



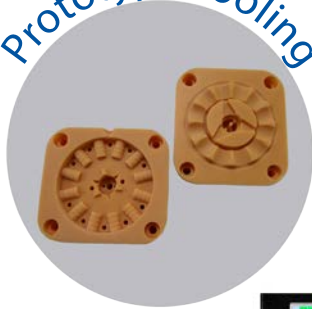
  
envisionTEC

Xtreme® 3SP® and Xede® 3SP®  
Vector 3SP  
ULTRA® 3SP® and ULTRA® 3SP® HD  
Perfactory®4 Standard and Standard XL  
Perfactory®4 Mini and Mini XL  
Perfactory®3 Mini Multi Lens  
Micro Plus Hi-Res and Advantage  
Photosensitive Resins

Visual Aids



Prototype Tooling



Direct Manufacturing



Fit and Assembly



Direct Casting



Toys and Models







## Your Partner For Success

Ever since EnvisionTEC patented the Perfactory® DLP® machine in 1999, we have built a reputation for reliable and high quality engineering solutions. These skills have been used to manufacture award winning, high speed, economical additive manufacturing machines.

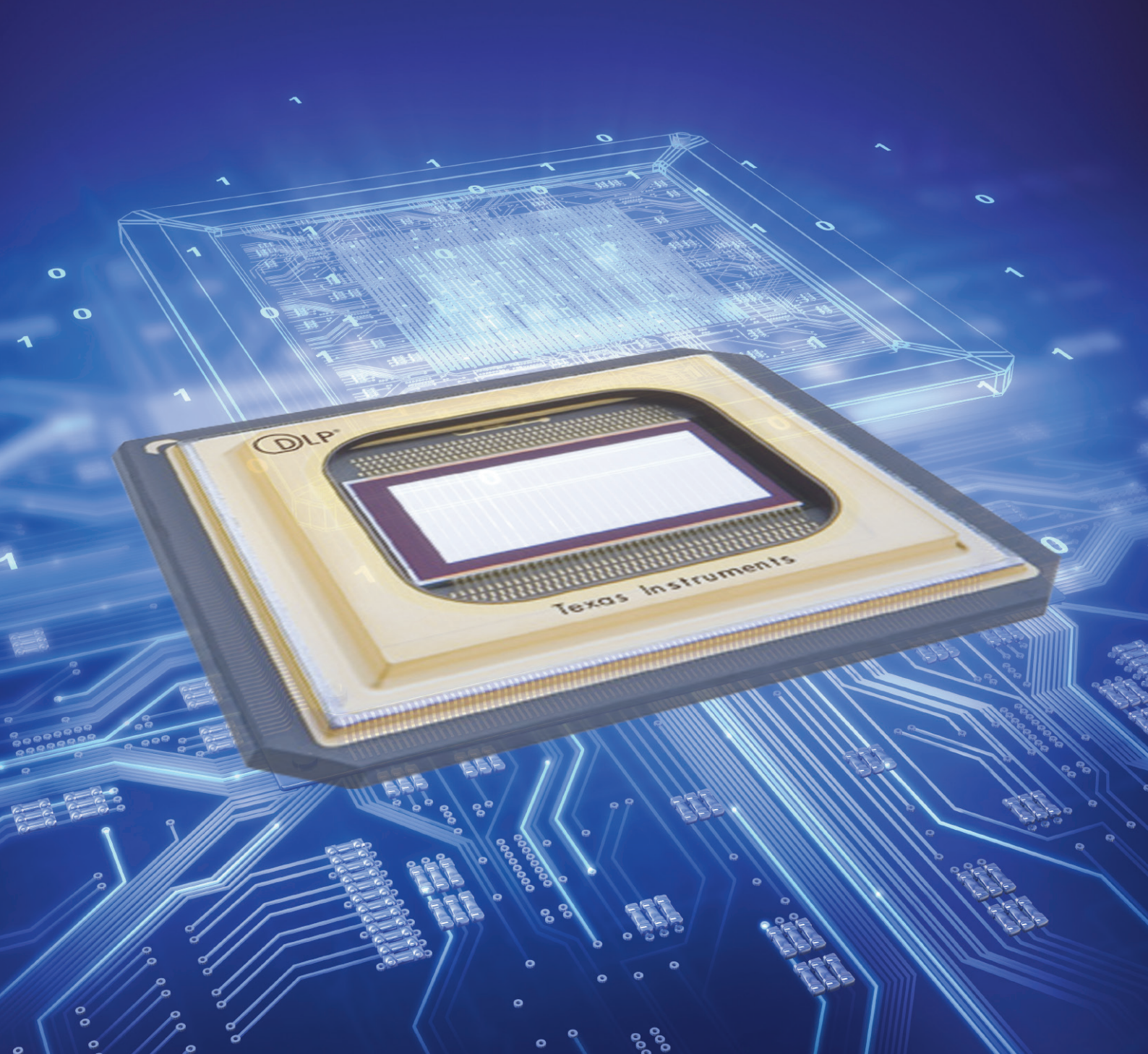
When EnvisionTEC decided to build a rapid prototyping machine, conventional techniques were considered. These were rejected as they were either not capable of achieving the resolution required or the ongoing running costs proved to be uneconomic for the end user. Thus, the Perfactory® DLP® process was born and subsequently commercialized in 2002.

EnvisionTEC has continued to innovate in the 3D printing field, adding bioprinting technology and our newest technology, 3SP® (Scan, Spin, and Selectively Photocure). We strive to deliver solutions, not just 3D printers. We look to deliver a finished product, designed with software that is fully integrated with our software, and printed on an EnvisionTEC 3D printer with a material that meets the exact needs of the end user. We work closely with many industry-specific software developers to ensure a seamless transition between content creation and 3D printing.

We look forward to working with you to deliver the perfect solution for your 3D printing needs.

A handwritten signature in black ink, appearing to read 'Al Siblani'.

Al Siblani - CEO EnvisionTEC.





## German Precision Technology

Designed to be used with 3D CAD systems, EnvisionTEC's 3D printers translate CAD data into voxels which are projected through a DLP® projection system and focused through a series of precision optics into a photopolymer-based liquid. This hardens into a 3D model voxel by voxel. Curing of the resin is amazingly fast; the complete build area can be cured simultaneously, regardless of the quantity, complexity, or size of the pieces.

EnvisionTEC utilizes the extremely reliable Digital Micromirror Device (DMD) technology from Texas Instruments. Calibration of the machine could not be easier for the operator as it is a semi-automatic process and takes just a few minutes. The machine is so simple to use that it requires no expert technician to operate and maintain. End user costs are therefore minimized.





## Xtreme® 3SP® and Xede® 3SP®



- 3SP® (Scan, Spin, and Selectively Photocure) technology quickly prints highly accurate parts from STL files
- Large build area makes it the first choice for automotive and aerospace industries
- Fast build speed is ideal for service bureau or OEM customers
- Constant build speed and quality regardless of geometry or number of parts
- XY resolution of 100 µm and a Z resolution range from 50 to 100 µm (material dependant).

Machine Specification:	Xtreme® 3SP®	Xede® 3SP®
Maximum Building Envelope:	254 x 362 x 330 mm*	457 x 457 x 457 mm*
Voxel** Resolution in X & Y:	100 µm	100 µm
Dynamic Voxel Resolution in Z:	50 - 100 µm***	50 - 100 µm***
Footprint:	165 x 165 x 165 cm	178 x 190 x 165 cm
Electrical Requirement:	220 V, single phase, 15 A	

System specifications are subject to change without notice.

\*Deviation of +/- 2mm possible. \*\*A voxel is volumetric pixel.

\*\*\*Pre-Adjusted by each material module and material dependent.\*\*\*\*



## Vector 3SP®



- A single material is used for both build and easily removable, partially cured perforated supports
  - Very few moving parts make the system user-serviceable
  - Low part cost due to minimal material waste
  - Produce everything from concept models to functional parts
  - Can connect directly to a PC workstation or be integrated into a network for processing the job files and for remote monitoring
- The system has a stand-alone PC with a 15" touchscreen monitor

### Machine Specification: Vector 3SP®

Maximum Building Envelope:	254 x 362 x 330 mm*
Voxel** Resolution in X & Y:	100 µm
Dynamic Voxel Resolution in Z:	50 - 100 µm***
Footprint:	165 x 165 x 165 cm
Electrical Requirement:	220 V, single phase, 15 A

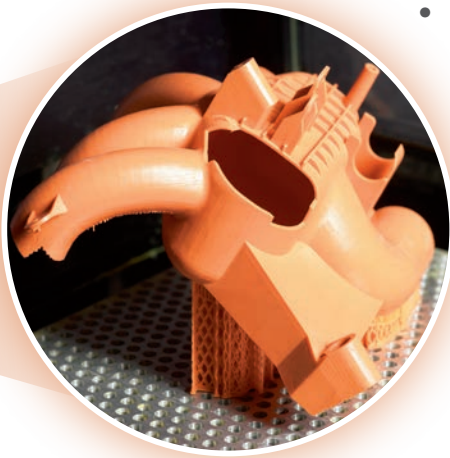
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## ULTRA<sup>®</sup> 3SP<sup>®</sup> and ULTRA<sup>®</sup> 3SP<sup>®</sup> HD



- 3SP<sup>®</sup> (Scan, Spin, and Selectively Photocure) technology quickly prints highly accurate parts from STL files
- Very few moving parts make the systems user-serviceable
- Delivered and installed with all the relevant software to enable automatic generation of supports and perfect model production
- Low part cost due to minimal material waste
- High quality surface finish
- Accuracy and surface finish remains constant over the entire build area

Machine Specification:	ULTRA <sup>®</sup> 3SP <sup>®</sup>	ULTRA <sup>®</sup> 3SP <sup>®</sup> HD
Maximum Building Envelope:	266 x 175 x 193 mm*	266 x 175 x 193 mm*
Voxel** Resolution in X & Y:	100 µm	50 µm
Dynamic Voxel** Resolution in Z:	50 - 100 µm***	50 - 100 µm***
Footprint:	74 x 76 x 117 cm	
Optional Stand:	74 x 76 x 64 cm	
Electrical Requirement :	100 - 127 VAC, 50/60 Hz, single phase, 8A; 200 - 240 VAC, 50Hz, single phase 4A	

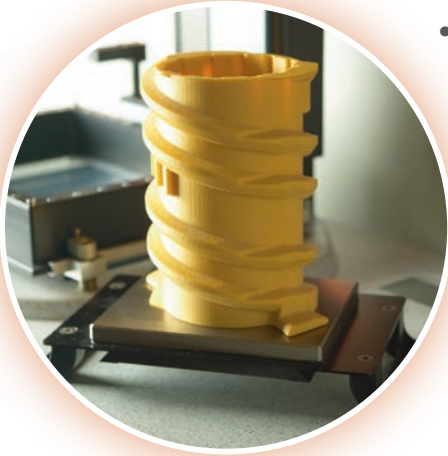
System specifications are subject to change without notice.

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\*\*\* Pre-Adjusted by each material module and material dependent.



# Perfactory<sup>®</sup> 4 Standard and Standard XL



- Ideal for consumer product models
- Fitted with the Enhanced Resolution Module (ERM) as standard enables 50 µm resolution in the X and Y axis
  - The Perfactory<sup>®</sup> Standard XL with ERM can build up 25mm in height per hour at a voxel<sup>\*\*\*</sup> thickness of 100 µm
  - Constant build speed regardless of quantity or complexity of parts (only the dynamic Z voxel will affect this).

Machine Specification:	Perfactory <sup>®</sup> 4 Standard	Perfactory <sup>®</sup> 4 Standard XL
Build Envelope:	160 x 100 x 230* mm	192 x 120 x 230* mm
Voxel**Resolution in X & Y (ERM):	42 µm	50 µm
Dynamic Voxel Resolution in Z:	25 - 150 µm***	
Projector Resolution:	1920 x 1200 Pixels	
Footprint:	73 x 48 x 135 cm	
Weight Approx:	85 kg	
Electrical Requirement:	100 - 120 V, 5.4 A; 220 - 240 V, 2.4 A	

System specifications are subject to change without notice.

\*Deviation of +/- 2mm possible. \*\* A voxel is volumetric pixel.

\*\*\* Pre-Adjusted by each material module and material dependent.



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# Perfactory<sup>®</sup>4 Mini and Perfactory<sup>®</sup>4 Mini XL



- Ideal for the manufacture of electronic components for hand held devices
- A choice of 15 different resins can be used
- Change over between materials in minutes utilizing the easily interchangeable base
- Produce the finest detail in the shortest time
- Resolution and surface finish remains constant over the entire build area

## Machine Specification: P4 Mini

## P4 Mini XL

Lens System:	Lens f = 2.36" (60 mm)	Lens f = 2.95" (75 mm)	Lens f = 2.36" (60 mm)	Lens f = 2.95" (75 mm)
Build Envelope (factory adjustable):	64 x 40 x 180/230 mm*	38 x 24 x 180/230 mm*	115 x 72 x 230 mm*	84 x 52.5 x 180/230 mm*
Voxel** resolution in X & Y (ERM):	17 µm	10 µm	30 µm	22 µm
Dynamic Voxel resolution in Z:	15 - 150 µm***			
Projector Resolution:	1920 x 1200 Pixels			
Footprint:	73 x 48 x 135 cm			
Weight Approx:	85 kg			
Electrical Requirement:	100 - 120 V, 5.4 A; 220 - 240 V, 2.4 A			

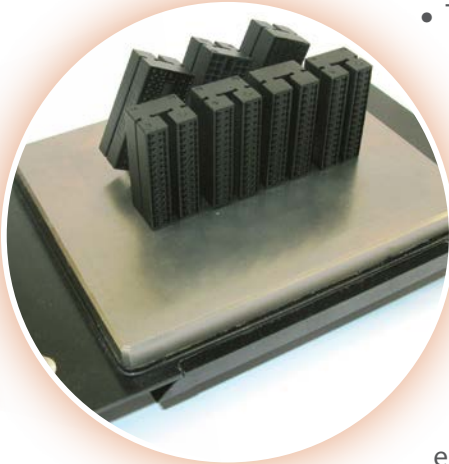
System specifications are subject to change without notice.

\*Deviation of +/- 2mm possible. \*\*A voxel is volumetric pixel.

\*\*\*Pre-Adjusted by each material module and material dependent.



# Perfactory® 3 Mini Multi Lens



- The Perfactory® 3 Mini Multi Lens has the highest precision and 3 lens choices: 60 mm, 75 mm, and 85 mm.
- Fitted with the Enhanced Resolution Module (ERM) enables resolutions down to 16  $\mu\text{m}$  in the X and Y with the 85 mm lens
- The machine is delivered and installed with all relevant software to enable automatic support generation and perfect model production
- Wide range of materials
- Resolution and surface finish remains constant over the entire build area

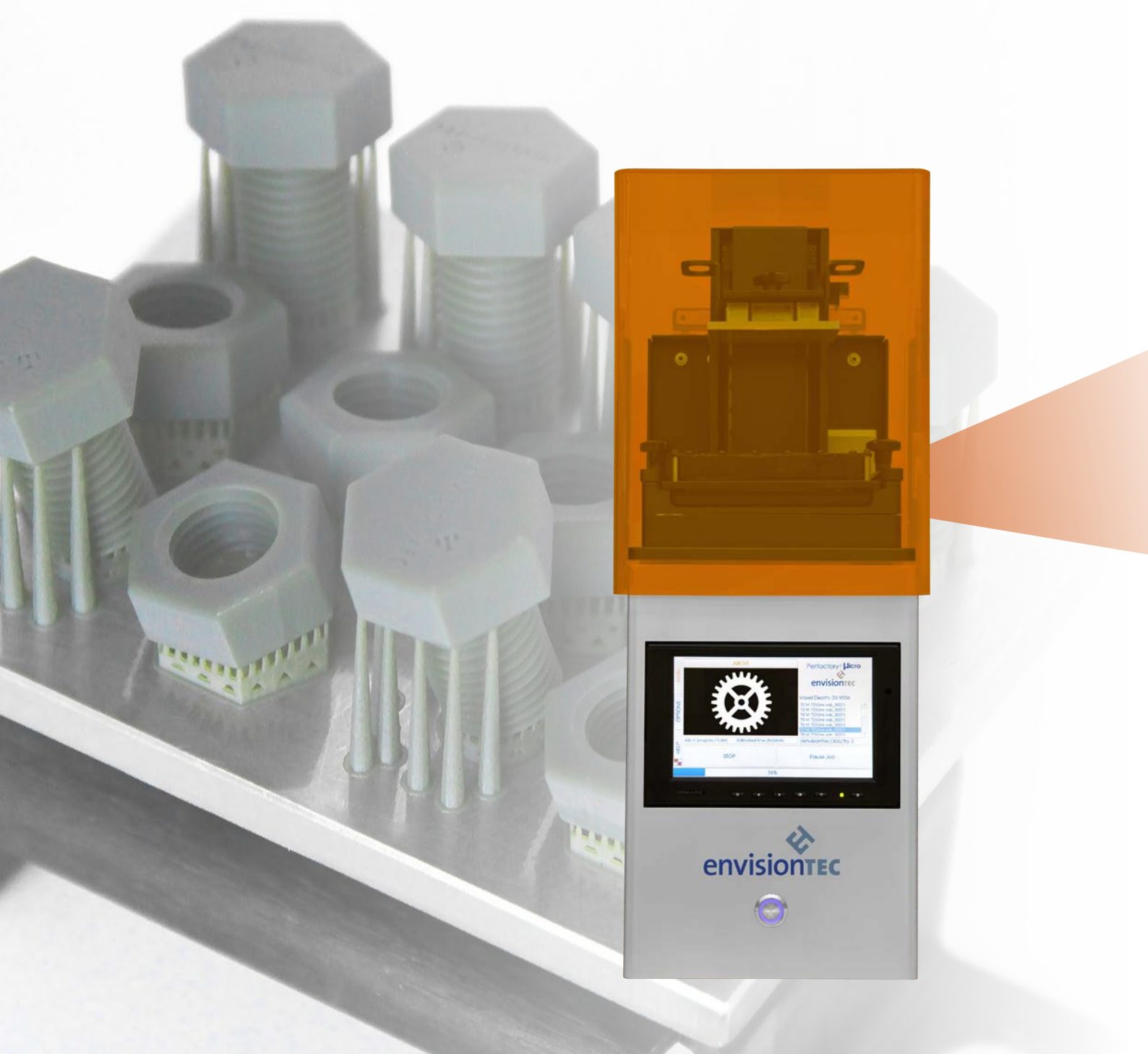
## Machine Specification:

Lens System	Lens f = 2.36" (60 mm)	Lens f = 2.95" (75 mm)	Lens f - 3.35" (85 mm)
Build Envelope	84 x 63 x 230 mm*	44x 33 x 230 mm	44x 33 x 230 mm
ERM Voxel** Size:	16 $\mu\text{m}$	21 $\mu\text{m}$	30 $\mu\text{m}$
Dynamic Voxel** Resolution in Z:	15 - 150 $\mu\text{m}$ ***		
Projector Resolution:	1400 x 1050 Pixels		
Footprint:	73 x 48 x 135 cm		
Weight Approx:	85 kg		
Electrical Requirement:	100 - 120 V, 5.4 A; 220 - 240 V, 2.4 A.		

System specifications are subject to change without notice.

\*Deviation of +/- 2mm possible. \*\*A voxel is volumetric pixel.

\*\*\*Pre-Adjusted by each material module and material dependent.



## Micro Plus Hi-Res and Advantage



- The smallest personal desktop 3D manufacturing systems
- The Micro series can produce small engineering components requiring high precision
  - Ideal for producing high quality, small engineering components
  - Long life LED DLP® light source with zero maintenance and very low acquisition cost
  - Ideal for educators, consumers, and design professionals

Machine Specification:	Micro Plus Hi-Res	Micro Plus Advantage
Build Envelope:	45 x 28 x 100 mm*	65 x 40 x 100 mm*
Voxel** resolution in X & Y:	30 µm	60 µm
Dynamic Voxel Resolution in Z***:	25 µm - 75 µm	
Footprint:	9" x 9.5" x 25" (22.86 x 24.13 x 63.5 cm)	
Weight Approx:	35 lbs (16 kg)	
Electrical Requirement:	110 VAC @ 3A	

System specifications are subject to change without notice.

\*Deviation of +/- 2mm possible. \*\*A voxel is volumetric pixel.

\*\*\*Pre-Adjusted by each material module and material dependent.

# High Performance Photosensitive Resins

EnvisionTEC offers a range of high performance materials to cope with most applications required by industry, including wax-filled resins used for direct casting applications, high temperature resistant ceramic-filled resins, and highly accurate general purpose resins for functional end results.

Material	Available Formulas			Applications
	Perfactory®	Micro	3SP®	
AB Flex	X	X		General purpose with structural representation of ABS with additional flexibility
ABS Flex Black	X	X	X	Highly flexible general purpose ABS-like
ABS Flex Light Gray	X	X	X	Highly flexible general purpose ABS-like
ABS Flex White	X	X	X	Highly flexible general purpose ABS-like
ABS Tough	X	X	X	Extremely tough ABS-like
ABS TRU			X	General purpose, superior strength, wide processing latitude
ABS Tuff	X	X		General purpose with structural representation of ABS
E-Denstone Series	X	X	X	High temperature molding, high resolution, nonmetal masters
E-Glass	X	X	X	Clear visual aids
E-Shell 200 Series	X	X		Medical grade, opaque skin tones
E-Shell 300 Series	X	X		Medical grade, transparent for visual aids
E-Tool	X	X	X	Strong and ideal for molds for thermoplastic injection molding
HTM140 Series	X	X		High temperature molding, high resolution, nonmetal masters
LS600	X	X		General purpose, durable and accurate with fine details
QView	X	X		Quick building for fast design verification
R5/R11 Series	X			Master models, mimics polypropylene for rubber molding
RC70/90 Series	X	X		Nanoparticle-filled high temperature materials for tough, stiff parts
RC25/31 Series	X			High temperature applications, nano filled silica oxide

## Curing Box Options

Description	Inner Chamber Dimensions	Rotating Table Size	Footprint
UV Light Curing Box for Micro/Vida	8.2 x 8.2 x 8.75 inches	N/A	10.31 x 10.34 x 12.53 inches
UV Light Curing Box for ULTRA 3SP	18 x 18 x 14 inches	16" Diameter	19.1 x 19 x 22.5 inches
UV Light Curing Box for Xde 3SP/Xtreme 3SP	25 x 25 x 18 inches	20" Diameter	34 x 26 x 27.4 inches

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