



# CYLINDRICAL FRAMELESS LINEAR VOICE COIL ACTUATORS (VCA)

## Introduction

Frameless voice coil actuators (VCA), also known as un-housed VCAs, are sold in pairs, featuring both the coil and the field assemblies, which are required to be aligned within the customer's application. Frameless VCAs are the most cost effective and versatile types of linear actuators, allowing customers to integrate them into their systems in a way that is best suited for the application. VCA technology features many inherent advantages, such as direct-drive, zero backlash and cog free operation for accurate motion, as well as high acceleration and use of a single phase.



## Features

- Capable of withstanding billions of cycles of use
- Constructed with high energy product rare earth magnets
- Moving coil and moving magnet designs available
- Wide offering of standard products, reducing lead time and cost

## SPECIFICATIONS

| Part Number  | Peak Force (N / lb) | Total Stroke (mm / in) | Continuous Stall Force (N / lb) | Actuator Constant (N/√watt lb/√watt) | Outside Diameter/Width (mm / in) | Length at Mid-stroke (mm / in) |
|--------------|---------------------|------------------------|---------------------------------|--------------------------------------|----------------------------------|--------------------------------|
| LA05-05-000A | 0.70 / 0.15         | 1.02 / 0.04            | 0.31 / 0.07                     | 0.28 / 0.06                          | 12.7 / 0.50                      | 12.7 / 0.50                    |
| LA08-10-000A | 6.67 / 1.50         | 4.06 / 0.16            | 1.96 / 0.44                     | 0.97 / 0.21                          | 19.0 / 0.75                      | 24.5 / 0.96                    |
| LA10-08-000A | 6.67 / 1.50         | 5.08 / 0.20            | 2.71 / 0.60                     | 1.14 / 0.25                          | 24.1 / 0.95                      | 19.6 / 0.77                    |
| LA10-12-027A | 13.3 / 3.00         | 9.14 / 0.36            | 4.94 / 1.11                     | 1.76 / 0.39                          | 25.4 / 1.00                      | 28.5 / 1.12                    |
| LA12-17-000A | 44.4 / 10.0         | 7.62 / 0.30            | 15.5 / 3.50                     | 4.38 / 0.98                          | 30.4 / 1.20                      | 43.1 / 1.70                    |
| LA13-11-000A | 15.5 / 3.50         | 6.36 / 0.25            | 5.07 / 1.14                     | 2.36 / 0.53                          | 31.6 / 1.24                      | 27.3 / 1.07                    |
| LA13-12-000A | 15.5 / 3.50         | 6.36 / 0.25            | 7.12 / 1.60                     | 2.36 / 0.53                          | 31.6 / 1.25                      | 28.5 / 1.13                    |
| LA14-17-000A | 22.2 / 5.00         | 10.1 / 0.40            | 7.12 / 1.60                     | 2.18 / 0.49                          | 35.5 / 1.40                      | 41.9 / 1.65                    |
| LA15-16-002A | 62.6 / 14.1         | 6.36 / 0.25            | 19.6 / 4.40                     | 4.72 / 1.06                          | 38.1 / 1.50                      | 39.6 / 1.56                    |
| LA15-16-020A | 33.8 / 7.60         | 10.1 / 0.40            | 11.6 / 2.60                     | 2.80 / 0.62                          | 38.1 / 1.50                      | 39.6 / 1.56                    |
| LA15-16-024A | 88.9 / 20.0         | 6.35 / 0.25            | 24.4 / 5.50                     | 5.82 / 1.31                          | 38.1 / 1.50                      | 39.6 / 1.56                    |
| LA15-26-000A | 44.4 / 10.0         | 25.4 / 1.00            | 11.5 / 2.60                     | 2.93 / 2.60                          | 37.5 / 1.48                      | 65.4 / 2.58                    |
| LA16-16-000A | 89.0 / 20.0         | 6.36 / 0.25            | 24.4 / 5.50                     | 5.83 / 1.31                          | 40.0 / 1.57                      | 39.6 / 1.16                    |
| LA16-19-001A | 22.2 / 5.00         | 12.7 / 5.00            | 9.30 / 2.10                     | 2.31 / 0.52                          | 40.0 / 1.58                      | 47.6 / 1.88                    |

| Part Number  | Peak Force (N / lb) | Total Stroke (mm / in) | Continuous Stall Force (N / lb) | Actuator Constant (N√watt / lb/√watt) | Outside Diameter/Width (mm / in) | Length at Mid-stroke (mm / in) |
|--------------|---------------------|------------------------|---------------------------------|---------------------------------------|----------------------------------|--------------------------------|
| LA17-28-000A | 71.1 / 16.0         | 15.2 / 0.60            | 28.4 / 6.40                     | 6.89 / 1.55                           | 58.4 / 2.30                      | 66.0 / 2.60                    |
| LA18-12-000A | 44.5 / 10.0         | 6.10 / 0.24            | 15.1 / 3.40                     | 4.80 / 1.10                           | 44.4 / 1.75                      | 28.4 / 1.12                    |
| LA18-12-002A | 27 / 6.07           | 3.05/0.12              | 7.79 / 1.75                     | 2.97 / 0.67                           | 44.45 / 1.75                     | 28.40 / 1.12                   |
| LA18-12-006Z | 44.4 / 10.0         | 6.10 / 0.24            | 15.1 / 3.40                     | 4.84 / 1.09                           | 44.4 / 1.75                      | 28.4 / 1.12                    |
| LA19-40-000A | 22.2 / 5.00         | 45.7 / 1.80            | 8.54 / 1.92                     | 2.37 / 0.53                           | 47.6 / 1.88                      | 101 / 4.00                     |
| LA23-55-000A | 89.0 / 20.0         | 57.1 / 2.25            | 27.1 / 6.10                     | 4.34 / 0.98                           | 57.1 / 2.25                      | 139 / 5.50                     |
| LA24-20-000A | 111 / 25.0          | 16.5 / 0.65            | 26.3 / 5.90                     | 7.51 / 1.69                           | 60.3 / 2.37                      | 50.8 / 2.00                    |
| LA24-33-000A | 35.6 / 8.00         | 22.9 / 0.90            | 13.8 / 3.10                     | 3.02 / 0.68                           | 59.7 / 2.35                      | 82.5 / 3.25                    |
| LA25-42-000A | 266 / 60.0          | 25.4 / 1.00            | 86.3 / 19.4                     | 13.78 / 3.10                          | 63.5 / 2.50                      | 105.9 / 4.17                   |
| LA28-22-000A | 266 / 60.0          | 11.4 / 0.45            | 87.7 / 19.7                     | 13.78 / 3.10                          | 69.8 / 2.75                      | 55.8 / 2.20                    |
| LA28-22-001A | 201 / 45.2          | 11.4 / 0.45            | 45.7 / 10.3                     | 10.4 / 2.34                           | 69.8 / 2.75                      | 55.9 / 2.20                    |
| LA28-43-000A | 266 / 60.0          | 25.0 / 0.98            | 75.6 / 17.0                     | 13.0 / 2.90                           | 70.0 / 2.76                      | 109 / 4.30                     |
| LA30-43-000A | 445 / 100           | 25.4 / 1.00            | 185 / 41.6                      | 21.8 / 4.90                           | 76.2 / 3.00                      | 112 / 4.42                     |
| LA30-48-000A | 445 / 100           | 25.4 / 1.00            | 133 / 30.1                      | 21.8 / 4.90                           | 76.2 / 3.00                      | 120 / 4.72                     |
| LA30-75-001A | 444 / 100           | 50.8 / 2.00            | 96.2 / 21.7                     | 16.6 / 3.75                           | 76.2 / 3.00                      | 188 / 7.43                     |
| LA34-37-000A | 444 / 100           | 19.0 / 0.75            | 127 / 28.6                      | 20.2 / 4.56                           | 85.8 / 3.38                      | 95.2 / 3.75                    |
| LA43-67-000A | 1378 / 110          | 31.7 / 1.25            | 282 / 63.6                      | 28.0 / 6.30                           | 107.9 / 4.25                     | 169 / 6.69                     |
| LA50-65-000A | 1861 / 418          | 25.4 / 1.00            | 500 / 112                       | 57.8 / 13.0                           | 127 / 5.00                       | 163 / 6.43                     |

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