

Pilot SD

A New Dimension in Stereolithography 3D Printing

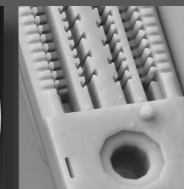
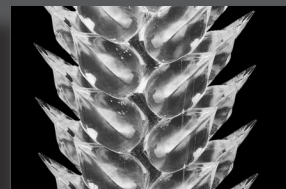
- ▶ Cost-effective ownership throughout entire life cycle
- ▶ Freedom to collaborate and innovate: open design for materials and machine access
- ▶ Printed parts demonstrate excellent sidewall quality and fine detail, contributing to lower post-finishing requirements



SYSTEM FEATURES

- Scanning speed of 6–12 m/s
- Closed-loop control regulates platform movement, laser power, resin level, resin temperature, and vacuum pressure to ensure accuracy and stability
- Granite recoater rim for enhanced stability
- Can realize 0.002 in (0.05 mm) layer thickness for excellent surface quality
- Convenient assembly and disassembly of platform
- Telecontrol system for remote control and order processing
- Plunger-style leveling
- Pump-fed auto refill capability
- Components from top international brands—Advanced Optowave, SCANLAB, and Panasonic
- Full freedom of choice in materials: equipment uses any 355 nm SL material
- Three levels of access (Operator, Engineer, and Expert) controlled by user
- Changeable vat
- CE certified

Versatile Application Range • High Accuracy • Excellent Surface Aesthetics



Pilot SD Technical Data

Build Envelope Capacity	9.8 x 9.8 x 9.8 in (250 x 250 x 250 mm)
Maximum Part Weight	38.6 lb (17.5 kg)
Accuracy	L≤1 in (25.4 mm): ±0.001 in (±0.025 mm) L>1 in (25.4 mm): ±0.1% x L Accuracy may vary depending on parameters, part geometry/size, pre- or post-processing methods, materials, and environment.
Z Axis Positioning Accuracy	≤±8 μ
Liquid Level Positioning Accuracy	≤± 0.001 in (0.03 mm)
Laser	Solid-state frequency tripled Nd:YVO ₄
Wavelength	354.7 nm
Beam Size	High resolution (0.002 – 0.003 in/0.06 – 0.08 mm) or standard (0.005 – 0.008 in/0.12 – 0.20 mm) option
Scanning Speed	6–12 m/s
Controller	UnionTech™ RSCON
Part Preparation	Materialise Magics
Operating System	Windows 7, Windows 10
Input Data File Format	STL
Network Type and Protocol	Ethernet, IEEE 802.3 using TCP/IP and NFS
Layer Thickness	0.002 in (0.05 mm) minimum; 0.01 in (0.25 mm) maximum
Electrical Requirements	110-120 VAC, 60 Hz, single-phase, 20 amps
Laser Warranty	10,000 hours or 18 months (whichever comes first)
Base Plate/Recoater Rim	Granite
Systems Control	Closed-loop
Weight	2,315 lb (1,050 kg) with 110 lb (50 kg) initial fill inside
Power (nominal)	At head 1,000 mW (typical 300 mW at material surface under nominal optical path condition)

Operating Environment

Temperature Range	72–79°F (22–26°C)
Maximum Change Rate	1°C/hour
Relative Humidity	<40% non-condensing
Space Requirements (W x D x H)	43.5 x 44 x 77.4 in (1,105 x 1,118 x 1,965 mm)

Accessories

Additional Resin Vat	Optional
Processing and Finishing	Post-curing unit
System Warranty	One-year warranty, under UnionTech's Purchase Terms and Conditions



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