modulo ONE

Warehousing

AWS modulo ONE

FULLY-AUTOMATED WAREHOUSING SYSTEM

SCHNEIDER

Fascination for Innovation

Modulo Line

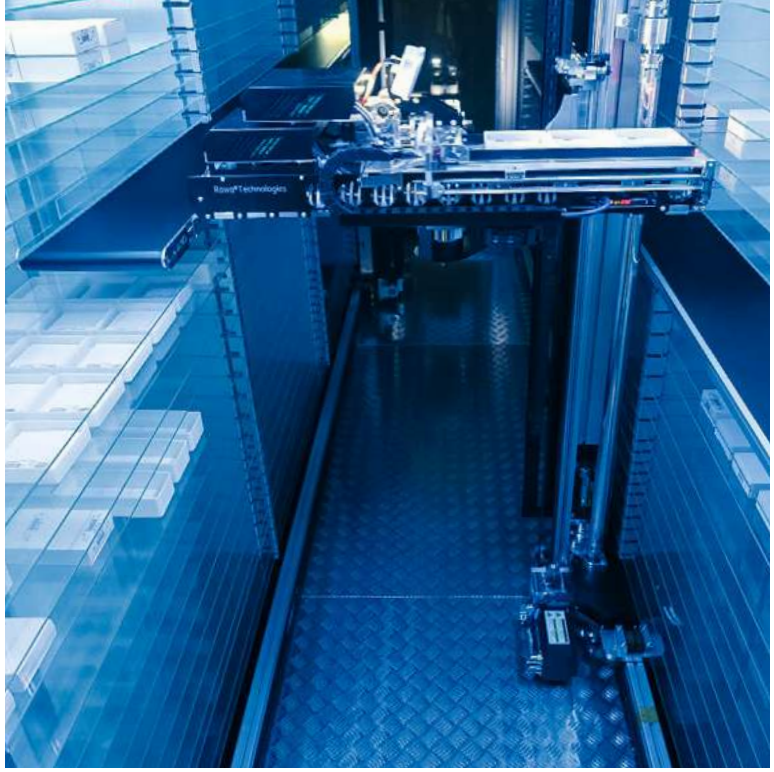
SCHNEIDER had the vision to manufacture individual lenses based on freely definable mathematical descriptions.

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.



Freely configurable
The system can be customized and scaled to the lab's needs based on a number of options.

Highest efficiency
Smart automation facilitates fast picking, 24/7, at highest packing density for smallest footprint.

Highly reliable system
Running constantly with little to no human intervention. RFID technology prevents errors in picking.

One holistic system
Fully automated, perfectly adapted and seamlessly integrated with the Modulo system.

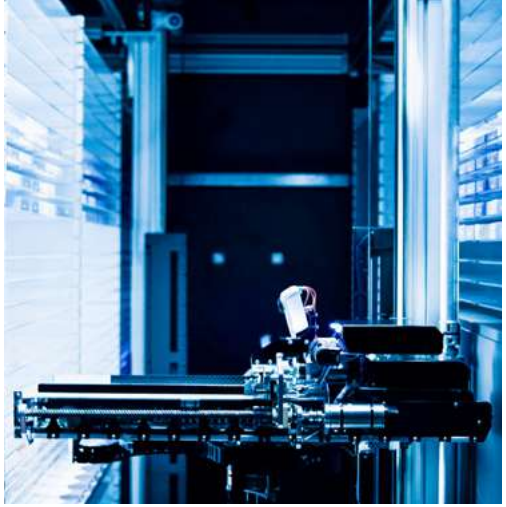
AWS modulo ONE

With AWS Modulo ONE, the one-of-a-kind Modulo system is extended by a fully-automated warehouse system for highly efficient and space saving storage and retrieval. Labs now benefit from full automation all the way from warehousing to surfacing, cleaning, coating and edging – all in one fully integrated system from a single supplier.

AWS Modulo ONE intelligently automates everyday production logistics. It reliably stores and picks semi-finished or finished lenses, frames and more, directly into the job tray. Thanks to the small footprint, fast automation, and 24/7 availability, warehousing is effectively streamlined and efficiency is increased significantly. Manual handling is reduced to a minimum, preventing human error.

AWS Modulo ONE is freely configurable and can be customized specifically to meet a lab's facility layout, capacity and throughput. Entirely scalable, it is fit to reflect future demands. Built-in redundancy guarantees there is no single point of failure. RFID technology assures unmistakable identification in job handling.

Take another step towards all-in automation.



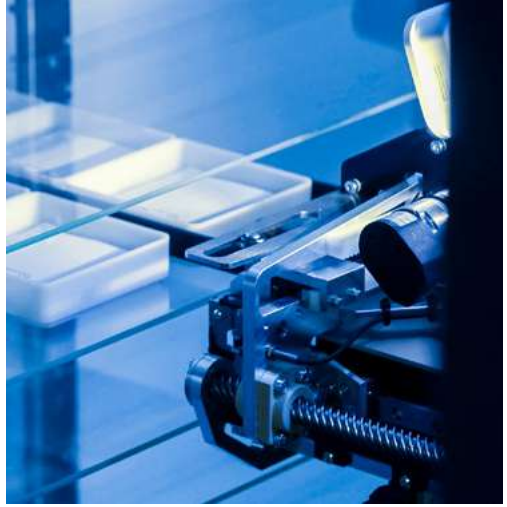
Items can also be fed to the system with the semi-automated storage option.

A smart automation system

AWS Modulo ONE stores and retrieves semi-finished and finished lenses, frames and more, fully-automatically and absolutely reliably – 24/7. Manual handling is reduced to a minimum and with that common errors in manual stock keeping.

The automated warehouse system is more than a storage unit. It is a highly customizable system that can be configured to meet any requirements. Labs can freely define a layout to match their facility, the kind of items stored, the quantities, even the degree of automation, e.g. semi-automated or automatic loading. They can choose from a number of options available to design their individual solution.

Each AWS Modulo ONE is perfectly adapted and seamlessly integrated with the overall system both mechanically – through the proven conveyor components – and electronically – through the smart monitoring cockpit, the Modulo Control Center.



The smart picking robots swiftly store and retrieve the items with highest packing density.

Most efficient storage

The system's storage unit has been designed for greatest packing density. The result is highly effective storage management in a very small footprint.

To facilitate fastest picking, AWS Modulo ONE comes with a 'fast turn' functionality. Fast moving items are strategically stored in priority sections that allow extra fast retrieval. During slow times, the system optimizes the warehouse structure, rearranging and reorganizing items to guarantee highest picking speed during the day.

Thanks to the smart inventory monitoring, labs can keep better track of their stock.

No single point of failure, highest reliability

To guarantee smooth and uninterrupted operation, the system has been designed in multiple sections with even distribution and redundant retrieval stations. Even if one of the components is not working, picking continues and the production is fed nevertheless. AWS Modulo ONE provides its own back up.

For highest reliability and secure identification inside AWS Modulo ONE, the system relies on RFID technology.

Besides boxes, carrier trays can be stored, e.g. for finished lenses, frames and more.

The Modulo advantage

AWS Modulo ONE comes with an on-board global interface philosophy that allows connection to the Modulo system. Once connected to the Modulo system, the system 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

- Fast and fully automated storage and picking
- Most efficient both in terms of space and speed
- Individually configured, fully scalable
- Small footprint
- Available 24/7
- No single point of failure
- Little to no operator intervention, no human error
- Closed and clean system
- Supports the cognitive Modulo machine philosophy

System components

Storage Unit
Featuring one or optional two automated picking robots handling the stored items on the shelves and managing the logistics.

Optional components

Automated Loader for semi-finished lenses
Automatically feeding boxes (semi-finished lenses and frames) from a buffer belt into the storage unit.

Automated Loader for finished lenses
Automatically transferring finished lenses from magazines into carrier trays that are fed to the storage unit.

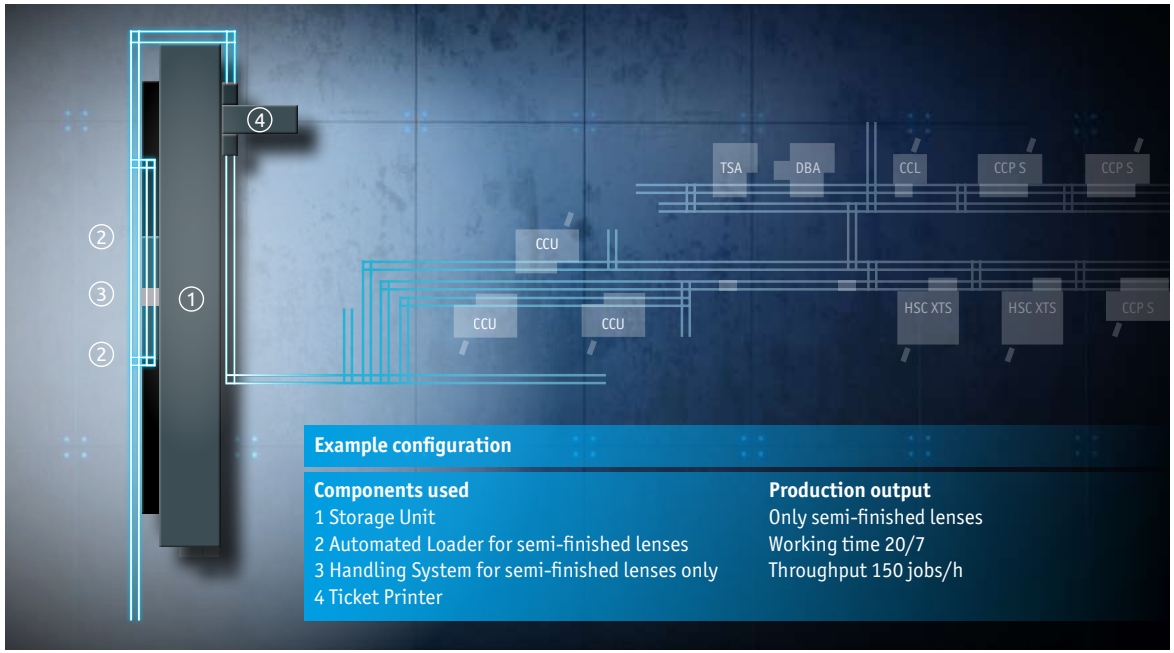
Semi-Automated Loader for finished lenses
Automatically transferring carrier trays with finished lenses (manually placed) into the storage unit.

Semi-Automated Loader for frames
Automatically transferring carrier trays with frames (manually placed) into the storage unit.

Ticket Printer feat. Folding and Insert Unit
Automatically printing, folding and inserting the corresponding job ticket into a job tray.

Handling System for semi-finished lenses only
Automatically commissioning job trays with semi-finished lenses.

Handling System for semi-finished lenses / finished lenses / frames
Automatically commissioning job trays with semi-finished and/or finished lenses and/or frames.



standard products
boxes
for semi-finished lenses & frames
SCHNEIDER carrier trays – type 1 (width x depth x height)
for finished lenses & frames, tray size 96 x 96 x 22 mm (3.78 x 3.78 x 0.87 inches)
SCHNEIDER carrier trays – type 2 (width x depth x height)
for frames, tray size 63 x 156 x 37 mm (2.48 x 6.14 x 1.46 inches)
consumables in boxes or carrier trays (width x depth x height)
min. size: 15 x 35 x 15 mm (0.59 x 1.38 x 0.59 inches)
max. size: 140 x 230 x 145 mm (5.51 x 9.06 x 5.71 inches)
weight: 5 – 1,000 g (0.01 – 2.20 lb.)
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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