

Standard AC Motors

LS Linear Heads

Overview, Product Series

Constant Speed Motors

Three-Phase Induction Motors

Single-Phase Induction Motors

Reversible Motors

Electromagnetic Brake Motors

Clutch & Brake Motors

Low-Speed Synchronous Motors

Torque Motors

Watertight, Dust-Resistant Motors

Right-Angle Gearheads

LS Linear Heads

Linear Heads

Brake Pack

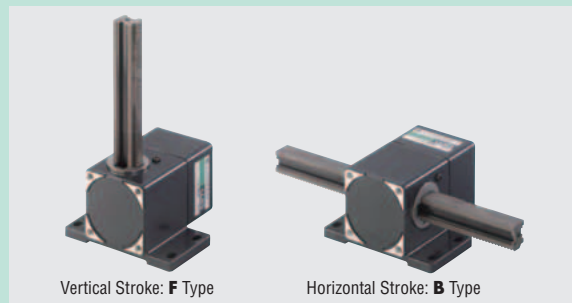
Accessories

Installation

LS Linear Heads

For details on this product please refer to our website.
www.orientalmotor.com/catalog

For detailed information about regulations and standards, please see the Oriental Motor website.



View Expanded Product Information, Specifications, CAD, Accessories & more online. Visit www.orientalmotor.com/catalog or use the QR code and select "LS Linear Heads".

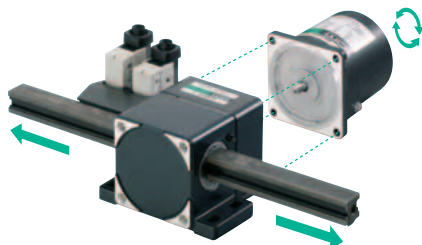
- Combined with various motors, linear motion can be achieved easily.
- Simple operations such as push, pull, lift and lower.
- A high strength linear head that utilizes a square rack.

Overview

Easy to Achieve Linear Motion with Standard AC Motors

A "linear head" can generate linear motion simply by combining a standard AC motor.

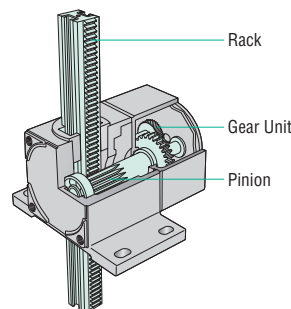
Linear heads can be combined with a wide range of standard AC motors and are also available with many different stroke lengths for use in simple operations such as push, pull, lift and lower.



Structure

The motor's rotational force (torque) is decelerated by the speed reduction unit (gears) inside the linear head, amplified, and converted into linear motion by the rack-and-pinion unit. Reliable linear motion can be created with this simple structure.

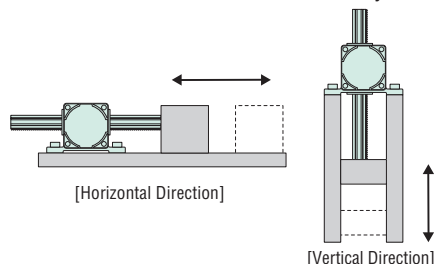
The traveling direction of the rack is determined by the rotation direction of the motor. Thus, by changing the motor's rotation direction at both ends of the rack, the rack can be reversed.



Features

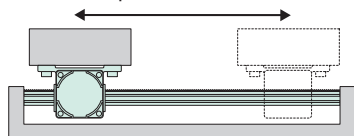
A Linear Motion Mechanism can be Easily Achieved

It is quite challenging to design a linear motion mechanism using a ball screw or belt mechanism. With a linear head, both horizontal and vertical direction linear motion mechanism can easily be achieved.



Effective Utilization of Space

With a linear head, the tapped holes at both ends of the rack can be fixed to let the head travel. This contributes to space saving for equipment in which motor space is limited.



High Transportable Mass

We have achieved a max. transportable mass to approximately 1.5 times the conventional high transportable mass. (Actual numbers may differ depending on the basic speed.)

	0	50 kg (110 lb.)	100 kg (220 lb.)
4LS Type			100 kg (220 lb.)
2LS Type	30 kg (66 lb.)		

Ample Stroke Variation

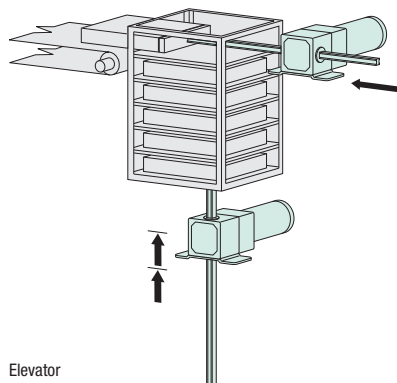
Select the stroke according to your application.

Type / Stroke	Unit: mm (in.)									
	100 (3.94)	200 (7.87)	300 (11.81)	400 (15.75)	500 (19.69)	600 (23.62)	700 (27.56)	800 (31.50)	900 (35.43)	1000 (39.37)
4LS Type	●	●	●	●	●	●	●	●	●	●
2LS Type	●	●	●	●	●	●	●	●	—	—

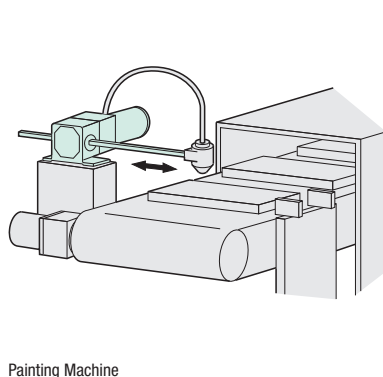
Applications

The time and labor used to design a mechanism for linear motion can be eliminated. These products can be used in various applications as shown in the figures by using AC motors and simple electrical wiring.

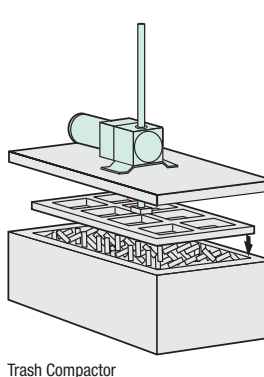
Multiple-Point Stop



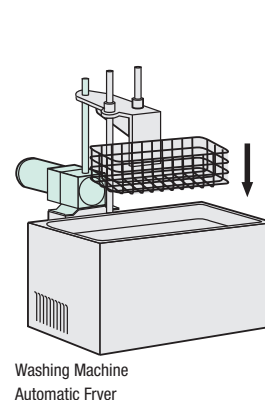
Repetitive Action



Pressing Action

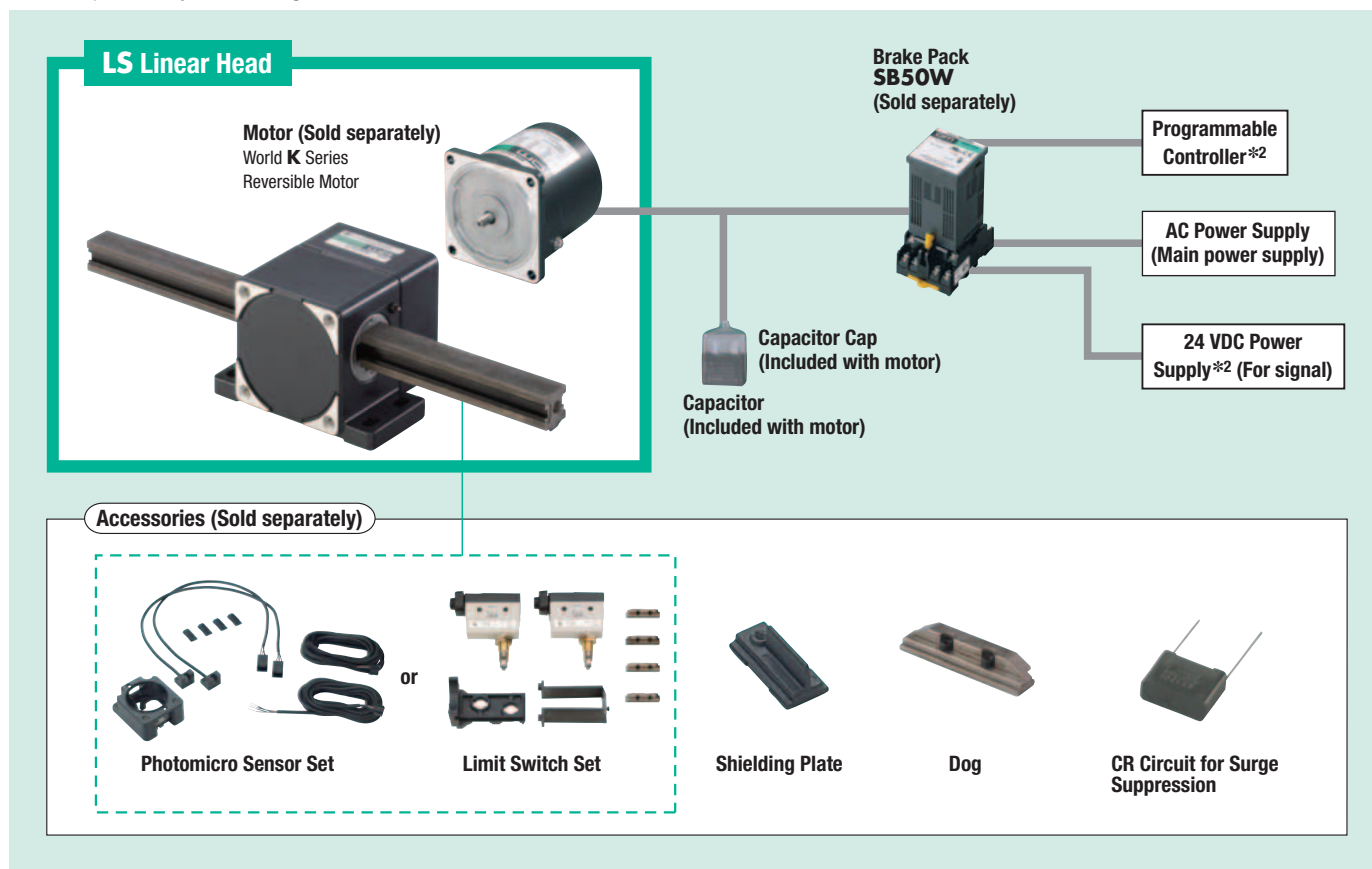


Transfer Action



System Configuration

An example of a system configuration with the **LS** linear head and a standard AC motor World **K** Series.



Product Number

2 LS F 10 - 2

① ② ③ ④ ⑤

①	2: Can be combined with GN pinion motors of frame size 60 mm (2.36 in.) 4: Can be combined with GN pinion motors of frame size 80 mm (3.15 in.)
②	LS: LS Linear Head
③	Traveling Direction of Rack F : The rack travels vertically to the mounting flange B : The rack travels horizontally to the mounting flange
④	Basic Speed of Rack 10 : 10 mm/s (0.39 inch/s) 20 : 20 mm/s (0.79 inch/s) 45 : 45 mm/s (1.77 inch/s)
⑤	Stroke 1 : 100 mm (3.94 in.) 2 : 200 mm (7.87 in.) 3 : 300 mm (11.81 in.) 4 : 400 mm (15.75 in.) 5 : 500 mm (19.69 in.) 6 : 600 mm (23.62 in.) 7 : 700 mm (27.56 in.) 8 : 800 mm (31.50 in.) 9 : 900 mm (35.43 in.) 10 : 1000 mm (39.37 in.)

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Speed
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Induction
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Electromagnetic
Brake Motors

Clutch &
Brake Motors

Low-Speed
Synchronous
Motors

Torque
Motors

Watertight,
Dust-Resistant
Motors

Right-Angle
Gearheads

Linear
Heads

Brake Pack

Accessories

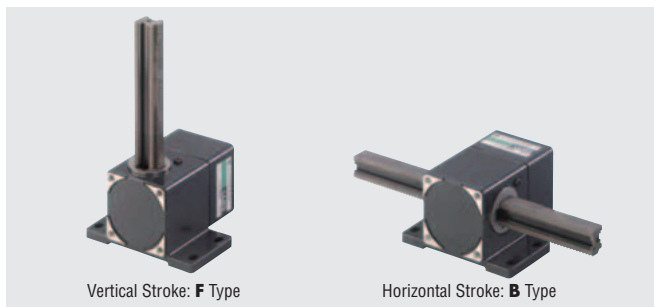
Installation

LS Linear Heads

2LS Type

Maximum Transportable Mass: 30 kg (66 lb.)

The maximum transportable mass varies with basic speed and the motor combined.



Vertical Stroke: **F** Type

Horizontal Stroke: **B** Type

Product Line

Basic Speed mm/s (inch/s)	Stroke mm (inch)	Product Name	List Price
10 (0.39)	100 (3.94)	2LS□10-1	\$293.00
	200 (7.87)	2LS□10-2	\$300.00
	300 (11.81)	2LS□10-3	\$300.00
	400 (15.75)	2LS□10-4	\$306.00
	500 (19.69)	2LS□10-5	\$313.00
	600 (23.62)	2LS□10-6	\$326.00
	700 (27.56)	2LS□10-7	\$352.00
	800 (31.50)	2LS□10-8	\$405.00
20 (0.79)	100 (3.94)	2LS□20-1	\$280.00
	200 (7.87)	2LS□20-2	\$286.00
	300 (11.81)	2LS□20-3	\$286.00
	400 (15.75)	2LS□20-4	\$293.00
	500 (19.69)	2LS□20-5	\$300.00
	600 (23.62)	2LS□20-6	\$313.00
	700 (27.56)	2LS□20-7	\$339.00
	800 (31.50)	2LS□20-8	\$392.00
45 (1.77)	100 (3.94)	2LS□45-1	\$273.00
	200 (7.87)	2LS□45-2	\$280.00
	300 (11.81)	2LS□45-3	\$280.00
	400 (15.75)	2LS□45-4	\$286.00
	500 (19.69)	2LS□45-5	\$293.00
	600 (23.62)	2LS□45-6	\$306.00
	700 (27.56)	2LS□45-7	\$333.00
	800 (31.50)	2LS□45-8	\$385.00

● Enter **F** or **B** (traveling direction of rack) in the box □ within the product name.

The following items are included with each product.
Linear Head, Operating Manual

Applicable Products

Application	Applicable Product	Single-Phase 110/115 VAC	Single-Phase 220/230 VAC	Three-Phase 220/230 VAC	Page
Constant Speed	Reversible motors*1	2RK6GN-AW2U	2RK6GN-CW2E	-	C-147
Position Holding	Electromagnetic brake motors*1	2RK6GN-AW2MU	2RK6GN-CW2ME	2IK6GN-SW2M	C-155
Pushing*2	Torque motors	2TK3GN-AW2U	2TK3GN-CW2E	-	C-171

*1 Single-phase motors can be combined with the brake pack **SB50W** capable of instantaneous stop, bi-directional operation and electromagnetic brake control.

Brake pack **SB50W** → Page C-191

*2 Do not hit and stop an object because the output torque becomes very large while using a motor in a constrained operation. It may cause damage to the linear head due to the impact.

Note

● When the decimal gearhead **2GN10XS** is used, use the installation screws included with the decimal gearhead.

For details (specifications, characteristics, dimensions and others) on these products please refer to either to our website, contact technical support or your nearest Oriental Motor sales office.

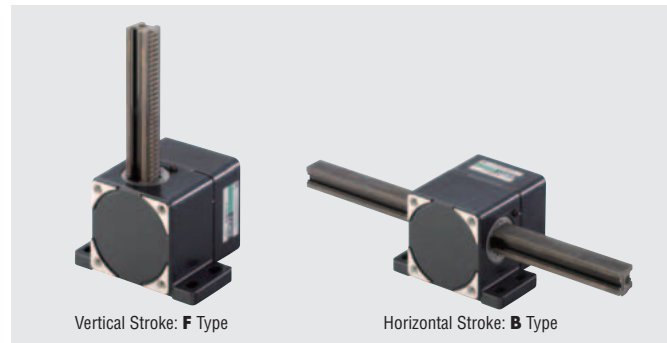
www.orientalmotor.com/catalog

LS Linear Heads

4LS Type

Maximum Transportable Mass: 100 kg (220 lb.)

The maximum transportable mass varies with basic speed and the motor combined.



Vertical Stroke: **F** Type

Horizontal Stroke: **B** Type

Product Line

Basic Speed mm/s (inch/s)	Stroke mm (inch)	Product Name	List Price
10 (0.39)	100 (3.94)	4LS□10-1	\$358.00
	200 (7.87)	4LS□10-2	\$364.00
	300 (11.81)	4LS□10-3	\$364.00
	400 (15.75)	4LS□10-4	\$371.00
	500 (19.69)	4LS□10-5	\$371.00
	600 (23.62)	4LS□10-6	\$384.00
	700 (27.56)	4LS□10-7	\$397.00
	800 (31.50)	4LS□10-8	\$463.00
	900 (35.43)	4LS□10-9	\$490.00
	1000 (39.37)	4LS□10-10	\$516.00
20 (0.79)	100 (3.94)	4LS□20-1	\$339.00
	200 (7.87)	4LS□20-2	\$346.00
	300 (11.81)	4LS□20-3	\$346.00
	400 (15.75)	4LS□20-4	\$352.00
	500 (19.69)	4LS□20-5	\$352.00
	600 (23.62)	4LS□20-6	\$366.00
	700 (27.56)	4LS□20-7	\$379.00
	800 (31.50)	4LS□20-8	\$445.00
	900 (35.43)	4LS□20-9	\$471.00
	1000 (39.37)	4LS□20-10	\$498.00
45 (1.77)	100 (3.94)	4LS□45-1	\$319.00
	200 (7.87)	4LS□45-2	\$326.00
	300 (11.81)	4LS□45-3	\$326.00
	400 (15.75)	4LS□45-4	\$333.00
	500 (19.69)	4LS□45-5	\$333.00
	600 (23.62)	4LS□45-6	\$346.00
	700 (27.56)	4LS□45-7	\$359.00
	800 (31.50)	4LS□45-8	\$425.00
	900 (35.43)	4LS□45-9	\$451.00
	1000 (39.37)	4LS□45-10	\$478.00

● Enter **F** or **B** (traveling direction of rack) in the box □ within the product name.

The following items are included with each product.
Linear Head, Operating Manual

Applicable Products

Application	Applicable Product	Single-Phase 110/115 VAC	Single-Phase 220/230 VAC	Three-Phase 220/230 VAC	Page
Constant Speed	Reversible motors*1	Lead wire type	4RK25GN-AW2U	4RK25GN-CW2E	C-147
		Terminal box type	4RK25GN-AW2TU	4RK25GN-CW2TE	
Position Holding	Electromagnetic brake motors*1	4RK25GN-AW2MU	4RK25GN-CW2ME	4IK25GN-SW2M	C-155
Pushing*2	Torque motors	4TK10GN-AW2U	4TK10GN-CW2E	-	C-171

*1 Single-phase motors can be combined with the brake pack **SB50W** capable of instantaneous stop, bi-directional operation and electromagnetic brake control.
Brake Pack **SB50W** → Page C-191

*2 Do not hit and stop an object because the output torque becomes very large while using a motor in a constrained operation. It may cause damage to the linear head due to the impact.

Note

● When the decimal gearhead **4GN10XS** is used, use the installation screws included with the decimal gearhead.



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Three-Phase Induction Motors

Single-Phase Induction Motors

Reversible Motors

Electromagnetic Brake Motors

Clutch & Brake Motors

Low-Speed Synchronous Motors

Torque Motors

Watertight, Dust-Resistant Motors

Right-Angle Gearheads

Linear Heads

Brake Pack

Accessories

Installation

