

# EXT Titan™ Pellet 3D Printers

High-speed industrial additive manufacturing solutions with innovative pellet-extrusion technology and optional hybrid additive + subtractive toolhead configurations



# Transforming industrial production additive manufacturing with up to 10X faster print speed and 10X savings on materials

**From aerospace manufacturers to foundries, industrial customers are revolutionizing their manufacturing floors with EXT Titan Pellet 3D printers.**

Our proven pellet-extrusion additive manufacturing (AM) technology reduces per part costs and delivers higher part performance with lights-out reliability. EXT Titan Pellet systems are relied on by diverse companies across industries including aerospace, automotive, foundry, government/defense, healthcare, furniture and consumer products with applications from tooling to end-use part production.



## REDUCED PART COST

Up to 10X faster print speeds and 10X reduction in raw material costs compared to filament 3D printing, drastically lowering per part cost vs. FDM/FFF printers.



## LIGHTS-OUT RELIABILITY

EXT Titan Pellet systems are built for lights-out manufacturing on the production floor with industrial CNC motion control systems, servos on all axes and ultra-reliable extruders.



## HIGHER PART PERFORMANCE

With a wide range of pellet feedstocks available, including high-temperature and fiber-reinforced materials, EXT Titan Pellet systems enable customers to use the right material for their industrial production applications.



## MORE THAN JUST MACHINES

Our experts can help you with material validation, process refinement, toolpath development, post-processing, and more. Our global service team has you covered to maximize machine uptime when it's time for maintenance.

## Application Examples

- Sandcasting Tools & Patterns
- Thermoforming Molds
- Refractory Molds
- Composite Layup Tooling
- Manufacturing Jigs and Fixtures
- Automotive and Marine Components
- Aerospace Ducting
- HVAC Components
- Furniture, Lighting, Decor
- Mannequins, Statuary
- End-Use Parts
- Full-Scale Prototypes
- and more



# Engineered for repeatable results and configured to meet the unique demands of your industrial AM applications.

In addition to generous build volumes, EXT Titan Pellet 3D printers are packed with features and configurable options that make them stand out against other "big" printers.

Standard features include welded steel frames, active bed and chamber heating, industrial CNC motion controllers, and servo motors on all axes. All systems come standard with a single high-speed, precision pellet extruder and some models may be configured with up to three toolheads including a second pellet extruder, filament extruders, and a milling spindle. Additional options include pellet dryers, fume extraction/filtration, and more.

## Platform Common Specifications

<b>Max. Temperatures</b>	Pellet Extruder: 400°C Filament Extruder: 400°C Print Bed: 140°C Build Chamber: 80°C
<b>Print Speeds</b>	Up to .5m/sec
<b>Rapid Travel Speeds</b>	Up to 1m/sec

Extrusion Capabilities	
<b>Pellet Nozzle Diameters</b>	0.6–9.0 mm
<b>Pellet Extruder Throughput</b>	1–30** lbs. per hour
<b>Filament Nozzle Diameters</b>	0.4–1.2 mm
<b>Filament Extruder Throughput</b>	< 1–2 lbs. per hour

\*\*max flow rate with 9 mm nozzle

Spindle Features	
<b>Speed</b>	18,000 RPM (1.5HP)
<b>Tool Size</b>	Up to 1/4" diameter, 4" length
<b>Tool Calibration</b>	3-axis sensor configuration



EXT 800 Titan Pellet



EXT 1070 Titan Pellet / LT



EXT 1270 Titan Pellet

<b>Build Volume</b>	800mm x 600mm x 800mm (31.5" x 23.6" x 31.5")
<b>Toolhead Options</b>	Single Pellet Only
<b>Power Input</b>	208V 3 Phase, 60 amp
<b>Machine Weight</b>	1814 kg (4000 lb)
<b>Dimensions</b>	2.13m x 1.4m x 1.92m (7' x 4.6' x 6.3')

<b>Build &amp; Cut Volume</b>	1070mm x 1070mm x 1118mm (42" x 42" x 44") 1041mm x 990mm x 990mm (41" x 39" x 39")
<b>LT Model Build Volume</b>	1070mm x 1070mm x 1219mm (42" x 42" x 48")
<b>Toolhead Options</b>	Single or Dual Pellet , + Single or Dual Filament , + Spindle up to 3 heads total
<b>LT Model Toolhead Options</b>	Single Pellet , + Single or Dual Filament
<b>Power Input</b>	208V 3 Phase, 60 amp
<b>Machine Weight</b>	2041 kg (4500 lb)
<b>Dimensions</b>	2.43m x 2.13m x 2.62m (8' x 7' x 8.6')

<b>Build &amp; Cut Volume</b>	1270mm x 1270mm x 1829mm (50" x 50" x 72")
<b>Toolhead Options</b>	Single or Dual Pellet , + Single or Dual Filament , + Spindle up to 3 heads total
<b>Power Input</b>	208V 3 Phase, 100 amp
<b>Machine Weight</b>	2721 kg (6000 lb)
<b>Dimensions</b>	3.35m x 3.05m x 3.05m (11' x 10' x 10')





## Why print with pellets?

### Speed, low cost, and a huge selection of industrial materials.

**As the raw form of most thermoplastics, pellets are the lowest cost feedstock available for additive manufacturing, and they're available in hundreds of formulations.**

From high-strength fiber-reinforced industrial plastics to highly flexible elastomers, pellet extrusion offers a broad range of material choices. Our open materials architecture enables customers to choose between buying materials on the open market or buying certified, production-ready pellets direct from 3D Systems. Either way, our application engineers can help you select the right material and the best print parameters for your specific application to ensure your manufacturing success.

Here is a sample of materials compatible with EXT Titan Pellet 3D Printers:

#### **Flexible Materials (as flexible as Shore A 26)**

- TPU
- TPE
- PEBA
- TPC

#### **Standard Materials**

- PLA
- ABS
- PETG
- PP
- ASA

#### **High Performance/Filled Materials**

- PC 20% CF & GF
- Nylons up to 50% CF
- PEI 20% CF & GF
- PPS
- PPSU
- PEKK 30% CF & GF

#### **In-situ Compounding**

- Color blending
- Material blending
- Instantaneous or gradient transitions

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