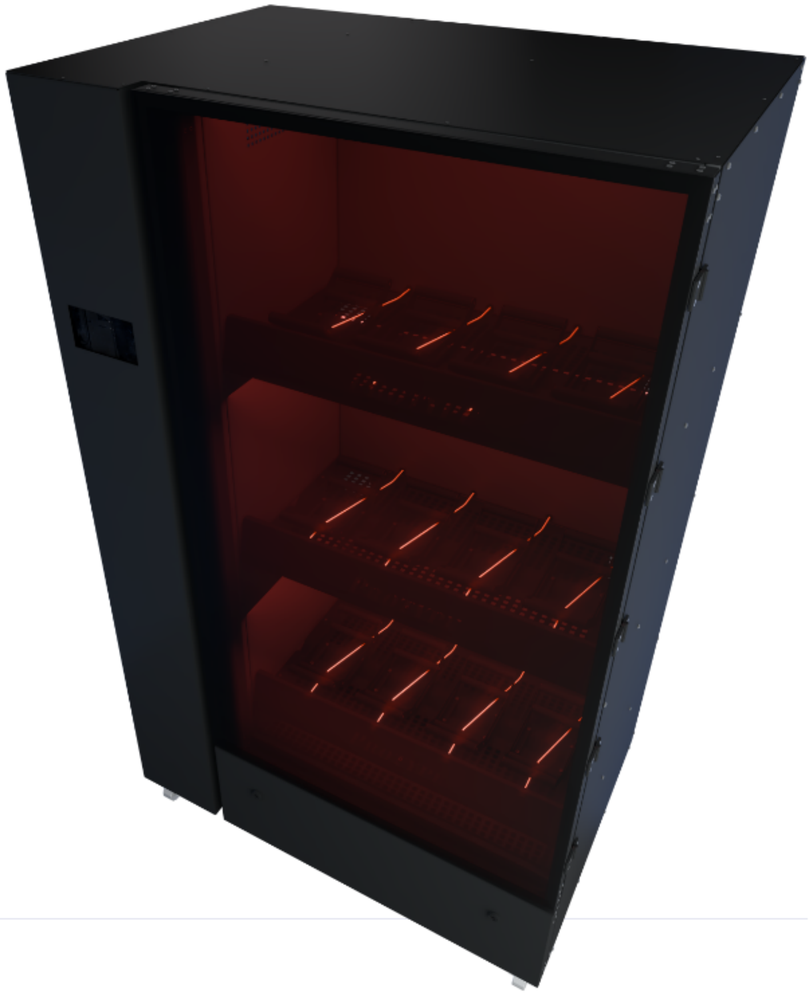
Protype FILO Industrial Drying Cabinet



Consistent print quality starts with dry filament. Up to 40 spools, temperature up to 130 °C, humidity <0.1% RH, connection to 3 printers.

40
spools up to 1 kg

130°C
max. temperature

3
printers simultaneously

PROBLEM

Why you need a drying cabinet: moisture destroys prints

Polymer filaments are hygroscopic. Moisture in the material leads to bubbles, delamination, loss of strength, and defects. Especially critical for PA, PC, PEEK, TPU.

−40% strength

Wet nylon loses up to 40% of its mechanical strength. Parts become brittle and unpredictable.

8–10% defect rate

Average defect rate in production without filament moisture control. Excess material and time consumption.

24 hours

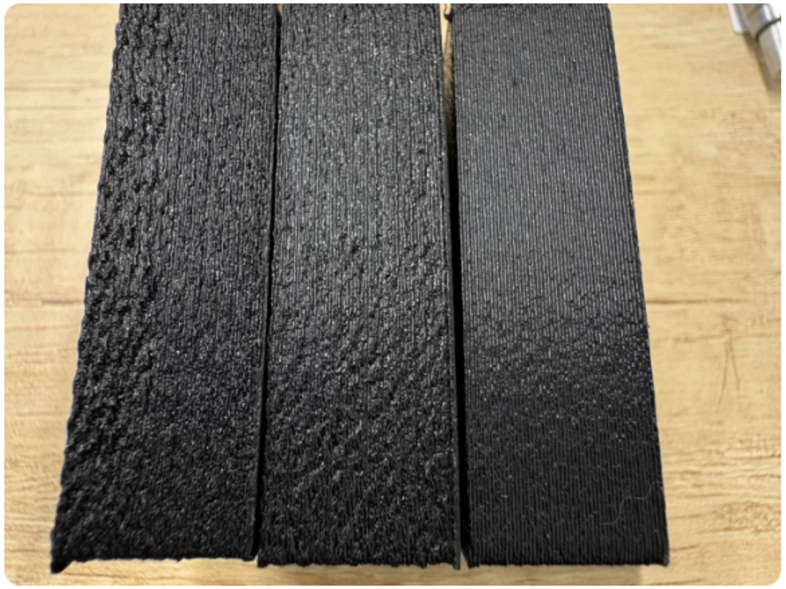
Filament absorbs a critical amount of moisture within a day. PA-6 gains up to 9% moisture without protection.

Conclusion: without industrial drying, it is impossible to guarantee consistent print quality with engineering and high-temperature polymers.

VISUAL EVIDENCE

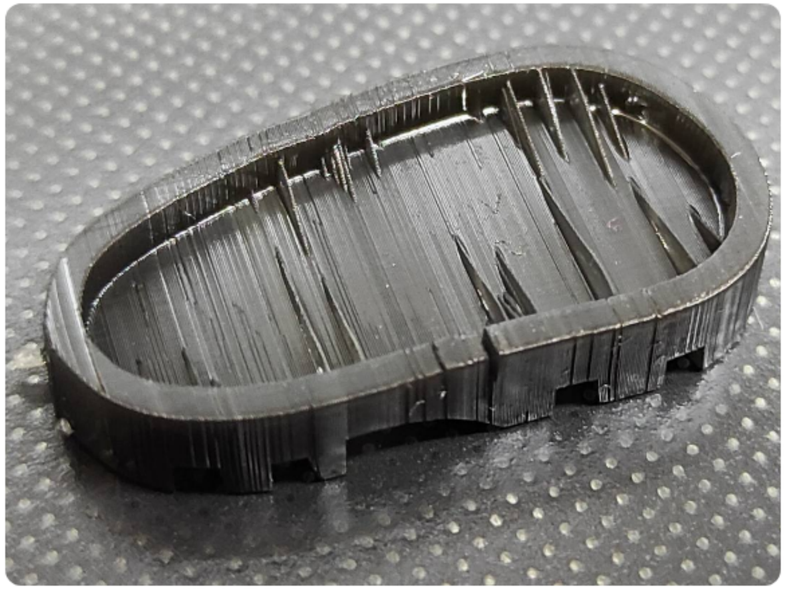
What happens to a part without filament drying

Wet material causes bubbles, roughness, delamination, and loss of geometry. Same model — two different results.



Surface roughness

Bubbles and foaming due to moisture evaporation during extrusion



Layer delamination

Weak interlayer adhesion — part delaminates under load

Dry vs wet filament

Same model, same printer — the only difference is material preparation

PRODUCT

Protype FILO — industrial drying cabinet

Closed-loop desiccation system with silica gel. Temperature up to 130 °C. Humidity <0.1% RH. Connection to 3 printers. Integration with Protype Hub.

With cascade system

4 shelves × 4 spools of 2-3 kg. Up to 16 spools simultaneously.

Without cascade system

4 shelves × 6 spools of 2 kg or 10 spools of 1 kg. Up to 40 spools.

Closed-loop system

Silica gel maintains humidity <0.1% RH. Built-in sensor monitors levels 24/7. No consumables.

Up to 130 °C

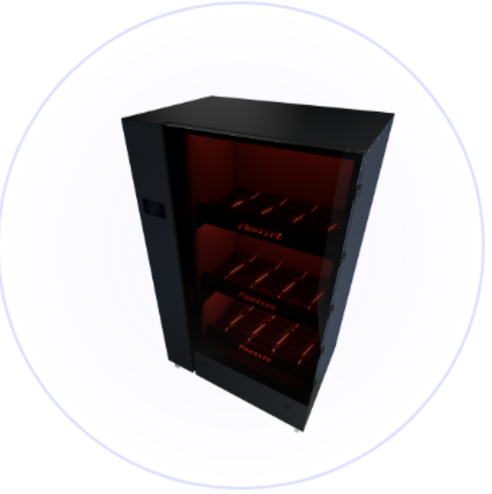
Drying PEEK, PEKK, ULTEM at recommended temperatures up to 130 °C.

Protype Hub Integration

Real-time temperature and humidity monitoring on the printer screen.

Up to 3 printers

Simultaneous dry filament feed to CD400 and CD400HT without interruption.



130°C
Max. temperature

<0.1%
Humidity RH

HOW IT WORKS

How FILO works

Four steps from wet filament to consistent printing

01

Load Spools

4 shelves — up to 40 spools. Quick replacement without tools.

02

Set Temperature

PID controller precisely maintains the set temperature from 40 to 130 °C.

03

Automatic Drying

Closed-loop system with silica gel reduces humidity to <0.1% RH.

04

Feed to Printer

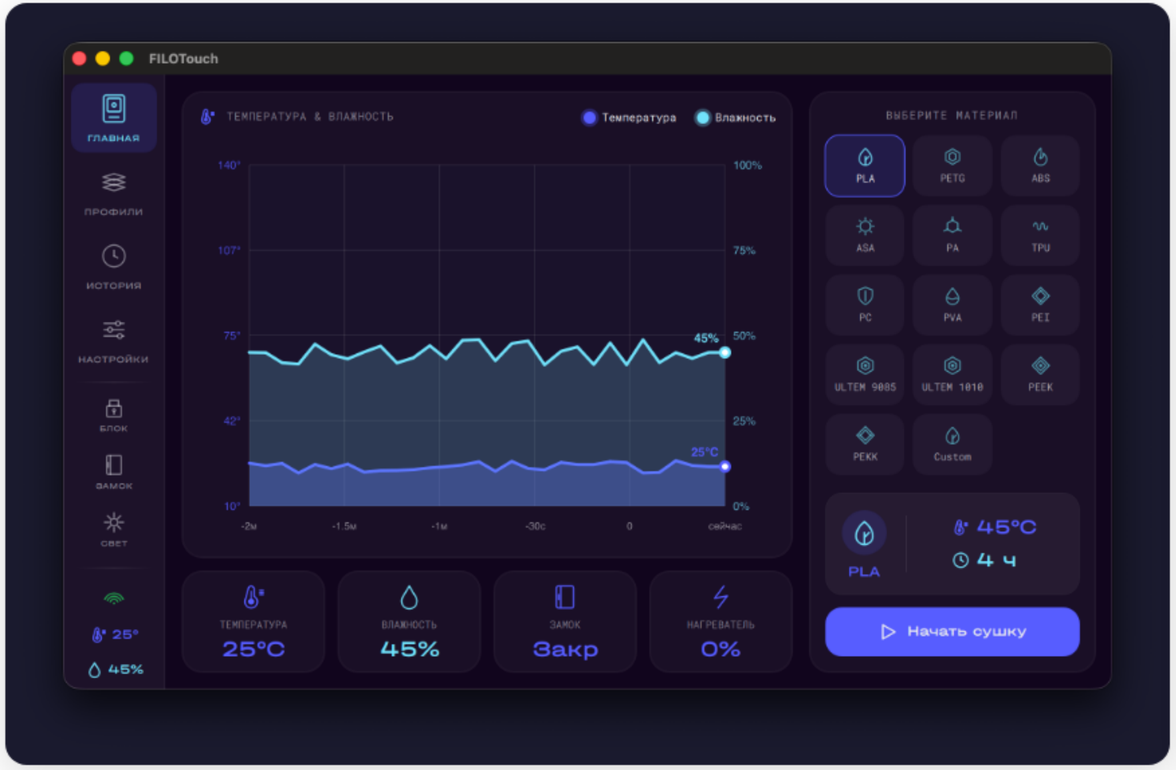
Dry filament is fed directly to CD400/CD400HT through a sealed channel.

Closed-loop system: silica gel absorbs moisture from the air inside the chamber. Desiccant regeneration occurs automatically during heating. No consumables — only electricity.

INTERFACE

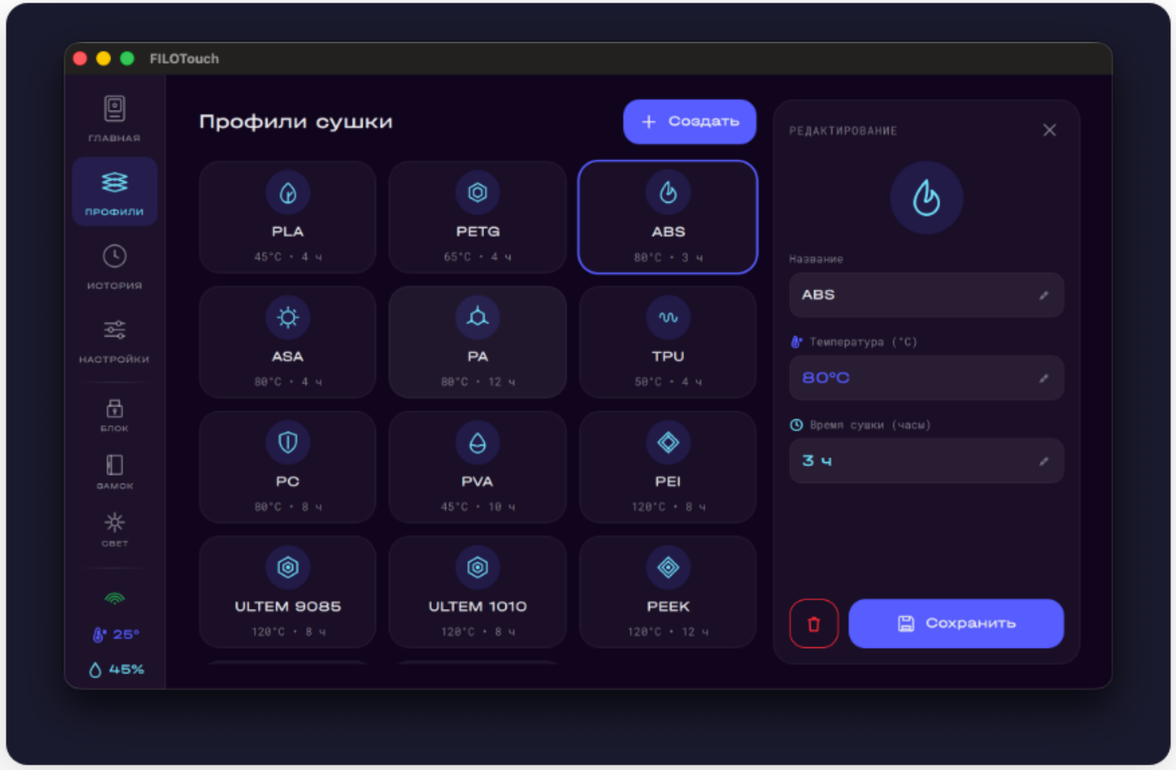
FILOTouch — one-touch control

Built-in touchscreen display for full control over the drying process. Real-time temperature and humidity monitoring, ready-made profiles for all materials.



Main screen

Temperature and humidity chart, material selection, heater and lock status



Drying profiles

14 preset profiles from PLA to PEEK. Temperature and time settings for each material

MATERIALS

Compatible materials for drying

FILO dries the full range of engineering and high-temperature polymers

PEEK
120–130°C
4–8 hours drying

PEKK
120–130°C
4–8 hours drying

ULTEM
120–130°C
4–6 hours drying

PA-CF
80–100°C
6–12 hours drying

PA-6 / PA-12
80–90°C
8–12 hours drying

PC
80–120°C
4–6 hours

PETG
60–70°C
4–6 hours

TPU
50–60°C
4–6 hours

PVA
45–55°C
4–6 hours

ABS / ASA
60–80°C
2–4 hours

ECOSYSTEM

Unified management via Protype Hub

FILO integrates with Protype CD400 and CD400HT printers via Protype Hub. All drying parameters are visible on the printer screen.

- **Real-time temperature** — current and target FILO chamber temperature on the printer touchscreen
- **Humidity level** — RH sensor shows material readiness for printing
- **Drying status** — time to readiness, current drying cycle
- **Notifications** — automatic notification when material is ready for printing

Unified interface

Protype Hub combines the printer and drying cabinet into one system. The operator sees all data on a single 22" screen.

Drying data

Drying data is stored in the printer log. Full traceability of the material preparation process.

ROI

Payback in 3–4 months

Without industrial drying, a facility loses 8–10% of material and time on each batch

8–10%

Losses without drying

Defects, reprinting, material write-off. For every 100 kg of filament — up to 10 kg wasted.

3–4

Months to payback

When using 2+ printers and consuming 30+ kg/month of engineering materials.

24/7

Continuous operation

FILO operates around the clock, providing dry filament for 3 printers without operator intervention.

Without FILO

- ✕ 8–10% defect rate on hygroscopic materials
- ✕ Manual drying in ovens — inconsistent results
- ✕ Printer downtime for wet spool replacement
- ✕ Up to 40% loss of part strength

With FILO

- ✓ Defect rate <2% — consistent print quality
- ✓ Automatic drying of up to 40 spools simultaneously
- ✓ Continuous feed to 3 printers
- ✓ Full material strength, repeatability

SPECIFICATIONS

Technical specifications

CAPACITY

Spools	**up to 40 pcs**
Cascade system	**16 × 2-3 kg**
Connection	**up to 3 printers**

TEMPERATURE AND HUMIDITY

Max. temperature	**130 °C**
Humidity	**<0.1% RH**
Controller	**PID**

DESICCATION SYSTEM

Type	**Closed-loop**
Desiccant	**Silica gel**
Ventilation	**Active**

DIMENSIONS AND WEIGHT

Dimensions	**1150×800×1950**
Weight	**310 kg**

POWER SUPPLY

Power	**3 kW**
Noise	**<60 dB**

SAFETY AND WARRANTY

Thermal insulation	**Multi-layer**
Auto-shutdown	**Yes**
Warranty	**24 months**

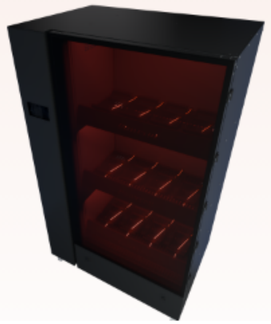
Integration: built-in humidity sensor, Protype Hub, compatibility with CD400 and CD400HT. Active ventilation ensures uniform heating of all spools.

GALLERY

FILO — Industrial Drying Cabinet

PRODUCT LINE

Configuration & Pricing



FILO

Drying Cabinet

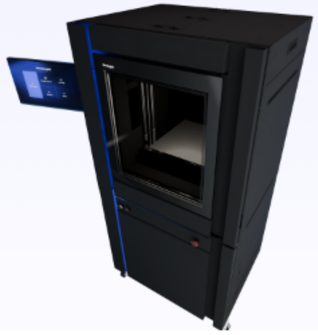
Industrial filament drying cabinet.

- Up to 40 spools (4 shelves)
- Temperature up to 130 °C
- Closed-loop system with desiccant
- Connection to up to 3 printers

from

26 100 BYN

≈ $9 100



CD400

IDEX

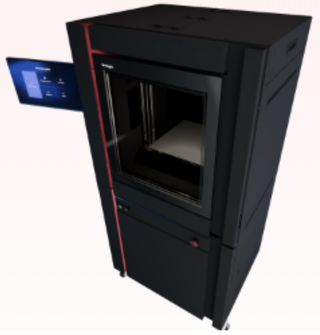
Industrial IDEX 3D printer for serial composite printing.

- Print area 400 × 400 × 400 mm
- IDEX + Copy/Mirror
- Hotend up to 550 °C, chamber 90 °C
- Protype Hub + 22" touchscreen

from

111 900 BYN

≈ $39 000



CD400HT

High-Temp

High-temperature 3D printer for PEEK, PEKK, ULTEM.

- 2× IDEX extruders up to 550 °C
- Chamber up to 150 °C, bed up to 250 °C
- Print area 350 × 350 × 400 mm
- Drying up to 130 °C

from

159 200 BYN

≈ $55 500

Ecosystem approach: all three products work as a unified system. FILO feeds dry material to CD400/CD400HT; Protype Hub provides unified management.

Protype

What's next?

1

Calculate your benefit

We analyze your tasks, material consumption, and select the optimal configuration.

2

Install and train

A Protype engineer visits on-site, installs the equipment, and trains your team.

3

Ongoing support

Technical support, software updates, service, and 24-month warranty.

Contact us

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