



Cobra™ 2D | 3D

Cobra™ 2D/3D – Portable laser profile scanning systems that quickly provide high-resolution, non-contact, linear profiles with easy measurement of height, length, slope, and radius. Using low power laser light, both systems are ideal for fragile or pliable parts that have critical surface contours. Cobra systems feature:

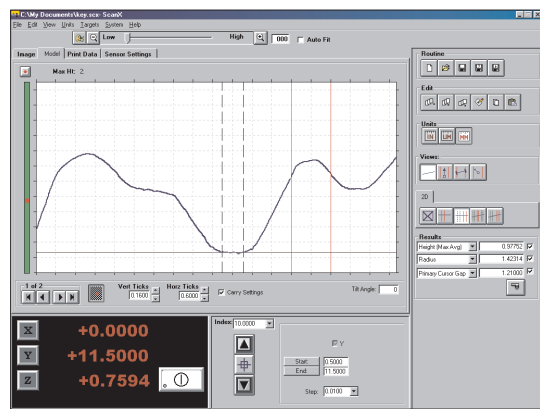
- **Accurate Surface Profiles** – Cobra provides accurate surface height information as its low-power laser scans over a surface.
- **Selectable Laser Sensors** – Choice of DRS-500 or DRS-500B that uses a blue laser which is better for transparent or white parts.
- **Two Available Models** – Cobra 2D measures surface height while scanning along its Y axis. Cobra 3D measures surface height while scanning in its X and Y axes. Optional video camera is also available on both models for on-axis imaging of the part being measured.

Laser Profile Scanner



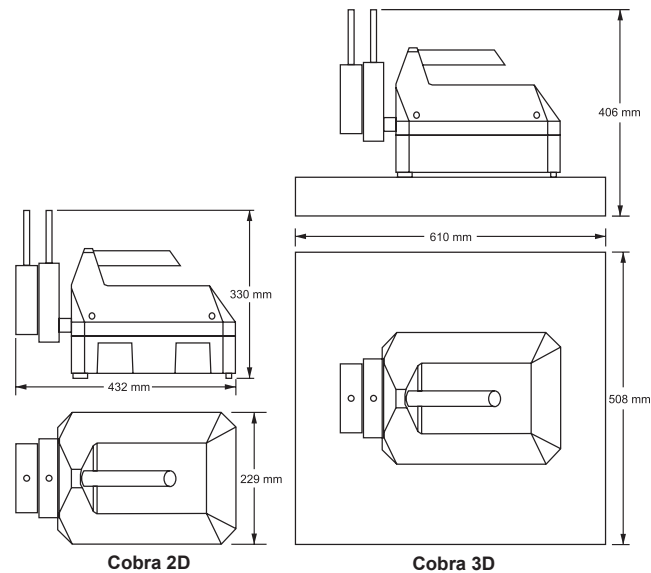
Cobra 3D, mounted on granite base (included).





Scan-X® is a powerful, yet easy to use, surface profiling software package that allows users to visualize and make measurements from surfaces. When used online with the Cobra Laser Profile Scanner, Scan-X analyzes laser scan data to produce a high-resolution, two-dimensional profile and/or three-dimensional raster.

Cobra™ 2D|3D



System Weight: Cobra 2D: 10.5 kg
Cobra 3D: 80 kg

Shipping Weight: Cobra 2D: 30 kg
Cobra 3D: 156 kg

	Standard	Optional
Scan Length	Cobra 2D: X-axis NA, Y-axis 50 mm Cobra 3D: X-axis 100 mm, Y-axis 50 mm	
Z-axis Adjustment Range	50 mm	
Min Step Size	1.0 µm	
Data Range	Up to 1000 points per second (user configured)	
Max Points per Scan	20,000 (user configured)	
Straightness of Travel	± 1.0 µm within 25 mm	
DRS™ Sensors	DRS-500 (Red Laser)	DRS-500B (Blue Laser)
Type of Surface	Specular or diffuse reflective surfaces	Best for translucent or white parts
Working Distance ¹	17 mm	
Measuring Range ²	500 µm	
Spot Size ³ (nominal)	16 x 23 µm	13 x 20 µm
Resolution ⁴	0.125 µm	
Triangulation Angle	70°	
Software	Scan-X metrology software	Productivity software: MeasureFit® Plus, OGP® EVOLVE® SPC, EVOLVE SmartProfile® Offline software: Scan-X
System Controller	Windows® based, up-to-date processor and onboard networking/communication ports	
Controller Options		24" flat panel LCD monitor; or dual 24" flat panel LCD monitors; keyboard, 3-button mouse (or user supplied)
Accessories		Video camera, granite surface plate (standard on 3D model), manual positioning system, steel weldment stand, calibration kit
Power Requirements	115-230 VAC, 50/60 Hz, 1 phase, 400 W	
Safe Operating Environment	15-30° C, non-condensing	
Rated Environment	Temperature 18-22° C, stable to ± 1° C; max vertical gradient of 1° C / meter; 30-80% humidity; vibration <0.001g below 15 Hz	
Z Accuracy⁵	1.0 µm	

Specifications apply within the rated environment.

¹Distance in Z from the lowest point on the DRS laser to the middle of the measuring range.

²Measuring Range is the Z-range over which the performance of the sensor is linear and calibrated.

³With spot size at best focus.

⁴Using high quality specular (polished glass) surface, 1σ

⁵Accuracy of the laser on horizontal specular surface within the measuring range.



Safety Considerations

This system is classified as a Class II laser device by IEC 825 (2001). **Do not stare directly into the laser source.**



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