DISPLACEMENT PUMP

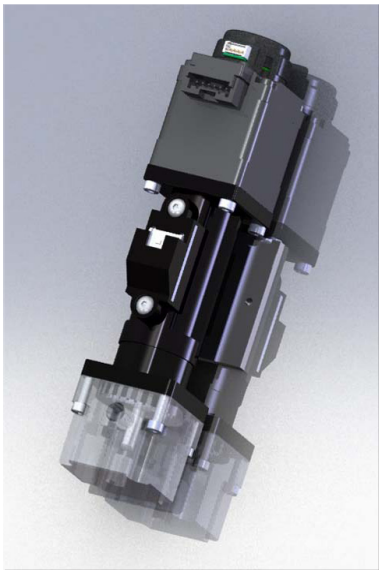
SIZE 11

IVEK's DP11 Displacement Pump designs have been carefully developed to provide IVD instrument designers and manufacturers with a small, lightweight, precise, reliable and value driven dispensing pump for most applications requiring 500 µl or less. With the functionality of the most precise syringe pump, routine aspirating, dispensing and needle washing tasks are effortlessly managed. The small size makes this pump an ideal choice when designing multiple pumps in a compact space.

displacement pumps

FEATURES AND BENEFITS

- standard volume capacities: 30 µl, 75 µl, 150µl, 300 µl, and 500µl maximum stroke volume
- inaccuracy ≤ 1.0% and imprecision ≤ 0.75% CV for displacements ≥ 5% of total pump displacement
- compact and customizable - designed for integration into automated systems
- bipolar hybrid stepper motor linear actuator
- motor encoder option available
- various heads, manifolds and multi-pump, integrated fluidic assemblies are possible
- optical end-of-stroke position sensing standard
- wear resistant components provide unsurpassed life (>10 million cycles achievable) without the need for replacement parts
- wetted materials of construction
  - »piston: zirconia ceramic
  - »head/manifold: acrylic (standard), PEEK, Ultem, stainless steel, poly carbonate & others
  - »seals: UHMWPE / FKM / ELGILOY (standard)



sise 11 displacement pump

IVEK CORPORATION

ISO 9001 CERTIFIED
ISO 13485 CERTIFIED

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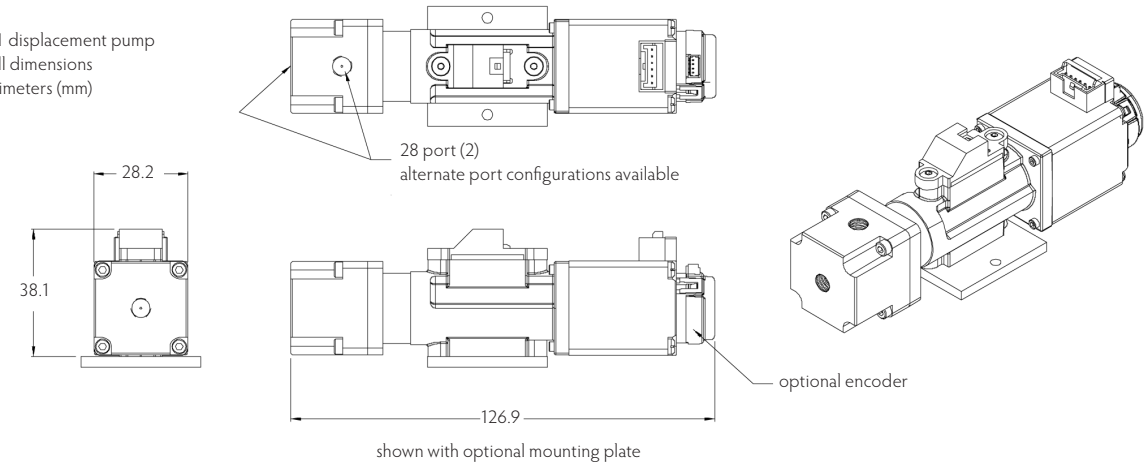
DISPLACEMENT PUMP

SIZE 11

size 11 displacement pump
overall dimensions
in millimeters (mm)



shown with optional mounting plate

SIZE 11- LINEAR DISPLACEMENT PUMP CHARACTERISTICS

PISTON SIZE	PISTON Ø (MM)	PISTON AREA (MM^2)	MAX STROKE (MM)	MAX DISPLACED VOLUME (µL)	RESOLUTION µL/ 1.8° STEP INCREMENT		
					LEADSCREW 10	LEADSCREW 20	LEADSCREW 40
4A	2.003	3.150	9.525	30	0.040	0.020	0.010
3A	3.166	7.874	9.525	75	0.100	0.050	0.025
2A	4.478	15.748	9.525	150	0.200	0.100	0.050
1A	6.333	31.496	9.525	300	0.400	0.200	0.100
A+	8.175	52.493	9.525	500	0.667	0.333	0.167

Actuator:
Size: 28mm Square (1.1 in.)
Step Angle: 1.8°
Power Consumption: 4.2 W
Temperature Rise: 75°C (167°F)
Wiring: Bipolar
Operating Voltage: 2.1 VDC
Current/Phase: 1.0 AMP
Inductance/Phase: 1.5 mH
Connector: JST S06B-PASK-2
Mating 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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