



Hybrid Linking



CCU module ZERO

THE ADVANTAGES OF ALLOY - WITHOUT THE ALLOY



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.



ZERO alloy

ZERO offers an ecological alternative to alloy blocking - while preserving its fundamental advantage: solid, reliable support.



ZERO hassle

No tape. No blocking medium. No cool-down time. No waste. Less processes. Just outstanding cost-effectiveness.



High throughput

ZERO replaces multiple conventional process steps, drastically cutting cycle times, and working very fast. One unit runs a full surfacing line.



ZERO fits your lab

ZERO integrates with existing equipment and preserves your investments. It offers a gradual transition to alloy-free.



CCU modulo ZERO

For years, the industry has debated blockless production. We explored it years ago, but weren't satisfied. Because blockless sounds great until physics shows up. It was missing the stability quality demands, the flexibility range requires, and the speed industrial production needs. Too many limitations. Not what you'd expect from us.

So we went back to the drawing board and created something fundamentally different: Alloy-free but not support-less.

Our Hybrid Linking Technology combines vacuum fixation with a unique adaptable support that perfectly follows the lens' individual geometry – replacing multiple conventional process steps. No tape. No blocking medium. No cool-down time. No waste. Just outstanding cost-effectiveness.

And yes, CCU Modulo ZERO integrates with existing equipment – it fits the lab you already have. Your gradual transition to alloy-free.

Stop blocking. Start linking.
ZERO Excuses.



The unique, reusable ZERO bases perfectly follow the lenses' individual geometry and provide the physical support required.

Not blockless. Deliberately.

During high-speed surfacing, lenses are exposed to substantial cutting forces, vibration, acceleration and polishing pressure. Vacuum can hold the lens - but retention alone is not enough.

What is missing is adaptable support:

- _ The support required for quality
- _ The flexibility required for range
- _ The stability required for industrial speed

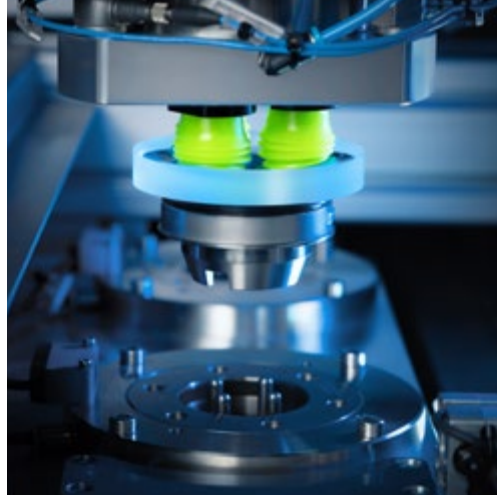
That is why ZERO deliberately retains physical support. It is not a compromise. It is engineering.

CCU Modulo ZERO combines both essentials in one: vacuum securely fixes the lens in position, while the adaptable base provides the physical support it needs throughout processing.

The process starts by positioning the lens. The smart adaptable support automatically conforms to the lens' geometry and is locked into shape before vacuum securely fixes it in place. In less than a minute, the lens is linked and ready for surfacing.

Once established, the connection remains intact throughout generating, polishing and laser marking. No releasing. No re-fixing. No re-referencing. The lens remains securely connected start to finish - for a clean, consistent and uninterrupted process.

At the end, the vacuum is simply released and the base returns to the cycle, ready for the next lens.



Combining vacuum fixation with an adaptable support, ZERO replaces multiple conventional process steps.

The support required for quality

The adaptable ZERO base provides support across the entire contact surface. This full support makes all the difference - especially under the high local stresses of milling and diamond turning.

Machining forces are effectively distributed, minimizing deformation and creating the stable foundation required for consistently accurate surfacing and uncompromised optical quality.

The range a lab needs - with just three bases

Modern labs need the flexibility to process the broad variety of lens geometries entering production everyday. ZERO delivers exactly that.

Just three standardized base variants accommodate an exceptionally broad application range. Their innovative design conforms precisely to each lens' individual geometry, delivering the flexibility labs are accustomed to from alloy blocking - with simple logistics and minimal base inventory.

The speed required for industrial production

ZERO eliminates the time-consuming steps in conventional blocking: no taping, no blocking medium, no thermal processes.

No tape required. The base's smooth membrane creates a gentle, protective interface with the lens surface that physically supports it without damaging it.



Lenses are linked in under a minute, immediately ready for surfacing, and separated in seconds afterwards.

Linking itself is exceptionally fast. With no blocking medium to dispense and no heating, curing or cooling required, the lens is linked in under a minute. And at the end, separation is instantaneous.

No time-consuming deblocking. No tape stripping. The result is drastically reduced non-productive time, less work in process and a significantly shorter overall production flow.

ZERO eliminates and streamlines

ZERO eliminates entire process steps - along with the equipment, consumables and handling associated with them. The result is a significantly simplified production flow with fewer machines, fewer handling steps and no blocking-related waste.



Upgrade the process. Keep the lab.

Moving to a new technology shouldn't mean rebuilding the lab. ZERO integrates seamlessly into existing production environments, allowing labs to continue using their existing equipment, such as e.g. generators, polishers, but also automation and established production expertise. It changes the linking process without requiring an entirely surfacing architecture or production philosophy.

Existing equipment stays productive. Existing expertise stays relevant. Existing investments stay protected.

Grow into ZERO. At your own pace.

There is no need to change everything at once. Labs can switch completely to ZERO, run ZERO alongside alloy, or gradually replace conventional blocking capacity as production requirements evolve. This provides full flexibility.

Benefits

- No tape. No alloy. No cooling time.
- Extremely fast linking
- Ideal support throughout surfacing
- Exceptionally broad application range
- Reusable, adaptable support base
- No consumables and waste
- Easy integration into existing production
- Extremely small footprint
- Gradual implementation
- Ideal combination with Modulo Center ONE Pro

Combined with Modulo Center ONE Pro, ZERO creates a particularly compact and highly productive surfacing cell that offers great throughput.



technical data

lens diameter	up to ø 80 mm
clamping system	block ø 43 mm, all standard sizes
lens material	all organic and mineral lens materials
blocking material	vacuum
blocking diameter	all typic sizes
blocking height	11.5 mm
curve range	concave 0 – 18 diopters

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, Hungary and Thailand and India we support our customers at any time – worldwide, with fascination for innovation.

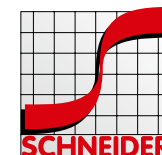
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