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RAISE3D E2CF

Carbon Fiber 3D Printing

Made Simple

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RAISE3D E2CF

Nozzles with High Durability

Dual Direct Drive Extrusion System

Engineered for Printing Carbon Fiber Reinforced Filament

Raise3D Industrial PA12 CF Support Filament

Raise3D Filament Dry Box

ideaMaker Slicing Profiles

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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.

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Nozzles with High Durability

The new 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 force of the system is enhanced to ensure the stability of printing.

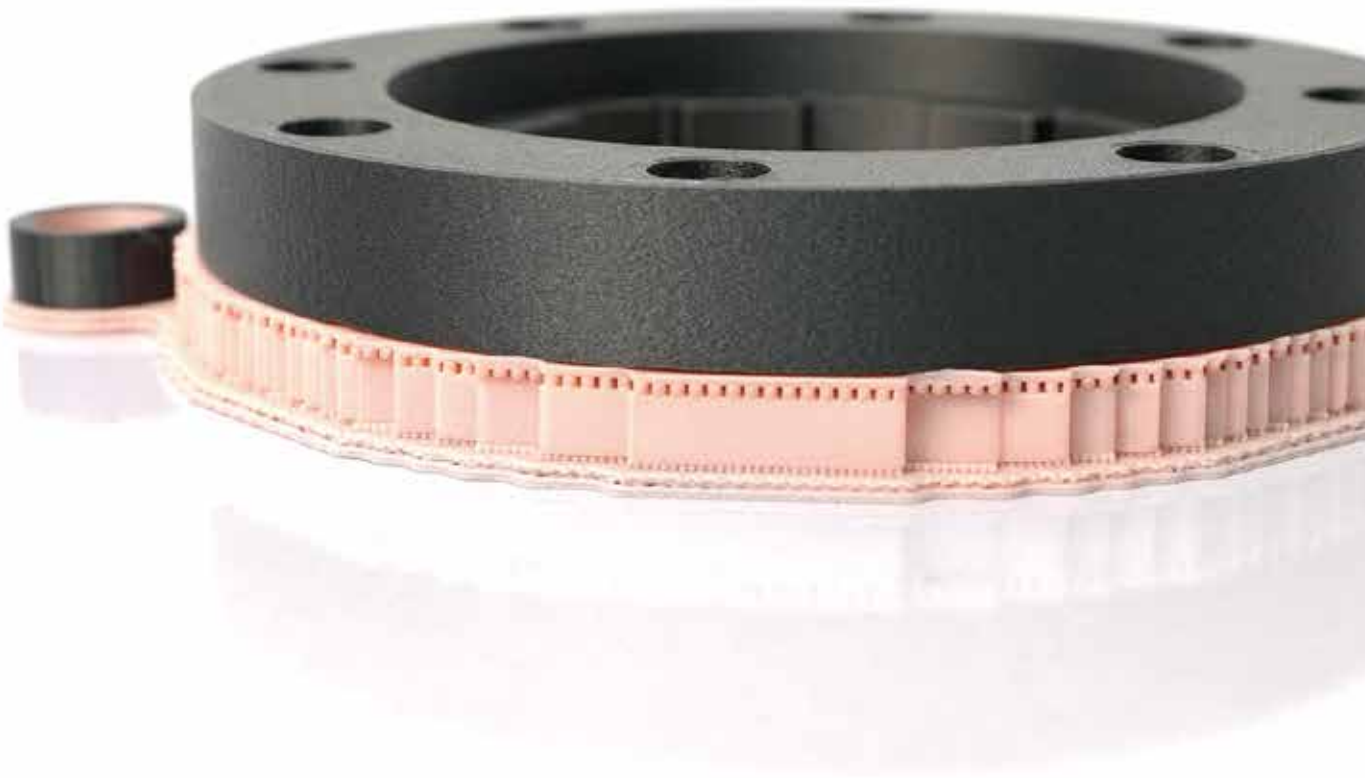
Engineered for Printing Carbon Fiber Reinforced Filament

The E2CF is compatible with Raise3D's Industrial PA12 CF Filament. Its compatibility will expand with extra Raise3D high-performance carbon fiber filaments including PET CF, PPS CF and PPA CF (printing Temp. between 280-300°C), as well as third-party filament certified by the Raise3D Open Filament Program, such as BASF and LEHVOSS.

Expanding High-Performance Carbon Fiber Filaments
(Coming Soon)

Raise3D Industrial PA12 CF Filament

- Exhibits excellent rigidity and strength, heat resistance, low warpage, and low water absorption, with an outstanding strength-to-weight ratio.
- Enhanced mechanical property and dimensional stability after annealing.
- Suitable to replace metal in the manufacturing of certain lightweight components.



Raise3D Industrial PA12 CF Support Filament

- 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 Raise3D OFP (Open Filament Program) certified high-performance carbon fiber-reinforced composite filaments.
- More cost-effective compared with water-soluble support material.

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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.

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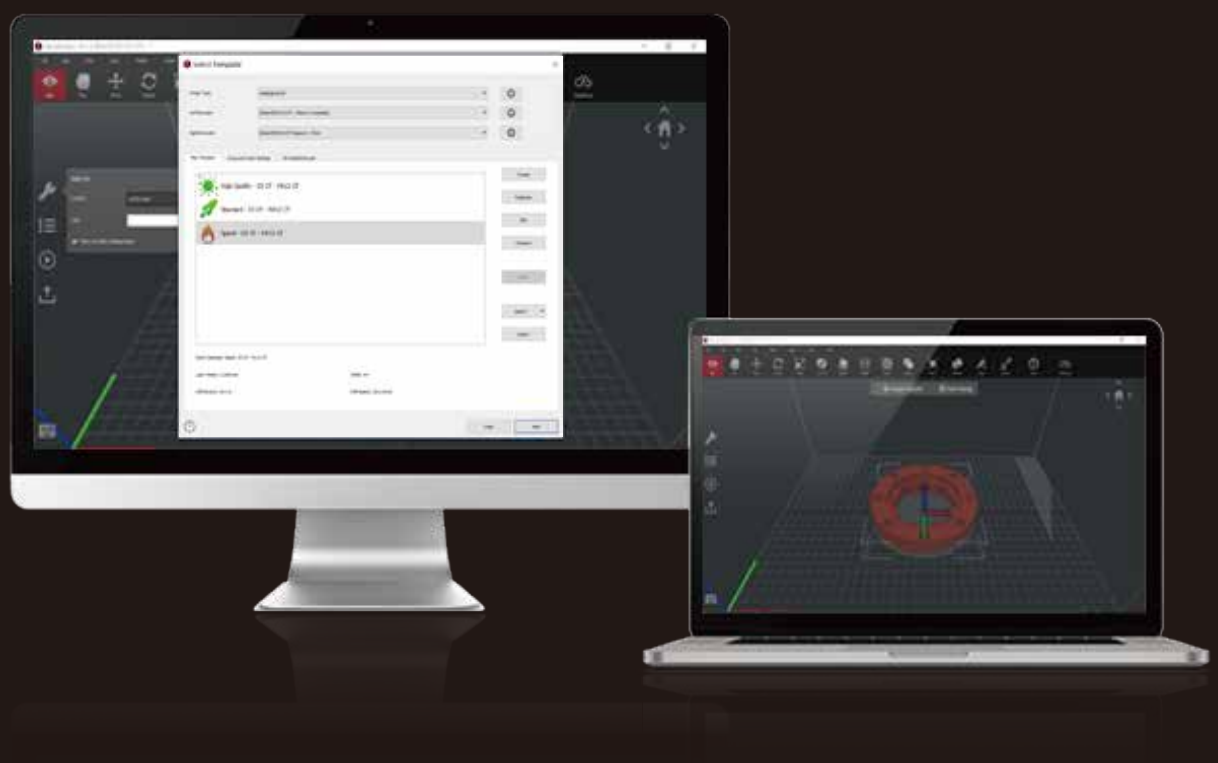

ideaMaker Slicing Profiles

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	E2CF	
Build Volume (W×D×H)	Single Extruder Print	Dual Extruder Print
	330×240×240 mm	295×240×240 mm
Machine Size (W×D×H)	607×596×465 mm	
Electrical	Power Supply Input	100-240 V AC, 50/60Hz 230 V @ 2A
	Power Supply Output	24 V DC, 350 W
General	Print Technology	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 ℃
	Heated Bed Material	Silicone
	Build Plate Leveling	Mesh-leveling with Flatness Detection
	Filament Run-out Sensor	Available
	Supported Materials	PA12 CF, PA12 CF Support, OFP Certified Third-Party Filaments
	Layer Height	0.1 - 0.25mm
	Nozzle Diameter	0.4 mm (Default), 0.6/ 0.8 mm (Available)
	Hot End	V4P
	Max Nozzle Temperature	300 ℃
	Connectivity	Wi-Fi, LAN, USB port, Live camera
	Noise Emission (Acoustic)	< 50 dB (A) when building
	Operating Ambient Temperature	15-30 ℃, 10-90% RH non-condensing
	Storage Temperature	-25 to 55℃, 10-90% RH non-condensing
	Filter	HEPA filter with activated charcoal
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 120MHZ FPU
	Logic Controller	NXP ARM Cortex-A9 Quard 1 GHz
	Memory	1 GB
	Onboard Flash	8 GB
	OS	Embedded Linux
	Ports	USB 2.0×2, Ethernet×1

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 the further for a variety of 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

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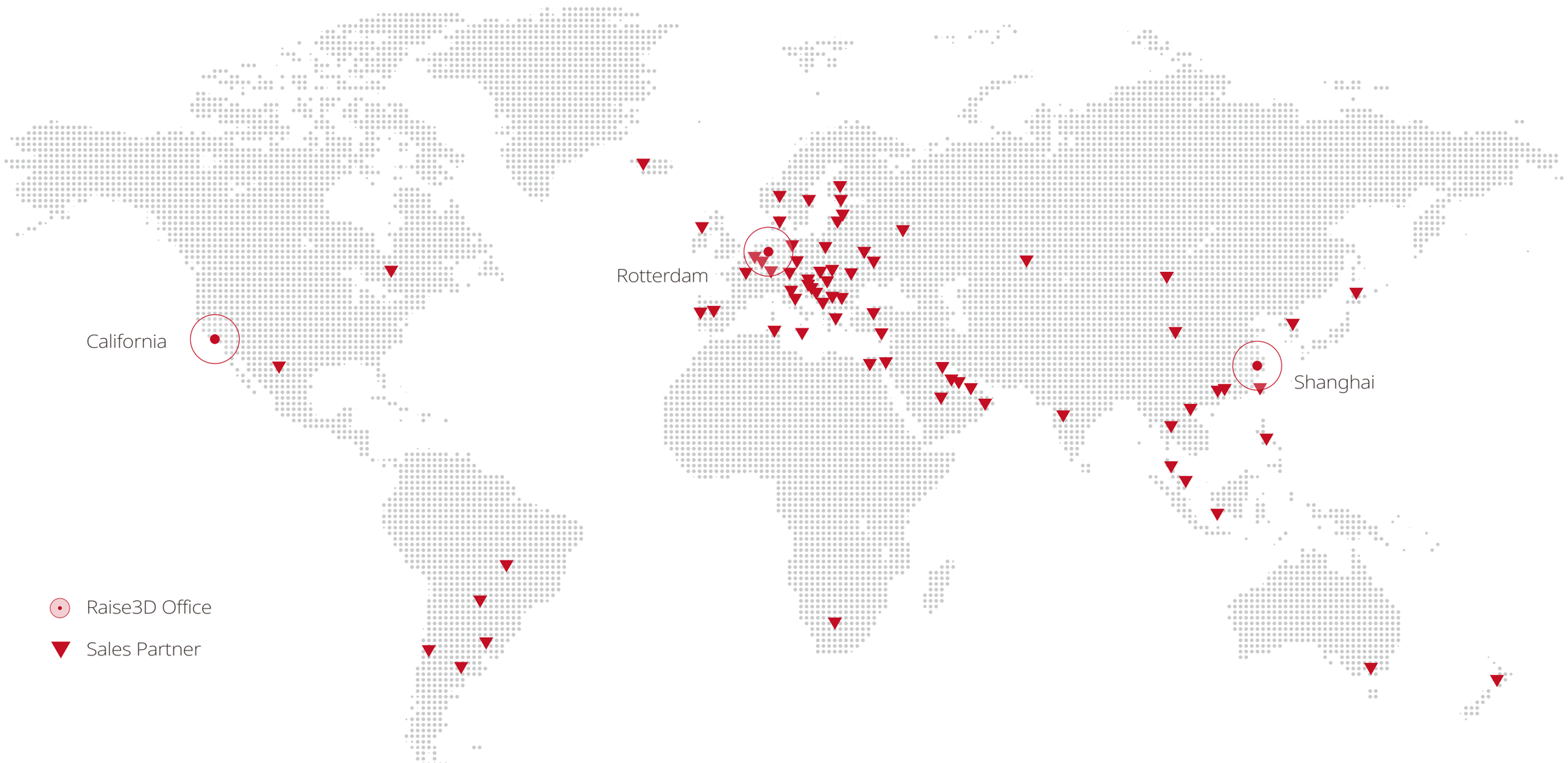
About Raise3D

Raise3D has become a global leader in manufacturing precise and reliable 3D printers, with headquarters in the U.S.A., China, and the Netherlands.

Raise3D printers have enjoyed an award winning legacy including:"3D Printer of the Year" award from international tech authority Make magazine (along with the annual cover). All3DP, the largest global 3D printing evaluation organization, awarded Raise3D "Best 3D Printer" and "Best Large Format 3D Printer".

In addition to designing and manufacturing 3D printers used by many of the world's biggest companies, Raise3D also develops powerful slicing software (ideaMaker), an enterprise level cloud-based print management platform (RaiseCloud), and professional consulting services and technologies that result in a one-stop flexible manufacturing solution for our customers.



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