

Technical Data Sheet

Commutator motors F 460 Ex, 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 460-1 Ex HT	Certificates	
Motor type	Single phase universal motor				Operation category as per EN 60034-1 (VDE 0530)	S1 (continuous operation)
Housing, material	Aluminium, painted				Protection class as per DIN EN 60 529	IP 55
Venting	Externally ventilated				EC-type examination certificate number	PTB 10 ATEX 053X
Motor protection	Circuit breaker				Operating range	
Low-voltage protection	Optional				Operating temperature	-4 - 104°F (-20 - 40°C)
Speed setting, stepless	No	Yes	No	No	HT version	-4 - 140°F (-20 - 60°C)
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					
Power supply cable (42 V)	H 07 RN-F 2GX 1.5					
Standard cable length ¹⁾	16 ft (5 m)					
Standard plug ²⁾	CEE 7/7 ³⁾					
Weight	11.2 lbs (5.1 kg)		13 lbs (5.9 kg)			

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		42	24	12
Nominal frequency	50	50	50 - 60	60	50	50 - 60	50	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	11.5	17.0	19.0
Protection class	I	I	I	I	I	I	III	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	
Nominal voltage (V) ²⁾	240	230		120	110		230 - 240	
Nominal frequency (Hz)	50	50	50 - 60	60	50	50 - 60	50	50 - 60
Nominal output (W)	700						420 - 470	
Nominal speed (R/min)	9,500						6,600 - 7,700	
Nominal current (A)	3.3	3.4	3.4	6.8	7.0	7.0	2.2	
Protection class	I	I	I	I	I	I	I	
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		

- 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:

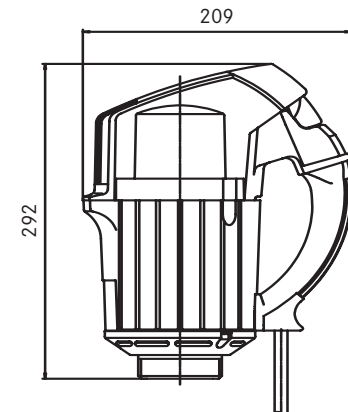


F 460 Ex externally ventilated with double housing.

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]:



Part numbers:

Voltage (Volt)	Frequency (Hz)	Output (Watt)	Cable length	Plug CEE 7/7	Part no.	
Motor F 460 Ex, without speed setting					Low-voltage protection	
					with	without
240	50	460	16 ft (5 m)	Yes	12-46030008	12-46030046
			16 ft (5 m)	-	-	12-46030016
			-	-	10-46000053	10-46000048
230	50		16 ft (5 m)	Yes	10-46000047	10-46000044
			16 ft (5 m)	-	10-46000059	10-46000058
			-	-	10-46000054	10-46000049
120	50-60		16 ft (5 m)	Yes	-	10-46000060
	60		16 ft (5 m)	-	-	10-46000062*
110	50		16 ft (5 m)	Yes	12-46030047	-
			16 ft (5 m)	-	12-46030009	-
			-	-	10-46000055	-
	50-60		16 ft (5 m)	Yes	-	12-46030069
			16 ft (5 m)	-	-	12-46030019
			-	-	-	10-46000050
24	DC		410	16 ft (5 m)	-	-
		-		-	-	10-46000051
12		230	16 ft (5 m)	-	-	10-46000046
			-	-	-	10-46000052
Motor F 460 Ex HT, without speed setting					Low-voltage protection	
					with	without
230 - 240	50 - 60	420 - 470	16 ft (5 m)	-	-	10-46000063
230 - 240	50	420 - 470	16 ft (5 m)	-	10-46000064	-
Motor F 460 Ex EL, with speed setting					With low-voltage protection	
230	50	460	16 ft (5 m)	Yes	10-46000067	
			16 ft (5 m)	-	10-46000069	
			-	-	10-46000068	
Motor F 460-1 Ex, without speed setting					Low-voltage protection	
					with	without
240	50	700	16 ft (5 m)	Yes	12-46030053	-
			16 ft (5 m)	-	12-46030021	12-46030022
			-	-	10-46001032	10-46001029
230	50		16 ft (5 m)	Yes	10-46001028	10-46001027
			16 ft (5 m)	-	10-46001038	10-46001037
			-	-	10-46001033	10-46001030
120	50-60		16 ft (5 m)	Yes	-	10-46001039
	60		16 ft (5 m)	-	-	10-46001040*
110	50		16 ft (5 m)	Yes	12-46030011	-
			16 ft (5 m)	-	12-46030012	-
			-	-	10-46001034	-
	50-60		16 ft (5 m)	Yes	-	12-46030038
			16 ft (5 m)	-	-	12-46030020
			-	-	-	10-46001031

* Version for the USA with UL approval

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