

RHFHR Series (Ceiling Mount)

Part Number Configurations

RH 1 FHR 2 3 4 5

Must select items 1–6.

1 Max Load Capacity

Symbol	Maximum Load Capacity
1	1kg
3	3kg

2 Arm Length

Symbol	Arm Length
35	350mm (3kg only)
55	550mm (1kg only)

3 Vertical Stroke Length

Symbol	Vertical Stroke Length
12	120mm (Waterproof and cleanroom 3kg only)
15	150mm

4 Environment

Symbol	Compliance Specification
Blank	Standard environment specifications
C	Cleanroom specifications (3 kg only)
W	Waterproof specifications (3 kg only)

5 Controller Type

Symbol	Controller Type
D1	CR750-D
Q1	CR750-Q
1D1	CR751-D
1Q1	CR751-Q

6 Compliance

S	Compliance Specification (Non-Optional)
15	CE specification (3kg only)
60	CE specification (1kg only)

Model Number	RH1FHR5515	RH3FHR3515	RH3FHR3512C	RH3FHR3512W
Environmental Specifications	Standard		Cleanroom	Waterproof
Protection Degree (*1)	IP20 With an optional bellows set: IP65 (*5), ISO class 5 (*6)	IP20	ISOclass5 (*4)	IP65 *(6)
Installation	Ceiling type			
Structure	Horizontal multiple-joint type			
Degrees of Freedom	4			
Drive System	AC servo motor			
Position Detection Method	Absolute encoder			
Maximum Load (kg)	Maximum 3 (Rated 1)			
Arm Length (mm)	No. 1	325	175	
	No. 2	225	175	
Max. Reach Radius (No. 1 + No. 2) mm	550	350		
Operating Range	J1 Degree	±170	450 (±225)	
	J2 Degree	±145	450 (±225)	
	J3 (Z) mm	150 (120 with optional bellows)	150	120
	J4 (θ Axis)	±360	1440 (±720)	
Maximum Speed	J1 Degree/s	337.5	672	
	J2 Degree/s	720	708	
	J3 (Z) mm/s	765	1500	
	J4 (θ Axis) Degree/s	3000	3146	
Maximum Horizontal Composite Speed mm/s (*2)	6,000	6267		
Cycle Time (Load Capacity) Sec. (*3)	0.28 (1kg)	0.32 (1kg)		
Position Repeatability	X-Y Direction mm	±0.012	±0.01	
	J3 (Z) mm	±0.010	±0.01	
	J4 (θ Axis) Degree	±0.004	±0.01	
Ambient Temperature °C	0 to 40			
Weight (kg)	49	24	28	
Tool Wiring	Input 8 points/Output 8 points, (total 20 cores) Dedicated signal cable for multifunctional hand (2 cores + Power cable 2 cores) Ethernet cable, 1 cable (100BASE-TX, 8 cores) (*7)	Gripper: 8 input points (up to 4 points for shaft) / 8 output points, 8 spare lines		
Tool Pneumatic Pipes	Primary: ø6 x 2 hoses, Secondary: ø4 x 8 hoses (*8)	Primary: ø6 x 2 Secondary: ø4 x 8		
Machine Cable	5m (connector on both ends)			

1. Notes:

- The environmental resistance specifications (C: Cleanroom specifications, W: Waterproof specifications) for the RH-3FHR is factory-set custom specifications.
- The value assumes composition of J1, J2, and J4.
- Value for rated load capacity (kg). The cycle time may increase if specific requirements apply such as high work positioning accuracy, or depending on the operating position. (The cycle time is based on back-and-forth movement over a vertical distance of 25 mm and horizontal distance of 300 mm.)
- Preservation of cleanliness levels depends on conditions of a downstream flow of 0.3 m/s in the cleanroom and internal robot suctioning. A ø8-mm coupler for suctioning is provided at the back of the base.
- Direct jet to the bellows is excluded.
- The conditions necessary to guarantee cleanliness are as follows: cleanroom down flow 0.3 m/s or greater.
- The 8-wire cable designated for LAN wiring can also be used for backup wiring.
- The ø4 secondary piping can be obtained with the electromagnetic valve (option). Details regarding the electromagnetic valve (optional) are shown in the Specifications Manual.