

Technical data sheet

Commutator motors F 460 Ex, F 460 Ex HT, F 460 Ex EL, F 460-1 Ex



More than just pumps



Advantages/characteristics:

- ▶ Compact design
- ▶ Extremely tough housing with aluminium double casing
- ▶ Extremely low noise
- ▶ Fully closed
- ▶ Optimum airflow enables excellent cooling
- ▶ Above average service life of the carbon brushes
- ▶ Highest safety standard (protection class I or III)
- ▶ Optionally with integrated low-voltage protection: Prevents uncontrolled start-up of the pump after a power failure
- ▶ F 460 Ex EL: with stepless speed setting to regulate the rising medium



Technical data/type	F 460 Ex	F 460 Ex EL	F 460-1 Ex	F 460 Ex HT
Motor type	Single phase universal motor			
Housing, material	Aluminum, painted			
Venting	Externally ventilated			
Motor protection	Circuit breaker			
Low-voltage protection	Optional			
Speed setting, stepless	No	Yes	No	No
Power supply cable (100 - 240 V)	H 07 RN-F 3G 1,5			
Power supply cable (12 - 24 V)	H 07 RN-F 2X 4			-
Standard cable length (m) ¹⁾	5			
Standard plug ²⁾	CEE 7/7 ³⁾			-
Weight (kg)	5.1		5.9	5.9

Certificates	
Operation category as per EN 60034-1 (VDE 0530)	S1 (continuous operation)
Protection class as per DIN EN 60 529	IP 55
EC-type examination certificate number	PTB 10 ATEX 1053X
Operating range	
Operating temperature (°C)	-20 up to +40 -20 up to +60 (HT-Version)

1) Other cable lengths available on request 2) Other plugs available on request 3) For applications outside hazardous areas

Nominal data for F 460 Ex, F 460 Ex EL, output 460 Watt									
Nominal voltage (V) ¹⁾	240		230		120	110		24	12
Nominal frequency	50	50	50 - 60	60	50	50 - 60	DC	DC	
Nominal output (W)	460						410	230	
Nominal speed (R/min)	8,500						7,700	6,000	
Nominal current (A)	2.1	2.2	2.2	4.4	4.5	4.5	17.0	19.0	
Protection class	I	I	I	I	I	I	III	III	
Ex-identification	II 2 G Ex db eb IIC T6/T5 Gb			File No: E67399 Class I, Groups C+D	II 2 G Ex db eb IIC T6/T5 Gb				

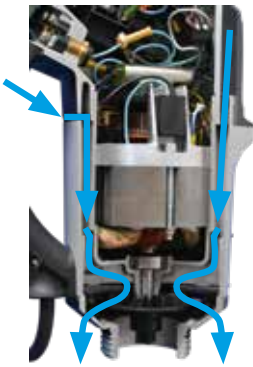
Nominal data for	F 460-1 Ex, output 700 Watt						F 460 HT, output 420 - 470 Watt	
	240	230		120	110		230 - 240	
Nominal voltage (V) ²⁾	50	50	50 - 60	60	50	50 - 60	50	50 - 60
Nominal frequency (Hz)	700						420 - 470	
Nominal output (W)	9,500						6,600 - 7,700	
Nominal speed (R/min)	3.3	3.4	3.4	6.8	7.0	7.0	2.2	
Nominal current (A)	I	I	I	I	I	I	I	
Protection class	II 2 G Ex db eb IIC T6/T5 Gb			File No: E67399 Class I, Groups C+D	II 2 G Ex db eb IIC T6/T5 Gb		II 2 G Ex db eb IIC T6/T5 Gb	

- 1) The 230 V and 110 V versions without low-voltage protection can also be operated with 60 Hz.
The speed is reduced by approx. 5 - 8 % (with the same input power). Power consumption increases by 4 - 6 %.
- 2) The 230 V and 110 V versions without low-voltage protection can also be operated with 60 Hz.
The speed is reduced by approx. 5 - 6 % (with the same input power). Power consumption increases by 3 - 4 %.

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Design:

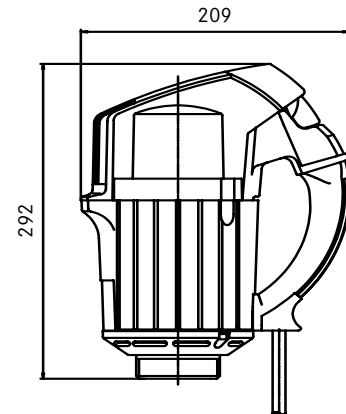


F 460 Ex externally ventilated with double housing.

The cooling air flows through the chambers of the double housing. The interior of the motor is thereby completely protected against corrosion of electrical components, e.g. from ambient air vapours, like in electroplating units.

The arrows show the direction of the cooling air through the chambers of the double housing.

Dimensions [mm]:



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Voltage (Volt)	Frequency (Hz)	Output (Watt)	Cable length (m)	Plug CEE 7/7	Part no.		
					Low-voltage protection with	Low-voltage protection without	
Motor F 460 Ex, without speed setting						Low-voltage protection	
240	50	460	5	Yes	12-460 30 008	12-460 30 046	
			5	-		12-460 30 016	
			-	-	10-460 00 053	10-460 00 048	
			5	Yes	10-460 00 047	10-460 00 044	
230	50		5	-	10-460 00 059	10-460 00 058	
			-	-	10-460 00 054	10-460 00 049	
	50-60		5	Yes		10-460 00 060	
120	60		5	-		10-460 00 062*)	
110	50	5	Yes	12-460 30 047			
		5	-	12-460 30 009			
	-	-	10-460 00 055				
	50-60	5	Yes		12-460 30 069		
		5	-		12-460 30 019		
		-	-		10-460 00 050		
24	DC	410	5	-		10-460 00 045	
		410	-	-		10-460 00 051	
12		230	5	-		10-460 00 046	
		230	-	-		10-460 00 052	
Motor F 460 Ex HT, without speed setting						Low-voltage protection	
						with	without
230 - 240	50 - 60	420 - 470	5	-		10-460 00 063	
230 - 240	50	420 - 470	5	-	10-460 00 064		
Motor F 460 Ex EL, with speed setting						With low-voltage protection	
230	50	460	5	Yes		10-460 00 067	
			5	-		10-460 00 069	
			-	-		10-460 00 068	
Motor F 460-1 Ex, without speed setting						Low-voltage protection	
						with	without
240	50	700	5	Yes	12-460 30 053		
			5	-	12-460 30 021	12-460 30 022	
			-	-	10-460 01 032	10-460 01 029	
230	50		5	Yes	10-460 01 028	10-460 01 027	
			5	-	10-460 01 038	10-460 01 037	
			-	-	10-460 01 033	10-460 01 030	
	50-60		5	Yes		10-460 01 039	
120	60		5	-		10-460 01 040*	
110	50		5	Yes	12-460 30 011		
			5	-	12-460 30 012		
	-		-	10-460 01 034			
	50-60		5	Yes		12-460 30 038	
		5	-		12-460 30 020		
		-	-		10-460 01 031		

* Version for the USA with UL approval

FLUX-GERÄTE GMBH

Talweg 12 · D-75433 Maulbronn

Tel +49 7043 101-0 · Fax +49 7043 101-444

info@flux-pumpen.de · www.flux-pumps.com