3Dn-500™

Specifications

Dimensions: 112 x 94 x 176 cm
Weight: 6000 lbs/2727 kg
Power: Single Phase; 120 VAC, 20A **
Machine Tool Software, PC, and Monitor included. All operations set in CAD, executed on single system, through nStudio, the in house UI.

Additional Options

Platform: Custom platform size; Bio-compatible upgrade; Cleanroom Stages upgrade; up to penta-head tool plate; and Heater Control system

Toolheads: SmartPump™ 100; nFD Pump™, nMill™, and the nPNP360™ for pick and place

Vision: Real-time Process View; nVision™; Automatic Calibration Pit; nScan™ Surface Mapping); and Post-process inspection

Miscellaneous: Overhead HEPA Filtration: UV Spot Curing Source; Heated Bed, Vacuum Chuck, Rotary Stage; Aerosol Jetting; Plasma cleaning; Light Tight Laser Enclosure; Rigid Cylinder Fixture; Flexible Cylinder Fixture; and Pulse Forge/ Laser Integration

The 3Dn Series Factory in a Tool (FiT) offers cutting-edge technology, with a powerful and robust high-speed, high precision motion platform tailored for 3D manufacturing. Its versatility surpasses conventional standards by seamlessly producing complete products rather than just individual parts.

This user-configurable system streamlines the transition from CAD designs to fully functional electronic products. The system effectively manages and synchronizes multiple tool heads either in series or in parallel, ensuring seamless operation and unparalleled efficiency. Its capablities include:

- 3D printing structures and housings using our nFD material extrusion toolhead
- Precision microdispensing and embedding of conductive traces with our Smartpump™ toolhead (with pentip size as small as 25 µm, printed lines 20 µm, and dots as small as 50 µm)
- Precise placement of electronic components with our PNP™ (pick and place toolhead)
- Micro-milling of fine surface features with our nMill™ toolhead

Capabilities

X/Y Accuracy	± 5 µm
X/Y Bidirectional Repeatability	± 1 µm
X/Y Maximum Speed	500 mm/s
X/Y Travel Range	500 x 500 mm
X/Y Resolution	5 nm
X/Y Max Build Area	145x276 mm
Z Accuracy	± 5 µm
Z Bidirectional Repeatability	± 1 µm
Z Maximum Speed	150 mm/s
Z Travel Range	150 mm
Z Max Build Area	150 mm

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