

Meltio Robot Cell

Turn-key Solution

Meltio Robotic Cell is an affordable turn key solution for Meltio Engine Robot Integration. It is a solution just to plug & play. The perfect platform for large and complex 3D printing, repair, cladding and feature addition.



Value Proposition

Plug and Play Installation

Allows the customer to **receive a ready to use** cell for robotic metal 3D printing, **removing the integration process** and long assembly lead times.

Safe, Tested and Certified

In accordance with European CE and laser safety regulations. Multiple **quality controls** with the system integrated from factory.

Best-in-class Components

Robot and positioner on a self-supporting platform, laser **safe enclosure** together with **Meltio Engine, Meltio Space and accessories.**

Focus on Printing, not Cell Manufacturing

One week **on-site training** for enabling **the end user to be successful** with Meltio and **develop applications in short time.**

Key Technical Features

CLASS 1 Laser Product.

Meltio Space 1 (one) year subscription.

Large 3D Printing Volume with Continuous positioner axes interpolation.

All equipment and peripherals **anchored on the platform.**

Standard **CE certification.**

Steel platform with leveling points and wiring ducts.

All cell controls unified on single control panel.

Everything is sent **integrated and tested.**

The final reseller/integrator **focuses work on training and enabling the client to manufacture parts.**

Load an unload from truck with **regular size and load forklift.**

Includes 300x400mm actively cooled build platform and buildplates.

Technical Specifications - Structure and Enclosure

Self-supporting steel platform
(4050 mm length x 2550 mm width).

Prepared to support the weight of the Cell and its components without deformations.

Includes leveling points.

Resistant to oxidation or protected for this purpose.

Ducts for wiring and integration elements, allowing a clean floor.

Laser safe enclosure according to IEC 60825-1 and IEC 60825-4.

Robot Cell product as **Class 1** reducing the risks for the user.

Highly fire-resistant enclosure materials that do not produce toxic particles. Specifically:

B-s2,d0 according to **UNE EN 13501-1**

Technical Specifications - Integration and Safety

Single three-phase connector input.

All cell controls unified on single control panel:

- **Cell Controls:** Open doors and arm security.
- **Robot Controls:** Motors On, Mode Selector and Emergency.

Connected to the customer's local network (LAN) for PC interconnectivity.

ABB's SafeMove to avoid collisions with enclosure.

Safe environment for the end customer.

European CE and laser safety regulations.

UCKA in UK and UL in America to be evaluated.

Fully Tested.

Specific Quality Controls before and after integration, ensuring maximum performance at its final destination.

**CLASS 1
LASER PRODUCT**

Technical Specifications - Supplies Area

Meltio **Engine Control Unit.**

Engine and Build Platform **Water Chillers.**

External Feeders, for spool holders and drums of +100kg.

Inert Gas Supply options:

- Attachments for three 50L Argon bottles with non-return valves.
- Optional Meltio Gas Regulator
- Or Supplied by customer



* All these equipment and peripherals are anchored on this platform and may not exceed from the maximum dimensions of the self-supporting platform during transport.

Technical Specifications - Load and Build Volume

Load: 500 kg max load (Standard)

Positioner Interpolation: Ø 1000 mm x 1200 mm

Actively Cooled Build Platform:
 Buildplate 300x400mm
 Buildplate 150x200mm
 Buildplate 120x100mm

No Positioner Interpolation:
 2000 x 1000 x 1000 mm
 Custom build platform not included
 No positioner movement, only robot tool orientation

* The cooling bed allows control of the temperature of the prints as well to protect the positioner, hardware that cannot be over 70°C on periods of more than 24h.

Technical Specifications - Engine Software

Updated and renewed User Interface.

Timeline for Sensors Analysis.

Custom profiles without the need of writing macros, every possibility **parametrized**.

Live 3D model based on **reading TCP positions** from robot.

HD Webcam.

Profiles for Meltio Materials and Meltio Space.

Compatible with **Welding Camera**.

Technical Specifications - Meltio Space

Proprietary robot slicer focusing on User Experience, closing the gap between additive manufacturing users and robotics. Fully tailored customer experience around the Meltio Engine Robot integration product with custom developed Meltio print profiles for the Meltio materials portfolio. The low capital and running costs of the Meltio Engine are also translated to the software licensing model.



Cell Configurator

Robot library and post-processor built-in for ABB, KUKA, FANUC and YASKAWA, with no extra cost.

Specific Toolpath Strategies

Planar, non planar and variable extrusion toolpaths easily defined. 2-axis Positioner interpolation in 2 clicks.

Robot kinematics simulation and Collisions check

Virtual model of real robot movement to ensure great results. Collision check with the part as being printed.

Meltio Material print profiles

Optimized Laser Power and Feeder Speed for every application: Hollow or solid parts, Stainless Steel 316L, 308L, Mild Steel ER70S, Titanium 64 and Nickel 718.