

**Pioneer.
Realize.
Explore.**

MX-Lab
Technical Data

Rev.3_201224

MX-Lab

DED & Material research machine



New Generation model MX-Lab

- **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**

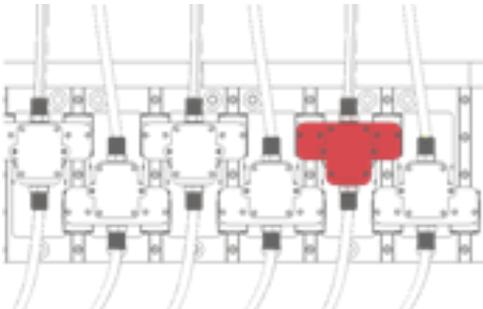
For material research & prototyping
New alloys development is available
6 powder feeder with precision feeding rate control

- **Remarkable User Experience**

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

CVM Powder System

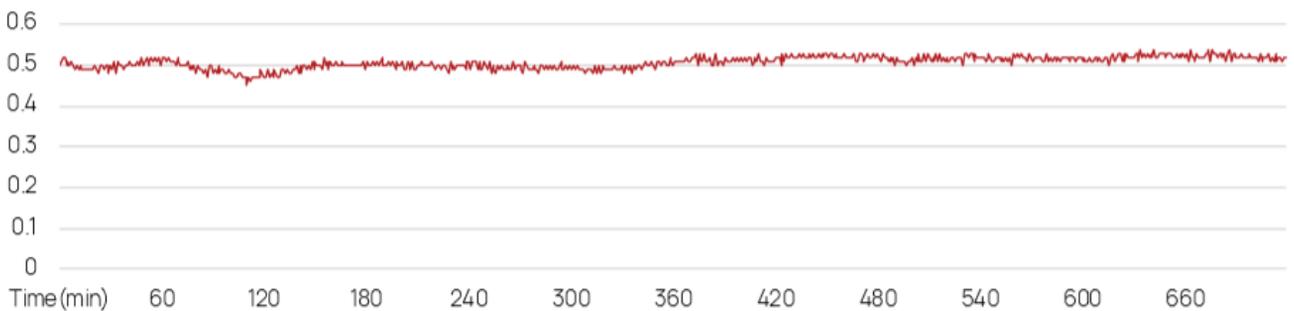
Next step of powder feeding system



- **CVM Hexa-Powder Feeding system**

CVM(Clogged Vibration Method) powder feeder is new type of powder feeding system. It has impressively stable powder feed rate, perfect lifetime and broad feeding rate range, from 0.03g/min to 2g/min for single CVM Feeder block based on titanium. Applicable for gravity powder supply method and direct powder supply method with gas

Ti Powder Feeding Test for 12hours



2nd Generation AM Module

Creative Additive manufacturing Machine in DMT® Technology



24cm

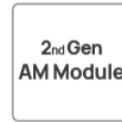
2nd Generation AM Modul System

- **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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Group	MX-Lab Specification			
	No.	Item	Specification	Unit
1. Laser	1.1	Type	Ytterbium Fiber Laser	-
	1.2	Laser Power	Max. 300	W
	1.3	Safety Standard	EN60825-1	-
2. Stage	2.1	X, Y, Z Stroke	150 x 150 x 150	mm
	2.2	A, C Stroke	N/A	Deg.
	2.3	Worktable size	175 x 175	mm
3. Module	3.1	Optical Module	SDM 400	-
	3.2	Beam Diameter	400	µm
	3.3	Build rate	1.5±0.2	cm ³ /h
	3.4	Layer Thickness	150±50	µm
4. Feeding System	4.1	Powder feeding Rate (for Ti-6Al-4V)	0.03~2	g/min
	4.2	Powder Hopper Volume	Approx. 0.42	liter
	4.3	*Number of Powder Feeder and hopper	Max.6	Set
5. Software	5.1	Operating System	MX-Lab OS	-
	5.2	CAM Software	Slicer Program, Material Designer	-
	5.3	*Feedback System	DMT® Closed-Loop Control	-
6. Electrical Specification	6.1	Electrical Power type	1P + PE (at 50-60 Hertz)	-
	6.2	Main machine voltage	220	V
	6.3	Full load current	15(20)	A
7. Mechanical Specification	7.1	Machine Dimensions (without accessories)	680 x 684 x 835	mm
	7.2	Machine Weight	250	kg

(*Optional Item)



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