

SLM[®] 280 2.0

SELECTIVE
LASER MELTING



**MULTIPLE LASERS AND
PROCESS STABILITY**

 **1x 700W
2x 700W**

 **280MM** | **280MM** | **365MM**
X-AXIS | Y-AXIS | Z-AXIS



PREMIUM QUALITY HIGHEST PRODUCTIVITY VERSATILITY AT ITS BEST

Welcome to the SLM®280 - Our mid-size platform covering all needs from first steps in the world of metal AM all the way up to production systems. With a build envelope of 280 x 280 x 365 mm³, the SLM®280 product family offers a 25% larger build plate than comparable machines. Whether a cost-competitive single-laser solution or a production-ready twin-laser configuration with 700W - the SLM®280 is a versatile platform for a wide range of operators. A powerful entry level package with the right set of tools for maximum flexibility. While having the same laser configurations as its bigger brother, the efficient powder handling allows for insanely fast material changes in less than 2 hours. The perfect tool for material characterization, a fit-to-budget solution, or covering numerous material requests in a production setup. Versatility at its best.

LARGER BUILD CHAMBER AND MULTIPLE LASERS INCREASE PRODUCTIVITY WITHOUT SACRIFICING BUILD QUALITY

With a build plate 25% larger than standard mid- sized machines to fit more parts per build, and 700W high-powered lasers as standard, our multi-laser machines further promote production-oriented additive manufacturing. The leader in multi-laser systems, Nikon SLM Solutions offers a patented multi-laser scan strategy to minimize soot interference, alter layer stitching and deliver results with the same density and mechanical properties as single-laser builds.

OPEN ARCHITECTURE PUTS USERS IN CONTROL; YOUR POWDER, YOUR PARAMETERS

All SLM® systems allow the use of materials from any supplier. The integrated SLM® Build Processor and open software architecture offer the freedom to run standard parameters or optimize them to meet specific production needs and gain a competitive advantage. Refined parameters and an identical bench allow processes to be directly transferred to other machines, such as scaling up to SLM®500.

UNMATCHED FLEXIBILITY AND ADVANCED AUXILIARY FEATURES

The SLM®280 2.0 offers unparalleled flexibility with its rapid powder change capabilities, allowing you to switch powders in under 2 hours, maximizing production efficiency. Equipped with advanced auxiliary features such as high-temperature heating and specialized handling devices, the SLM®280 2.0 ensures optimal performance and versatility, meeting the diverse needs of modern manufacturing.

FREE FLOAT

Free Float's breakthrough technology empowers the creation of previously impossible designs and fewer costs by eliminating support structures and allowing more complex designs. It brings together the best of the best, culminating in a fully proven and validated functional part.

INDUSTRY-LEADING GAS FLOW DELIVERS QUALITY

UP TO TWO
**700
WATT
LASERS**





POWERFUL AND COMPACT

TECHNICAL SPECIFICATIONS



BUILD ENVELOPE (L x W x H)	280 x 280 x 365mm ³ , reduced by substrate plate thickness
3D OPTICS CONFIGURATION	Single (1x 700W), Twin (2x 700W)
THEORETICAL SYSTEM BUILD RATE	up to 173 cm ³ /h*
VARIABLE LAYER THICKNESS	20 - 90 µm, more available on request
E-CONNECTION / POWER INPUT	400 Volt 3NPE, 63 A, 50/60 Hz, 3.5-5.5 kW
COMPRESSED AIR REQUIREMENT	ISO 8573-1:2010 [1:4:1] 7 bar
MACHINE DIMENSIONS (L x W x H)	3150 mm x 1280 mm x 2470 mm
MINIMUM FEATURE SIZE	150 µm
BEAM FOCUS DIAMETER	80 - 115 µm
MAXIMUM SCAN SPEED	10 m/s
GAS FILTRATION	PFM (Permanent Filter Module) Option: 2+1 Filter Cartridges
AVERAGE INERT GAS CONSUMPTION IN PROCESS	8 L/min (Argon)
AVERAGE INERT GAS CONSUMPTION IN PURGING	110 L/min (Argon)

*Theoretical system build rate = layer thickness x scan speed x hatch distance x number of lasers. The value represents a com-parable indicator but remains a theoretical value after all. It does expressively not reflect true build rates, which are influenced by part geometry, ratio between hatch and contour areas, area of exposure, recoating times, and more.



SLM®280 2.0

POWERFUL AND COMPACT

1

Multi-laser technology was pioneered by Nikon SLM Solutions, who remain the market-leaders in installations. The SLM®280 can be equipped with up to two 700W fiber lasers to accelerate the printing process of many metal additive powders.

2

Patented bi-directional powder recoating helps reduce manufacturing time by depositing a new layer of powder in both directions without having to return to a “home” position.

3

Paired with a Powder Sieving Machine (PSM), the SLM®280 offers material flexibility. Manual sieves allow efficient material changeover in less than two hours for adaptable production while maintaining safety and quality.





INNOVATION BECOMES STANDARD

QUALITY ASSURANCE OF THE SELECTIVE LASER MELTING PROCESS

Comprehensive monitoring and quality assurance enable a high degree of process documentation and verification. Chamber temperature, oxygen, gas flow and other variables are constantly monitored and logged. This level of process control results in consistent, high-quality builds.

LAYER CONTROL SYSTEM

Layer Control System (LCS), standard with any SLM®280, is a testing and documentation system that examines the performance of each powder layer by monitoring the powder bed and detecting possible coating irregularities.

INNOVATION COMES STANDARD

Nikon SLM Solutions is known as the innovation leader in selective laser melting, being the first to introduce both twin- and quad-laser production systems. Features such as bi-directional powder recoating to reduce manufacturing time, open powder architecture allowing use material from any supplier and full process parameter access for custom development come standard on every selective laser melting machine.

QUALIFIED MATERIAL SOLUTIONS

Nikon SLM Solutions offers expert know-how that drives unique specifications to assure mechanical properties through the combination of machine, parameters and powder audited for composition, quality and flowability. Our material experts are always collaborating with customers to develop and source new alloys optimized for selective laser melting.

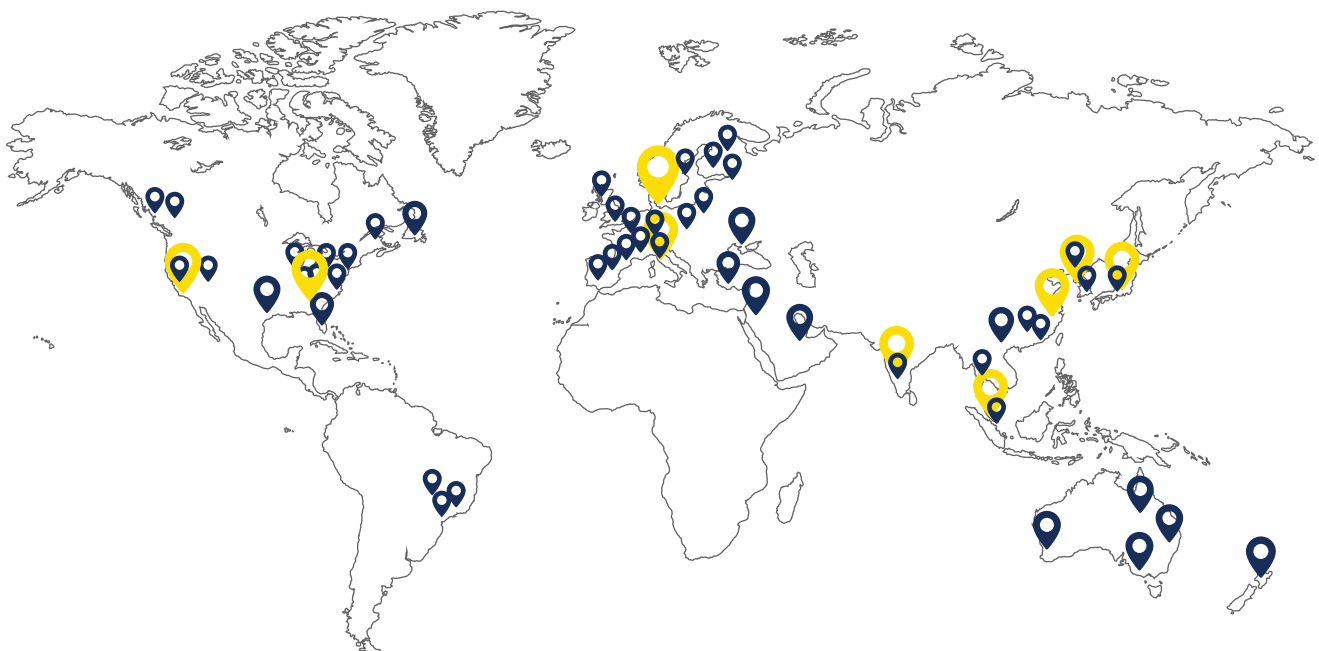
CONSULTATIVE DEVELOPMENT AND EXPERT KNOWLEDGE-SHARING

Nikon SLM Solutions' consulting, applications, training and service teams put customer success first to ensure their return on investment is maximized. Our experts work with customers every step of their additive journey, from application identification and development to factory layout and full serial production ramp-up.





TECHNOLOGY PIONEERS INNOVATION LEADERS



**2000+ LASERS
INSTALLED GLOBALLY**



9 CENTERS

Country	City	Type
Germany	Lübeck	Management, Engineering, Production, Application
USA	Long Beach, CA	Application
USA	Greenville, SC	Production
Japan	Tokyo	Application, Sales
China	Shanghai	Sales
Singapore	Singapore	Sales
India	Bangalore	Sales
South Korea	Seoul	Sales
Italy	Bologna	Engineering

NIKON SLM SOLUTIONS

The laser powder bed fusion process was the first to offer multi-laser systems, and all its selective laser melting machines offer patented quality, safety and productivity features. Taking a vested interest in customers' long-term success in metal additive manufacturing, Nikon SLM Solutions' experts work with customers at each stage of the process to provide support and knowledge-sharing that elevate use of the technology and ensure customers' return on investment is maximized. Optimally paired with Nikon SLM Solutions' software, powder and quality assurance products, the SLM® technology opens new geometric freedoms that can enable lightweight construction, integrate internal cooling channels or decrease time to market.

Nikon SLM Solutions Group AG focuses exclusively on metal additive manufacturing and is headquartered in Germany with offices in China, France, India, Italy, Singapore and the United States and a network of global sales partners.

GO **FASTER.**
GO **MULTI-LASER.**
GO **END-TO-END.**
GO **SUPPORT-FREE.**
GO **INDUSTRIAL SCALE.**
GO **BOLDER.**
GO **FOR GOLD.**
GO **NIKON SLM SOLUTIONS.**



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