

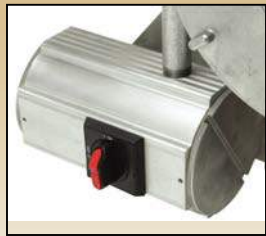
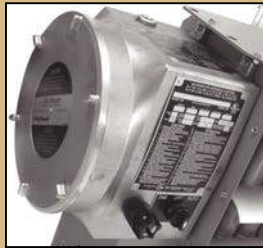


Stars Management DMCC

SUBMITTAL

EXPLOSION PROOF ELECTRIC AIR HEATER (FX Series)

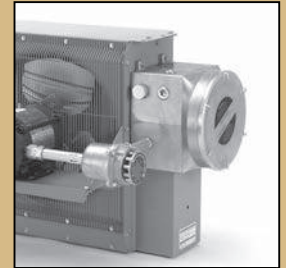
FX5 heaters are cUL_{US} certified for use in hazardous locations. They are designed for the harshest environments such as: dry indoor industrial applications, oil refineries, petrochemical plants, pulp and paper mills, grain elevators, hazardous waste storage facilities, wastewater treatment plants, etc., where specific explosive gases or dusts may be present.



The FX5 offers a larger junction box for easier installation, additional limit controls and a heavy duty core.

The heater core assembly is contained in a sturdy, epoxy-coated 14-gauge steel cabinet, which also carries the motor and fan assembly. Adjustable louvres 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.

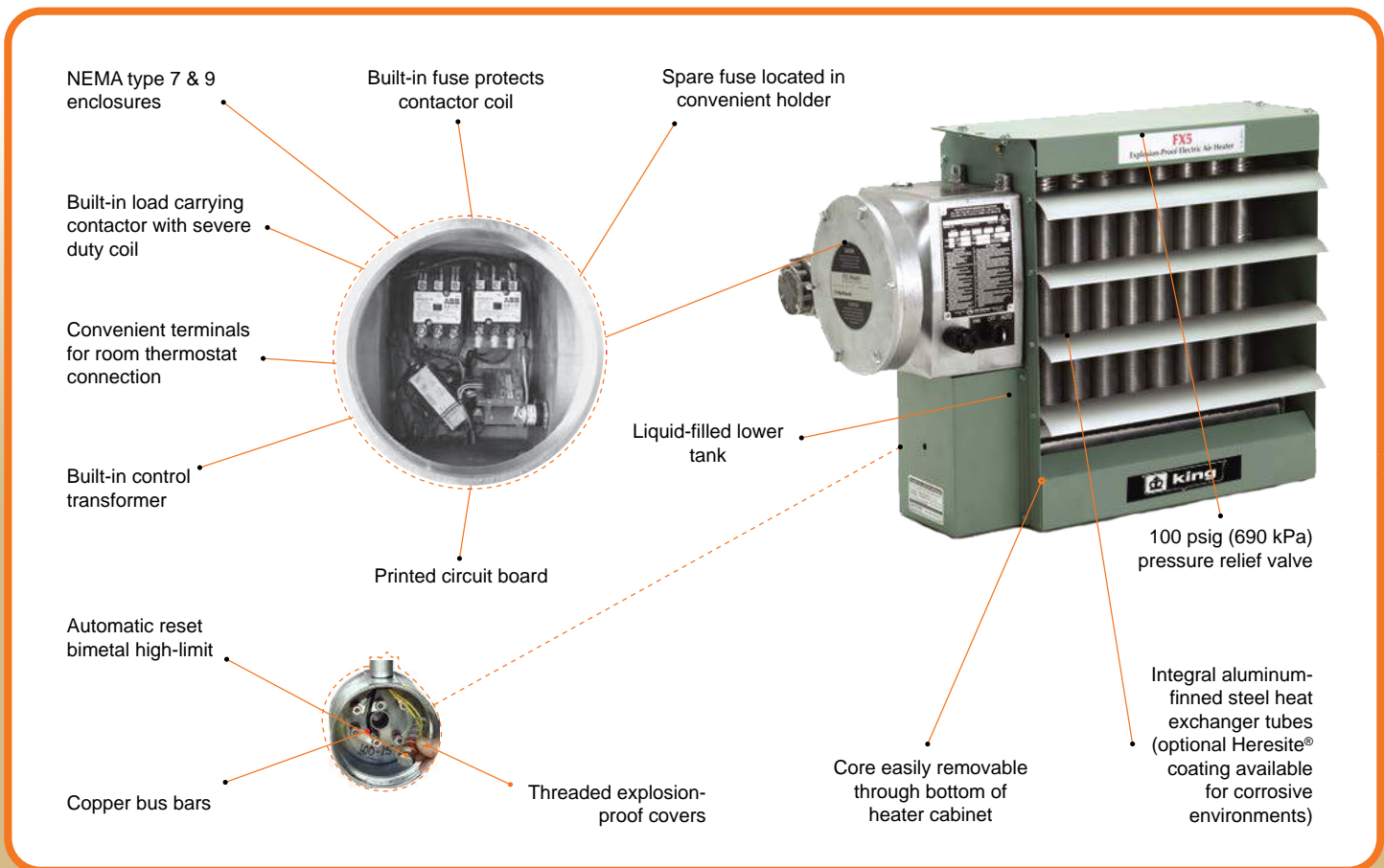


King heaters are built to last. All King products are subjected to exhaustive technical analysis and testing during design and development, and are manufactured under a registered quality assurance program. As a result, they have consistently proven their safety and reliability.

For hazardous location heating, rely on the King FX5 heater for the most dependable, trouble-free service available.

Suitable for the following hazardous location classifications:

- Class I, Divisions 1 & 2, Groups C & D
- Class II, Divisions 1 & 2, Groups E, F & G
- Class I, Zones 1 & 2, Groups IIA & IIB
- Temperature Code T3B 165°C (329°F)



Performance Data for 60 Hertz FX5
cUL_{us} Temperature Code T3B 165°C (329°F)

NOMINAL WATTAGE (kW)	MODEL	VOLTAGE	PHASE	TOTAL CURRENT (A)	OPTIONAL BUILT-IN DISCONNECT SWITCH	AIR TEMPERATURE RISE		Btu/hr
						°C	°F	
3	FX5-208160-030	208	1	14.4	DS5	6.2	11.2	10,250
	FX5-208360-030	208	3	8.3				
	FX5-240160-030	240	1	12.5				
	FX5-240360-030	240	3	7.2				
	FX5-480160-030 °	480	1	6.3				
	FX5-480360-030	480	3	3.6				
	FX5-600360-030	600	3	2.9				
5	FX5-208160-050	208	1	24.0	DS5	10.3	18.6	17,050
	FX5-208360-050	208	3	13.9				
	FX5-240160-050	240	1	20.8				
	FX5-240360-050	240	3	12.0				
	FX5-480160-050 °	480	1	10.4				
	FX5-480360-050	480	3	6.0				
	FX5-600360-050	600	3	4.8				
7.5	FX5-208160-075	208	1	36.1	DS5	15.5	27.9	25,600
	FX5-208360-075	208	3	20.8				
	FX5-240160-075	240	1	31.3				
	FX5-240360-075	240	3	18.0				
	FX5-480160-075 °	480	1	15.6				
	FX5-480360-075	480	3	9.0				
	FX5-600360-075	600	3	7.2				
10	FX5-208160-100*	208	1	48.1	Not Available DS5	20.6	37.2	34,100
	FX5-208360-100	208	3	27.8				
	FX5-240160-100	240	1	41.7				
	FX5-240360-100	240	3	24.1				
	FX5-480160-100 °	480	1	20.8				
	FX5-480360-100	480	3	12.0				
	FX5-600360-100	600	3	9.6				
15	FX5-240160-150*	240	1	62.5	Not Available DS5	15.1	27.1	51,200
	FX5-240360-150	240	3	36.1				
	FX5-480160-150 °	480	1	31.3				
	FX5-480360-150	480	3	18.0				
	FX5-600360-150	600	3	14.4				
20	FX5-480160-200 °	480	1	41.7	DS5	20.1	36.1	68,250
	FX5-480360-200	480	3	24.1				
	FX5-600360-200	600	3	19.2				
25	FX5-480360-250	480	3	30.1	DS5	12.2	22.0	85,300
	FX5-600360-250	600	3	24.1				
30	FX5-480360-300	480	3	36.1	DS5	14.6	26.4	102,350
	FX5-600360-300	600	3	28.9				
35	FX5-480360-350	480	3	42.1	DS5	17.1	30.7	119,450
	FX5-600360-350	600	3	33.7				

WARRANTY: Under normal use the Company warrants to the purchaser that defects in material or workmanship will be repaired or replaced without charge for a period of 36 months from date of shipment. Any claim for warranty must be reported to the sales office where the product was purchased for authorized repair or replacement within the terms of this warranty.

Note: (*) Exceeds the 48 amp. circuit limit of NEC 424-22

(°)480 1 Phase units are certified Class I, Div. 1, Group D and Class II, Div.1, Groups F and G.

1. Minimum conductor size for 30°C (86°F) ambient. Derate conductor for ambient temperature. Use minimum 90°C (194°F) insulation.
2. Heater is functioning normally if at rated voltage the amp draw is within 10% of the value in this table.
3. Operation at lower voltage will result in reduced heat output and amp draw.
4. Add "T" to model number when adding a built-in thermostat.
5. Add "D" to model number when adding a built-in disconnect switch.
6. Add "P" to model number when adding a built-in pilot light.
7. Add "S" to model number when adding a 3-way switch.
8. Add "H" to model number for units with high "off" (deenergized) ambient temperatures.
9. Add "C" to model number for units with Heresite® coating.
10. Add "A" to model number for units with stainless-steel cabinet.

Performance Data for 50 Hertz FX5

Class I, Divisions 1 & 2, Groups C & D;
 Class II, Divisions 1 & 2, Groups E, F & G;
 Class I, Zones 1 & 2, Groups IIA & IIB.
 Temperature Code T3B 165°C (329°F)

NOMINAL WATTAGE (kW)	MODEL	VOLTAGE	PHASE	TOTAL CURRENT (A)	OPTIONAL BUILT-IN DISCONNECT SWITCH	AIR TEMPERATURE RISE		Btu/hr
						°C	°F	
2.5	FX5-220150-025	220	1	11.4	DS5	6.3	11.2	8,550
4.2	FX5-220150-042	220	1	19.1	DS5	10.5	19.0	14,350
6.3	FX5-220150-063	220	1	28.6	DS5	15.7	28.5	21,500
8.4	FX5-220150-084	220	1	38.2	DS5	21.1	37.8	28,700
12.6	FX5-220150-126*	220	1	57.3	Not Available	15.2	27.5	43,000
2.8	FX5-230150-028	230	1	12.20	DS5	7.0	12.5	9,550
4.6	FX5-230150-046	230	1	20.0	DS5	11.5	20.7	16,000
6.9	FX5-230150-069	230	1	30.0	DS5	17.2	31.1	23,550
13.8	FX5-230150-138*	230	1	59.9	Not Available	16.6	30.1	47,100
2.5	FX5-380350-025	380	3	3.8	DS5	6.3	11.2	8,550
4.2	FX5-380350-042	380	3	6.4	DS5	10.5	19.0	14,350
6.3	FX5-380350-063	380	3	9.6	DS5	15.7	28.5	21,500
8.4	FX5-380350-084	380	3	12.8	DS5	21.1	37.8	28,700
12.5	FX5-380350-125	380	3	19.0	DS5	15.1	27.2	42,700
20.9	FX5-380350-209	380	3	31.8	DS5	12.1	22.0	71,350
2.8	FX5-400350-028	400	3	4.0	DS5	7.0	12.5	9,550
4.6	FX5-400350-046	400	3	6.6	DS5	11.5	20.7	15,700
6.9	FX5-400350-069	400	3	10.0	DS5	17.2	31.1	23,550
9.3	FX5-400350-093	400	3	13.4	DS5	23.2	42.0	31,750
13.9	FX5-400350-139	400	3	20.1	DS5	16.7	30.2	74,450
18.5	FX5-400350-185	400	3	26.7	DS5	22.3	40.2	63,150
23.1	FX5-400350-231	400	3	33.3	DS5	13.5	24.2	78,850
3.7	FX5-415350-037	415	3	5.1	DS5	9.2	16.6	12,650
7.5	FX5-415350-075	415	3	10.4	DS5	18.7	33.8	25,600
14.9	FX5-415350-149	415	3	20.7	DS5	18.1	32.5	50,850
22.4	FX5-415350-224	415	3	31.2	DS5	13.1	23.5	76,450
4.2	FX5-440350-042	440	3	5.5	DS5	10.5	19.0	14,350
8.4	FX5-440350-084	440	3	11.0	DS5	21.1	37.8	28,700
16.8	FX5-440350-168	440	3	27.5	DS5	20.3	36.5	57,350
20.9	FX5-440350-209	440	3	27.5	DS5	12.2	22.1	71,350

Notes:

1. Minimum conductor size for 30°C (86°F) ambient. Derate conductor for ambient temperature use minimum 90°C (194°F) insulation.
2. Heater is functioning normally if at rated voltage the amp draw is within 10% of the value in this table.
3. Operation at lower voltage will result in reduced heat output and amp draw.
4. Add "T" to model number when adding a built-in thermostat.
5. Add "D" to model number when adding a built-in disconnect switch.
6. Add "P" to model number when adding a built-in pilot light.
7. Add "S" to model number when adding a 3-way switch.
8. Add "H" to model number for units with high "off" (deenergized) ambient temperatures.
9. Add "C" to model number for units with Heresite® coating.
10. Add "A" to model number for units with stainless-steel cabinet.

Installation Conditions:

1. The FX5 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 FX5 heaters are to be used only in atmospheres having an ignition temperature higher than 165°C (329°F).
3. Altitude restrictions apply - see specifications on next page.
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.

Note: (*) Exceeds the 48 amp. circuit limit of NEC 424-22.

Specifications for 60 Hertz FX5

60 HERTZ		FX5								
		NOMINAL KW	3	5	7.5	10	15	20	25	30
Maximum Altitude	(ft)	12,000	8,000	10,000	7,000	10,000	7,000	10,000	7,000	6,000
	(m)	3,658	2,438	3,048	2,134	3,048	2,134	3,048	2,134	1,829
Air Delivery @ 21°C	(m³/hr)	1,444			2,973			6,116		
	@ 70°F (CFM)	850			1,750			3,600		
Horizontal Throw	(ft)	30			40			70		
	(m)	9.1			12.2			21.3		
Maximum Mounting Height (to underside)	(ft)	10			10			20		
	(m)	3.0			3.0			6.1		
Motor Power*	(HP)	1/2			1/2			1/2		
	(kW)	0.373			0.373			0.373		
Motor Speed	(RPM)	1,725			1,725			1,725		
Fan Diameter	(in)	12			16			20		
	(mm)	305			406			508		
Net Weight		without DS5	with DS5		without DS5	with DS5		without DS5	with DS5	
	(lbs)	140	152		168	180		201	213	
	(kg)	63.5	68.9		76.2	81.6		91.2	96.6	
Shipping Weight	(lbs)	194	206		218	230		252	264	
	(kg)	88	93.4		98.9	104.3		114.3	119.7	

See page 11 for general specifications common to all FX5 models.

Weights are an approximate maximum.

Manufacturer reserves the right to replace motors with suitable alternates.

Specifications for 50 Hertz FX5

50 HERTZ		FX5								
		NOMINAL KW	2.5	3.7 & 4.2	6.3 & 7.5	8.4	12.5 & 12.6	14.9 & 16.7	20.9	22.4
Maximum Altitude	(ft)	12,000	8,000	10,000	7,000	10,000	7,000	10,000	7,000	
	(m)	3,658	2,438	3,048	2,134	3,048	2,134	3,048	2,134	
Air Delivery @ 21°C	(m³/hr)	1,189			2,463			5,096		
	@ 70°F (CFM)	700			1,450			3,000		
Horizontal Throw	(ft)	25			35			60		
	(m)	7.6			10.7			18.2		
Maximum Mounting Height (to underside)	(ft)	10			10			20		
	(m)	3.0			3.0			6.1		
Motor Speed	(RPM)	1,437			1,437			1,437		
Motor Power*	(HP)	1/4			1/4			1/2		
	(kW)	0.187			0.187			0.373		
Fan Diameter	(in)	12			16			20		
	(mm)	305			406			508		
Net Weight		without DS5	with DS5		without DS5	with DS5		without DS5	with DS5	
	(lbs)	140	152		168	180		201	213	
	(kg)	63.5	68.9		76.2	81.6		91.2	96.6	
Shipping Weight	(lbs)	194	206		218	230		252	264	
	(kg)	88	93.4		98.9	104.3		114.3	119.7	

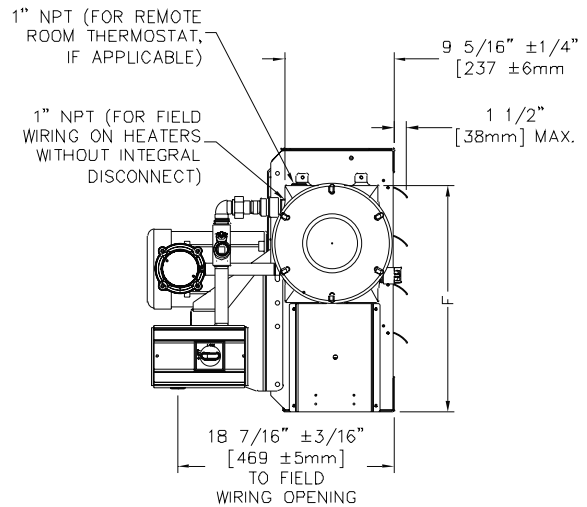
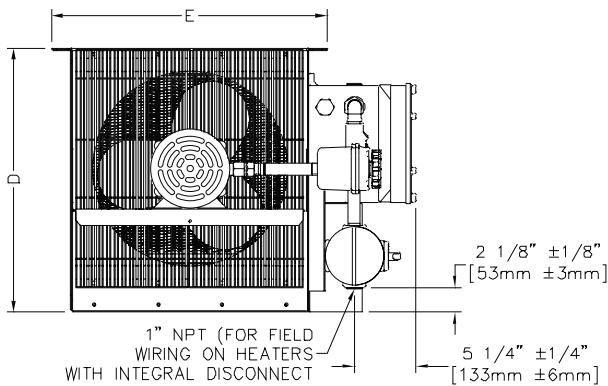
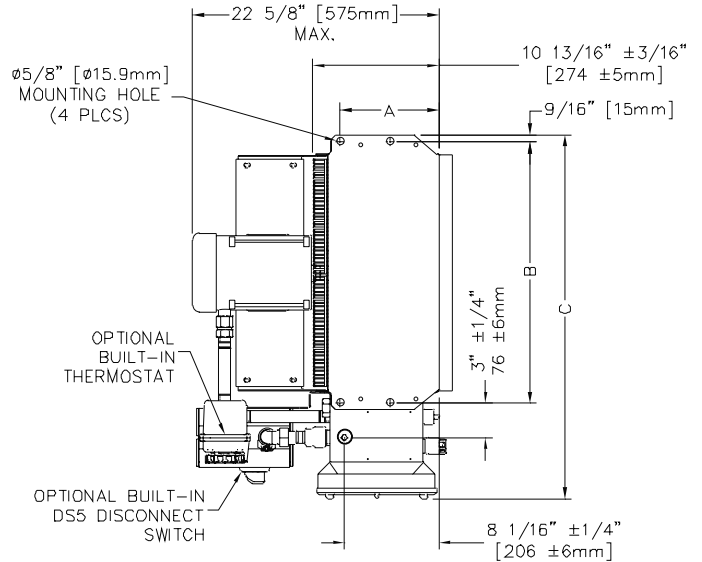
See page 11 for general specifications common to all FX5 models.

Weights are an approximate maximum.

* Manufacturer reserves the right to replace motors with suitable alternates.

kW		2.5-10	12.5-20	20.9-35	DIM. TOL. ±
A	in.	8-7/16	8-7/16	8-7/16	1/8
	mm	215	215	215	3
B	in.	18-3/16	22-5/16	26-1/4	1/8
	mm	462	566	667	3
C	in.	27	31	35	3/16
	mm	686	787	889	4
D	in.	18-1/2	22-1/2	26-1/2	1/8
	mm	470	572	674	3
E	in.	19-7/16	23-7/16	27-7/16	3/8
	mm	494	596	697	10
F	in.	17-1/2	19-1/2	21-13/16	5/16
	mm	444	495	554	8

DIMENSIONAL TOLERANCES ±1/8" [±3mm] UNLESS OTHERWISE SPECIFIED.




Model Coding

FX5 - 480 3 60 - 350 - W T, D, P, S, H, C, A

MODEL SERIES	HEATER VOLTAGE 208V 240V 480V 600V	PHASE 1 3	HERTZ 50 60	HEATER KILOWATTS	WELDED CORE	<p style="text-align: center; margin: 0;">OPTIONS</p> <ul style="list-style-type: none"> T - Built-in thermostat D - Built-in disconnect switch P - Built-in pilot light S - 3-way switch H - Unit with high "off" (deenergized) ambient temperatures C - Heresite® coating A - Stainless-steel cabinet
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5th GENERATION

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.

Approvals	 FX5 General Specifications
Hazardous Locations Classifications	Class I, Divisions 1 & 2, Groups C & D Class II, Divisions 1 & 2, Groups E, F & G Class I, Zones 1 & 2, Group IIA & IIB Temperature Code T3B 165°C (329°F)
Motor Type	Explosion-proof. Thermally protected. Permanently lubricated ball bearings
Fan	Aluminum blade. Steel spider and hub with 5/8" (15 mm) bore
Fan Guard	Split design with close wire spacing. 1/4" (6.3 mm) diameter probe will not enter
Mounting Holes	Four 9/16" (14 mm) diameter holes at the top of heater
Heating Elements	Long-life metal-sheathed elements (Propylene Glycol)
Temperature High-Limit	Automatic reset type, snap-action bimetal, open on temperature rise. Rated 100,000 cycles at 10 amp, handles 0.128 amps, plus an additional ambient high limit
Control Circuit	120V, 0.128 amps, 15VA. (Grounded)
Optional Built-in Thermostat	Explosion-proof 2°C to 28°C (36°F to 82°F)
Control Transformer	Multiple voltage primary, 120V secondary, 25VA
Contactors	40 or 75 amp. Rated for 500,000 mechanical operations. 120V, 15VA coil (separately fuse-protected)
Cabinet Material	14-gauge (0.075" / 1 mm) epoxy powder coated steel. Optional Heresite® coating available for corrosive atmospheres with an optional stainless-steel casing
Core	HD Core
Conduit Material	Heavy wall, 0.122" (3 mm), steel
Overpressure Protection	Preset 100 psig (690 kPa) pressure relief valve, aluminum body, no serviceable parts
Operational Temperature Range	-20°C to 40°C (-4°F to 104°F)
Junction Box (H x W x D)	10.25" (230 mm) x 8.00" (180 mm) x 9.12" (205 mm)
Field Connection	Two 1" NPT
Weight (for 15 kW unit)	168 lbs (76.36 kgs)
Weight with disconnect (for 15 kW unit)	180 lbs (81.82 kgs)
Optional Built-in Disconnect Switch	DS5 uses x-Max ® construction
Optional Pilot Light	Explosion-proof light fixture with replaceable bulb
Optional 3-Way Switch	Explosion-proof 3 position fan switch (on, off, fan only)