



December 31, 2013

## Metal Laser Sintering Hybrid Milling Machine

# **LUMEX Avance-25**

## Release in North America

Matsuura Machinery Corporation will start to sell a Metal Laser Sintering Hybrid Milling Machine, **LUMEX Avance-25**, in North America (U.S.A. and Canada) from January 1, 2014.

For the sales, Matsuura has concluded an exclusive distributor agreement with Mitsubishi Corporation and will sell through MC Machinery Systems Inc. (MMS), which is a locally incorporated company of Mitsubishi Corporation.

Recently the “3D printer” boom has started all over the world, and in North America, in particular, additive manufacturing technology is spotlighted. Matsuura has manufactured Metal Laser Sintering Hybrid Milling Machines with its own technology and has so far sold specifically in the die and mold industry in Japan and Asia. In the interim, Matsuura has been exploring opportunities in business in the North American market.

MMS being the No. 1 sales record of electrical discharge machines in the North American market, has a vast sales basis of customers in the die and mold industry, who are potential users of **LUMEX Avance-25**. Through the know-how of MMS, sales expansion will be aspired not only in the die and mold industry but also in the aircraft industry (light-weight parts for fuel efficiency) and the medical industry (custom made artificial bones and implants), where a large demand can be expected.

The sales target for the first year is 10 machines, promoting sales so that metal laser sintering & milling machines will be employed in a variety of industrial fields and be positioned as the core of the next generation manufacturing technology.

### [Overview of the Metal Laser Sintering Hybrid Milling Machine **LUMEX Avance-25**]

**LUMEX Avance-25** is the one and only machine in the world which realizes one-machine one-process manufacturing of complex molds and parts by fusing metal laser sintering (3D SLS) technology with high-speed milling technology. The machine enables production of even complicated parts through total manufacturing by digital engineering using 3D data. This achieves high accuracy in part fabrication since metal powders are melted and sintered with laser while surfaces are milled precisely at high speed.

Metal laser sintering and milling technology helps engineers think outside the box and create unique ideas, which may trigger a drastic departure from the conventional manufacturing scheme.

[Specifications of **LUMEX Avance-25**]

Item	Unit	Data
Travel (X / Y / Z axis)	mm	260/ 260/ 100
Maximum workpiece size	mm	250 x 250
Feed rate	m/min	60/ 60/ 30
Laser type		Yb fiber laser
Oscillator output range	W	40 – 400
Spindle speed	min <sup>-1</sup>	45,000
Tool storage capacity	tools	20



Photo: Metal Laser Sintering Hybrid Milling Machine **LUMEX Avance-25**

[Application to dies and molds]

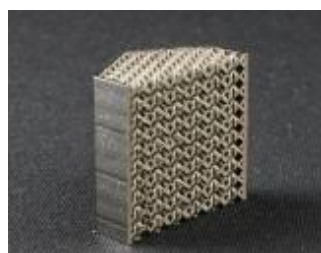
Dies and molds of very complex geometry can be fabricated in one piece with high accuracy, shortening lead time and reducing manufacturing costs to a half or one third of conventional methods. In addition, three-dimensional cooling channels can be incorporated in molds, thereby increasing cooling efficiency and enabling high-cycle injection molding with quality and precision higher than ever, which will lead to cost reduction.

[Application to parts production]

Quick turn production of custom made parts (prototypes or small-lot parts), differentiated original parts production with an internal structure, and designs so far considered impossible (mono-block, light-weight, hollow, 3D mesh, etc.) are feasible.



Mold sample



3D mesh sample



Artificial bone samples