RAISE3D E2CF

A Professional-Grade Desktop 3D Printer

for Fiber-Reinforced Composite

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RAISE3D E2CF

Nozzles with High Durability

Dual Direct Drive Extrusion System

Engineered to 3D-Print using Various Fiber-Reinforced Filaments

Easily Removable Support Filaments

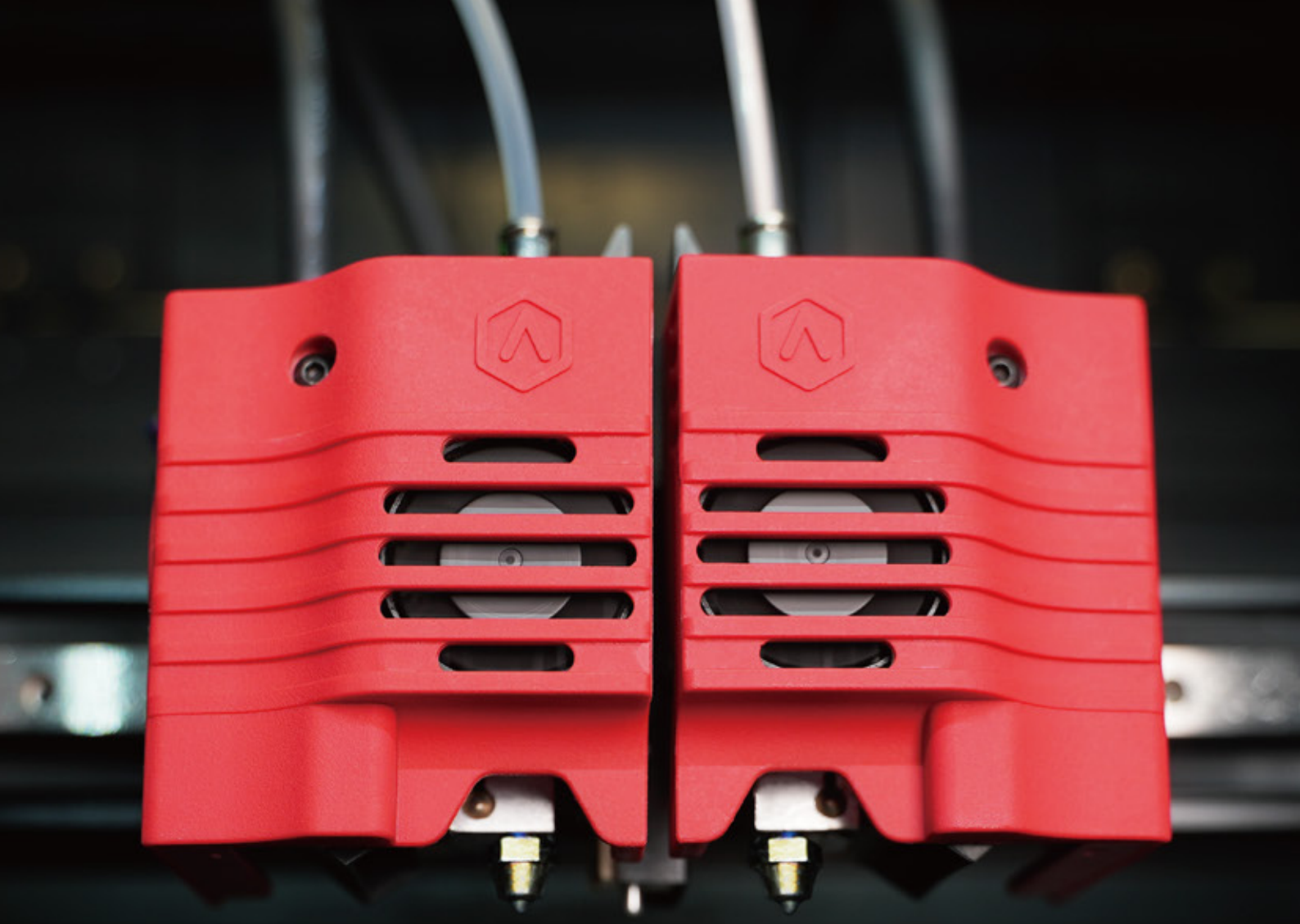
Raise3D Filament Dry Box

ideaMaker Slicing Profiles

The E2CF is a desktop 3D printer developed by Raise3D for carbon fiber-reinforced filaments and other composite materials.

Carbon fiber filament has low density, high strength, and it is resistant to corrosion, static electricity and high temperature. It has potential for a wide range of applications within industries that need considerable strength-to-weight ratio in their solutions, such as the aviation industry and the automotive world.

The E2CF is durable, user-friendly and stable while in operation, delivering accurate prints. It is a one-stop desktop-level manufacturing tool suitable for vast range of scenarios.



Nozzles with High Durability

The silicon carbide nozzles have excellent wear resistance and thermal conductivity, which will effectively lessen the abrasion the carbon fiber composite filament subjects the nozzle to when printing, making the nozzle more durable.

*Nozzles made of other materials suitable for printing carbon fiber filaments will be launched in the future.

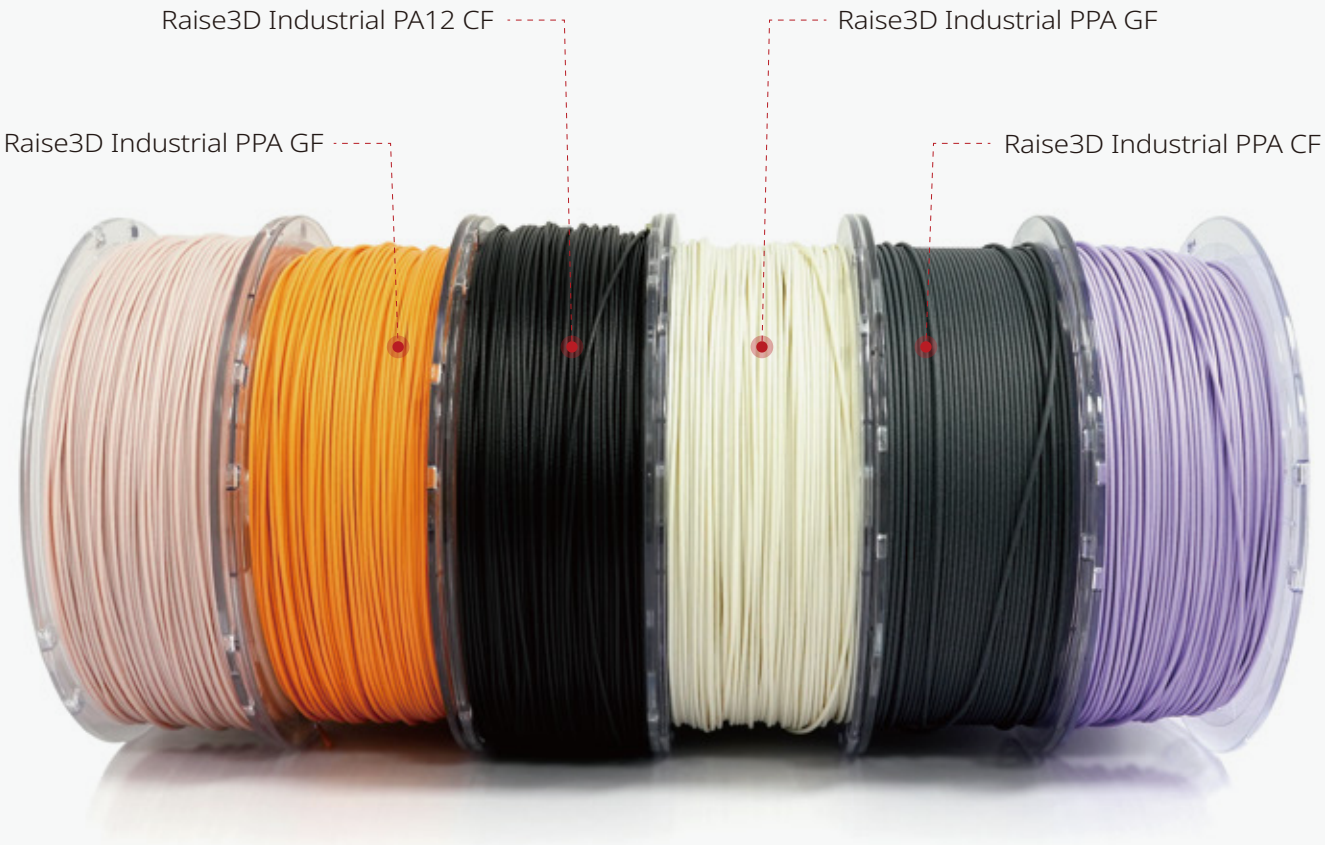
Dual Direct Drive Extrusion System

- The gears are made of high-hardness steel and have been heat-treated for higher wear resistance.
- With a custom gear tooth profile, filament is firmly held in place to ensure that it does not slip when extruding.
- The system provides additional extrusion force, increasing printing stability.

Engineered to 3D Print using Various Fiber-Reinforced Filaments

The E2CF is compatible with fiber-reinforced PLA/ ABS/ Nylon/ PET/ PPS/ PET GF/ PET Support/ PETG/ ASA/ PC as well as with other engineering thermoplastic filaments. In addition, Raise3D will launch more third-party fiber-reinforced filaments suitable for E2CF as part of the Raise3D OFP project.

*E2CF only supports authorized filaments and printing profiles. For the full list, please contact Raise3D.



- Raise3D Industrial filaments show excellent rigidity and strength, heat resistance, low warpage, and low water absorption, with an outstanding strength-to-weight ratio.
- Suitable to replace metal in the manufacturing of certain lightweight components.
- Some fiber-reinforced filaments, such as Nylon and PET, exhibit enhanced mechanical properties and dimensional stability after annealing.

Easily Removable Support Filament

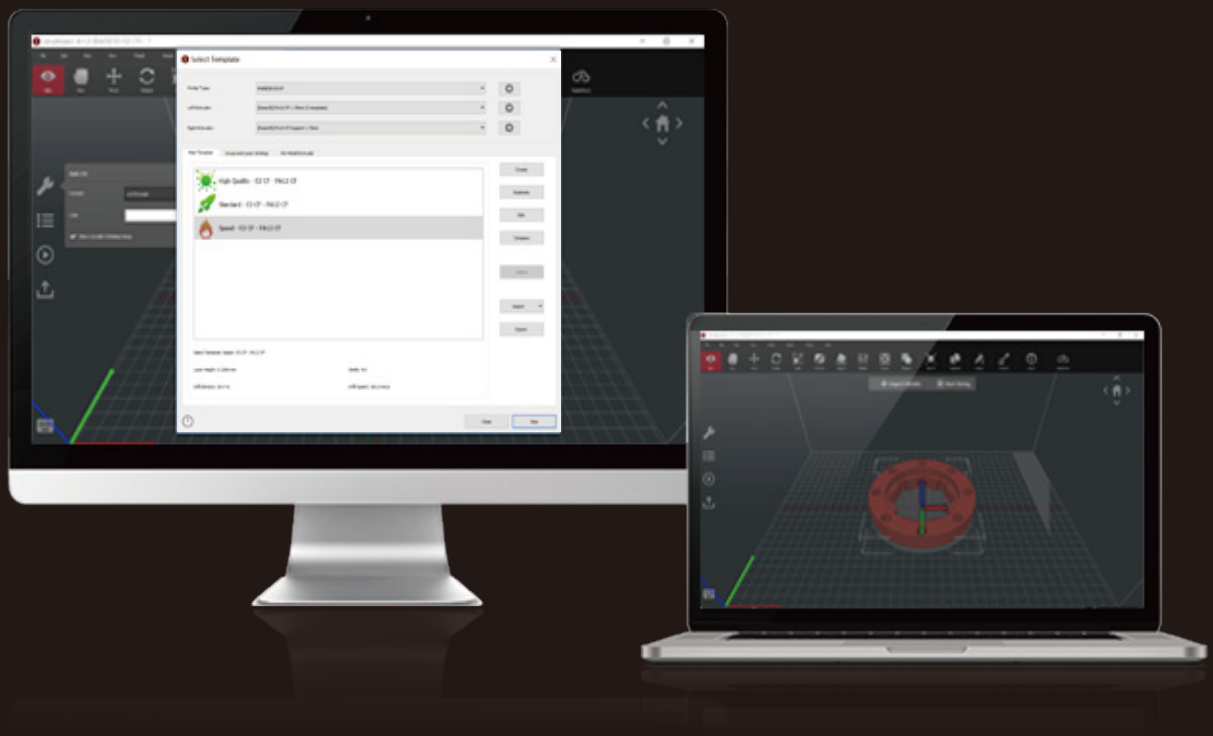
Raise3D Industrial PA12 CF Support/ Raise3D Industrial PPA Support/ Raise3D Industrial PET Support

- Creates a stable support structure, provides proper adhesion to printed surfaces and counteracts any tendency to warp.
- Can be easily removed or broken away from the printed parts.
- Significantly improves the surface quality of the overhangs and hollows of the printed items.
- Exhibits a broad compatibility with many high-performance fiber-reinforced composite filaments.
- More cost-effective compared with water-soluble support material.

Raise3D Filament Dry Box

The built-in suspension trays are used to place the filament and allow material to be pulled more smoothly. When closed, they can effectively prevent dust and moisture from affecting the material, for a period of up to 30 days*.

*From Raise3D test data.



ideaMaker Slicing Profiles

The E2CF has slicing profiles that have been repeatedly tested and verified by our engineers in ideaMaker. There is no need to adjust the parameters before printing. Enjoy easy and high-quality printing.

Like other Raise3D products, the E2CF can carry out mass production and intelligent management using ideaMaker as the core software solution.

More Features

- Mirror Mode
- Duplication Mode
- Auto Bed Leveling
- Video-Assisted Offset Calibration System
- Automatic Pausing with Door/ Lid Sensors
- Power Saving Button
- Flexible Build Plate

Printer	Raise3D E2CF		
Build Volume (W × D × H)	Single Extruder Print	Dual Extruder Print	
	330 × 240 × 240 mm (13 × 9.4 × 9.4 inch)	295 × 240 × 240 mm (11.6 × 9.4 × 9.4 inch)	
Machine Size (W × D × H)	607 × 596 × 465 mm (23.9 × 23.5 × 18.3 inch)		
Weight (Raise3D Filament Dry Box not included)	Net Weight	Gross Weight (Carton Only)	Gross Weight (Carton with Pallet)
	36.6 kg (80.7 lbs)	43.1 kg (95.1 lbs)	50.6 kg (111.6 lbs)
Electrical	Power Supply Input	100-240 V AC, 50/ 60 Hz 230 V @ 2 A	
	Power Supply Output	24 V DC, 350 W	
General	Print Technology	Fused Filament Fabrication (FFF)	
	Print Head System	IDEX Independent Dual Extruders	
	Filament Diameter	1.75 mm	
	XYZ Step Size	0.78125, 0.78125, 0.078125 micron	
	Print Head Travel Speed	30-150 mm/s	
	Build Plate	Flexible Steel Plate with BuildTak	
	Max Build Plate Temperature	110°C	
	Heated Bed Material	Silicone	
	Build Plate Leveling	Mesh-leveling with Flatness Detection	
	Filament Run-out Sensor	Available	
	Layer Height	0.1-0.25 mm	
	Nozzle Diameter	0.4 mm (Default), 0.6/ 0.8 mm (Available)	
	Hot End	V4P	
	Max Nozzle Temperature	300°C	
	Connectivity	Wi-Fi, LAN, USB port, Live camera	
	Noise Emission (Acoustic)	< 50 dB (A) when building	
	Operating Ambient Temperature	15-30°C, 10-90% RH non-condensing	
	Storage Temperature	-25°C to +55°C, 10-90% RH non-condensing	
	Filter	HEPA filter with activated charcoal	
Material	Material Type	Raise3D Industrial Series: PA12 CF, PA12 CF+, PA12 CF Support, PPA CF, PPA GF, PPA Support, PETG ESD, PET CF, PET GF, PET Support Raise3D Premium Series: PLA, ABS, PETG, ASA, PC	
	Third Party Material	Supported by Raise3D OFP (Open Filament Program)*	
Software	Slicing Software	ideaMaker	
	Supported File Types	STL/ OBJ/ 3MF/ OLTP	
	Supported OS	Windows/ macOS/ Linux	
	Machine Code Type	GCODE	
Printer Controller	User Interface	7-inch Touch Screen	
	Network	Wi-Fi, Ethernet	
	Power Loss Recovery	Available	
	Screen Resolution	1024 × 600	
	Motion Controller	Atmel ARM Cortex-M4 120 MHz FPU	
	Logic Controller	NXP ARM Cortex-A9 Quad 1 GHz	
	Memory	1 GB	
	Onboard Flash	16 GB	
	OS	Embedded Linux	
	Ports	USB 2.0 × 2, Ethernet × 1	

*For detailed information and slicing profiles of the materials supported by Raise3D OFP, please visit *https://www.ideamaker.io/*.

Applications

Carbon fiber composite materials have many applications, including functional prototypes, aerospace, automotive, medical, sports equipment, civil engineering, electronics, and other fields. It also has a variety of further uses, such as fixtures in a mechanical workshop, prosthetics, and customized bicycle frames.

Medical
High strength, lightweight, heat-resistant

Industrial
Strong, drop-resistant, with special matte surface finish

Automotive
Abrasion-resistant, lightweight, rust-proof

Aerospace
Abrasion-resistant, corrosion-resistant, electrostatic-resistant

Software Solution

1

Data Preparation

Open Filament Program

Third-party slicing profile database

Raise3D Academy

All-in-one 3D printing knowledge base

ideaMaker Library

User community and slicing profile sharing platform

2

Data Conversion

ideaMaker

Powerful 3D slicer software

3

Printing Management

RaiseCloud

Remote management cloud platform

Raise3D Printers

FFF 3D printers with wide applications

About Raise3D

Raise3D has become a global leader in manufacturing precise and reliable 3D printers, with h

Raise3D printers have enjoyed an award-winning legacy, including: "3D Printer of the Year" aw
largest global 3D printing evaluation organization, awarded Raise3D "Best 3D Printer" and "Be

In addition to designing and manufacturing 3D printers used by many of the world's biggest
cloud-based print management platform (RaiseCloud), and professional consulting services ar

eadquarters in the U.S.A., China, and the Netherlands.

ard from international tech authority Make magazine (along with the annual cover). All3DP, the est Large Format 3D Printer".

t companies, Raise3D also develops powerful slicing software (ideaMaker), an enterprise-level nd technologies that result in a one-stop flexible manufacturing solution for our customers.