



The Next Generation Profile Projector for Optical Market

Smart_Shape_Premium
High Performance Lens & Masks Shape
Quality Control Machine

Smart_Shape_Premium

High Performance Shape & Dimensional Quality Control Equipment



"Fast, Automatic Profile Projector specifically designed to Control Shape & Dimensions of Lenses, Frames, Masks, Visors, Hinges and Rods"

Fast & Easy

Smart_Shape_Premium is available in **two models** and provides objective and repeatable high precision **measurement of dimensions and checks the shape** of Lenses, Frames, Masks, Visors, Hinges and Rods.

The instrument provides the user a prompt « **Pass / Fail** » **signal output** in few seconds and automatically feeds a database with all the data collected, **reducing the time and cost of controls**.

Accurate

With **Smart_Profile_Matching**, an advanced feature of automatic profile check, Smart_Shape_Premium can compare samples to a **DXF master**. Standard applications include Lenses, Frames, Masks and Visors.

Smart_Shape_Premium can automatically perform **Geometrical and Dimensional Analysis** section:

- Lens perimeter length (Clock)
- A/B axis length
- Analysis of perimeter shape

Automatic & Productive

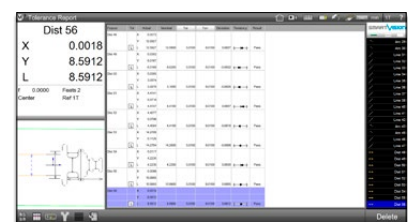
Smart_Shape_Premium eliminates once for all the uncertainty of traditional instruments evaluation like profile projectors and calipers, allows lens edging process improving and eases Statistic Process Control (SPC).

The **intuitive software** ensures a full automatic evaluation and creates reports of all control activities in compatible and ready-to-print Excel files, PDF and Image files.

Smart Software: TOUCH & MEASURE!



- Multi touch-screen software
- Automatic feature recognition



- Automatic data report
- XLSX / CSV / TSV / TXT / DXF / PDF

Hardware Features

Smart_Shape_Premium



Industrial high resolution camera

High performance Telecentric Optics

Resistant stainless steel industrial case
Compact static equipment

Ready for Automation
Suitable for the production line

Protected measuring chamber
Easy object placement
Height-adjustable interchangeable glass
Customizable loading plate

Directional Diascopic Light

All-in-One PC Touchscreen



Digital live view and accurate colors

Acquire and store extreme high definition digital images

Extended range of measurements

Compare master item (any image saved on the pc) with the live view image

Save images with overlay measurements
Export the measurement data report

Shape & Dimensional Quality Control Solutions

Case Studies & Application Examples



Lenses



Frames



Masks



Visors



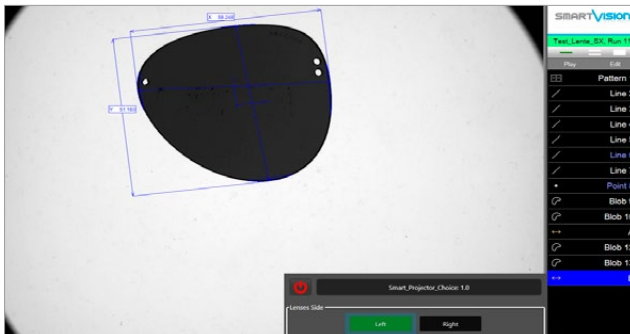
Hinges



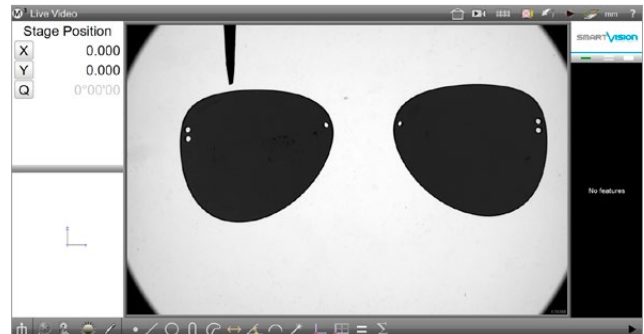
Rods

Smart_Mirror Software Option

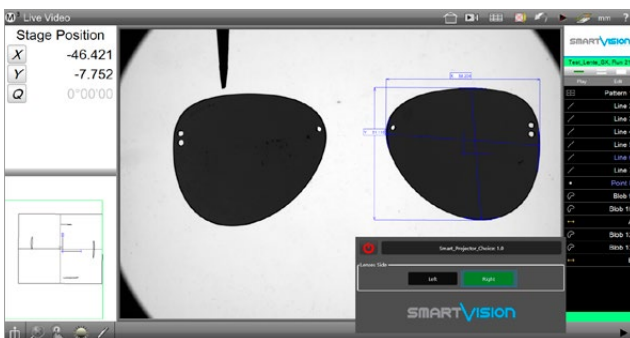
One program for two symmetric samples



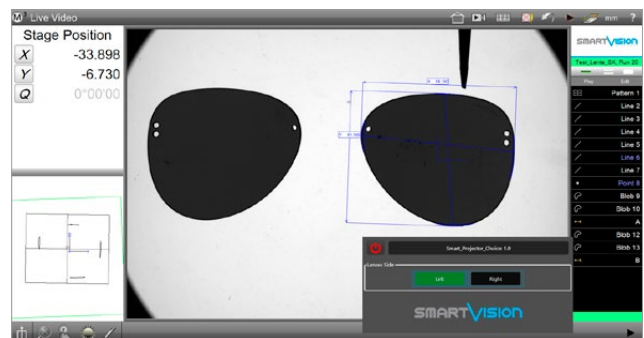
1) A measuring program is created for right lens



2) A pair of coupled lenses are put into the analysis chamber.



3) The tip points out left lens. The program run on right lens



4) The SAME program is run for left lens without any HW change

Smart_Mirror add-on allows to check right and left lens using one single measuring program without any hardware modification.

The user creates the measuring program for one lens only (e.g. right), then he may exploit the program for both type of lenses, choosing the desired mode.

Product Highlights

Features & Benefits of Smart_Shape_Premium

Main Features	Related Benefits
Optical contactless system	Objective measurement Independent from operator's skills Increase the quality of controls Specifically designed for lenses, frames, masks, visors, hinges, rods, etc.
Protected analysis chamber	No external light nor dust influence Easy sample positioning
Static equipment, without moving parts	Maintenance free No need for re-calibration Accuracy independent from sample's dimension No need of manual collimation, nor focus
Rugged, Compact & Fanless	Can be used in any industrial environment Can be used in a lab Save space on site
Flexible measuring software	Possibility to measure a, b and perimeter even for non-circular lenses Slots, holes and loops are promptly detected Further measurements can be added in an existing program User-defined parameters and process-related dimensions are gaugable
Full automatic reporting	No mistakes in transcription, Time-saving in creating reports Continuous database feeding
Telecentric optics	High contrast images No distortion No perspective effects caused by inappropriate positioning Less sensitive to samples' curvature
Fixed FoV	Accuracy independent from sample's dimension Faster measurements
Pattern recognition	Accepts random positioning of the part Multiple parts can be analysed at once Prevents the operator from using the wrong program
Smart_Profile_Matching	Automatic Profile Fit Master Creation from physical samples or DXF Optimal for Reverse Engineering Profile matching between current and master shape
Smart_Mirror	Symmetric samples can be checked using one program Ideal for controlling lenses and similar products
Smart support	No need of expensive on-site service Available Support in short time in all the World by TeamViewer app Online operator training Easy setup of SW updates and upgrades
External PC with Win10 Pro	Worldwide known Windows environment eases operator's approach If SW/HW problems no need to open the instrument, only send the PC
Made in Italy	High Level of Quality and Innovation

Smart_Shape_Premium

Technical Specification

Available Models	Smart_Shape_Premium	Smart_Shape_Premium XXL
Field of View ³ (FoV) (mm)	168x113	200x150
FoV Type	Rectangular with vignetting	Rectangular with vignetting
FoV Diagonal (mm)	195	250
FoV Area (mm ²)	18500	30000
Measuring Chamber ⁵ (mm)	250x330 H.405	419x456 H.475
Repeatability ⁴	±1.5 µm	±5 µm
Accuracy ⁴	±8 µm	±20 µm
Diascopic Light ¹	Directional	Directional
Layout	Vertical	Vertical
Light receiving lens	Telecentric lens	Telecentric lens
Dimensions (mm)	335x380 H.1255	685x510 H.1813
Weight (kg)	40	140
Operation ambient °C	+10 to +40°C	
Power supply / consumption	110-240 Vac 50-60 Hz 2 A	
Measurement points	16000 features max	
Pattern search	XYθ (accepts random positioning)	
Tolerance	Angle, angularity, area, circumference, concentricity, diameter, flatness, form, length, parallelism, perpendicularity, radius, roundness, runout, straightness, symmetry, true position, width, XY position.	
SmartVision PC Device	Powerful All-in-One PC, FULL HD touchscreen, Monitor resolution 1920x1080, Windows 10 PRO 64-bit	
Statistical Analysis	Ready to connect with SPC software	
CAD export	dxf file with nominal values and tolerance	
CAD import	dxf file for profile match, nominal values and tolerance	
Data Report	xlsx, csv, tsv, txt	
Print Report	Windows installed Printer (optional pdf), xps	
User account control	Supervisor, Users 1 to 20 (with password login and editable rights)	
Multi language interface	English, German, Spanish, French, Italian, Portuguese, Russian, Chinese, Japanese, Polish, Czech, Romanian. All languages are editable.	

¹ Diascopic Light: Standard Directional led backlight.

³ Standard models - other custom FoV available on request.

⁴ Precision of measurement (±µm) of a line, obtained measuring a specific calibration target located approximately in FoV center, best focus position, at 25° C ±1°.

⁵ The dimensions of the measuring chamber are not the dimensions of the Field of View, therefore they have not to be considered as test area.



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IN LINE QUALITY