3devo

Filament Maker ONE

Versions available:

- **Composer**
  For mixing, compounding, and experimentation.
- **Precision**
  For in-house filament production.

Key Features

High-Temperature Capacity

Reaches up to 450°C, accommodating a broad range of materials for diverse 3D printing applications.

Precision Diameter Control

Delivers filament diameters from 0.5 to 3.0 mm with a tight tolerance of 0.05 mm, ensuring consistent print quality.

Durable Extruder Screw

Features a swappable, nitride-hardened steel screw for long-term performance and the ability to create complex material blends.

Material Mixing Option

An optional screw with a section for mixing materials enables the creation of custom filaments with unique properties.

Multi-Zone Heating

The advanced heating system with 4 zones allows for precise material processing.

Flexible Start Modes

Offers automatic and manual start options for extrusion, catering to different user preferences.

More details

Specifications

Size

Dimensions	506 x 216 x 448 mm
Dimensions (US)	19.2″ x 8.5″ x 17.6″
Weight	24.5 kg (54 lbs)

Output

Filament Diameter Range	0.5 - 3 mm (0.02 - 0.12 inches)
Optical Sensor Accuracy	43 microns (1.69 mils)
Nozzle Extruder	Diameter 4 mm (0.16 inches)
Screw RPM	2 - 15 RPM

Extruder System

Screw/Barrel Alloy	High Chromium and Molybdenum Steel Alloy
Hardening Treatment	Nitrided
Compression	3 stage
Extruder design	Swappable
Material Mixing Zone	Composer Series ONLY

Energy

Consumption Average	300 - 400 W
Consumption Max.	1300 W
Voltage	110 - 230 V
Frequency	50 - 60 Hz

Advanced Details

Compatible with All Kinds of Thermoplastics *Except PVC

Common Waste to Recycle

PET PLA PP HDPE PETG
ABS PS LDPE PC PHB SLS

Engineering Polymers

TPU POM PA6 PVA TPE PCL
PA66 PA ASA PA12

High Performance Polymers

PEEK PEI PSU PEKK PPSU

Additives and Composites

Carbon Fiber, Ceramic Powder, Chemical Additives, Metal Powder, Wood, Glass Fiber, Nanoparticles, Blends of Polymers.

Comprehensive Data Monitoring

Live Process Insights

Monitor key metrics like heater settings, filament thickness, and motor current in real time to maintain precise system control.

Detailed Analytics

Track puller speed and screw RPM, all visualized in graphs, and easily export the data to Excel for further analysis.

Optimize Performance

Leverage this comprehensive data to fine-tune your material settings, ensuring consistent, high-quality filament production.

Robust and Advanced Components

Industrial-Grade Extruder Screw

Nitride-hardened for durability, with a mixing capability for homogeneous filament blends.

Versatile Extruder Mixing Zone

Experiment with various additives, plastics, fibers, or powders to create custom filaments tailored to your needs.

Smart Material Handling

Includes an optical hopper sensor for material level monitoring.

Specifications

Capacity

Hopper Volume	2 liters
Spool Holder	1
Spool Size	Diameter 240 mm (9.4″) Width 120 mm (4.7″)

Connection

Firmware Updates	Regular Updates
Extrusion Data Analysis	DevoVision Application
Connectivity	USB

Models

350 (Composer or Precision)

Max. Temperature	350 °C (662 °F)
Purpose	Engineering Polymers
Materials	PLA, ABS, PC, PS, PETG, TPU, TPE, PPS, PVA, Bio PE, NEW PET and PA (6,12, 66)

450 (Composer or Precision)

Max. Temperature	450 °C (842 °F)
Purpose	Engineering & High-Performance Polymers
Materials	PEEK, PC, PS, PEKK, PAEK, PEI, PSU, PES, PTFE, PVD+

Advanced Details

Precision and Quality

Vertical Extrusion

Guarantees precise filament roundness and direct spooling, enhancing the quality of your 3D prints.

Cutting-edge Cooling and Spooling

Enhanced by a balanced dual fan system for even cooling and a precision spooling setup with an adjustable positioner and automatic spooling function.

Efficient Spooling Mechanism

Customizable Spooling

Set specific dimensions for perfectly wound spools, while the built-in slipper clutch adjusts tension for smooth operation.

Precision Spooling

Ensures tidy, tangle-free spools, supporting up to 240mm diameter and 120mm width.

Adaptable Spool Mount

Supports various spool sizes for flexibility in filament production.

Advanced Optical Sensor and Puller

Unparalleled Accuracy

The optical sensor measures filament diameter with 43-micron precision.

Adaptive Puller System

Adjusts speed for consistent diameter control, with interchangeable wheels for various temperatures.