

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	Aluminium, 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			-
Power supply cable (42 V)	H 07 RN-F 2GX 1,5			-
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 bis +40 -20 bis +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		42	24	12
Nominal frequency	50	50	50 - 60		60	50	50 - 60	50	DC	DC
Nominal output (W)	460									
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 de IIC T6 Gb			File No: E67399 Class I, Groups C+D	II 2 G Ex de IIC T6 Gb					

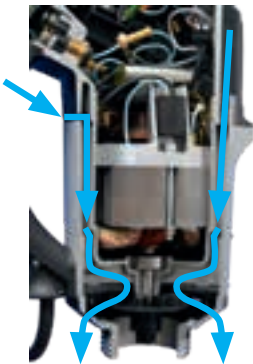
Nominal data for	F 460-1 Ex, output 700 Watt						F 460 HT, output 420 - 470 Watt	
Nominal voltage (V) ²⁾	240	230		120	110		230 - 240	
Nominal frequency (Hz)	50	50	50 - 60	60	50	50 - 60	50	50 - 60
Nominal output (W)	700						420 - 470	
Nominal speed (R/min)	9,500						6,600 - 7,700	
Nominal current (A)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

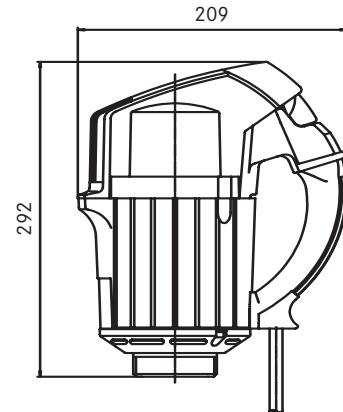


F 460 Ex externally ventilated with double housing.

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: Motors F 460 Ex, F 460 Ex HT, F 460 Ex EL, F 460-1 Ex

Voltage (Volt)	Frequency (Hz)	Output (Watt)	Cable length (m)	Plug CEE 7/7	Part no.	
					Low-voltage protection	
Motor F 460 Ex, without speed setting					with	without
240	50	460	5	Yes	10-460 00 005	10-460 00 000
			5	-	10-460 00 023	10-460 00 020
			-	-	10-460 00 013	10-460 00 008
230	50		5	Yes	10-460 00 006	10-460 00 001
			5	-	10-460 00 024	10-460 00 021
	-		-	10-460 00 014	10-460 00 009	
120	50-60		5	Yes		10-460 00 026
	60		5	-		10-460 00 031*)
110	50		5	Yes	10-460 00 007	
			5	-	10-460 00 025	
			-	-	10-460 00 015	
	50-60		5	Yes		10-460 00 002
		5	-		10-460 00 022	
42	50	-	-		10-460 00 010	
24	DC	410	5	-	10-460 00 030	
12			5	-		10-460 00 003
			-	-		10-460 00 011
		230	5	-		10-460 00 004
			-	-		10-460 00 012
Motor F 460 Ex HT, without speed setting					Low-voltage protection	
					with	without
230 - 240	50 - 60	420 - 470	5	-		10-460 00 038
230 - 240	50	420 - 470	5	-	10-460 00 039	
Motor F 460 Ex EL, with speed setting					With low-voltage protection	
230	50	460	5	Yes		10-460 00 028
			5	-		10-460 00 035
			-	-		10-460 00 029
Motor F 460-1 Ex, without speed setting					Low-voltage protection	
					with	without
240	50	700	5	Yes	10-460 01 003	10-460 01 000
			5	-	10-460 01 019	10-460 01 016
			-	-	10-460 01 009	10-460 01 006
230	50		5	Yes	10-460 01 004	10-460 01 001
			5	-	10-460 01 020	10-460 01 017
	-		-	10-460 01 010	10-460 01 007	
120	50-60		5	Yes		10-460 01 022
	60		5	-		10-460 01 024*)
110	50		5	Yes	10-460 01 005	
			5	-	10-460 01 021	
			-	-	10-460 01 011	
	50-60		5	Yes		10-460 01 002
		5	-		10-460 01 018	
			-	-		10-460 01 008

* Version for the USA with UL approval