



Automation & Robotics

OUR INNOVATION YOUR PERFORMANCE



Automation & Robotics



NEW



RX LABS



MASS PROD



FINISHING



SERVICE



Automation & Robotics

R X L A B S

MCSFU

CONTACTLESS FRONT CURVE MEASUREMENT OF SF SINGLE VISION LENSES

- Systematic control of your single vision SF lenses at the beginning of the manufacturing process
- More accurate Rx lenses (->possible optimization of the back side calculation, based on the real front curve values)
- Useful statistical data to qualify your suppliers



Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323



CONTACTLESS FRONT CURVE MEASUREMENT OF SF SINGLE VISION LENSES



BENEFITS

- › Systematic tolerance check of all single vision semi-finished lenses at the beginning of the manufacturing process (reactivity)
- › Immediate detection of a bad lens (mispick, power out of tolerance...)
- › Useful tool to qualify your suppliers of semi-finished lenses
- › More accurate prescription lenses (real front curve values taken into account)
- › Pertinent measurement data (ISO/ANSI compliant)
- › Small foot print (L 700 x W700 x H 1700 mm)
- › Easy maintenance
- › VC/DCS (OMA) compatible



CAPACITY

165 jobs/hour



MAIN FEATURES

- › Contactless curvature measurement of the convex surface for single vision SF lenses.
 - The measurement result is the average surface power performed around the geometric center (disk of 8mm).
 - The spherical equivalent ("DPT") represents the mean value of the power along the 2 main meridians.
- › Independent module, connected with the lab server :
 - Input data: barcode or RFID reading to get the work order information (nominal values)
 - Output data: the measured values (OMA/VC-DCS data "INSFRNT; INSFCYL; TOLFRNT ; TOLFCYL") can be sent back to the LMS. The actual front surface power can be taken into account for the back surface calculation.
- › Measurement analysis: the measured front power will be compared to the nominal value and a tolerance test can be performed, following the ISO 10322-1:2006 (Tolerances on surface power and astigmatic surface power)



Automation & Robotics

R X L A B S

MCVP8

CONTROL AND INKING UNIT FOR RX LENSES

- Multifunction flexible machine
- Middle and final inspection
- DLM : the tool for improving the quality of your products and quality of your process (GMC)
- Flexible inking



Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323



CONTROL AND INKING UNIT FOR RX LENSES



CAPACITY

120 jobs/hour



MAIN FEATURES

- › Diameter and shape measurement
- › PPOS : automatic positioning
- › Contactless thickness measurement
- › Dual LensMapper (DLM) : inspection of freeform lenses
- › Focovision : inspection of PAL's and single vision lenses
- › Digital inking (Wax or UV Ink)
- › Inking alignment check (optional)
- › Laser engraving (optional)
- › Dual Spectrometer (optional)



BENEFITS

- › Fully automatic solution for all lens types and materials
- › Handling of any lens shape (5 finger grippers, inspection and inking)
- › Accurate automatic positioning (high recognition rate)
- › Cut-out check
- › Meaningful and accurate lens inspection
- › DLM : pertinent measurement data for Statistical Process Control (Global Mapping Criteria)
- › Non contact measurements
- › Inking flexibility (inkjet technology)
- › Inking accuracy
- › 3D scanner combined with the laser -> also suitable for sport lenses
- › High capacity
- › Detection of R/L inversion
- › VC-DCS compatible
- › Remote maintenance
- › Detection of R/L inversion and automatic reloading in the correct position





Automation & Robotics

R X L A B S

MCVP4

AUTOMAPPER

- Full automatic inspection for any lens type
- Pertinent tool for Statistical Process Control (Global Mapping Criteria)
- Cost savings : don't wait until reject !

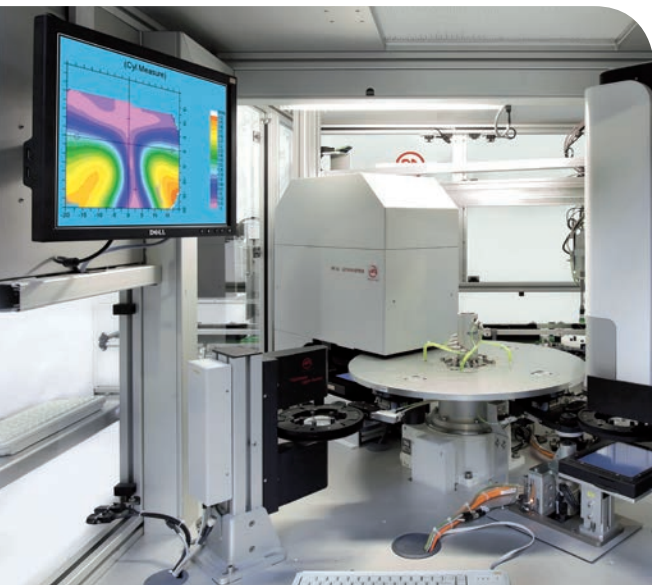


Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323



www.ar.be

AUTOMAPPER



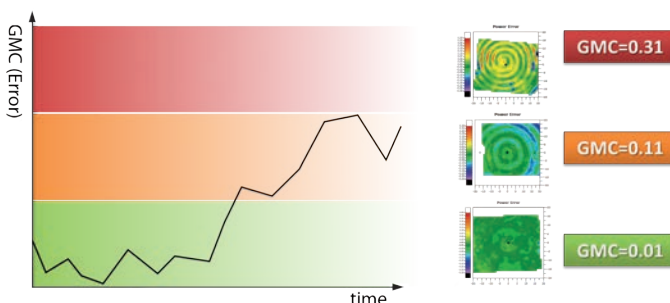
CAPACITY

145 jobs/hour



MAIN FEATURES

- › Diameter and shape measurement
- › Automatic positioning (PPOS)
- › Contactless thickness measurement
- › Dual Lensmapper : measurement by reflection and transmission
- › ISO/ANSI Inspection for :
 - Free-form lenses
 - Conventional progressive lenses
 - Single vision and BTF lenses
- › Dual Lensmapper : mapping inspection and process control of free-form lenses



BENEFITS

- › Fully automatic solution for any organic lens type
- › Accurate automatic positioning (high recognition rate)
- › Non contact measurements
- › Meaningful and accurate lens inspection
- › Error maps (customized GO/NO GO criterias)
- › Process under control : valuable data for statistical process control
- › GMC (Global Mapping Criteria)
- › Quick feedback on production (positive impact on the lead time, no added value on rejects...)
- › Cost savings : don't wait until reject !
- › Flexible tolerance tables
- › Easy maintenance
- › User-friendly interface
- › Rapid payback
- › High capacity
- › Detection of R/L inversion and automatic reloading in the correct position
- › VC-DCS compatible
- › Remote maintenance



Automation & Robotics

R X L A B S

PROMAPPER

PROMAPPER

- Table-top inspection device for any Rx lab
- State-of-the-art optical inspection (ISO/ANSI Standards)
- Mapping inspection (based on the Error Map)
- Best technology for Statistical Process Control
- Totally independant from the operator

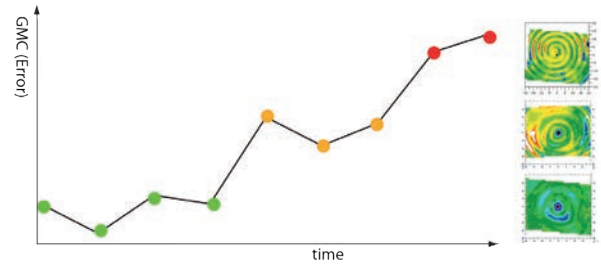
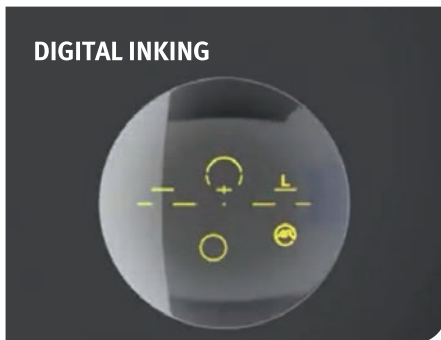


Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323



www.ar.be

PROMAPPER



CAPACITY

50 secs/job



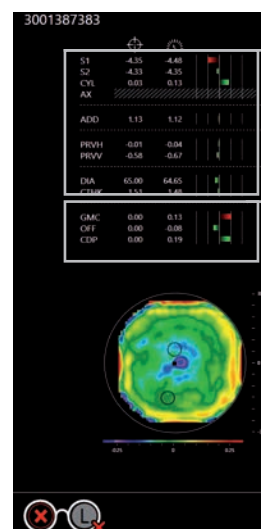
MAIN FEATURES

- › Total inspection of lens optical and geometrical properties, including power, prism, addition, thickness, shape and polarization axis
- › Mapping inspection with Error Map and Go/No Go
- › Optical power in the standard FOA configuration
- › Automatic detection of the permanent markings and multifocal segment
- › All lens types : PAL's, SV, multifocal (uncut and edged)
- › Upload of the measured values and surface quality features (e.g. GMC, Global Mapping Criterion), useful for maintenance and trouble shooting.
- › Off-line viewer (for error maps and mapping criteria)



BENEFITS

- › Newest A&R technologies in a table-top inspection device
- › Reaching the highest quality of lenses with accurate inspection
- › Total operator independence (automatic positioning and decision)
- › Mapping inspection
- › Relevant inspection data (e.g. GMC) for maintenance and trouble shooting
- › Contactless measurement (suitable for high index and non coated lenses)
- › Industrial design (not dust/dirt sensitive)
- › Super easy to use and calibrate
- › VC-DCS compliant
- › Easy to install



Accurate lens inspection

According to ISO/ANSI Standards
In Focus On Axis configuration

Mapping inspection, based on the Error Map



Automation & Robotics

R X L A B S

DLM

DUAL LENS Mapper

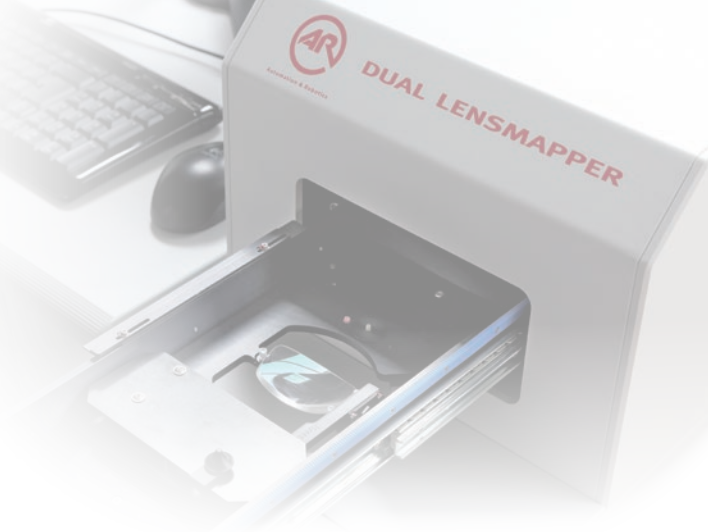
- Check of design replication
- Meaningful Error Map
- Global Mapping Criteria (GMC)



Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323

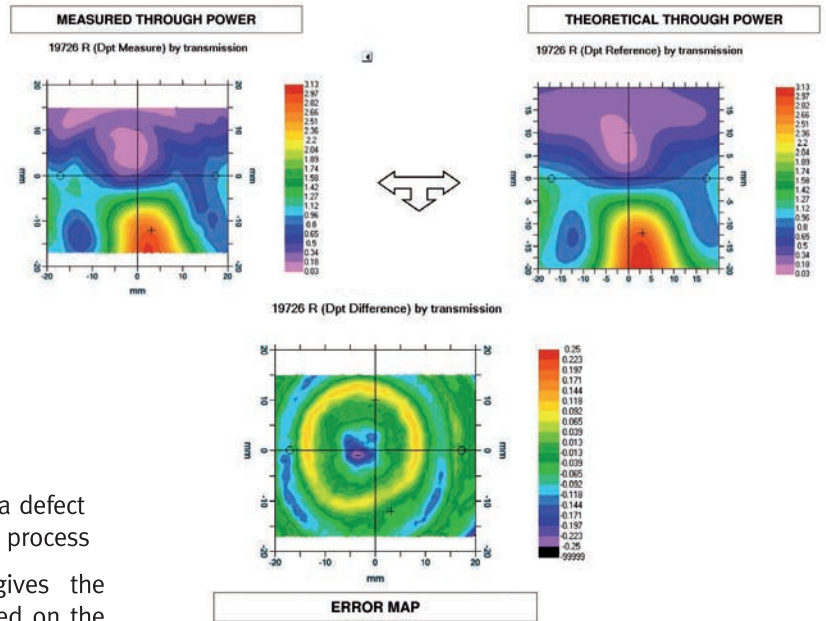


DUAL LENSMAPPER



MAIN FEATURES

- › Inspection of freeform lenses
- › Check of the design replication
- › Works with encrypted data
- › GMC :
 - Combination of 2 approaches:
 - o Variation of values spread over the map
 - o Local defect
 - robust tool to determine the importance of a defect and to detect any drift in the manufacturing process
- › DBP : Advanced calculation algorithm gives the optimum position for the micro-engravings based on the comparison of the measured and theoretical maps. The outputs of the Design Based Positioning are the positioning error of the engravings regarding their optimum position.



BENEFITS

- › GO/NO GO
- › Error Map (classification of the defects)
- › Position of the lens is taken into account
- › Operator independent
- › Ideal tool for process control
- › Different holders available (SF, single vision, cut lenses)
- › DLM viewer available
- › VC-DCS compatible

WHY IS THE DLM THE MOST ACCURATE MAPPING INSTRUMENT ON THE MARKET

- › The DUAL LENSMAPPER is the only mapping instrument that takes into account the effect of the lens position and tilt in the calculation of the theoretical power. This leads to a meaningful error map which is not affected by those parameters.
- › The measurement principles are simple and mastered, leading to an accurate mathematical model for the calculation of the error map.
- › A single camera is used for every operation ensuring a perfect matching between the reflection and transmission measurements.



Automation & Robotics

R X L A B S

SPV-3

FOCOVISION RX VERSION WITH POSITIONING ASSISTANCE (VISUALIZATION OF THE MICRO-ENGRAVINGS)

- Complete lens inspection station with positioning assistance
- Repeatability - high accuracy
- Operator independent (Go/NoGo decision)
- Worldwide reference instrument



Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323



FOCOVISION RX VERSION



LATEST DEVELOPMENT

- › The FOCOVISION SPV-3 software is based on Windows 10 Embedded OS.
- › A new light source provides an improved ring image. Effect of local defects (dusts,...) are detected and corrected using a proprietary technology. The new light source, based on the long-life LED technology can easily be exchanged (plug and play), leading to better accuracy in lab conditions.



MAIN FEATURES

- › Complete station for manual lens inspection, connected to a server (customer's tolerance tables)



BENEFITS

- › Operator independent (objective measurement procedure)
- › The most accurate measurement according to ISO/ANSI standards
- › Up to 99 tolerance tables
- › Connected to your host computer
- › Low maintenance
- › Industrial design (insensitive to dust)
- › Configurable checking procedures





Automation & Robotics

R X L A B S

MTVP4

AUTOINKER

- Identification check for cut and uncut lenses
- 100% automatic and accurate inking
- Dual step printing (good adherence)
- Very high capacity



Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323



www.ar.be

AUTOINKER



CAPACITY

200 jobs/hour



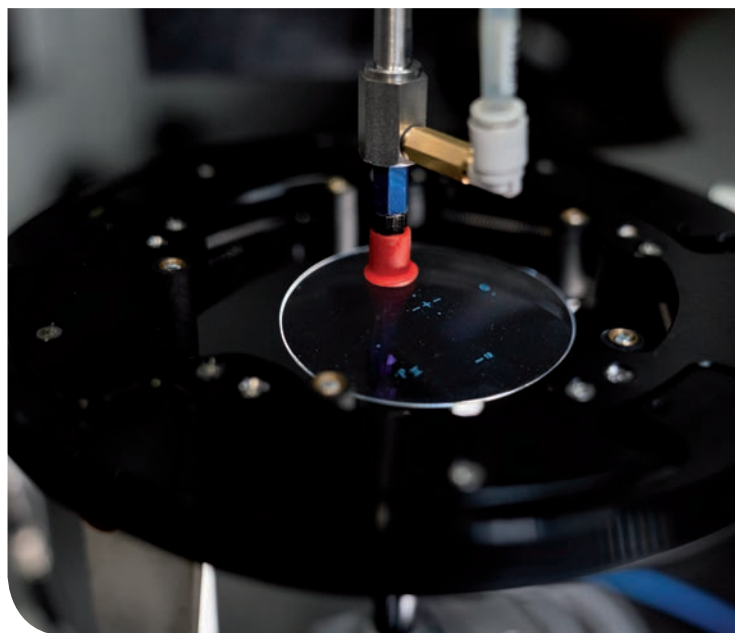
MAIN FEATURES

- › Automatic detection of the micro-engravings
- › Digital inking : WAX technology
- › For cut lenses:
 - Shape measurement and check (if data available)
 - Engraving alignment check according to the shape
 - Perimeter measurement
- › For uncut lenses:
 - Diameter measurement for round lenses
 - Shape measurement and check (if data available)
 - “Cut out check” (if data available)



BENEFITS

- › Fully automatic industrial solution
- › Very high capacity
- › WAX technology
- › Very flexible printing
- › Good adherence on hydrophobic lenses (double step printing)
- › Easy maintenance
- › User-friendly interface
- › Also suitable for cut lenses (no inking outside of the lens shape)
- › Check for lens ID and left and right inversion according to the engravings and optical power assessment for progressive and engraved single vision lenses
- › VC-DCS compatible
- › Remote maintenance





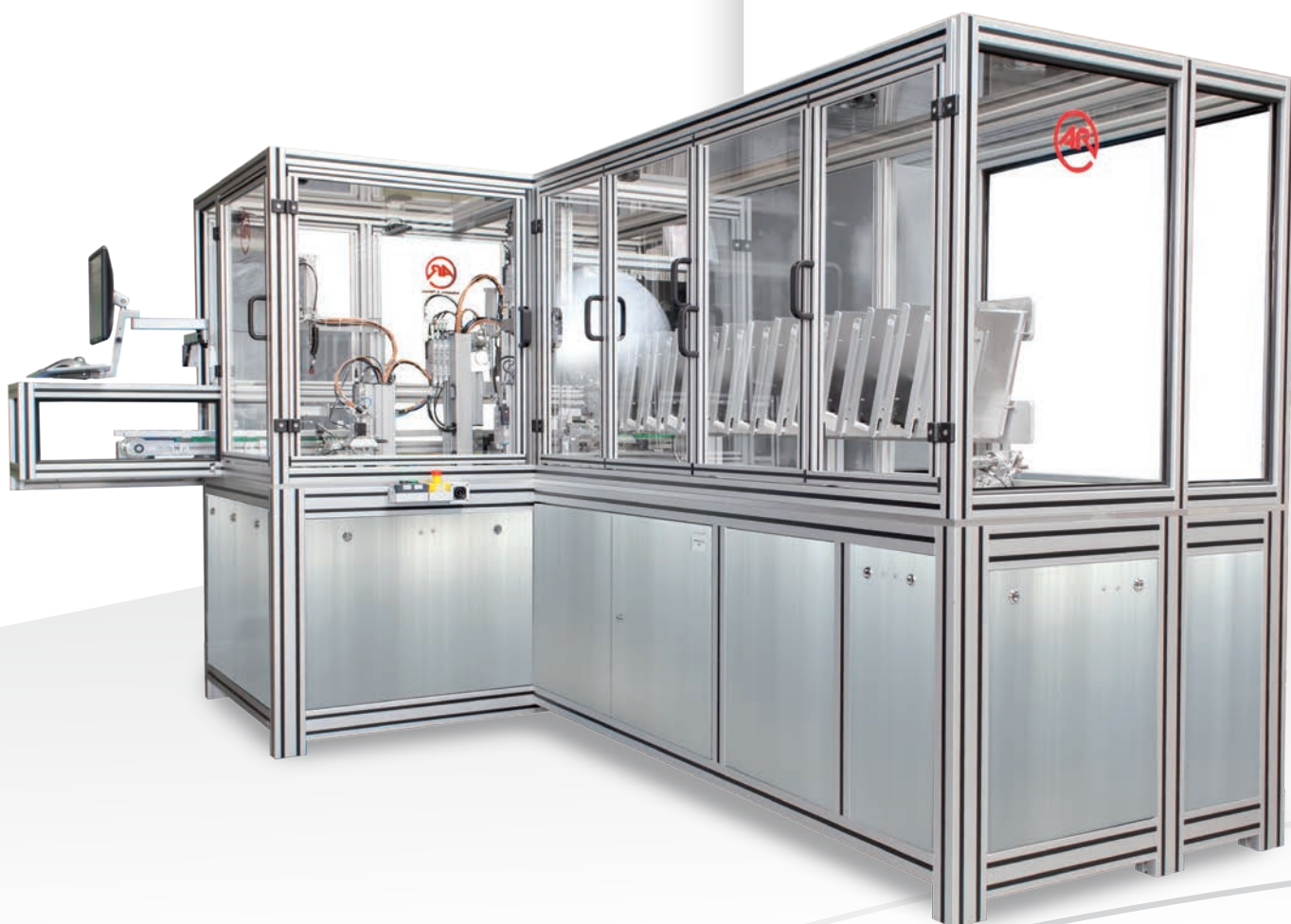
Automation & Robotics

R X L A B S

MEVP

PACKAGING UNIT FOR RX LENSES

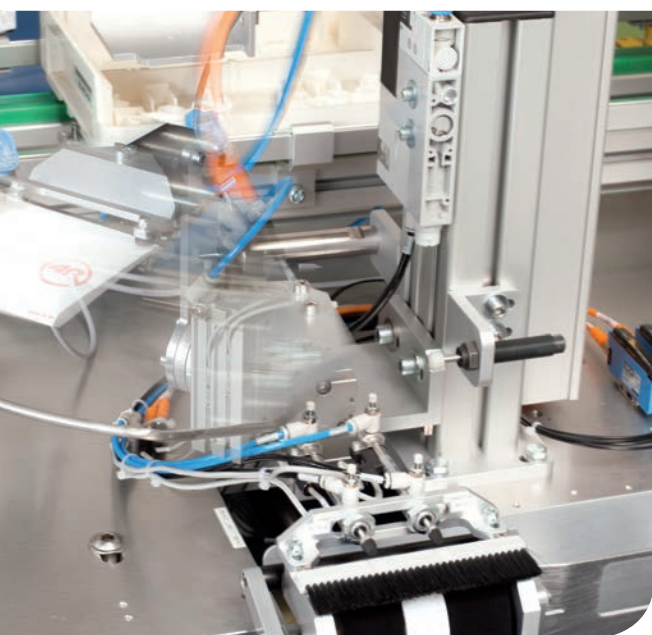
- No mispack
- High capacity and flexibility
(13 envelope types)
- Rapid payback



Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323



PACKAGING UNIT FOR RX LENSES



CAPACITY

300 jobs/hour



MAIN FEATURES

- › Picking of the envelope
- › Label printing
- › Applying of the label on the envelope
- › Insert the lens into the envelope and securing



BENEFITS

- › Fully automatic solution
- › Good image / standardization
- › No mispack
- › Flexibility (up to 13 different envelope types)
- › High capacity
- › Rapid payback
- › Remote maintenance



Automation & Robotics

R X L A B S

MSEVP

DISPATCH UNIT FOR RX LENSES

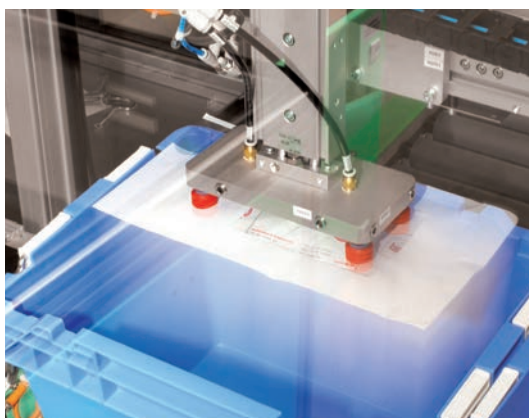
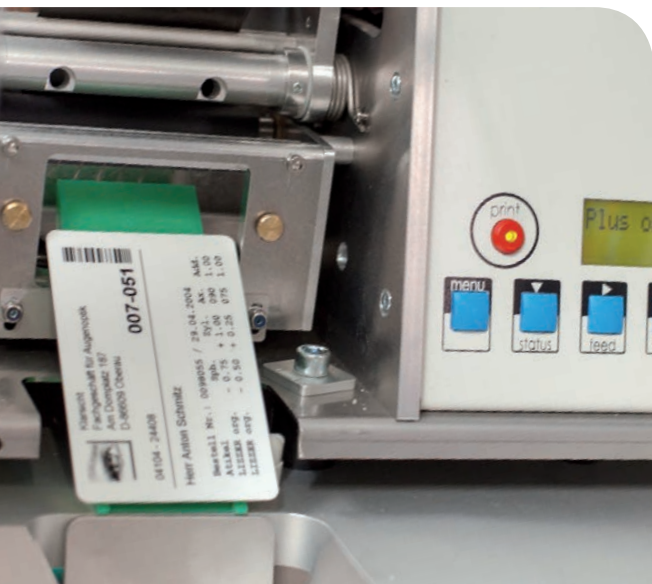
- No mispack
- Good image / standardization
- Flexibility (different configurations)



Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323



DISPATCH UNIT FOR RX LENSES



CAPACITY

300 jobs/hour



MAIN FEATURES

- › Packaging of both envelopes in a dispatch envelope
- › Printing and folding of the delivery note or printing of a label
- › Printing of the ID card
- › Picking of the marking material (cleaning cloth, booklet, ...)
- › Securing of the dispatch envelope



BENEFITS

- › Fully automatic solution
- › Good image / standardization
- › No mispack
- › Flexibility (numerous configurations possible)
- › High capacity
- › Remote maintenance



Automation & Robotics

R X L A B S

EASYSTACK

EASYSTACK

- Automatic stacker/destacker for ophthalmic job-trays
- Compatible with all trays format (Surfacing, Rx, Finishing)
- User-friendly
- Compact and flexible



Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323



www.ar.be

EASYSTACK



CAPACITY

8 secs/job



MAIN FEATURES

- › Stacker-destacker for ophthalmic job-trays (Surfacing, Rx, finishing)
- › Conveyor with double band for tray storage and transportation (1 meter included)
- › Stack from 2 to 10 job-trays
- › Different tray orientations after destacking
- › User-friendly interface (touchscreen)
- › Optional : tray rotation (90°/180° or 270°)



BENEFITS

- › Industrial design
- › Compact (L 600 X w 400 X H 1556 mm)
- › Totally electrical
- › Easy to integrate in your production flow (numerous configurations)
- › Compatible with most job-trays
- › Quiet
- › Easy to install (by the customer)





Automation & Robotics

R X L A B S

EASYLIFT

EASYLIFT



- Automatic lift for ophthalmic job-trays
- Compatible with all tray formats (Surfacing, Rx, Finishing)
- User-friendly
- Compact and flexible

Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323



EASYLIFT



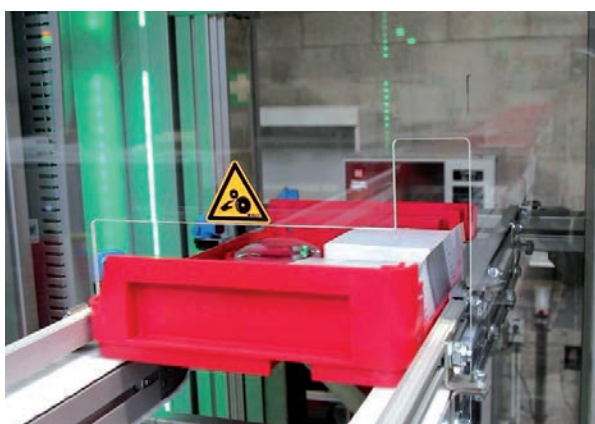
CAPACITY

9 secs/job



MAIN FEATURES

- › Lift for ophthalmic job-trays (Surfacing, Rx, Finishing)
- › Conveyor with double belt for tray storage and transportation (conveyor layout not included)
- › Up to 4 input tracks and 4 output tracks with smart routing capabilities (when connected to an intelligent conveying system)
- › User-friendly interface (touchscreen)



BENEFITS

- › Industrial & compact design (0,6 x 0,6 x 2,7 m)
- › Full electrical operation (no compressed air)
- › Easy to integrate in your production flow (numerous configurations)
- › Compatible with most job-trays
- › Quiet
- › Easy to install (configurable by the customer)





Automation & Robotics

MASS PROD

MITSF

IDENTIFICATION AND INKING UNIT FOR SEMI-FINISHED LENSES

- 100% automatic identification of semi-finished
- Flexible printing
- Printing quality check



Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323



www.ar.be

IDENTIFICATION AND INKING UNIT FOR SEMI-FINISHED LENSES



CAPACITY

700 lenses/hour



MAIN FEATURES

- › Lens identification (reading at the edge or under the μ -engravings)
- › Inspection of single vision blanks (by reflection)
- › Check polarized axis
- › Inking (10 cliché plates - 20 images max.)
- › Printing alignment check / printing quality check



BENEFITS

- › Accurate determination of lens position
- › Accurate inking
- › Inking quality check
- › Fully automatic
- › High capacity
- › Remote maintenance
- › Combined with the packaging unit = complete automated line



Automation & Robotics

MASS PROD

MESF

PACKAGING UNIT FOR SEMI-FINISHED LENSES INTO BOXES

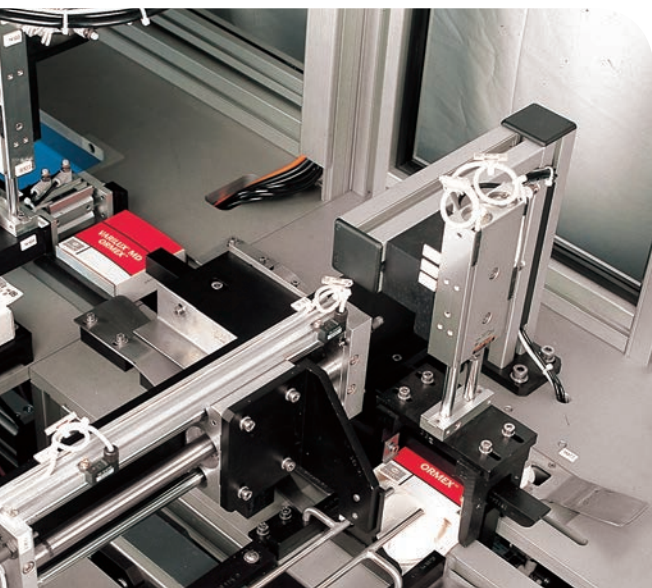
- No mispack
- High capacity
- Choice between 5 box types (up to 10 types in case of cupless)



Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323



PACKAGING UNIT FOR SEMI-FINISHED LENSES INTO BOXES



CAPACITY

700 lenses/hour



MAIN FEATURES

- › Selection of the cup + box
- › Labelling (printing + application)
- › Box forming + insertion of the lens
- › 2 versions available: - cup + box
- cupless



BENEFITS

- › No mispack
- › Qualitative packaging - good image
- › Choice among 10 plastic cup types
- › Choice among 5 double box magazines
(-> 5 box types)
- › Pre-sorting among 24 double storage magazines
- › Remote maintenance
- › 100% automatic packaging



Automation & Robotics

MASS PROD

SR-3

FOCOVISION BY REFLECTION

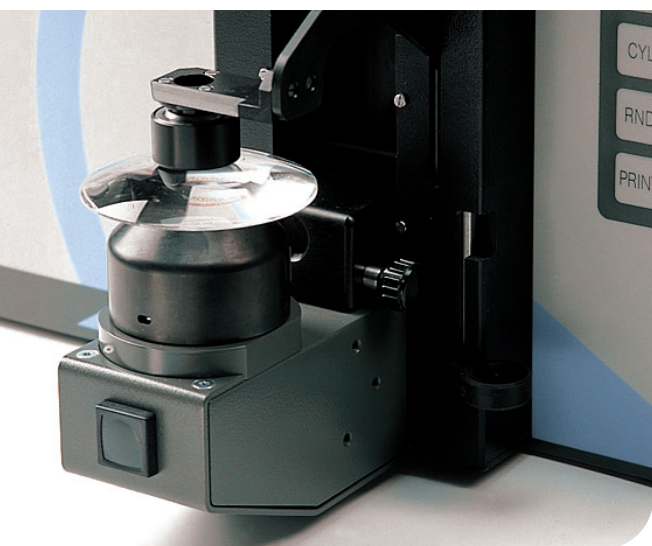
- Very accurate and instantaneous measurement
- Precise and reproducible lens positioning according to the reference points marked over the surface
- Objective Go/NoGo decision (incl. tolerance check)
- Worldwide reference instrument



Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323



FOCOVISION BY REFLECTION



LATEST DEVELOPMENT

- › The FOCOVISION SR-3 software is based on Windows 10 Embedded OS.
- › The easy to exchange and long-life LED light source provides an accurate ring image. Effect of local defects (dusts,...) are detected and corrected using a proprietary technology leading to the best accuracy in lab conditions.



MAIN FEATURES

- › Local curvature measurement by reflection over polished surfaces (semi-finished lenses, glass and metal molds)



BENEFITS

- › Very accurate and instantaneous measurement
- › Precise and reproducible lens positioning according to the reference points marked over the surface
- › Objective Go/NoGo decision (incl. tolerance check)
- › Industrial design, no moving parts, insensitive to dust
- › Reliability (image quality control and correction of dust effect)
- › Unique for glass mold measurement
- › Useful tool for the labs : qualification of SF suppliers



FINISHING



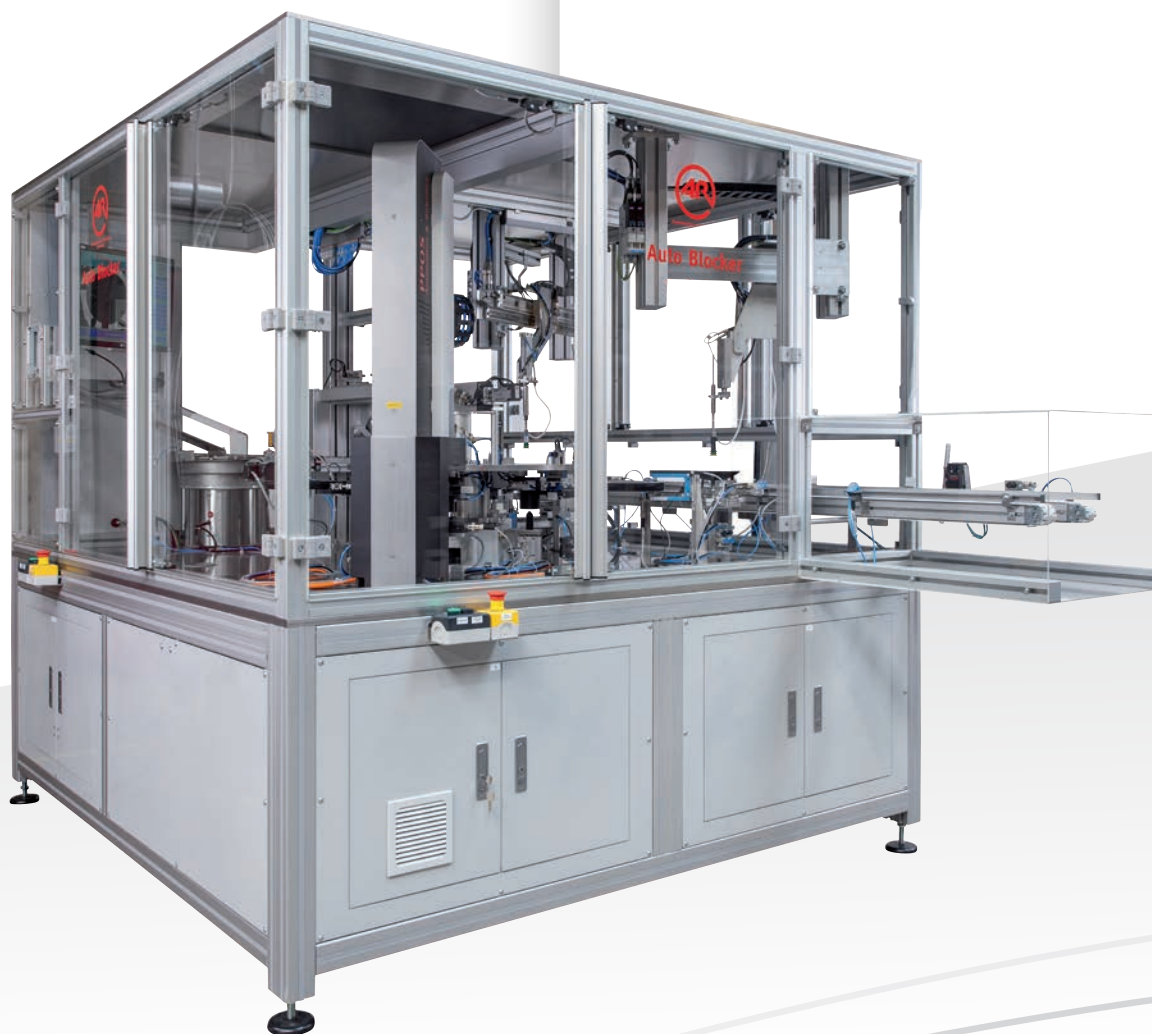
Automation & Robotics

FINISHING

MBVP4

AUTOBLOCKER

- Accurate positioning and blocking of all lens types
- Small footprint
- Cut-out check

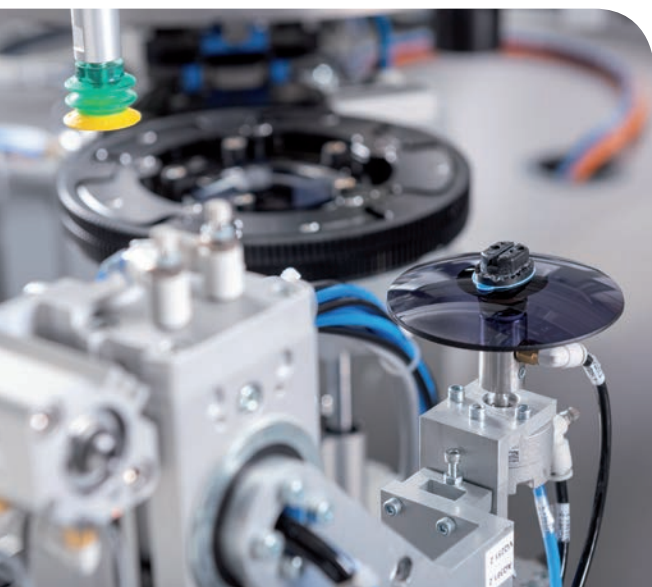


Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323



www.a.r.b.e

AUTOBLOCKER



BENEFITS

- › 100% automatic blocking
- › High accuracy (positioning, measurements, blocking)
- › High capacity
- › Small footprint
- › Single vision + Rx lenses / any lens shape
- › R/L inversion check and correction
- › Auto-calibration
- › Compatible with various block types
- › Numerous options possible (block, pads, films...)
- › Simplified hardware
- › User-friendly interface
- › VC-DCS compatible
- › Remote maintenance



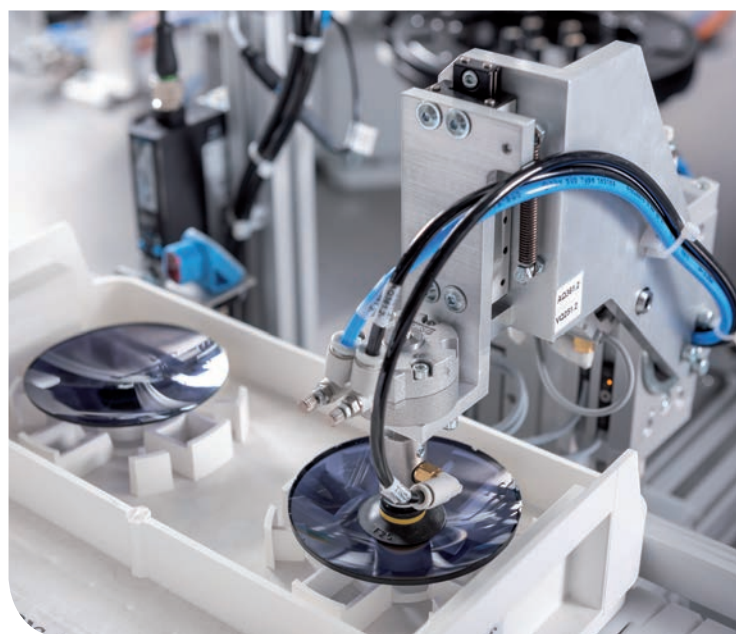
CAPACITY

135 jobs/hour



MAIN FEATURES

- › Automatic loading/unloading
- › Automatic positioning (PPOS)
- › Shape measurement
- › Check of the polarization / gradient axis
- › Film applicator (Cx side - optional) for hydrophobic lenses
- › Accurate blocking
- › Lens reloading up side down
- › Protection film application (concave side - optional)





Automation & Robotics

FINISHING

SPF-3

FOCOVISION RX VERSION WITH FRAME POSITIONING ASSISTANCE

- Lens always perfectly set on the Focovision lens holder for an optimal measurement quality (incl. sport frame positioning device)
- Interpupillary distance directly measured on the frame plane whatever the frame curvature
- Prism imbalance check (required by ISO standards)



Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323



FOCOVISION RX VERSION WITH FRAME POSITIONING ASSISTANCE



LATEST DEVELOPMENT

- › The FOCOVISION SPV-3 software is based on Windows 10 Embedded OS.
- › A new light source provides an improved ring image. Effect of local defects (dusts,...) are detected and corrected using a proprietary technology. The new light source, based on the long-life LED technology can easily be exchanged (plug and play), leading to better accuracy in lab conditions



MAIN FEATURES

- › Complete inspection station to verify the proper lens mounting
- › The lens position within the frame is checked :
 - Multifocal lenses : in accordance with the μ -engravings or segment
 - Single vision : no tedious positioning required (recalculation) + horizontal and vertical imbalance
- › Optical power measurement according to configurable inspection procedures
- › Connection to the host computer :
 - Nominal data
 - Transmission of measured data
 - Go/no go decision
- › Worldwide reference instrument



BENEFITS

- › High accuracy, repeatability
- › Prism imbalance check
- › Objective power measurement and Go-No Go decision
- › Easy to handle frame positioning device
- › Lens always perfectly set on the Focovision lens holder for an optimal measurement quality
- › Interpupillary distance directly measured on the frame plane whatever the frame curvature
- › Easy calibration
- › Connected to your host computer
- › Low maintenance
- › Easy calibration
- › Industrial design (no dust sensitive)
- › Configurable checking procedures
- › User friendly interface
- › Little training required





Automation & Robotics

S E R V I C E

Our world-wide Service Team is fully dedicated to listen to the needs of our customers and to give quick and professional solutions to all enquiries.



AFTER SALES SERVICE

Our in house After Sales Service includes technical support engineers and technical support assistants, located in Belgium, United States, Thailand, and Latin America.

They are happy to assist you with all your enquiries. They can:

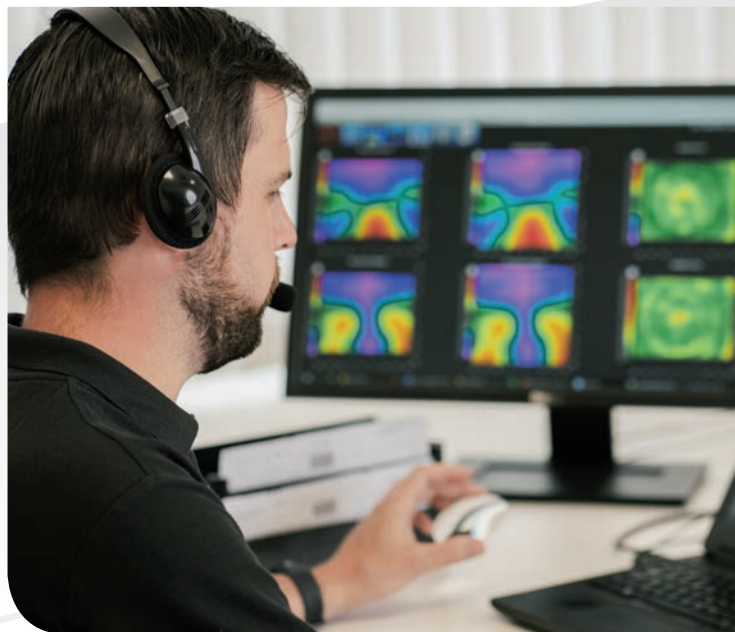
- › Troubleshoot your machine with powerful tools for remote diagnostics.
- › Provide quick and professional support via telephone, email and live chat.
- › Submit quotations for maintenances, upgrades, training and repairs.
- › Assist you, to optimize your spare-parts stock, propose spare parts and consumables.
- › Provide an easy and quick handling of Repairs/ Returned goods.



CUSTOMER ENGINEER GROUP

The Customer Engineering Group (CEG) is a Team of highly skilled engineers at the service of our customers, sharing their expertise on particular topics, assisting them in optimising the A&R equipment use in production... In concrete terms,

- › The CEG assists the project engineers (preparation of the data connection, machine configuration, transfer of information to the installers and support during machine installation on site)
- › Once the equipment has been installed, the CEG provides specific support and expertise to the after-sales service and to the customer (e.g. optimization of the automatic positioning rate of our equipment, better understanding and interpretation of measurement maps...)
- › The feedback of the CEG is much appreciated by the other A&R departments (R&D, product managers...) through their constant interaction with customers.
- › The CEG Team is also able to install standard machines/instruments and provide training
- › Finally, the support of the CEG is very valuable for the Sales team (technical exchanges, carrying out measurement and inking tests...)



Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323





SERVICE ENGINEERS

We also have a team of specialized Service engineers based in Belgium, the US and in Thailand. All of them are all highly qualified and experienced. Their main task is to provide on-site assistance for:

- › Preventive maintenance
- › Training
- › Upgrades & Installations
- › Troubleshooting

The service comprises measures to maintain the productivity and functionality of the machine. This includes adjusting, calibrating, controlling and testing of the machine(s) as well as the replacement of worn parts.

Through their knowledge and reactivity we are able to offer a high quality on-site service.



SERVICE AGREEMENT

With the Service Agreement we ensure a high availability of the machines. This is done via a regular maintenance on the machines, providing access to a Help Desk outside of normal office hours and a special discount on spare parts. Beside a full yearly maintenance, we propose additional reduced maintenances. A service agreement can save you a lot of money in overall maintenance and unexpected repair costs. Clients who have signed these agreements are given priority over other customers and are enjoying a dedicated service schedule.



Automation & Robotics

LOCATIONS



WORLDWIDE

USA

A&R Optical Machinery Inc.

155 South Executive Drive, Suite 210
Brookfield, WI 53005

UNITED STATES

+1 262 - 641 - 8780
arom@ar.be

BRAZIL

Automation & Robotics Do Brasil

Rua Azevedo Soares 2614
Vila Gomes Cardim - Tatuape
SP 03322-002 SAO PAULO

BRAZIL

+55 (11) 2368 1067
aut-rob@ar.be

BELGIUM

Headquarters Automation & Robotics SA.

P.I. de Lambermont
rue Jean Koch 11
4800 Verviers

BELGIUM

+32 (0)87 322 323
aut-rob@ar.be

CHINA

Automation & Robotics Optical Equipment China

256 Jiang Hong Nan Lu Binjiang
HANGZHOU 33 310052

CHINA

+86 57187772498
aut-rob@ar.be

THAILAND

A&R Optical Equipment (Thailand) Co., Ltd

80/37 Krungtapgreetha Road

Sapasoon Kwang,
Sapasoon Khet

10250 Bangkok

THAILAND

+66 21 84 90 25
ar.thai@ar.be

AGENT FOR LATIN AND SOUTH AMERICA

Matias Casco +54 9 341 4685 714 - matias@generaloptics.us

Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. +32 (0)87 322 323





Automation & Robotics

Parc Industriel de Lambermont
B-4800 VERVIERS - Belgium
P. **+32 (0)87 322 323**

www.ar.be