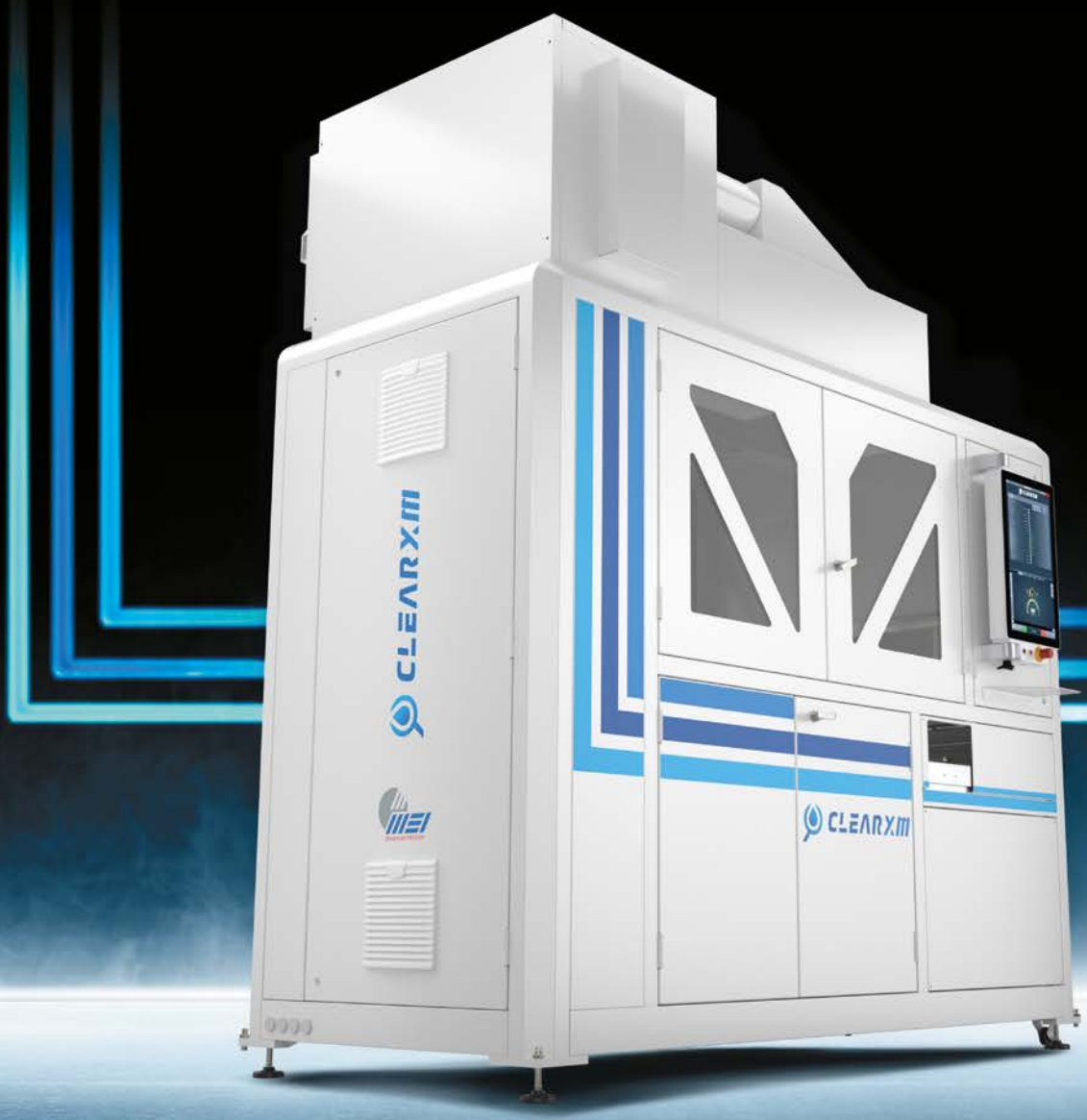
EN

ClearXM



DRIVEN BY PASSION

Introduction

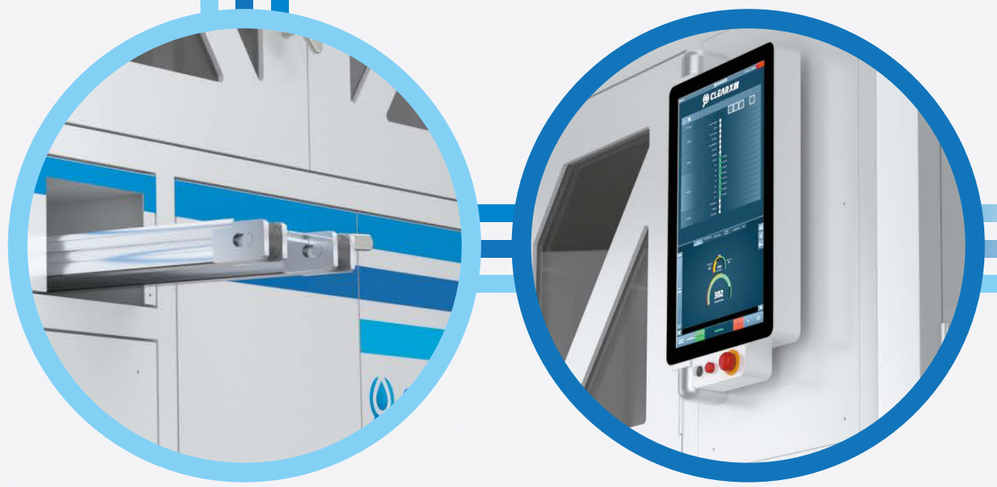
During the manufacturing process, lenses can accumulate dust, particles, or residues that can affect their optical properties.
Cleaning helps remove these contaminants, ensuring the lens surface is pristine before moving on to subsequent manufacturing steps.
In the meantime, there is a need to inspect the lenses to assess the quality of the optical surface, the clarity and transparency of the material, and the precision of the optical parameters.
Both cleaning and inspection play crucial roles in ensuring that lenses meet the required specifications for clarity, accuracy, and performance.

The actual scenario

The existing technology for cleaning lenses provides machines designed as long tunnels in which multiple cleaning stations are aligned along a main conveyor system, which transports the lenses without any holding system. Those traditional solutions have several limitations, including:

- **Contamination** while moving the lenses from the washing to the inspection
- **Extensive footprint**
- **Lenses' shape limitations:** the traditional lines can handle only uncut lenses
- **Risk of damages**, especially in the case of manual inspection
- Possibility of **human error** during the very repetitive manual inspection

The MEI solution for cleaning and inspection of eyeglasses edged lenses



MEI presents **ClearXM**, an innovative integrated solution for cleaning and inspecting eyeglasses' edged lenses. **MEI** created a very compact system by combining a loading system that is able to accommodate any shape of edged and uncut eyeglass lens with a cleaning section made of sealed chambers designed to avoid contamination.

With the incorporated imaging technology, **ClearXM** scans and recognizes the contours and dimensions of the lens, ensuring a secure and precise clamping mechanism. By understanding the specific shape and size of the lens, the system can optimize the cleaning process and apply the appropriate pressure and movement patterns needed to effectively remove dust, smudges, or other particles from the lens surface while avoiding the risk of scratching or other damages.

Additionally, **ClearXM** soon will have the option of the integrated **cosmetic control**, performed right after the cleaning of the lenses, to assure a control onto a perfectly cleaned surface, limiting the risks to wrongly judge dust or other debris. This option, called **SurfXM**, learns from each lens and continuously auto-improves its performance **without impacting the ClearXM cycle time**.

ADVANTAGES

EFFICIENCY

Integrating loading, transportation, cleaning, and inspection functions into a unified system minimizes handling and transitions between different stages. The time required for maintenance is reduced, allowing for quicker turnaround in cleaning lenses.

PRECISION CLEANING

The integration ensures that the cleaning process is directly aligned with the transportation and loading mechanisms. This alignment guarantees precise movement and positioning of the lens during cleaning, reducing the margin for error and ensuring thorough and consistent cleaning results.

SEAMLESS INSPECTION

Combining inspection within the same unit immediately after cleaning allows for real-time assessment of the lens condition. This immediate feedback loop ensures that any residues or imperfections can be promptly identified and addressed, maintaining high-quality standards.

SPACE AND RESOURCE OPTIMIZATION

A single unit for cleaning and inspection saves space, simplifies maintenance logistics, and reduces the need for additional equipment or resources, making it more cost-effective.

USER-FRIENDLY DESIGN

Integration into a single unit simplifies the operational interface, making it user-friendly and accessible for the operators. The streamlined workflow allows for easier technology adoption.

CUSTOMIZABLE FEATURES

The system could offer customizable settings for different types of lenses or cleaning requirements, adding versatility to the cleaning and inspection process.

Datasheet

CLEARXM

Technical Data

Lens base
standard up to 6

Weight [kg / lbs]
(machine without conveyor)
1600 / 3530

Max lens Dimensions
40 x75

Dimensions [w x d x h]/ [mm / inches]
(machine without conveyor)
1685 x 2560 x 2970 / 67 x 101 x 117

Lenses in process (total number)
20

Power consumption (kW)
6.8 at peak, 4 on average

Total process time in the machine [min]
2,5

Internal water circuit
2 tanks
150 liters

Main Features

- **Loading**
  Automatic
- **Brush cleaning**
- **Drying module**
  Cold air
- **Integrated Cosmetic Control**
  OPTION - COMING SOON
- **Unloading**
  Automatic

The information in this brochure is subject to change without further notice due to the policy of continuous product development.

DRIVEN BY PASSION

MEI S.R.L.
Headquarters
& Manufacturing

Via Ing. G.B. Caproni 50
24036 Ponte San Pietro (Bg) / Italy
P +39 035 339 112

MEISYSTEM INC.
Sales & Customer Service,
North America

959 AEC Drive
Wood Dale / IL 60191 / USA
P +1 630 521 8588

MEISYSTEM ASIA LTD.
Sales & Customer Service,
Asia

Unit 3, 25/F, Wharf Cable TV Tower
9 Hoi Shing Rd., Tsuen Wan, HK
P +852 310 111 51

MEISYSTEM DO BRASIL LTDA
Sales & Customer Service,
South America

Rua Marina Ciufuli Zanfelice, n.º 329, Lapa
CEP 05040-000
São Paulo Brasil
P +55 11 3834 - 0276

MEI NIPPON CO.,LTD.
Sales & Customer Service,
Japan

5F Heiando Bldg./2-3-25
Kudan Minami Chiyoda Ku
Tokyo/ 102-0074/ Japan
P +813 5213 4800

MEI SYSTEM OPTICAL MACHINES INDIA PVT. LTD.
Sales & Customer Service,
India

Ray Plaza, 41, 1st Main Rd., A Sector,
KHB Colony, Industrial Area, Yelahanka New Town,
Bengaluru 560064, Karnataka, India
P +91 80 65232060

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meisystem.com