



for a greener tomorrow



FACTORY AUTOMATION

FR-CS80

Compact & smart frequency inverters



- Space saving due to low heat design
- Plug and Play connection to HMI (GOT)
- Perfect motor control by flux vector control with autotuning
- DC bus connection for energy sharing

Various functions in a small body – compact and smart inverter



In-house comparison
Volume reduction to
57 %

Compact size achieved by the low heat generation design



Easy maintenance

- Easy to use
Compatible with all actual keypads.

- Supporting high-speed communication
RS485 communication as standard, supporting Modbus®/RTU and Mitsubishi protocol

- Shorter startup time with easy setup
Easy to configure via FR Configurator2, which is free software and can be downloaded from the MyMitsubishi website.

- Easy connection with GOT
When the automatic connection is enabled, the inverter can communicate with the GOT2000 series simply by connecting the GOT.

- Reduced wiring check time
The wiring can be checked easily by lifting the control terminal cover, which makes maintenance easier.

- Easy wiring to the control circuit
Spring clamp terminals provide high reliability and easy wiring.

- Protected in hazardous environments
The circuit board coating conforms to IEC 60721-3-3 3C2/3S2 for improved environmental resistance.

Environment consciousness in global standard

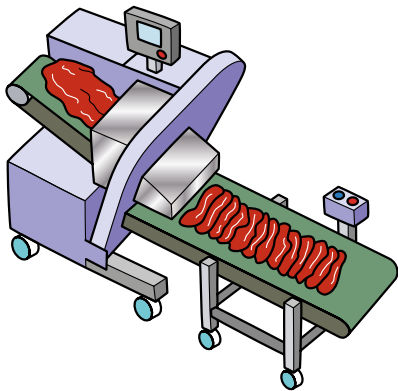
Compliant with the EU RoHS directive
Being RoHS compliant, the inverter is friendly to people and the environment.

EMC directive compliant noise filter
EMC compliant to EN61800-3 2nd environment, when an optional EMC filter is connected.

Compatibility with various standards
The inverters are compatible with UL, cUL, EAC, EC directives (CE marking).



Food machinery



General-purpose magnetic flux vector control

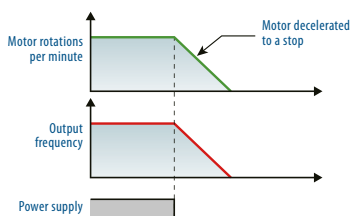
Depending on the type of ingredients, with the right amount of low speed torque it is possible to regulate a suitable speed for food production.

Fast-response current limit

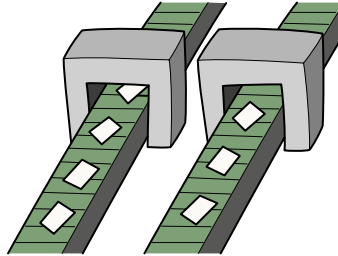
Operation continues and the overcurrent alarm is not activated even if there is a sudden change in load during the cutting of food.

Power failure time deceleration to stop function

The motor decelerates to a stop without coasting when power failure or undervoltage occurs. This function is useful for stopping the motor at power failure to prevent danger.



Conveyor



Increased excitation deceleration

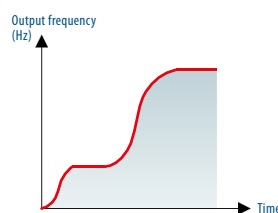
The deceleration time can be reduced without using a brake resistor. The tact time can be reduced for a transfer line or the like.

Communication operation (RS485 communication)

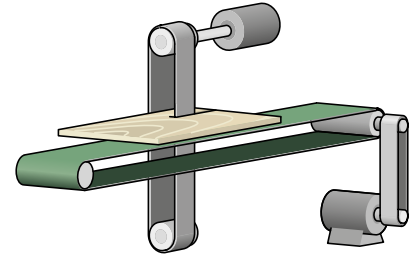
Conveyor belts can be controlled individually by using multiple inverters. Automatic operation is possible by collectively managing multiple inverters.

S-pattern acceleration/deceleration

An S-pattern is maintained from the present frequency to the target frequency; therefore it is possible to reduce shock during acceleration/deceleration and prevent load shifts.



Wood processing machine

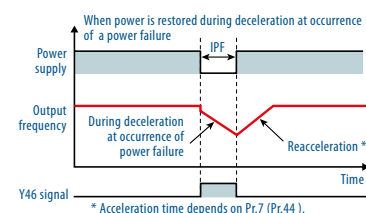


Continuous operation function at instantaneous power failure

Even in the event of an instantaneous power failure, motor operation continues without coasting and production is maintained.

Multi-speed function (Up to 15-speed switching operation)

Operation speeds can be pre-set via parameters. Operation speed suitable for the ingredients being used can be set and easily changed.



* Acceleration time depends on Pr.7 (Pr.44).

FR-CS80 specifications

Specifications

TYPE	APPLICABLE MOTOR CAPACITY (kW)	RATED POWER (kW)	RATED CURRENT (A)	WxHxD (MM)	ART. NO.
FR-CS84-012-60	0.40	0.40	1.2	68x128x118	325720
FR-CS84-022-60	0.75	0.75	2.2	68x128x118	325721
FR-CS84-036-60	1.50	1.50	3.6	108x128x130	325722
FR-CS84-050-60	2.20	2.20	5	108x128x130	325723
FR-CS84-080-60	3.70	3.70	8	108x128x160	325724
FR-CS84-120-60	5.50	5.50	12	197.5x150x134	325745
FR-CS84-160-60	7.50	7.50	16	197.5x150x134	325746
FR-CS84-230-60	11.00	11.00	23	180x260x165	325747
FR-CS84-295-60	15.00	15.00	29.5	180x260x165	325748

TYPE	APPLICABLE MOTOR CAPACITY (kW)	RATED POWER (kW)	RATED CURRENT (A)	WxHxD (MM)	ART. NO.
FR-CS825-025-60	0.40	0.40	2.5	68x128x118	325716
FR-CS825-042-60	0.75	0.75	4.2	68x128x118	325717
FR-CS825-070-60	1.50	1.50	7	108x128x160	325718
FR-CS825-100-60	2.20	2.20	10	108x128x160	325719

All modules have the protective structure IP20

Options

TYPE	DESCRIPTION	ART. NO.
FR-LU08	Graphical operation panel with liquid crystal display	274525
FR-PU07	Interactive parameter unit with LCD display	166134
FR-PA07	This operation panel enables inverter operation and monitoring of frequency, etc. from the enclosure surface	214795
FR-CB20[]	"Cable for connection of operation panel or parameter unit indicates a cable length. (1 m, 3 m, 5 m)"	76003 (3 m)/76002 (1 m)
FR-ADP	"A connector to connect the operation panel to the parameter unit connection cable."	157515
FR-UDA01, 02	Attachment for installation on DIN rail	130833 (01)/130832 (02)
FR-BSF01	For line noise reduction	50461
FR-BLF	For line noise reduction	14253

Other external (not mitsubishi based) options could be possible

EMC filter

FILTER	FREQUENCY INVERTER	MAX. CABLE LENGTH		DIMENSIONS (WxHxD) [MM]	WEIGHT [KG]	ART. NO.
		C1	C2			
FFR-CS-050-14A-SF1 ①	FR-CS825-025-60 – FR-CS825-042-60	20 m	35 m	70x168x40	0,39	312348
FFR-C-CS-050-14A-SF1-LL ②		10 m	—	70x168x42	0,49	334917
FFR-CS-080-20A-SF1 ①	FR-CS825-070-60	20 m	35 m	123x168x42	0,64	312349
FFR-C-CS-080-20A-SF1-LL ②		10 m	—		0,8	334918
FFR-C-CS-100-26A-SF1 ①	FR-CS825-100-60	20 m	35 m	145x216x46	0,75	334867
FFR-C-CS-100-26A-SF1-LL ②		10 m	—		0,9	334874
FFR-C-CSH-022-6A-SF1 ①	FR-CS84-012-60 – FR-CS84-022-60	20 m	50 m	168x70x55	0,51	334868
FFR-C-CSH-022-6A-SF1-LL ②		10 m	30 m			334871
FFR-CSH-036-8A-SF1 ①	FR-CS84-036-60	20 m	60 m	168x114x45	0,77	312332
FFR-CSH-036-8A-SF1-LL ②		10 m	30 m			312334
FFR-CSH-080-16A-SF1 ①	FR-CS84-050-60 – FR-CS84-080-60	20 m	75 m	168x114x45	0,9	312333
FFR-C-CSH-080-16A-SF1-LL ②		10 m	30 m			301260
FFR-C-MSH-160-30A-SF1 ①	FR-CS84-120-60 – FR-CS84-160-60	20 m	70 m	210x202x55	1,7	334869
FFR-C-MSH-160-30A-SF1-LL ②		10 m	30 m			334873
FFR-C-MSH-295-50A-SF1 ①	FR-CS84-230-60 – FR-CS84-295-60	20 m	100 m	318x182x56	2,4	334870

① SF1 = < 20 mA ② SF1-LL < 5 mA

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Version check



Art. no. 332682-A

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Printed June 2018