Concept Laser M LINE FACTORY
Metal laser melting machine for series production

Modular machine concept with numerous innovative features, geared to the requirements of Industry 4.0.

Maximum productivity enables the economical series production of additive metal parts, supported by a unique safety concept.

Laser power of up to 4 x 1,000 watt.
Additive manufacturing is currently progressing from prototyping to production. Companies across all sectors face the challenge of how they can satisfactorily meet the increased demand in this area. As the demand for the number of machines increases, so do the demands on production floor space and the number of operators required to run the production line.

The existing machine concepts, in the form of “stand-alone” solutions, barely allow economical series production. As a technology trendsetter, Concept Laser has taken up this challenge and developed innovative solutions: **M LINE FACTORY** offers a new type of modular machine architecture that allows economical series production on an industrial scale.

### M LINE FACTORY MODULAR MACHINE ARCHITECTURE

- **M LINE FACTORY PRD**: Production unit with individually movable powder, build and overflow modules
- **M LINE FACTORY PCG**: Processing unit for set-up and dismantling processes, powder management with an integrated sieving station
- Movable modules for transport and supplying material
- Integrated tunnel concept for module movements

### CL WRX 3.0 MODULAR MACHINE SOFTWARE

- Effective, user-friendly, individually expandable
- Division into different user roles
- Control of all production in one piece of software

### BENEFITS

**Freedom to combine the machine modules**

Parallel rather than sequential work processes with maximum level of automation:

- Minimal downtimes - 24/7 production
- Automatic tool changeover without interrupting the build process
- Unidirectional coating process that saves time
- Switchable filter units for maximum productivity

**Unique innovative safety concept:**

- Production Unit and Processing Unit are separated
- No contact with powder by the operator
- Water-flood passivation of filters

**Innovative features:**

- 3D optics with maximum power of 4 x 1,000 watt
- Build envelope 500 x 500 x 400 mm³
- Modularity: interlinked software architecture with numerous extra features
## Technical data

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Build envelope</td>
<td>500 x 500 x 400 mm³ (x, y, z)</td>
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<tr>
<td>Layer thickness</td>
<td>20 – 100 µm</td>
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<tr>
<td>Scan speed</td>
<td>max. 5 m/s</td>
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<tr>
<td>Laser system</td>
<td>3D optics with maximum power of up to 4 x 1,000 W fiber laser</td>
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<tr>
<td>Focus diameter</td>
<td>50 µm – 500 µm (dynamic focus adjustment)</td>
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<tr>
<td>Filter system</td>
<td>integrated with 2 x 20 m² filter surface</td>
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<tr>
<td>QM modules</td>
<td>QM Meltpool 3D, QM Live View, QM Atmosphere, QM Powder, QM Documentation, QM Coating</td>
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</table>

| M LINE FACTORY PRD Dimensions | 4250 x 4300 x 3500 mm³ (W x D x H) |
| M LINE FACTORY PRD Weight     | approx. 14,000 kg                   |

| M LINE FACTORY PCG Dimensions | 2900 x 3000 x 4100 mm³ (W x D x H) |
| M LINE FACTORY PCG Weight     | approx. 10,000 kg                   |

| Materials                    | CL 100NB* Nickel-based alloy (Alloy 718)                                                 |
|                             | CL 110CoCr* Cobalt-chromium alloy (F75)                                                  |
|                             | Reactive materials* (Aluminium alloys, Titanium alloys)                                    |

*The material is currently being prepared.

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**M LINE FACTORY PRD**

**M LINE FACTORY PCG**
AM FACTORY OF TOMORROW

With the integrated production concept of the "AM Factory of Tomorrow", Concept Laser is consistently implementing the central ideas of "Industrie 4.0": automation, interlinking and digitization. The modular structure of the M LINE FACTORY enables the economical series production of additive components as part of a "smart factory"!

**BENEFITS**
- Fully integrated production landscape
- 24/7 production with minimal downtimes
- Maximum efficiency

**THE 3 AREAS OF THE AM FACTORY OF TOMORROW**
- Powder storage and build job preparation
- AM process production area
- Dismantling and post processing with links to conventional manufacturing methods