SPACE-RAY®
INFRARED GAS HEATERS

DK Series Ceramic Heaters
Solutions For Commercial & Industrial Heating Since 1949

DK SERIES HEATERS

- Special Honeycomb Tile Design for Increased Radiant Output.
- Inputs from 30,000 to 160,000 Btu/hr.
- Suitable for Angle Mount up to 35°.
- All Heaters are Equipped with 100% Gas Shut-off Safety Control.
- 24 Volt Direct Spark Ignition System.
- Natural or Propane Gas.
- Indirect Vented Operation.

BURNER AND BODY CONSTRUCTION

- Modular Burner Construction and Venturi.
- Heavy Gauge Aluminized Steel Burner Head and Venturi.
- Stainless Steel Tile Retainer Assembly.
- Corrosion Resistant Aluminized Steel Body Construction.

EMITTER SURFACE

- Special Honeycomb Tile Design for Increased Radiant Output.
- Up to 1800°F Surface Temperature.
- 5-Year Limited Warranty on Emitter Tiles.
- Optional Incoloy 800 Reverberatory Screen for Secondary Radiating Surface and Additional Safety.

REFLECTOR

- Highly Efficient Aluminum Reflectors.
- Double-formed Edges for Rigidity.
- Optional Parabolic Extension for Higher Mounting Heights.

OTHER

- Simple Chain Mounting.
- 1/2" NPT Female Gas Pipe Connection.
- 120 Volt Electrical Supply (0.4 Amp Draw).
- 120/24 Volt Transformer Included.
- Heaters can be Shipped by UPS.

MODEL	GAS TYPE	INPUT BTU/HR	NO. OF BURNERS	BURNER PRESSURE (Water Column)	SUPPLY PRESSURE (Water Column)		MINIMUM MOUNTING HEIGHT (feet)
					MIN	MAX	
DK30	NAT	30,000	1	6"	7"	14"	11
DK33	LP	33,000	1	10"	11"	14"	11
DK35	NAT	35,000	1	6"	7"	14"	12
DK40	NAT	40,000	1	6"	7"	14"	12
DK60	NAT	60,000	2	6"	7"	14"	13
DK66	LP	66,000	2	10"	11"	14"	13
DK70	NAT	70,000	2	6"	7"	14"	13
DK80	NAT	80,000	2	6"	7"	14"	14
DK100	NAT	100,000	3	6"	7"	14"	15
DK100	LP	99,000	3	10"	11"	14"	15
DK120	NAT	120,000	3	6"	7"	14"	16
DK132	LP	132,000	4	10"	11"	14"	17
DK140	NAT	140,000	4	6"	7"	14"	17
DK160	NAT	160,000	4	6"	7"	14"	18

Minumum Recommended Mounting Heights (Feet)

Model	Horizontal		35° Angle	
	Standard Reflector	w/ Parabolic Extension	Standard Reflector	w/ Parabolic Extension
DK30 DK33	11	12	10	12
DK35 DK40	12	13	11	13
DK60 DK66 DK70	13	15	12	14
DK80	14	16	13	15
DK100	15	17	14	16
DK120	16	18	15	17
DK132 DK140	17	19	16	18
DK160	18	20	17	19

Minimum Clearances To Combustibles

Model	Horizontal				35° Angle					
	Sides	Ceiling	Below Standard Reflector	Below w/ Parabolic Extension	Standard Reflector	w/ Parabolic Extension	Front Standard Reflector	Front w/ Parabolic Extension	Rear (35°)	Angle Mtg. (degree)
DK30 DK35 DK33 DK40	30"	36"	72"	100"	72"	100"	36"	50"	30"	0 min/35 max
DK60 DK70 DK66 DK80	48"	48"	98"	137"	98"	137"	48"	68"	36"	0 min/35 max
DK100 DK120	48"	64"	128"	180"	128"	180"	60"	84"	48"	0 min/35 max
DK132 DK160 DK140	60"	64"	136"	190"	136"	190"	64"	90"	48"	10 min/35 max

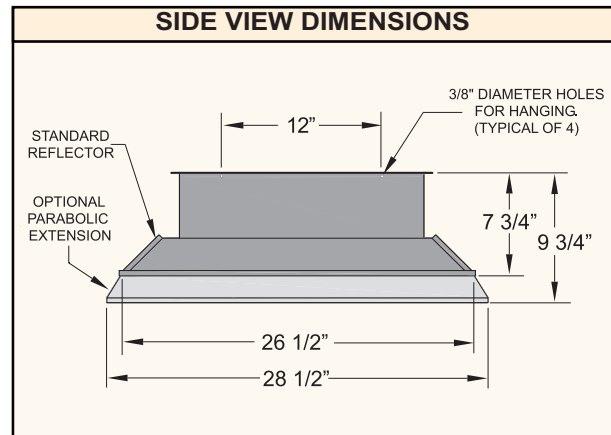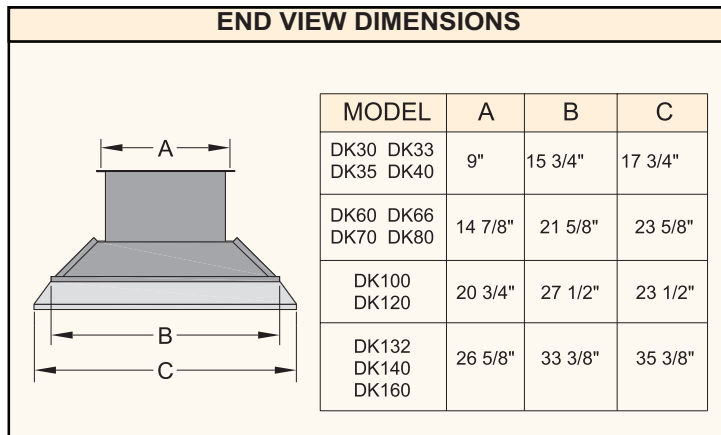Observe all required clearances as shown. Clearances are measured from the reflector edge.

DK SERIES ARCHITECHTURAL/ENGINEERING SHORT FORM SPECIFICATIONS

Gas-Fired infrared space heaters shall be furnished and installed in accordance with governing codes and as shown per building drawing(s) as described below: Heaters shall be Space-Ray DK series ceramic heaters, model number(s) DK _____ , _____ Btu/hr, as manufactured by Gas-Fired Products, Inc., Charlotte, North Carolina. Heaters shall be equipped with a 24V direct spark ignition system with 100% gas shutoff.

Heaters shall be made of aluminized steel body construction and shall consist of multiple burner heads. Heaters shall utilize special honeycomb tile design for increased radiant output. As an option, heaters can utilize an Incoloy 800 reverberatory screen that will increase the overall emissivity of the radiant surface with a blackbody radiation effect and could serve as a protective screen in the unlikely event that the ceramic tile assembly is broken by an outside force. The tile temperatures can vary from 1650°F-1800°F and tiles shall withstand thermal shock when water quenched.

Heaters shall operate satisfactorily in any position from horizontal to thirty five degrees from horizontal. Heaters shall be Design Certified by C.S.A. to American National Standard Z83.19 /CSA Standard 2.35. The manufacturer shall provide a written limited warranty of five (5) years covering the emitter tiles and a limited warranty of one (1) year for all components utilized in the heater's control assembly.

Dimensions

END VIEW DIMENSIONS

MODEL	A	B	C
DK30 DK33 DK35 DK40	9"	15 3/4"	17 3/4"
DK60 DK66 DK70 DK80	14 7/8"	21 5/8"	23 5/8"
DK100 DK120	20 3/4"	27 1/2"	23 1/2"
DK132 DK140 DK160	26 5/8"	33 3/8"	35 3/8"

SIDE VIEW DIMENSIONS

STANDARD REFLECTOR
OPTIONAL PARABOLIC EXTENSION
3/8" DIAMETER HOLES FOR HANGING. (TYPICAL OF 4)
12"
7 3/4"
9 3/4"
26 1/2"
28 1/2"

Mounting Height

Space-Ray ceramic heaters may be mounted at various heights and angles, according to the results desired. Please consult your Space-Ray representative for your radiant heating requirements. Observe all required clearances to combustibles shown above.

Combustion Air and Ventilation

Combustion air and venting requirements for all gas-fired heating equipment must be provided per National Fuel Gas Code NFPA54, CAN B149 or the authority having jurisdiction over the installation. Indirect vented ceramic heaters require a minimum ventilation flow of 4 CFM per 1000 Btu per hour of total installed heater capacity on natural gas by either gravity or power ventilation (4.18 CFM per 1000 Btu per hour on propane). For more ventilation information, consult the ASHRAE handbooks, local codes, and the Space-Ray Application Manual. Building exhaust openings for indirect vented applications always must be located above the level of the heaters and inlet air openings always must be located below the level of the heaters.

For Your Safety

OPERATE SPACE-RAY INFRARED HEATERS WITH PROPER CARE AND OBSERVE ALL SAFETY PRECAUTIONS. Carefully follow the printed installation, operation, and cleaning intructions furnished with these heaters. Follow the instructions on the nameplate of each heater and use in accordance with National, State, and Local Codes or the authority having jurisdiction. Adequate ventilation always must be provided in accordance with the codes.

SPACE-RAY®
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FORM#S55000