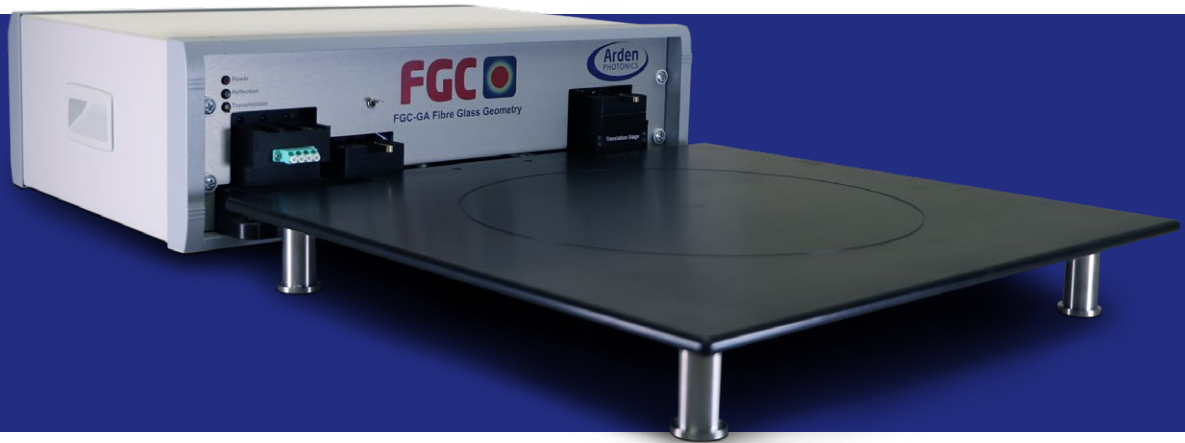




# FGC-GA

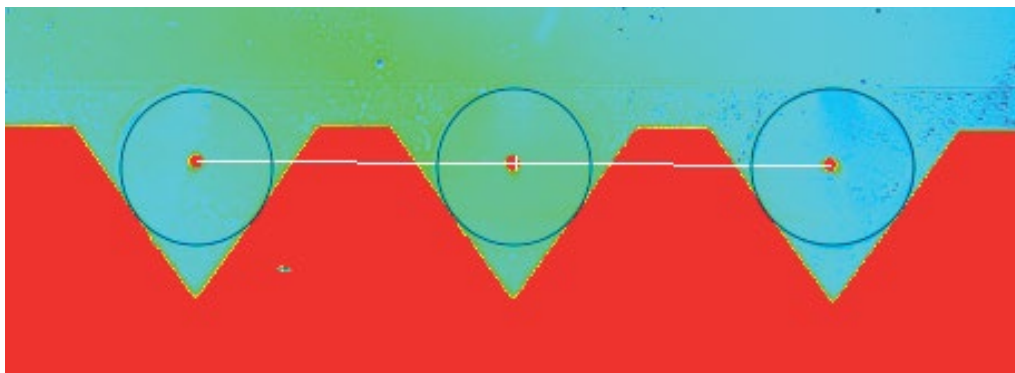
## Geometry System



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 15mm in width. With a huge 1200 $\mu$ 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 15mm 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)

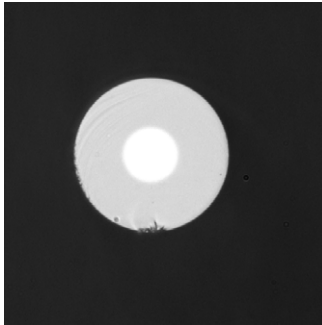


FGC-GA software display

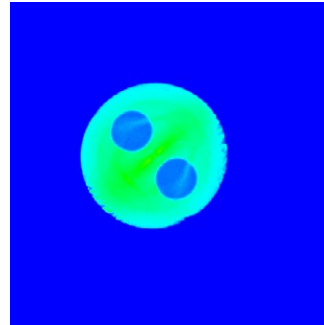


# FGC-GA Geometry System

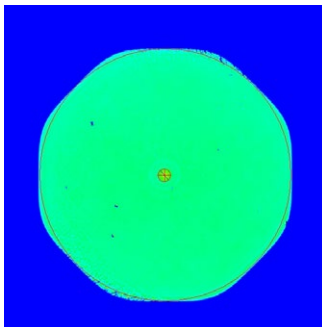
## Fiber Gallery



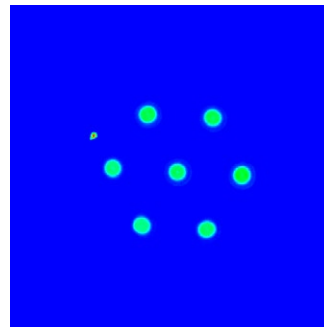
<<  
**Standard**



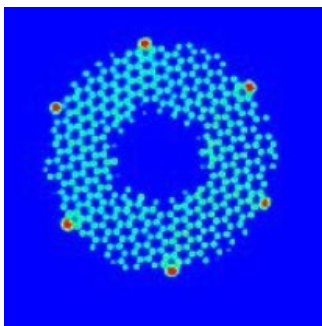
<<  
**PM**



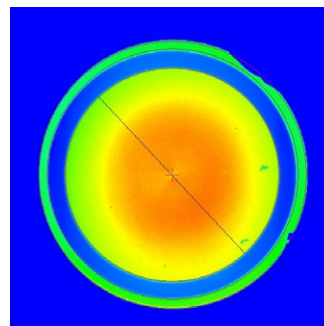
<<  
**Octagonal**



<<  
**Multicore**



<<  
**Micro-Structured**



<<  
**Dual Clad**



# FGC-GA

## Geometry System

### Measurement Capability

<b>Fiber diameter</b>	Up to 1mm
-----------------------	-----------

### Single fibers

<b>Singlemode</b>	Standard telecom
-------------------	------------------

<b>Multimode – Graded Index</b>	OM1, OM2, OM3, OM4
---------------------------------	--------------------

<b>Multimode – Step Index</b>	From 50/125µm Up to 1000µm cladding diameter
-------------------------------	---

<b>Polarisation Maintaining</b>	80µm and 125µm PANDA
---------------------------------	----------------------

<b>Dual-clad</b>	Minimum layer thickness = 20µm
------------------	--------------------------------

<b>Multi-core fiber</b>	Up to 7 cores
-------------------------	---------------

<b>Non-circular fiber</b>	5 – 8 sides (can be part of double cladding structure)
---------------------------	--

### Arrays

<b>Array Width</b>	Up to 15mm
--------------------	------------

<b>Fiber Types</b>	Singlemode, Multimode, PM
--------------------	---------------------------

<b>Measurement Time</b>	< 1 minute (excluding fiber preparation) for a 3-fiber array
-------------------------	--

<b>MT ferrules</b>	Positions of cores with respect to guide pins
--------------------	---

### Repeatability

**Single fiber** - Repeatability is measured on the FGC-GA using a single 540/600µm fiber with 525nm illumination without removing it from the unit.

<b>Core Diameter</b>	< 0.1 µm
----------------------	----------

<b>Cladding Diameter</b>	< 0.25 µm
--------------------------	-----------

<b>Core Non-Circularity</b>	< 0.05%
-----------------------------	---------

<b>Cladding Non-Circularity</b>	< 0.1%
---------------------------------	--------

<b>Core-to-Cladding Concentricity</b>	< 0.15 µm
---------------------------------------	-----------

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

<b>Core Diameter</b>	< 0.1 µm
----------------------	----------

<b>Core X/Y-offsets</b>	< 0.25 µm
-------------------------	-----------

<b>Core Non-circularity</b>	< 0.05%
-----------------------------	---------

<b>Core-core Distance</b>	< 0.1%
---------------------------	--------



# FGC-GA

## Geometry System

Optical	
Fiber illumination – reflection	Dual wavelength, switchable 850nm and 525nm
Fiber illumination - transmission	<b>Multiple LED array, 850nm</b> <ul style="list-style-type: none"><li>■ Suitable for single cores up to 1000µm</li></ul> <b>Single fiber ports, x3, 525nm</b> <ul style="list-style-type: none"><li>■ Suitable for single core up to 400µm</li><li>■ Requires Arden-style fiber holder</li></ul> <b>LC connector ports, x4, 525nm</b> <ul style="list-style-type: none"><li>■ suitable for single cores up to 400µm</li></ul>
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	11kg (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



# FGC-GA Geometry System

## Ordering Information

Part number	Description
<b>FGC-GA</b>	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
<b>FG-H-125</b>	Pair of Arden FGC fiber holders with 125µm V-groove, suitable for 125µm diameter coated fiber
<b>FG-H-200</b>	Pair of Arden FGC fiber holders with 200µm V-groove, suitable for 200µm diameter coated fiber
<b>FG-H-250</b>	Pair of Arden FGC fiber holders with 250µm V-groove, suitable for 250µm diameter coated fiber
<b>FG-H-400</b>	Pair of Arden FGC fiber holders with 400µm V-groove, suitable for 400µm diameter coated fiber
<b>FG-H-600</b>	Pair of Arden FGC fiber holders with 600µm V-groove, suitable for 600µm diameter coated fiber
<b>FG-H-800</b>	Pair of Arden FGC fiber holders with 800µm V-groove, suitable for 800µm diameter coated fiber
<b>FG-H-1000</b>	Pair of Arden FGC fiber holders with 1000µm V-groove, suitable for 1000µm diameter coated fiber
<b>FG-H-XXXX</b>	Pair of Arden FGC fiber holders with customer defined V-groove diameter
<b>FG-FTK-400</b>	FGC fiber samples, 400µm diameter, for checking FGC alignment and calibration.
<b>FG-GA-H-CUST</b>	FGC-GA holder, for multifiber array blocks up to 15mm in width. Additional design requirements to be charged separately
<b>FGC-GAUEW2</b>	FGC-GA array geometry system, extended warranty covering parts and labour for 2 years from purchase, return to base. Cover excludes camera.
<b>FGC-GAUEW3</b>	FGC-GA array geometry system, extended warranty covering parts and labour for 3 years from purchase, return to base. Cover excludes camera.
<b>FGC-GAUEW4</b>	FGC-GA array geometry system, extended warranty covering parts and labour for 4 years from purchase, return to base. Cover excludes camera.
<b>FGC-GAUEW5</b>	FGC-GA array geometry system, extended warranty covering parts and labour for 5 years from purchase, return to base. Cover excludes camera.
<b>FGC-PMI</b>	PM illuminator designed for use with the FGC

For North American sales enquiries call **(727) 478-2651** or email us on [sales@ardenphotonics.com](mailto:sales@ardenphotonics.com)

For Rest of World sales enquiries call **+44 (0)121 733 7721** or email us on [sales@ardenphotonics.com](mailto:sales@ardenphotonics.com)

Iss 02 Jan 20

Manufactured by  
Arden Photonics Ltd

Arden Photonics Ltd,  
Royston House, 267 Cranmore Boulevard,  
Shirley, Solihull, B90 4QT, UK  
**+44 (0)121 733 7721**

Arden Photonics, LLC,  
4500 140th Avenue North, Suite 101,  
Clearwater, FL 33762, USA  
**+1 (727)478-2651**

[www.ardenphotonics.com](http://www.ardenphotonics.com)  
[enquiries@ardenphotonics.com](mailto:enquiries@ardenphotonics.com)