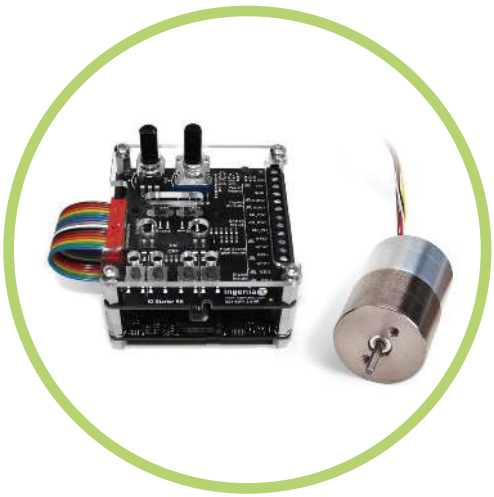
| VOICE COIL ACTUATOR (VCA) DEVELOPER'S KIT

Complete VCA and Driver Kit for Custom Actuation System

Product Description

The Voice Coil Actuator (VCA) Developer's Kit from BEI Kimco is a completely self-contained kit including a VCA with built-in feedback sensor and a programmable controller with motion control software that runs on the user's local PC. The kit allows users to take advantage of the inherent benefits of VCAs without needing to separately specify the necessary electronics for a complete control system.

Using this invaluable device, customers can quickly develop an actuation system and demonstrate a working design concept. Users can control velocity, position, force, oscillation, and acceleration in applications such as valve control, beam steering, clamping, and multi-axis servo control, when using multiple controllers. The controller has been upgraded to include an I/O board, improving its functionality by allowing users to easily interface with the controller to adjust commands given to the VCA. The I/O board features: 4 digital inputs, 1 LED per digital input and 2 analog inputs.



Six models of VCAs are available for use in the developer's kit. Each VCA is paired with the appropriate controller PCBA that is recommended to drive the particular VCA. The controller can operate in open or closed loop modes, is internally compensated for high linearity, and supports coordinated multi-axis applications. A flash drive is included in the kit which provides the necessary links to all software and set-up instructions, including driver downloads, user manual, specification sheets for the VCA's and a configuration file that can be used to drive the VCA for easy start-up.

The customized MotionLab software program by Ingenia Motion Control provides a simplified programming environment and example programs such as program flow, motion, oscillation, timers, memory and I/O access. An oscillation motion test is available for simple built-in self-testing capability.

Kit Contents

- VCA (see following chart for ordering options)
- Pluto or Jupiter digital servo drive (Pluto shown)
- I/O ribbon cable
- USB 2.0 A male to USB micro B male cable
- Key flash drive

About Voice Coil Actuators (VCA)

VCAs are direct-drive, cog-free devices used for providing highly accurate linear or rotary motion. By virtue of their high acceleration and the absence of commutation, VCAs offer numerous advantages in such applications as medical, semiconductor and industrial controls or systems that demand high precision. They offer virtually unlimited resolution, restricted only by the position feedback system. Additionally they come to stop points with high speed and accuracy. VCAs are also a 'clean' technology, well-suited to those applications requiring such operation.

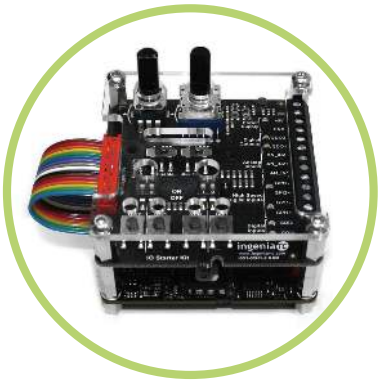
SPECIFICATIONS

VCA Developer's Kit Configurations

	DK-LAS13-18-000A-P01-3E	DK-LAS13-56-000A-P01-6E	DK-LAS16-23-000A-P01-4E	DK-LAS22-42-000A-P01-6E	DK-LAS28-53-000A-P01-12E	DK-LAS43-88-000A-P01-10E
Body Diameter	1.245″ 31.62 mm	1.3″ 33 mm	1.575″ 40.01 mm	2.2″ 55.9 mm	2.76″ 70.1 mm	4.3″ 109.2 mm
Body Length	1.8″ 45.72 mm	5.6″ 142.2 mm	2.3″ 58.42 mm	4.2″ 106.7 mm	5.35″ 135.89 mm	8.8″ 223.5 mm
Peak Force	3.5 lbs 15.57 N	21.9 lbs 97.36 N	20 lbs 89.0 N	24 lbs 106.7 N	60 lbs 266.9 N	340 lbs 1512.4 N
Current at Peak Force	1.59 A	2.75 A	7.02 A	10.4 A	13.16 A	20 A
Continuous Stall Force	0.76 lbs 3.4 N	5.19 lbs 23.1 N	3.82 lbs 17 N	4.41 lbs 29.6 N	13.5 lbs 60.1 N	86.9 lbs 386.7 N
Total Stroke	0.25″ 6.36 mm	0.5″ 12.8 mm	0.24″ 6.08 mm	1″ 25.4 mm	0.984″ 25 mm	1.25″ 31.74 mm
Resolution	10 µ	20 µ	10 µ	40 µ	40 µ	50 µ

VCA Developer's Kit part numbers are listed above and offer six VCA model options. The specifications in this table apply to the VCA unit.
For full VCA specifications, visit www.beikimco.com/motor-products/VCA-voice-coil-actuator-developers-kit.

Pluto Servo Drive



Jupiter Servo Drive

Digital Servo Drive Specifications

	Pluto Servo Drive	Jupiter Servo Drive
Full PID Control	Current/Torque Servo Loop Velocity Servo Loop Position Servo Loop Operating Modes	Current/Torque Servo Loop Velocity Servo Loop Position Servo Loop Operating Modes
Communications	USB 2.0 CANopen	USB 2.0 RS485 CANopen
Inputs and Outputs	4x digital inputs 2x analog inputs (12 bits) 2x digital outputs	4x digital inputs 2x analog inputs (12 bits) 2x digital outputs
Supply Voltage*	12 VDC to 48 VDC	10 VDC to 80 VDC
Dimensions	60mm X 60mm x 51mm	100mm x 100mm x 49mm
Weight	90g	200g

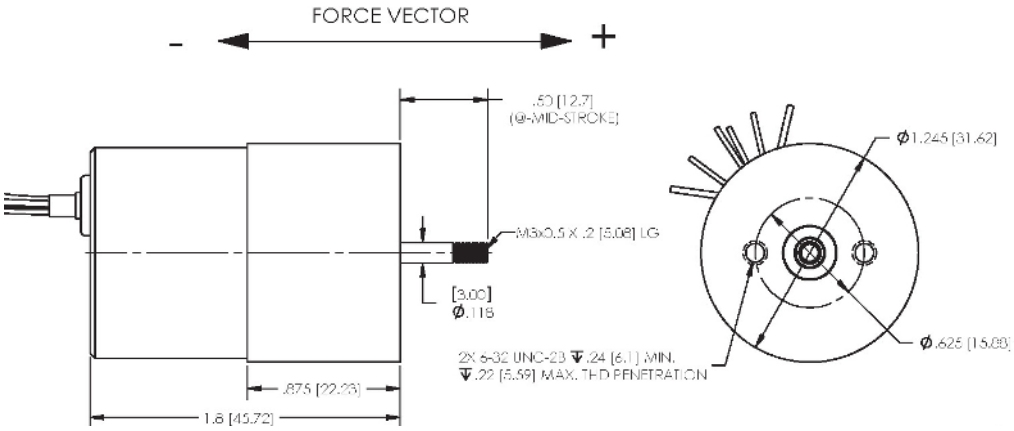
The BEI Kimco VCA Developer's Kit is supplied with a Pluto Digital Servo Drive by Ingenia Motion Control.
This is an open frame, compact miniature DC servo drive.
*Customer must provide the power supply.

VCA DIMENSIONS

Dimensions in Inches (mm)

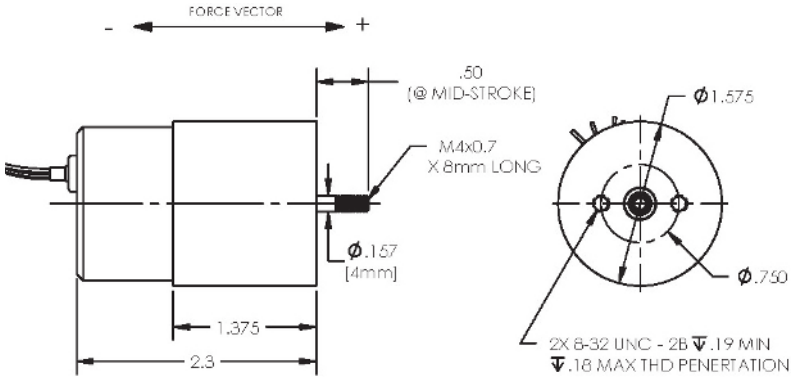
DK-LAS13-18-000A-P01-3E

(DASH)#	Shaft End Configuration
-3S	3mm Diameter
-3E	3mm Diameter External Thread M3x0.5x0.2 (5.08mm) long



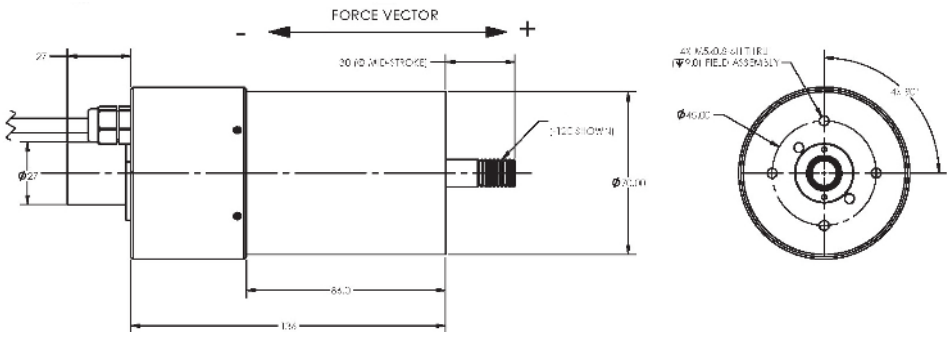
DK-LAS16-23-000A-P01-4E

(DASH)#	Shaft End Configuration
-4S	4mm Diameter
-4E	4mm Diameter External Thread M4x0.7x8mm long



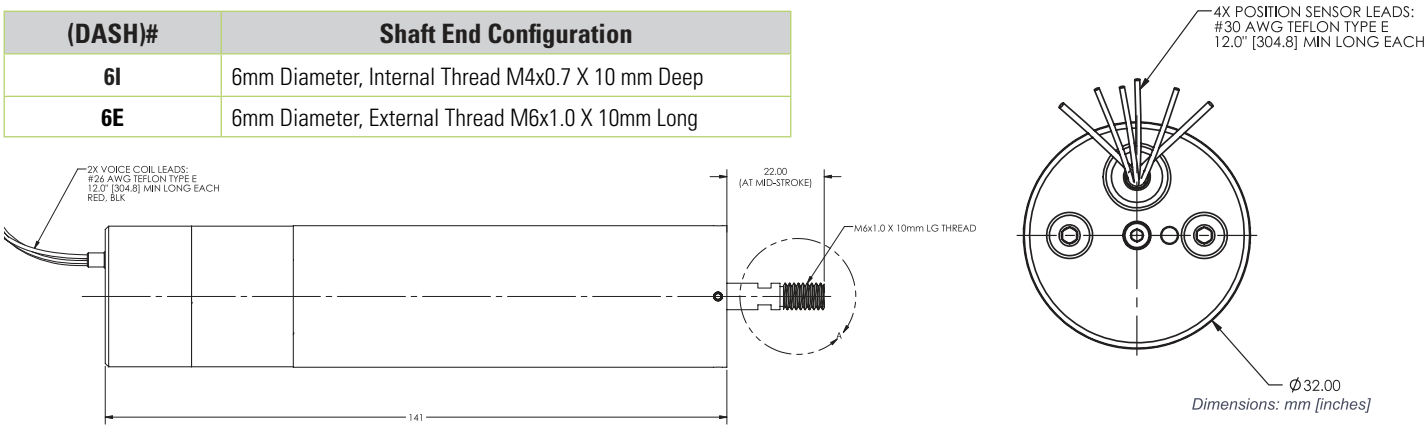
DK-LAS28-53-000A-P01-12E

(DASH)#	Shaft End Configuration
-12S	12mm Diameter
-12I	12mm Diameter Internal Thread M8x-1.25x16mm deep
-12E	12mm Diameter, External Thread m12x1.75x16mm long



DK-LAS13-56-000A-P01-6E

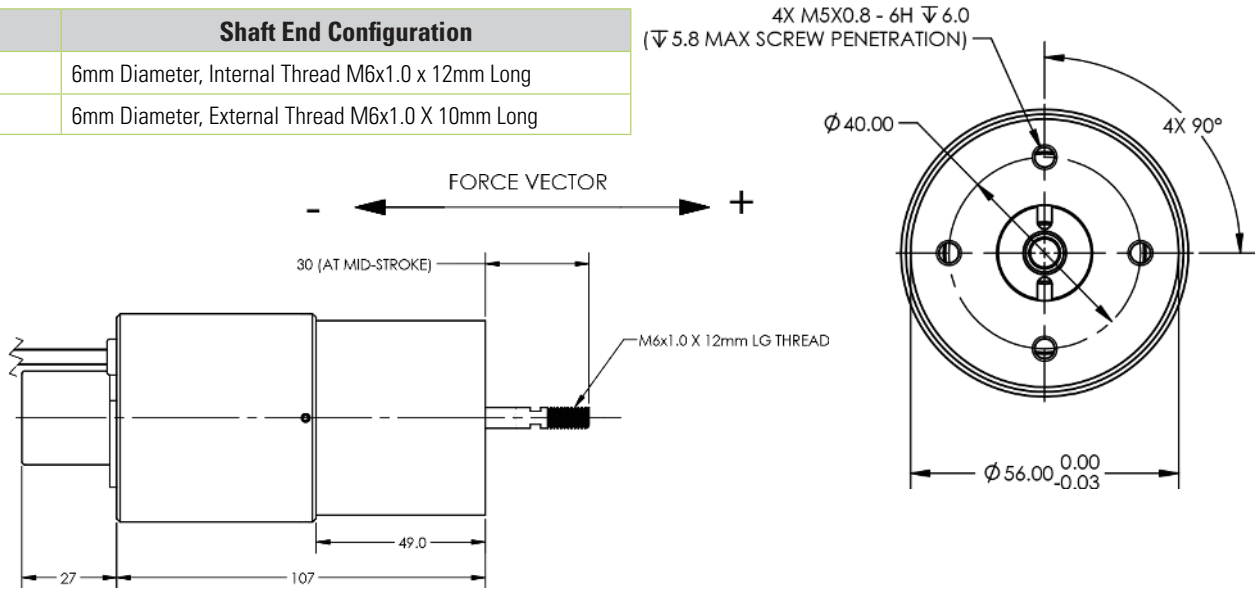
(DASH)#	Shaft End Configuration
6I	6mm Diameter, Internal Thread M4x0.7 X 10 mm Deep
6E	6mm Diameter, External Thread M6x1.0 X 10mm Long



Dimensions: mm [inches]

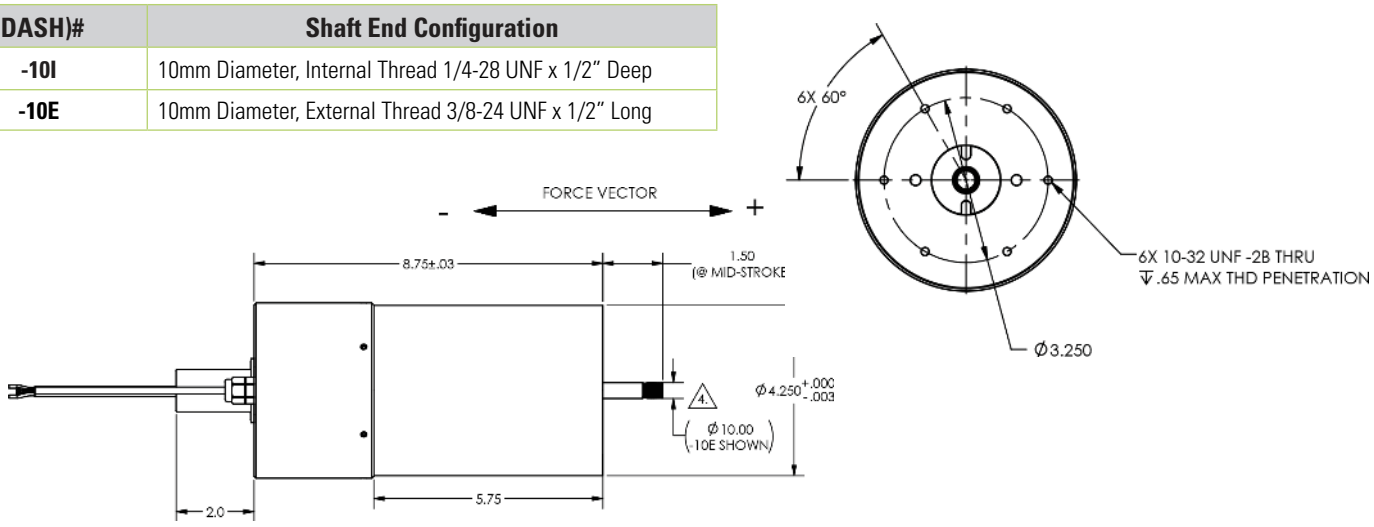
DK-LAS22-42-000A-P01-6E

(DASH)#	Shaft End Configuration
6I	6mm Diameter, Internal Thread M6x1.0 x 12mm Long
6E	6mm Diameter, External Thread M6x1.0 X 10mm Long



DK-LAS43-88-000A-P01-10E

(DASH)#	Shaft End Configuration
-10I	10mm Diameter, Internal Thread 1/4-28 UNF x 1/2" Deep
-10E	10mm Diameter, External Thread 3/8-24 UNF x 1/2" Long



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