King Square

ADP5ML-18 Pipetting Air Pump

A compact pump for 5 mL disposable tips. Parallel layouts support a minimum 18 mm pitch.



Technical specifications

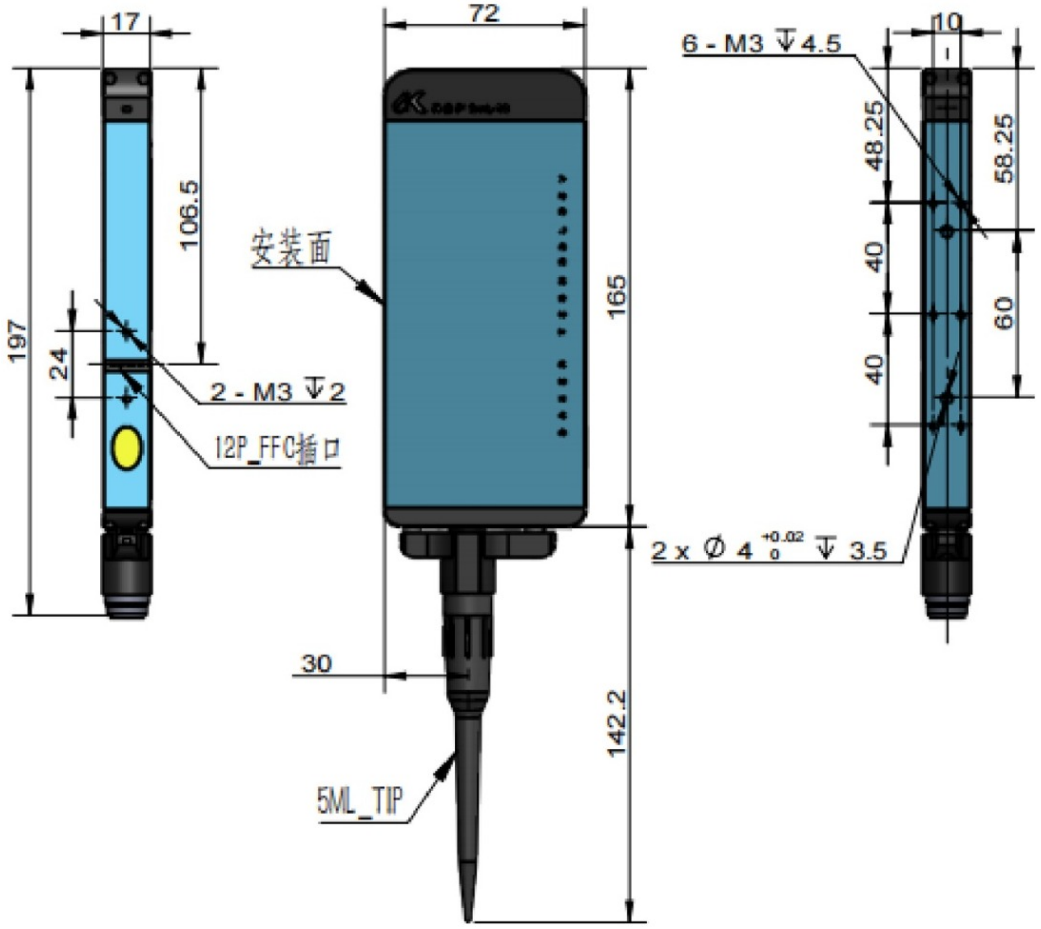
Maximum pipetting volume	5,000 µL
Pipetting speed	5,000 µL/s
Power supply	24 V DC, 1 A peak
Electrical connection	FFC. Confirm pin count and pinout before integration
Communication	RS-485 / CAN
Signal output	One open-collector output for liquid-level detection
Operating environment	15–35 °C, 20–85% relative humidity, non-condensing
Drive mechanism	Stepper motor and lead screw drive the plunger, with encoder feedback for closed-loop control
Plunger travel (total / effective)	43.5 mm / 38 mm
Dimensions (H × W × D)	197 × 72 × 18 mm
Mass	426 g
Rated service life	1,000,000 cycles
Minimum multi-channel pitch	18 mm

Pipetting performance

Operating mode	Tip capacity	Test volume	Precision (CV)	Accuracy
Single aspiration / single dispense	5 mL	10 µL	≤3%	±5%
Single aspiration / single dispense	5 mL	50 µL	≤2.5%	±4%
Single aspiration / single dispense	5 mL	500 µL	≤1%	±2%
Single aspiration / single dispense	5 mL	1,000 µL	≤1%	±1.5%
Single aspiration / single dispense	5 mL	3,000 µL	≤1%	±1%
Single aspiration / single dispense	5 mL	5,000 µL	≤0.5%	±1%
Single aspiration / multiple dispenses	5 mL	50 µL	≤3.5%	±5%
Single aspiration / multiple dispenses	5 mL	500 µL	≤2%	±2%

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

ADP5ML-18 Dimensions and Features



Dimensions are in millimeters unless marked otherwise.

Product features

- Capacitive and 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.
- Low-noise operation.
- Disposable tips help reduce sample carryover.