

COLIBRIUM  
ADDITIVE  
a GE Aerospace company

# Mlab R & Mlab 200R

Big things come in small packages



# Colibrium Additive's Mlab family

The Mlab family of DMLM systems offers versatile solutions for ease of use and safe handling for a broad range of materials and applications - with minimum footprint. The modular machine offers different build envelopes in one machine and allows for quick and easy change between different materials. High process stability enables production of complex parts quickly and efficiently, while providing the high part

quality and resolution. The modern machine design with the patented pull-out drawer system offers a high degree of safety and user friendliness. It enables to do a rapid change of material without the risk of any contamination of powder material. Additionally, all process steps take place under inert gas, shielded from external influences to further promote safety.

## Mlab R

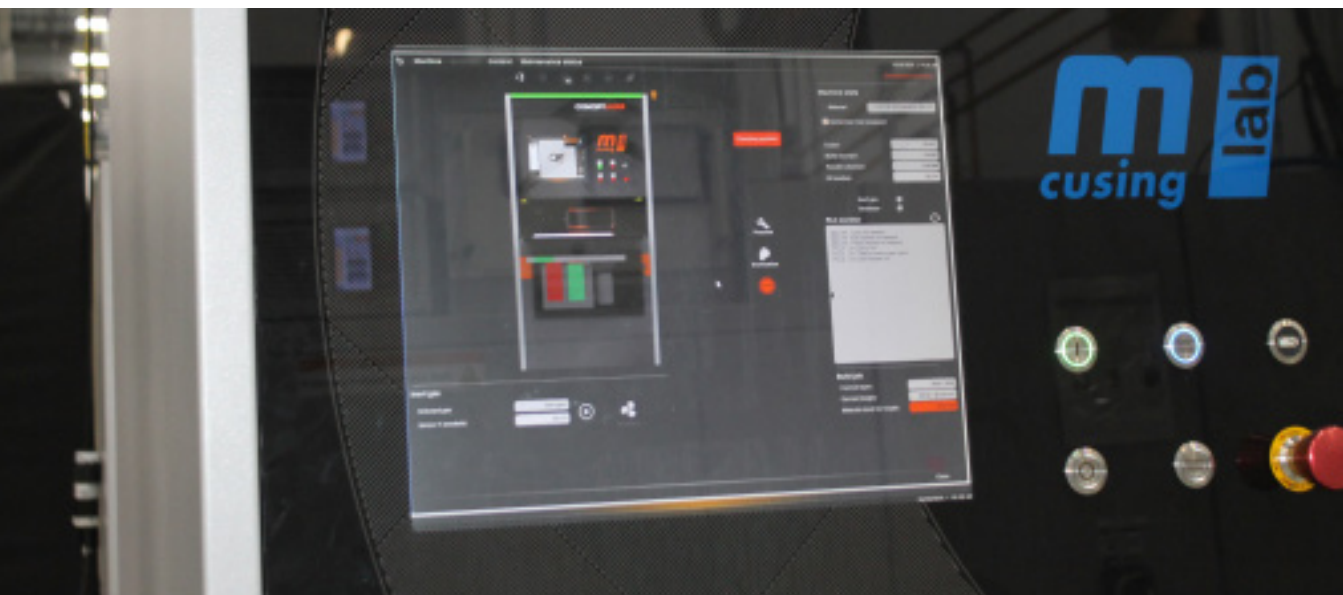
For manufacturing metal components with elaborate structures and parts made from reactive materials like titanium

The Mlab R is capable of building in both reactive and non-reactive materials and produces fully dense parts with a surface finish that is unmatched in laser systems. The physical separation of the process chamber and handling station offers the possibility of using the handling station for multiple machines. The Mlab R now expands the previous range of materials to include titanium and titanium alloys.



### FEATURES

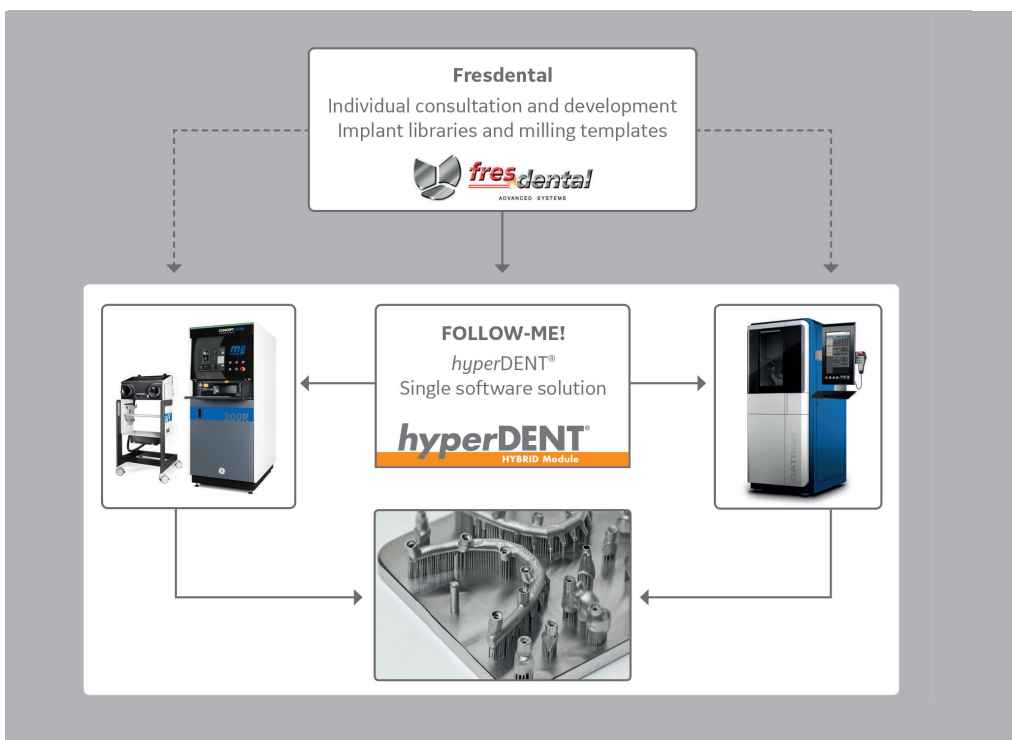
- Ideal for both reactive and non-reactive materials
- Two modules available for different build sizes
- Makes quality parts quickly and efficiently
- Perfect for parts with delicate structures



# Discover new growth potential with our dental hybrid manufacturing solution

Additive manufacturing (AM) allows you to manufacture complex, customized, precise frameworks and tension-free dental prostheses for improved fit in the mouth. 3D metal printing decreases the loss of material compared to just milling—milling alone wastes up to 85% of material used in the manufacturing process. AM also allows significant time savings—up to 50% faster than casting, with 99.6% density of the final product. In addition, AM demonstrates better metallurgical properties than with a cast part made from the same material. And when you combine AM with subtractive manufacturing you can take advantage of both technologies.

## Additive manufacturing and milling: hybrid process combines the best of both worlds



**HOW IT WORKS:** A single software solution controls both the AM process and the milling process. It is an open, highly automated and flexible system with automatic nesting, automatic generation of ID tags for the identification of parts and automatic generation of the machining allowance for milling. A special 0-point transformation solution ensures the highest accuracy during the milling process of the 3D printed part. Therefore, pins are printed on the build plate and measured directly in the milling machine.

### The benefits include:

- Up to 40% reduced costs by using the dental hybrid solution instead of just milling alone
- The ability to create complex geometries and the thinnest wall structures for dental applications, which are not possible to produce by milling
- Implant connections require the highest accuracy for a perfect fit, which is ensured by the milling process
- To avoid a complex work around, just one software is required to manage both 3D printer and milling machine

# Colibrium Additive's Mlab family

## Technical Data



	<b>Mlab R</b>	<b>Mlab 200R</b>
<b>Build envelope</b>	50 × 50 × 80 mm (x,y,z) 90 × 90 × 80 mm (x,y,z)	50 × 50 × 80 mm (x,y,z) 90 × 90 × 80 mm (x,y,z) 100 × 100 × 100 mm (x,y,z)
<b>Layer thickness</b>	15 – 30 µm	15 – 30 µm
<b>Production speed</b>	1 – 5 cm <sup>3</sup> /h (depending on material)	1 – 9 cm <sup>3</sup> /h (depending on material)
<b>Laser system</b>	Fibre laser 100 W (cw)	Fibre laser 200 W (cw)
<b>Max. scanning speed</b>	7 m/s	7 m/s
<b>Focus diameter</b>	approx. 50 µm	approx. 75 µm
<b>Connected loads</b>	Power consumption max. 1.5 kW Power supply 1/N/PE AC 230 V, 16 A	Power consumption max. 1.5 kW Power supply 1/N/PE AC 230 V, 16 A
<b>Inert gas supply</b>	1 gas connection provided / Nitrogen or Argon	1 gas connection provided / Nitrogen or Argon
<b>Inert gas consumption</b>	approx. 0.6 – 0.8 l/min*	approx. 0.6 – 0.8 l/min*
<b>Machine dim:</b>	705 × 1848 × 1220 mm (W x H x D)	820 × 1839 × 1410 mm (W x H x D)
<b>Handling station dims:</b>	729 × 1391 × 628 mm (W x H x D)	729 × 1391 × 628 mm (W x H x D)
<b>Machine weight</b>	approx. 600 kg	approx. 700 kg
<b>Handling station weight</b>	approx. 100 kg	approx. 100 kg
<b>Operating conditions</b>	15 – 30°C	15 – 30°C
<b>Materials available</b>	Stainless Steel 316L Stainless Steel 17-4PH Aluminum AlSi10Mg Titanium Ti6Al4V ELI Grade 23 Titanium CPTi Grade 2 Bronze CuSn remanium star® CL (CoCrW) rematitan® CL (Ti6Al4V ELI) Silver 930 Gold, Yellow Gold, Rose Platinum	Stainless Steel 316L Stainless Steel 17-4PH Maraging Steel M300 Aluminum AlSi10Mg Nickel 718 Titanium Ti6Al4V ELI Grade 23 Titanium CPTi Grade 2 Bronze CuSn remanium star CL (CoCrW) rematitan CL (Ti6Al4V ELI)