3D SYSTEMS
Additive Manufacturing Solutions

Be more versatile.
productive.
innovative.

Minimize risk and maximize returns with our comprehensive range of additive manufacturing solutions.

Selective Laser Sintering (SLS)

Selective Laser Sintering (SLS) enables Additive Manufacturing (AM) with production-grade nylon materials to produce tough, functional complex parts with excellent surface finish, resolution, accuracy, repeatability and low total cost of operations. SLS printers print in thermoplastic materials designed to offer you the full range of capabilities and isotropic properties, from rigid to elastomeric, high elongation, high impact strength, and high-temperature resistance.

Build Volume

Machine	Size in mm	Material
sPro 60	380 x 330 x 450	DuraForm PA
sPro 230	550 x 550 x 740	DuraForm PA
sPro 500	380 x 330 x 450	DuraForm PA

Properties PA

Measurement	Condition	Metric
Heat Deflection Temperature	ASTM D 648 @ 0.45 MPa @ 1.82 MPa	180 °C 95 °C
Coefficient of Thermal Expansion (µm/m-°C)	ASTM E 831 0 - 50 °C 85 - 145 °C	82.6 179.2
Specific Heat Capacity	ASTM E1269	1.64 J/g-°C
Thermal Conductivity	ASTM E1225	0.70 W/m-K
Flammability	UL 94	HB

3D Systems BeNeLux operates nine state-of-the-art SLS 3D printers. These printers utilize proprietary materials developed by 3D Systems to produce durable and precise parts. In addition to these, 3D Systems BeNeLux can process materials such as Alumide, a composite of aluminum and polyamide, which enhances the thermal stability and aesthetic appeal of printed parts.

SLS technology enables the creation of complex geometries, including internal channels, screw threads, logos, and other intricate features directly within the part. This capability eliminates the need for additional support structures and allows for the production of monolithic assemblies.

While SLS-printed parts are generally easy to finish, processes such as sanding may be challenging due to the material's properties. However, painting and other surface treatments are effective methods for enhancing the appearance and functionality of the parts.

For features like logos or other characters that are not embedded within the part, a minimum support thickness of 1 mm is recommended to ensure structural integrity during the printing process.

Stereolithography (SLA)

SLA printers work with a wide range of materials, with a range of sizes and price points, which are designed for prototyping, end-use part production, casting patterns, molds, tooling, fixtures and medical models.

Our facility operates seven state-of-the-art Stereolithography (SLA) 3D printers, with one currently being installed to expand our production capacity. These printers utilize a laser layer thickness of 100 microns, ensuring high-resolution and precise builds.

We offer a range of specialized materials to meet various application requirements:

- White Epoxy*
- Gray Epoxy*
- Transparent Epoxy*
- Flame-Retardant Material: With a Heat Deflection Temperature (HDT) of 70°C, suitable for applications requiring moderate heat resistance.
- Ceramic-Filled Material: Boasting an HDT of over 300°C, ideal for high-temperature applications.

** The flame-retardant and ceramic-filled materials can withstand temperatures up to 47°C; however, with thicker wall sections, they can endure higher temperatures.*

Post-printing, our SLA materials exhibit properties akin to ABS plastic, facilitating straightforward post-processing and finishing. This characteristic allows for easy sanding, painting, and other finishing techniques to achieve the desired surface quality.

SLA 3D printing is renowned for its exceptional accuracy, enabling the production of intricate designs with fine details. Features such as logos or text can be clearly rendered when embedded or imposed with a minimum thickness of 0.7 mm, ensuring legibility and precision in the final product.

Machine	Size in mm	Material
SLA	250 x 250 x 250	Accura Xtreme Grey Accura Xtreme White
	750 x 650 x 550	Accura ClearVue Accura HPC

Direct Light Production (Figure 4®)

Figure 4® delivers ultra-fast additive manufacturing technology with systems that offer the expandable capacity to meet your present and future needs. With access to a range of innovative materials, Figure 4 enables tool-less alternatives to traditional injection molding or urethane casting processes with direct digital production of precision plastic parts, as well as ultra-fast same-day rapid prototyping.

Our Figure 4 department consists of several machines with many advanced materials tailored for specific applications. Those include (excerpt):

- Rubber-blk shore A65: This material is a production-grade elastomer with a Shore hardness of 65A, offering medium hardness and slow rebound properties.
- Pro Black: This material is a tough, rigid production plastic material designed for creating robust parts like clips and snaps.
- Dental materials: Those are characterized by being biocompatible, strong, and UV stable, depending on wall thickness.

We are always available to assist you in selecting highly suitable materials for your more technical projects as they become available

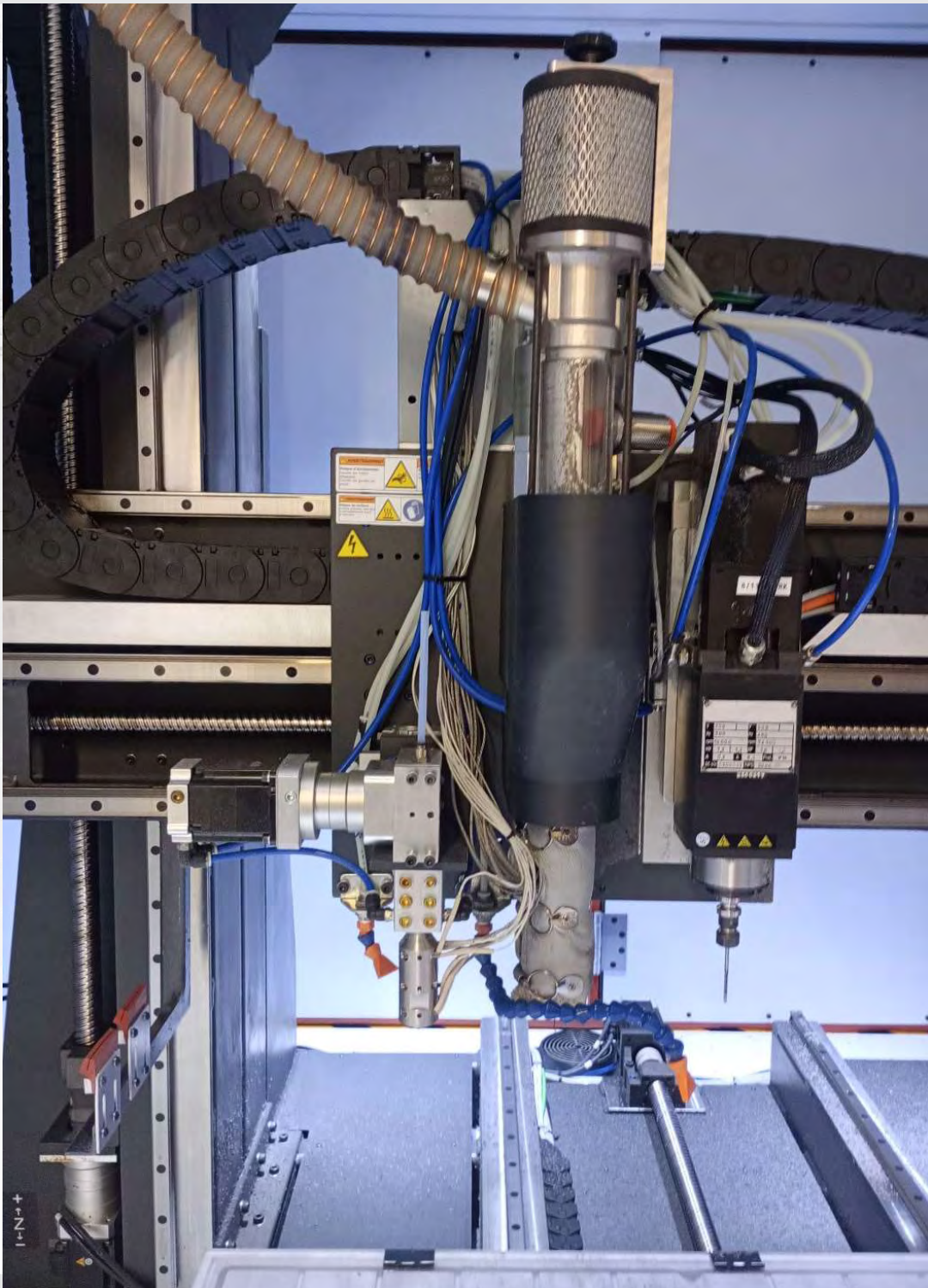
Figure 4 Standalone

Size in mm	Material
124 x 70 x 194	Figure 4 Pro-BLK 10
	Figure 4 RUBBER-BLK 10
	Figure 4 HI TEMP 300-AMB
	Figure 4 MED-WHT 10
	Figure 4 Rigid White
	Figure 4 High Temp 150°C FR Black
	Figure 4 MED-AMB 10
	Figure 4 FLEX-BLK 10
	Figure 4 RUBBER-65A BLK

Extrusion 3D Printing (EXT Titan Pellet)

Medium-to-large-format additive manufacturing solutions utilizing pellet feedstocks for significant material cost savings and greater throughput compared to filament-based systems. Built with industrial reliability and repeatability in mind, EXT Titan Pellet systems are ideal for large-scale tooling, patterns, molds, end-use part production and functional prototypes. Multi-toolhead configurations including a filament extruder and milling spindle are available on select systems.

A characteristic of this technique is that these machines can print granules with Nozzles of 1mm or 0.5mm.
It has a coarser structure, but we can post-process this by milling the surface smooth.



3D Systems

3D Systems Benelux, established in 1987 as Kemo Modelmakerij B.V., is a leading provider of custom manufacturing services specializing in plastic and metal parts. The company offers comprehensive solutions from rapid prototyping to production, utilizing 3D CAD files. Headquartered in Budel, Netherlands, 3D Systems Benelux serves engineers and designers across various industries.

3D Systems Benelux provides a range of services, including:

- Rapid Prototyping: Quick development of prototypes to facilitate design validation and testing.
- Custom Manufacturing: Production of bespoke plastic and metal parts tailored to client specifications.
- Tooling Services: Creation of molds and tools for various manufacturing processes.

These services cater to professionals seeking efficient and precise manufacturing solutions.

Milling

Despite the shift towards 3D printing technologies, 3D Systems BeNeLux continues to honor its traditional milling roots. The company operates several milling machines of different calibers, enabling the production of precise and high-quality parts. This dual expertise in both traditional and additive manufacturing techniques allows 3D Systems BeNeLux to meet diverse client needs effectively.

Finishing and Painting

We are equipped with state-of-the-art tools and facilities to deliver finishes that align precisely with our clients' specifications. Our finishing department features two professional-grade paint booths, ensuring optimal conditions for high-quality applications.
We specialize in formulating paints to match any RAL or Pantone color, accommodating unique client preferences. Client-specific color formulations are meticulously documented, allowing us to reproduce exact shades even years later, maintaining consistency across projects.

For questions, please do not hesitate to contact us.

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