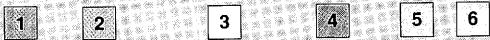


## Our Second Generation Actuators

1. The actuating mechanism is enclosed. This feature enhances operator safety and provides an increased level of protection for the linear guide and other internal mechanisms. This new design also prevents actuator lubricants from migrating and contaminating surrounding areas of the workstation.
2. There are a variety of options available including precision-ground ballscrews, brake units, stroke-end sensors, and the option of alternate connector positions.
3. A hollow, extruded aluminum, base structure has increased overall rigidity.

## IA-AS-12GII-60-200P



### 1 Intelligent Actuator Products Group

### 2 Assembly Series

Actuator Mechanism : Ballscrew Type

### 3 Series Codes

12GII : Double Linear Motion Guide Type

12RII : Parallel Position Motor Type

With Double Linear Motion Guide

12HII : High Speed Type

12V : High Rigidity Type

12AR : Vertical Use Type (Z-Axis)

### 4 Motor Power

60 : 60W

100 : 100W

200 : 200W

### 5 Stroke Range

200 mm ~ 1200 mm

### 6 Options

P : Precision Ground Ballscrew

B : Brake Unit (Integrated)

L : SE Sensor (Integrated for GII, RII, HII)

C : Connector Option

R : Motor Position Change (RII and V only)

\*SE (Stroke End) sensor and ground ballscrew is standard for the HII Series.

\*The "IA" of the model code can be omitted for ordering purposes.

## AS Features

### 12GII

The 12GII type actuator is the backbone of the AS series due to its high cost performance, available stroke length, and payload capability. Two linear guides gives the 12GII a particularly high moment capability making this type highly suitable for 2 and 3-axis systems.

### 12RII

The 12RII type is shorter in overall length in comparison to the 12GII type because of its parallel-motor arrangement. The motor is coupled with a screw via a timing belt at a 1:2 reduction rate. The 12RII type is our long stroke actuator.

### 12HII

The 12HII type utilizes the same base as in our 12GII type but is combined with the more powerful 100W and 200W DC servo motors. These motors together with a ground ballscrew with a longer screw lead enables the HII Type to attain maximum speeds of up to 1000 mm/sec (39.4 in/sec) and make the 12HII type our High Speed Actuator.

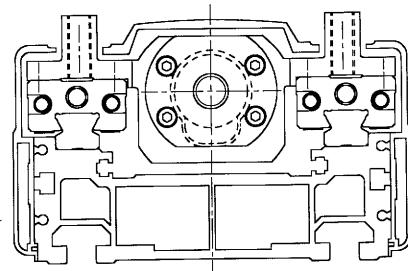
### 12V

The 12V type actuator incorporates a larger base than that in our other II Series Type actuators, but is mechanically similar to our RII type. This larger base gives the 12V type an even higher moment capability than that available in our 12GII Type. This makes the 12V type ideal for applications with long overhang load lengths.

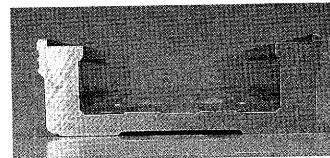
### 12AR

The 12AR Type actuator is designed exclusively for vertical use. With an integrated brake unit as standard equipment, the 12AR type can safely carry up to 5 kg (10 lbs) vertically. Among its optional features is the capability of positioning the motor in up to 3 different positions according to the customer's needs.

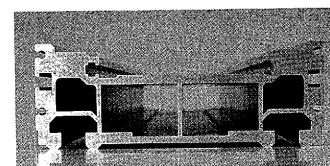
## Structural Features



The rigidity of the II Series has been enhanced through the use of a hollow aluminum base structure. This hollow structure has substantially increased overall rigidity. Shape deformation from twisting has been reduced by 50%. All installation holes now have M8 (8 mm) size installation bolts (previously M6), and we've added T-slots which have significantly simplified installation to a fixed base as well as to profile modules.



Old Type Base



New Type Base

## Overview

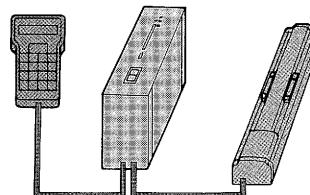
| ASSEMBLY SERIES<br>(AS) | TYPES | MOTOR POWER | STROKE RANGE     |
|-------------------------|-------|-------------|------------------|
|                         | 12GII | 60W         | 200 mm ~ 600 mm  |
|                         | 12RII | 60W         | 200 mm ~ 1200 mm |
|                         |       | 100W        | 200 mm ~ 1200 mm |
|                         | 12HII | 100W        | 200 mm ~ 800 mm  |
|                         |       | 200W        | 200 mm ~ 800 mm  |
|                         | 12V   | 60W         | 300 mm ~ 1200 mm |
|                         |       | 100W        | 300 mm ~ 1200 mm |
|                         |       | 200W        | 300 mm ~ 1200 mm |
|                         | 12AR  | 60W         | 200 mm           |

\*Please contact our engineering staff regarding un-specified stroke lengths.  
\*Speed specifications may depend on stroke length.

## System Combinations

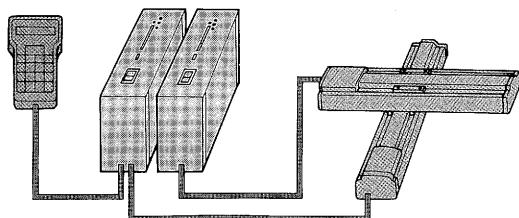
There are 3 basic ways of combining your IA System

### 1. Single Axis



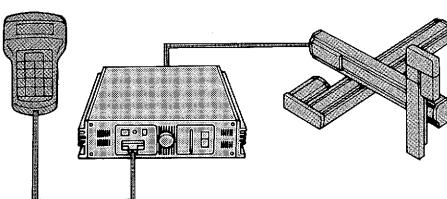
### 2. Two Axes controlled by two, Single-Axis Controllers

Two single-axis controllers can be used to control two separate actuators in an XY configuration. Point-to-point palletizing is just one application example in which this kind of system can be used.



### 3. Multiple Axes through the SEL Controller

The SEL Multi-Axis Controller can control up to 4 axes simultaneously using both Linear and PATH/Circular Interpolation. PC communication is also available for direct control, programming, program Load/Save, I/O monitoring, and a host of other functions.



\*Please consult your sales representative when considering operating your IA System in a harsh environment.

\*When used in vertical applications, consider the following 2 points:

1. Using payload data specified at two-thirds (2/3) or less of rated thrust specifications.
2. Using a weight balancer.

## RII

## Standard Specifications and Dimensions

## AS-12RII-60 • 100

|              |             |             |              |              |              |              |              |              |
|--------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Stroke       | 200 (7.9")  | 300 (11.8") | 400 (15.7")  | 500 (19.7")  | 800 (31.5")  | 1000 (39.4") | 1100 (43.3") | 1200 (47.2") |
| Unit Wt (kg) | 8.1 (17.9#) | 9.1 (20.1#) | 10.1 (22.3#) | 11.1 (24.5#) | 14.1 (31.1#) | 16.1 (35.5#) | 17.1 (37.7#) | 18.1 (39.9#) |

| TYPE                       | AS-12RII-60 |  | AS-12RII-100  |               |
|----------------------------|-------------|--|---|---------------|
|                            | W           | 60   | W   | 100           |
| Rated Power                | W           |  |   |               |
| Rated Speed                | mm/sec      |  | 400 (15.7 in/sec)                                       |               |
| Rated Thrust               | kgf         | 13 (28.7 lbs)  |   | 21 (46.3 lbs) |
| Repeatability              | mm          |  | +/-0.02 (+/-0.0008")                                    |               |
| Motor                      |             |  | DC Servo Motor  |               |
| Encoder                    |             |  | Motor One Body Type                                     |               |
| Ballscrew                  |             | Ø16mm • 16 mm Lead • Roll Thread C10 • Backlash 0.1mm or less                            |   |               |
| Guide                      |             |  | Linear Motion Guide: SR-15V2UU (2 each)                 |               |
| Motor/Ballscrew Connection | mm          |  | Timing Belt • Gear Reduction 1/2                        |               |
| Base                       |             | Extruded Aluminum (A6063S-T5) White Alumite Treatment                                    |   |               |
| Maximum Speed *1           | mm/sec      | 500 (1000 mm stroke at 400 mm/sec • 1100 mm stroke at 350 mm • 1200 mm stroke at 300 mm) |   |               |
| Maximum Thrust *2          | kgf         | 25 (55.1 lbs)  | 41 (90.4 lbs)   |               |
| Payload *3,4               | kgw         | Horizontal : 30 kgw or less • Vertical : 8 kgw or less                                   | Horizontal : 45 kgw or less • Vertical : 13 kgw or less |               |
| Moment *3,5                | kgf • m     |  | MA : 7 MB : 7 MC : 7                                    |               |
| Overhang Load Length *6    | mm          |  | 600 or less   |               |

\*1For an 800 mm or longer stroke actuator, use the rated or less than rated speed within a 100 mm distance from the stroke end to avoid ballscrew resonance.  
\*2At a speed of 10 mm/sec for 10 seconds.  
\*3 Load uniformly distributed on the slide. Base affixed to a flat, strong frame.  
\*4 At an acceleration of 0.3G, and 400 mm/sec speed.  
\*5 See Figures  
\*6 The center of gravity exists at the half-way point of the overhang load length.

