King Square

ADP1000 Pipetting Air Pump

Compact air-displacement pump with a ceramic plunger and dual-mode liquid-level detection.



Technical specifications

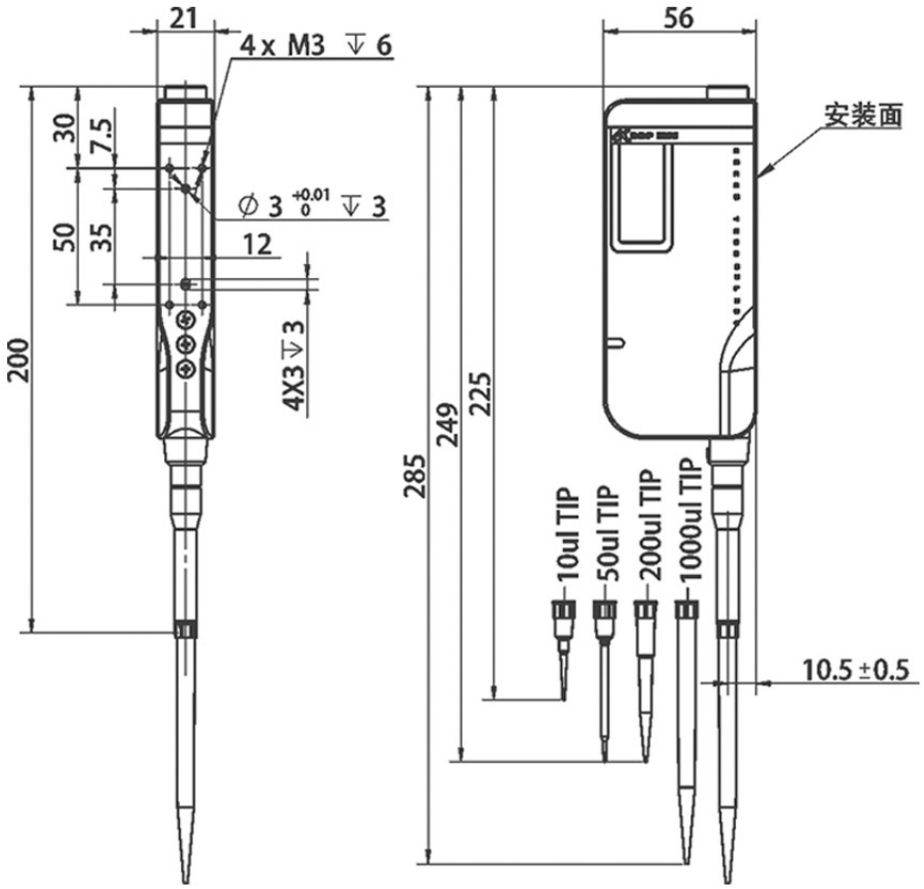
Maximum pipetting volume	1,000 µL
Pipetting speed	1,000 µL/s
Power supply	24 V DC, 1 A peak
Electrical connection	12-pin FFC
Communication	RS-485 / CAN
Signal output	One open-collector output for liquid-level detection
Operating environment	15–35 °C, 20–85% relative humidity, non-condensing
Drive mechanism	Stepper motor and lead screw drive the plunger, with encoder feedback for closed-loop control
Plunger travel (total / effective)	64 mm / 57 mm
Dimensions (H × W × D)	199 × 56 × 21 mm
Mass	234 g
Rated service life	1,000,000 cycles
Compatible disposable tips	10, 50, 200 and 1,000 µL, conductive or nonconductive

Pipetting performance

Operating mode	Tip capacity	Test volume	Precision (CV)	Accuracy
Single aspiration / single dispense	10 µL	1 µL	≤5%	±5%
Single aspiration / single dispense	50 µL	5 µL	≤1.8%	±1.5%
Single aspiration / single dispense	200 µL	10 µL	≤2%	±2.5%
Single aspiration / single dispense	1,000 µL	100 µL	≤1%	±2%
Single aspiration / multiple dispenses	1,000 µL	20 µL	≤2.5%	±3%

CV is the coefficient of variation. Results apply to the test volumes shown.

ADP1000 Dimensions and Features



Dimensions are in millimeters unless marked otherwise.

Product features

- Compact, lightweight housing.
- Capacitive and pressure-based liquid-level detection.
- Tip status monitoring throughout the pipetting cycle.
- Air-path blockage detection.
- Active ejection of disposable tips.
- RS-485 and CAN communication.
- Compact command set and host control software.
- Integrated ceramic plunger.
- Low-noise operation.
- Disposable tips help reduce sample carryover.
- Compatible Z-axis module supports torque-controlled tip pickup.
- Bubble detection.