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UnionTech™
 Create your imagination

Pilot SD

A New Dimension in Stereolithography 3D Printing

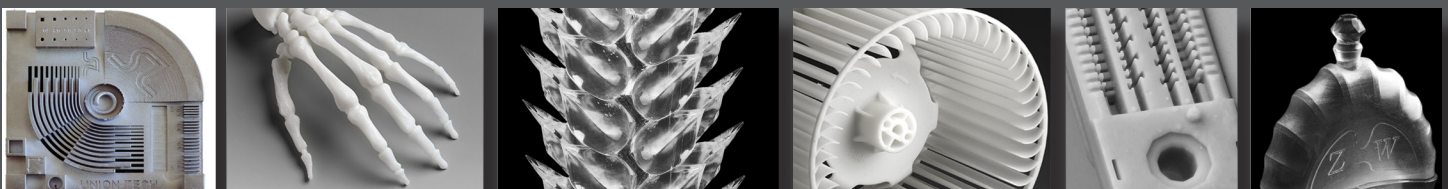
- Cost-effective ownership throughout entire life cycle
- Freedom to collaborate and innovate: open design for materials and machine access
- Printed parts demonstrate excellent sidewall quality and fine detail, contributing to lower post-finishing requirements



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—Spectra-Physics, 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*

*Specifications are subject to change; consult with your sales representative for confirmation of current offering.

| | |
|-----------------------------------|---|
| 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 (with supplied transformer) |
| Laser Warranty | 5,000 hours or 15 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 800 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 |