Frequency converter

Frequency Converter Fe

Frequency converter

Frequency Converter Fe

Documentation

- Broad performance spectrum
- High overcurrent carrying capacity
- Integrated brake chopper (< 15 kW)
- CE marking and UL certification
- Worldwide availability and service

Rexroth Frequency Converter Fe represents the economical line of converters for the power range from 0.75 kW to 160 kW. The Frequency Converter Fe is designed for V/f operation in harsh environments, allowing a wide range of applications.

Technical data

		FECG02.1-0K75-...-SP	FECG02.1-1K50-...-SP	FECG02.1-2K20-...-SP	FECG02.1-4K00-...-SP	FEC(G/P)02.1-5K50-...-SP	FEC(G/P)02.1-7K50-...-SP
Performance data							
Rated output	[kW]	0.75	1.5	2.2	4	5.5	7.5
Rated continuous current	[A]	2.5	4	6	10	13	17
Nominal motor voltage		Three phase, 0 V ... mains voltage					
Output voltage		0 V ... mains voltage					
Output frequency		0 ... 650 Hz					
Overload capacity	G-type	200 % In for 1 s or 150 % In for 60 s					
	P-type	120 % In for 60 s or 105 % In for 60 min					
Mains connection voltage	3 AC	3 AC 380 … 480 V (-15 % / +10 %)					
Frequency		50 ... 60 Hz (±5 %)					
Brake chopper/resistor							
Brake resistor		External					
Brake chopper		Internal					
Ambient conditions							
Permissible temperature (operation)		-10 ... +40 °C					
Permissible relative humidity (operation)		< 90 %					
Max. installation height		Derating from 1000 m (1 % of the power output per 100 m)					
Functions							
Control technology		V/f					
Pulse width modulation (PWM), continuously adjustable	[kHz]	1 ... 15					

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Modulation type		Magnetic flux PWM-modulation: SVPWM					
Speed control range	Without pulse encoder	1 : 100					
	With pulse encoder	1 : 100					
Start-up torque	V/f	Max. start-up torque 150 % at 5 Hz					
Frequency resolution	Digital	0.01 Hz					
	Analog	Max. frequency x 0.1 %					
V/f curve		Freely definable					
Ramps		Linear, S-curve					
DC brake	Start frequency	0 ... 60 Hz					
	Braking time	0 ... 10 s					
Automatic energy saving function		Load-dependent adaptation of V/f curve					
Automatic PWM frequency adaptation		Load-dependent adaptation of PWM frequency					
Integrated controller		Integrated step switching mechanism					
Frequency setting accuracy	Analog	0.05 %					
	Digital	0.01 %					
Controller		PID					
Bus systems		Modbus					
		PROFIBUS (ext. option)					
Status messages via digital outputs		Mode, target value achieved, etc.					
Display		4-digit LED: frequency, output voltage, output current, etc.					
Status LED		Rotation direction and operating status					
Weight							
Mass	[kg]	3	3	3.2	3.2	3.5	3.5

		FEC(G/P)02.1-11K0-...-BN	FEC(G/P)02.1-15K0-...-BN	FEC(G/P)02.1-18K5-...-BN	FEC(G/P)02.1-22K0-...-BN	FEC(G/P)02.1-30K0-...-BN	FEC(G/P)02.1-37K0-...-BN
Performance data							
Rated output	[kW]	11	15	18.5	22	30	37
Rated continuous current	[A]	24	33	39	44	60	75
Nominal motor voltage		Three phase, 0 V ... mains voltage					
Output voltage		0 V ... mains voltage					
Output frequency		0 ... 650 Hz					
Overload capacity	G-type	200 % In for 1 s or 150 % In for 60 s					
	P-type	120 % In for 60 s or 105 % In for 60 min					
Mains connection voltage	3 AC	3 AC 380 … 480 V (-15 % / +10 %)					
Frequency		50 ... 60 Hz (±5 %)					
Brake chopper/resistor							
Brake resistor		External					

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Brake chopper		Internal		External			
Ambient conditions							
Permissible temperature (operation)		-10 ... +40 °C					
Permissible relative humidity (operation)		< 90 %					
Max. installation height		Derating from 1000 m (1 % of the power output per 100 m)					
Functions							
Control technology		V/f					
Pulse width modulation (PWM), continuously adjustable	[kHz]	1 ... 8					
Modulation type		Magnetic flux PWM-modulation: SVPWM					
Speed control range	Without pulse encoder	1 : 100					
	With pulse encoder	1 : 100					
Start-up torque	V/f	Max. start-up torque 150 % at 5 Hz					
Frequency resolution	Digital	0.01 Hz					
	Analog	Max. frequency x 0.1 %					
V/f curve		Freely definable					
Ramps		Linear, S-curve					
DC brake	Start frequency	0 ... 60 Hz					
	Braking time	0 ... 10 s					
Automatic energy saving function		Load-dependent adaptation of V/f curve					
Automatic PWM frequency adaptation		Load-dependent adaptation of PWM frequency					
Integrated controller		Integrated step switching mechanism					
Frequency setting accuracy	Analog	0.05 %					
	Digital	0.01 %					
Controller		PID					
Bus systems		Modbus					
		PROFIBUS (ext. option)					
Status messages via digital outputs		Mode, target value achieved, etc.					
Display		4-digit LED: frequency, output voltage, output current, etc.					
Status LED		Rotation direction and operating status					
Weight							
Mass	[kg]	10.7	10.9	16.2	16.9	21.5	22

		FEC(G/P)02.1-45K0-...-BN	FEC(G/P)02.1-55K0-...-BN	FEC(G/P)02.1-75K0-...-BN	FEC(G/P)02.1-90K0-...-BN	FEC(G/P)02.1-110K-...-BN	FEC(G/P)02.1-132K-...-BN	FEC(G/P)02.1-160K-...-BN
Performance data								
Rated output	[kW]	45	55	75	90	110	132	160
Rated continuous current	[A]	95	110	152	183	223	265	325

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Nominal motor voltage		Three phase, 0 V ... mains voltage	
Output voltage		0 V ... mains voltage	
Output frequency		0 ... 650 Hz	
Overload capacity	G-type	200 % In for 1 s or 150 % In for 60 s	
	P-type	120 % In for 60 s or 105 % In for 60 min	
Mains connection voltage	3 AC	3 AC 380 … 480 V (-15 % / +10 %)	
Frequency		50 ... 60 Hz (±5 %)	
Brake chopper/resistor			
Brake resistor		External	
Brake chopper		External	
Ambient conditions			
Permissible temperature (operation)		-10 ... +40 °C	
Permissible relative humidity (operation)		< 90 %	
Max. installation height		Derating from 1000 m (1 % of the power output per 100 m)	
Functions			
Control technology		V/f	
Pulse width modulation (PWM), continuously adjustable	[kHz]	1 ... 6	
Modulation type		Magnetic flux PWM-modulation: SVPWM	
Speed control range	Without pulse encoder	1 : 100	
	With pulse encoder	1 : 100	
Start-up torque	V/f	Max. start-up torque 150 % at 5 Hz	
Frequency resolution	Digital	0.01 Hz	
	Analog	Max. frequency x 0.1 %	Max. frequency x 0.01 Hz
V/f curve		Freely definable	
Ramps		Linear, S-curve	
DC brake	Start frequency	0 ... 60 Hz	
	Braking time	0 ... 10 s	
Automatic energy saving function		Load-dependent adaptation of V/f curve	
Automatic PWM frequency adaptation		Load-dependent adaptation of PWM frequency	
Integrated controller		Integrated step switching mechanism	
Frequency setting accuracy	Analog	0.05 %	
	Digital	0.01 %	
Controller		PID	
Bus systems		Modbus	
		PROFIBUS (ext. option)	
Status messages via digital outputs		Mode, target value achieved, etc.	

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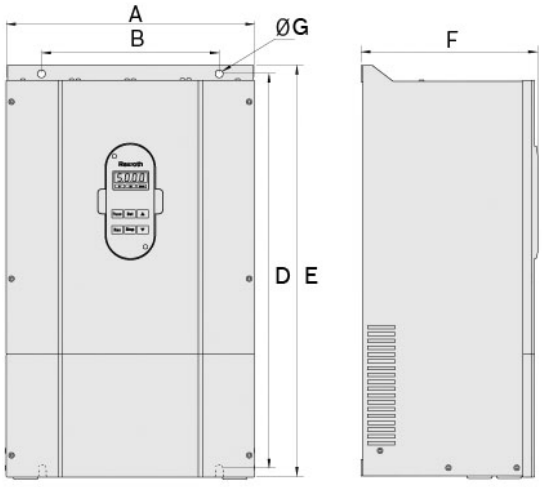
Display		4-digit LED: frequency, output voltage, output current, etc.						
Status LED		Rotation direction and operating status						
Weight								
Mass	[kg]	33.2	33.8	50.9	52.5	96.5	100	102

Dimensions



Dimensions

Type	A	E	F
	[mm]	[mm]	[mm]
FECG02.1-0K75-...-SP	125	220	176
FECG02.1-1K50-...-SP			
FECG02.1-2K20-...-SP			
FECG02.1-4K00-...-SP			
FEC(G/P)02.1-5K50-...-SP			
FEC(G/P)02.1-7K50-...-SP			
FEC(G/P)02.1-11K0-...-BN	220	392	218
FEC(G/P)02.1-15K0-...-BN			
FEC(G/P)02.1-18K5-...-BN	275	463	
FEC(G/P)02.1-22K0-...-BN			
FEC(G/P)02.1-30K0-...-BN	290	574	236
FEC(G/P)02.1-37K0-...-BN			

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Dimensions

Type	A	E	F
	[mm]	[mm]	[mm]
FEC(G/P)02.1-45K0-...-BN	364	602	260
FEC(G/P)02.1-55K0-...-BN			
FEC(G/P)02.1-75K0-...-BN	455	682	290
FEC(G/P)02.1-90K0-...-BN			
FEC(G/P)02.1-110K-...-BN	570	850	360
FEC(G/P)02.1-132K-...-BN			
FEC(G/P)02.1-160K-...-BN			

Accessories

Type code	Description	Part number:
FEAA02.1-MODB*-PROFI-NNNN-NN	Communication adapter to connect a Rexroth Fe frequency converter to a PROFIBUS master	R912001501
FRKB0001/001,0	Cable to connect the PROFIBUS adapter, 1 m	R912001756
FRKB0002/005,0	Cable connecting the PROFIBUS adapter, 5 m	R912001757

Type code	Description	Part number:
FELR01.1N-0080-N750R-D-560-NNNN	Brake resistor, 0.08 kW, 750 Ω	R912001618
FELR01.1N-0150-N700R-D-560-NNNN	Brake resistor 0.15 kW, 700 Ω	R912001619
FELR01.1N-0150-N700R-D-560-NNNN	Brake resistor 1.2 kW, 180 Ω	R912001620
FELR01.1N-01K5-N068R-D-560-NNNN	Brake resistor 1.5 kW, 68 Ω	R912001621
FELR01.1N-01K5-N150R-D-560-NNNN	Brake resistor 1.5 kW, 150 Ω	R912001622
FELR01.1N-0260-N250R-D-560-NNNN	Brake resistor 0.26 kW, 250 Ω	R912001623
FELR01.1N-0260-N400R-D-560-NNNN	Brake resistor 0.26 kW, 400 Ω	R912001624
FELR01.1N-02K0-N047R-D-560-NNNN	Brake resistor 2 kW, 47 Ω	R912001625
FELR01.1N-02K0-N110R-D-560-NNNN	Brake resistor 2 kW, 110 Ω	R912001626
FELR01.1N-0390-N150R-D-560-NNNN	Brake resistor 0.39 kW, 150 Ω	R912001627
FELR01.1N-0500-N550R-D-560-NNNN	Brake resistor, 0.5 kW, 550 Ω	R912001631
FELR01.1N-0520-N100R-D-560-NNNN	Brake resistor 0.52 kW, 100 Ω	R912001632
FELR01.1N-0520-N230R-D-560-NNNN	Brake resistor 0.52 kW, 230 Ω	R912001633
FELR01.1N-0520-N350R-D-560-NNNN	Brake resistor 0.52 kW, 350 Ω	R912001634
FELR01.1N-0780-N075R-D-560-NNNN	Brake resistor 0.78 kW, 75 Ω	R912001637
FELR01.1N-0780-N140R-D-560-NNNN	Brake resistor 0.78 kW, 140 Ω	R912001638
FELR01.1N-0800-N275R-D-560-NNNN	Brake resistor 0.8 kW, 275 Ω	R912001639
FELR01.1N-0800-N275R-D-560-NNNN	Brake resistor 1.04 kW, 50 Ω	R912001652
FELR01.1N-1K04-N090R-D-560-NNNN	Brake resistor 1.04 kW, 90 Ω	R912001653
FELR01.1N-1K56-N040R-D-560-NNNN	Brake resistor 1.56 kW, 40 Ω	R912001654

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Type code	Description	Part number:
FELR01.1N-1K56-N070R-D-560-NNNN	Brake resistor 1.56 kW, 70 Ω	R912001655

Type code	Description	Part number:
FELR01.1N-40K0-N03R4-A-560-NNNN	Brake resistor 40 kW, 3.4 Ω 10% OT	R912004612
FELR01.1N-50K0-N03R7-A-560-NNNN	Brake resistor 50 kW, 3.7 Ω 40% OT	R912004613
FELR01.1N-50K0-N05R0-A-560-NNNN	Brake resistor 50 kW, 5 Ω 40% OT	R912004614
FELR01.1N-60K0-N03R7-A-560-NNNN	Brake resistor 60 kW, 3.7 Ω 40% OT	R912004615
FELR01.1N-80K0-N03R2-A-560-NNNN	Brake resistor 80 kW, 3.2 Ω 20% OT	R912004616
FELR01.1N-04K5-N055R-A-560-NNNN	Brake resistor 4.5 kW, 55 Ω	R912001628
FELR01.1N-04K8-N032R-A-560-NNNN	Brake resistor 4.8 kW, 27.2 Ω	R912001629
FELR01.1N-04K8-N27R2-A-560-NNNN	Brake resistor 4.8 kW, 27.2 Ω	R912001630
FELR01.1N-06K0-N020R-A-560-NNNN	Brake resistor 6 kW, 20 Ω	R912001635
FELR01.1N-06K0-N040R-A-560-NNNN	Brake resistor 6 kW, 40 Ω	R912001636
FELR01.1N-08K0-N027R-A-560-NNNN	Brake resistor 6 kW, 40 Ω	R912001640
FELR01.1N-09K6-N016R-A-560-NNNN	Brake resistor 9.6 kW, 16 Ω	R912001641
FELR01.1N-09K6-N016R-A-560-NNNN	Brake resistor 9.6 kW, 13.6 Ω	R912001642
FELR01.1N-10K0-N022R-A-560-NNNN	Brake resistor 10 kW, 22 Ω	R912001643
FELR01.1N-10K0-N024R-A-560-NNNN	Brake resistor 10 kW, 24 Ω	R912001644
FELR01.1N-10K0-N028R-A-560-NNNN	Brake resistor 10 kW, 28 Ω	R912001645
FELR01.1N-10K0-N032R-A-560-NNNN	Brake resistor 10 kW, 32 Ω	R912001646
FELR01.1N-10K0-N27R2-A-560-NNNN	Brake resistor 10 kW, 27.2 Ω	R912001647
FELR01.1N-12K5-N017R-A-560-NNNN	Brake resistor 12.5 kW, 17 Ω	R912001648
FELR01.1N-12K5-N018R-A-560-NNNN	Brake resistor 12.5 kW, 18 Ω	R912001649
FELR01.1N-12K5-N020R-A-560-NNNN	Brake resistor 12.5 kW, 20 Ω	R912001650
FELR01.1N-12K5-N022R-A-560-NNNN	Brake resistor 12.5 kW, 22 Ω	R912001651

EMC filter selection guide for Frequency Converter Fe

Frequency converter	EMC filter type code	Part number:	Purchase
FECG02.1-0K75-3P400-A-SP-MODB-01V01 FECG02.1-1K50-3P400-A-SP-MODB-01V01 FECG02.1-2K20-3P400-A-SP-MODB-01V01	FENF01.1A-A075-E0008-A-480-NNNN	R912003315	1
FECG02.1-4K00-3P400-A-SP-MODB-01V01 FECG02.1-5K50-3P400-A-SP-MODB-01V01 FECP02.1-5K50-3P400-A-SP-MODB-01V01 FECG02.1-7K50-3P400-A-SP-MODB-01V01 FECP02.1-7K50-3P400-A-SP-MODB-01V01	FENF01.1A-A075-E0022-A-480-NNNN	R912003316	1
FECG02.1-11K0-3P400-A-SP-MODB-01V01 FECP02.1-11K0-3P400-A-SP-MODB-01V01	FENF01.1A-A075-E0030-A-480-NNNN	R912003317	1

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EMC filter selection guide for Frequency Converter Fe

Frequency converter	EMC filter type code	Part number:	Purchase
FECG02.1-15K0-3P400-A-SP-MODB-01V01 FECP02.1-15K0-3P400-A-SP-MODB-01V01 FECG02.1-18K5-3P400-A-SP-MODB-01V01 FECP02.1-18K5-3P400-A-SP-MODB-01V01 FECG02.1-22K0-3P400-A-SP-MODB-01V01 FECP02.1-22K0-3P400-A-SP-MODB-01V01	FENF01.1A-A075-E0051-A-480-NNNN	R912003318	1
FECG02.1-30K0-3P400-A-SP-MODB-01V01 FECP02.1-30K0-3P400-A-SP-MODB-01V01 FECG02.1-37K0-3P400-A-SP-MODB-01V01 FECP02.1-37K0-3P400-A-SP-MODB-01V01	FENF01.1A-A075-E0090-A-480-NNNN	R912003319	1
FECG02.1-45K0-3P400-A-SP-MODB-01V01 FECP02.1-45K0-3P400-A-SP-MODB-01V01 FECG02.1-55K0-3P400-A-SP-MODB-01V01 FECP02.1-55K0-3P400-A-SP-MODB-01V01	FENF01.1A-A075-E0120-A-480-NNNN	R912003320	1
FECG02.1-75K0-3P400-A-SP-MODB-01V01 FECP02.1-75K0-3P400-A-SP-MODB-01V01 FECG02.1-90K0-3P400-A-SP-MODB-01V01 FECP02.1-90K0-3P400-A-SP-MODB-01V01 FECG02.1-110K-3P400-A-SP-MODB-01V01 FECP02.1-110K-3P400-A-SP-MODB-01V01	FENF01.1A-A075-E0250-A-480-NNNN	R912003329	1
FECG02.1-132K-3P400-A-SP-MODB-01V01 FECP02.1-132K-3P400-A-SP-MODB-01V01	FENF01.1A-A075-E0320-A-480-NNNN	R912004298	1
FECG02.1-160K-3P400-A-SP-MODB-01V01 FECP02.1-160K-3P400-A-SP-MODB-01V01	FENF01.1A-A075-E0400-A-480-NNNN	R912004299	1

Ordering information

Type code	Description	Part number:
FECG02.1-0K75-3P400-A-SP-MODB-01V01	0.75 kW, 3 AC 380 ... 480 V, 50/60 Hz, 2.5 A	R912001279
FECG02.1-1K50-3P400-A-SP-MODB-01V01	1.5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 4 A	R912001280

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Type code	Description	Part number:
FECG02.1-2K20-3P400-A-SP-MODB-01V01	2.2 kW, 3 AC 380 ... 480 V, 50/60 Hz, 6 A	R912001281
FECG02.1-4K00-3P400-A-SP-MODB-01V01	4 kW, 3 AC 380 ... 480 V, 50/60 Hz, 10 A	R912001283
FECG02.1-5K50-3P400-A-SP-MODB-01V01	5.5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 13 A	R912001284
FECG02.1-7K50-3P400-A-SP-MODB-01V01	7.5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 17 A	R912001285
FECG02.1-11K0-3P400-A-BN-MODB-01V01	11 kW, 3 AC 380 ... 480 V, 50/60 Hz, 24 A	R912001286
FECG02.1-15K0-3P400-A-BN-MODB-01V01	15 kW, 3 AC 380 ... 480 V, 50/60 Hz, 33 A	R912001287
FECG02.1-18K5-3P400-A-BN-MODB-01V01	18.5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 39 A	R912001288
FECG02.1-22K0-3P400-A-BN-MODB-01V01	22 kW, 3 AC 380 ... 480 V, 50/60 Hz, 44 A	R912001289
FECG02.1-30K0-3P400-A-BN-MODB-01V01	30 kW, 3 AC 380 ... 480 V, 50/60 Hz, 60 A	R912001290
FECG02.1-37K0-3P400-A-BN-MODB-01V01	37 kW, 3 AC 380 ... 480 V, 50/60 Hz, 75 A	R912001291
FECG02.1-45K0-3P400-A-BN-MODB-01V01	45 kW, 3 AC 380 ... 480 V, 50/60 Hz, 95 A	R912001292
FECG02.1-55K0-3P400-A-BN-MODB-01V01	55 kW, 3 AC 380 ... 480 V, 50/60 Hz, 110 A	R912001293
FECG02.1-75K0-3P400-A-BN-MODB-01V01	75 kW, 3 AC 380 ... 480 V, 50/60 Hz, 152 A	R912001294
FECG02.1-90K0-3P400-A-BN-MODB-01V01	90 kW, 3 AC 380 ... 480 V, 50/60 Hz, 183 A	R912001295
FECG02.1-110K-3P400-A-BN-MODB-01V01	110 kW, 3 AC 380 ... 480 V, 50/60 Hz, 223 A	R912001296
FECG02.1-132K-3P400-A-BN-MODB-01V01	132 kW, 3 AC 380 ...480 V, 50/60 Hz, 265 A	R912001761
FECG02.1-160K-3P400-A-BN-MODB-01V01	160 kW, 3 AC 380 ... 480 V, 50/60 Hz, 325 A	R912001762

Type code	Description	Part number:
FECP02.1-5K50-3P400-A-SP-MODB-01V01	5.5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 13 A	R912001297
FECP02.1-7K50-3P400-A-SP-MODB-01V01	7.5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 17 A	R912001298
FECP02.1-11K0--3P400-A-BN-MODB-01V01	11 kW, 3 AC 380 ... 480 V, 50/60 Hz, 24 A	R912001299
FECP02.1-15K0-3P400-A-BN-MODB-01V01	15 kW, 3 AC 380 ... 480 V, 50/60 Hz, 33 A	R912001300
FECP02.1-18K5-3P400-A-BN-MODB-01V01	18.5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 39 A	R912001301
FECP02.1-22K0-3P400-A-BN-MODB-01V01	22 kW, 3 AC 380 ... 480 V, 50/60 Hz, 44 A	R912001302
FECP02.1-30K0-3P400-A-BN-MODB-01V01	30 kW, 3 AC 380 ... 480 V, 50/60 Hz, 60 A	R912001303
FECP02.1-37K0-3P400-A-BN-MODB-01V01	37 kW, 3 AC 380 ... 480 V, 50/60 Hz, 75 A	R912001304
FECP02.1-45K0-3P400-A-BN-MODB-01V01	45 kW, 3 AC 380 ... 480 V, 50/60 Hz, 95 A	R912001305
FECP02.1-55K0-3P400-A-BN-MODB-01V01	55 kW, 3 AC 380 ... 480 V, 50/60 Hz, 110 A	R912001306
FECP02.1-75K0-3P400-A-BN-MODB-01V01	75 kW, 3 AC 380 ... 480 V, 50/60 Hz, 152 A	R912001307

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Type code	Description	Part number:
FECP02.1-90K0-3P400-A-BN-MODB-01V01	90 kW, 3 AC 380 ... 480 V, 50/60 Hz, 183 A	R912001308
FECP02.1-110K-3P400-A-BN-MODB-01V01	110 kW, 3 AC 380 ... 480 V, 50/60 Hz, 223 A	R912001309
FECP02.1-132K-3P400-A-BN-MODB-01V01	132 kW, 3 AC 380 ...480 V, 50/60 Hz, 265 A	R912001766
FECP02.1-160K-3P400-A-BN-MODB-01V01	160 kW, 3 AC 380 ... 480 V, 50/60 Hz, 325 A	R912001767

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www.boschrexroth.com/adressen

The data specified above only serve to describe the product.
As our products are constantly being further developed, no statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification.
It must be remembered that our products are subject to a natural process of wear and aging.