



Single-axis Robot / Motor-less Single-axis Actuator

Robonity series

Find exactly what you need from our extensive lineup!

Intuitive
Intuitive to use

Durability
Yamaha's unique reliability

Economy
Excellent cost performance



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 **Safety Precautions**

Read the instruction manual thoroughly to operate the robot in a correct manner.

Find exactly what you need from our extensive lineup!



▶ ABAS

▶ LBAS

▶ ABAR

▶ LBAR

▶ NEW ABFS

▶ NEW LBFS

▶ AGXS

▶ LGXS

▶ NEW AGFS

▶ NEW LGFS

▶ NEW AGBS

▶ NEW LGBS

Advanced / Basic (Some Models)

»» Suitable for use in a wide range of operating environments

Equipped with a dust-resistant stainless steel top cover as standard. By attaching a pipe fitting for suction can be used in clean environments. Air purge function helps prevent foreign particles. Usable even without fittings attached.

Stainless sheet standard equipment

Slider (some models): roller type with low wear

Suction port standard equipment

Motor: IP67

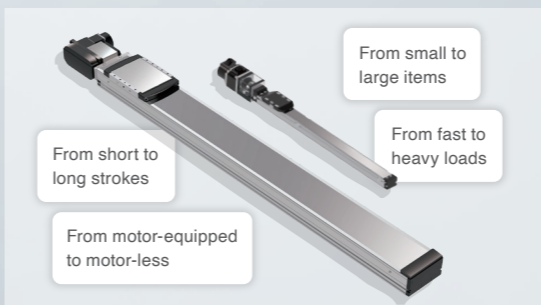
Supports suction simply by adding a fitting



»» Expanded lineup!

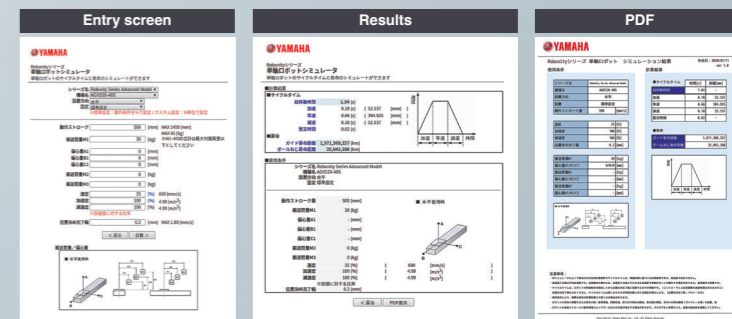
NEW

Choose the best model for any application scene.



»» Simple cycle time and service life calculation

The service life and cycle time can be calculated at the same time by simply entering the required information at the website. The result can be conveniently saved as PDF file.



»» Custom design supported!

Combine optimal axes for your application. Feel free to consult us for custom designs.



Products have passed strict evaluation criteria unique to "YAMAHA", a vehicle equipment manufacturer, that protects people's lives. Yamaha designs products with high longevity so that people are able to use them for a long time.

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\ Pursuit of ease of use /

Single-axis Robot **ABAS** **ABAR** **ABFS** **AGXS** **AGFS** **AGBS** / Robot Positioner

EP-01 series

- Same price as parallel I/O and industrial Ethernet
- Absolute battery function
- Support software is provided free of charge.
- Industry-leading compactness



EP-01-A10 EP-01-A30

Basic model

»» Guide rail and frame integrated — compact yet offering outstanding moment rigidity.



Slider type

▶▶ Low cost, yet excellent usability

Motor-equipped Single-axis Robot **ABAS**

- ▶ ABAS04
- ▶ ABAS05
- ▶ ABAS08
- ▶ ABAS12

Motor-less Motor-less Single-axis Actuator **LBAS**

- ▶ LBAS04
- ▶ LBAS05
- ▶ LBAS08
- ▶ LBAS12

- »» High rigidity
- »» Compact
- »» Low cost

Maximum payload	~ 115 kg
Maximum speed	300 - 1,800 mm/sec
Stroke	50 - 1,250 mm

Compact and high rigidity

Smaller than previous models while achieving higher rigidity.

	Previous model T6L	LBAS05/ABAS05	Previous model T9H	LBAS08/ABAS08
MY	35	59	86	221
MP	40	63	133	309
MR	50	103	117	343

(N · m)

Reduced installation workload

Reference surfaces on the side and knock pins on the bottom shorten design and assembly time.

Mountable from either top or bottom without removing exterior parts!

Easy maintenance

Greasing work can be performed easily without removing covers.

Rod type

▶▶ Built-in linear guide supporting radial loads

Motor-equipped Single-axis Robot **ABAR**

- ▶ ABAR04
- ▶ ABAR05
- ▶ ABAR08

Motor-less Motor-less Single-axis Actuator **LBAR**

- ▶ LBAR04
- ▶ LBAR05
- ▶ LBAR08

- »» High rigidity
- »» Compact

Maximum payload	~ 80 kg
Maximum speed	1,200 mm/sec
Stroke	50 - 800 mm

Integrated structure with built-in linear guide

Maintains straight motion even under radial loads thanks to built-in linear guide.

Rod non-rotation accuracy ±0°

Built-in guide suppresses rotational play. Maintains working accuracy of tools installed on rod tip.

Previous model SRD05	LBAR05/ABAR05
±0.05°	±0°

NEW

Low-profile type

▶▶ Contributes to downsizing of equipment by reducing total height

Motor-equipped Single-axis Robot **ABFS**

- ▶ ABFS03
- ▶ ABFS04
- ▶ ABFS05
- ▶ ABFS06
- ▶ ABFS07
- ▶ ABFS08
- ▶ ABFS10

Motor-less Motor-less Single-axis Actuator **LBFS**

- ▶ LBFS03
- ▶ LBFS04
- ▶ LBFS05
- ▶ LBFS06
- ▶ LBFS07
- ▶ LBFS08
- ▶ LBFS10

- »» Outstanding cross-sectional performance
- »» Compact and high lead compatible
- »» Cleanroom specification as standard

Maximum payload	~ 115 kg
Maximum speed	1,800 mm/sec
Stroke	50 - 1,250 mm

Allows equipment downsizing

Integrated low-profile aluminum frame & guide rail enable 20 - 43% height reduction compared to previous models. Its low overall height also contributes to making the entire system more compact.

Improved static allowable moment

Despite its thinner design, rigidity in pitching, yawing, and rolling directions has improved to approximately twice that of previous models. Delivers high positioning accuracy with a repeatability of ±0.005 mm and travel accuracy of ±0.02/800 mm.

Height dimension: Up to approx. 43% reduction compared to previous model.

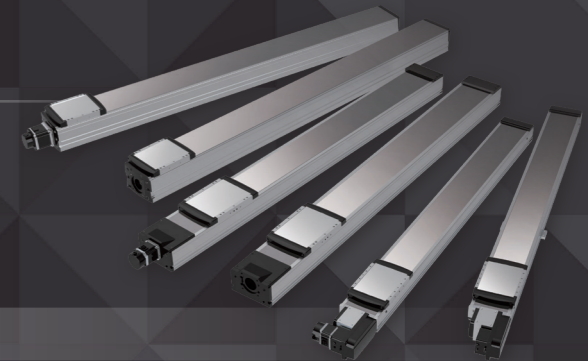
Rigidity: Compared to previous models, pitching / yawing / rolling rigidity improved by approx. 1.8x.

	Previous T9 series model	ABFS08
MY	86	249
MP	133	249
MR	117	393

(N · m)

Advanced model

» High-speed & high-precision — a high-performance, high-reliability model.



Slider type

» Equipped with precision-ground ball screw as standard - high reliability & durability.

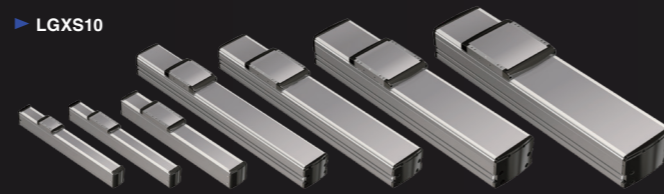
Motor-equipped Single-axis Robot AGXS

- ▶ AGXS05
- ▶ AGXS05L
- ▶ AGXS07
- ▶ AGXS10
- ▶ AGXS12
- ▶ AGXS16
- ▶ AGXS20



Motor-less Motor-less Single-axis Actuator LGXS

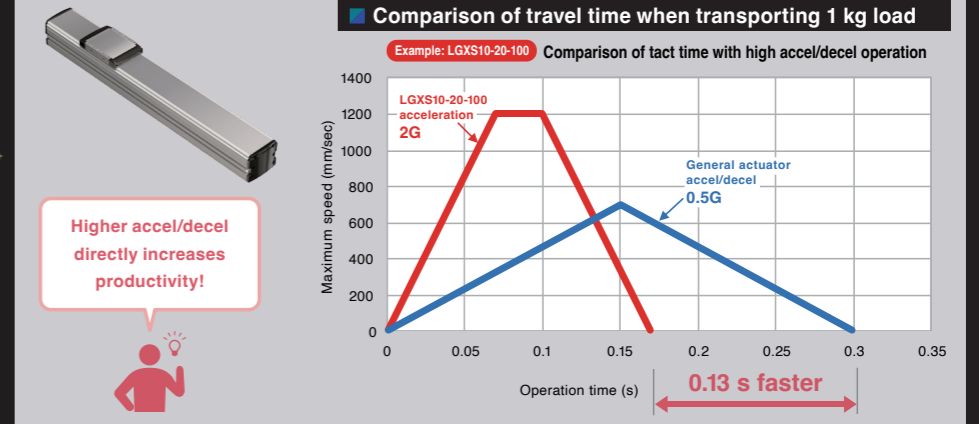
- ▶ LGXS05
- ▶ LGXS05L
- ▶ LGXS07
- ▶ LGXS10
- ▶ LGXS12
- ▶ LGXS16
- ▶ LGXS20



- » High precision (C5 accuracy grade)
- » High durability
- » Cleanroom specification as standard

Maximum payload	~ 160 kg
Maximum speed	2,400 mm/sec
Stroke	50 - 1,450 mm

» A clear difference! Effects of acceleration/deceleration speed!



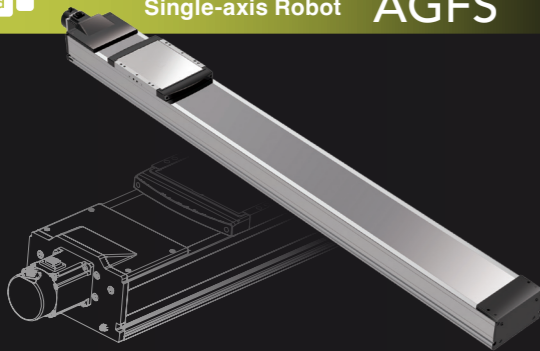
NEW

Long-stroke type

» Supports up to 200 kg — long-distance transport enabled by “optimal support mechanism” *Patent obtained

Motor-equipped Single-axis Robot AGFS

- ▶ AGFS14L
- ▶ AGFS14LH
- ▶ AGFS14
- ▶ AGFS14H
- ▶ AGFS17L
- ▶ AGFS17LH
- ▶ AGFS17
- ▶ AGFS17H



Motor-less Motor-less Single-axis Actuator LGFS

- ▶ LGFS14L
- ▶ LGFS14
- ▶ LGFS17L
- ▶ LGFS17



- » Highest payload in Yamaha's single-axis lineup
- » High precision & high durability
- » Cleanroom specification as standard

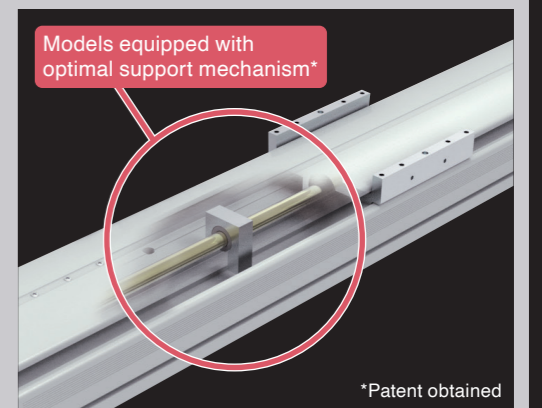
Maximum payload	200 kg (Horizontal) 100 kg (Vertical)
Maximum speed	2,400 mm/sec
Stroke	100 - 3,000 mm

High-speed transport enabled by optimal support mechanism

Long ball screws tend to vibrate at high speed, causing resonance and precision loss. Equipped with Yamaha's original patented optimal support mechanism to suppress vibration. Achieves max speed of 2,400 mm/s with wide-stroke capability.

Approx. twice the speed of previous model (FLIP-X GF type)

- ▶ AGFS14L / AGFS14LH
- ▶ AGFS17L / AGFS17LH
- ▶ LGFS14L / LGFS17L



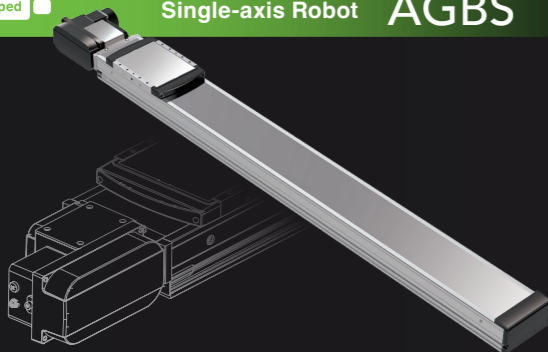
NEW

Timing-belt driven type

» Ideal for ultra-fast long-distance transport

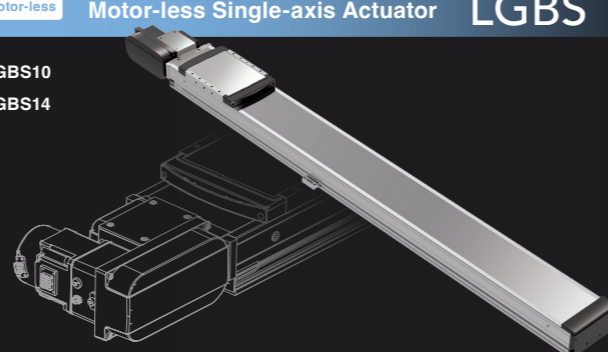
Motor-equipped Single-axis Robot AGBS

- ▶ AGBS10
- ▶ AGBS10H
- ▶ AGBS14
- ▶ AGBS14H



Motor-less Motor-less Single-axis Actuator LGBS

- ▶ LGBS10
- ▶ LGBS14



- » Fastest in Yamaha's single-axis lineup
- » Increased motor output
- » Cleanroom specification as standard

Maximum payload	~ 60 kg
Maximum speed	3,750 mm/sec
Stroke	150 - 4,000 mm

Achieves maximum transport speed of 3,750 mm/s

With enhanced motor output & high lead design. Supports payload up to 60 kg (with 400 W motor).

Supports long-stroke applications

Achieves max stroke of 4,000 mm (approx. 1.23x previous model FLIP-X B14H). Long-distance transfer between processes in various production lines.

