

Noztek Xcalibur

The Noztek Xcalibur: Advanced 3D Extrusion



Overview

Introducing the Noztek Xcalibur Extruder: Advanced Desktop Filament Production.

The Noztek Xcalibur is a versatile, semi-industrial single-screw extruder designed for high-output and precision filament extrusion. Its advanced features provide full control and customization via an intuitive touch screen interface, ensuring it meets your exact specifications. Ideal for industries like pharmaceuticals, 3D printing, and chemical sector, the Xcalibur offers a cost-effective, efficient solution for producing high-quality filaments.

The extruder is equipped with three high-temperature heater bands, engineered to consistently perform at up to 500°C. This makes the Xcalibur perfect for melting a wide variety of materials, from traditional polymers to high-temperature thermoplastics and innovative metal-polymer blends.

When paired with the Noztek Tolerance Puller, the Xcalibur achieves an impressive extrusion rate of 6-8 meters of filament per minute. This combination allows for a production output of up to 360-480 meters, or 2 kilograms, of filament per hour.

Technical specifications

General features	<p>Screw: The Noztek Xcalibur is equipped with a proprietary stainless steel screw, and is engineered to generate substantial barrel pressure, ensuring consistent, high-quality filament extrusion. The screw's design plays a crucial role in maintaining a uniform extrusion process, producing flawless filament every time.</p> <p>Specifications:</p> <ul style="list-style-type: none">● L:D Ratio: 24:1.● Compression Ratio: 2.3:1.● Feed Zone: 30% of total screw length.● Compression Zone: 40% of total screw length.● Metering Zone: 30% of total screw length. <p>These thoughtful design specifications ensure the Xcalibur delivers exceptional performance, whether you're producing high-quality filament for 3D printing, pharmaceuticals, or other industries.</p> <hr/> <p>Versatile Material Compatibility: The Noztek Xcalibur has undergone rigorous testing with a wide range of polymers, including: ABS, PLA, PET, PP, HDPE, Recycled plastic, powders & composite materials.</p> <hr/> <p>Nozzles: Stainless steel nozzles available in two sizes: 1.75mm and 3mm in diameter. Custom sizes available on request.</p> <hr/> <p>Color/Finish: Stainless steel chassis & hopper or black powder coat chassis & hopper.</p> <hr/> <p>Dimensions and weight: L: 112 cm x W: 18 cm x H: 54 cm. 32 kg.</p>
Heating System	<p>Heater bands: Equipped with three distinct, independently controlled heater bands, each capable of reaching temperatures up to 500°C. (On request, an upgrade to 750°C is available).</p>
Motor	<p>Motor Speed and Torque Options:</p> <ul style="list-style-type: none">● 33 RPM: 24VDC, 37.8 Nm.● 57 RPM: 24VDC, 35 Nm.
Output capacity	<p>Hopper capacity: 1100 gram maximum, 50 gram minimum.</p> <hr/> <p>Extrusion output capacity: When paired with the Noztek Tolerance Puller, the Xcalibur achieves an impressive extrusion rate of 6-8 meters of filament per minute. This combination allows for a production output of up to 360-480 meters, or 2 kilograms, of filament per hour.</p>
Certification	<p>CE certified: For compliance with safety and quality standards.</p>

Technical specifications

Control & Connectivity	<p>Bespoke PCB for optimized performance.</p> <hr/> <p>Noztek controller software integration: The Noztek Xcalibur comes complete with Noztek’s proprietary integrated software, seamlessly connecting to a computer to provide real-time performance monitoring, complete with detailed temperature and speed charts.</p> <hr/> <p>7" Touchscreen Interface: Intuitive and easy to operate. Manual control over temperature and RPM via touchscreen interface.</p> <hr/> <p>Program Memory: The system retains the most recently used target temperature, speed settings, and timer configurations even after a system restart.</p> <hr/> <p>USB Connectivity for computer integration: Monitor and export all the important data from each extrusion run.</p>
Power	<p>Voltage Requirements: 220VAC or 110VAC.</p> <hr/> <p>Power Rating: 10A.</p> <hr/> <p>Frequency: 50 Hz / 60 Hz.</p>
Safety & Monitoring	<p>Emergency Shutdown Capability: In cases of urgency, the system offers a rapid electrical shutdown mechanism for immediate cessation of all operations.</p> <hr/> <p>Warm-Up Function: The warm-up feature is engineered to ensure the barrel reaches optimal operating temperature within 25 minutes. This minimizes the risk of unmelted materials obstructing the motor, thereby preventing potential damage to the motor or the machine.</p> <hr/> <p>Motor Block Management: Should the motor face any operational hindrance, the system promptly issues a notification message and halts the motor to prevent further complications.</p> <hr/> <p>Sensor Anomaly Detection: The system incorporates sensor malfunction detection, which promptly communicates deviations from correct temperature readings by issuing a notification message.</p>

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For more detailed information, please refer to the Noztek Touch user manual or feel free to contact our dedicated Noztek expert team for direct support and guidance.