



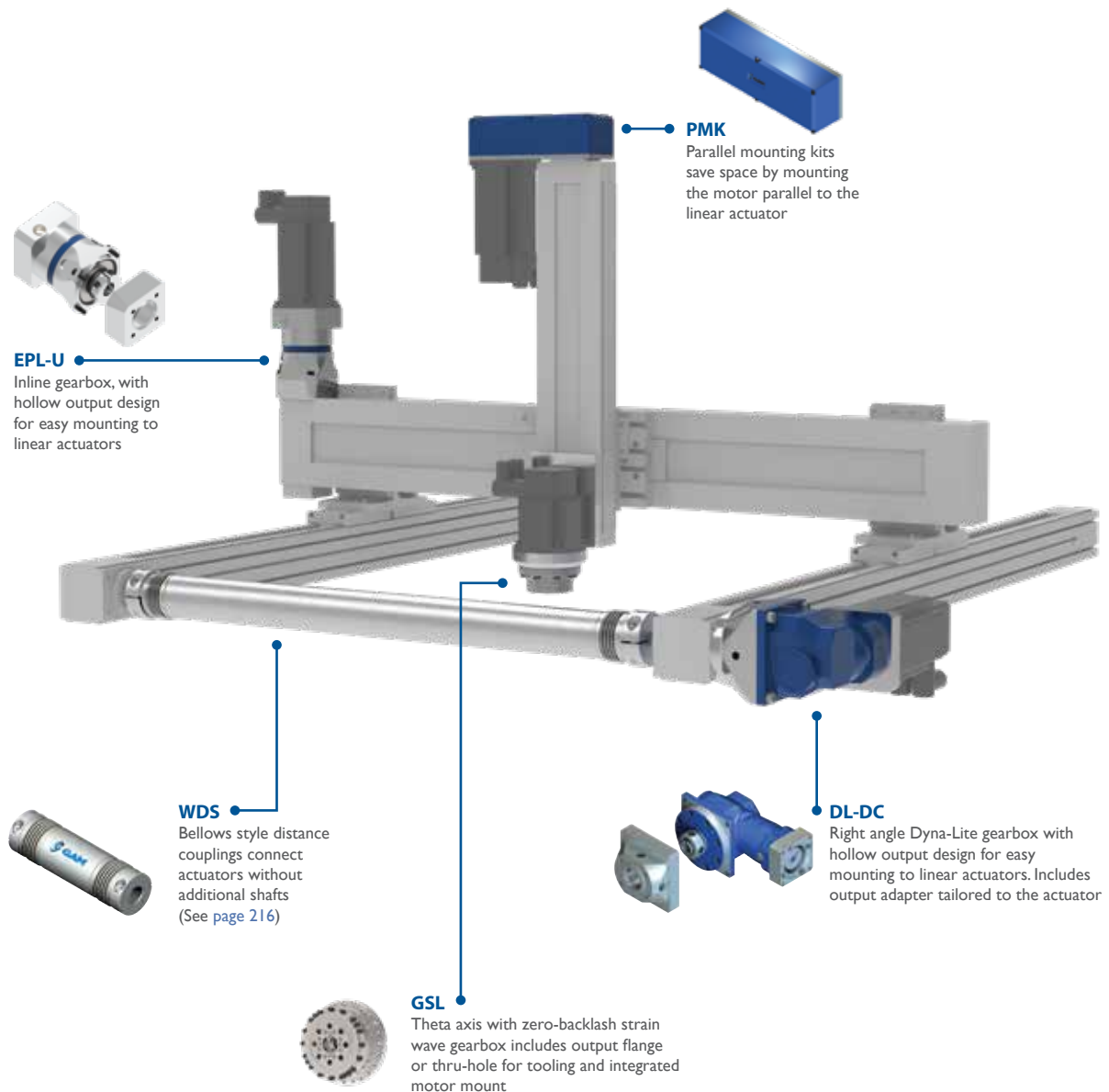
▶ LINEAR MOUNT PRODUCTS

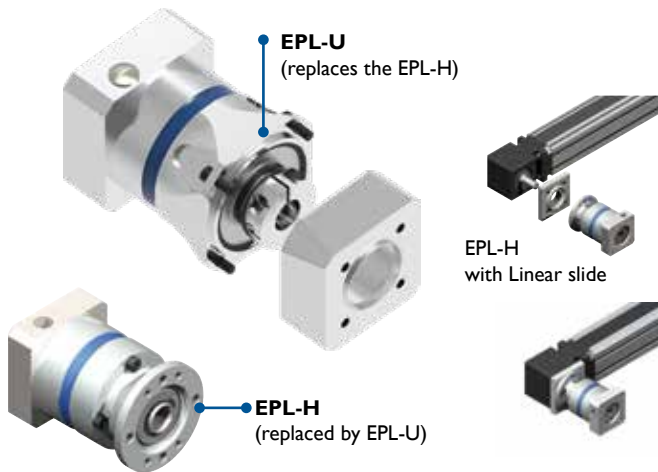
Everything Between the Motor and the Actuator

GAM Linear Mount Products take the hassle out of mounting your motor or gearbox to a linear ball screw or belt actuator. This unique product offering consists of motor mount kits, inline and right angle gearboxes, as well as couplings. For everything between the motor and actuator, GAM Can!

Application Example: Cartesian System

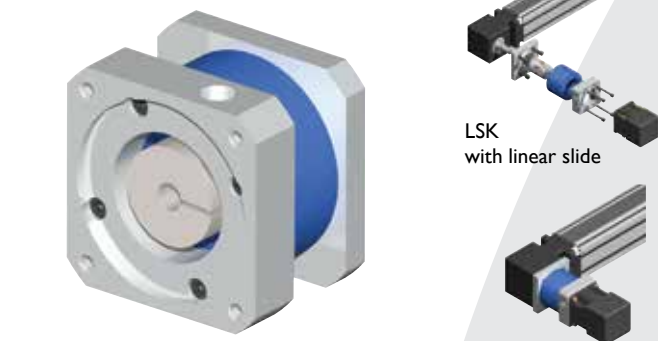
Build your own cartesian system with products designed specifically to simplify the process of designing and building your own cartesian systems. Components are designed and manufactured to work with any actuator





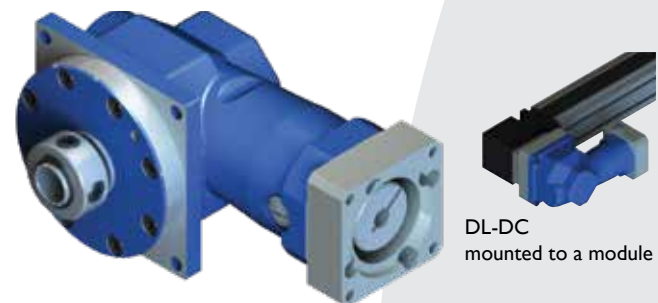
EPL-U Gearboxes

- Quick, simple, and low-cost solution used to mount onto any off-the-shelf linear belt or ball screw modules
- Unique design ready to mount to your module on the output
 - Hollow output with zero-backlash clamping ring and mounting plate for shaft input actuators
 - Shaft output and mounting plate for hollow input actuators
- Same backlash and efficiencies as EPL Series (see [page 82](#))
- Right angle version EPR-U also available (see [page 132](#))



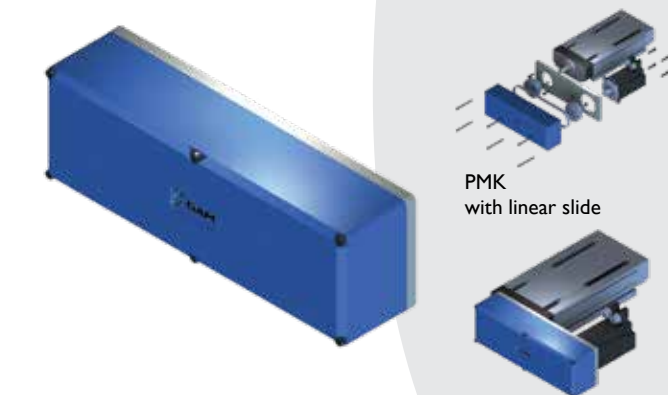
Linear Slide Kit (LSK)

- Customized assembly to mount any motor or gearbox to any linear slide
- In line motor mounting
- Coupling included
- Quick delivery



DL-DC Right Angle Gearbox

- Right angle hypoid gearbox with unique hollow output and zero-backlash clamping ring
- Mount directly to any linear belt or ball screw module for a compact design
- Ratios from 3:1 up to 150:1
- Frame sizes from 55 mm to 90 mm (See [page 118](#))



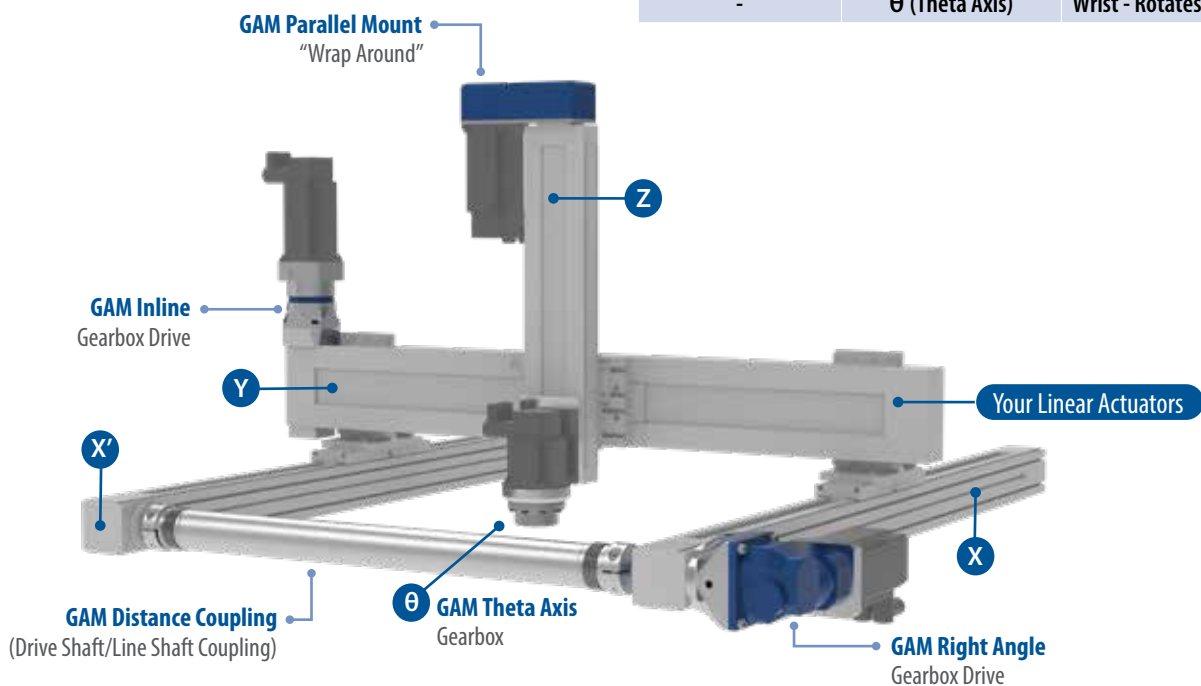
Parallel Mount Kit (PMK)

- Customized assembly to mount any motor or gearbox to any linear ball screw product
- Parallel motor mounting design
- Includes timing pulleys, belt, and hardware.
- Quick delivery

Linear Systems

Linear actuator systems, such as belt actuators or ball screw drives, can be combined to form X-Y tables, gantries, or cartesian robots. There are different ways to drive one or more of these actuators. GAM makes it easy with components designed to simplify mounting a gearbox, motor, or other mechanical system to the linear actuators.

Types of Linear Systems		
Number of Axes	Axes	System Style
3	X-X' / Y / Z	Cartesian Robot
2	X-X' / Y	X-Y Table
2	Y / Z	Gantry
1	Any	Linear Actuator
-	θ (Theta Axis)	Wrist - Rotates Tooling



3-Axis Cartesian Robot with Theta (Wrist) Axis

Driving Linear Actuators

Once you've selected the best actuators for each axis of your application, you need to determine how to drive the actuators.

- What servo motors will you use?
- Do you require speed reduction between the motor and actuator?
- Do you have multiple actuators on a single axis (see X and X' above)?
- Will you be driving more than one actuator with a single drive?

GAM has multiple solutions for driving a single actuator and for driving multiple actuators from a single drive.

Driving a Single Actuator

GEAR REDUCTION Inline or Right Angle

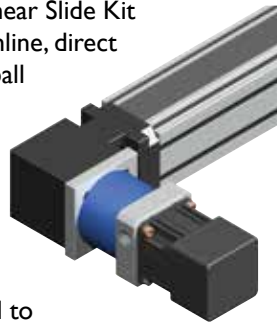


Right Angle DL-DC (left) or Inline EPL-U (right) Gearboxes provide a space saving drive solution by eliminating the need for a coupling.

Includes zero-backlash clamping ring and adapter plate.

DIRECT DRIVE Inline

Use the Linear Slide Kit (LSK) for inline, direct drive of a ball screw or belt actuator. Includes adapter plates customized to the motor and actuator and zero-backlash bellows or elastomer coupling.



DIRECT DRIVE Wrap-around

Use the Parallel Mounting Kit (PMK) for mounting a motor or gearbox parallel to a ball screw.

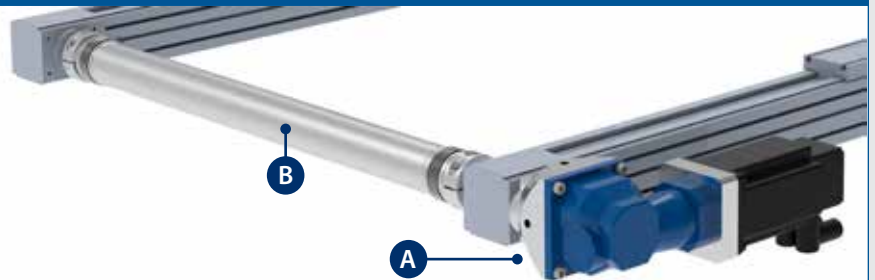
Customized to mount your motor and actuator.



Driving Multiple Actuators

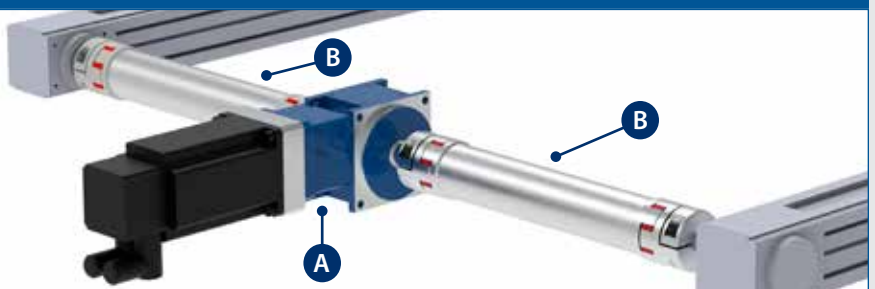
OUTSIDE DRIVE with Single Distance Coupling

Drive two actuators with one hollow output gearbox (A) on the actuator. Use a distance (line shaft/drive shaft) coupling (B) to drive the second actuator. No additional bearing support needed.



CENTER DRIVE with 2 Distance Couplings

Drive two actuators with one dual output gearbox (A). This can be a speed reducer or a 1:1 bevel gearbox. Use two distance (line shaft/drive shaft) couplings (B) to drive the actuators - no additional bearing support needed. This configuration allows for higher speeds due to the shorter couplings.



INSIDE DRIVE with Single Distance Coupling

Drive two actuators with a single dual output gearbox (A) mounted to one actuator and a distance (line shaft/drive shaft) coupling (B) to drive the second actuator - no additional bearing support needed. Mount the gearbox between the actuators for a more compact drive. The shorter coupling allows for higher speeds.





▶ LINEAR MOUNT: LINEAR SLIDE KIT (LSK)

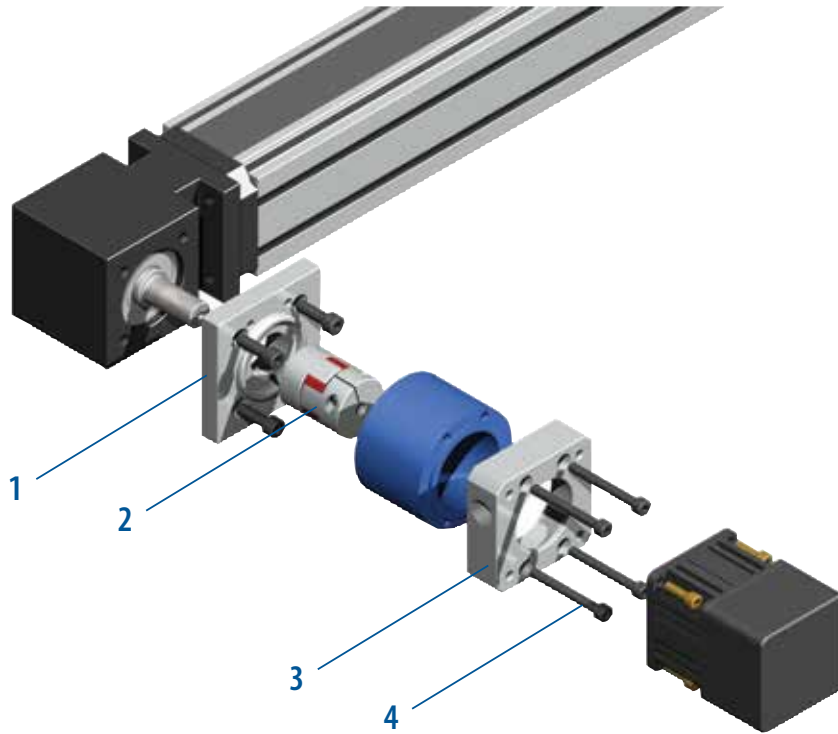
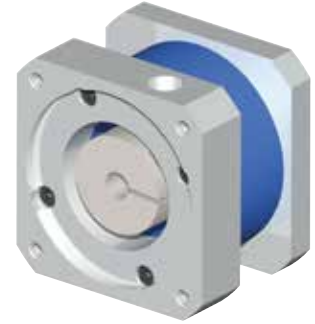
GAM can.

If you don't see exactly what you need, let us know. We can modify the LSK to meet your needs.

Linear Slide Kit (LSK)

Our no-hassle solution for mounting linear slides to motors and gearboxes is our LSK (Linear Slide Kit.) It can be customized to any motor or gearbox and linear slide. A coupling is included – bellows or elastomer. The LSK is readily available and comes complete with mounting hardware. You just need to tighten the bolts.

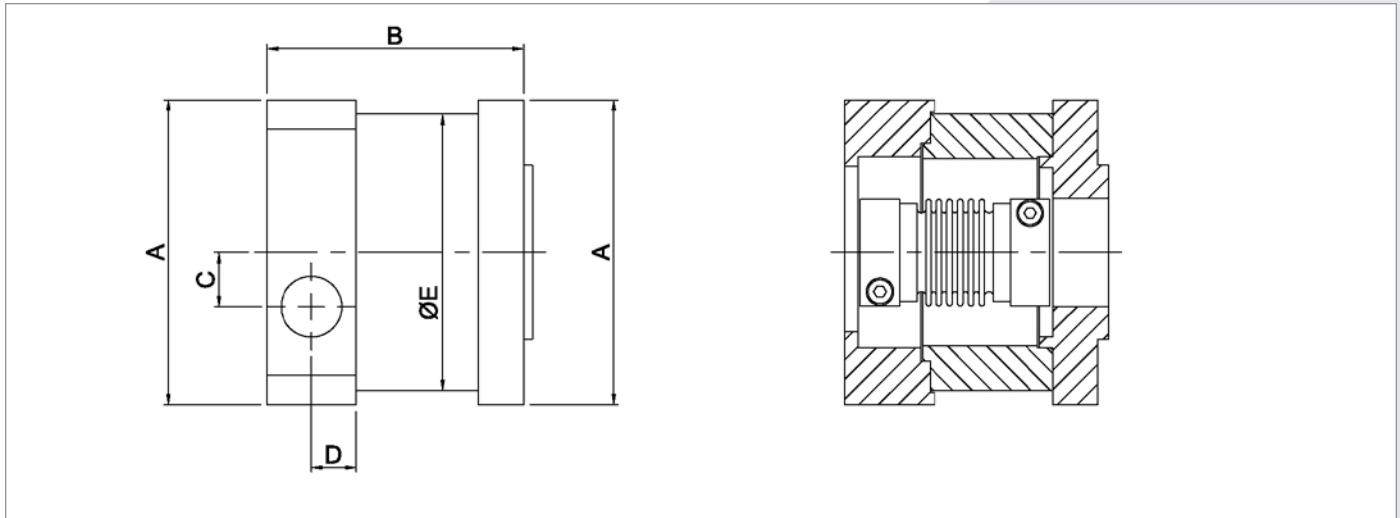
- A customized mounting solution without the long lead times
- Three sizes
- Quick delivery
- Reasonably priced
- GAM provides all engineering and design for your application



Just tell us what motor and what module you want to mount and GAM will take care of all the engineering.

- | | |
|---|--|
| <p>1. Slide Adapter Flange
Custom adapter for any linear slide module</p> <p>2. Coupling
Custom machined coupling with or without keyways</p> | <p>3. Motor Adapter Flange
Custom adapter for any servo motor</p> <p>4. Hardware
All mounting hardware provided in kit</p> |
|---|--|

▶ LINEAR MOUNT: LINEAR SLIDE KIT (LSK)

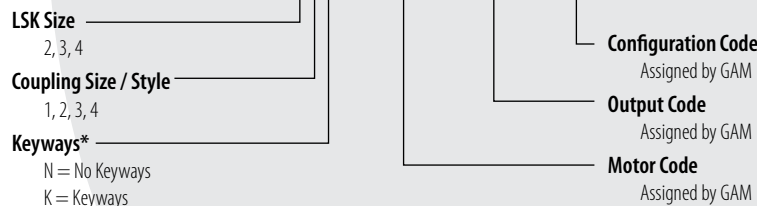


	Coupling Type	Rated Torque Nm (lb-in)	Min Shaft Diameter mm (in)	Max Shaft Diameter mm (in)	Coupling Stiffness 10 ³ Nm/rad (lb-ft/deg)	Coupling Inertia 10 ⁻³ kgm ⁻² (lb-in ⁻²)	A min mm (in)	B min mm (in)	E mm (in)
LSK21	Bellows	4 (35)	3 (0.12)	14* (0.55)	1.8 (23)	0.003 (0.01)	70 (2.75)	62 (2.44)	63.5 (2.50)
LSK22	Bellows	8 (71)	6 (0.24)	19.05* (0.75)	6.5 (84)	0.02 (0.07)	70 (2.75)	70 (2.75)	63.5 (2.50)
LSK23	Elastomer	8 (71)	6 (0.24)	16* (0.63)	0.16 (2.1)	0.01 (0.03)	70 (2.75)	62 (2.44)	63.5 (2.50)
LSK31	Elastomer	15 (133)	9.53 (0.375)	19.05* (0.75)	0.82 (10.6)	0.03 (0.10)	88.9 (3.50)	74 (2.91)	88.9 (3.50)
LSK32	Bellows	25 (221)	9.53 (0.375)	28* (1.10)	12 (154)	0.09 (0.31)	88.9 (3.50)	81 (3.19)	88.9 (3.50)
LSK33	Elastomer	30 (266)	12.7 (0.50)	26* (1.02)	1.4 (18)	0.09 (0.31)	88.9 (3.50)	74 (2.91)	88.9 (3.50)
LSK41	Bellows	50 (443)	15 (0.59)	35* (1.38)	22 (282)	0.22 (0.75)	120 (4.72)	86 (3.39)	114.3 (4.50)
LSK42	Elastomer	60 (531)	15 (0.59)	29* (1.14)	2.1 (27)	0.18 (0.62)	120 (4.72)	86 (3.39)	114.3 (4.50)
LSK43	Bellows	125 (1106)	16 (0.625)	44* (1.73)	44 (565)	0.75 (2.56)	120 (4.72)	95 (3.74)	114.3 (4.50)
LSK44	Elastomer	150 (1328)	22 (0.87)	38.1* (1.50)	3.6 (46)	0.38 (1.30)	120 (4.72)	105 (4.13)	114.3 (4.50)

* An extra adapter may be required for a C-face mounting (motor or gearbox side only)

TYPE CODES FOR LSK SERIES

Example: LSK-32K - M0000 - H0000 - C0000





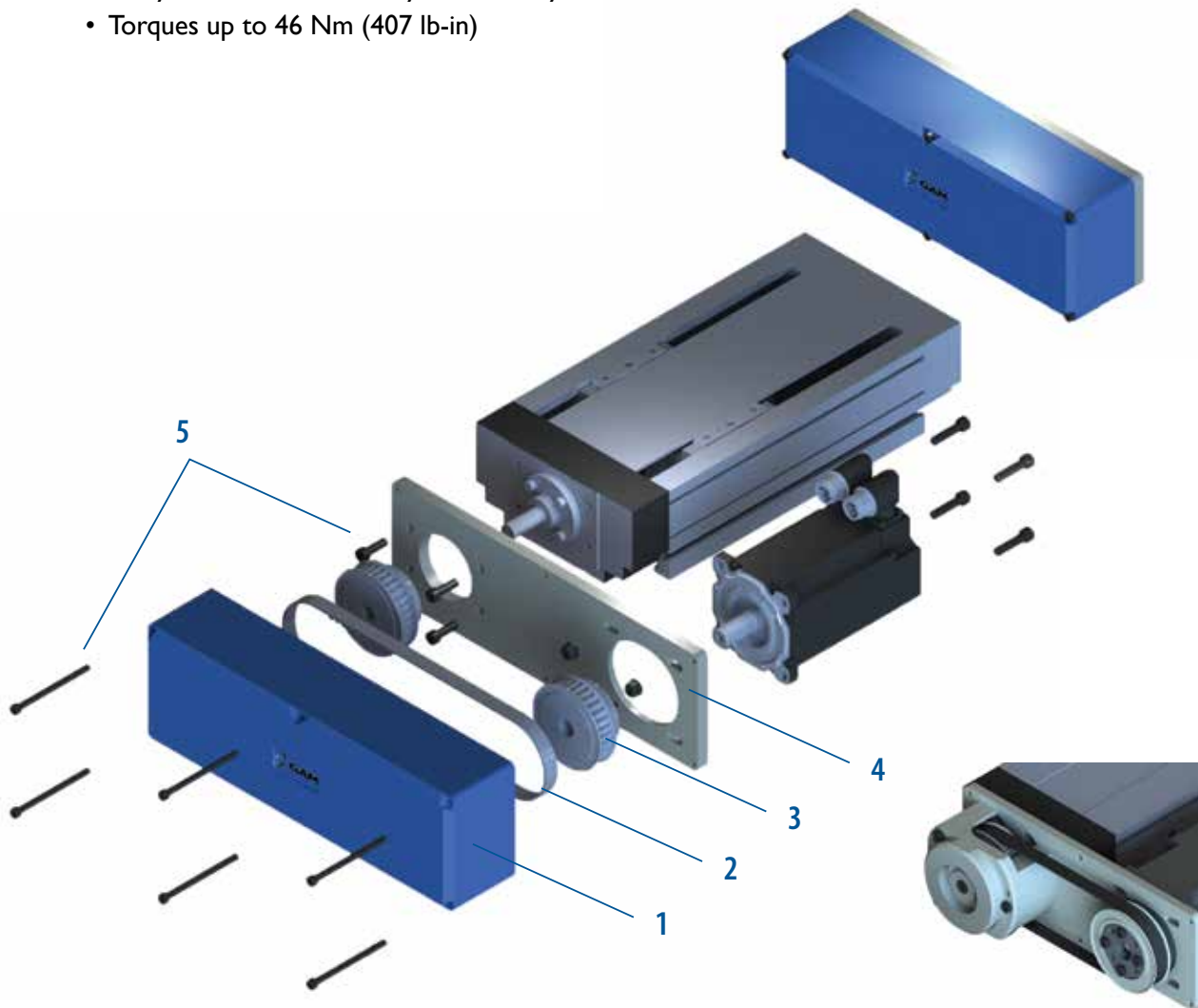
▶ LINEAR MOUNT: PARALLEL MOUNT KIT (PMK)

Parallel Mount Kit (PMK)

The innovative PMK (Parallel Mount Kit) series helps save space and reduce the overall length of an actuator by bringing the motor parallel to the ball screw. Unlike similar products available on the market, the PMK was designed for flexibility enabling you to connect any motor to any linear ball screw actuator.

Features

- 4 frame sizes
- Easily mounted horizontally or vertically
- Torques up to 46 Nm (407 lb-in)



Bearing Support comes standard on all PMK31

1. Housing

Machined aluminum and anodized

2. Belt

High torque rubber timing belt

3. Pulleys

Low inertia and custom machined

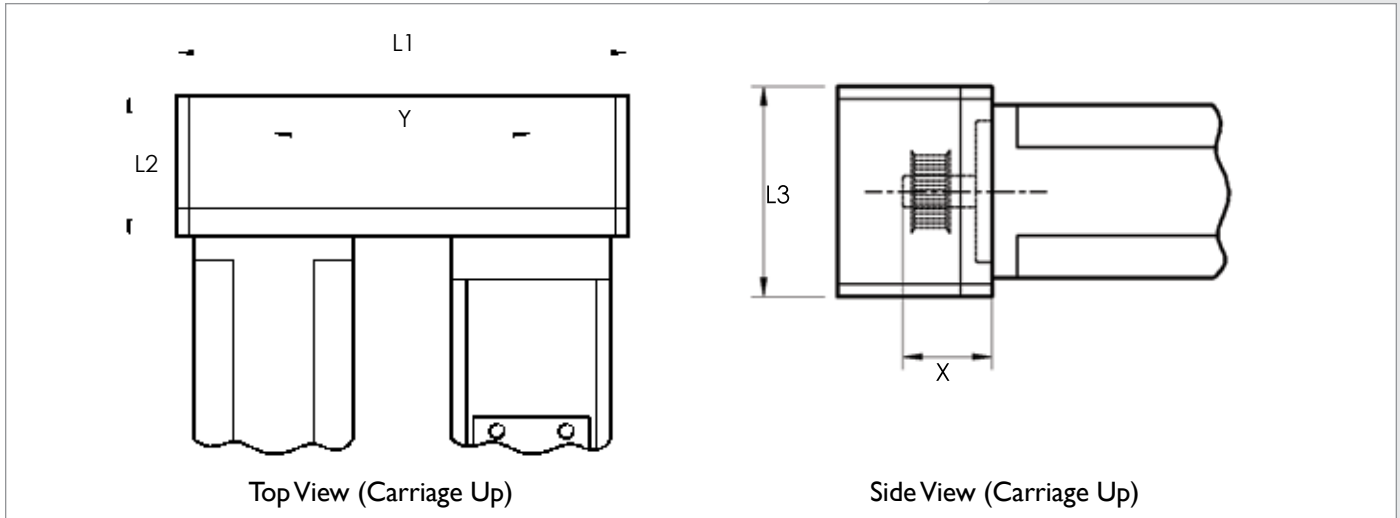
4. Adapter Flange

Designed specifically for any linear ball screw actuator and motor

5. Hardware

All mounting hardware provided in kit

▶ LINEAR MOUNT: PARALLEL MOUNT KIT



Size	Maximum Output Torque Nm (lb-ins)	Shaft Diameter Range mm (in)		X Maximum Shaft Length mm (in)	Y Center to Center mm (in)	Maximum Motor Bolt Circle mm (in)	L1 mm (in)	L2 mm (in)	L3 mm (in)	Maximum Speed rpm	Pulley Ratio	Recommended Belt Pull** N (lb)	Belt Tension N (lb)	Inertia x10 ⁻³ kgm ² (x10 ⁻³ lb-ft ²)
31	2.4 (21.2)	5 (0.197)	14 (0.551)	55 (2.165)	126 (4.961)	75 (2.953)	215 (8.465)	66 (2.598)	76.2 (3.000)	6000	1:1	70 (15.7)	35 (7.87)	0.11 (2.44)
41	7 (62.0)	8 (0.315)	22 (0.866)	70 (2.756)	180 (7.087)	100 (3.937)	290 (11.417)	85 (3.346)	101.6 (4.000)	6000	1:1	190 (42.7)	95 (21.4)	0.55 (13.1)
51	23 (203.6)	10 (0.394)	25.4 (1.000)	80 (3.150)	248 (9.764)	130 (5.118)	390 (15.354)	98 (3.858)	127 (5.000)	6000	1:1	452 (101.6)	226 (50.8)	1.49 (35.1)
61	46 (407.1)	14 (0.551)	38.1 (1.500)	90 (3.543)	280 (11.024)	165 (6.496)	450 (17.716)	111 (4.370)	152.4 (6.000)	6000	1:1	764 (171.8)	382 (85.9)	5.40 (128)

PMK

Notice

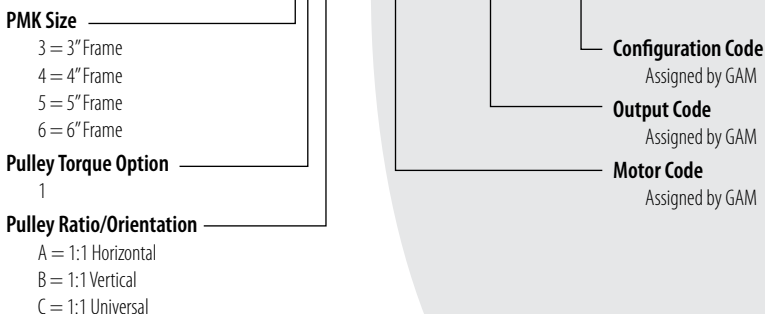
*The PMK adapter plate may not be flush with the bottom of the motor or actuator. If this is an issue, please contact GAM.

**Belt pull required to tension the pulley assembly may exceed radial load capacity of the actuator and must be considered when selecting a PMK. Contact GAM for a bearing support option.

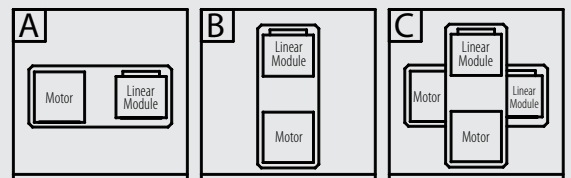
PMK Efficiency = 98%

TYPE CODES FOR PMK SERIES

Example: PMK31C - M0000 - H0000 - C0000



Mounting Orientation Options



* Universal Mounting Orientation "C" is standard unless unavailable.

* Note: View is normal to input of PMK (Carriage up)