

LOCANAM

ADDITIVE MANUFACTURING TECHNOLOGIES



SLSX

Desktop SLS For Every Workspace



Key Features

High Speed 30 Watt Fiber Laser Galvo System

Provides Sharp Features with Precise Dimensional Tolerances

Affordable Desktop SLS Solution

A cost-effective yet powerful Desktop SLS Machine

Advanced IR Based Print Chamber Heating System

Equipped with an advanced print chamber heating system, it ensures consistent part quality

Accurate Temperature Management

Real-time temperature management with accuracy of $\leq 1.0^{\circ}\text{C}$

High Precision Recoater

Delivering consistently smooth layers for superior print quality

No Support Structures

Requires no supports which saves a lot of time as well as gives more design flexibility

End-use Parts

Can print high strength and durable end-use parts

Supports Wide Range of Materials

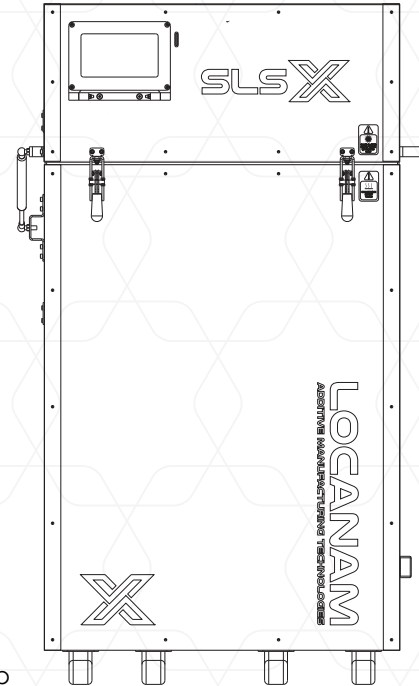
A wide range of materials can be used offering design flexibility for different applications

Easy Accessibility

The top box is designed for easy access, simplifying material filling, part removal, and cleanup

Easy To Relocate

Wheels allow easy relocation of the machine



Industries & Applications

Aerospace & Defence

Lightweight Components

Produce durable, lightweight parts to enhance aircraft performance and fuel efficiency

Complex Geometries

Fabricate intricate designs with internal channels and lattice structures for optimized functionality

End-Use Parts

Functional parts such as drone frames, lightweight satellite components with intricate features

Automotive

Rapid Prototyping

SLS allows rapid prototyping and quick iteration of complex designs, speeding up product development

Vehicle Accessories

Durable parts such as custom brackets, gear knobs, seat mounts, dashboard inserts and much more

Robotics

Assembly Free Design

With SLS, intricate parts such as custom prosthetic hand with ball joint can be easily printed

Gears & Actuators

SLS can be used to create gears and actuators with complex geometries and high precision

Healthcare

Prosthetics & Implants

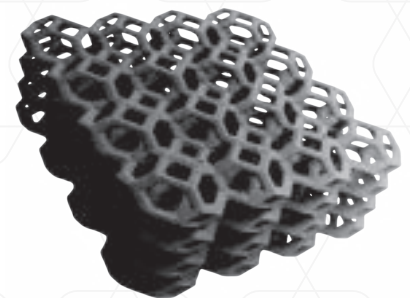
Tailored prosthetic limbs designed for better mobility and comfort





Technical Specifications

Machine Type	Desktop SLS 3D Printer
Model Name	LOCANAM SLS X
Machine Weight	125 kg
Machine Dimension	815 x 530 x 1370 mm (L x B x H)
Printable Build Volume	150 x 150 x 200 mm (L x B x H)
Layer Thickness	0.1 to 0.2 mm
Powder Bin Capacity	6.5 kg
Laser Scanner Type	Galvo
Laser Type	30 W, λ 1064 nm , Fiber Laser
Working Temperature	150 To 200 °C
Pre Heat Time	< 50 Min
After Print Cooling Time	3 Hour
Materials	Nylon PA-12 & more
File Formats	STL & OBJ
Electrical Specifications	Single Phase, 220-240 V AC, 50 Hz
Average Power Consumption	1.5 kW
Peak Power Consumption	2.5 kW
Mobility	Equipped with wheels
Control System	7" inch Touch Screen
Build Accuracy	$\pm 0.2\text{mm}$
Machine Operating Temp.	20-30 °C



Design Guidelines for Reliable Printing

Minimum Wall Thickness for Reliability (The machine is capable of printing down to 0.5 mm)	1.3 mm
Dimensional Tolerances	$\pm 0.2 \text{ mm}$
Minimum Clearance for Mating Parts	0.75 mm
Minimum Feature Size for Reliability (The machine is capable of printing features as small as 0.5 mm)	1.0 mm





Material Properties (Nylon PA-12)

Physical	Typical Value	Method	Test Condition
Bulk Density	0.63 g/cm ³	ISO 60	-
Part Density	0.96 g/cm ³	ISO 1183	-
Particle Size (D50)	55 µm	ISO 13320	-
Mechanical	Typical Value	Method	Test Condition
Tensile Strength	46 Mpa	ISO 527	50mm/min
Tensile Modulus	1350 Mpa	ISO 527	50mm/min
Elongation at Break	25 %	ISO 527	50mm/min
Flexural Strength	44 Mpa	ISO 178	5mm/min
Flexural Modulus	1280 Mpa	ISO 178	5mm/min
Izod Impact Strength (Notched)	6.9 KJ/m ²	ISO 180	-
Thermal	Typical Value	Method	Test Condition
Melting Temperature (Powder)	185 °C	ISO 11357	10°C/min
Heat Deflection Temp.	120 °C	ISO 75-2	0.45 Mpa
Heat Deflection Temp.	84 °C	ISO 75-2	1.8 Mpa
Vicat Softening Temp.	160 °C	ISO 306	10 N
Vicat Softening Temp.	141 °C	ISO 306	50 N