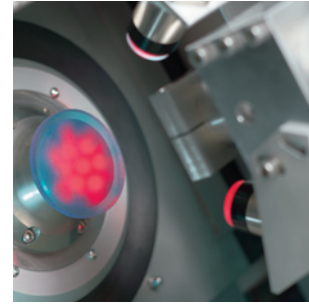
**Twin-Tool**  
Greater flexibility in the tool management for optimal fit to surface geometries and materials.



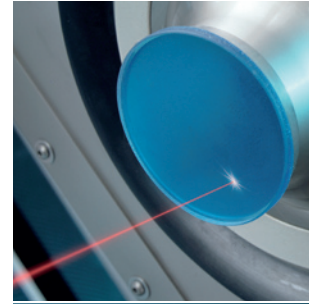
**SCHNEIDER kinematics HSC+G**  
Extremely fast, high-volume rough generating as the basis for high-quality HSC processing – specially suited for polycarbonate.



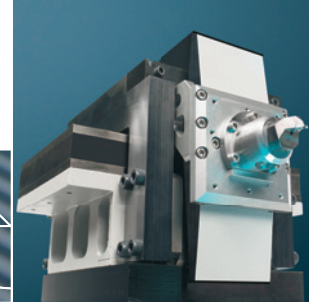
**Automation**  
An extremely fast loading process ensures the parallel operation of the rough cutting generator and HSC fine processing.



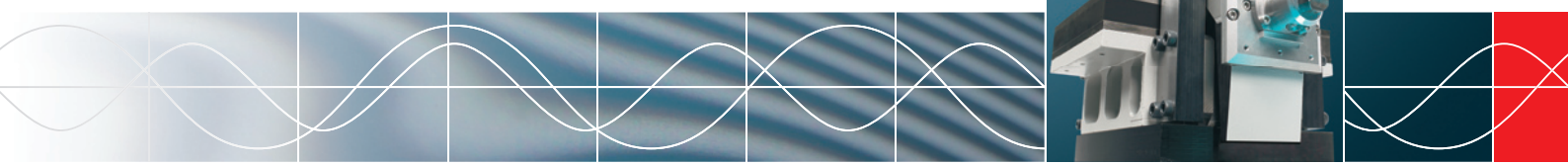
**Auto Tool Detection**  
Reliable non-tactile optical system for precise Auto Tool Adjustments saving valuable operator time.



**Laser marking**  
On-board laser marking results in higher accuracy and lower costs.



**CS-Tec motor**  
A highly dynamic, very reliable motor for perfect results.





#### 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(30) diopters convex 0 – 30 diopters
controller	32-bit High Performance CNC-controller in double-processor technique
power requirement	18 kW max.
air requirement	5 bar (75 psi) min.
weight machine with automation	2400 kg (5,280 lb.)
dimensions (w x d x h) machine with automation	1510 x 2150 x 2000 mm (59 x 85 x 79 inches)

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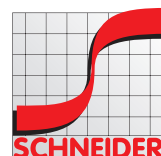
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