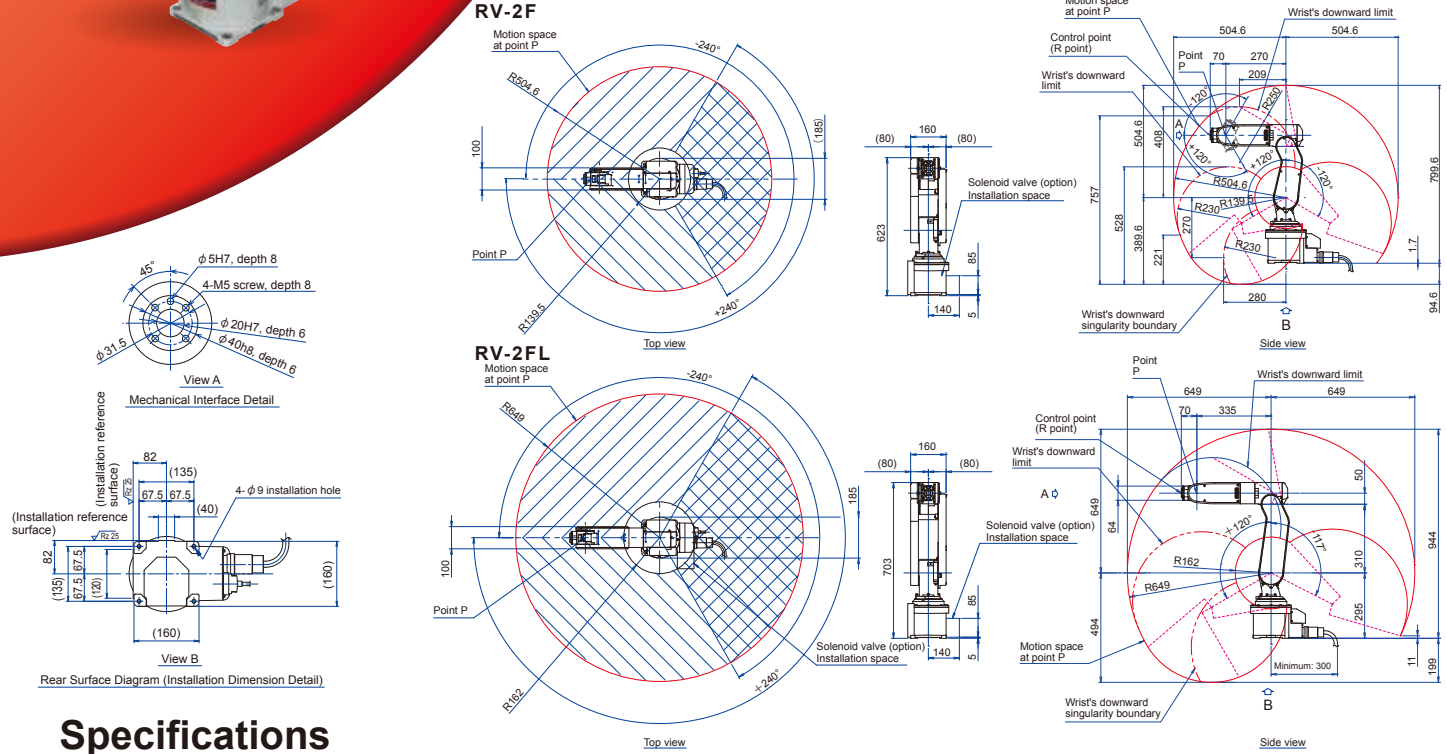




Vertical
2 kg
type

RV-2F RV-2FL

External Dimensions/Operating Range Diagram



2 Robot Specifications

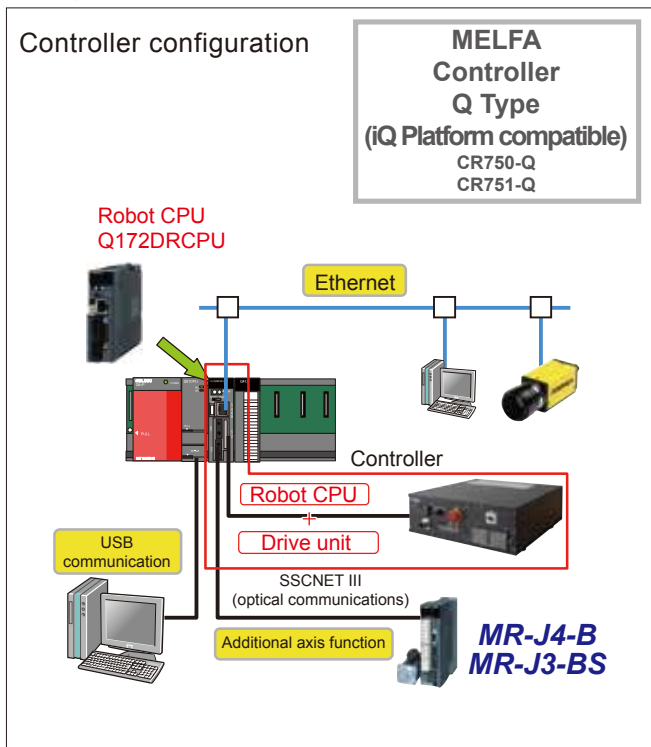
Specifications

Type	Unit	RV-2F(B)	RV-2FL(B)
Environmental specifications		Standard	
Protection degree		IP30	
Installation		Floor type, ceiling type, (wall-mounted type *2)	
Structure		Vertical, multiple-joint type	
Degrees of freedom		6	
Drive system *1		AC servo motor (J2, J3 and J5: with brake)	
Position detection method		Absolute encoder	
Maximum load capacity	kg	maximum 3 (Rated 2) *5	
Arm length	NO1 arm	mm	230 + 270
Maximum reach radius		mm	504
Operating range	J1	deg	480 (±240)
	J2		240 (-120 to +120)
	J3		160 (-0 to +160)
	J4		400 (±200)
	J5		240 (-120 to +120)
	J6		720 (-360 to +360)
Maximum speed	J1	deg/sec	300
	J2		150
	J3		300
	J4		450
	J5		450
	J6		720
Maximum composite speed *3	mm/sec	4955	4200
Cycle time *4	sec	0.6	0.7
Position repeatability	mm	±0.02	
Ambient temperature	°C	0 to 40	
Mass	kg	19	21
Tolerable moment	J4	Nm	4.17
	J5		4.17
	J6		2.45
Tolerable amount of inertia	J4	kgm ²	0.18
	J5		0.18
	J6		0.04
Tool wiring		Hand: 4 input points/4 output points Signal cable for the multi-function hand	
Tool pneumatic pipes		φ 4 x 4	
Machine cable		5m (connector on both ends)	
Connected controller		CR750, CR751	

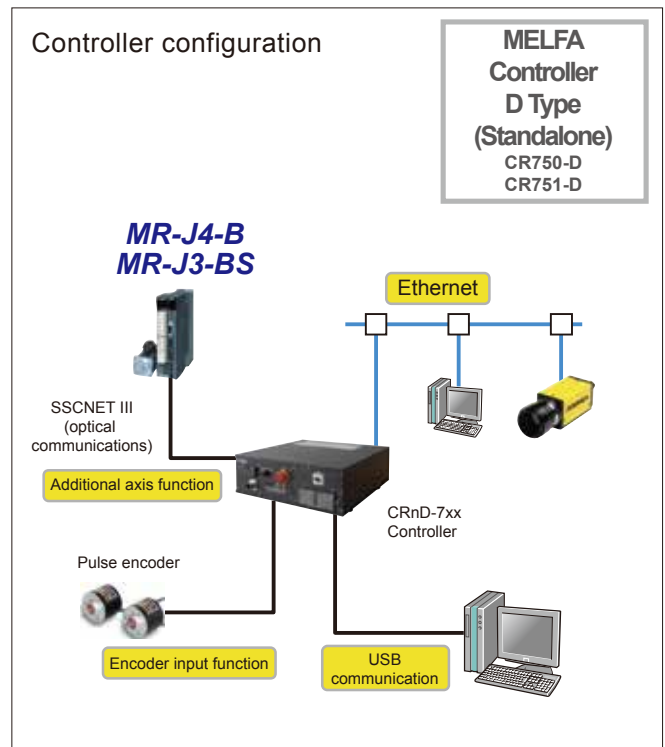
*1: The standard model does not have a brake on the J1, J4, or J6 axis. There are models available with brakes included for all axes. (RV-2FB)
 *2: The wall-mounted specification is a custom specification where the operating range of the J1-axis is limited.
 *3: This is the value at the surface of the mechanical interface when all axes are composited.
 *4: The cycle time is based on back-and-forth movement over a vertical distance of 25 mm and horizontal distance of 300 mm when the load is 1 kg.
 *5: The maximum load capacity indicates the maximum payload when the mechanical interface is facing downward (±10° to the perpendicular).

Controller

FQ series



FD series



3

Controller Specifications

Specifications

Type	Unit	CR750-Q CR750-D	CR751-Q CR751-D
Robot CPU		FQ Q172DRCPU	
Path control method		PTP control and CP control	
Number of axes controlled		Maximum 6 axes	
Robot language		MELFA-BASIC IV/V	
Position teaching method		Teaching method, MDI method	
Memory capacity	Number of teaching points	points	FQ 13,000 / FD 39,000
	Number of steps	step	FQ 26,000 / FD 78,000
	Number of programs	Unit	FQ 256 / FD 512
External input/output *5	General-purpose I/O	points	FQ 8192 input points/8192 output points with the multiple CPU common device / FD 0 input/0 output (Up to 256/256 when options are used)
	Dedicated I/O		FQ Assigned to multiple CPU common device. / FD Assigned to general-purpose I/O.
	Hand open/close		8 input / 8 output
	Emergency stop input		1 (redundant)
	Door switch input		1 (redundant)
	Enabling device input		1 (redundant)
	Emergency stop output		1 (redundant)
	Mode output		1 (redundant)
	Robot error output		1 (redundant)
Synchronization of additional axes		1 (redundant)	
Interface	RS-232	ports	—
	RS-422		1 (Teaching pendant: dedicated T/B)
	Ethernet		FQ 1 (dedicated teaching pendant port) 10BASE-T / FD 1 (dedicated teaching pendant port), 1 (for customer) 10BASE-T/100BASE-TX
	USB		FQ 1 (USB port of programmable controller CPU unit can be used.) / FD 1 (Ver. 2.0 device functions only, mini B terminal)
	Additional-axis interface	channels	1 (SSCNET III)
	Extension slot *1	slots	FQ — / FD 2
	Encoder input	channels	FQ Q173DPX (Sold separately) / FD 2
Memory extension slot	slots	—	
Ambient temperature	°C	FQ 0 to 40 (drive unit)/0 to 55 (Robot CPU) / FD 0 to 40	
Relative humidity	%RH	45 to 85	
Power supply *5	Input voltage range *2	V	RV-2F/4F, RH-3FH/6FH: Single-phase AC 180 V to 253 V RV-7, 7FLL/13F/20F, RH-12FH/20FH: Three-phase AC 180 V to 253 V or Single-phase AC 207 V to 253 V
	Power capacity *3	KVA	RV-2F, RH-3FH : 0.5 RV-4F, RH-6FH : 1.0 RH-12FH/20FH : 1.5 RV-7F : 2.0 RV-7FLL/13F/20F : 3.0
External dimensions (including legs)	mm	430 (W) x 425 (D) x 174 (H)	430 (W) x 425 (D) x 98 (H) / 430 (W) x 425 (D) x 174 (H) *6
Weight	kg	Approx. 18	Approx. 12 / Approx. 18 *6
Structure [protective specification]		Self-contained floor type/open structure (Vertical and horizontal position can be placed) [IP20]	
Grounding *4	Ω	100 or less (class D grounding)	

*1: For installing option interface.
 *2: The rate of power-supply voltage fluctuation is within 10%.
 *3: The power capacity indicates the rating for normal operation. Take note that the power capacity does not include the current being input when the power is turned on. The power capacity is only a rough guide and whether or not operation can be guaranteed depends on the input power-supply voltage.
 *4: Grounding works are the customer's responsibility.
 *5: For CR751, crimp or solder wiring for connection to user wiring connectors for emergency stop input/output, door switch input, etc. and power supply connectors. The optional terminal block replacement tool available separately can also be used to connect wiring.
 *6: For RV-7FLL/13F/20F