

## PRODUCT OVERVIEW

- > Prevention of cross contamination and carryover during sample transfer and reagent aliquoting.
- > Eliminate tubing and priming normally required for liquid handling.

## FEATURES

- > Electronic air displacement pipetting modules
- > Exceptional precision and accuracy
- > Can be configured for mounting to a robotic arm
- > Interfaces with the M-Series motion controllers

## CONFIGURED OPTIONS

- > Available in 200  $\mu\text{L}$ , 1000  $\mu\text{L}$ , 2000  $\mu\text{L}$  and 5000  $\mu\text{L}$
- > Disposable Tip Sizes 100  $\mu\text{L}$ , 1000  $\mu\text{L}$ , 2000  $\mu\text{L}$ , 5000  $\mu\text{L}$
- > Tip Adapter option available
- > M-Series motion controller

## BASE MODEL

- 200  $\mu\text{L}$
- 1000  $\mu\text{L}$
- 2000  $\mu\text{L}$
- 5000  $\mu\text{L}$



(Shown with optional  
Tip Adapter and Tip)

## SPECIFICATIONS

	<b>200 <math>\mu</math>L Cat. # 0948</b>	<b>1000 <math>\mu</math>L Cat. # 0949</b>	<b>2000 <math>\mu</math>L Cat. # 0950</b>	<b>5000 <math>\mu</math>L Cat. # 0951</b>
Tip Adapter Cat. #	10005	10006	10007	10008
Disposable Tip Cat. #	10000 (96/rack)	10001 (100/rack)	10002 (60/rack)	10003 (24/rack)
Step Resolution Per Full Step Per Half Step	0.381 $\mu$ L 0.191 $\mu$ L	1.527 $\mu$ L 0.763 $\mu$ L	3.808 $\mu$ L 1.904 $\mu$ L	7.616 $\mu$ L 3.808 $\mu$ L
Weight Z-Pump without Tip Adapter Z-Pump with Tip Adapter Z-Pump with Tip Adapter and Tip	2.17 oz [61.6 gm] 2.49 oz [70.6 gm] 2.50 oz [70.9 gm]	2.65 oz [75.0 gm] 3.06 oz [86.7 gm] 3.09 oz [87.6 gm]	2.74 oz [77.8 gm] 3.12 oz [88.6 gm] 3.17 oz [90.0 gm]	3.13 oz [88.7 gm] 4.25 oz [120.5 gm] 4.33 oz [122.7 gm]
Syringe Data Bore Stroke	0.1721 in. [4.37 mm] 0.709 in. [18.00 mm]	0.3441 in. [8.74 mm] 0.709 in. [18.00 mm]	0.5441 in. [13.82 mm] 0.709 in. [18.00 mm]	0.7694 in. [19.54 mm] 0.709 in. [18.00 mm]
Fluid Contact Materials (in case of accidental fluid aspiration)	Acetal, PTFE, Silicone Lubricant, Buna N, Neoprene, Borosilicate Glass and Stainless Steel			

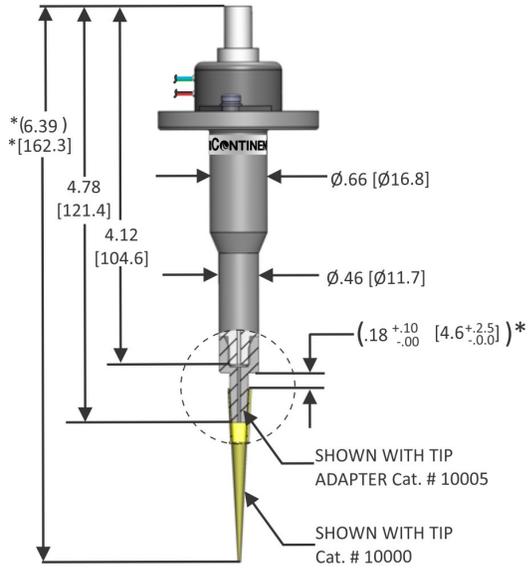
## FUNCTIONAL PARAMETERS (USING OPTIONAL M-SERIES CONTROLLER\*)

Performance (at full volume) with tip adapter and tip noted above Accuracy within Precision within	$\pm 3\%$ 1%
Drive Recommendations	Pump should typically be driven with a 24 VDC bipolar chopper drive, $\frac{1}{2}$ step, at rated current. Higher voltage may be required at higher step rates.
Motor / Leadscrew Data Travel / Full Step Travel / Half Step Resistance / Phase Inductance / Phase Rated Current Rated Voltage	0.001 in. [0.0254 mm] 0.0005 in. [0.0127 mm] 14.7 $\Omega$ 8.5 mH 0.34 A 5.0 V

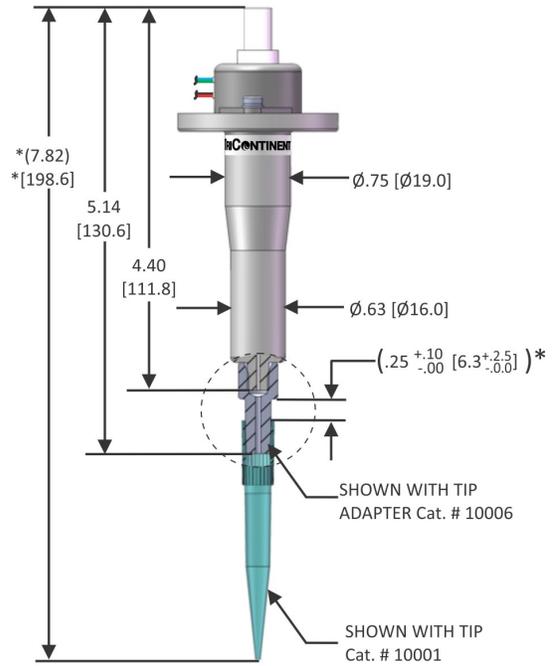
\* Parameters without M-series controller dependent on customer use

Z-SERIES PUMPS ENVELOPE DRAWING

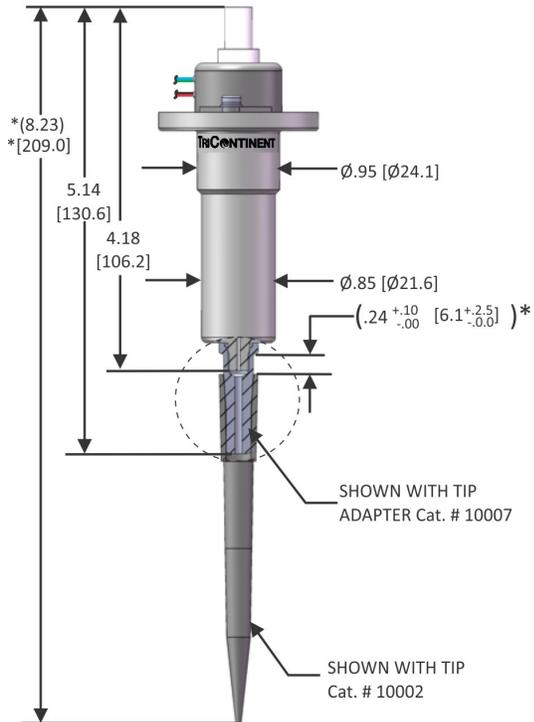
200  $\mu$ L, Cat. # 0948



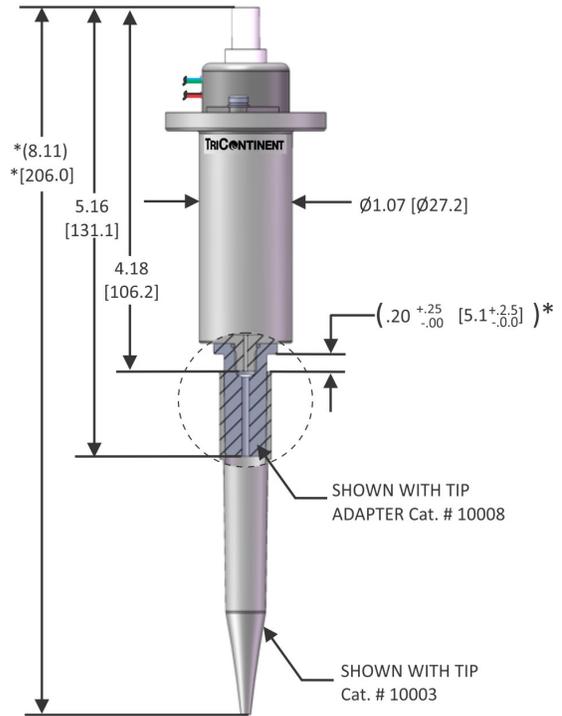
1000  $\mu$ L, Cat. # 0949



2000  $\mu$ L, Cat. # 0950



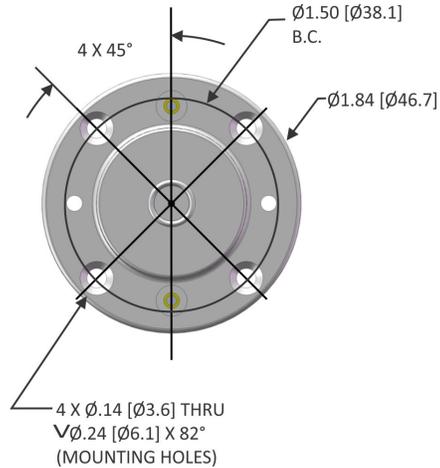
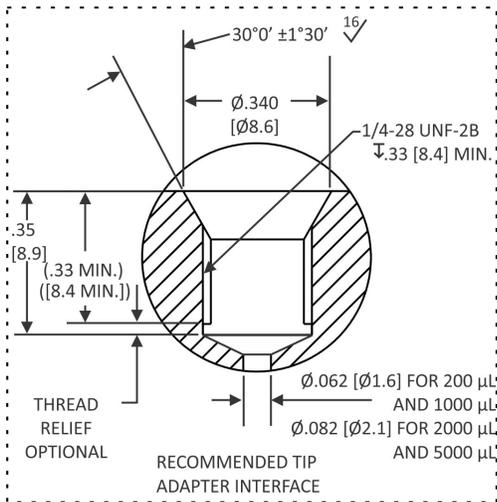
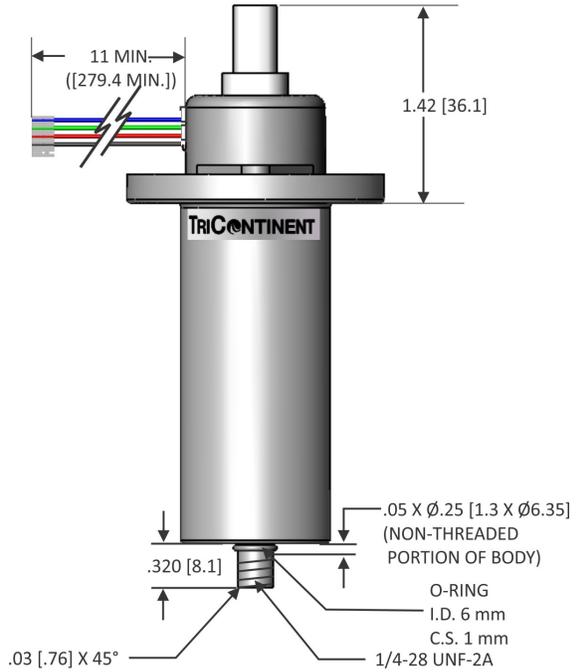
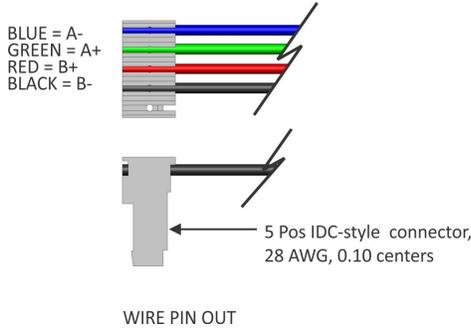
5000  $\mu$ L, Cat. # 0951



\*Note: Each tip is designed to seal within the reference gap dimension shown. Customers should perform their own testing to determine optimum force/location for sealing and tip stripping.

**Z-SERIES PUMP INTERFACE DETAILS**

Dimensions/Features noted are typical for any size, Z-Series Pump (5000 µL shown)



Note: Dimensions in inches [mm] unless otherwise specified.

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