

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

Commodity Code	84795000
Legal Control (Dual Use List)	Not Listed

Country of Origin	Japan (JP)
Preference Status (Supplier Declaration)	Non EU

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=bltdae25c2bd5f2ff94&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

Material	Description	Quantity	Unit
415516	RH/RV-FR PIN J1	3	PC
415517	RH-6FRH HD RING J1	1	PC
164954	RH-12/20FRH AIR JOINT UKBL6	2	PC
278338	RV-7FRLL/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-7FRLL/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-7FRLL/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

Material	Description	Quantity	Unit
262640	RH-12FH BALL SPLINE 350	1	PC
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

Material	Description / Price List Text / Classification
250467	1F-GR60S-01 RH-FH Hand output cable Class 100100605: FA-Robot: Cable
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

Material	Description / Price List Text / Classification
324579	RT ToolBox3 Standard Robot programming and simulation Software, Windows 10/11; USB Class 100101206: FA-Software: Software Robot
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