

# DISPLACEMENT PUMP

## SIZE 17

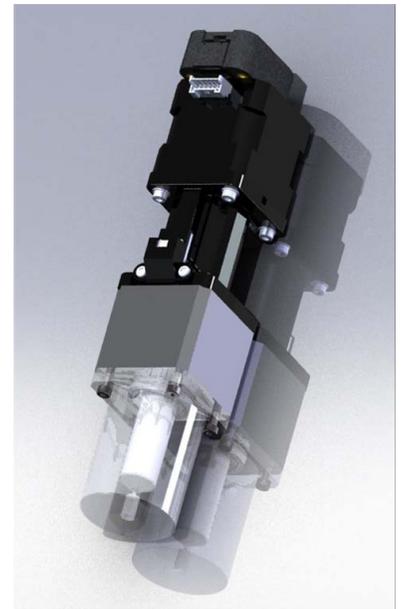
IVEK's DP17 Displacement Pump designs has been engineered to provide fluidic engineers and IVD instrument designers and manufacturers with a family of precise, reliable displacement pumps for many of the fluidic requirements in today's IVD instruments. IVEK Displacement Pumps function as the most precise syringe pump, but you never need to replace the syringe. Aspirating, dispensing and needle washing routines are effortlessly performed with great accuracy and precision. IVEK's unique design and piston coupling mechanism assures precise piston movement and extraordinary seal life for worry and maintenance free operation over many years.



displacement pumps

## FEATURES AND BENEFITS

- standard volume capacities: 1000  $\mu$ l, 2500  $\mu$ l, 5000  $\mu$ l, 6000  $\mu$ l
- inaccuracy  $\leq$  1.0% and imprecision  $\leq$  0.75% CV for displacements  $\geq$  5% of total pump displacement
- 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)



size 17 displacement pump



**ISO 9001 CERTIFIED**  
**ISO 13485 CERTIFIED**

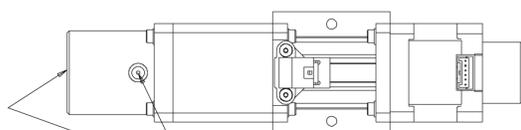
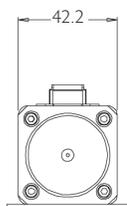


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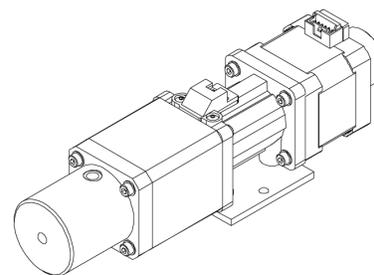
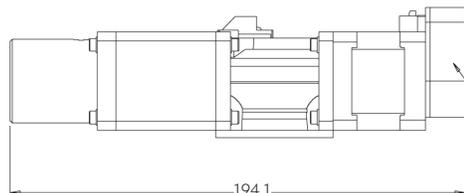
# DISPLACEMENT PUMP

**SIZE 17**

size 17 displacement pump  
overall dimensions  
in millimeters (mm)



1/4-28 port (2)  
alternate port configurations available



optional encoder

## SIZE 17- LINEAR DISPLACEMENT PUMP

PISTON SIZE	PISTON Ø (MM)	PISTON AREA (MM <sup>2</sup> )	MAX STROKE (MM)	MAX DISPLACED VOLUME (µL)	RESOLUTION µL / 1.8° STEP INCREMENT		
					LEADSCREW 10	LEADSCREW 20	LEADSCREW 40
B	6.333	31.496	31.75	1000	0.400	0.200	0.100
C	10.013	78.740	31.75	2500	1.000	0.500	0.250
D	14.160	157.480	31.75	5000	2.000	1.000	0.500
D+	15.512	188.976	31.75	6000	2.400	1.200	0.600

### Actuator Motor:

Size: 43mm Square (1.7 in.)  
Step Angle: 1.8°  
Power Consumption: 8.4 W  
Wiring: Bipolar<sup>o</sup>  
Operating Voltage: 2.9 VDC  
Current /Phase: 1.2 A  
Resistance/Phase: 1.55 OHM  
Inductance/Phase: 2.38 mH  
Connector: JST S06B-PASK-2  
Mating Connector: JST PAP-06V-5

### 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-5

### Encoder (optional):

Model: US Digital E5  
CPR: 32 to 1250 (specify)  
Mating Connector: Molex 50-57-9405

## 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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