

3devo's PRODUCTS AND SERVICES

**FILAMENT
EXTRUSION
WITHIN REACH**

3devo

MATERIALS MADE **SIMPLE.**



MATERIALS MADE SIMPLE.

3devo is a young high-tech company based in The Netherlands. We've made it a priority to enable our clients to create, research, and recycle 3D printing materials. Next to that, we assist them in transitioning to a more sustainable business model.

While some may view plastic as a waste, we see it as a resource.

Staying focused on these goals, 3devo constantly improves its' products and searches for ways to take polymer innovation to the next level.



ACCELERATING SPACE DISCOVERIES

INDUSTRY
Defense & Space

LOCATION
Germany

APPLICATION
Recycling

An agency that explores new materials and technologies for space applications, requires the freedom to experiment and innovate - without wasting resources in the process. The Composer 450 has brought this freedom and efficiency to ESA's research and development process.

TAKING CIRCULAR ECONOMY FROM THEORY TO PRACTICE

INDUSTRY
Higher Education

LOCATION
Finland

APPLICATION
Recycling

Lapland University of Applied Sciences (Lapland UAS), the testing ground for future-friendly technologies, needed a setup where old parts and prototypes were in storage shelves, rather than waste bins to stay on one of the core values within Lapland UAS, sustainability. 3devo's full solution enabled Lapland UAS to manifest a circular economy within their 3D Printing lab.



RECYCLING IN THE AUTOMOTIVE INDUSTRY

INDUSTRY
Automotive

LOCATION
Germany

APPLICATION
Recycling & Production

Audi, one of the most successful car makers in history, needed to look within if they wanted to move towards a more sustainable path within the industry. With the excess amounts of plastic packaging, 3devo's Shr3d It plastic shredder, AIRID Polymer Dryer, and Composer 450 Filament, have helped Audi repurpose their plastic waste into 3D printed tools that assist their employees in their day-to-day tasks.

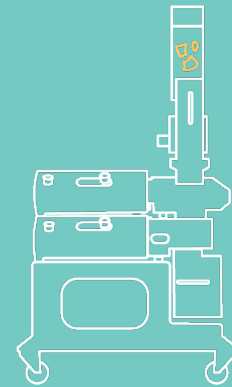
THE ROUTE TO SUSTAINABILITY

A PROCESS MADE SIMPLE

Discover our streamlined ecosystem that delivers an industrial process at the convenience of your workspace. With our user-friendly products, we give you the control to create filament tailored to your specific material needs. Delivering a smart, cost-effective and adaptive production facility - The complete filament making solution.

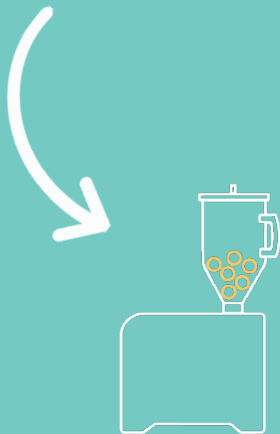
STEP 1 SHRED IT

Not sure what to do with your failed prints or other thermoplastics that have been collected? Recycle and convert those wastes into filament for 3D printers. With our shredder, you can grind down old plastics into regrinds with ease and effortless operation.



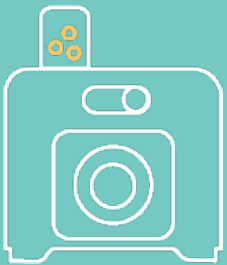
STEP 2 DRY IT

Do you happen to be dealing with hygroscopic resins? Drying is a crucial step to ensure maximum polymer performance. Without this step, you risk shortening the long molecule chains and reducing the strength of the item you want to produce.



STEP 3 EXTRUDE IT

Looking for ways to create very tight tolerances? After you have shredded (and dried) your regrinds, you can immediately drop it into our filament maker - designed to melt almost any polymer, including high-temperature thermoplastics and metal powdered combinations. From there, you decide how you want to customize your filament with precise diameter tolerance.



STEP 5 PRINT IT

Go ahead and start printing! It's that simple to transform old prints into filament and new filament into fresh prints - all in just a desktop-sized form. Feel great about taking part in a sustainable approach to 3D printing by recycling!

STEP 4 SPOOL IT

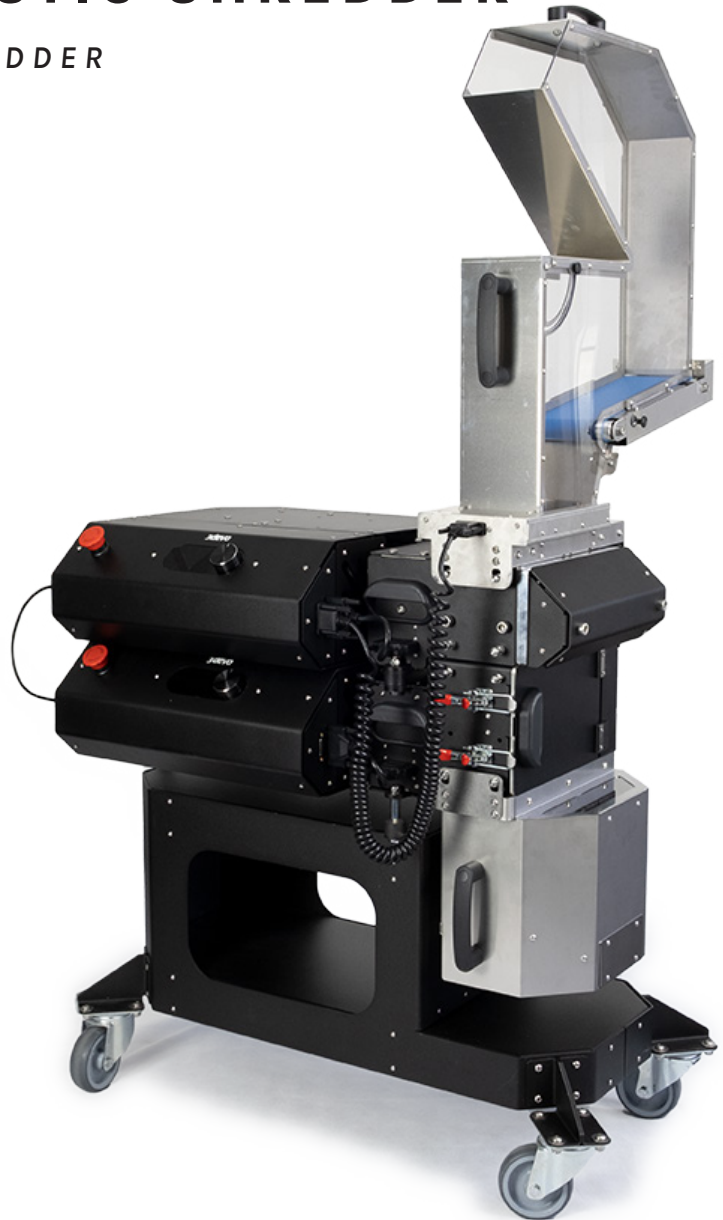
Does it make a difference how the filament is rolled on the spool? Yes, that is why the extrusion and the spooling process is well-integrated, guaranteeing neat spools every time. This enhances your printing experience with neatly spooled filament.



GP20 HYBRID PLASTIC SHREDDER

THE SMARTEST PLASTIC SHREDDER

The functionality of the GP20 hybrid gives you the freedom & flexibility to fit into any project within any industry. With an automated system, sit back as the shredder and granulator's hardware and software work together to get your material to your desired size.



EFFORTLESS RECYCLING

Convert plastic waste into high-quality 3D printing granules of any desired size in just one run. Designed for effortless operations, the GP20 features customizable components like the shredder blades or filter screen size. These accessible compartments facilitate cleaning and eliminating the contamination of materials.

4 KG / HOUR

PET water bottles

8.6 KG / HOUR

ABS injection molded parts

29 KG / HOUR

Pre-shredded PLA filament

AIRID POLYMER DRYER

ELIMINATE MOISTURE COMPLICATIONS

If you work with hygroscopic plastics, then you know how easily it absorbs moisture. The polymer chains that form the plastic allow for the moisture to slip inside. Moisture can happen instantly, but drying takes a while. Your pellets aren't going to become dry immediately. Depending on the level of moisture and types of plastics, it could take hours for your load to dry out.

Luckily, 3devo's drying system works quickly. In fact, it can dry up to 1 Kg of pellets within 3 hours.

CUSTOMIZE

Air flow, temperature and stirring speed

PRESETS

Available for standard materials

4 LITERS

Hopper volume

1KG/3HRS

Drying capacity for PA6



COMPOSER AND PRECISION DESKTOP FILAMENT MAKERS

A COMPLETE FILAMENT PRODUCTION LINE. PACKED
INTO ONE MACHINE

Our filament makers are specialized, result-oriented machines with industrial quality power. Making materials simpler than ever to work with, while offering even more possibilities in manufacturing and innovation.

Give yourself the freedom to create your own custom filament. Increase control over your filament and minimize material waste and shorter time leads.

Temperatures

Handles temperatures up to 450 °C

Advanced heating system

Each heater is handcrafted in-house to ensure top quality.

Neatly spooled filament

Create custom spool dimensions with neatly rolled filament - every time.

Control Panel

Easily accessible display settings with standard material pre-sets

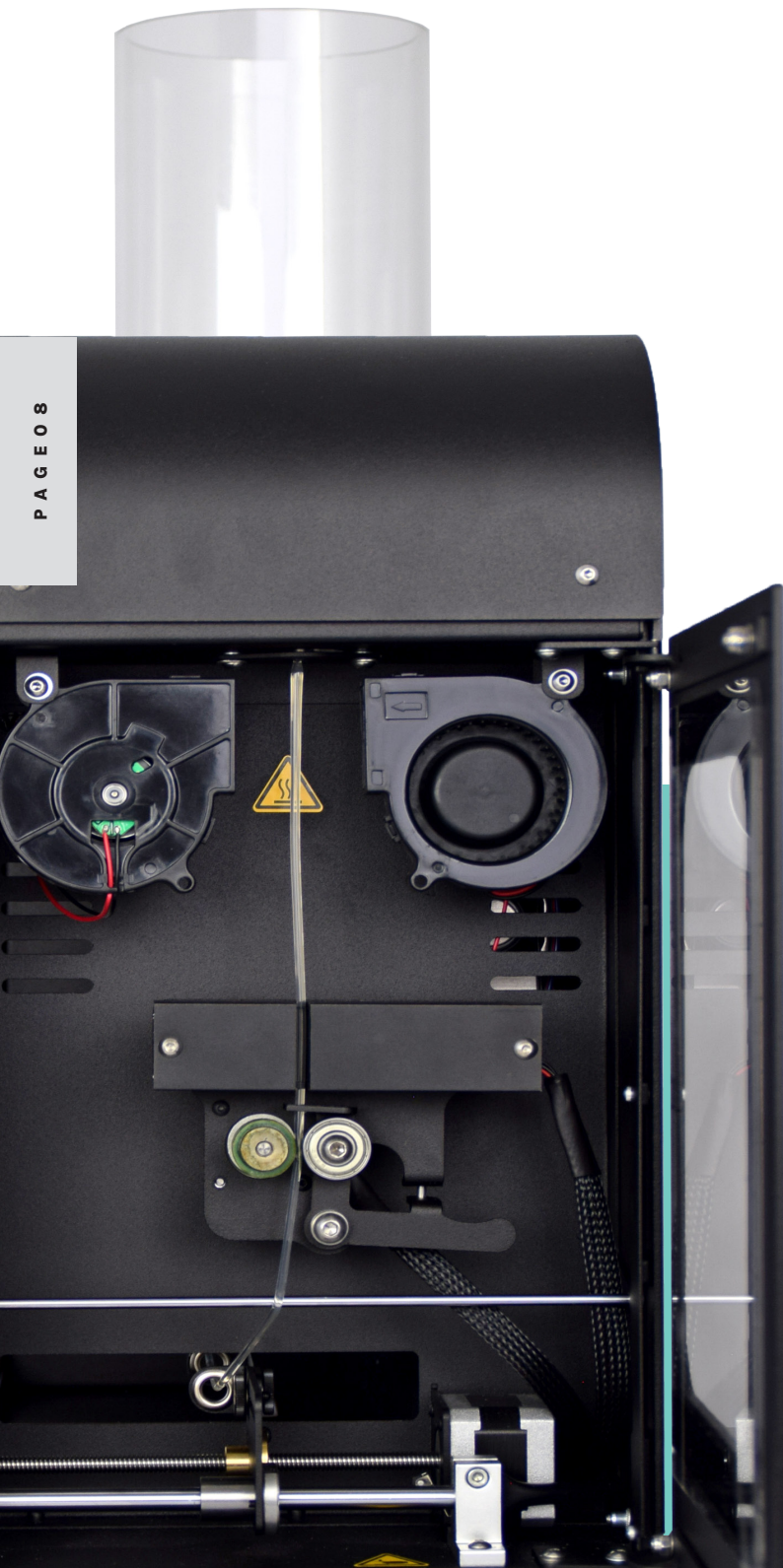
DEVOVISION

Visually understand your material.

DevoVision takes desktop-extrusion to a whole new level. Now, it's possible to analyze your industry-quality filament in real-time through software integration. Simplifying your workflow while maximizing productivity.

With an overview of your extrusion history, you can say goodbye to having to estimate and predict certain settings - simply retrieve old logs and replicate the same outcome.

Desktop extrusion has never been easier.





COMPOSER FILAMENT MAKER

Designed for mixing

The Composer Series targets material mixing and experimentation, allowing innovators to develop custom filament from a wide variety of polymers and additives. With a mixing screw, this delivers quality material compounding. The Composer Series is ideal for:

- Research and Development
- Compounding
- Experimenting

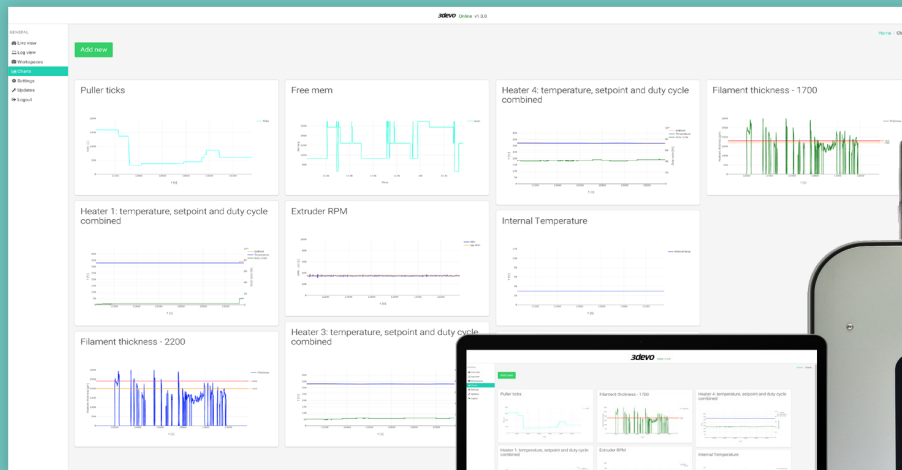


PRECISION FILAMENT MAKER

Designed for production

The Precision Series enables mass production of 3D printing filament with improved speeds and diameter accuracy. With a high-flow extruder screw, this allows the filament to be produced at high speeds while maintaining diameter precision. The Precision Series is ideal for:

- Production
- Mass Manufacturing
- Accuracy



FILAMENT TAILORED TO YOUR NEEDS.

ANY MATERIAL. ANY TIME.

3devo brings together the resources and expertise for advancements in design, materials, and experimentation for one of the most famous additive manufacturing technology - FDM printing.

Our wide-range in material settings have been extensively tested by our engineers so that you can produce the best results. Here are a couple of our most popular materials:

PLA

Low temperature, low cost, biodegradable

ABS

Low-cost and durable

PETG

Durable, transparent

TPE

Rubber-like behavior with thermoplastic processability

TPU

High flexibility, high durability

NYLON (PA)

Flexible, durable, excellent surface finish

PC

Lightweight, transparent

PVA

Water soluble and biodegradable

PEI

High strength and high thermal stability

PEEK

Outstanding mechanical strength, thermal resistance, chemical stability



** Listed above are just a few of our most commonly used materials for extrusion*

MAKE YOUR FILAMENT STRONGER, LIGHTER, FASTER, AND BETTER

THROUGH ADDITIVES.

With our Composer series, you can develop unique filaments that can assist in your discovery in application performance. Be the creator of your own customized filament, through the use of additives.

WOODFILL

Woodfill gives 3D prints the look and feel of wood and can also even offer a smell. Adding a touch of softness to the filament.

COLORANTS

Colorants give pigment to the filament. The colorant added must be compatible with the virgin polymer.

CARBON FIBER

Carbon Fiber increases the properties-to-weight ratio, making 3D prints lighter and dimensionally stable for structural applications.

GLASS FIBER

Glass fiber is a great reinforcement to increase mechanical strength and dimensional stability.

METAL POWDERS

Metal Powders add weight, while giving filament the look of metal. Causing parts to look like aluminum, copper, or gold.

CARBON NANOTUBES

CNTs improve the strength and the properties-to-weight ratio of the composite. They are also the solution to print conductive parts.

CERAMIC

Ceramic fillers can dramatically increase the thermal resistance and dimensional stability of the composite.

DEVOCARE

COMPREHENSIVE SERVICE AND WARRANTY PLAN.

Maximize efficiency while minimizing downtime. DevoCare fully supports businesses, institutions, and professionals who use 3devo products for education, research, material development, or manufacturing. We understand time is valuable, that is why DevoCare is a one-stop for service and support from 3devo experts, so most issues can be resolved immediately.



PRIORITY EMAIL SUPPORT

Quicker responses to support emails, queries and complaints.



PERSONALIZED ONLINE TRAINING

Receive a 45-minute orientation on using your 3devo Filament Maker.



MACHINE REPLACEMENT

Hot-swap feature for filament makers needing off-site repair.



PHONE SUPPORT

A dedicated hotline for urgent support, connecting you to 3devo engineers and material scientists.



ENTERPRISE DEVOCARE PLAN

Get top-tier service and extended warranty for your fleet of filament makers, shredders and dryers.

DEVOTRAINING

LEARN ABOUT FILAMENT EXTRUSION FROM THE PROFESSIONALS!

DevoTraining is an in-depth, hands-on workshop on desktop filament extrusion. Helping to equip you with practical and up-to-date knowledge of filament making and plastic recycling. Guiding you towards solutions by our team of engineers and material scientists. Whether you're an expert or just beginning to experiment with materials - there's a course dedicated to your needs.

WORKSHOPS

3 customizable programs, varying from getting started to becoming an expert in filament extrusion.

LOCATION

1-2 day workshops organized at 3devo headquarters, Utrecht, with all materials and resources provided.



COURSE LEVELS

DevoNovice: Beginner - Half Day

If you are looking for a course that shows you how to operate your filament maker and make standard filament, then DevoNovice is ideal for you.

DevoProficient: Intermediate - 1 Full-Day

This full-day course dives deep into compounding, troubleshooting and maintaining your filament maker.

DevoMaster: Advanced - 2 Full-days

Are you working with high-performance materials and need to reduce filament fluctuations? DevoMaster will guide you through advanced extrusion methods in just 2 days.

We also offer **customized training** courses to meet your personal needs. Check it out [here](#):

Learn more at 3devo.com/devotraining



FILAMENT MAKER

PRODUCT SPECIFICATIONS

Heating System	Temperature max.	350 series max temperature of 350 °C 450 series max temperature of 450 °C
	Band heater	Ceramic
	Heating zones	4
	Independent controls	Yes
Output	RPM range	2 - 15 RPM
	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) - Replaceable
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
Capacity	Hopper volume	2 liters
	Spool holder	1
	Spool size	Diameter 240 mm (9.4 inches) Width 120 mm (4.7 inches)
Size & Weight	Dimensions	506 x 216 x 448 mm 19.2 x 8.5 x 17.6 inches
		Weight
	Connection	Firmware updates
	Extrusion data analysis	DevoVision application
	Connectivity	USB

FILAMENT MAKER MODELS

MATERIAL APPLICATIONS

Composer Series (350 & 450 Models)	Purpose	For mixing, compounding & experimentation
	Screw	Mixing screw
Precision series (350 & 450 Models)	Purpose	For high-quality mass production
	Screw	High-flow screw
Models	350 model	Max temperature of 350 °C for engineering polymers PLA, ABS, PC, PS, PETG, TPU, TPE, PPS, PVA, Bio PE, NEW PET and PA (6,12, 66)
	450 model	Max temperature of 450 °C for engineering polymers AND high-performance polymers PEEK, PC, PS, PEKK, PAEK, PEI, PSU, PES, PTFE, PVD+

* Achieved with PLA Natureworks 4043D (MFR, g/10 min = 6 at 210 °C/2.16 kg)

GP20 HYBRID PLASTIC SHREDDER

PRODUCT SPECIFICATIONS

Internal	Default filter screen Total shredder blades	3.5 mm 14 blades (Combination of 2, 3 and 7 teeth blades are possible)
Intelligent Features	Smart control Auto Reverse Mode	Yes Shredder
Energy	Consumption	AC 110V-120V 50/60Hz - 3000Watt 27A AC 220-240V 50/60Hz -2400Watt 11A
Size & Weight	Dimensions Dimensions of top hopper opening Weight	95 x 75 x 145 cm 120x114 mm 125 kg

AIRID POLYMER DRYER

PRODUCT SPECIFICATIONS

Hopper	Volume Assembly Drying capacity Hopper material	4 liters Quick-release 1kg / 3 hr (for PA6) Stainless steel polished
Temperature	Stable temperature control	Up to 160 °C
Materials	Compatibility Material pre-sets Settings Material amount	Granulates and flakes PLA, PA6, PA66, TPU, PC, and PEEK Presets for standard materials Recommendation: 1 to 3 kg
Energy	Consumption Voltage Frequency	900 W 220 - 230V 50 - 60 Hz
Accessibility	Clean Stirring Air flow	Easy to clean Integrated stirring mechanism: Adjustable speeds Adjustable