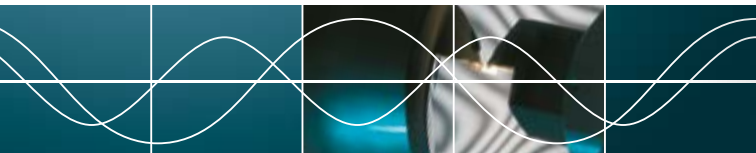




# UPC 100 Vision

Complex surfaces with high-end surface



Fascination for Innovation



## Introducing the UPC 100 Vision

The fully featured **UPC 100 Vision** is designed to meet the highest quality needs. It provides extraordinary accuracy and extremely low surface roughness, making the **UPC 100 Vision** the ideal choice for producing challenging applications.

Mold inserts with surface roughness values in the 1-2 nm range, highly complex individualized contact lenses or sophisticated hydrophilic and hydrophobic IOLs are easily manufactured.

Even IOL designs using diffractive elements that require little or no polishing can be produced.

## SCHNEIDER –Contact lens and IOL manufacturing

SCHNEIDER is a leading supplier of processing solutions to the ophthalmic and precision-optical industry.

Known as the pioneer of freeform technology, SCHNEIDER has an installed base of more than 1500 highly dynamic single-point diamond turning machines.

Using this experience, SCHNEIDER creates faster and more efficient solutions specifically designed for freeform manufacturing, merging highest surface accuracy and quality with unprecedented productivity.

The highly modular platform machines feature a very rigid machine base, innovative drive technology and unique data handling capabilities for manufacturing of most sophisticated contact lenses and IOL.



Contact lenses



Intraocular lenses



Mold inserts



### Solid design, great performance

On top of a rigid granite base the **UPC 100 Vision** combines hydrostatic linear guides and aerostatic spindle technology. Unlike most existing machines in the market, the **UPC 100 Vision** was developed from scratch for the highest dynamic machining. Its perpendicular arrangement of fast tool axis and X-axis allows for direct coupling of dynamic forces into the super rigid hydrostatic guiding. This arrangement offers the best conditions for dealing with dynamic impulses and leads to both superior form accuracy and significantly minimized vibrational effects.

Its hydrostatic guidings guarantee the best damping capabilities and maximum stiffness. This serves as the perfect foundation for delivering outstanding surface quality while achieving the highest processing speed.

Compared to conventional primary-secondary setups using an auxiliary fast tool axis and separate secondary controller, the **UPC 100 Vision** uses just one single main controller to drive the entire machine, including the optional fast tool. The smart architecture is fully taken into account in the core design of the hardware, software, feedback control, and safety systems. Faster communication speeds and enhanced functionality, such as full override function for touching off on freeform molds or lenses at reduced processing speed, are among the many benefits. The fast tool can process a wide range of custom-fit freeform geometries like scleral, orthokeratology, toric, or any lens to correct high order aberration at a great pace.

### Best throughput, highest productivity

The **UPC 100 Vision** utilizes a unique motion control system which combines an industry proven PC-based control with highest clock rate digital drives for all axes. With clock rates of up to 100kHz the controls are multiple times faster than today's standard. This leads to a minimum of control deviation and following errors, facilitating improved high frequency damping abilities not only of the hydrostatic guiding system but also of the regulation system itself. The result is low axis vibration of +/-1nm and ultimately

the lowest surface roughness values. Post-polishing can be markedly reduced or even eliminated entirely.

### Semi-automated tool adjustment with NC-accuracy

The **UPC 100 Vision's** special machine design in conjunction with the integrated fast tool allows for adjusting the tools in X, Y and Z direction with encoder resolution by using the NC machine axes. Tool adjustments can be done much faster and more reliably. Time-consuming readjustments are a thing of the past as the position remains stable over time. Highest stiffness from tool tip to machine bed for lowest vibration is a given – especially for highly dynamic machining. A total of three tools only mounted on the fast tool is all that is needed for concave and convex machining. Additional tools can be added as required.

### Highest safety standards

All SCHNEIDER UPC machines comply with the strictest international safety standards. The **UPC 100 Vision** is fully encapsulated, protecting the operator in case of workpiece losses. Functionally safe encoders, RFID encoded interlocks and automated speed reductions during open door activities guarantee maximum safety for the machine operator. In addition, the full enclosure effectively reduces noise and dust emission to preserve a clean working environment.

### Benefits

- Highest throughput
- Excellent, polish-free surface finish
- Most modern control and drive technology
- High flexibility in application and process setup
- Graphical user interface for highest ease of use
- Fully enclosed design meets strictest safety standards in the market
- Granite base for superior thermal stability
- Optional fast tool for non-spherical lenses and maximum flexibility
- Optional high-precision optical measurement system
- Optional automation for non-stop processing



The **UPC 100 Vision** is based on a unique modular platform design allowing the integration of additional features.

The machine is already prepared and ready for high volume throughput requirements. It can be either integrated with an optional automation or connected to existing automation systems for non-stop automated processing of larger batches without operator intervention.

An optional high-precision full area optical freeform measurement system evaluates the entire lens surface.

Option set





technical data	
tool setup	multiple tool setups
axis	3 + optional fast tool
travel X	250 mm
travel Z	150 mm
spindle	airbearing spindle (10.000 rpm)
vibration isolation	air springs
controller	64-bit Windows 10 based
machine weight	approx. 1600 kg (3528 lb.)
dimensions (w x d x h)	approx. 1870 x 910 x 1873 mm (74 x 36 x 74 inches)

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

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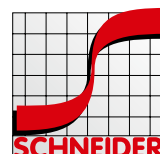
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