



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

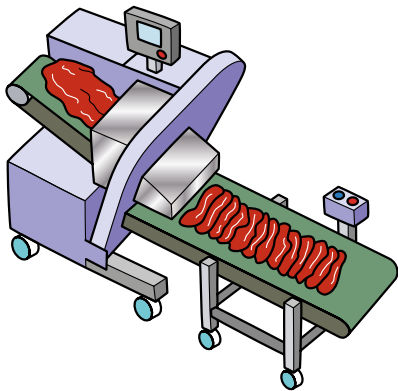
**Compliant with the EU RoHS directive**  
Being RoHS compliant, the inverter is friendly to people and the environment.

**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

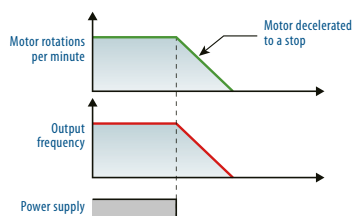
Depending on the type of ingredients, with the right amount of low speed torque it is possible to regulate a suitable speed for food production.

#### Fast-response current limit

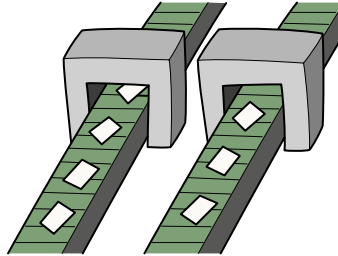
Operation continues and the overcurrent alarm is not activated even if there is a sudden change in load during the cutting of food.

#### 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

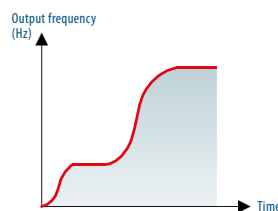
The deceleration time can be reduced without using a brake resistor. The tact time can be reduced for a transfer line or the like.

#### Communication operation (RS485 communication)

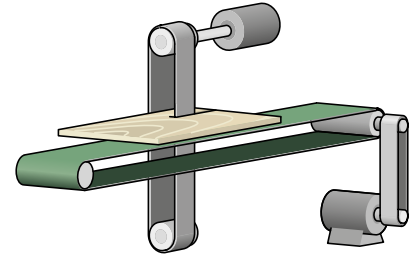
Conveyor belts can be controlled individually by using multiple inverters. Automatic operation is possible by collectively managing multiple inverters.

#### 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

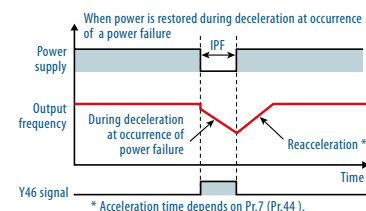


#### Continuous operation function at instantaneous power failure

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