TECHNICAL DATA SHEET

ALab™ D-500 High-Shear Homogenizer

High-shear homogenizer · 10000–30000 rpm · 6 speed levels · 500 W · 10–40000 mL



ALab™ D-500 High-Shear Homogenizer

The ALab™ D-500 High-Shear Homogenizer; image shown for reference.

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SECTION I

Product Overview

The ALab™ D-500 High-Shear Homogenizer runs at 10000–30000 rpm in 6 speed levels with a 500 W motor. The motor drives the rotor at high speed, and the sample is homogenized or dispersed in the gap between the rotor and the stator, usually in a short period of time.

It is used for tasks from sample preparation to formulation study, for viscosities up to 10000 mPa·s. Replaceable rotors and stators share the same shaft; all dispersion head components can be sterilized using the usual methods, including chemicals and autoclaving. Automatic overload protection and a smooth motor start are built in.

SECTION II

Core Advantages

- **Speed** — 10000–30000 rpm, 6 levels
- **Sterilization** — chemicals or autoclave
- **Protection** — automatic overload protection
- **Heads** — replaceable rotors and stators
- **Cleaning** — rotor dismountable
- **Start** — smooth, no spillage

SECTION III

Specifications

Technical data — D-500

Specifications	
Brand	ALab™ by ACS Material
Model	D-500
ACS Cat. No.	Parent ALD5000F; ALD50000
Product type	High-shear homogenizer
Speed range	10000–30000 rpm
Max. linear velocity	22.7–36 m/s
Speed levels	6
Working volume	10–40000 mL, depending on the dispersing head
Max. viscosity	10000 mPa·s
Material of dispersing shaft	SS 316L stainless steel, PTFE
Noise level	79 dB(A)
Protection class	IP20
Voltage, frequency	110–120 V, 60 Hz or 220–240 V, 50–60 Hz
Power	500 W
Motor type	AC carbon brush motor
Dimensions (W × D × H)	75 × 75 × 280 mm
Weight	1.7 kg
Permissible ambient temperature and humidity	0–40°C, 85% RH

Dispersing heads (select by application)

Cat. No.	Head	Description
18201331	DS-500/1 dispersing head	Solid and liquid dispersion, general purpose. Volume 10–5000 mL; emulsion granularity 1–10 µm; suspension granularity 10–50 µm.
18201332	DS-500/2 dispersing head	Emulsion, general emulsion purpose. Volume 10–5000 mL; emulsion granularity 1–10 µm; suspension granularity 10–50 µm.
18900117	DS-500/5 dispersing head	Small amounts of solid and liquid dispersion. Volume 1–50 mL; for tissue homogenization, mixing and suspension in microcentrifuge tubes, tube strips and centrifuge tubes for clinical and diagnostic applications.

Dispersing-head selection

— Dispersing heads DS-500/1 (18201331), DS-500/2 (18201332) and DS-500/5 (18900117): select the head for the application and volume; contact ACS Material to confirm the head configuration for your order. Other rotor/stator combinations are not listed in this data sheet.

SECTION IV

Applications

Histocyte lysis, cell homogenization, emulsion and nanometer-scale dispersion in biology, pharmaceutical, genetic and pathology studies; dairy product or fruit homogenization; polymerization reactions; production of fragrance, cosmetics, textile auxiliaries, food, ink, paints, asphalt, fine chemicals and agricultural chemicals; analysis in mineral exploration, environmental protection and energy resource exploration.

Typical tasks: routine homogenization, emulsion, depolymerization and dispersion; pigment and resin dispersion; tissue dispersion; sample preparation for quality control; cell lysis; formulation study; extraction of active pharmaceutical ingredients from pills and tablets.

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