Raise3D T450 Technical Specifications

The T450 is a professional FFF 3D printer built for round-the-clock production. With a build volume of 450 x 350 x 400 mm, its full metal frame ensures precision at speeds up to 600 mm/s. The unique TwinFlow™(Dual Extrusion) design enables multiple modes without complex XY calibration. The actively heated chamber (max chamber heating temperature of 70°C) ensures strength and accuracy with engineering materials, while the Raise3D Filament Station (RFS) enables uninterrupted printing. Monitored by over 20 sensors and AI vision, it transforms your workflow into predictable, planned output.

Printer	Raise3D T450	
Body	Build Volume (W × D × H)	450 × 350 × 400 mm (17.7 × 13.8 × 15.8 inch)
	Machine Size (W × D × H)	710 × 635 × 785 mm (28.0 × 25.0 × 30.9 inch)
	Maximum External Package Dimensions (W × D × H)	880 × 772 × 1076 mm (34.7 × 30.4 × 42.4 inch)
	Weight	Net Weight: 75.9 kg (167.3 lbs) Gross Weight (Carton Only): 80 kg (176.4 lbs) Gross Weight (Carton with Pallet): 98.2 kg (216.5 lbs)
	Frame Material	Aerospace-grade Aluminum Alloy
Extrusion	Print Technology	Fused Filament Fabrication (FFF)
	Print Head System	TwinFlow™ (Dual-Extrusion with Single-Nozzle Y-Junction Manifold)
	Print Mode	Single Extrusion; Dual Extrusion, Dual Extrusion High Flow
	Nozzle Diameter	0.4 mm (Default), 0.6 mm (Available)
	Nozzle Type	High Thermal Conductivity CuCrZr Base Nozzle with Solid Wear-Resistant SiC Tip
	Max Nozzle Temperature	420℃
	Filament Diameter	1.75 mm
	Layer Height	0.2 mm (0.4 mm nozzle)
	Printing Precision	IT11 Grade* *Test Filament: Raise3D Premium PLA
Speed	Max Printing Speed	600 mm/s
	Max Speed of Toolhead	1,500 mm/s*
	Max Acceleration of Toolhead	30,000 mm/s^2
	Max Flow for Hotend TwinFlow™ (Dual Extrusion)	80 mm^3/s** * Test parameters: Obtained at a Max Acceleration of Toolhead of 10,000 mm/s^2. ** Test parameters: Raise3D Hyper Speed ABS V2, 250 ℃ printing temperature, 0.4 mm nozzle, a single outer wall smooth structure.
Build Plate and Heated Bed	Build Plate	Flexible Double-sided PEI Build Plate
	Build Plate Leveling	Mesh-leveling with Flatness Detection
	Heated Bed Material	Silicone Heater Pad
	Max Build Plate Temperature	120℃
Chamber Temperature Control	Active Chamber Heating	Available
	Max Chamber Heating Temperature	70℃
	Electric Top Cover	Available
	Auxiliary Heat Dissipation Module	Available
Printing Environment	Filter	HEPA Filter with Activated Charcoal
	Operating Ambient Temperature	15-30℃, 10-90% RH non-condensing
	Storage Temperature	-25℃ to +55℃, 10-90% RH non-condensing
Electrical	Power Supply	T450 (220V): 200-240VAC, 50/60Hz, 230V@10A T450 (110V): 100-120VAC, 50/60Hz, 110V@15A
Material	Raise3D Material	Hyper Speed: PLA/ PLA Pro/ ABS/ PETG CF/ PET CF Industrial: PPA CF/ PET Support/ PPS CF Premium: PLA/ ABS/ ASA/ PETG/ TPU-95A Coming Soon: Industrial: PPA GF/ PET CF/ PET GF/ PETG ESD/ PPA Support Premium: PVA+
Software	Slicing Software	ideaMaker
	Supported File Types	STL/ OBJ/ 3MF/ OLTP/ STEP/ STP/ IGES/ IGS
	Supported OS	Windows/ macOS/ Linux
	Machine Code Type	GCODE
Sensor and Camera	Live Camera Resolution	1920 × 1080
	Nozzle Camera Resolution	2592 × 1944
	Filament Run-out Sensor	Available
	Power Loss Recovery	Available
	Flow Rate Detection	Available
	Spaghetti Detection	Available
	Nozzle Clumping Detection	Available
Connectivity and Network	Connectivity	Wi-Fi, LAN, USB port, Live Camera
	Ports	USB 3.0 × 1, Ethernet × 1
	Network	Wi-Fi, Ethernet
	Wi-Fi Protocol	WPA/ WPA2/ WPA3-PSK
Printer Controller	User Interface	7-inch Touch Screen
	Screen Resolution	1024 × 600
	Motion Controller	STM ARM Cortex-M7 550MHz DP-FPU
	Logic Controller	RK ARM Cortex-A55 Quad 2 GHz
	Memory	2 GB
	Onboard Flash	32 GB
	OS	Debian
	Electric Door Lock	Available
		Computing Power up to 1 TOPS (INT8), Supporting Mixed Precision

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