

FE2 Explosion-Proof Electric Air Heaters

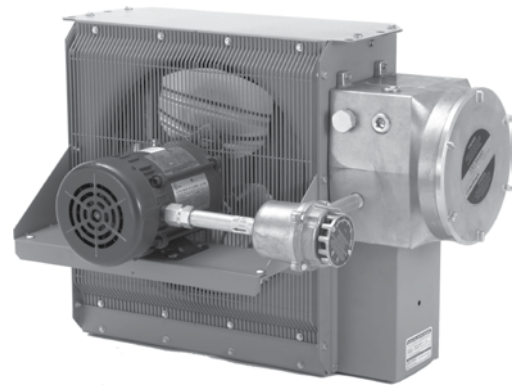


The heater core assembly is contained in a sturdy, epoxy-coated, 14-gauge steel cabinet which also carries the motor and fan assembly. Adjustable louvers allow directional control of the airflow. A narrow gap, two-piece fan guard is provided to shield all moving parts. All fasteners are zinc plated for corrosion protection.

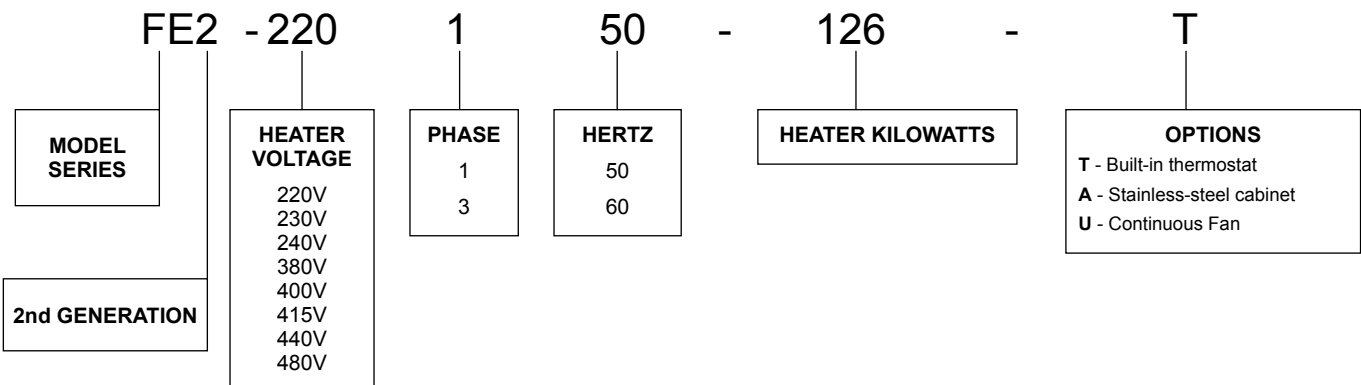
All aspects and details of the FE2 are subjected to exhaustive technical analysis and testing during design and development, and are manufactured under a registered quality assurance program. As a result, they have consistently proven their safety and reliability.

FE2 heaters are CE Marked & ATEX Approved to Directive 94/9/EC for use in hazardous locations. They are designed for dry indoor industrial applications such as oil refineries, petrochemical plants, pulp and paper mills, hazardous waste storage facilities, wastewater treatment plants, etc., where specific explosive gases or dusts may be present.

All FE2 heaters utilize the VacuCore® liquid-to-air heat exchanger. The induced vacuum within the sealed core provides greater efficiency, even distribution of heat across the face of the exchanger, and a faster warm-up. When necessary, the entire core can be safely and easily replaced with a new exchanger or core.



Model Coding



Reminder: This nomenclature illustration is intended primarily to explain how a product part number is defined. Not all voltage and/or wattage combinations are available - please consult the Performance Data chart(s) for product availability.

FE2



Explosion-Proof Electric Unit Heaters

Performance Data for 50 Hertz FE2

CE DEMKO 10 ATEX 0910365X Ex II 2 G, Ex d IIB T3 Gb EAC I Ex d IIB T2 Gb X

	MODEL	VOLTAGE (V)	NOMINAL WATTAGE (kW)	BTU/hr	PHASE	TOTAL CURRENT (A)	AIR TEMPERATURE RISE	
							°C	°F
220 VOLT	FE2-220150-025	220	2.5	8,550	1	11.4	11.0	19.8
	FE2-220150-042	220	4.2	14,350	1	19.1	18.5	33.2
	FE2-220150-063	220	6.3	21,500	1	28.6	15.8	28.4
	FE2-220150-084	220	8.4	28,700	1	38.2	21.1	38.0
	FE2-220150-126	220	12.6	43,050	1	57.3	15.3	27.5
230 VOLT	FE2-230150-028	230	2.8	9,550	1	12.0	12.3	22.1
	FE2-230150-046	230	4.6	15,700	1	20.0	20.2	36.3
	FE2-230150-069	230	6.9	23,550	1	29.9	17.3	31.2
	FE2-230150-138	230	13.8	47,150	1	59.9	16.7	30.1
240 VOLT	FE2-240150-030	240	3.0	10,250	1	12.4	13.2	23.7
	FE2-240150-050	240	5.0	17,100	1	20.8	22.0	39.6
	FE2-240150-075	240	7.5	25,600	1	31.2	18.8	33.9
	FE2-240150-100	240	10.0	34,150	1	41.7	25.1	45.2
	FE2-240150-150	240	15.0	51,250	1	62.5	18.2	32.7
380 VOLT	FE2-380350-025	380	2.5	8,550	3	3.8	11.0	19.8
	FE2-380350-042	380	4.2	14,350	3	6.4	18.5	33.2
	FE2-380350-063	380	6.3	21,500	3	9.6	15.8	28.4
	FE2-380350-084	380	8.4	28,700	3	12.8	21.1	38.0
	FE2-380350-125	380	12.5	42,700	3	19.0	15.1	27.3
	FE2-380350-167	380	16.7	57,050	3	25.4	20.2	36.4
	FE2-380350-209	380	20.9	71,400	3	31.8	12.2	22.0
400 VOLT	FE2-400350-028	400	2.8	9,550	3	4.1	12.3	22.1
	FE2-400350-046	400	4.6	15,700	3	6.6	20.2	36.3
	FE2-400350-069	400	6.9	23,550	3	10.0	17.3	31.2
	FE2-400350-093	400	9.3	31,750	3	13.4	23.3	42.0
	FE2-400350-139	400	13.9	47,450	3	20.1	16.8	30.3
	FE2-400350-185	400	18.5	63,200	3	26.7	22.4	40.4
	FE2-400350-231	400	23.1	78,900	3	33.3	13.5	24.4
415 VOLT	FE2-415350-037	415	3.7	12,650	3	5.1	16.3	29.3
	FE2-415350-075	415	7.5	25,600	3	10.4	18.8	33.9
	FE2-415350-149	415	14.9	50,900	3	20.7	18.1	32.5
	FE2-415350-224	415	22.4	76,500	3	31.2	13.1	23.6
440 VOLT	FE2-440350-042	440	4.2	14,350	3	5.5	18.5	33.2
	FE2-440350-084	440	8.4	28,700	3	11.0	21.1	38.0
	FE2-440350-168	440	16.8	57,400	3	22.0	20.4	36.7
	FE2-440350-210	440	21.0	71,700	3	27.6	12.3	22.1

FE2

Specifications for 50 Hertz FE2

50 HERTZ		FE2							
		NOMINAL kW		2.5 to 3.0	3.7 to 5.0	6.3 to 7.5	8.4 to 10	12.5 to 13.9	14.9 to 20
Maximum Altitude	(m)	3,658	2,438	3,048	2,134	3,048	2,134	3,048	2,134
	(ft)	12,000	8,000	10,000	7,000	10,000	7,000	10,000	7,000
Air Delivery	@ 21°C (m ³ /hr)	679		1,189		2,463		5,096	
	@ 70°F (CFM)	400		700		1,450		3,000	
Horizontal Throw	(m)	4.0		7.6		10.7		18.2	
	(ft)	13		25		35		60	
Maximum Mounting Height (to underside)	(m)	2.1		3.0		3.0		6.1	
	(ft)	7		10		10		20	
Motor Speed (RPM)		1,425				1,425		1,425	
Fan Diameter	(mm)	305				406		508	
	(in)	12				16		20	
Net Weight	(kg)	63.5				76		91	
	(lbs)	140				168		201	
Shipping Weight	(kg)	88				99		114	
	(lbs)	194				218		252	

Weights are an approximate maximum.

Notes:

1. Minimum conductor size for 30°C (86°F) ambient. Derate conductor for ambient temperature. Use minimum 90°C (194°F) insulation.
2. Operation at lower voltage will result in reduced heat output and amp draw.
3. Heater is functioning normally if at rated voltage the amp draw is within 10% of the value in this table.
4. Operation at lower voltage will result in reduced heat output and amp draw.
5. Add "T" to model number when adding a built-in thermostat.
6. Add "A" to model number for units with stainless-steel cabinet.
7. Add "U" to model number for units with a continuous fan.

Installation Conditions:

1. The FE2 Series Electric Air Heaters are for dry indoor use only. Do not immerse in water. Do not store or use in areas exposed to rain or snow.
2. The FE2 heaters are to be used only in atmospheres having an ignition temperature higher than Temperature Code T3 200°C (329°F) for Class I & II.
3. Altitude restrictions apply - see specifications above.
4. Heaters should be connected to a fixed power supply and must be permanently mounted in a level, upright position during operation.
5. Read and be aware of the terms of our Warranty located in the owner's manual.
6. Refer to Owner's Manual.

FE2



Explosion-Proof Electric Unit Heaters

Performance Data for 60 Hertz FE2

CE DEMKO 10 ATEX 0910365X  II 2 G, Ex d IIB T3 Gb  I Ex d IIB T2 Gb X

	MODEL	VOLTAGE (V)	NOMINAL WATTAGE (kW)	BTU/hr	PHASE	TOTAL CURRENT (A)	AIR TEMPERATURE RISE	
							°C	°F
220 VOLT	FE2-220160-025	220	2.5	8,550	1	11.4	8.8	15.8
	FE2-220160-042	220	4.2	14,350	1	19.1	14.8	26.6
	FE2-220160-063	220	6.3	21,500	1	28.6	13.0	23.4
	FE2-220160-084	220	8.4	28,700	1	38.2	17.4	31.3
	FE2-220160-126	220	12.6	43,050	1	57.3	12.7	22.8
230 VOLT	FE2-230160-028	230	2.8	9,550	1	12.0	9.8	17.7
	FE2-230160-046	230	4.6	15,700	1	20.0	16.2	29.1
	FE2-230160-069	230	6.9	23,550	1	29.9	14.3	25.7
	FE2-230160-092	230	9.2	31,400	1	39.9	19.0	34.2
	FE2-230160-138	230	13.8	47,150	1	59.9	13.9	24.9
240 VOLT	FE2-240160-030	240	3.0	10,250	1	12.4	10.5	19.0
	FE2-240160-050	240	5.0	17,100	1	20.8	17.6	31.7
	FE2-240160-075	240	7.5	25,600	1	31.2	15.5	27.9
	FE2-240160-100	240	10.0	34,150	1	41.7	20.7	37.2
	FE2-240160-150	240	15.0	51,250	1	62.5	15.1	27.1
440 VOLT	FE2-440360-042	440	4.2	14,350	3	5.5	14.8	26.6
	FE2-440360-084	440	8.4	28,700	3	11.0	17.4	31.3
	FE2-440360-168	440	16.8	57,400	3	22.0	16.9	30.4
	FE2-440360-210	440	21.0	71,700	3	27.6	10.2	18.4
480 VOLT	FE2-480360-030	480	3.0	10,250	3	3.6	10.5	19.0
	FE2-480360-050	480	5.0	17,100	3	6.0	17.6	31.7
	FE2-480360-075	480	7.5	25,600	3	9.0	15.5	27.9
	FE2-480360-100	480	10.0	34,150	3	12.0	20.7	37.2
	FE2-480360-150	480	15.0	51,250	3	18.0	15.1	27.1
	FE2-480360-200	480	20.0	68,300	3	24.1	20.1	36.1

FE2

Specifications for 60 Hertz FE2

60 HERTZ		FE2							
		NOMINAL kW	2.5 to 3.0	3.7 to 5.0	6.3 to 7.5	8.4 to 10	12.5 to 13.9	14.9 to 20	20.9 to 21
Maximum Altitude	(m)	3,658	2,438	3,048	2,134	3,048	2,134	3,048	2,134
	(ft)	12,000	8,000	10,000	7,000	10,000	7,000	10,000	7,000
Air Delivery	@ 21°C (m ³ /hr)	850		1444		2,973		6,116	
	@ 70°F (CFM)	500		850		1,750		3,600	
Horizontal Throw	(m)	4.6		9.1		12.2		21.3	
	(ft)	15		30		40		70	
Maximum Mounting Height (to underside)	(m)	2.1		3.0		3.0		6.1	
	(ft)	7		10		10		20	
Motor Speed (RPM)		1,725			1,725			1,725	
Fan Diameter	(mm)	305			406			508	
	(in)	12			16			20	
Net Weight	(kg)	64			76			91	
	(lbs)	140			168			201	
Shipping Weight	(kg)	88			99			114	
	(lbs)	194			218			252	

Weights are an approximate maximum.

Notes:



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FE2

FE2 General Specifications

Approvals	ATEX Approved (Directive 94/9/EC)
Hazardous Location Classifications	CE DEMKO 10 ATEX 0910365X  II 2 G, Ex d IIB T3  I Ex d IIB T2 Gb X
Enclosures	NEMA Type 7 & 9. For dry, indoor use only. Do not immerse in water. Do not store or use in areas exposed to rain or snow
Motor Type	Explosion-proof. Thermally protected. Permanently lubricated ball bearings 1425 RPM @ 50 Hz or 1725 RPM @ 60 Hz
Fan	Aluminum blade. Steel spider and hub with 16 mm (5/8") bore
Fan Guard	Split design with close wire spacing. Meets latest EN standards
Mounting Holes	Four 16 mm (5/8") diameter holes at top of heater
Heating Elements	Three long-life, low watt-density, high grade metal-sheathed elements
Temperature High-Limit	Automatic reset type, snap-action bimetal, open on temperature rise. Rated 100,000 cycles at 10 amps, handles 0.130 amps
Control Circuit	115V, 0.130 amps, 15 VA. (Grounded)
Optional Built-in Thermostat	Explosion-proof. 2°C to 28°C (36°F to 82°F)
Control Transformer	Multi-tap primary, 115V secondary, 50 VA
Contactor	60 or 80 amp. Rated for 1,000,000 mechanical operations. 120V, 15 VA coil (separately fused - protected)
Heat Transfer Fluid	Long life formulated ethylene glycol and water, freeze protected to -45°C (-49°F)
Cabinet Material	14-gauge (0.075" / 2 mm) steel. Epoxy coated with five-stage pretreatment, including iron phosphate
Core	Steel with integral aluminum fins, vacuum charged and hermetically sealed
Conduit Material	Heavy wall, 0.122" (3 mm) steel-plated
Overpressure Protection	Preset 690 kPa (100 psig) seep pressure relief valve, aluminum body, not field serviceable
Operational Temperature Limitations	-20°C to 40°C (-4°F to 104°F)
Storage Limitations	-45°C to 80°C (-49°F to 176°F), short term to 120°C (248°F). Do not immerse in water. Do not store or use in areas exposed to rain or snow

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