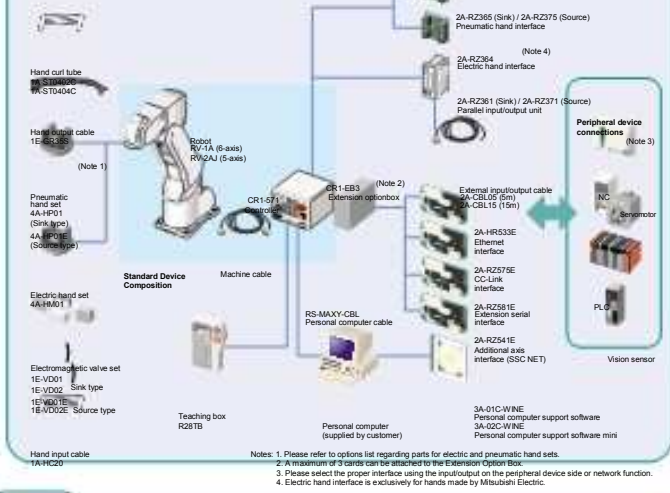


# Organization of the RV-1A and RV-2AJ

## System Configuration



## Options

	Name	Model No.	Description/Specification	Remarks
Main body options	Electric hand set	4A-HP01	Non-pneumatic, self-actuating, electric hand interface, adapter, installation bolts	
	Pneumatic hand set	4A-HP01E	Non-pneumatic, self-actuating, pneumatic hand interface, adapter, installation bolts	Sink type
		4A-HP01E	Electromagnetic valve (1 set), adapter, installation bolts	Source type
		1E-VJ01	1 set	
Main body options	Electromagnetic valve set	1E-VJ02	2 sets	
		1E-VJ01E	1 set	
	Hand output cable	1E-VJ02E	2 sets	Source type
	Hand input cable	1A-HC20	200mm length, 200mm length	
Controller options	Hand controller (1 set = 2 pieces)	HA31002C	External transmitter (ø4.2mm)	
	Hand controller (2 set = 4 pieces)	HA31002C	External transmitter (ø4.2mm)	
	Hand grip	HA31001	For connection of handgrip attached to master hand or external hand controller	
	Teaching tool	HA31002	For connection of handgrip attached to master hand or external hand controller	
	Pneumatic hand interface (sink type) / (source type)	2A-RZ365 / 2A-RZ375	Output: 0.6 power (only 1 source)	
	Parallel input/output interface (sink type) / (source type)	2A-RZ361 / 2A-RZ371	Output: 0.6 power (only 1 source)	
	External Input/Output cable	2A-CBL05 / 2A-CBL15	0.5m length / 1.5m length	
	Ethernet interface	2A-HR533E	100BASE-T1 10Mbps	
	CC-Link interface	2A-RZ275E	CC-Link interface	
	Extension serial interface	2A-RZ275E	CC-Link interface	
Maintenance	Backup battery	MB01	For internal mechanism	
		ERS	For internal controller	
		3A-01C-WINE	Windows compatible support software CD-ROM	Note 1
		3A-02C-WINE	Windows compatible support software CD-ROM	Note 1



**INDUSTRIAL ROBOTS**  
 AB Controls, Turn-Key System Integration for Mitsubishi Robots [www.abcontrols.com](http://www.abcontrols.com) (949)341-0977



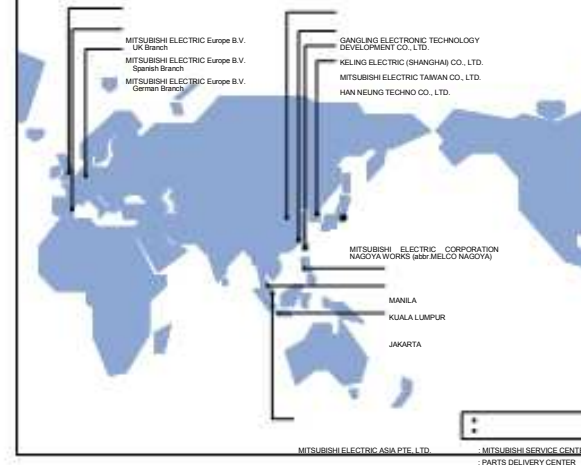
# MELFA RV-1A/RV-2AJ



**Compact Design & Operational Ease.**  
**Bold entry of Mitsubishi Electric's newest**  
**all-purpose industrial robots**  
**welcomed by the industrial world.**



## OVERSEAS SERVICE NETWORK & GLOBAL SERVICE NETWORK



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 Telephone 65-474-2208/Fax 65-48-4748

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**Safety Warning**  
 To ensure proper use of the products listed in this catalog, please be sure to read the instruction manual prior to use.





# World's Most Wanted Industrial Robots Debut MELFA All-purpose Industrial Robots

Mitsubishi Electric has redesigned the world's best selling robot, the RV-M1, into a high-performance, all-purpose industrial robot that offers faster processing, greater accuracy and open network capability. When it comes to matching production facilities for compact, high-precision equipment, there's nothing else like it.



## Features

### Compact, Lightweight Body

The MoveMaster takes up minimal space and is easy to install. A main body weight of less than 20kg makes the robot easy to carry or relocate and the space needed for controller installation is the size of an 8 1/2 x 11 sheet of paper, the smallest in this robot category (company comparison).

### High-performance All-purpose Industrial Robot

Equipped with a full-axis AC servomotor and absolute encoder, the robot offers a shorter tact time with a maximum quasi-speed of 2.1m/s. Furthermore, the combination of amazingly high accuracy of +0.02mm and 6-axis operation, gives the new MoveMaster the functions of an all-purpose industrial robot capable of application to complicated tasks.

### Improved Network Functions

The incorporation of a 64 bit CPU enhances network capabilities for Ethernet and CC-Link. Connectivity to high-performance PCs and PLCs, vision sensors enables higher processing speeds and increased productivity.

### Energy Savings and Safety

Use of an AC servomotor reduces all axis outputs to less than 50W and motor capacity to less than 200W, creating energy savings for plant operations. Safety considerations have led to the internal packaging of wiring and piping.

### MoveMaster Compatibility

The MoveMaster uses MELFA-BASIC IV and MoveMaster Language (MoveMaster Command) as standard robot programming languages. As the same arm length, installation base and hand attachment dimensions as the RV-M1 MoveMaster are used, replacement and exchange of parts are easy.

## Main Applications

### High-precision Electronics Machinery Industry



### CD-ROM management/transfer



### Assembly of electronic machinery parts, etc.



### Keyboard inspection



### Inspection/Testing of electronic parts



### Education, Research, Amusement Industries



### Adhesive application and sealing



### Inspection/Analysis of medical products



### Food Industry



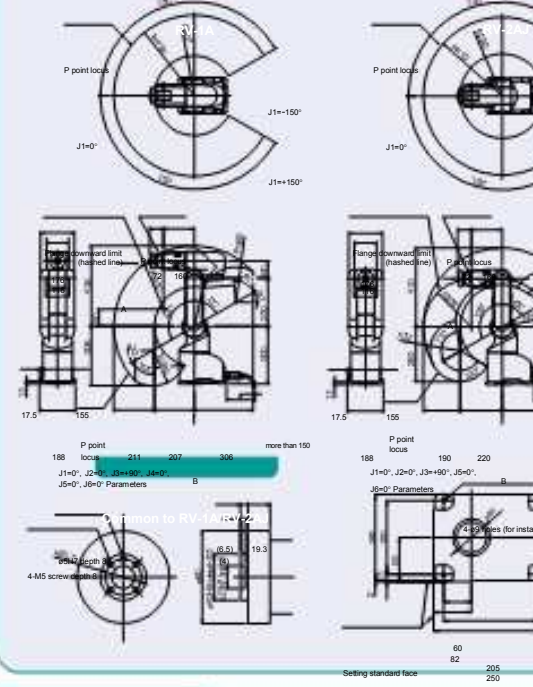
instructional aids for education and R&D

Amusement and advertisement demonstrations

Packaging of foods

L-174-0-C5004-A NA-0009 Printed in Japan (OKA)

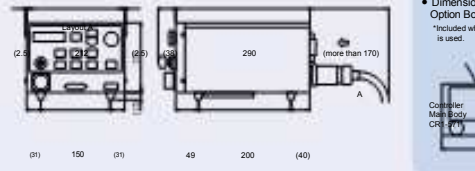
## Robot Main Body External Dimensions



Layout A: Details of hand attachment flange section

Layout B: Details of backside base installation dimensions

## Controller External Dimensions



• Dimension Option Box included when used.

Specifications subject to change without notice.

Robot controller the size of an 8 1/2 x 11 sheet of paper		Simple installation, Simple layout		64 bit controller & new mechanism		Energy-saving overall motor capacity of 200W	
<b>Basic</b>				<b>Basic</b>			
<b>Main Body</b>				<b>Controller</b>			
Model	RV-1A	RV-2AJ	Model	CR1-571			
Motion degrees of freedom	6	5	Path control	PTP, CP			
Positioning accuracy	AC assembly with absolute encoder (robot)		No. of control axes	6 (simultaneous max.)			
Maximum load capacity (load)	kg	211 (5)	Indirect interpolation, direct interpolation, transfer interpolation, emergency stop, condition learning, self-diagnosis, real-time monitoring, absolute encoder, speed control, remote control, external input connection, etc.				
Arm length	mm	250-150	Programming language	MELFA-BASIC IV and MoveMaster Language (MoveMaster Command)			
Maximum reach	mm	418	Positioning	Teaching (robot, MFL method)			
	mm	111	Teaching	Teaching (robot, MFL method)			
	mm	111	Positioning	Teaching (robot, MFL method)			
Operating limits	Deg	95 (-90 ~ 155)	230 (110 ~ 120)	Memory	Teaching	2,000	
	Deg	15	15	No. of address	Teaching	4,000	
	Deg	11	250	Capacity	Teaching	100 (max. when 200 options 200C20)	
	Deg	12	15	Exclusive input	Ports	Allocated by general output (1 STOP point & back)	
Speed	m/s	1.2	1.2	External input	Hand I/O	40 (In/Out using optoisolator 40)	
Maximum quasi-speed	m/s	2.1	2.1	Emergency stop input	Reset	1 (for loading box only)	
Repeatability	mm	±0.02	±0.02	Door switch input	RS232C	1 (to PC, vision sensor, etc. connection)	
Repeatability	mm	±0.02	±0.02	RS232C	Reset	1 (for loading box only)	
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