

NEWSLETTER

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COMPACT LABORATORY SCIENTIFIC 3D FILAMENT EXTRUSION LINE

WITH 25 MM SINGLE-SCREW EXTRUDER TYPE LE25-30/C
COMBINED COOLING WATER BATH TYPE LCFW-100 AND TRAVERSE SPOOL WINDER TYPE LWU-10



PRECISION FILAMENT PRODUCTION FOR RESEARCH, DEVELOPMENT, AND SMALL-SCALE MANUFACTURING

Labtech Engineering Company began developing the Compact 3D Filament Extrusion Line many years ago. Since then, many systems have been supplied and are trusted by universities and research laboratories for filament development and prototyping.

Building on this experience, Labtech now releases an **upgraded Compact 3D Filament Extrusion Line**, designed to support the processing of **engineering and high-temperature polymers**. The new version extends the capability of the original system beyond standard 3D printing materials, enabling stable operation of engineering polymers such as PC and many more materials.

The line features an enhanced extruder configuration suitable for high-temperature processing, while maintaining reliable filament quality.

Fully integrated from extrusion to winding within a compact footprint, the system supports both routine filament trials and advanced material studies, offering a practical platform for laboratory filament development.

TYPICAL APPLICATIONS

- 3D printing material development
- Filament prototyping and testing
- Small-batch or special filament production
- Academic research and teaching laboratories

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25 MM SINGLE-SCREW EXTRUDER TYPE LE25-30/C

The centerpiece of the 3D Filament Extrusion Line is the 25 mm Single-Screw Extruder Type LE25-30/C, specifically engineered for high-temperature processing and precise control. Equipped with an optional computerized control system and a new high-temperature safety cover design, the extruder delivers stable, repeatable performance for demanding material applications.

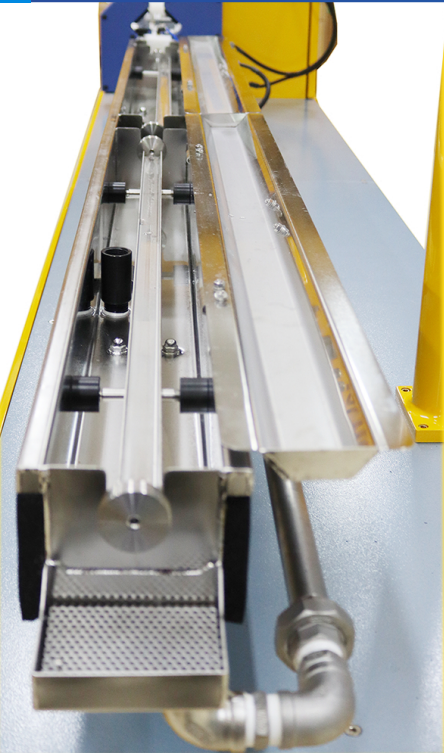
With a maximum processing temperature of up to 450 °C, the LE25-30/C is capable of processing advanced engineering polymers in addition to standard 3D printing materials.



Key Features

- Optional high-temperature operation up to 450 °C
- Optional fully computerized control for precise process management
- High-temperature protective cover for enhanced safety and thermal stability
- Optional vector motor drive system
- Suitable for engineering polymers

DOWNSTREAM 3D FILAMENT EXTRUSION



Cooling Water Bath
Type LCFW-100

As a standard design, the extrusion line is equipped with an integrated downstream system consisting of a Cooling Water Bath Type LCFW-100, optional Diameter Measuring Laser, and Traverse Spool Winder Type LWU-10. This synchronized downstream setup ensures controlled cooling, continuous diameter monitoring, and stable filament winding, providing a complete and reliable solution from extrusion to finished spool.



Optional Diameter
Measuring Laser Gauge



Traverse Spool Winder
Type LWU-10

Key Features

- Adjustable winding speed and traverse width
- Consistent spool build for professional filament presentation
- Reliable operation for continuous runs