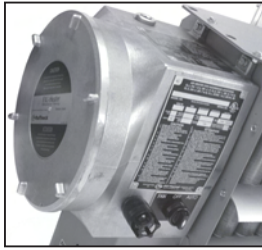


FX5 Explosion-Proof Electric Air Heaters

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.

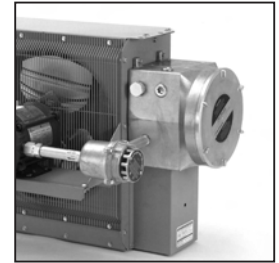


The FX5 offers a larger junction box for easier installation, additional limit controls and a heavy duty core. See page 16 for a full comparison between the new FX5 the FX4.



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.

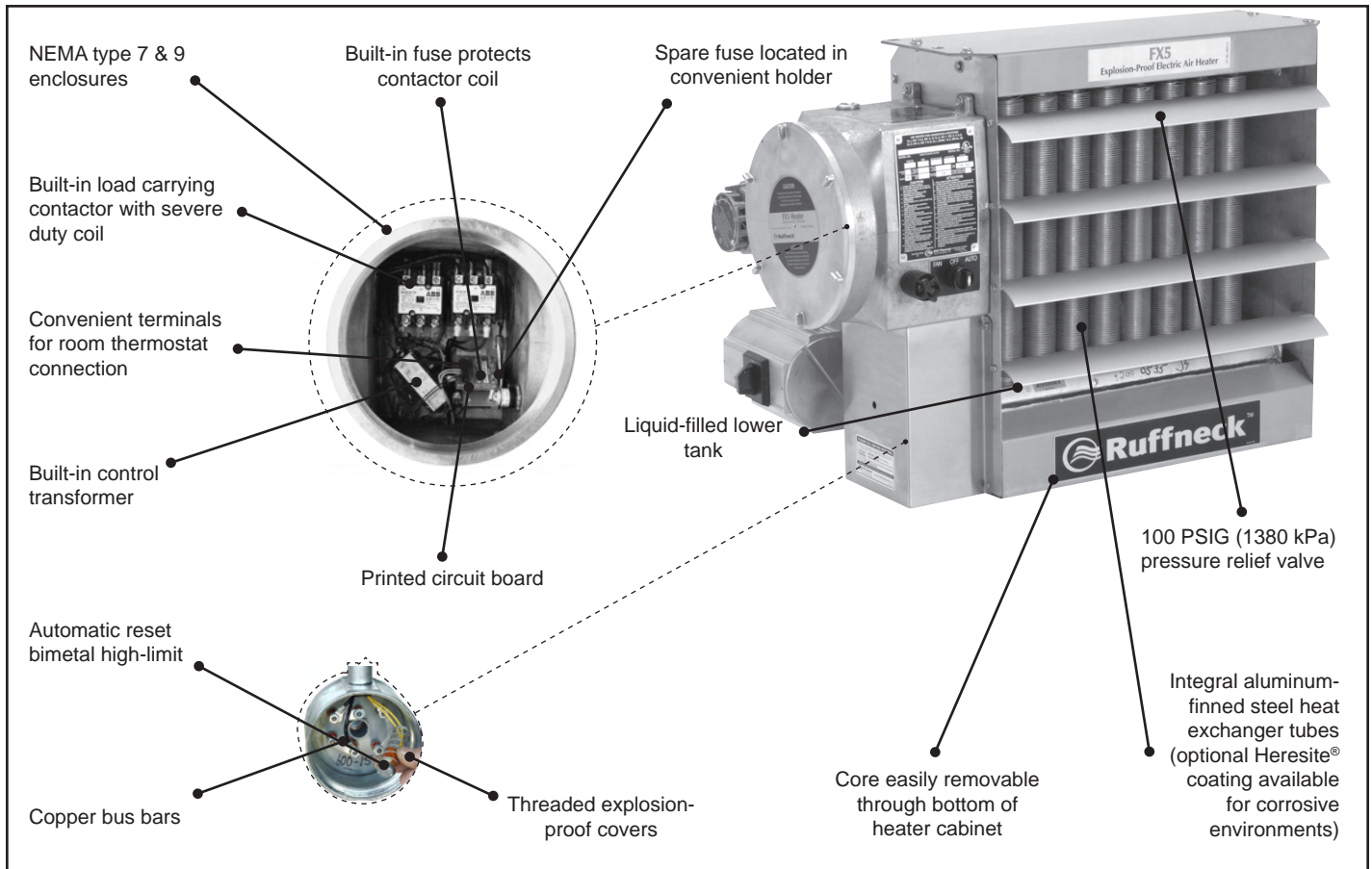


Ruffneck™ heaters are built to last. All Ruffneck™ products are subjected to exhaustive technical analysis and testing during design and development, and are manufactured under a registered quality assurance program. As a result, they have consistently proven their safety and reliability.

For hazardous location heating, rely on the Ruffneck™ 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, Groups E, F & G
- Class II, Divisions 2, Groups F & G
- Class I, Zones 1 & 2, Groups IIA & IIB
- Temperature Code T3B 165°C (329°F)



Heresite® is a registered trademark of Heresite® Protective Coatings Inc.

3 - YEAR WARRANTY

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
						°F	°C	
3	FX5-208160-030	208	1	14.4	DS5	11.2	6.2	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	18.6	10.3	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	27.9	15.5	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 DS5 DS5 DS5 DS5 DS5	37.2	20.6	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 DS5 DS5 DS5	27.1	15.1	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 DS5 DS5	36.1	20.1	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 DS5	45.2	25.1	85,300
	FX5-600360-250	600	3	24.1				
30	FX5-480360-300	480	3	36.1	DS5	26.4	14.6	102,350
	FX5-600360-300	600	3	28.9				
35	FX5-480360-350	480	3	42.1	DS5	30.7	17.1	119,450
	FX5-600360-350	600	3	33.7				

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.

See page 10 for model coding.

See page 8 for installation conditions.

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
						°F	°C	
2.5	FX5-220150-025	220	1	11.4	DS5	11.2	6.3	8,550
4.2	FX5-220150-042	220	1	19.1	DS5	19.0	10.5	14,350
6.3	FX5-220150-063	220	1	28.6	DS5	28.5	15.7	21,500
8.4	FX5-220150-084	220	1	38.2	DS5	37.8	21.1	28,700
12.6	FX5-220150-126*	220	1	57.3	Not Available	27.5	15.2	43,000
2.8	FX5-230150-028	230	1	12.20	DS5	12.5	7.0	9,550
4.6	FX5-230150-046	230	1	20.0	DS5	20.7	11.5	16,000
6.9	FX5-230150-069	230	1	30.0	DS5	31.1	17.2	23,550
13.8	FX5-230150-138*	230	1	59.9	Not Available	30.1	16.6	47,100
15	FX5-240150-150*	240	1	62.5	Not Available	27.1	15.1	51,200
15	FX5-240350-150	240	3	36.1	DS5	27.1	15.1	51,200
20	FX5-240350-200*	240	3	48.1	Not Available	36.1	20.1	68,250
2.5	FX5-380350-025	380	3	3.8	DS5	11.2	6.3	8,550
4.2	FX5-380350-042	380	3	6.4	DS5	19.0	10.5	14,350
6.3	FX5-380350-063	380	3	9.6	DS5	28.5	15.7	21,500
8.4	FX5-380350-084	380	3	12.8	DS5	37.8	21.1	28,700
12.5	FX5-380350-125	380	3	19.0	DS5	27.2	15.1	42,700
20.9	FX5-380350-209	380	3	31.8	DS5	22.0	12.1	71,350
2.8	FX5-400350-028	400	3	4.0	DS5	12.5	7.0	9,550
4.6	FX5-400350-046	400	3	6.6	DS5	20.7	11.5	15,700
6.9	FX5-400350-069	400	3	10.0	DS5	31.1	17.2	23,550
9.3	FX5-400350-093	400	3	13.4	DS5	42.0	23.2	31,750
13.9	FX5-400350-139	400	3	20.1	DS5	30.2	16.7	74,450
18.5	FX5-400350-185	400	3	26.7	DS5	40.2	22.3	63,150
23.1	FX5-400350-231	400	3	33.3	DS5	24.2	13.5	78,850
3.7	FX5-415350-037	415	3	5.1	DS5	16.6	9.2	12,650
7.5	FX5-415350-075	415	3	10.4	DS5	33.8	18.7	25,600
14.9	FX5-415350-149	415	3	20.7	DS5	32.5	18.1	50,850
22.4	FX5-415350-224	415	3	31.2	DS5	23.5	13.1	76,450
4.2	FX5-440350-042	440	3	5.5	DS5	19.0	10.5	14,350
8.4	FX5-440350-084	440	3	11.0	DS5	37.8	21.1	28,700
16.8	FX5-440350-168	440	3	27.5	DS5	36.5	20.3	57,350
20.9	FX5-440350-209	440	3	27.5	DS5	22.1	12.2	71,350

Notes:

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

Installation Conditions:

- 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.
- The FX5 heaters are to be used only in atmospheres having an ignition temperature higher than 165°C (329°F).
- Altitude restrictions apply – see specifications on next page.
- Heaters should be connected to a fixed power supply and must be permanently mounted in a level, upright position during operation.
- Read and be aware of the terms of our Warranty located in the owner's manual.
- 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
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 @ 70°F	(CFM)	850			1,750			3,600		
	@ 21°C (m³/hr.)	1,444			2,973			6,116		
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	78.9		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 16 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
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 @ 70°F	(CFM)	700			1,450			3,000	
	@ 21°C (m³/hr.)	1,189			2,463			5,096	
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	78.9		76.2	91.6		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

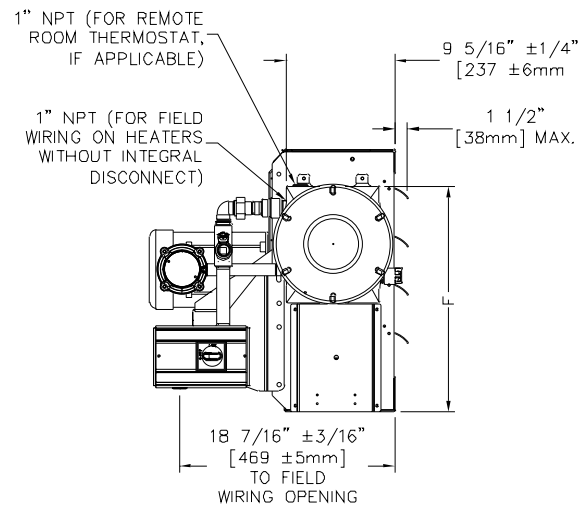
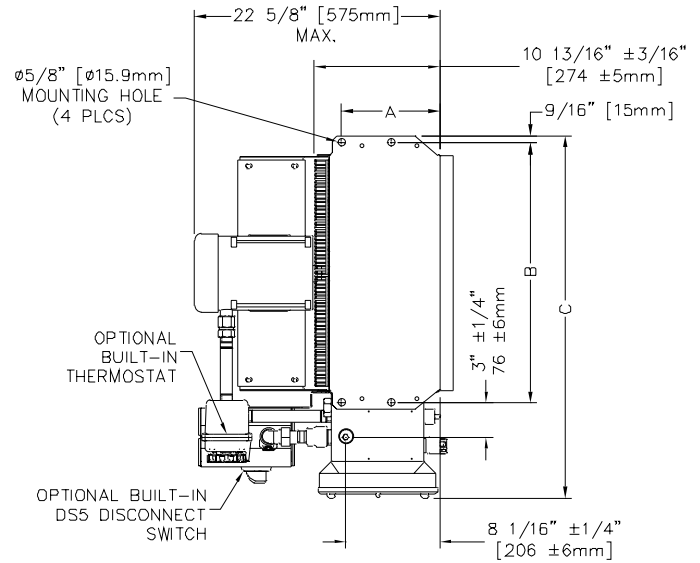
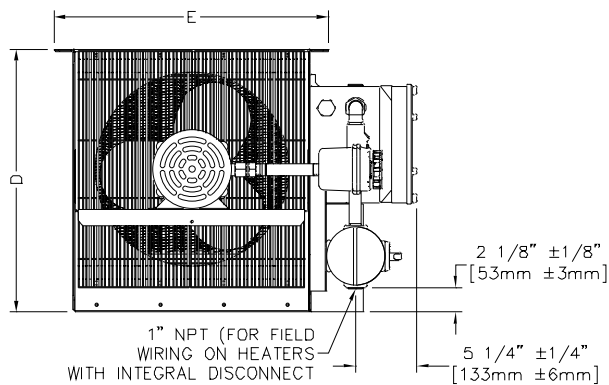
See page 16 for general specifications common to all FX5 models.

Weights are an approximate maximum.

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

DIM.	kW	kW			DIM. TOL. ±
		2.5-10	12.5-20	20.9-35	
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 $\pm 1/8"$ [$\pm 3\text{mm}$]
UNLESS OTHERWISE SPECIFIED.



Model Coding

