

MATERIAL FACT SHEET

312991 RH-12FRH8535N-D

General Data

Product Hierarchy	IAG24901
	ROBOT
	RH-12FRH-D
Ext. Material Group	10 STANDARD ITEM
ABC Indicator	A (Available from Stock)

e-shop: https://mitsubishi-electric-eshop.mee.com/mee/FA_IA/EUR/en/p/000000000000312991

FA-Robot: Robotssystem

Series	RH-FR SERIES
Type	SCARA
Payload (kg)	12
Max. Reach Radius (mm)	850
Z Axis Stroke (mm)	350
Environment specification	OIL MIST
Controller Type	CR800-D
Cycle Time (s)	0,3
Speed (mm/s)	11350
Repeatability (mm)	0,015
Installation Method	FLOOR
Protection Class	IP54
Power Supply 1 Phase (VAC)	200-230
Power Consumption (VA)	1500
Operating Range J1 (deg)	340
Operating Range J2 (deg)	306
Operating Range J4 (deg)	720

Product Dimensions & Weight

Width (mm)	240
Height (mm)	1080
Depth (mm)	1050
Weight (kg)	69

Logistic Dimensions & Gross Weight

Length (cm)	187,0
Width (cm)	87,0
Height (cm)	143,0
Gross Weight (kg)	178,000
Volume (cdm)	2.326,467

Stock Data

Planned Delivery Time (Days)	144
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Life Cycle

Sales Start	01.07.2017
Predecessor	254377 / RH-12FH8535N-D1-S15

Additional Product Information

Binding Tariff Information	DEBIT-10890/21-1
BTI validity date	20.06.2024
Battery included	YES - CHECK SPARE PART LIST

Export Data

Legal Control (Dual Use List)	Not Listed
Country of Origin	Japan (JP)

Preference Status (Supplier Declaration)	Non EU
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Environmental

REACH Limit Exceeded	YES
REACH Substance CAS Number	101-14-4
REACH Substance CAS Number (2)	117-81-7
REACH Substance CAS Number (3)	12060-00-3
REACH Substance CAS Number (4)	1303-86-2
REACH Substance CAS Number (5)	7439-92-1
REACH Substance CAS Number (6)	80-05-7
Dangerous Goods Class	9
Dangerous Goods Identifier	UN3091
RoHS Compliance	NOT IN SCOPE
WEEE	B2B

Conformity

CE	COMPLIANT
UKCA	COMPLIANT

Documentation & Media Data

Manual URL Indicator	https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&doc-cats=bltdae25c2bd5f2f94&q=RH-12FRH8535N-D&doc-lang=en
Certificates URL Indicator	https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&doc-cats=blt8050dd1408c11cc2&q=RH-12FRH8535N-D&doc-lang=en
CAD URL Indicator	https://emea.mitsubishielectric.com/fa/advanced-search?ct=document&doc-cats=blt26ecc97a31a841c1&q=RH-12FRH8535N-D&doc-lang=en

Product Packaging

Cardboard (g)	34026
Other paper (g)	120
Aluminum (g)	0
Steel (g)	70
Styrofoam (g)	0
Other plastic (g)	1287
Wood (g)	39700
Glass (g)	0
Others (g)	500

Spare parts

Material	Description	Quantity	Unit
262546	RH-12/20FRH MOTOR J1/2 RH-6FRH MOTOR J1	1	PC
262546	RH-12/20FRH MOTOR J1/2 RH-6FRH MOTOR J1	1	PC
589543	RH-12FRH/20FRH MOTOR J3 (400W)	1	PC
589544	RH-12FRH MOTOR J4 (200W)	1	PC
262632	RH-12/20FRH HARMONIC DRIVE J1	1	PC
262821	RH-12/20FRH HARMONIC DRIVE J2	1	PC
415462	RV-4FR CRB J3 (RH-12/20FRH J1)	1	PC
294164	RH-1FHR CROSS ROLLER BEARING J1	1	PC
415461	RV-4FR CRB J1 (RH3FH J1)(RH-12/20FRH J2)	1	PC
262646	RH-12/20FRH ANGULAR BEARING	1	PC
262840	RH-12FRH ANGULAR BEARING	1	PC
133738	RP-3/5AH BALL BEARING 6001ZZNR	2	PC
262550	RH-12/20FRH BALL BEARING 6815ZZ/A2	2	PC
262649	RH-12/20FRH TIMING PULLEY J3A	1	PC
262651	RH-12/20FRH TIMING PULLEY J4A	1	PC
262652	RH-12/20FH TIMING PULLEY J4B	1	PC
262653	RH-12/20FRH TIMING PULLEY J4C	1	PC
415533	RH-12/20FRH TIMING BELT J4A	1	PC
415534	RH-12/20FRH TIMING BELT J4B	1	PC
262658	RH-12FH TIMING PULLEY J3B	1	PC
505598	RH-12FH TIMING PULLEY J4D	1	PC
415535	RH-12FRH TIMING BELT J3	1	PC
262841	RH-12/20FRH V-SEAL J1 VR120A	1	PC
262823	RH-12/20FRH V-SEAL J2 VR100A	1	PC
262552	RH-12/20FRH OILSEAL AC1880H1	2	PC
262553	RH-12/20FRH OILSEAL KD 40 52 5	1	PC
262664	RH-12/20FRH OILSEAL KE 20304.5(NBR)	1	PC
415500	RH-FR PIN J1	2	PC
415501	RH-FR HD RING J1	1	PC
415516	RH/RV-FR PIN J1	3	PC

Material	Description	Quantity	Unit
415517	RH-6FRH HD RING J1	1	PC
164954	RH-12/20FRH AIR JOINT UKBL6	2	PC
278338	RV-7FRL/13FR(L)/20FR PLUG UP6	2	PC
249984	RH-12/20FRH GROMMET C-30SG-22A-UL	1	PC
249983	RH-12/20FRH GROMMET C-30SG-16A-UL	1	PC
237583	RH-12/20FRH GREASE NIPPLE WA610 NYLON	1	PC
262555	RH-12/20FRH GREASE NIPPLE WB610 NYLON	1	PC
164980	RH-12/20FRH GREASE NIPPLE CAP	2	PC
276672	RH-2FH2515 Ferritic core2	2	PC
164975	RH-12/20FRH PARALLEL PIN H74x8	3	PC
262666	RH-12/20FRH KEY IPPAN 4x4x8	1	PC
276699	RH-2FH RUBBER MOUNT	1	PC
262558	RH-12/20FRH CONNECTOR IL-2S-S3L(N)	1	PC
262674	RH-12/20FRH COVER BATTERY	1	PC
278359	RV-8CRL STOPPER A	4	PC
262825	RH-12FRH RUBBER STOPPER J3U	1	PC
262826	RH-12FRH RUBBER STOPPER J3D	1	PC
415320	RV-FR INTERNAL PCB DQ392	1	PC
415321	RV-FR INTERNAL PCB DQ006	1	PC
415452	RV-FR BATTERY HOLDER	4	PC
278335	RV-7FRL/13FR(L)/20FR CARD SPACER	2	PC
410994	RH-12/20FH POWER CABLE 1F-05UCBL-41	1	PC
415538	RH-12/20FRH85XX INTERNAL HARNESS	1	PC
276679	RH-1FHR BRAKE CABLE ASSY	1	PC
415505	RH-1FRHR INTERNAL HARNESS 2	1	PC
278372	RV-7FRL/13FR(L)/20FR COVER CONBOX	1	PC
262833	RH-12/20FRH COVER ADD	1	PC
262682	RH-12/20FRH COVER ARM NO2 B	1	PC
262683	RH-12/20FRH COVER BASE R	2	PC
262684	RH-12/20FRH SUPPORT PLATE SET H	1	PC
262685	RH-12/20FRH SUPPORT PLATE H	1	PC
262686	RH-12/20FRH ROBOT PROTECTION SEAL C	1	PC
262687	RH-12/20FRH ROBOT PROTECTION SEAL D	1	PC
262696	RH-12/20FRH SUPPORT PLATE 85 SET	1	PC
262690	RH-12FRH SUPPORT PLATE B	1	PC
262692	RH-12FRH ROBOT PROTECTION SEAL A	1	PC
262693	RH-12FRH ROBOT PROTECTION SEAL B	1	PC
276704	RV-5AS WASHER J3	2	PC
262700	RH-12/20FRH SUPPORT PLATE F SET	1	PC
262701	RH-12/20FRH SUPPORT PLATE F	1	PC
276699	RH-2FH RUBBER MOUNT	1	PC
262702	RH-12/20FRH ROBOT PREOTECTION SEAL E	1	PC
276703	RH-2FH HEX SOCKET SCREW M5x8	1	PC
249965	RH-12/20FRH DIRECTION NAMEPLATE J1	1	PC
276681	RH-2FH BRAKE RELEASE MARK	1	PC
249967	RH-12/20FRH ALIGNMENT MARK	6	PC
237607	RH-12/20FRH CHARGING PART CAUTIONS NAMEP	1	PC
265338	RV-4/7FRL/M AIR PURGE MARK	1	PC
237606	RH-12/20FRH EARTH NAMEPLATE	1	PC
262692	RH-12FRH ROBOT PROTECTION SEAL A	1	PC
262693	RH-12FRH ROBOT PROTECTION SEAL B	1	PC
262686	RH-12/20FRH ROBOT PROTECTION SEAL C	1	PC
262687	RH-12/20FRH ROBOT PROTECTION SEAL D	1	PC
262702	RH-12/20FRH ROBOT PREOTECTION SEAL E	1	PC
134305	LIQUID GASKET WHITE THREE BOND 1212	1	PC
134302	GLUE 242 LOCTITE 250ml	1	PC
134304	ROBOT SILICONE GREASEG501 1KG	1	PC
131243	Robot Grease 2,5Kg: MULTEMP PS No.2	1	PC
262718	RH-12/20FH AIR JOINT	1	PC
237604	RH-12/20FRH COORDINATES DIRECTION MARK a	1	PC
237605	RH-12/20FRH COORDINATES DIRECTION MARK b	1	PC
262730	RH-12FRH ORIGIN JIG SET J4	1	PC
262731	RH-12FRH ORIGIN JIG A J4	1	PC
262732	RH-12FRH ORIGIN JIG B J4	1	PC
262729	RH-20FRH ORIGIN JIG C J4	1	PC
278403	RV-5AS SAFETY SOCKET M4	2	PC
262741	RH-12/20FRH HEAT CONDUCTION SEAT J1	2	PC
262742	RH-12/20FRH HEAT CONDUCTION SEAT J2	1	PC
262743	RH-12/20FRH HEAT CONDUCTION SEAT J3	1	PC
262640	RH-12FH BALL SPLINE 350	1	PC

Material	Description	Quantity	Unit
237886	CR1D BUSH CE-012, L=0.18M 114-18	1	PC
262752	RH-12/20FRH HEAT CONDUCTION SEAT J3B	1	PC
415540	RH-12/20FRH BALL SCREW 350	1	PC
602876	CR800 PCB CPU DQ171D	1	PC
405788	CR800 PCB SERVO CPU DQ865B	1	PC
405789	CR800 PCB SYSTEM IO DQ331B	1	PC
405790	CR800 PCB OPTIONAL SLOT DQ332A	1	PC
405791	CR800 PCB CONVERTER DQ801A	1	PC
405799	CR800 PCB INV. DQ849A RH-12FRH/20FHR	1	PC
405801	CR800 POWER SUPPLY UNTIL RV-7FR/RH20FR	2	PC
405803	CR800 NOISE FILTER UNTIL RV-7FR/RH20FR	1	PC
405805	CR800 FUSE 500SF-20UL	2	PC
405806	CR800 FUSE HOLDER	2	PC
220184	CR2D CR2Q OPTION COVER	2	PC
405809	CR800 CABLE BK0FA1078H02	1	PC
405807	CR800 OPTION CASE	1	PC
220273	CR800 TB CONNECTOR	1	PC
262774	NARC 750 FILTER DUST	1	PC
405810	CR800 CABLE BK0FA1078H03	1	PC
237852	CR800 SEAL ATT. (ELECTRIFIC.) 114-406	1	PC
262774	NARC 750 FILTER DUST	1	PC
405808	CR800 CABLE BK0FA1078H01	1	PC
405811	CR800 CABLE BK0FA1078H04	2	PC
405812	CR800 CONNECTOR U794D030G51	1	PC
262786	NARC 750/751 LOCK EDGING SADDLE	1	PC
220304	CR800 SPACER MPS-08-0	1	PC
405813	CR800 CONNECTOR U794D030G52	1	PC
405818	CR800 FAN 2	1	PC
220314	CR2D CR2Q CABLE GUIDE WS-1NS	8	PC
220243	CR800 RUBBER MOUNT KG-010	7	PC
64687	FUSE 1,6A	1	PC
405814	CR800 ACIN CABLE BK0FA1006H53	1	PC
248692	MR-BAT6V1	4	PC
405817	CR800 FAN 1	1	PC

Compatible products

Material	Description / Price List Text / Classification
124658	2A-RZ371 Robot option I/O-Interface: 32 inputs /32 Outputs (decentral I/O's) Class 100100604: FA-Robot: Interface Card
153057	1S-VD01E-01 Robot Pneumatic single valve set incl. noise-inferior Class 100100603: FA-Robot: Valve
153058	1S-VD02E-01 Robot Pneumatic double valve set incl. noise-inferior Class 100100603: FA-Robot: Valve
153059	1S-VD03E-01 Robot Pneumatic triple valve set incl. noise-inferior Class 100100603: FA-Robot: Valve
153062	1S-VD04E-01 Robot Pneumatic quadruple valve set incl. noise-inferior Class 100100603: FA-Robot: Valve
214968	R32TB Robot Teaching Box; Narc controller (standard version) Class 100100602: FA-Robot: Teachingbox
218862	2D-TZ378 Robot option I/O-Interface: 32 inputs /32 Outputs (internal I/O's expansion) Class 100100604: FA-Robot: Interface Card
219063	2D-TZ576 Robot option CC-Link-Interface-card Class 100100604: FA-Robot: Interface Card
225756	R32TB-15 Teaching box R32TB with 7 lines display and 15m cable length Class 100100602: FA-Robot: Teachingbox
232808	2D-TZ368 Robot option E/A-Interface: 32 inputs /32 Outputs SINK (internal I/O's) Class 100100604: FA-Robot: Interface Card
250467	1F-GR60S-01 RH-FH Hand output cable Class 100100605: FA-Robot: Cable

Material	Description / Price List Text / Classification
254395	1F-HC35C-02 RH-FH Hand input cable (1800 mm) Class 100100605: FA-Robot: Cable
254396	1F-HS604S-01 RH-12FH/20FH Internal Wiring/Piping set for hand (350mm Z-Stroke) Class 100100607: FA-Robot: Other Option
254397	1F-HS604S-02 RH-12FH/20FH Internal Wiring/Piping set for hand (450mm Z-Stroke) Class 100100607: FA-Robot: Other Option
254398	1F-UT-BOX-01 RH-12FH/20FH-12/20FRH External Wiring/Piping box Class 100100607: FA-Robot: Other Option
259885	2D-TZ535 Network Interface for CompactCom module Class 100100604: FA-Robot: Interface Card
269546	2D-TZ535-PN-SET Robot Network Interface Profinet IO Class 100100604: FA-Robot: Interface Card
269555	2D-TZ535-PN Network Interface for CompactCom Modul Profinet Class 100100604: FA-Robot: Interface Card
269556	1N-ST0608C-01 Hand curl Tube with 6mm diameter Class 100100606: FA-Robot: Tube
271212	2F-YZ581 Encoder Distribution Unit for robot controller Class 100100604: FA-Robot: Interface Card
273182	RH-FH / RH-FRH Connector Set RH-3/6/12/20F(R)H Hand connector set Class 100100607: FA-Robot: Other Option
273785	1F-DH-02 RH-12/20FH J1 Stopper Class 100100607: FA-Robot: Other Option
282409	2D-TZ535-EIP-SET Robot Network Interface EtherNet/IP Class 100100604: FA-Robot: Interface Card
313061	4F-SF002-01 Safety option unit MELFA SafePlus for CR800 Controller Class 100100604: FA-Robot: Interface Card
313062	CR800-MB Protection Box IP54 for CR800 Controller Class 100100607: FA-Robot: Other Option
313063	2F-DQ535 Network Interface for CompactCom module CC-Link IE Field AB6709 Class 100100604: FA-Robot: Interface Card
313064	4F-FS002H-W200 Force Sensor Set 200N incl. Interface unit (2F-DQ561) for FR Series Class 100100607: FA-Robot: Other Option
313105	4F-FS002H-W1000 Force Sensor Set 1000N incl. Interface unit (2F-DQ561) for FR Series Class 100100607: FA-Robot: Other Option
313106	1F-10UCBL-41 Machine cable for CR800 controller, standard, 10m Class 100100605: FA-Robot: Cable
313107	1F-15UCBL-41 Machine cable for CR800 controller, standard, 15m Class 100100605: FA-Robot: Cable
313108	1F-10LUCBL-41 Machine cable for CR800 controller, high flexible, 10m Class 100100605: FA-Robot: Cable
313109	1F-15LUCBL-41 Machine cable for CR800 controller, high flexible, 15m Class 100100605: FA-Robot: Cable
324560	2F-DQ535-CCIEF-SET Network Interface SET CC-Link IE Field for CR800 Contr. Class 100100604: FA-Robot: Interface Card
324579	RT ToolBox3 Standard Robot programming and simulation Software, Windows 10/11; USB Class 100101206: FA-Software: Software Robot

Material	Description / Price List Text / Classification
324580	RT ToolBox3 Pro Robot programming and simulation Software incl. MELFA-Works, Windows 10/11 Class 100101206: FA-Software: Software Robot
325728	2F-DQ510 MELFA Smart Plus Card Pack A-Type Class 100100604: FA-Robot: Interface Card
325729	2F-DQ511 MELFA Smart Plus Card A-Type Class 100100604: FA-Robot: Interface Card
325730	1F-02UCBL-41 Machine cable for CR800 controller, standard, 2m Class 100100605: FA-Robot: Cable
327863	1F-20UCBL-41 Machine cable for CR800 controller, standard, 20m Class 100100605: FA-Robot: Cable
334232	RT ToolBox3 Standard UPGRADE Robot programming and simulation Software, Windows 10/11, Upgrade; USB Class 100101206: FA-Software: Software Robot
410994	RH-12/20FH POWER CABLE 1F-05UCBL-41 Machine cable for CR800 controller, standard, 5m Class 100100608: FA-Robot: Spare Part
603944	4F-SF003-05 Safety option unit MELFA SafePlus II Slim for CR800 Controller Class 100100604: FA-Robot: Interface Card
687249	R86TB Robot Teaching Box with 10,1" (Colour / Touch version) Class 100100602: FA-Robot: Teachingbox