



FGC-GA

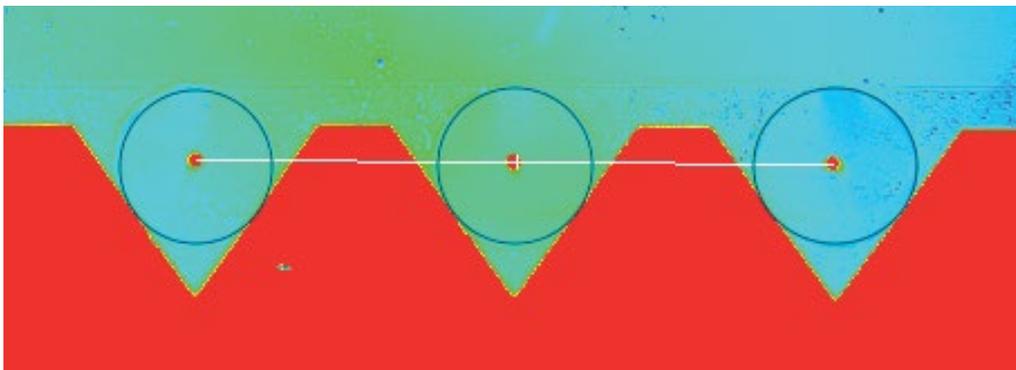
Fiber Glass Geometry System



The FGC-GA is the all-in-one solution for precision measurements of the geometry of the widest range of optical fibers, V-grooves arrays, and ribbon connectors. With one unit, users can completely characterize V-groove block geometry, core-to-core pitch and core X & Y offset of multifiber arrays up to 22mm in width. With a huge 1200 μ m field of view as well as an automated lateral scanning stage the FGC-GA can give you all the results you need.

Features & Benefits

- V-groove array geometry - core to core pitch, X-offset, Y-offset and V-groove block geometry
- Arrays up to 22mm wide
- MT ferrule measurements
- Dual wavelength illumination (525nm and 850nm) ensures best optical performance but maintains standards compliance
- Wide range of Arden holders available plus custom holders
- Single fibers up to 1mm in diameter
- Polarisation maintaining fibers (with optional extra PM illuminator)



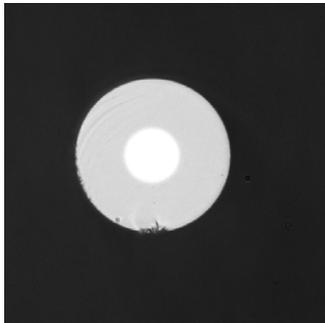
FGC-GA software display



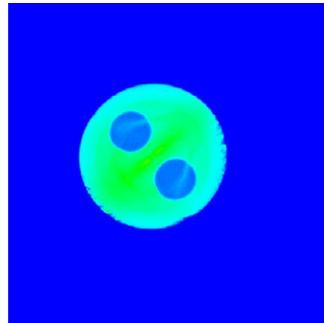
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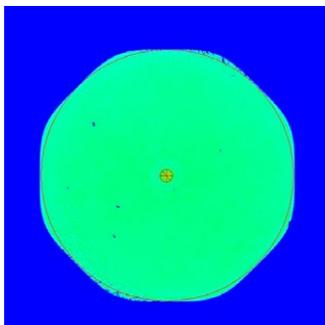
Fiber Gallery



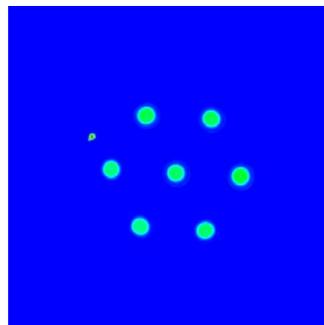
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Standard



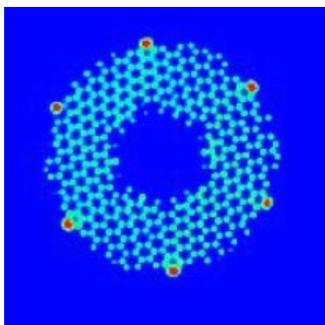
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PM



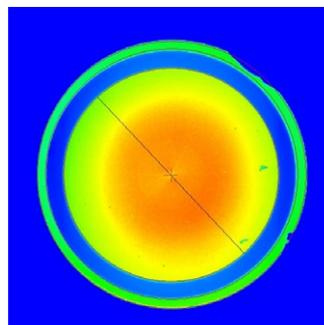
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Octagonal



<<
Multicore



<<
Micro-Structured



<<
Dual Clad



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Measurement Capability	
Fiber diameter	Up to 1mm
Single fibers	
Singlemode	Standard telecom
Multimode – Graded Index	OM1, OM2, OM3, OM4
Multimode – Step Index	From 50/125µm Up to 1000µm cladding diameter
Polarisation Maintaining	PANDA
Dual-clad	Minimum layer thickness = 20µm
Multi-core fiber	4 and 7 cores
Non-circular fiber	6 and 8 sides (can be part of double cladding structure)

Arrays	
Array Width	Up to 22mm
Fiber Types	Singlemode, Multimode, PM
Measurement Time	< 1 minute (excluding fiber preparation) for a 3-fiber array
MT ferrules	Positions of cores with respect to guide pins

Repeatability

Single fiber - Repeatability is measured on the FGC-GA using a single 20/400µm fiber with 525nm illumination without removing it from the unit.

Core Diameter	< 0.1 µm
Cladding Diameter	< 0.15 µm
Core Non-Circularity	< 0.5%
Cladding Non-Circularity	< 0.1%
Core-to-Cladding Concentricity	< 0.15 µm

Arrays - Repeatability is measured on the FGC-GA using a 3-fiber array, without removing it from the unit.

Core Diameter	< 0.1 µm
Core X/Y-offsets	< 0.1 µm
Core Non-circularity	< 0.5%
Core-core Distance	< 0.1%



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Optical	
Fiber illumination – reflection	Dual wavelength, switchable 850nm and 525nm
Fiber illumination - transmission	Multiple LED array, 850nm <ul style="list-style-type: none">■ Suitable for single cores up to 1000µm Single fiber ports, x3, 525nm <ul style="list-style-type: none">■ Suitable for single core up to 400µm■ Requires Arden-style fiber holder LC connector ports, x4, 525nm <ul style="list-style-type: none">■ suitable for single cores up to 400µm
Fiber illumination - PM	External module – optional extra Suitable for 80µm and 125µm fibers, PANDA style. Bow-tie style fibers can be imaged but not analysed. Software-controlled from main GUI.
Maximum field of view	1200µm
Image sensor	35mm CCD; 4864 × 3232 pixels resolution
Exposure range	Global shutter; 0.1ms to 100ms exposure time

Physical	
Weight	11 kg (with carry case 33kg)
Size	0.5m x 0.5m x 0.2m
Size of Fiber Handling Bench	0.5m x 0.5m x 0.1m
Operating temperature	10 – 30° C
Performance specification validated at	22° C
Power supply	15V (External power supply supplied)
Power consumption	60W
Data interface	1xUSB 3.0 (USB B to USB A: 2m cable supplied)
Computer requirements	All FGC systems are supplied with a computer running up-to-date Windows operating system



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Ordering Information

Part number	Description
FGC-GA	FGC-GA Geometry System for measurement of optical fiber V-groove arrays, MT ferrules and Large Diameter Fibers. Including optical unit, fiber handling bench; pair of Arden holders suitable for 400µm diameter coated fiber; FTK400 fiber samples; cables; software package and computer
FG-H-125	Pair of Arden FGC fiber holders with 125µm V-groove, suitable for 125µm diameter coated fiber
FG-H-200	Pair of Arden FGC fiber holders with 200µm V-groove, suitable for 200µm diameter coated fiber
FG-H-250	Pair of Arden FGC fiber holders with 250µm V-groove, suitable for 250µm diameter coated fiber
FG-H-400	Pair of Arden FGC fiber holders with 400µm V-groove, suitable for 400µm diameter coated fiber
FG-H-600	Pair of Arden FGC fiber holders with 600µm V-groove, suitable for 600µm diameter coated fiber
FG-H-800	Pair of Arden FGC fiber holders with 800µm V-groove, suitable for 800µm diameter coated fiber
FG-H-1000	Pair of Arden FGC fiber holders with 1000µm V-groove, suitable for 1000µm diameter coated fiber
FG-H-VA	FGC-GA adjustable array holder. Suitable for mounting arrays or v-blocks with widths from 2.5 to 22mm
FG-FTK-400	FGC fiber samples, 400µm diameter, for checking FGC alignment and calibration.
FGC-GAUEW2	FGC-GA array geometry system, extended warranty covering parts and labour for 2 years from purchase, return to base. Cover excludes camera.
FGC-GAUEW3	FGC-GA array geometry system, extended warranty covering parts and labour for 3 years from purchase, return to base. Cover excludes camera.
FGC-GAUEW4	FGC-GA array geometry system, extended warranty covering parts and labour for 4 years from purchase, return to base. Cover excludes camera.
FGC-GAUEW5	FGC-GA array geometry system, extended warranty covering parts and labour for 5 years from purchase, return to base. Cover excludes camera.
FGC-PMI	PM illuminator designed for use with the FGC

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