LMI TECHNOLOGIES

Gocator®

3D SMART SENSOR AUTOMOTIVE SOLUTION

Gocator Volume Checker is the only solution on the market designed specifically for chamber volume inspection of cylinder heads and piston bowls in small- to medium-sized automotive internal combustion engines (ICEs). The Gocator 3210 sensor produces high resolution 3D scans and measurement results (at +/- 0.04 cm^3 accuracy) in seconds—even on combustion chambers and pistons with shiny surfaces.

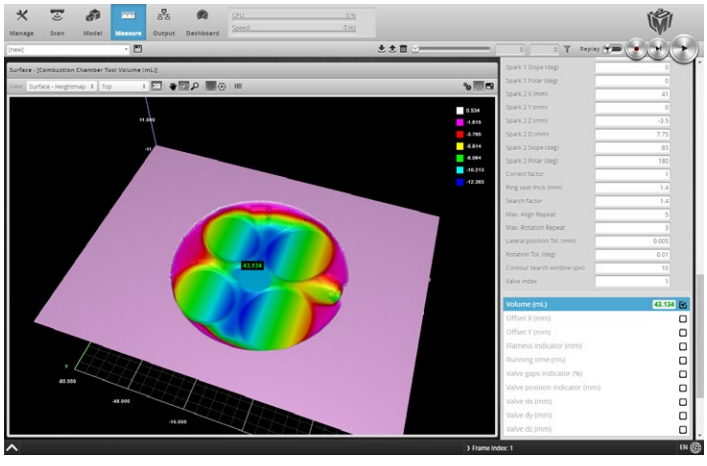
- » FAST AND NON-CONTACT MEASUREMENT
- » REPLACES TRADITIONAL METHODS SUCH AS FLUIDS, PRESSURIZED AIR, ACOUSTICS
- » EASILY HANDLES SHAPE VARIATIONS
- » 2-MEGAPIXEL STEREO CAMERA MINIMIZES OCCLUSIONS

ACCURATE CHAMBER VOLUME MEASUREMENT
Gocator Volume Checker scans and measures volume at an accuracy of +/- 0.04 cm^3 in a cycle time of less than 5 seconds. Traditional methods can take up to 4-5 minutes to complete.

EASY-TO-USE WITH NO PROGRAMMING NEEDED
Gocator's built-in GUI provides an intuitive setup experience, using any web browser, computer, or operating system. No additional software is required.

MULTIPLE I/O OPTIONS
Gocator Volume Checker measures from a high density 3D scan to verify displacement volumes and interfaces seamlessly to send pass/fail decisions to PLCs.

INDUSTRIAL PROJECTOR FOR LONG LIFETIME
The sensor's LED light source makes it easier to work with than lasers. The bright LED and industrial design enables shorter exposures, so you get measurements faster with an expected lifetime of up to 10 years of continuous operation.

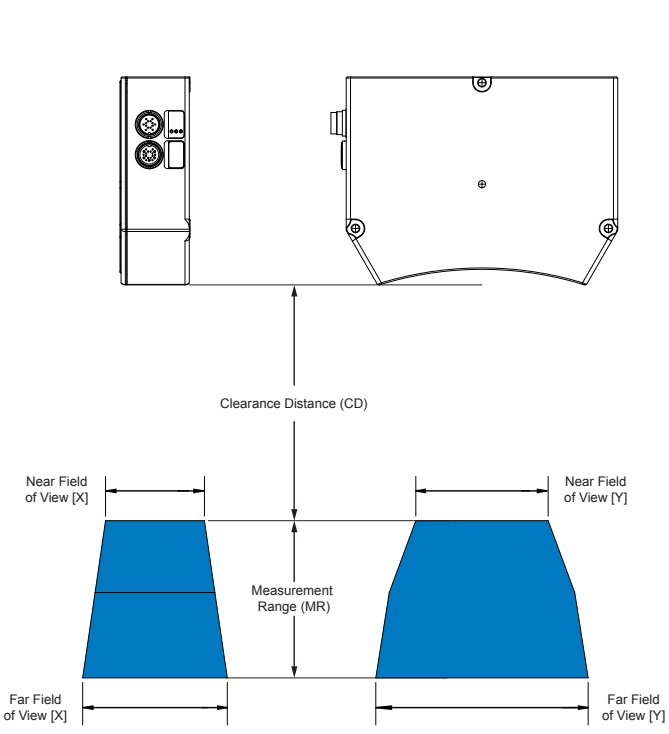


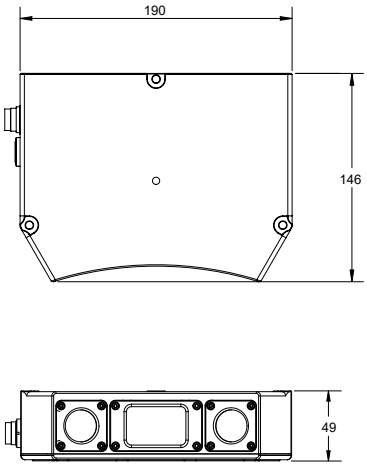
Gocator's browser-based graphical user interface showing a 3D volume measurement of an automotive cylinder head.

SMALL FORM FACTOR
Gocator 3210's compact size allows for the tight configuration of multiple sensors to achieve simultaneous measurement of multiple cylinder heads on a single engine block.

Gocator 3210 Specifications	
Scan Rate (Hz)	4
Measurement Time (seconds)	5
Imagers (megapixels)	2
Clearance Distance (CD) (mm)	164.0
Measurement Range (MR) (mm)	110.0
Field of View (mm)	71.0 x 98.0 - 100.0 x 154.0
Repeatability Z (µm)	4.7
Resolution XY (mm)	0.060 (CE) - 0.090 (FE)
VDI/VDE Accuracy (mm)*	0.035
Volume Accuracy (cm^3)	+/-0.04
Dimensions (mm)	49 x 146 x 190
Weight (kg)	1.7
Light Source	Blue LED (465 nm)
Interface	Gigabit Ethernet
Inputs	Differential Encoder, Trigger
Outputs	2x Digital Output, RS485 Serial (115 kbaud), 1x Analog Output (4 - 20 mA)
Input Voltage (Power)	+24 to +48 VDC (50 Watts); Ripple +/- 10%
Housing	Gasketed Aluminium Enclosure, IP67
Operating Temperature	0 to 45 °C
Storage Temperature	-30 to 70 °C
Vibration Resistance	10 to 55 Hz, 1.5 mm double amplitude in X, Y and Z directions, 2 hours per direction
Shock Resistance	15 g, half sine wave, 11 ms, positive and negative for X, Y and Z directions
Software and Built-in 3D Measurement Tools	
3D Feature Tools	Openings (holes, slots), Cylinders, Studs (threaded and non-threaded), Plane
3D Volumetric Tools	Volumes, Areas, Bounding boxes, Positions (min, max, centroid), Ellipses, Orientations
Scanning Software	Browser-based GUI and open source SDK for configuration and real-time 3D visualization. Open source SDK, native drivers, and industrial protocols for integration with user applications, third-party image processing applications, and PLCs.

* Based on 2634, Part 2





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