



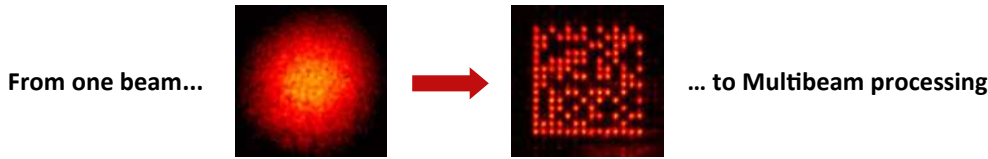
# Digital laser beam shaping module

Flexible & dynamic laser beam shaping



# VULQ1: why using only one laser beam when you can have many?

QiOVA designs and delivers high throughput solutions for the Industry of the Future. VULQ1 scales up the productivity of material processing by parallelizing process, powered by digital technologies enabling maximum operational flexibility.



**Verticals: packaging, aeronautics, pharmaceuticals, biomedical, consumer goods**

- VULQ1 delivers unprecedented throughput for laser marking and micromachining applications
- VULQ1 combines high precision with high productivity, no more speed/quality trade-offs
- VULQ1 creates digitally configurable production tools to effectively address mass customization



Specifications	VULQ1 - BBD - P010	VULQ1 - NIR - P050	VULQ1 - NIR - P100			
Spectral range	500 – 1100 nm	1000 – 1100 nm	1000 – 1100 nm			
Optical transmission (typ.)	70 % (75%) @ 1064nm 70 % (75%) @ 532nm	85% (90%)	90% (95%)			
Input beam diameter	5.0 - 7.5mm					
Maximum laser power	10 W	50W	100W			
Maximum pulse energy	10 mJ @1064nm 10 mJ @532nm	30 mJ	1 mJ			
Minimal pulse duration	5ns	5ns	500fs			
Output angular offset	10 mrad	10 mrad	10 mrad			
Cooling system	N/A	N/A	Water			
DC voltage	12V	12 V	16 V			
VULQHead dimensions	175 mm x 156 mm x 250 mm					
VULQHead weight	3,2kgs					
<b>Typical data</b>						
Pattern display time	<100 ms					
Output lens focal length	160 mm	80 mm	160 mm	80 mm	160 mm	80 mm
Beamlet diameter	30-44 µm	15-22 µm	30-44 µm	15-22 µm	30-44 µm	15-22 µm
Spatial resolution	20 µm	10 µm	20 µm	10 µm	14 µm	7 µm
Maximum field	42 mm	21 mm	42 mm	21 mm	27 mm	13 mm

## Optional modules:

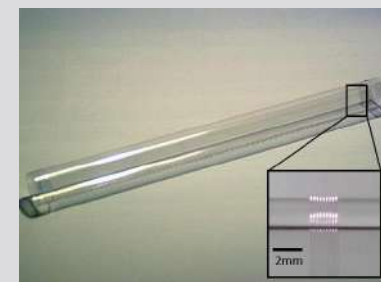
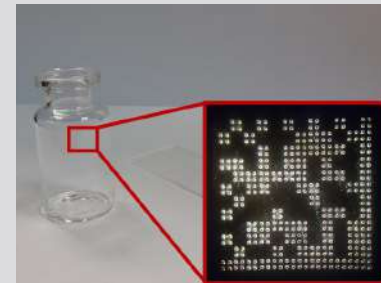
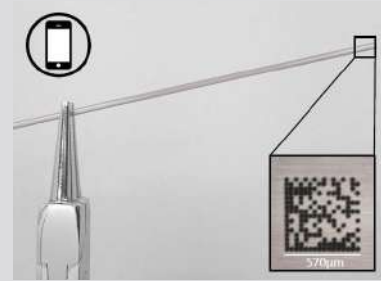
1. Laser Module: combined with VULQ1, makes an autonomous laser marking sub-system fitted to the application.
2. Vision Module: adds vision functions, like pattern finding or 2D code decoding and logging.
3. Scanner Module: extends the effective Multibeam operation field to scanner standards.

*Qiova follows a process of continuous improvement. Specifications are subject to change without notice.*



## APPLICATIONS:

- High quality on-the-fly marking for high volume production
- Sub-millimeter 2D codes to mark small products
- Semi-invisible marking for anti-counterfeiting purpose
- High productivity micromachining



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