

ES-A5000 SERIES AREA SCAN 3D CAMERA

The Cognex ES-A5000 series area scan 3D camera delivers breakthrough 3D image acquisition for higher throughput and shorter cycle times. High resolution images and industry-leading 3D algorithms support reliable part inspections, pick-and-place applications, and inline metrology more quickly than competitive systems on the market.

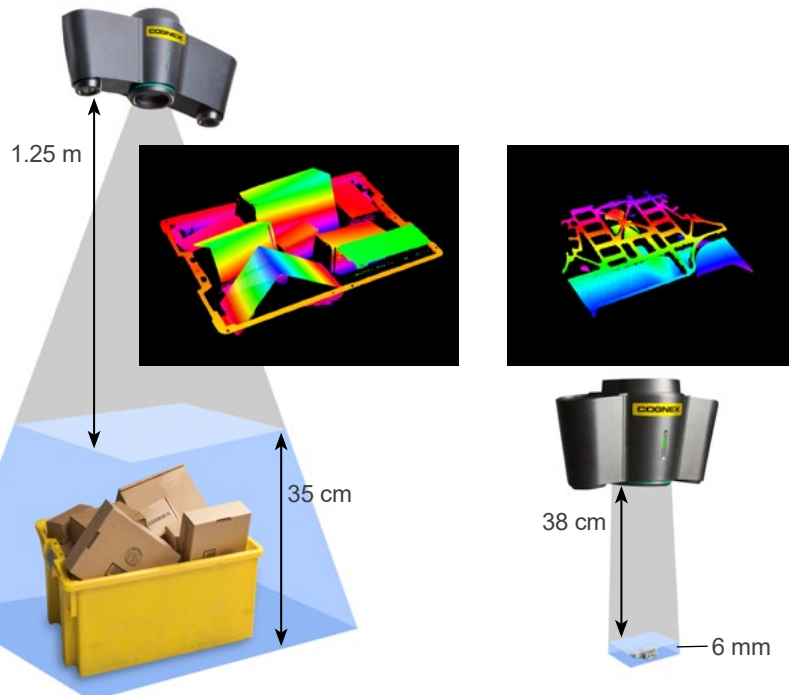
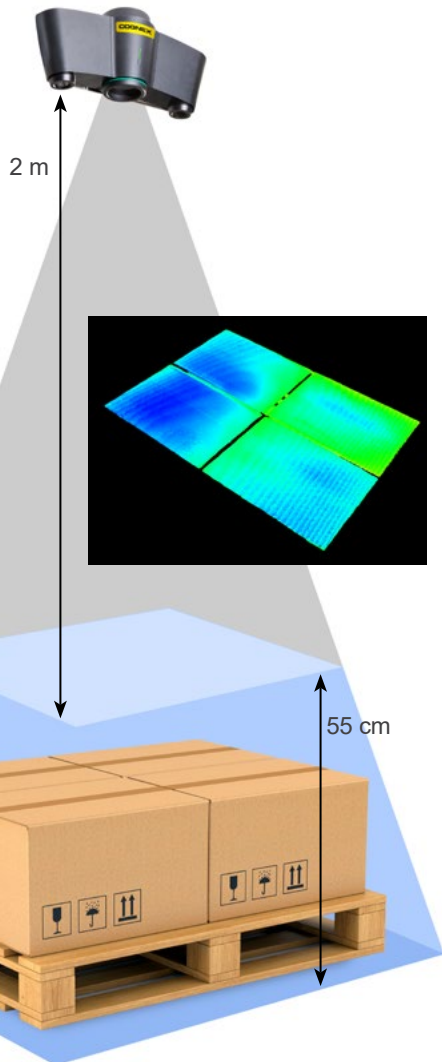
Benefits

- More than 1 million 3D data points
- Patented structured light technology
- Complete hardware and software solution
- Powerful 3D tools in VisionPro® software
- Robust to varying lighting conditions



Wide range of working distances and fields of view

The ES-A5000 supports fields of view (FOV) from 56 x 38 mm to 1490 x 1090 mm. This flexible FOV accommodates objects varying in size and shape, solving inline 3D measurement and inspection applications in both factory automation and logistics.



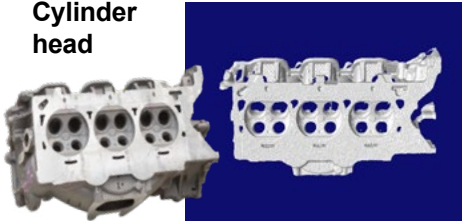
Higher throughput and shorter cycle times

The ES-A5000 captures 3D images of stationary objects. Patented structured light technology achieves image acquisition rates of 10 Hz and up to 5 μm measurement precision—10 times faster than fringe projection technology—for higher throughput and shorter cycle times.

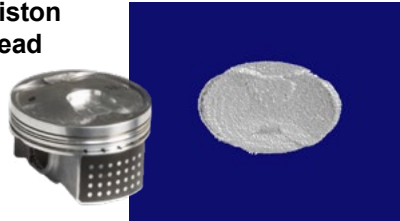
Easy integration with Cognex VisionPro software

ES-A5000 comes equipped with Cognex VisionPro 3D toolset for object location, measurement, and inspection. The area scan 3D camera integrates with Cognex VisionPro software through an independent Acquisition Integration Kit (AIK) interface and includes a Cognex vision controller and accessories.

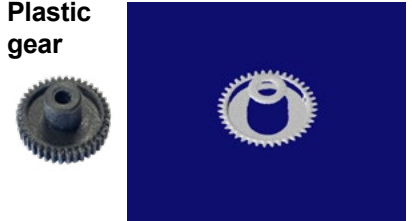
Cylinder head



Piston head

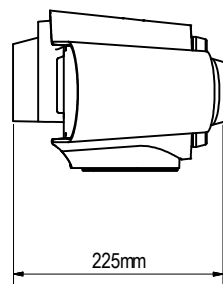
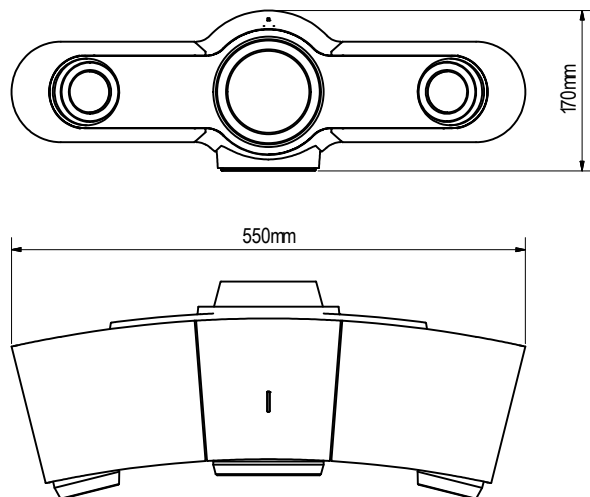


Plastic gear

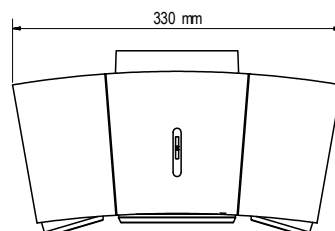
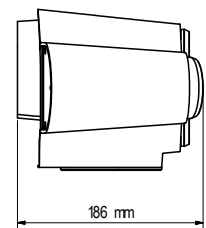
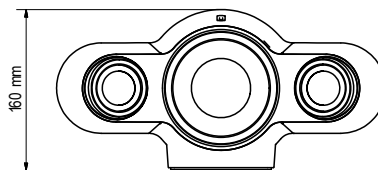


3D images seen in VisionPro.

Baseline distance: 40 cm



Baseline distance: 20 cm



SPECIFICATIONS

Model	ES-A5100-420	ES-A5060-420	ES-A5060-412	ES-A5060-212	ES-A5004-203
Baseline distance	40 cm	40 cm	40 cm	20 cm	20 cm
Clearance distance	2000 mm	2000 mm	1250 mm	1250 mm	377 mm
Measurement range (Depth of field)	550 mm	200 mm	350 mm	350 mm	6 mm
Near end field of view	1250 x 880 mm	630 x 440 mm	620 x 430 mm	620 x 430 mm	56 x 38 mm
Far end field of view	1490 x 1090 mm	640 x 450 mm	630 x 450 mm	670 x 480 mm	56 x 38 mm
Imager	1.3 MP				
Resolution XY	1400–1670 μ m	670–680 μ m	660–670 μ m	660–670 μ m	63 μ m
Repeatability Z (σ)	600 μ m	250 μ m	120 μ m	150 μ m	5 μ m
Absolute accuracy	1.5 mm	0.7 mm	0.6 mm	0.6 mm	0.06 mm
Dimensions	170 x 225 x 550 mm	170 x 225 x 550 mm	170 x 225 x 550 mm	160 x 186 x 330 mm	160 x 186 x 330 mm
Weight	4.2 kg			2.9 kg	
3D image acquisition rate	Up to 10 Hz				
Operating temperature range	17–27 °C				
Storage temperature	0–50 °C				
Power supply	22–26 V				
Power consumption	Average power maximum: 150 W				
Operating current	Up to 5.8 A depending on operating mode				
Regulatory compliance	CE, FCC, TÜV SÜD NRTL, RoHS				

COGNEX

Companies around the world rely on Cognex vision and barcode reading solutions to optimize quality, drive down costs and control traceability.

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Lit. No. DSESA5000EN-11-2017

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