

AUTOPIPETTOR

PRECISION ASPIRATING AND DISPENSING MODULE

IVEK's AutoPipettor has been carefully developed to provide life science instrument developers and manufacturers with an electronically controlled pipette for routine small volume liquid handling. With the looks and functionality of an electronic pipette, routine pipetting and aliquoting tasks are effortlessly managed. Functioning as an air displacement mechanism, liquid dispensing capabilities and performance are enhanced due to a closefitting ceramic-on-ceramic piston and cylinder set. The piston is coupled to and driven by a stepper motor linear actuator that creates tightly controlled piston motion, yielding outstanding accuracy, precision and reliability.



autopipettor

FEATURES AND BENEFITS

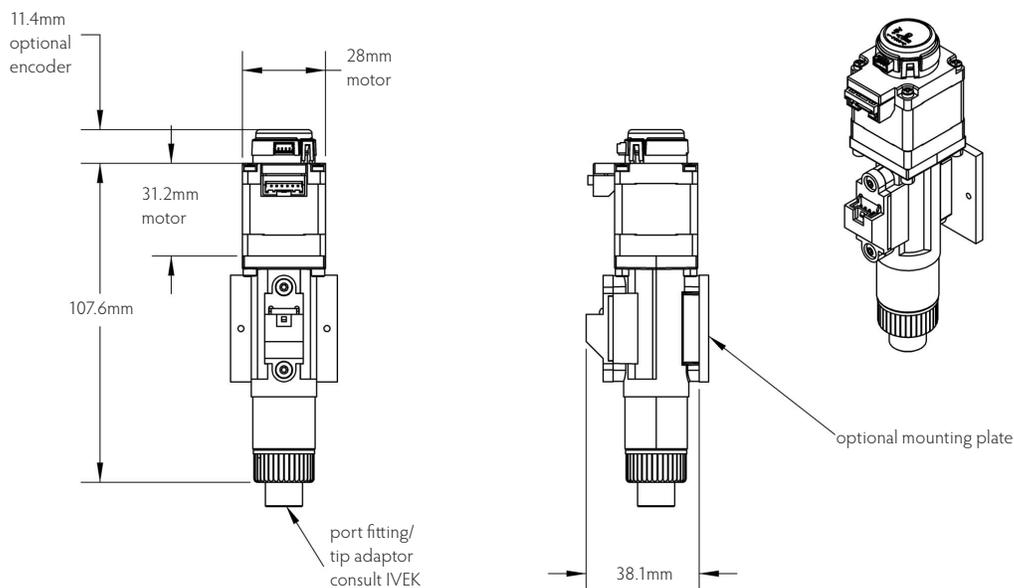
- four standard volume capacities: 30 μ l, 75 μ l, 150 μ l, 300 μ l
- inaccuracy < 1.0% and imprecision < 0.75% CV for displacements > 5% of total pump displacement
- compact and lightweight; integrated connectors simplify integration into OEM equipment
- bipolar hybrid stepper motor linear actuator
- motor encoder option available
- various port fitting/tip adaptors available
- ceramic pistons and cylinders are 100% inspected and can be individually serialized; material, dimensional, and performance certification provided upon request
- optical end-of-stroke position sensor standard
- wear resistant components provide unsurpassed life (>5 million cycles achievable) without need for replacement parts
- wetted materials of construction¹
 - »piston and cylinder: alumina or zirconia ceramic
 - »port fitting adaptor: consult IVEK
 - »port fitting adaptor o-ring: FKM (standard)

¹ ALTERNATIVE MATERIALS FOR PORT FITTING ADAPTORS AND O-RINGS ARE AVAILABLE



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SIZE CODE	TOTAL VOLUME CAPACITY μL	RESOLUTION ² $\mu\text{L}/\text{FULL STEP}$ (10 PITCH LEAD)	RESOLUTION ² $\mu\text{L}/\text{FULL STEP}$ (20 PITCH LEAD)	RESOLUTION ² $\mu\text{L}/\text{FULL STEP}$ (40 PITCH LEAD)
1A	300	0.40	0.20	0.10
2A	150	0.20	0.10	0.05
3A	75	0.10	0.05	0.025
4A	30	0.04	0.02	0.01

² FINER RESOLUTIONS ARE ACHIEVABLE THROUGH HALF-STEPPING AND MICRO-STEPPING

Motor Specifications:

Size: 28mm (1.8° Step Angle)
 Wiring: Bipolar
 Operating Voltage: 2.1 VDC
 Current/phase: 1.0 A
 Resistance/phase: 2.1 Ω HM
 Inductance/phase: 1.5 mH
 Power consumption: 4.2 W
 Temperature rise: 135°F (75°C)
 Insulation resistance: 20MO
 Connector: JST PAP-O6V-S

Optical Sensor Specifications:

Model: Optek OPB610
 Input Diode:
 Forward DC Current: 50 mA, Max 10 mA, typ
 Forward Voltage: 1.60 V Max (1f-10mA)
 Reverse Voltage: 100 uA Max
 Output Phototransistor:
 Collector-Emitter Breakdown Voltage: 30 V Min
 Emitter Reverse Current: 100 uA Max
 Collector-Emitter Dark Current 100 mA Max
 Coupled:
 Saturation Voltage: 0.40 V Max
 On-State Collector Current: 1.0 mA Min
 Connector: JST S04B-PASK-2
 Mating Connector: JST PAP-04V-S

Encoder (optional):

Model: US Digital E4P
 CPR: 100 to 360 (specify)
 Connector: Molex 53048-0410
 Mating Connector: Molex 51021-0400

PRECISION ENGINEERED FLUIDIC SOLUTIONS SINCE 1979

IVEK Corporation is committed to quality and customer support. Our product has always been relied upon for critical applications and our policy states customer satisfaction as the number one priority. As our customer you will experience exceptional performance and reliability for your most demanding applications. IVEK Corporation is ISO 9001 and ISO 13485 certified.



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