



YASKAWA SEMICONDUCTOR PROCESSING EQUIPMENT ULTRA-PRECISION XY AIR BEARING STAGE



Ultimate Solution for
Ultra-precision Positioning

Ceramic air bearing slides

+

Coreless linear motor

The XY Air Bearing Stage combines the nano-accuracy in traveling of the air bearing slides based on their averaging effect with the high speed, high response, zero cogging, and low-force ripple of the coreless linear motor for ultra-precision positioning.

Merits

High-precision Positioning at High Speeds

- Complete non-contact direct drives with air bearing slides and linear motors.
- High-response direct drive with a coreless-linear motor.
- No cogging torque and no magnetic attraction minimize speed irregularities and the force ripple.

Air Bearing Slides with High-accuracy Guiding

- Yaw / Pitch (Accuracy of attitude control): 2 s (= 10 μ rad)
- Influence on accuracy by upper axis motion: 1 s max.
- Straightness: Max. 1 μ m per stroke of 300 mm
- High reliability with the averaging effect of the air bearing slides.
- The vacuum preloaded structure for pitching and rolling pads minimizes gap irregularities.

Clean and Maintenance-free

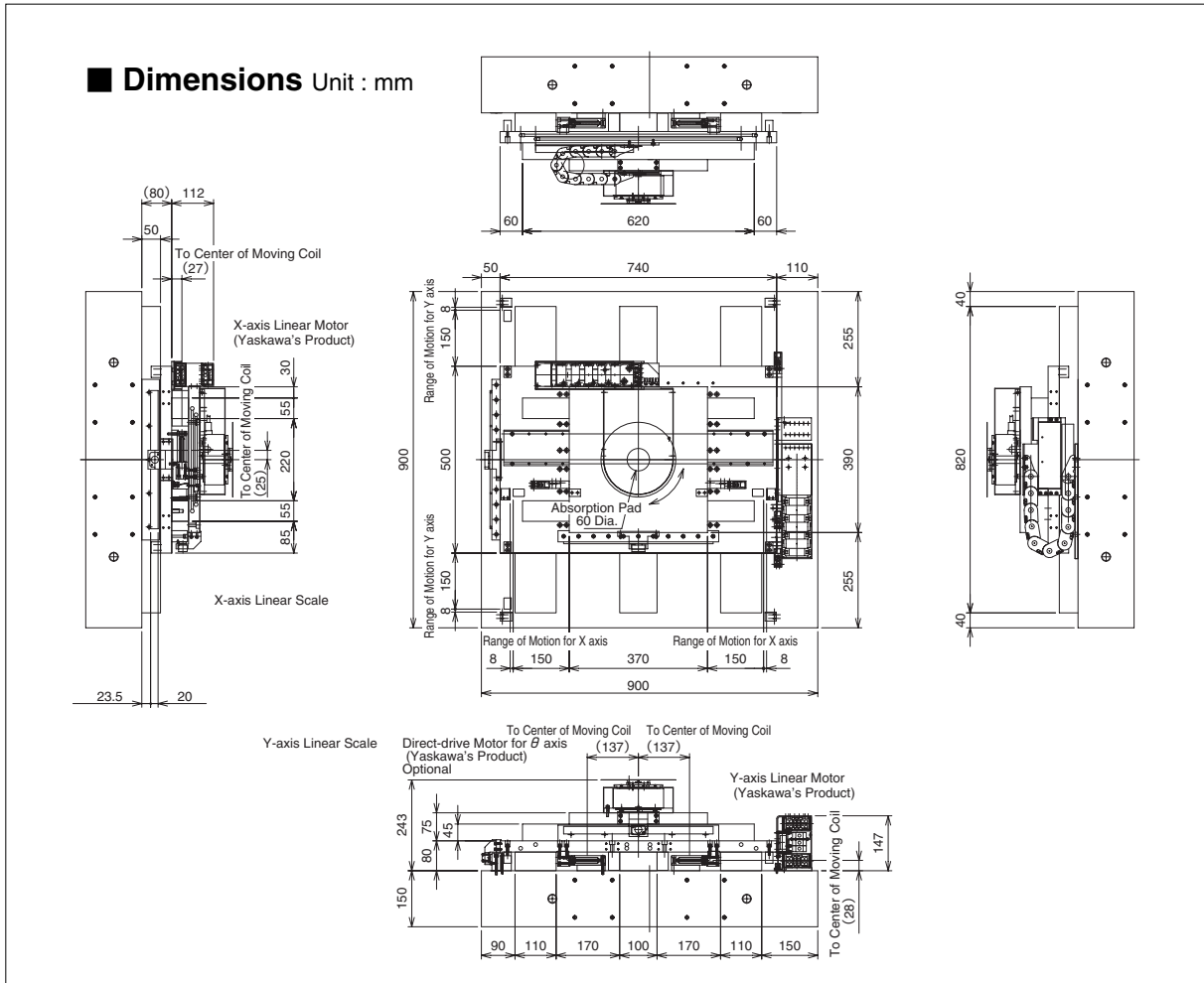
- Non-contact direct drives keep environments clean.
- Non-contact air bearings require no lubrication.
- No parts to wear out so high precision can be maintained over many years.

Specifications

Model	Ultra-precision	Precision
Resolution of Scale	0.07 nm	0.016 μ m
Stroke	300 (X) / 300 (Y) mm	
Maximum Speed	300 mm/s	
Repeatability	± 10 nm	± 0.1 μ m
Absolute Positioning Accuracy	1 μ m / 300 mm	3 μ m / 300 mm
Running Accuracy (Pitch)	10.0 (X) / 10.0 (Y) μ rad	
Running Accuracy (Yaw)	10.0 (X) / 10.0 (Y) μ rad	
Speed Stability	± 0.05 % max.	± 1.0 % max.
Payload	20 kg	

Note: Specifications may differ according to installation and environmental conditions. For details, contact your YASKAWA representative.

ULTRA-PRECISION XY AIR BEARING STAGE



Sales Department

HEAD OFFICE

2-1 Kurosaki-Shiroishi, Yahatanisi-ku, Kitakyushu-shi, 806-0004 JAPAN
Phone 81-93-645-7745 Fax 81-93-645-7746

MOTOMAN INC. HEADQUARTERS

805 Liberty Lane West Carrollton, OH 45449, U.S.A.
Phone 1-937-847-6200 Fax 1-937-847-6277

MOTOMAN ROBOTICS EUROPE AB

Franska Vagen 1039854, Kalmar, Sweden
Phone 46-480-417800 Fax 46-480-417999

MOTOMAN ROBOTEC GmbH

Kammerfeldstraße 1, 85391 Allershausen, Germany
Phone 49-8166-90100 Fax 49-8166-90103

YASKAWA ELECTRIC KOREA CORPORATION

1F, Samyang Bldg. 89-1, Shinchun-dong, Donk-ku, Daegu, Korea
Phone 82-53-745-7844 Fax 82-2-784-8495

YASKAWA ELECTRIC (SINGAPORE) PTE. LTD.

151 Lorong Chuan, #04-01, New Tech Park Singapore 556741, Singapore
Phone 65-6282-3003 Fax 65-6289-3003

MIRLE AUTOMATION Co.

No.3, R&D Road II, Science-Based Industrial Park, Hsinchu, 30077, Taiwan
Phone 886-3-578-3280-500 Fax 886-3-578-7426

SHOUGANG MOTOMAN ROBOT CO., LTD.

7, Yongchang-North Street, Beijing Economic & Technological
Development Area, Beijing 100076, P.R. China
Phone 86-10-6788-0541 Fax 86-10-6788-2878



YASKAWA ELECTRIC CORPORATION

YASKAWA

In the event that the end user of this product is to be the military and said product is to be employed in any weapons systems or the manufacture thereof, the export will fall under the relevant regulations as stipulated in the Foreign Exchange and Foreign Trade Regulations. Therefore, be sure to follow all procedures and submit all relevant documentation according to any and all rules, regulations and laws that may apply.

LITERATURE NO. CHEP CM30900 00B

Printed in Japan November 2004 03-12

04-7

Specifications are subject to change without notice for ongoing product modifications and improvements.

© 2003-2004 YASKAWA ELECTRIC CORPORATION. All rights reserved.

Printed on 100% recycled paper with soybean oil ink.

