CONCEPTLASER

a GE Additive company

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.

MACHINE SOLUTIONS FOR INDUSTRIAL 3D METAL PRINTING

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.

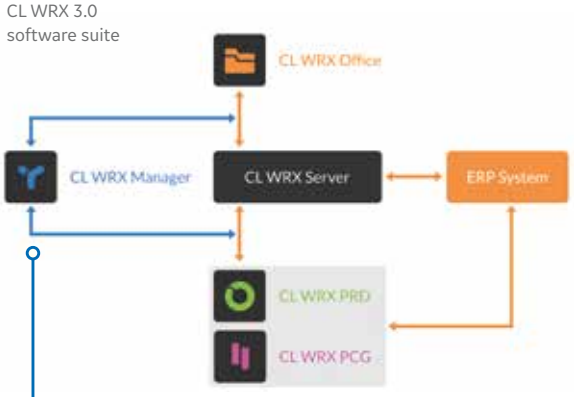
The existing machine concepts, in the form of "stand-alone" solutions, barely allow economical series production.

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

Elements of the CL WRX 3.0 software suite



CL WRX Manager 3.0:
Monitoring via mobile devices

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:

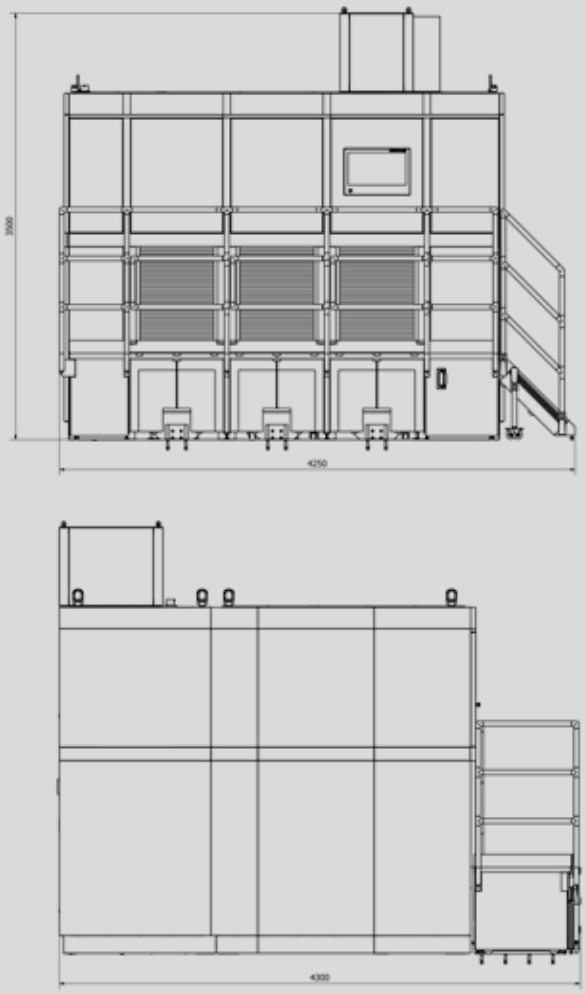
- 3D optics with maximum power of 4 x 1,000 watt
- Build envelope 500 x 500 x 400 mm^3
- Modularly interlinked software architecture with numerous extra features

Technical data

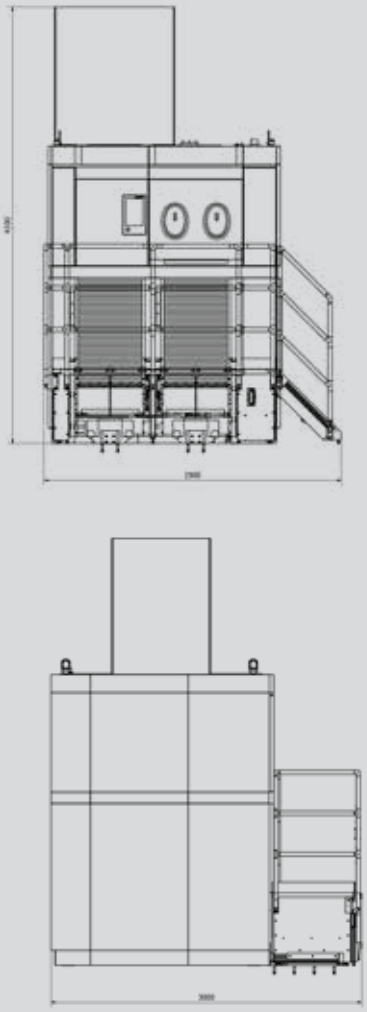
Build envelope	500 x 500 x 400 mm³ (x, y, z)
Layer thickness	20 – 100 µm
Scan speed	max. 5 m/s
Laser system	3D optics with maximum power of up to 4 x 1,000 W fiber laser
Focus diameter	50 µm – 500 µm (dynamic focus adjustment)
Filter system	integrated with 2 x 20 m² filter surface
QM modules	QM Meltpool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

M LINE FACTORY PRD

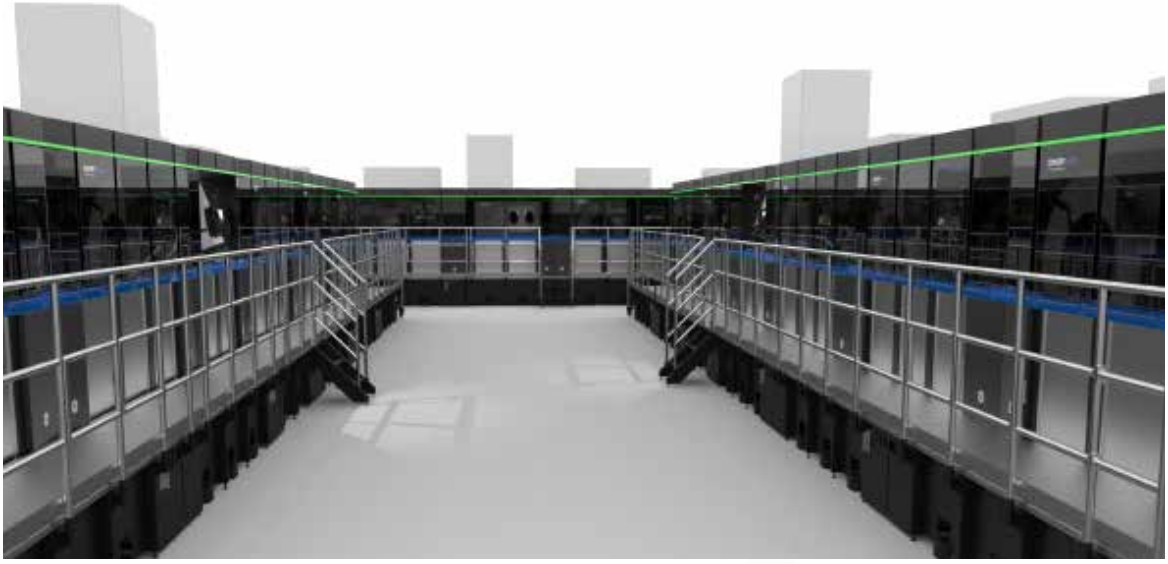


M LINE FACTORY PCG



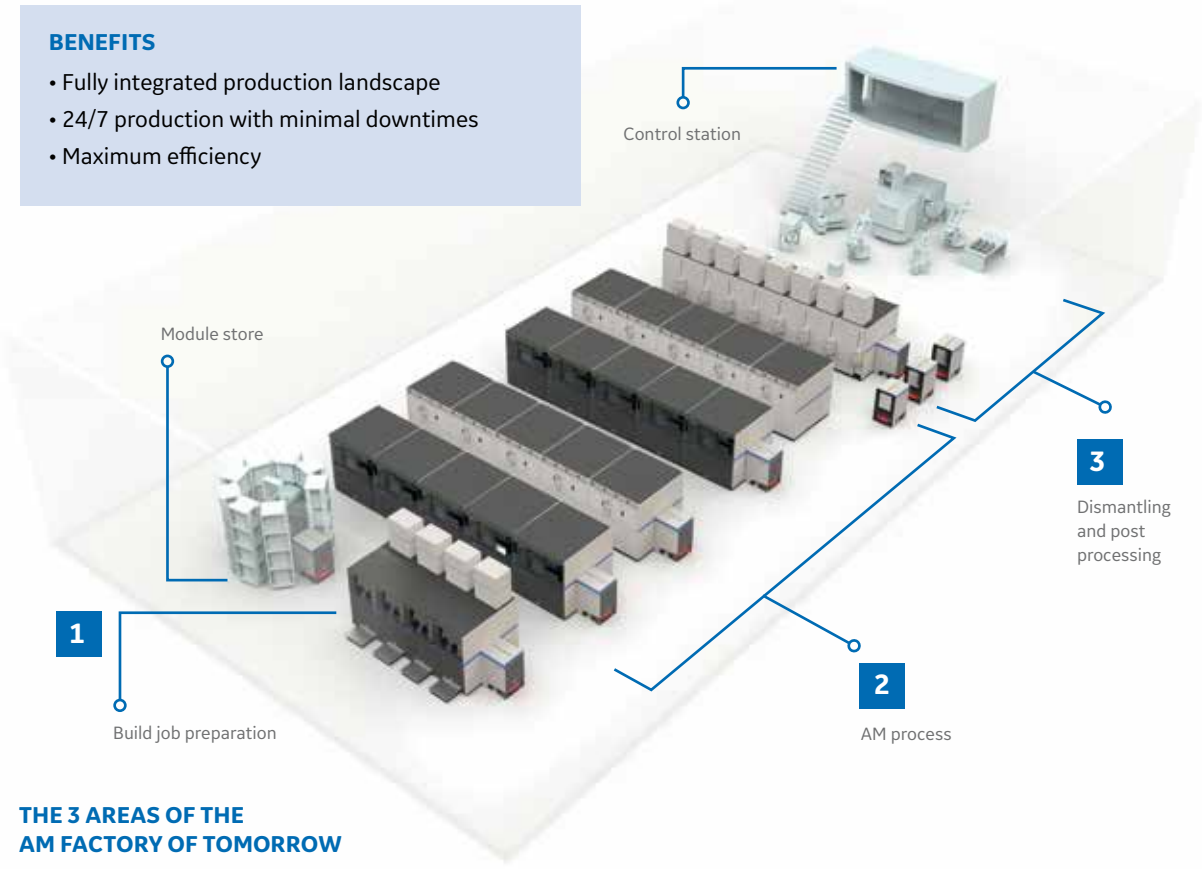
AM FACTORY OF TOMORROW

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

QUAD LASER

M LINE FACTORY

INDUSTRIAL SERIES PRODUCTION WITH DMLM MACHINES FOR THE LEADING INDUSTRIES OF THE FUTURE