

Technical Data

MX-Lab



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DED & Material research machine



Basic Additive Manufacturing system

- Entry-level DED(Direct Energy Deposition) AM machine
- 3-Axis system & DMT® Technology
- High quality fiber laser system

Specialized for Research purposes

- For material research & prototyping
- New alloys development is available
- 6 powder feeder with precision feeding rate control

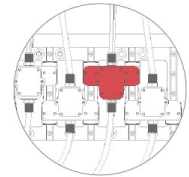
Remarkable User Experience

- Multi-materials Slicer software Program
- Intuitive touch screen control
- Low cost and easy-to-use system

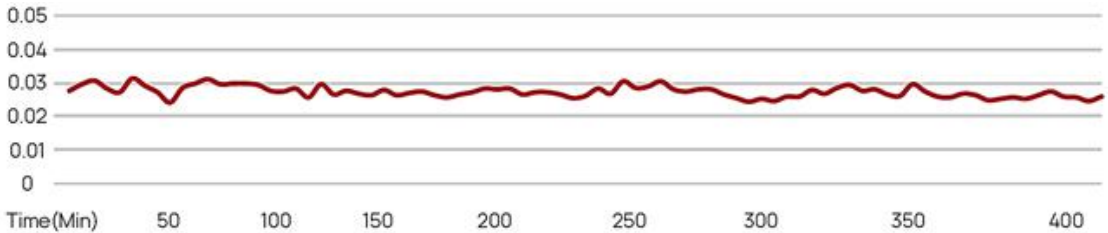
CVM Feeder Specification

Next step of powder feeding system

CVM (Clogged Vibration Method) powder feeder is an advanced type of powder feeding system. It has remarkably stable powder feed rate, a semi-permanent lifespan, and a broad feeding rate range. It can feed titanium powder from 0.03g/min to 2g/min with no hardware change. Also, the gravity powder supply method and direct powder supply method with gas is applicable in the DED process.



Ti Powder Feeding Test for 7 hours (Target Valve : 0.03g/min)



2nd Generation AM Module

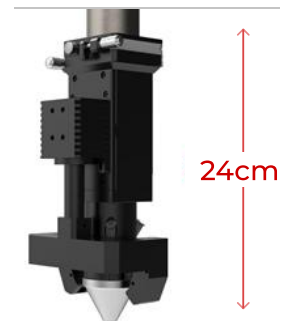
Creative Additive manufacturing Machine in DMT® Technology

2nd Generation AM Module

- Enable DMT® mode with vision system
- Available for Shielding gas during deposition
- Optimized design for 400um beam diameter

Active Powder Splitter

- Co-Axial type Powder Splitter
- Enable Uniform powder distribution in small amount
- Powder Feeding without calibration, mechanical adjustment



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MX-Lab Specification

		MX-Lab
Laser		
Type		Ytterbium Fiber Laser
*Laser Power	W	300(*Max. 500)
Safety Standard		EN60825-1
Stage		
X, Y, Z Stroke	mm	150 x 150 x 150
A, C Stroke	deg.	N/A
Worktable Size	mm	175 x 175
Module		
*Optical Module		SDM 400
Beam Diameter	μm	400
Build Rate	cm ³ /h	1.5 ± 0.2
Layer Thickness	μm	150 ± 50
Feeding System		
Powder Feeding Rate (for Ti-6Al-4V)	g/min	0.03~2
Powder Hopper Volume	liter	Approx. 0.42
*Number of Powder Feeder and Hopper	set	6
Software		
Operating System		MX-Lab OS
* CAM Software		MiXO Material Designer
Feedback System		DMT® Closed-Loop Control
Electrical Specification		
Electrical Power Type	Hz	1P + PE (at 50/60)
Main Machine Voltage	V	220
Full Load Current	A	15(20)
Mechanical Specification		
Machine Dimensions (without accessories)	mm	680 x 684 x 835 685 x 775 x 835
Machine Weight	kg	250 (*Max 350)

(*Optional Item)

