King Square

ADP5ML Pipetting Air Pump

5 mL air-displacement pump with pressure-based liquid-level detection and a precision syringe.



Technical specifications

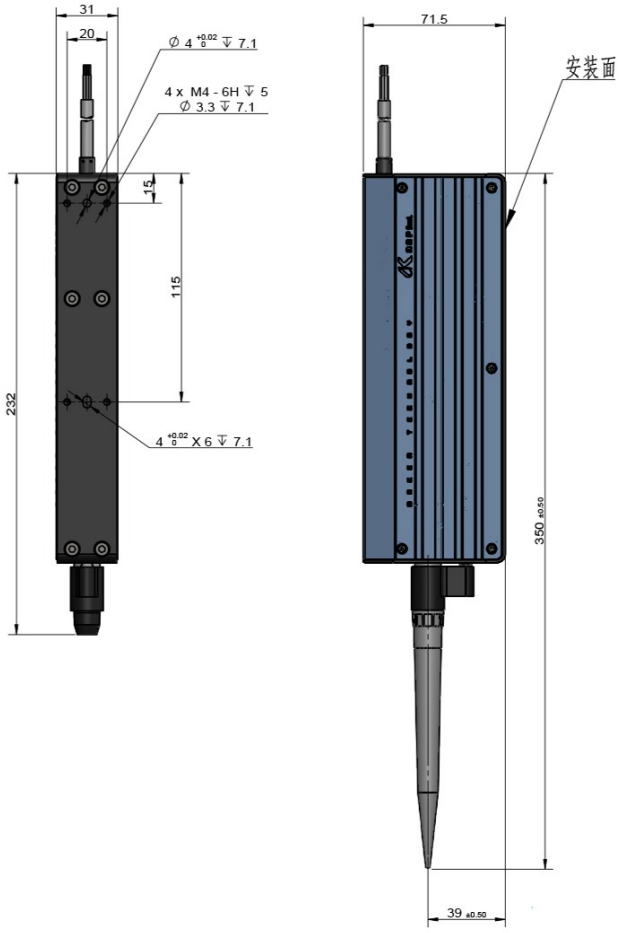
Maximum pipetting volume	5,000 µL
Pipetting speed	3,000 µL/s
Power supply	24 V DC, 1 A peak
Electrical connection	7-core high-flex cable
Communication	RS-485 / CAN
Signal output	One open-collector output for liquid-level detection
Operating environment	15–35 °C, 20–85% relative humidity, non-condensing
Drive mechanism	Stepper motor and lead screw drive the plunger, with encoder feedback for closed-loop control
Plunger travel (total / effective)	42 mm / 36 mm
Dimensions (H × W × D)	232 × 71.5 × 31 mm
Mass	800 g
Rated service life	1,000,000 cycles

Pipetting performance

Operating mode	Test volume	Precision (CV)	Accuracy
Single aspiration / single dispense	10 µL	≤4%	±8%
Single aspiration / single dispense	50 µL	≤2.5%	±5%
Single aspiration / single dispense	500 µL	≤1.5%	±2%
Single aspiration / single dispense	1,000 µL	≤1%	±1.5%
Single aspiration / single dispense	5,000 µL	≤0.5%	±1%
Single aspiration / multiple dispenses	50 µL	≤3.5%	±5%
Single aspiration / multiple dispenses	500 µL	≤2.5%	±2%

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

ADP5ML Dimensions and Features



Dimensions are in millimeters unless marked otherwise.

Product features

- Large-volume operation over a broad liquid-transfer range.
- Pressure-based liquid-level detection.
- Tip status monitoring throughout the pipetting cycle.
- Air-path blockage detection.
- Active ejection of disposable tips.
- Detects aspiration of air.
- RS-485 and CAN communication.
- Compact command set and host control software.
- Integrated precision syringe.
- Low-noise operation.
- Disposable tips help reduce sample carryover.
- Can be integrated with a compatible Z-axis module.