

ARGOS matrix

Systems for automated high-resolution scratch-dig inspection

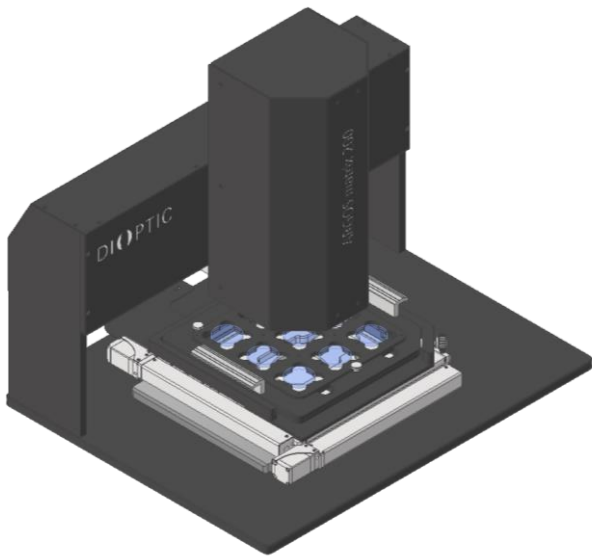
System sizes	200	400	
Maximum inspection area	200 mm x 200 mm	600 mm x 400 mm	
System size (L x W x H)	645 mm x 520 mm x 700 mm	1510 mm x 1085 mm x 2322 mm	
Power consumption rated / typ.	1140 W / 400 W	1360 W / 500 W	
Surface materials	Polished, uncoated or coated glass surfaces with optical quality. Custom solutions can be offered for other surface types e.g. metals, semiconductors, plastics, crystals on request.		
Clean room compatibility	All systems are ISO 6 cleanroom compatible versions. ARGOS matrix 400 has a filter fan unit for a laminar flow of clean air inside the system.		
Resolution options	S	M	L
Nominal resolution (Object-side pixel pitch)	3.0 µm	5.0 µm	7.5 µm
Camera field of view	13.7 mm x 13.7 mm	22.4 mm x 22.4 mm	33.6 mm x 33.6 mm
Smallest ISO 10110-7 size grade	0.004 (digs), 0.0025 (scratches)	0.0063 (digs), 0.004 (scratches)	0.01 (digs), 0.0063 (scratches)
Smallest visible defects ^{1/2}	< 1 µm	< 2 µm	< 3 µm
Reproducibility of the size measurement ^{1/3}	< 1.5 µm	< 3 µm	< 4.5 µm
Inspection example: 8" wafer ⁴	12 min	4 min	2 min
Inspection example: Lens, D = 30 mm, curvature R = 30 mm ⁴	4 min	2 min	15 s

¹ These specifications can only be guaranteed with the original ARGOS calibration sample with known defects of defined width and depth.

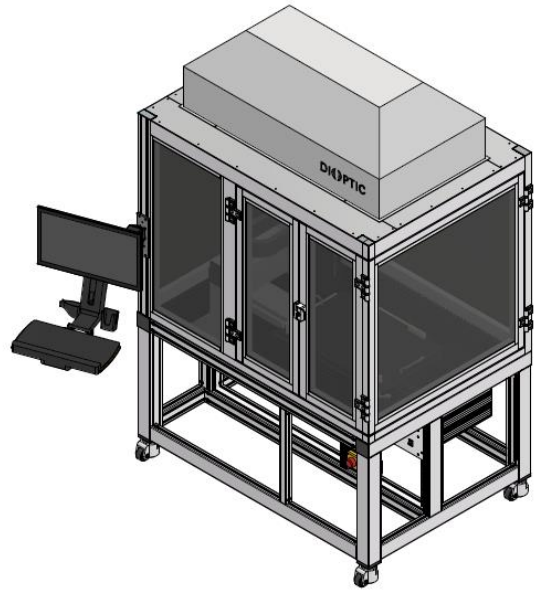
² Smallest visible defects: Small defects will be assigned the minimum grade number 0.0025/0.004/0.0063.

³ Reproducibility of the size measurement: Mean standard deviation of measured defect sizes for 30 repetitions with the same calibration sample.

⁴ Inspection duration: The evaluation time depends on the specification and quality of the surface.



Example of ARGOS matrix 200.



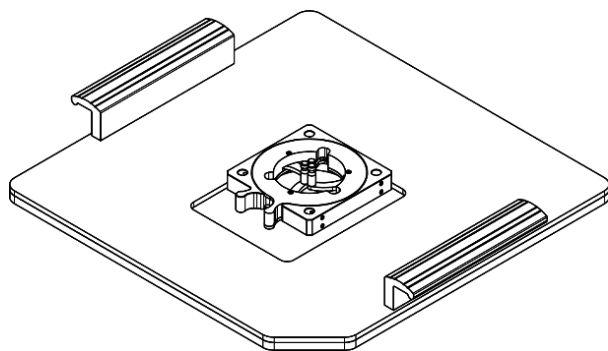
Example of ARGOS matrix 400.

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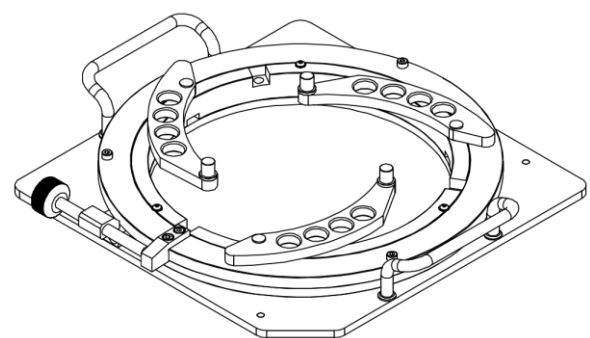
Mounts for single component inspections

Our single component inspection mounts are very versatile, allowing you to quickly set up the system to inspect a wide range of circular optical components. The smaller mount is suitable for optics with diameters up to 45 mm and is included with every new ARGOS system. The larger mount is suitable for components with diameters up to 8”.

Type	Self-centering mount 45 mm	Self-centering mount 8”
Material	Aluminum (anodized) and plastic mounting fingers	Aluminum (anodized) and plastic mounting fingers
Component		
Shape	Round	Round
Surface	Flat, spherical, aspherical, free form Surface angle < 30°	Flat, spherical, aspherical, free form Surface angle < 30°
Diameter	from 3.8 mm (0.15”) to 45.0 mm (1.77”)	Diameter from 25.4 mm (1”) to 203.2 mm (8”)
Thickness	from 0.7 mm to 29.5 mm	from 0.7 mm to 12.5 mm
Maximum weight	0.1 kg	1.85 kg
Adapter		
Material	Aluminum (coated)	Aluminum (coated)
Equipment features	Magnets, handles and feet	Handles and feet



Example of self-centering mount 45 mm and adapter assembly.



Example of self-centering mount 8” and adapter assembly.

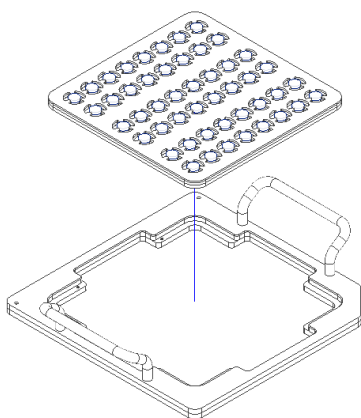
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Fixtures for multipart inspections

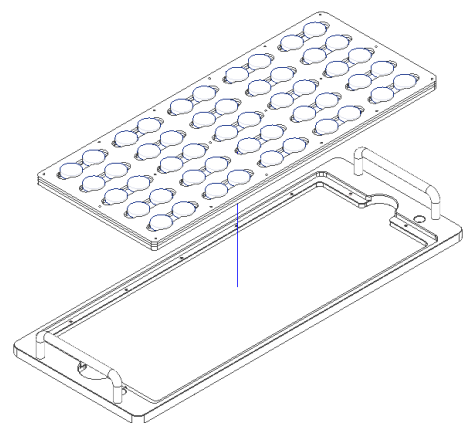
Our multipart fixtures are the perfect solution for recurring inspections of the same component type. They consist of two parts: a universal adapter and individual drop-in fixtures that are specific to the shape of the component.

Note: If your components do not meet the following specifications, please contact us for a custom solution.

System size	200	400
Maximum number of fixtures per system	1	3
Drop-in fixture size	219 mm x 219 mm	180 mm x 445 mm
Material	Aluminum base (coated) and acrylic or POM contact plate	Aluminum base (coated) and acrylic or POM contact plate
Component		
Shape	Round or free form with a flat support surface	Round or free form with a flat support surface
Surface	Flat, spherical, aspherical, free form Surface angle < 30°	Flat, spherical, aspherical, free form Surface angle < 30°
Maximum diameter or length	200.0 mm	150.0 mm
Maximum thickness	45.0 mm	45.0 mm
Maximum total weight	1.0 kg	1.5 kg
Adapter		
Material	Aluminum (coated)	Aluminum (coated)
Equipment features	Magnets, finger screws, handles and feet	Magnets, handles and feet



Example drop-in fixture and adapter for ARGOS matrix 200.



Example drop-in fixture and adapter for ARGOS matrix 400. Three adapters and fixtures fit into the inspection area.