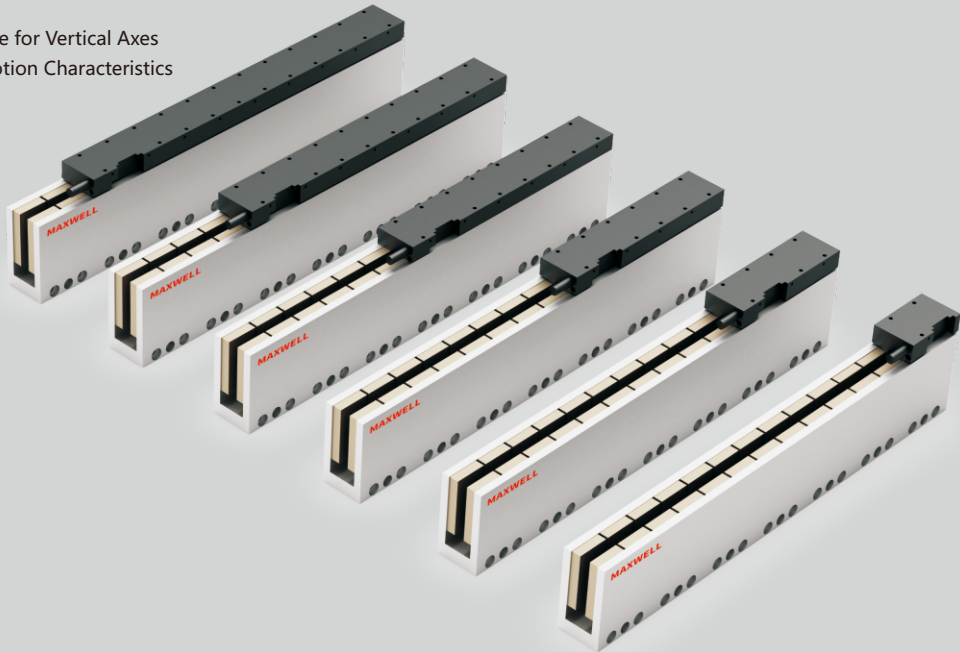


Ironless Linear Motor

- Ironless Technology
- Compact Size, Suitable for Vertical Axes
- Excellent Dynamic Motion Characteristics



Model Number Designation System

Mover Model

JKA1 1 S 3.0

Model

Cable Length

123456

Hall Sensor Wiring Type  
S = Loose Leads  
D = DB9 Male Connector

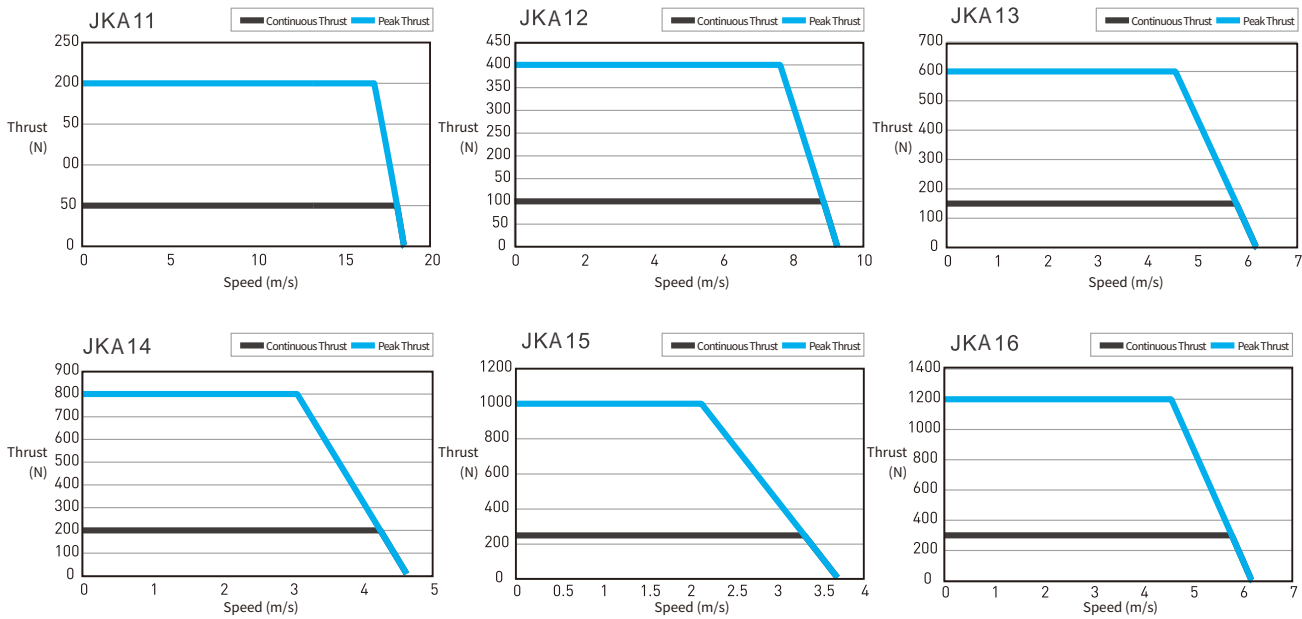
Stator Model

JKA1 – 120

Model

Stator Length  
120mm 180mm  
300mm

JKA1 Series: Thrust Graph



Specification Parameters

Linear Motor Specifications: JKA1 Series

|  | Symbol     | Unit            | JKA11                           | JKA12 | JKA13 | JKA14 | JKA15 | JKA16  |
|--|------------|-----------------|---------------------------------|-------|-------|-------|-------|--------|
| Continuous Thrust                          | $F_c$      | N               | 50                              | 100   | 150   | 200   | 250   | 300    |
| Continuous Current                         | $I_c$      | $A_{rms}$       | 2.7                             | 2.7   | 2.7   | 2.7   | 2.7   | 5.4    |
| Peak Thrust [1s]                           | $F_p$      | N               | 200                             | 400   | 600   | 800   | 1000  | 1200   |
| Peak Current [1s]                          | $I_p$      | $A_{rms}$       | 10.8                            | 10.8  | 10.8  | 10.8  | 10.8  | 21.7   |
| Thrust Constant                            | $K_f$      | $N/A_{rms}$     | 18.5                            | 37.0  | 55.4  | 73.9  | 92.4  | 55.4   |
| Max. Coil Temperature                      | $T_{max}$  | $^{\circ}C$     | 120                             |       |       |       |       |        |
| Electrical Time Constant                   | $K_e$      | ms              | 0.85                            |       |       |       |       |        |
| Resistance [Line-to-Line, 25 $^{\circ}C$ ] | $R_{25}$   | $\Omega$        | 1.8                             | 3.6   | 5.4   | 7.1   | 8.9   | 2.7    |
| Inductance [Line-to-Line]                  | $L$        | mH              | 1.5                             | 3.1   | 4.6   | 6.1   | 7.6   | 2.3    |
| Pole Pitch                                 | $2\tau$    | mm              | 60                              |       |       |       |       |        |
| Motor Cable Bend Radius                    | $R_{bend}$ | mm              | 37.5                            | 37.5  | 37.5  | 37.5  | 37.5  | 37.5   |
| Back EMF Constant [Line-to-Line]           | $K_v$      | $V_{rms}/(m/s)$ | 10.7                            | 21.3  | 32.0  | 42.7  | 53.3  | 32.0   |
| Motor Constant [25 $^{\circ}C$ ]           | $K_m$      | $N/\sqrt{W}$    | 11.3                            | 16.0  | 19.5  | 22.6  | 25.2  | 27.6   |
| Thermal Resistance                         | $R_{th}$   | $^{\circ}C/W$   | 3.67                            | 1.83  | 1.22  | 0.92  | 0.73  | 0.61   |
| Thermal Sensor Switch                      |            |                 | PTC                             |       |       |       |       |        |
| Max. DC Bus Voltage                        |            | V               | 330                             |       |       |       |       |        |
| Mover Mass                                 | $M_f$      | kg              | 0.30                            | 0.60  | 0.90  | 1.20  | 1.50  | 1.80   |
| Stator Unit Mass                           | $M_s$      | kg/m            | 15.8                            |       |       |       |       |        |
| Mover Length / Value n                     | $L_f$      | mm              | 61                              | 121/3 | 181/5 | 241/7 | 301/9 | 361/11 |
| Mover Height / Value m                     | $h$        | mm              | 79                              | 79/3  | 79/4  | 79/6  | 79/7  | 79/9   |
| Stator Height                              | $H_s$      | mm              | 75.3                            |       |       |       |       |        |
| Stator Width                               | $W_s$      | mm              | 38.7                            |       |       |       |       |        |
| Stator Length / Value N                    | $L_s$      | mm              | 120mm/N=2, 180mm/N=3, 300mm/N=5 |       |       |       |       |        |
| Total Installation Height                  | $H$        | mm              | 93                              |       |       |       |       |        |
| Heat Sink Dimensions                       | -          | mm              | 210x210x10                      |       |       |       |       |        |

Notes:  
1. All data in this table are measured at an ambient temperature of 25 $^{\circ}C$  without forced cooling.  
2. Thermal resistance data is measured with the mover mounted on the heat sink.  
3. Except for dimensional specifications, all other specifications have a tolerance of  $\pm 10\%$ .  
4. We reserve the right to make changes. Please refer to the customer-approved drawing for final specifications.

• JK A1: Dimensions

In Stock

Lead Time: 15-20 Days  
\* The lead time is subject to change during special periods. Please consult our sales team.

Values for Lf, m, and n: Refer to the Specification Table.

Technical drawings of the JK A1 linear motor showing dimensions and mounting details:

- Top view: Shows overall length Lf, mounting holes (2-M4x0.7P THRU), and dimensions 4, 30, 16, and 30.
- Side view: Shows overall length Lf, mounting holes (2xn-M4x0.7P THRU), and dimensions 4, 30, 16, and nx30.
- Front view: Shows mounting holes (3-M3x0.5Px4DP), dimensions 30, 20.5, and 3.5.
- Back view: Shows mounting holes (2xm-M3x0.5Px4DP), dimensions (m-1)x40, 20.5, and 3.5.
- End view: Shows overall width 38 and height 79.

Values for Ls and N: Refer to the Specification Table.

Technical drawings of the JK A1 linear motor showing dimensions and mounting details:

- Top view: Shows overall length Ls, mounting holes (N-Ø5.5 THRU, Ø9.5x6.85DP), and dimensions 75.3, 30, and 6.
- Side view: Shows overall length Ls, mounting holes (N-Ø5.5 THRU, Ø9.5x6.85DP), and dimensions 75.3, 30, and 6.
- Front view: Shows mounting holes (N-Ø5.5 THRU, Ø9.5x6.85DP), dimensions (N-1)x60, 30, and 6.
- Back view: Shows mounting holes (N-Ø5.5 THRU, Ø9.5x6.85DP), dimensions (N-1)x60, 30, and 6.
- End view: Shows overall width 38.7 and height 93.

MEMO

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