TECHNICAL DATA SHEET

Polytevo Series Fiber-Core 3D Printing Filament Coating Line

Laboratory fiber-core filament coating line · single-stage extrusion · coating die · laser in-line gauging · ±0.1 mm diameter accuracy



Polytevo Series Fiber-Core 3D Printing Filament Coating Line (ACS-7008DPC) — representative configuration

The Polytevo Series Fiber-Core 3D Printing Filament Coating Line (ACS-7008DPC) coats continuous fiber cores with thermoplastic filament material. Image shown for reference; final configuration is confirmed in the quotation.

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SECTION I

Product Overview

Polytevo Series Fiber-Core 3D Printing Filament Coating Line (ACS-7008DPC) is a laboratory production line for coating continuous fiber cores with thermoplastic 3D printing filament, with single-stage extrusion (Ø15 mm screw), a coating die, laser in-line diameter measurement, closed-loop tension haul-off and a diameter accuracy of ±0.1 mm.

The ACS-7008DPC integrates core surface treatment, core preheating, unwinding, coating extrusion, cooling and sizing, in-line diameter measurement, closed-loop tension haul-off, heat-treatment modification and precision winding, enabling stable production of fiber-core reinforced filament from continuous fiber cores such as carbon fiber and glass fiber.

SECTION II

Core Advantages

— **Single-stage coating** Single-stage extrusion with a coating die completes fiber-core coating in one pass, avoiding the repeated thermal history of multi-stage plasticating.

— **Closed-loop tension haul-off** Tension is closed-loop controlled at the haul-off, for a diameter accuracy of ±0.1 mm, uniform coating, a centered fiber core and stable strength.

— **Complete process chain** Core surface treatment, preheating, unwinding, coating extrusion, cooling and sizing, in-line gauging, haul-off, heat treatment and winding are integrated.

— **Laser in-line gauging** A laser in-line gauge feeds back the actual diameter in real time.

— **Servo precision winding** The line ends in servo precision winding of the finished filament.

— **10-inch touch screen** Temperature, pressure, diameter, tension and speed curves are displayed in real time under PID automatic control; recipes can be stored and recalled.

SECTION III

Specifications

Technical data — ACS-7008DPC

Specifications	
Parameter	**Specification**
Brand	Polytevo Series by ACS Material
Product Name	Polytevo Series Fiber-Core 3D Printing Filament Coating Line
Model	ACS-7008DPC
SKU #	ERP7FCC1
Product type	Laboratory continuous fiber-core filament coating line
Screw diameter	Ø15 mm
Screw material	38CrMoAlA, high-grade nitrided ultra-high-strength alloy steel
Screw speed	Rated 0.1–100 rpm (max. 130 rpm)
Temperature range	Zones 1/2/3: RT to 380°C (die 380°C)
Heating	4 SSR-controlled heating zones + 1 temperature measurement zone
Melt pressure range	0–20 MPa
Total heating power	2.8 kW
Main motor	400 W (servo motor)
Transmission	1:16 planetary gearbox
Cooling	Ball-bearing insert cooling fan
Power supply	AC 220 V ±10% (reliable grounding required)
Output	Approx. 2 kg/h (depends on compound and diameter)
Diameter accuracy	±0.1 mm

Scope of delivery

— **Standard configuration:** the fiber-core filament coating line as described above.

— **Scope of supply** — the supply boundary of the complete line, dimensions, weight and accessories are confirmed in the quotation.

SECTION IV

Applications

For laboratory production of fiber-core reinforced 3D printing filament by coating continuous fiber cores, such as carbon fiber and glass fiber, with thermoplastic material.

Product value: one-pass fiber-core coating with laser in-line gauging and closed-loop tension haul-off for ±0.1 mm diameter accuracy.

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