TECHNICAL DATA SHEET

Polytevo Series Dual Conical Twin-Screw Extruder

Laboratory dual conical twin-screw extruder · two conical screw pairs · independent speeds · 8 temperature zones · up to 400℃



Polytevo Series Dual Conical Twin-Screw Extruder (ACS-7009ZSD) — representative configuration

The Polytevo Series Dual Conical Twin-Screw Extruder (ACS-7009ZSD) is a compact laboratory instrument with two sets of conical twin screws and independently adjustable screw speeds. Image shown for reference; final configuration is confirmed in the quotation.

CONTENTS

01 Product Overview
02 Core Advantages
03 Specifications
04 Applications

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SECTION I

Product Overview

Polytevo Series Dual Conical Twin-Screw Extruder (ACS-7009ZSD) is a compact laboratory extruder with two sets of conical twin screws in an inverted, staggered layout that circulate the material back and forth without limit, with independently adjustable speeds of 1–120 rpm, eight temperature control zones and a maximum temperature of 400℃.

The ACS-7009ZSD is a compact instrument specially developed for mixing new materials, for use on test benches or in fume hoods. Two sets of conical twin screws are arranged in an inverted and staggered layout so that the material circulates back and forth without limit, and the rotating speed of each screw group is independently adjustable, which makes it suitable for formula verification of highly filled and high-viscosity materials. The minimum processing capacity is 10 mL.

SECTION II

Core Advantages

— **Two conical screw pairs** Two sets of conical twin screws in an inverted and staggered layout inside the barrel (Ø10 mm small end, Ø25 mm large end, 200 mm effective length).

— **Independent screw speeds** The rotating speed of each screw group is independently adjustable within 1–120 rpm, with 400 W × 2 servo motors.

— **180° opening chamber, quick-release screws** The leak-proof mixing chamber opens fully by 180° and the screws release quickly for cleaning and maintenance.

— **Rheology control software** Measures the rheological properties of mixtures and supports single-cycle blending, timed-cycle blending, continuous feeding blending, constant-speed blending and constant-torque blending.

— **Endless circulation** The material circulates back and forth without limit between the two screw groups.

— **Highly filled, high-viscosity materials** Suited to formula verification of highly filled and high-viscosity micro samples; blending experiments need only 5–15 g of raw material.

— **Eight temperature control zones** Eight temperature control zones with ±0.5℃ control accuracy and a maximum temperature of 400℃.

— **Torque, pressure and temperature data** Data acquisition of torque, pressure and temperature, with touch screen control.

SECTION III

Specifications

Technical data — ACS-7009ZSD

Specifications	
Parameter	**Specification**
Brand	Polytevo Series by ACS Material
Product Name	Polytevo Series Dual Conical Twin-Screw Extruder
Model	ACS-7009ZSD
SKU #	ERP7DCT1
Product type	Laboratory dual conical twin-screw extruder
Screw configuration	Two sets of conical twin screws, inverted and staggered layout
Screw dimensions	Ø10 / Ø25 mm (small end / large end)
Effective length	200 mm
Screw material	38CrMoAlA with nitriding treatment
Barrel material	38CrMoAlA
Barrel opening mode	180° horizontal swing opening
Power supply	AC 220 V, 50 Hz
Servo motor power	400 W × 2
Screw speed	1–120 rpm (each screw group independently adjustable)
Temperature control zones	8
Maximum temperature	400℃
Temperature control accuracy	±0.5℃
Material mass per cycle	80 g/cycle
Extrusion rate	5 kg/h

Technical data — ACS-7009ZSD (continued)

Specifications	
Parameter	**Specification**
Touch screen	Fitted
Data acquisition	Torque, pressure, temperature
Overall dimensions	1050 × 338 × 730 mm
Weight	96 kg

Scope of delivery

- **Standard configuration:** the ACS-7009ZSD dual conical twin-screw extruder.
- **Scope of supply** — feeding configuration and final accessories are confirmed in the quotation.

SECTION IV

Applications

For research and undergraduate teaching, and for micro-sample blending and modification experiments with highly filled and high-viscosity materials.

Product value: two conical screw pairs with endless material circulation and independent speed control, eight temperature zones and up to 400℃.

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