

CoreTBA

EN

The Block-less Freeform Lens Production System



Vision of a better future

MEI reinvents
the surfacing process.
Discover it now.



Stefano Sonzogni - President at MEI

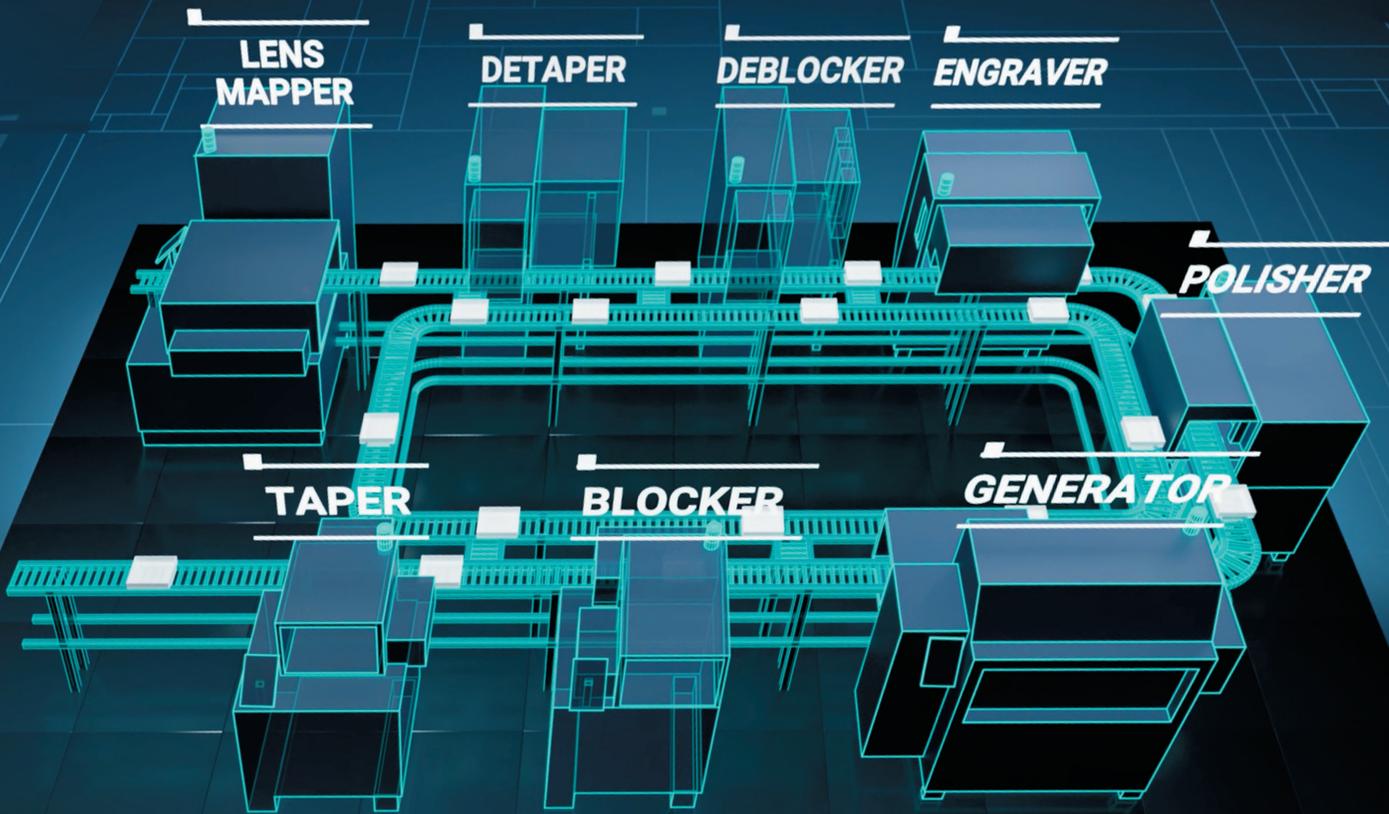
Our Vision

Thinking out of the box we create solutions that revolutionize the production processes of our customers.

10 years ago, driven by the success of the block free edging, we envisioned a way to **avoid the application of the block in lens generation**. Someone asked us why we were getting involved in a different field, since we were successful enough in the edging. The evolution of a process can happen in many ways, but we like to divide the path in two main directions, optimization, or transformation. Everyone knows that is when a transformation can happen that a process can be placed at a completely different level. **Our mission is to try to transform the processes rather than improve them.**

The world is full of attempts of transforming things, several attempts fail and who tries fails as well. Some succeed and change our life forever. We think that everyone should try to **transform thing in his field**, choosing realistic targets yes, avoiding playing everything on a single game, **but being ambitious enough to make the difference**, to try to change the game. **This has been and is the block free technology in the eyeglass lens for us.**

Forget about the past



WATCH THE VIDEO

Join the Block-free Revolution



When things
have been done
the same way for years...
It can be hard to think
outside the box.
But in the world
of lens production,
things are about to change.

Some advantages of the **block-free technology** are clear, such as the **avoidance of the consumables** involved in the blocking, like the tape, the Alloy, or the resin.

Avoiding the application of the block means that **the blocking and deblocking machines are not present at all**, with a reduction of space, energy, and maintenance needs.

Eventually, a lab based on block-free technology will become **two or three times smaller than a traditional freeform lab** with the same throughput.

Another significant advantage of the block-free technology is the **lead time**. Not having to go through the blocking and deblocking process, **the lens takes much less time to be ready for the coating**, which is a big advantage for global delivery time. However, other advantages might not be so evident at first but will have a huge impact soon.

These advantages are related, on the one hand, to the **possible dramatic reduction of lens material waste** and, on the other hand, the possibility of immediate **100% quality inspection**.

Vision of Sustainability

Less waste,
more sustainability.

A **block-less process** means that the blocking and deblocking machines are not present at all, with a **reduction of energy and all that is necessary to build these machines.**

In addition, the milling operations performed entirely with the **dry-cut technology** avoid water usage and enable swarf management the same way as your MEI edger.



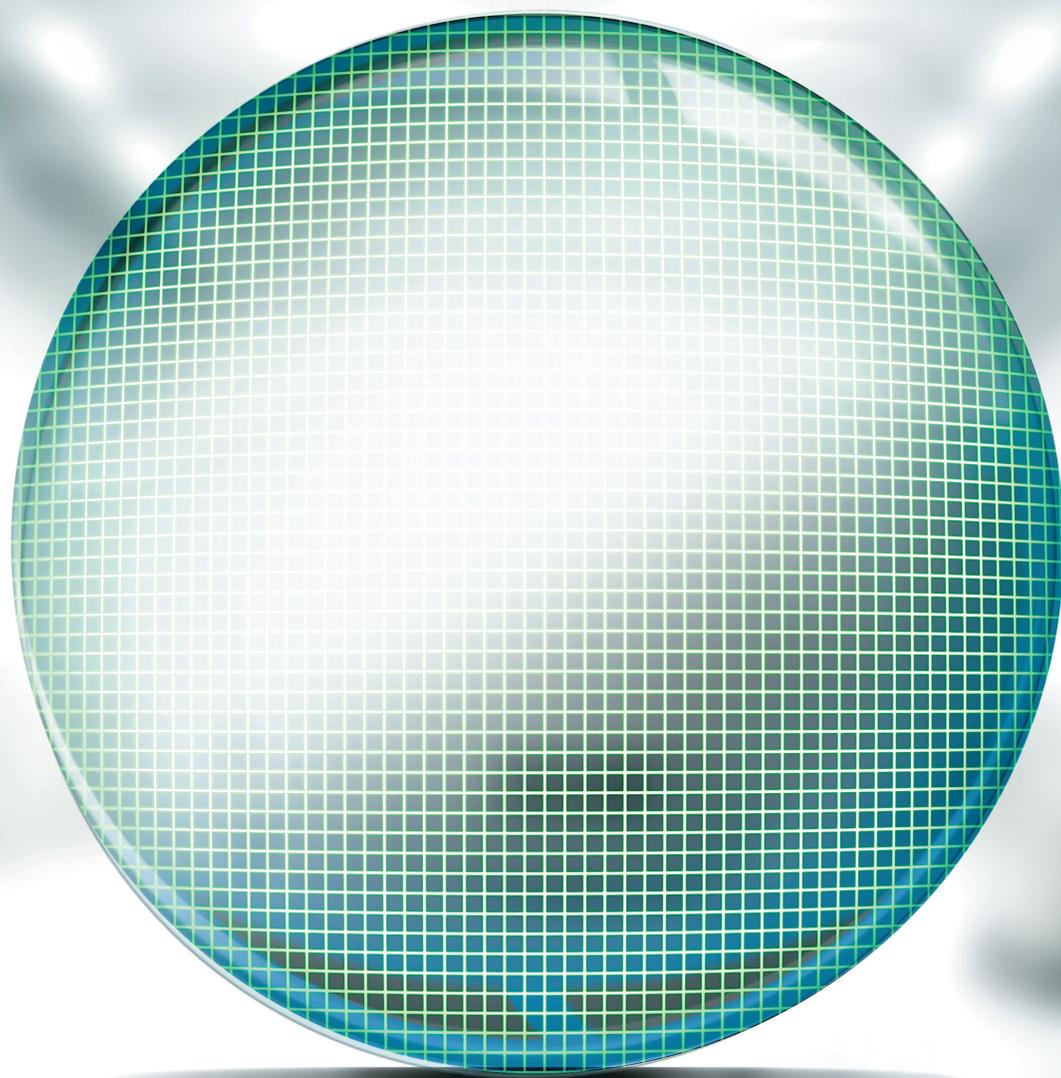
Vision of Simplicity

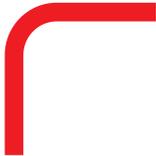
Fully automatic layout calibration and tools calibration

CoreTBA automatically calibrates the tools (the diamond insert through a Built-in Microscope, the Milling tool through a mechanical tracer).

Based on the front TRUE curve measurement, CoreTBA adjusts the generation file through an **automatic compensation** and generates the lens according to the actual measurements.







Vision of Quality



CoreTBA is the symbol
of the MEI philosophy
of Total Quality Control.

Block-free technology allows the execution of **power matching** by transmission immediately after generation.



It minimizes the blank rejection, allows the constant tracking of the map quality, does the continuous data collection, and allows the machine to self-calibrate before the product goes entirely out of tolerance.

ALL IN ONE

*7 essential stages of the lens production process
in one single unit, with the smallest footprint on the market*



FRONT MAPPING

The first cell measures the true front curve to compensate, when necessary, for even minimal curve deviations.

MILLING & CRIBBING

The block-free generation process is managed by the second cell.

The high-speed milling unit performs blank cribbing and surface roughing.





DIAMOND TURNING

The diamond turning unit, designed by MEI's R&D team and manufactured by the MEI's production plant, completes surface finishing.

MICRO ENGRAVING

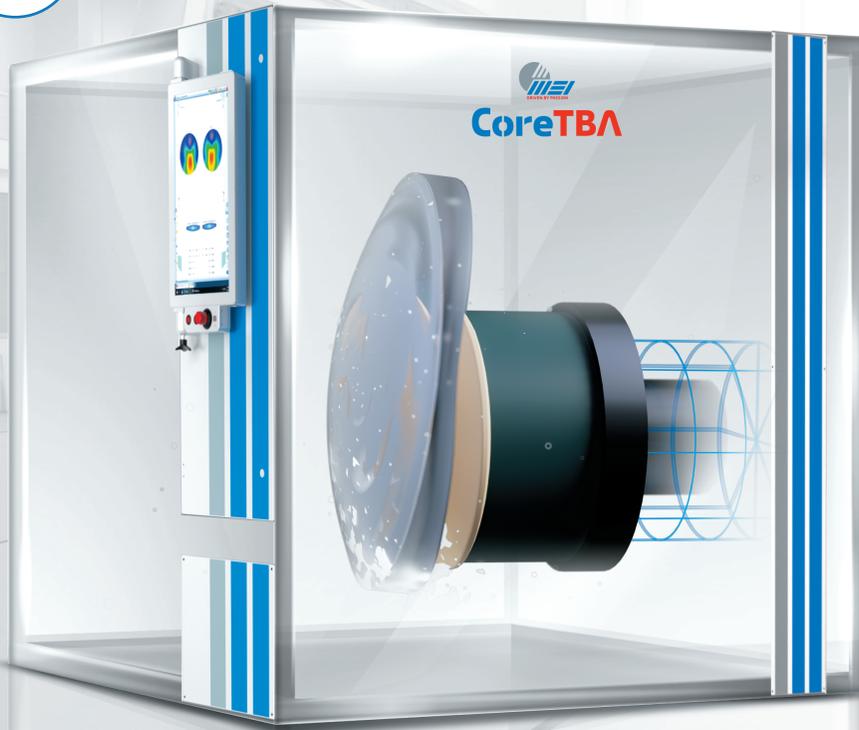
The third cell engraves the semi-visible progressive reference layout by a short pulse gas-free laser.



GAS FREE



POLISHING



WASHING

The fourth cell has two parallel Dual-Head polishing and washing units that minimizes slurry usage and prolongs the polishing tool's life without affecting the cycle time.





POWER MATCHING

The fifth cell performs power matching by comparing real results with the theoretical design.

Measurement is done in real-time on 100% of lenses without affecting machine throughput.



Datasheet

CoreTBA

Technical Data

**Materials**

All organic lens materials, i.e. CR39, Polycarbonate, High Index and Trivex

**Front base range**

0 - 9 (only spherical front curve)

**Max blank diameter**

80 mm

**Min cribbing diameter**

53 mm

**Power range**

concave - 12 diopters

Mainframe dimensions

2150x2150x2500 (h) mm,
85x85x98 (h) inches

**Occupied floor space**

4 m² or 45 ft²

**Weight**

approx. 2500 kg

**Approximate power requirements**

electricity 208-400 V - 6 kW,
compressed air 6 bar 800 l/min

**Dust evacuation**

air flow 1400 m³/h (800 CFM)

**Communication**

Standard VCA/OMA protocol
RS232 or Ethernet



External Supplies

Power Supply 400V 3 phase, 50/60 Hz
208V 3 phase, 50/60 Hz

Air Supply 6 bar (87-101 psi) 900 l/m

Scrap Collection Air flow 20 m/sec, Min capacity of 1,400 m³/hour (800 CFM) connection pipe Ø 150 mm (5.9 inches)



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



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