

The largest selection of overhead electric infrared heaters in the industry today!

Flat Panel Emitter Heaters

- High-density, medium wavelength radiant heat emitter for indoor heating applications
- Shipped fully assembled with wire guard and standard 60° symmetric heat pattern
- Flat panel emitter operates at 78.5% radiant efficiency & generates no lumen glare
- Designed for indoor heating applications or protected outdoor areas
- Life expectancy of 25,000 hours



FSS Series



WARNING: This product can expose you to chemicals including nickel which is known to the State of California to cause cancer, and chromium, which is known to the State of California to cause birth defects and/or reproductive harm. For more information go to www.P65Warnings.ca.gov.



FSA Series

- Gold anodized aluminum housing
- Designed for rugged industrial applications
- Chain or suspension mounting options

- Extruded aluminum housing
- Designed for commercial applications
- Chain, suspension, wall, or recessed mounting options

Quartz Lamp Mul-T-Mount Heaters

- Short wavelength radiant heat emitter for indoor & total exposed outdoor heating applications
- Gold anodized interior reflector offered in symmetrical or asymmetrical heat pattern options
- Clear quartz lamp operates at 96% radiant efficiency & generates 8-lumens per watt
- Designed for indoor and totally exposed outdoor heating application areas
- Element life expectancy of 5,000 hours



TH/THSS Series & TH/THSS-AG Series



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THA Series

- Housing finish: bankers bronze or stainless steel
- Designed for rugged industrial applications
- Chain, suspension, wall, or recessed mounting options
- Shipped with clear quartz lamp
- AG suffix models include "glare" reducing sleeves

- Extruded aluminum housing
- Nickel gray finish
- Designed for commercial applications
- Chain or suspension mounting options
- Shipped with clear quartz lamps and amber gray "glare" reducing sleeves

Types of Electric Infrared Application & Sizing Details

- **Indoor Spot Heating**

Average: 25-60 watts per square foot

Calculation: Sq.ft. x desired temperature rise = total watts required

- **Total Area / Building Heating**

Average: 8-20 watts per square foot

Calculation: Sq.ft. x .5 x desired temperature rise = total watts required

- **Outdoor Spot Heating**

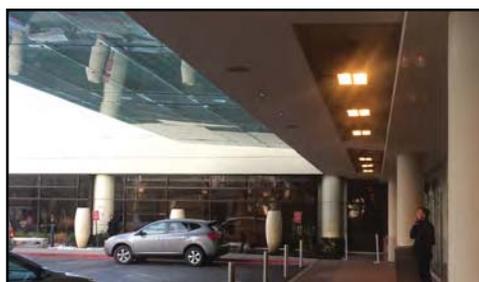
Average: 2 watts per square foot per desired temperature rise

Calculation: Sq.ft. x 2 x desired temperature rise = total watts required

- **Outdoor Snow & Ice Control Heating System**

Average: 85-110 watts per square foot

Calculation: Sq.ft. x required watts / sq.ft. = total watts required



Quartz Lamp Glare Reduction Options



12mm Clear Quartz Lamp

- Approximately 96% radiant efficient
- 8 lumens per watt on a 3200 watt fixture, equals 25,600 lumens
- Can be mounted 10' and above indoors, 8' to 10' outdoors
- Emits a bright light, but extremely energy efficient site of installation



12mm Red Vycor Sleeve

- Slips over 12mm quartz lamp to reduce glare
- Filters approximately 90% of visible light
- Allows 90% of the energy to pass through to installed area
- Reduces 90% of the clear quartz lumens

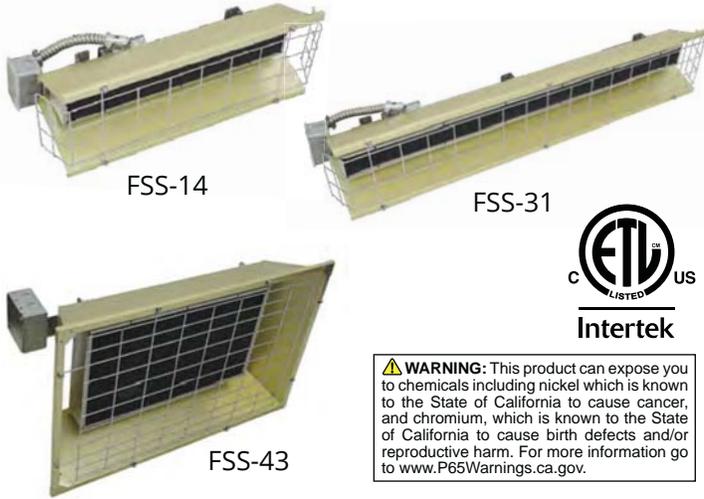


8mm Clear Quartz Lamp with Amber Gray Sleeve

- When used together, reduces 94% of lumens of clear quartz lamp
- Allows 90% of energy to pass through sleeve to installed area
- Eliminates red glow found with using red vycor sleeve
- Shipped standard on all AG suffix & THA model series

FSS Series Heavy Duty Flat Panel Emitter Electric Overhead Infrared Heater

Heavy Duty Overhead Infrared Heaters for Indoor Spot Heating, Zone, or Total Area Heating Applications



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- High-density, medium wavelength radiant heat, with 60° symmetric heat pattern
- Flat panel emitter operates at a radiant efficiency of 78.5%
- Non-glare, uniform heat generating directional heat pattern
- Rugged steel structure surrounds emitter element, great for high vibration areas
- Gold anodized aluminum housing for efficient, long term reflectivity & corrosion resistance
- Single or three phase wiring on select models
- "L" brackets included for chain suspension, or rigid mounting
- Field wiring box mounted on each heater
- Heavy duty wire guard factory installed
- 25,000 hour element life expectancy
- Shipped fully assembled
- Made in U.S.A.

Standard Models

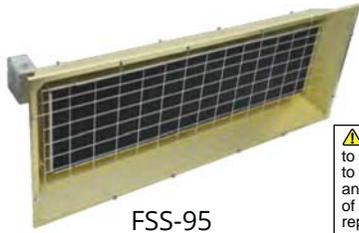
MFG CATALOG NUMBER	MFG MODEL NUMBER	WATTS	VOLTS	PHASE	BTUs / Hr.	AMPS		ELEMENTS PER HEATER	WT. (LBS)	LIST	FSS/FSA Replacement Elements		
						1-PH	3-PH				MFG CATALOG NUMBER	MFG MODEL NUMBER	LIST
04881502	FSS-1412-1	1450	120	1	4947	12.1		1	7	1068	01356002	64337-001	761
04881602	FSS-1420-1		208	1		6.97					01356102	64337-002	
04881702	FSS-1424-1		240	1		6.04					01356202	64337-003	
04881802	FSS-1427-1		277	1		5.23					01356302	64337-004	
04881902	FSS-1448-1		480	1		3.02					01356402	64337-005	
04882002	FSS-1457-1		600	1		2.52					01356502	64337-006	
04882102	FSS-3120-1	3150	208	1	10,748	15.14		1	13	1326	01356602	64337-007	887
04882202	FSS-3124-1		240	1		13.13					01356702	64337-008	
04882302	FSS-3127-1		277	1		11.37					01356802	64337-009	
04882402	FSS-3148-1		480	1		6.56					01356902	64337-010	
04882502	FSS-3157-1		600	1		5.48					01357002	64337-011	
04882602	FSS-4320-3	4300	208	1 or 3	14,672	20.67	11.94	1	18	1623	01357102	64337-012	1111
04882702	FSS-4324-3		240	1 or 3		17.91	10.36				01357202	64337-013	
04882802	FSS-4327-1		277	1		15.52					01357302	64337-014	
04882902	FSS-4348-3		480	1 or 3		8.96	5.18				01357402	64337-015	
04883002	FSS-4357-3		600	1 or 3		7.48	4.32				01357502	64337-016	
04883102	FSS-9520-3		9500	208		1 or 3	32,414				45.67	26.39	
04883202	FSS-9524-3	240		1 or 3	39.6	22.89		01357702	64337-018				
04883302	FSS-9527-1	277		1	34.3			01357802	64337-019				
04883402	FSS-9548-3	480		1 or 3	19.8	11.44		01357902	64337-020				
04883502	FSS-9557-3	600		1 or 3	16.5	9.54		01358002	64337-021				
04883602	FSS95TMK	TANDEM MOUNTING KIT							6	838			

Suspension Heating Application



Spot Indoor Heaters

- Directional heating systems for where and when you need it
- No element glare
- No glass materials
- Rigid housing & element structure
- Designed for rugged & dirty environments
- Delivers higher and more uniform heat output with less energy consumption
- Ideal spot heating system for high-bay buildings up to 24'



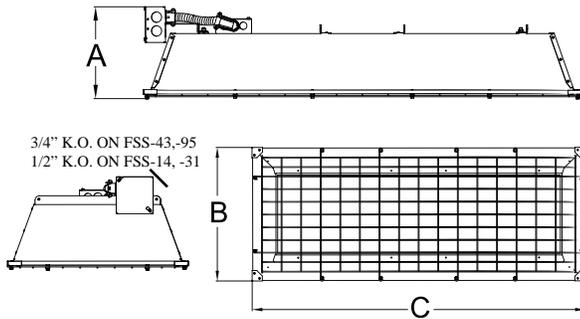
FSS-95

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(2) FSS-95 heaters with TMK-95 tandem mounting kit



FSS Series Dimensions



MFG MODEL NUMBER	DIMENSIONS (in.)		
	"A" DEPTH	"B" WIDTH	"C" LENGTH
FSS-14	8 ½	9	26
FSS-31	8 ½	9	46
FSS-43	9 ¾	20	29
FSS-95	7 ¾	20	49
FSS-95 TANDEM	7 ¾	20	108

Mounting Clearances & Recommended Mounting Height

Required Minimum Mounting Clearances	KW	Recommended Mounting Height
FSS-14 and FSS-31 6" from ceiling	1.4	8' - 10'
FSS-43 and FSS-95 24" from ceiling	3.1	8' - 12'
36" from vertical surface & from another heater	4.3	10' - 14'
72" from face of heater to combustible surface	9.5	12' - 16'
FSS-95 Tandem Only	(2) 9.5	15' - 30'

Sizing Chart

MOUNTING HEIGHT	MFG MODEL NUMBER	LENGTH	WIDTH	COVERAGE (SQ. FT.)	WATTS (SQ. FT.)
8'	FSS-14	8	8	64	22.7
	FSS-31	9	8	72	43.8
10'	FSS-14	11	10	110	13.2
	FSS-31	11	10	110	28.6
	FSS-43	12	10	120	35.8
12'	FSS-31	12	11.5	138	22.8
	FSS-43	14	12	168	25.6
	FSS-95	15	13	195	48.7
14'	FSS-43	16	14	224	19.2
	FSS-95	18	16	288	33.0
16'	FSS-43	18	16	288	14.9
	FSS-95	21	18	378	25.1
	FSS-95 TANDEM	24	19	456	41.7
18'	FSS-95	23	20	460	20.7
	FSS-95 TANDEM	28	20	560	33.9
20'	FSS-95 TANDEM	28	23	644	29.5
24'	FSS-95 TANDEM	33	27	891	21.3
30'	FSS-95 TANDEM	41	32	1312	14.5

Product Specifications

Housing & Construction:

.040 Gold anodized Aluminum housing for efficient, long-term reflectivity and corrosion resistance. High-density radiant heat. Housing is ETL Listed for indoor, dry environment applications only. Made in U.S.A.

Reflector:

60 degree symmetric heat pattern, reference the sizing chart to determine overall coverage based on the mounting height.

Elements:

Heavy duty flat panel emitter. Available wattages in 1450, 3150, 4300 and 9500 Watts per element. Available in standard voltages from 120 to 600 Volts.

Controls:

Flat panel emitter heaters are not manufactured with any control device on the unit. All controls and accessories should be specified as remote mounted. Please consult the technical sales department of factory for help in determining applicable controls. Please follow installation instructions that accompany each heater.

Accessories:

Power contactor panels.

ICP Control Panels



Features

- NEMA 4 outdoor rated control box
- Door interlock disconnect switch
- Custom made to customers specifications
- SCR and proportional controls optional
- Circuit breakers sized for heater load per stage
- Please see ICP page to select panel to control one or multiple units, if required.

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FSA Series Architectural Flat Panel Emitter Electric Overhead Infrared Heater

Architectural Overhead Infrared Heaters for Indoor Spot Heating, Zone, or Total Area Heating Applications



FSA-14



FSA-95



FSA-31



FSA-43



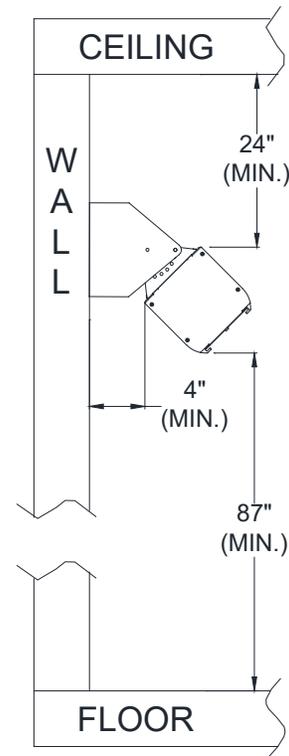
WARNING: This product can expose you to chemicals including nickel which is known to the State of California to cause cancer, and chromium, which is known to the State of California to cause birth defects and/or reproductive harm. For more information go to www.P65Warnings.ca.gov.

- ETL C/US Listed for suspended high-bay indoor or protected outdoor applications
- Designed for spot / zone or total area heating applications
- Heating elements included (Heavy Duty Single Flat Panel Emitter)
- Medium wave emitter operates at 78.5% radiant efficiency - with a 25,000 hour life expectancy
- Extruded aluminum housing with a nickel-gray finish, providing a 60° symmetrical heat pattern
- Electrical enclosure included for direct wire installation
- Single or three-phase wiring configurations
- "L" brackets included on the top of the heating housing for chain suspension, wall mounting, or ceiling mounting options
- Units can be surface mounted, semi-recessed, or fully-recessed
- Zinc plated heavy-gauge safety grills included for all models
- Optional wall mounting bracket sold separately
- Shipped fully assembled and made in U.S.A.

Standard Models

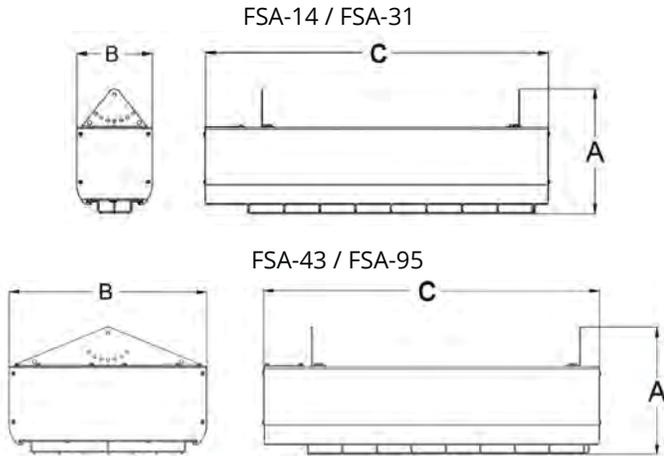
MFG CATALOG NUMBER	MFG MODEL NUMBER	WATTS	VOLTS	PHASE	BTUs / Hr.	AMPS		WT. (LBS)	LIST
						1-PH	3-PH		
04889002	FSA-1412-1	1450	120	1	4947	12.1		13	1300
04889102	FSA-1420-1		208			6.97			
04889202	FSA-1424-1		240			6.04			
04889302	FSA-1427-1		277			5.23			
04889402	FSA-1448-1		480			3.02			
04889502	FSA-1457-1		600			2.52			
04889602	FSA-3120-1	3150	208	1	10,748	15.14		22	1482
04889702	FSA-3124-1		240			13.13			
04889802	FSA-3127-1		277			11.37			
04889902	FSA-3148-1		480			6.56			
04890002	FSA-3157-1		600			5.48			
04890102	FSA-4320-3	4300	208	1 or 3	14,672	20.67	11.94	24	1969
04890202	FSA-4324-3		240	1 or 3		17.91	10.36		
04890302	FSA-4327-1		277	1		15.52			
04890402	FSA-4348-3		480	1 or 3		8.96	5.18		
04890502	FSA-4357-3		600	1 or 3		7.48	4.32		
04890602	FSA-9520-3	9500	208	1 or 3	32,414	45.67	26.39	39	2907
04890702	FSA-9524-3		240	1 or 3		39.6	22.89		
04890802	FSA-9527-1		277	1		34.3			
04890902	FSA-9548-3		480	1 or 3		19.8	11.44		
04891002	FSA-9557-3		600	1 or 3		16.5	9.54		

Optional Wall Mounting Brackets



OPTIONAL WALL MOUNTING BRACKETS			
MFG CATALOG NUMBER	MFG MODEL NUMBER	ASSEMBLED W x L x H	LIST
04892002	FSA-14-31WMB	1 x 6.75 x 6.625 Steel, Pair	30
04892102	FSA-43-95WMB	1 x 8.75 x 9.750 Steel, Pair	57

FSA Series Dimensions



MFG MODEL NUMBER	DIMENSIONS (in.)		
	"A" DEPTH	"B" WIDTH	"C" LENGTH
FSA-14	9	5 ¾	26 ⅙
FSA-31	9	5 ¾	47 ⅙
FSA-43	9 ¼	14 ¾	25 ⅙
FSA-95	9 ¼	14 ¾	47 ⅙

Mounting Clearances & Recommended Mounting Height

Mounting Clearances		KW	Recommended Mounting Height
All FSA Models	24" from ceiling 36" from vertical surface & from another heater (4" when using optional mounting bracket) 72" from face of heater to combustible surface	1.4	8' - 10'
		3.1	8' - 12'
		4.3	10' - 14'
		9.5	12' - 16'

Sizing Chart

MOUNTING HEIGHT	MFG MODEL NUMBER	LENGTH	WIDTH	COVERAGE (SQ. FT.)	WATTS (SQ. FT.)
8'	FSA-14	8	8	64	22.7
	FSA-31	9	8	72	43.8
10'	FSA-14	11	10	110	13.2
	FSA-31	11	10	110	28.6
	FSA-43	12	10	120	35.8
12'	FSA-31	12	11.5	138	22.8
	FSA-43	14	12	168	25.6
	FSA-95	15	13	195	48.7
14'	FSA-43	16	14	224	19.2
	FSA-95	18	16	288	33.0
16'	FSA-43	18	16	288	14.9
	FSA-95	21	18	378	25.1

Product Specifications

Housing & Construction:

Extruded 6063 aluminum housing with protective grill. Powder coat silver finish for excellent durability and attractive appearance in commercial applications. ETL C/US listed for indoor, dry environments. Made in USA.

Elements:

Heavy duty flat panel emitter. Available wattages in 1450, 3150, 4300 and 9500 Watts per element. Available in standard voltages from 120 to 600 Volts.

*Note: Replacement elements located on FSS Series pages.

Controls:

Flat panel emitter heaters are not manufactured with any control device on the unit. All controls and accessories should be specified as remote mounted. Please consult the technical sales department of factory for help in determining applicable controls. Please follow installation instructions that accompany each heater.

Accessories:

Optional power controls pages 89-92.

Optional - ICP Control Panels

Features



- NEMA 4 outdoor rated control box
- Door interlock disconnect switch
- Custom made to customers specifications
- SCR and proportional controls optional
- Circuit breakers sized for heater load per stage
- See ICP page to select panel to control one or multiple units, if required

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