



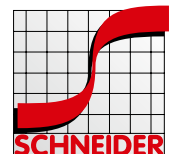
Modulo Line

Cleaning

Fully automated cleaning line showing the separate loading robot HRA, the cleaning unit LCU Modulo and the unloading PRA robot.

LCU m modulo

Automated cleaning, intelligently combined



Fascination for Innovation

LCU modulo

The LCU Modulo is a fully automated and integrated lens cleaning system with brushes. The machine represents a powerful and efficient inline system to remove contaminations like adhesive residues or fingerprints and to prepare all different kinds of lenses for subsequent coating processes.

To enable a fully automated lens production the LCU Modulo can be extended with the loading robot HRA. After unloading and positioning the lenses in a special cup they get pre-centered. A second suction gripper takes them and transfers them to a sensor scanning the complete edges of the lenses. Following this, the integrated software calculates the orientation by measuring the distance of the gripper in order to load the lenses in the optimal clamping position in the LCU Modulo.

During the first cleaning phase the lenses get cleaned by using suitable chemicals as well as gentle and safe brushes. The second stage includes a DI-water cascade removing the chemicals and contaminations. During the third stage the lenses get dried. After drying an optional unloading robot PRA, which can be easily integrated into the LCU Modulo, takes the lenses out of the running belt and puts them back in the coating job tray. If needed, the lenses are transferred on a conveyor belt leading directly to a cosmetic inspection area as well as the preparation area for the hard coating.

technical data	
lens diameter	from 40 to 80 mm
lens material	all organic and mineral materials
option	flow heater for DI-Water and PRA for automatic unloading
power consumption	35 kVA
air requirement	min. 6 bar (87 psi)
water requirement	DI-water conductivity < 1 µScm, 1,5 l/min
weight machine	approx. 1800 kg (3968 lb.)
dimensions (width x depth x height)	approx. 2000 x 1615 x 1930 mm (79 x 64 x 76 inches)
	with automation: approx. 8530 x 3384 x 2860 mm (336 x 133 x 113 inches)

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

Benefits

- Fully automated inline process
- In-line brush cleaning of up to 300 lenses/hour
- Additional impulse drying option for drying process
- Automated loading and unloading option
- No pre-cleaning needed
- Low cleaning costs per lens
- Short ROI periods



Fully automated loading HRA robot
The HRA robot takes the lenses from the job tray and places them centered in the clamping system of the LCU Modulo.

Inline cleaning of lenses with brushes
Every 24 seconds a pair of lenses is cleaned and prepared for coating.

The PRA robot places the lenses back in the job tray
The sensors check the cleaned lenses giving the PRA robot the signal to take the lenses out of the running belt and place them back in the job tray.

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