

IAI

Quality and Innovation



E A S Y
A U T O M A T I O N

SCARA Robots

Integrated Systems

Linear Actuators

ROBO Cylinders

vision • dispensing • pick & place • insertion • sealing • testing & more

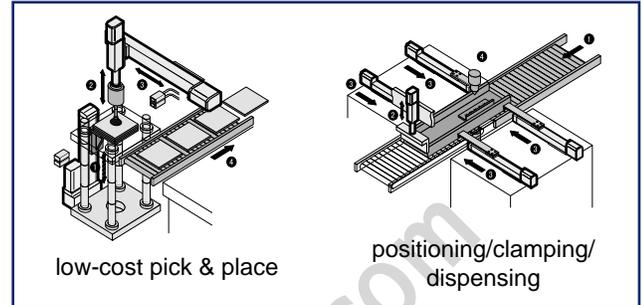
www.intelligentactuator.com

At last, there's a smart and cost-effective way to escape the hassles of air cylinders and get full control over your production. Coming complete with controller (and no air supply!), the **electric** ROBO Cylinder family of products are fully programmable, extremely affordable, easy-to-use, and can save you up to 90% in running costs compared with pneumatic cylinders.

Be the first to build a completely airless system... before your competition beats you to it!

Electrifying Advantages

- ✓ Custom control over position, speed, acceleration / deceleration & torque
- ✓ Complete systems starting at prices as low as \$590!
- ✓ No programming necessary
- ✓ Maximum 64 positioning points
- ✓ Repeatability of up to $\pm 0.02\text{mm}$
- ✓ Maximum programmable push force of 873N
- ✓ Stepper & servo motors available



low-cost pick & place

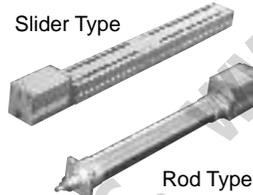
positioning/clamping/
dispensing

View more application videos at
www.intelligentactuator.com

Note: Maximum possible figures are listed for payload and speed. Actual figures will vary according to your application environment.

Easy-to-use. Economical. ERC series

Slider Type



Rod Type

	Slider Type		Rod Type	
	SA6	SA7	RA54	RA64
Max. Stroke (mm)	600	600	300	300
Max. (H) Payload (kg)	12	20	—	—
Max. (V) Payload (kg)	6	10	18	25
Max. Speed (mm/sec)	600	450	600	450

High Payload. High Push Force. RCP2 series



	Slider Type					Rod Type				
						Standard Type			Dustproof / Water Splash-proof Type (IP65)	
	SA5	SA6	SA7	SS/SSR	SM/SMR	RXA	RSA	RMA	RSW	RMW
Max. Stroke (mm)	500	600	800	600	1000	200	300	300	300	300
Max. (H) Payload (kg)	8	12	40	30	55	—	—	—	—	—
Max. (V) Payload (kg)	4.5	6	15	12/10	20	10	19	26	19	26
Max. Speed (mm/sec)	600	600	533	600	666/600	187	458	450	450	320

High Speed. High Precision. RCS series



	Slider Type					Rod Type			Flat Type
						Short Type	Slim Type		
	SA4	SA5	SA6	SS/SSR	SM/SMR	RB75	RA35	RA45/RA55	F45/F55
Max. Stroke (mm)	300	500	600	600	1000	300	150	200/300	200/300
Max. (H) Payload (kg)	5	8	12	30	60	—	—	—	—
Max. (V) Payload (kg)	4.5	4	6	8	12	19.5	6.5	18	18
Max. Speed (mm/sec)	665	800	800	600	1000	800	500	800	800

ROBO GRIPPER



	GRS	GRM
Max. Stroke (mm)	10	14
Max. Push Force (N)	21	80
Max. Speed (mm/sec)	33.3	36.7

ROBO ROTARY



	RTB	RTC
Operating Range (°)	330	330
Max. Torque (N·m)	1.7	1.7
Max. Speed (°/sec)	600	600

If It Isn't Easy...It Isn't Advanced

At IAI, we have taken advanced automation and made it Plug & Play easy. Our systems are delivered pre-configured to your specs and ready to go right out of the box, with remarkably little engineering time and no programming experience required. It's automation as it should be - as easy as 1 - 2 - 3.

① Easy to Use

Get up and running fast with extremely user-friendly software, fully-integrated systems, built-in palletizing, and line-by-line code view for fast & easy implementation.

② Easy to Integrate

From truly plug & play modular designs to Ethernet-ready systems and clean room, wall mount, and wash down models, we have the systems with the flexibility to fit your current and future applications.

③ Easy to Afford

Whether you're looking for a cost-effective, smart alternative to air cylinders or a high-performance SCARA robot at a price that makes sense, we can deliver the performance you need at a price that delivers the rapid ROI you require.

IX

SCARA Robots

High performance without the cost.

IX SCARA is the answer for you. The IX SCARA series offers exceptional Plug & Play performance at truly revolutionary pricing. Starting at under \$11,500 (including the controller & cables!), the IX family comes in a wide range of strokes and configurations, all with absolute encoders and all with the advanced functionality of systems costing much more.



IX-600

1. Highest Speed, Payload, Accuracy in Its Class

With ultra-fast cycle times and superior repeatability, the IX is ideal for high-speed pick & place, dispensing, insertion, and more.

Standard Cycle Time: 0.44 sec¹
 Repeatability: ±0.01mm/ ±0.005^{o-2}
 Maximum Payload: 20kg³

¹ Cycle time is the round trip travel time for a vertical 1" and horizontal 12" movement.
² If the arm length is 700/800mm, the repeatability becomes ±0.015mm/±0.005^o.
³ Speed & acceleration will be decreased at maximum payload.

2. Ease of Use

Quickly create complex operations with no programming experience! With pre-programmed intelligent features such as **Built-in Palletizing** (just teach it 3 points and the robot calculates the rest), the IX SCARAs are designed to dramatically reduce your engineering time.

3. Largest Lineup in the Industry

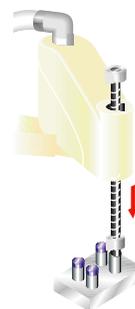
With 250~800mm standard strokes and 6 variations to choose from, you can select the one that's best suited for your application.



IX-250

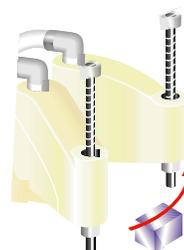
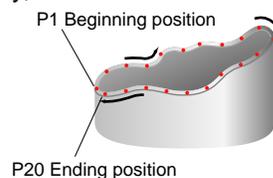
4. Z-Axis Push Function

Enables you to easily apply compression force and torque control.



5. 3D Path Capability

Faster CPU speed and rigid robot construction, along with 3D arc motion & path control, allow for easy, accurate path tracing.



6. Interference Check Zones

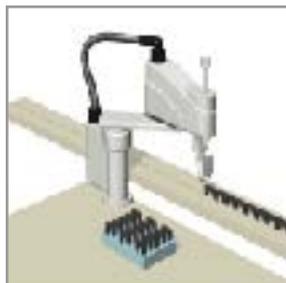
A maximum of 10 user-defined check zones can be set inside the robot's operating range.

STROKES

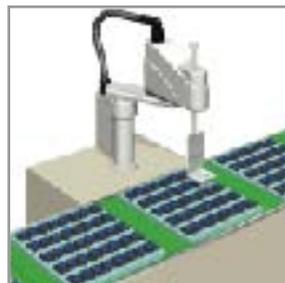
- 800mm
- 700mm
- 600mm
- 500mm
- 350mm
- 250mm

VARIATIONS

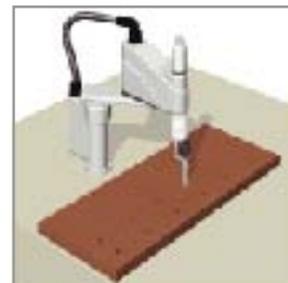
- Standard
- High-Speed
- Clean Room
- Dustproof / Water Splash-proof
- Wall Mount & Wall-Mount Inverse
- Ceiling Mount & Ceiling Mount Inverse



Palletizing



Testing



Drilling

Offering some of the most innovative products in the industry, IAI's "intelligent" actuators are designed to provide you with the largest array of choices for high precision performance and exceptional reliability at affordable prices. Our lineup features a wide variety of styles with a full complement of standard options.

- ✓ Repeatability of up to $\pm 0.01\text{mm}$
- ✓ Maximum acceleration of 1G ($9800\text{mm}/\text{sec}^2$)
- ✓ Long strokes of 2500mm with Mid Support feature
- ✓ Belt-driven types for long strokes & high speed
- ✓ Models suitable for applications requiring light load transfer, compact space, and high rigidity also available

Note: Maximum possible figures are listed for payload and speed. Actual figures will vary depending on the circumstances.



Power. Speed. Reliability. ISPA series



Mid Support types available for long strokes.

	S	M	MXMX	L	LXMX LXUWX	WX	WXMW
Max. Stroke (mm)	600	1000	2000	1200	2500	1300	2500
Max. (H) Payload (kg)	50	80	40	80	80	150	150
Max. (V) Payload (kg)	14	19	-	39	-	60	-
Max. Speed (mm/sec)	800	1500	1500	2000	2000	2000	2000

Compact. Cost-Effective. Smart. DS series

DS-SA
Slider Type



DS-A
Arm Type



DS-CR
Class 10 Clean Room Type



	Slider Type			Arm Type		
	DS-SA4	DS-SA5	DS-SA6	DS-A4	DS-A5	DS-A6
Max. Stroke (mm)	300	500	600	200	200	200
Max. (H) Payload (kg)	5	8	12	-	-	-
Max. (V) Payload (kg)	4.5	4	6	4.5	4	6
Max. Speed (mm/sec)	665	800	800	330	400	400

Flexibility to meet your unique application needs. SS/IF/FS/RS series

SS
Steel Base Type



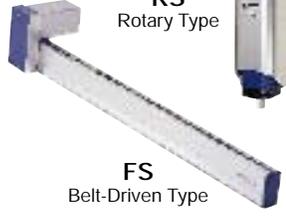
IF
Belt-Driven Type



RS
Rotary Type

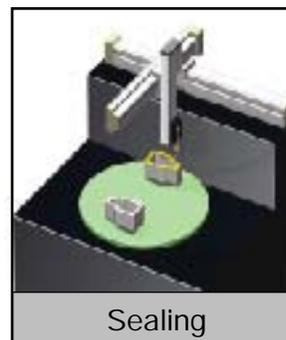
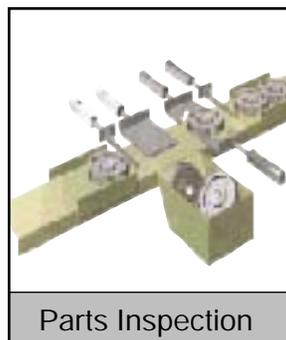
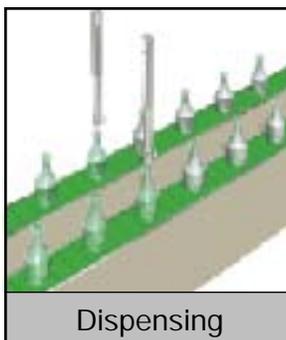
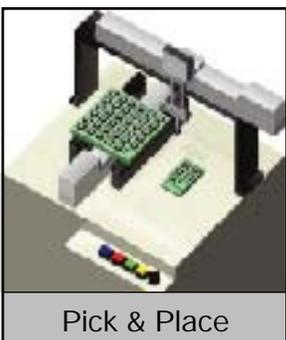


FS
Belt-Driven Type



	High-Rigidity Type		Belt-Driven Type			Rotary Type
	SS-S	SS-M	IF-SA	IF-MA	FS	RS
Max. Stroke (mm)	600	1000	2000	2500	3000	0~360° (operating range)
Max. (H) Payload (kg)	30	60	10	40	60	-
Max. (V) Payload (kg)	8	12	-	-	-	-
Max. Speed (mm/sec)	600	1000	1750	1750	2000	180~360°/s

APPLICATION EXAMPLES



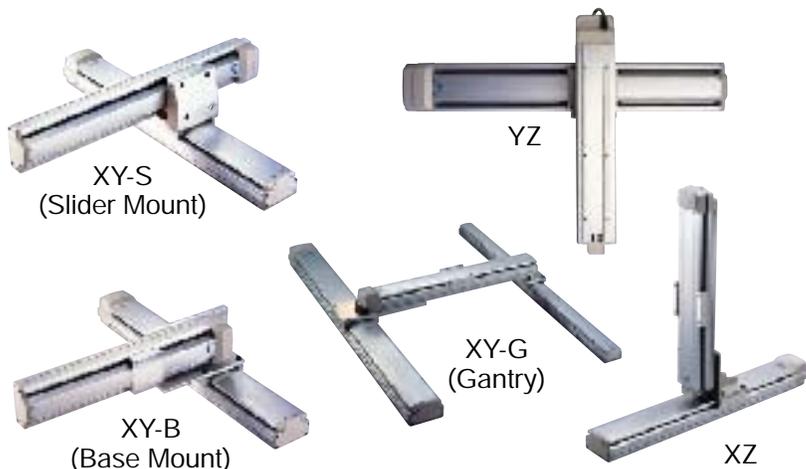
Multi-Axis Integrated Combination Systems

Drastically Reduce Your Engineering Time & Costs!

Get up and running fast with our pre-configured, integrated ICSPA systems for XYZ motion control, where the automation engineering you need to run your application is already built into a wide range of off-the-shelf solutions. ICSPA systems are configured using ISPA series actuators.

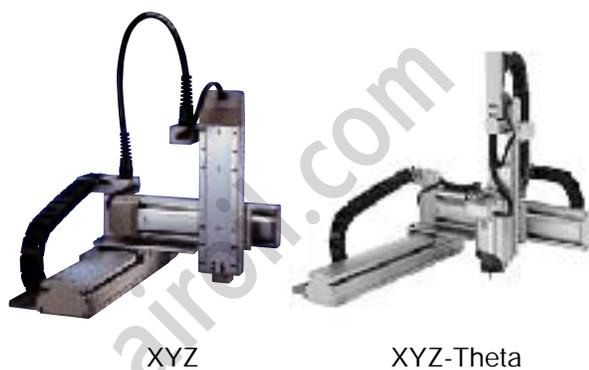
2-axes Configurations

31 standard types are available in the 5 configuration patterns shown below.



3- and 4-axes Configurations

For the 3-axes configuration, 102 standard types are available. A rotary unit can be added to the Z-axis to form the 4th axis, or Theta.



Controllers & Software

Your robot is only as smart as the controllers that run it. Our acclaimed controllers and proprietary software are extremely user-friendly, making developing and modifying complex programs a snap - even without any programming experience!

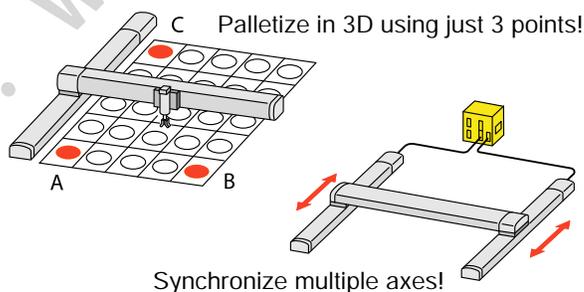
In addition to series-specific controllers for the ROBO Cylinder and DS actuators, we provide a range of economical and intelligent controllers that can run multiple product series and a combination of models. For compatibility with a specific series, please call or consult the series catalog (also available online).

X-SEL®

The X-SEL advantage is simple: it makes complex programming easy. Ethernet networking, absolute encoders, high-speed multi-tasking, synchronous drive control, infinite motion, expandable I/O, and a unique "Push" function are just some of the benefits you get using the X-SEL controller and software. Now most ROBO Cylinder RCS and DS models can be modified to run with X-SEL! Call for details.

E-Con

Programmable up to 64 points and compatible with our servo actuators, the E-CON controller is an economical option for less complex applications.



No Programming Experience Required!

Designed for non-programmers, our PC-based software makes creating and modifying complex programs a snap...

- ✓ Assign your own names to all points & variables
- ✓ Run operation line-by-line for easy fine-tuning and debugging
- ✓ Control torque with the innovative "Push" mode
- ✓ Use the "Palletize" command to create applications using just 3 points

Controller Compatibility Chart



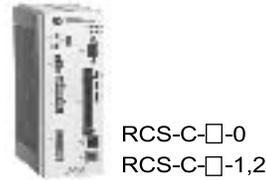
IX SCARA robots (all)
ICSPA
ISPA, LS, FS, RS
DS (200V motor only)
RCS (200V motor only)



DS (20V motor)



ICSPA
ISPA, LS, FS, RS
DS (200V motor only)
RCS (200V motor only)



RCS (20V motor)
RCS (200V motor)



RCP2

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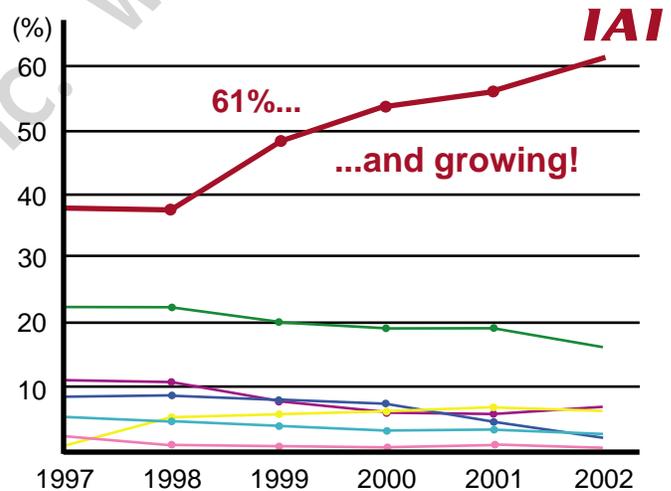
Call or e-mail us for a free demonstration at YOUR office or facilities.

About IAI

IAI America, Inc. is Japan's largest manufacturer of industrial single- and multiple-axes actuators.

IAI designs, manufactures, and sells robotic components and solutions for the automotive, consumer products, electronics, food, medical devices, plastics, semiconductor, and telecommunications industries around the world.

With 61% market share in Japan and over 300,000 systems installed worldwide, IAI products are trusted by more organizations than all other robotic solutions combined!



Market Share: Single & Cartesian Actuators 1997-2002 by Number of Units Sold

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