



DIGITAL
METAL®

DIGITAL METAL® DM P2500

YOUR FAST TRACK TO HIGH-QUALITY 3D METAL PARTS



DM P2500

FAST AND FURIOUSLY EFFECTIVE

The DM P2500 is a sturdy workhorse where no efforts have been spared to make it as accurate as possible. The automatically calibrated moving parts in the DM P2500 have an accuracy of 1 μm , which vouches for excellent repeatability in serial production. In addition, great focus has been addressed to making the platform as stable as possible to assist best accuracy.



ALL THE BENEFITS OF DM P2500

OPERATES AT ROOM TEMPERATURE

Reduces downtime between jobs and facilitates overall handling.

ROBUST MACHINE DESIGN

Stainless steel chassi with robust hatches allows easy access during daily handling.

POWERED BY DIGITAL METAL® TECHNOLOGY

Unique software developed by Digital Metal enables high detail accuracy and traceability of process parameters.

HIGH ACCURACY AND REPEATABILITY

Combination of stable platform, precise movements and advanced powder handling ensures high accuracy and repeatability.

EXCELLENT SURFACE QUALITY (ON AVERAGE RA 6 µm)

Combination of binder jetting and high accuracy provides very fine surface finish.

FAST CHANGE-OVER BETWEEN PRINT JOBS

No need for protective atmosphere and printing at room temperature mean short downtime. Automatic calibration of the build box and easy cleaning of residual powder ensure fast change-over.

HIGH PRODUCTIVITY

Binder jetting is a fast printing technology with low conversion cost.

NO PROTECTIVE ATMOSPHERE NEEDED

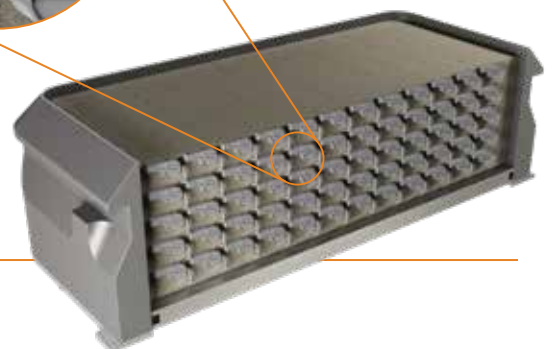
Enables short downtime between printing jobs, facilitates handling during printing and saves costs in gas consumption.

PRINTS WITHOUT SUPPORT STRUCTURES

Reduces scrap and time spent on post treatment, keeping variable costs at a minimum.

PRINTS MULTIPLE LAYERS OF COMPONENTS

Increases productivity through optimal utilisation of available build volume.



FACTS & FIGURES



“So far no other metal additive manufacturing technology can match the level of resolution and surface quality provided by Digital Metal.”

BATHSHEBA GROSSMAN, BATHSHEBA SCULPTURE LLC (USA)

MACHINE FACTS

- **Printing system:** Digital Metal®, a high-precision binder-jetting technology
- **Build volume (scaled):** 170 x 150 x 57 mm (L x W x H)
- **Build volume (unscaled):** 203 x 180 x 69 mm (L x W x H)
- **Typical productivity (scaled):** 60 cm³/h
- **Typical productivity (unscaled):** 100 cm³/h
- **Material deposition:** Recoating with powder applicator
- **Material recirculation:** Yes, with no degradation
- **Gas supply:** Protective gas not needed
- **Change over time between prints:** 15-25 min
- **Machine footprint:** 3300 x 1000 x 1700 mm (L x W x H)
- **Recommended installation space:** 4600 x 4100 mm (L x W)
- **Power consumption:** 3.5 kW average
- **Weight:** 2,250 kg

DATA PREPARATION

- **Software:** Magics
- **CAD interface:** STL, optional: converter for all standard formats
- **Network:** Ethernet

OTHER REQUIREMENTS ON SITE OF INSTALLATION

- Compressed air
 - Stable pneumatic pressure: 8-12 bar
 - Max flow consumption: 500 litres/min
 - Average flow consumption: 70-80 litres/min
- Vacuum extraction connection
 - Minimum constant flow: 200 m³/h -15 kPa
- Water cooler

OPTIONAL ANCILLARY EQUIPMENT

- **Down draft table;** for powder handling
- **Cleaning cabinet;** for powder separation from components after printing

MATERIALS

- Stainless steel 316L (1.4404), according to MIM standard MPIF 35
- Stainless steel 17-4PH (1.4542), according to MIM standard MPIF 35
- Ti6Al4V according to MIM standard ISO 22068

	Ultimate tensile strength	Yield strength (0.2%)	Elongation	Hardness	
	MPa	MPa	%	HRB	HRC
316L	520	180	50	55	
17-4PH	900	730	6		25
Ti6Al4V	890	790	8		25

MATERIAL DATA - TYPICAL VALUES

DESIGN GUIDELINES

- **Maximum length:** Preferably < 50 mm in the longest direction but available up to scaled print box dimensions
- **Minimum length:** 1 mm
- **Corner R:** 35 µm
- **Chamfer:** Steps of 35 µm in Z-direction
- **Resolution:** 35 µm
- **Wall thickness:** Preferably > 300 µm, down to 150 µm depending on area and design
- **Holes:** > 200 µm

WHY DIGITAL METAL[®]?

Digital Metal[®] is a unique, high-precision binder-jetting AM technology developed by Höganäs AB. Offering high print speed and cost-effective production of customised parts, it significantly outperforms other additive techniques. Up till now, Digital Metal has helped its customers manufacture more than 200,000 high-quality components.

THE BEST OF ADDITIVE MANUFACTURING

Additive Manufacturing, or 3D metal printing, has moved well beyond prototyping and rapid tooling. This fascinating technology has become a viable alternative to conventional manufacturing processes in an increasing number of applications, such as components for the aerospace, automotive, industrial, medical and the art & jewellery industry.

TOTAL DESIGN FREEDOM

Digital Metal enables the production of complex objects that would be costly – if not impossible – to produce using conventional methods.

MORE WITH LESS

The process requires no complex or costly tools and keeps material waste down to an absolute minimum.

FAST TRACK FROM CONCEPT TO COMPLETION

Digital Metal can take your product from concept to completion in less than two weeks.

High productivity, excellent surface quality and great resolution have brought our unique 3D metal printing technology to a world-class benchmark standard with over 200,000 high-quality components produced.

DIGITAL METAL ACADEMY

Digital Metal Academy teaches you everything you need to know about binder-jetting additive manufacturing. Whether you are experienced or a novice to 3D metal printing, we will set up an education program that suits your needs. You will get hands on experience on the DM P2500 at our premises prior to the delivery of the machine. This to give you all the tools you need for a smooth start-up and operation the moment your DM P2500 is installed.





**DIGITAL
METAL[®]**

PART OF HÖGANÄS GROUP

Digital Metal[®] is part of Höganäs Group, the world's largest producer of iron and non-ferrous metal powders with an annual turnover of approximately 1 BUSD. Nearly 99 per cent of the Group's products are sold on international markets. Höganäs was founded in 1797 and has today 2,500 customers in 75 countries. Headquartered in Höganäs, Sweden, the Group offers more than 1,500 products from 13 production centres situated in all main continents.

Read more about Höganäs at hoganäs.com