

# curamik® CoolPerformance

## Technical data sheet – Laser Diode Cooler

### Geometric properties

Length	± 0.025 mm
Width	± 0.025 mm
Thickness	± 0.025 mm
Symmetry	± 0.06 mm
Flatness*	Front area: 0.5 µm, complete: 5 µm
Surface roughness*	$R_a \leq 0.01 \mu\text{m}$
Edge quality	-5 µm
Layer offset @ 1.5 mm total thickness	< 0.15 mm
Etching tolerances 0.3 mm foils	± 50 µm
Holes	+ 0.05 mm / - 0.2 mm + etching tolerance / - (etching tolerance + layer offset)
Material	OFHC copper
Possible designs	Open or closed version
Recommended layer stack-up	4 x 0.3 mm + 1 x 0.4 mm (0.3 mm after machining)
Available layer thickness	(0.2 mm); 0.25 mm; 0.3 mm; 0.4 mm; 0.5 mm; 0.6 mm
O-Ring seat pocket (standard)	0.3 mm

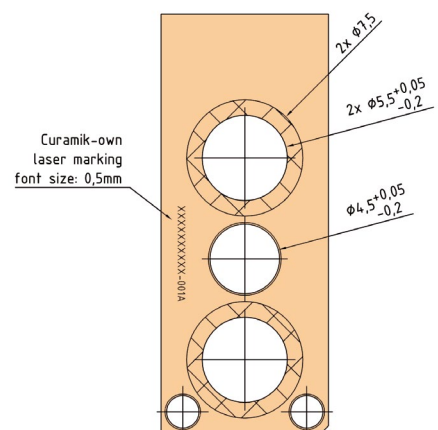
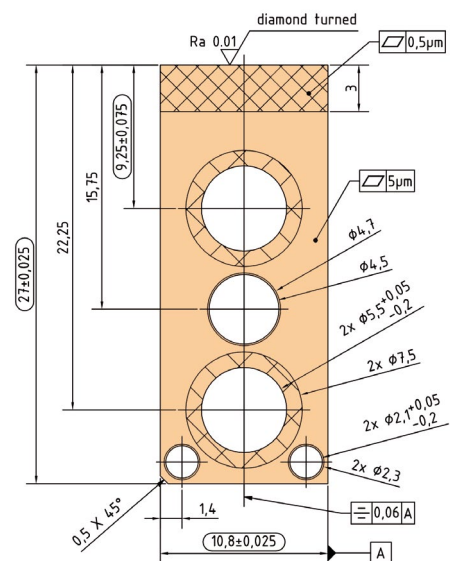
\* Diamond-turned area without plating

### Cooling water

Liquid flow per cooler	0.3 l / min *
Inlet temperature	approx. 25°C
Particle size	< 15 µm
Conductivity	5-10 µS / cm (regulated mixed-bed ion exchange system in bypass)

\* Recommendation

- // First filling of system should be done with distilled water.
- // Closed water system to reduce dissolved oxygen and to reduce dissolved carbon dioxide (which will produce carbonic acid) in the water.
- // Use synthetic materials (tubes, gaskets etc.) with lower diffusivity of oxygen and without soluble additives (suitable for DI-water and food).
- // For the complete cooler circulation system do not use materials which build a galvanic cell with copper (e.g. Al, Zinc, brass) preferably V4A-alloy without sulfur.



**Rogers Corporation**

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