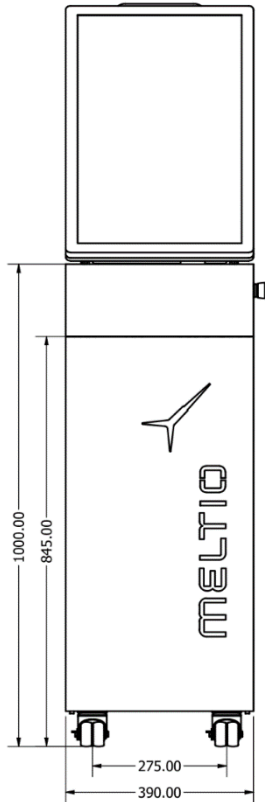


Meltio Engine Robot Integration



Dimensions (W*D*H):

390*700*1025mm

Weight:

142kg

Print Envelope (X*Y*Z):

Inherent to motion system

Laser Type:

Multiple 200W direct diode lasers

Laser Power:

1200W

Laser Wavelength:

976nm

Power Input:

208/230V single phase or 400V three phase

Power Consumption:

2-5kW peak depending on selected options

Process Control:

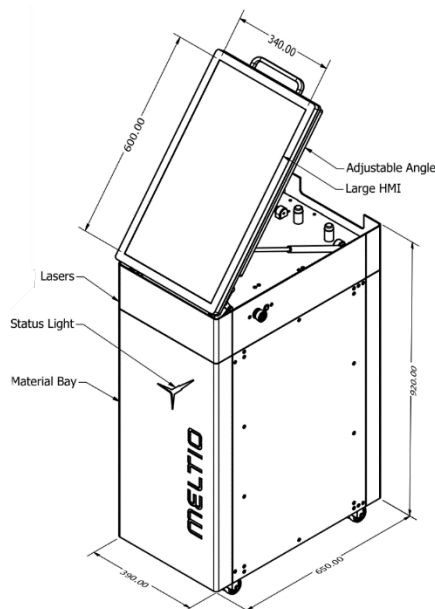
Closed-loop laser and wire modulation

Cooling:

Active water-cooled chiller included

Interface:

USB, ethernet, wireless datalink



Materials

Wire Materials:

Stainless steel, carbon steel, titanium alloys, inconel

Powder Materials*:

Stainless steel, carbon steel, inconel

In development:

copper

In development:

copper

Wire Feedstock:

0.8-1.2mm diameter

Powder Feedstock:

45 to 90µm particle size

Wire Feeds:

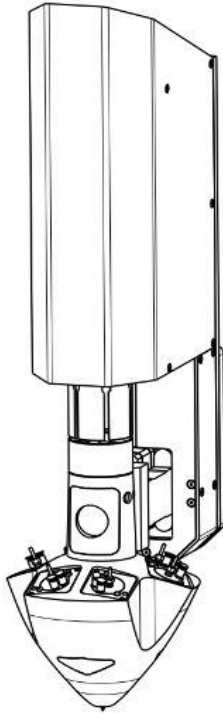
From one K300 spool up to two external wire drums

Powder Feeds:

Multiple plug and play powder feeders

*Powder deposition in DED systems result in contamination of equipment surfaces requiring thorough cleaning. To reduce powder contamination, its recommended to reserve powder deposition for printing fine details, creating new alloys and generating material functional gradients. For health and safety, Meltio recommends only using wire feedstock for 3D printing reactive materials such as titanium alloys.

Meltio Engine Robot Integration



Robot Integration Hardware

Mounting hardware for the deposition head and related sensors in robotic applications..

Dimensions (W*D*H)

202*297*784 mm

Weight*

15.5 kg

Robot Requirements

Minimum requirements for a successful integration of the Meltio Engine with a robot arm are:

- Payload of at least 20kg (60kg recommended)
- More than 3 digital input ports available
- More than 3 digital output ports available
- Enclosed room with safety locks
- Laser safe windows and/or camera

Upgrades and Accessories

Hot Wire:

Programmable power supply that preheats the material before it enters the melt pool.

Powder Feeder:

Necessary to 3D print from powder feedstock, unlocks on the fly metal alloying.

Dual Wire:

This option allows to 3D print two wire materials sequentially with very quick wire switches.

External Wire Drum:

Allows to draw material external to it. The wire feedstock in form of 100kg drums may be used for convenience.