

# CONCEPTLASER

a GE Additive company

## Mlab cusing R Metal laser melting system

The ideal machine for manufacturing metal components with elaborate structures, and parts made from reactive materials like titanium.

Ideally suited to fine detail, high quality surface finish, and precision component structures.



## Mlab cusing R TECHNICAL DATA

Build envelope	50 x 50 mm <sup>2</sup> (x, y) 70 x 70 mm <sup>2</sup> (x, y) 90 x 90 mm <sup>2</sup> (x, y) z = 80 mm																										
Layer thickness	15 – 30 µm																										
Production speed	1 – 5 cm <sup>3</sup> /h (depending on material)																										
Laser system	Fibre laser 100 W (cw)																										
Max. scanning speed	7 m/s																										
Focus diameter	approx. 50 µm																										
Fixation of the building plate	mechanical																										
Connected loads	Power consumption max. 1.5 kW Power supply 1/N/PE AC 230 V, 16 A																										
Inert gas supply	1 gas connection provided / Nitrogen or Argon																										
Inert gas consumption	approx. 0.6 – 0.8 l/min *																										
Dimension machine	705 x 1848 x 1220 mm (W x H x D)																										
Dimension handling station	729 x 1391 x 628 mm (W x H x D)																										
Weight machine	approx. 600 kg																										
Weight handling station	approx. 100 kg																										
Operating conditions	15 – 35°C																										
Materials	<table border="0"> <tr> <td>CL 20ES</td> <td>Stainless steel (316L/1.4404)</td> </tr> <tr> <td>CL 31AL</td> <td>Aluminium (AlSi10Mg)</td> </tr> <tr> <td>CL 41TI ELI</td> <td>Titanium alloy (TiAl6V4 ELI)</td> </tr> <tr> <td>CL 42TI</td> <td>Commercially Pure Titanium Grade 2</td> </tr> <tr> <td>CL 80CU</td> <td>Bronze</td> </tr> <tr> <td>CL 92PH</td> <td>Precipitation hardening stainless steel (17-4 PH)</td> </tr> <tr> <td>Yellow gold</td> <td>18 carat 3N ***</td> </tr> <tr> <td>Rose gold</td> <td>18 carat 4N ***</td> </tr> <tr> <td>Red gold **</td> <td>18 carat 5N ***</td> </tr> <tr> <td>Platinum</td> <td>950 ‰ Platinum alloy ***</td> </tr> <tr> <td>Silver alloy</td> <td>930 ‰ Silver alloy ***</td> </tr> <tr> <td>rematitan® CL</td> <td>Titanium alloy (Dentaurum)</td> </tr> <tr> <td>remanium® star CL</td> <td>Cobalt-chromium alloy (Dentaurum)</td> </tr> </table>	CL 20ES	Stainless steel (316L/1.4404)	CL 31AL	Aluminium (AlSi10Mg)	CL 41TI ELI	Titanium alloy (TiAl6V4 ELI)	CL 42TI	Commercially Pure Titanium Grade 2	CL 80CU	Bronze	CL 92PH	Precipitation hardening stainless steel (17-4 PH)	Yellow gold	18 carat 3N ***	Rose gold	18 carat 4N ***	Red gold **	18 carat 5N ***	Platinum	950 ‰ Platinum alloy ***	Silver alloy	930 ‰ Silver alloy ***	rematitan® CL	Titanium alloy (Dentaurum)	remanium® star CL	Cobalt-chromium alloy (Dentaurum)
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\* Inert gas consumption during the building process with N<sub>2</sub>.

\*\* The material is currently being prepared.

Other materials on request.

\*\*\* Parameter from Concept Laser GmbH, material procured directly from precious metal supplier, contact details available on request.

