Press Release

June 14, 2016

Hybrid Metal 3D Printer

LUMEX Avance-60 Order Intake Start

Matsuura Machinery Corporation has developed a new hybrid metal 3D printer, the *LUMEX Avance-60*, and will accept orders from today.

LUMEX is Matsuura's hybrid metal 3D printer series which comprises metal laser sintering by fiber laser and high-speed milling by machining center. Matsuura led the world in 2002 in the commercialization of a hybrid metal 3D printer, and since then, has built up a solid track record in sales of the *LUMEX Avance-25*, which is capable of a maximum part size of 250 mm x 250 mm x 185 mm, mainly in the high value-added mold & die market.

Recently market demand in the aerospace and automobile industries has been growing for larger, high value-added parts. To meet this demand for larger parts, Matsuura has developed a new model, the *LUMEX Avance-60*, which can process a part sizes up to a maximum of 600 mm x 600 mm x 500 mm. This new model, with a larger possible part size, will further expand the applicable markets for Matsuura's hybrid 3D printing technology.

The *LUMEX Avance-60*, designed for large-sized parts, is equipped with a high power fiber laser of 1 kW in order to shorten sintering time. In addition, the speed of powder distribution to the table top surface has been increased. In combination this means that maximum build speed has been increased to 35 cc/h, almost five times greater than that of the *LUMEX Avance-25*.

The *LUMEX Avance-60* is installed with a fully automatic powder supply, collection and reuse system. Metal powder materials can be supplied automatically to the sintering chamber without operator contact. On completion of processing, unused powder is automatically collected and sieved ready for reuse. This fully automated system ensures exceptional levels of automation and eliminates the possibility of powder dispersal in the working area, further maintaining a safe working environment.

The addition of the *LUMEX Avance-60* to the lineup enables Matsuura to offer a suitable 3D printer for wider customer requirements and to make a significant contribution to the expansion of the new technologies in the metal 3D printer market.

Matsuura is planning to exhibit the *LUMEX Avance-60* at DMS2016 (27th Design Engineering & Manufacturing Solutions Expo) that will be held from June 22 in Tokyo.

LUMEX Avance-60 Capabilities and Features

Basic specifications

Item		*New!* *LUMEX Avance-60*	<*Reference for comparison*> *LUMEX Avance-25*
Max. part size		600 mm x 600 mm x 500 mm	250 mm x 250 mm x 185 mm
Maximum work weight		1,300 kg	90 kg
Laser	Output	1 kW (STD)/ 500 W (OP)	400 W
	Type	Yb fiber laser	Yb fiber laser
Sintering capacity		35 cc/h (STD)/ 16 cc/h (OP)	7 cc/h
MAXIA Spindle	Rotation speed	45,000 min^{-1}	45,000 min^{-1}
	Type of spindle taper	1/10 taper #20 (Matsuura special)	1/10 taper #20 (Matsuura special)
	Power	2.6/ 4.5 kW	2.6/ 4.5 kW
	Torque	1.31 N･m	1.31 N･m
Travel (X / Y / Z axis)		610 mm/ 610 mm/ 100 mm	260 mm/ 260 mm/ 100 mm
Rapid traverse rate	XY axes	60,000 mm/min	60,000 mm/min
	Z axis	30,000 mm/min	30,000 mm/min
Cutting feed rate	XY axes	1 ~ 60,000 mm/min	1 ~ 60,000 mm/min
	Z axis	1 ~ 30,000 mm/min	1 ~ 30,000 mm/min
Tool storage capacity		20 tools	20 tools
NC system		*I-Tech Avance*	*I-Tech Avance*

Features

1. Large sized
   1.1. Maximum part size: 600 mm x 600 mm x 500 mm, the largest among metal 3D printers in the world (according to our research)
   1.2. Maximum allowable weight of sintered part: 1,300 kg
2. High speed
   2.1. Large-capacity 1 kW fiber laser installed as standard
   2.2. Increased powder distribution speed
   New development; 10 times faster powder supply speed than that of the existing model
   2.3. Expansion of sintering capacity per unit time
   35 cc/h. approx. five times greater than that of the existing model (400 W laser)
3. Fully automatic powder supply, collection and reuse system (standard)
   3.1. Easy and safe material handling without direct powder contact.
   3.2. Un-melted powder that remains after processing is automatically sieved and reused.