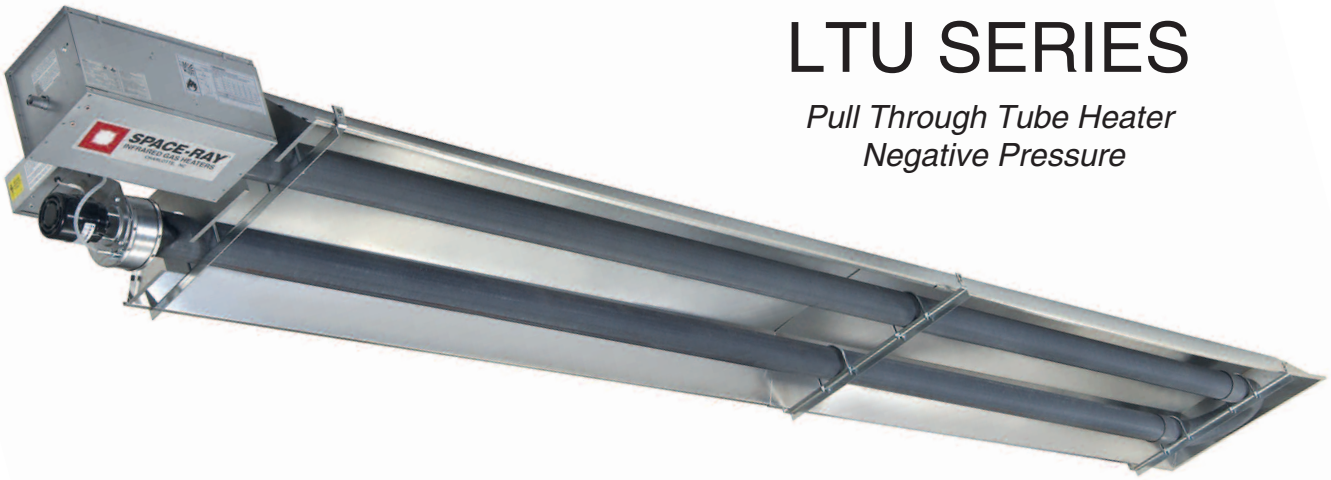
SPACE-RAY®
INFRARED GAS HEATERS



LTU SERIES

Pull Through Tube Heater
Negative Pressure

Solutions For Commercial & Industrial Heating







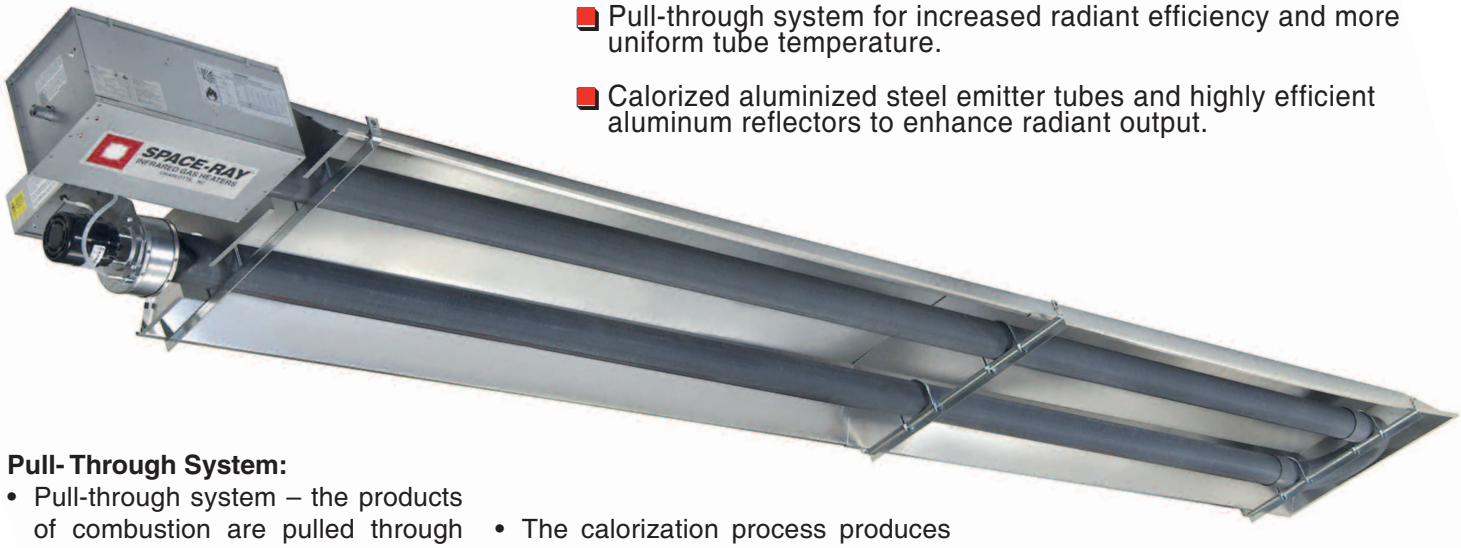


SPACE-RAY®
INFRARED GAS HEATERS

LTU Series Infrared Tube Heaters

Solutions For Commercial & Industrial Heating Since 1949

- 40,000 to 250,000 Btu/hr- single or two stage modulating controls.
- 19 different sizes to custom design your radiant heating system.
- Factory pre-assembled for easy and low cost installation.
- Pull-through system for increased radiant efficiency and more uniform tube temperature.
- Calorized aluminized steel emitter tubes and highly efficient aluminum reflectors to enhance radiant output.



Pull- Through System:

- Pull-through system – the products of combustion are pulled through the combustion chamber for increased radiant efficiency and greater safety.
- Vertical, horizontal or common venting.
- CSA design certified for maximum 75 ft. horizontal sidewall venting.
- Draft inducer is equipped with permanently lubricated, totally enclosed, fan cooled, and heavy duty ball bearing motor for maintenance free operation.
- Draft inducer assembly can be used for through-the-roof venting or rotated 45° or 90° for horizontal venting
- No draft hoods, totally enclosed combustion chamber.
- CSA design certified for vented or indirect vented operation.

Radiant Emitter Tube System:

- All radiant emitter tubes are 16 gauge, 3” or 4” O.D. calorized steel.
- Body assembly consists of 5’, 10’ or 15’ body sections.
- Aluminized steel or alumi-therm (titanium alloy) emitter tubes are calorized for long life and high radiant efficiency – will not flake or peel, and are corrosion resistant.
- The calorization process produces an emitter tube which is highly radiant absorptive on the interior and highly radiant emissive on the exterior.
- Ideal for high humidity or corrosive applications.
- Suitable for horizontal or angle mount up to 45°.
- 5 year limited warranty on the emitter tube.

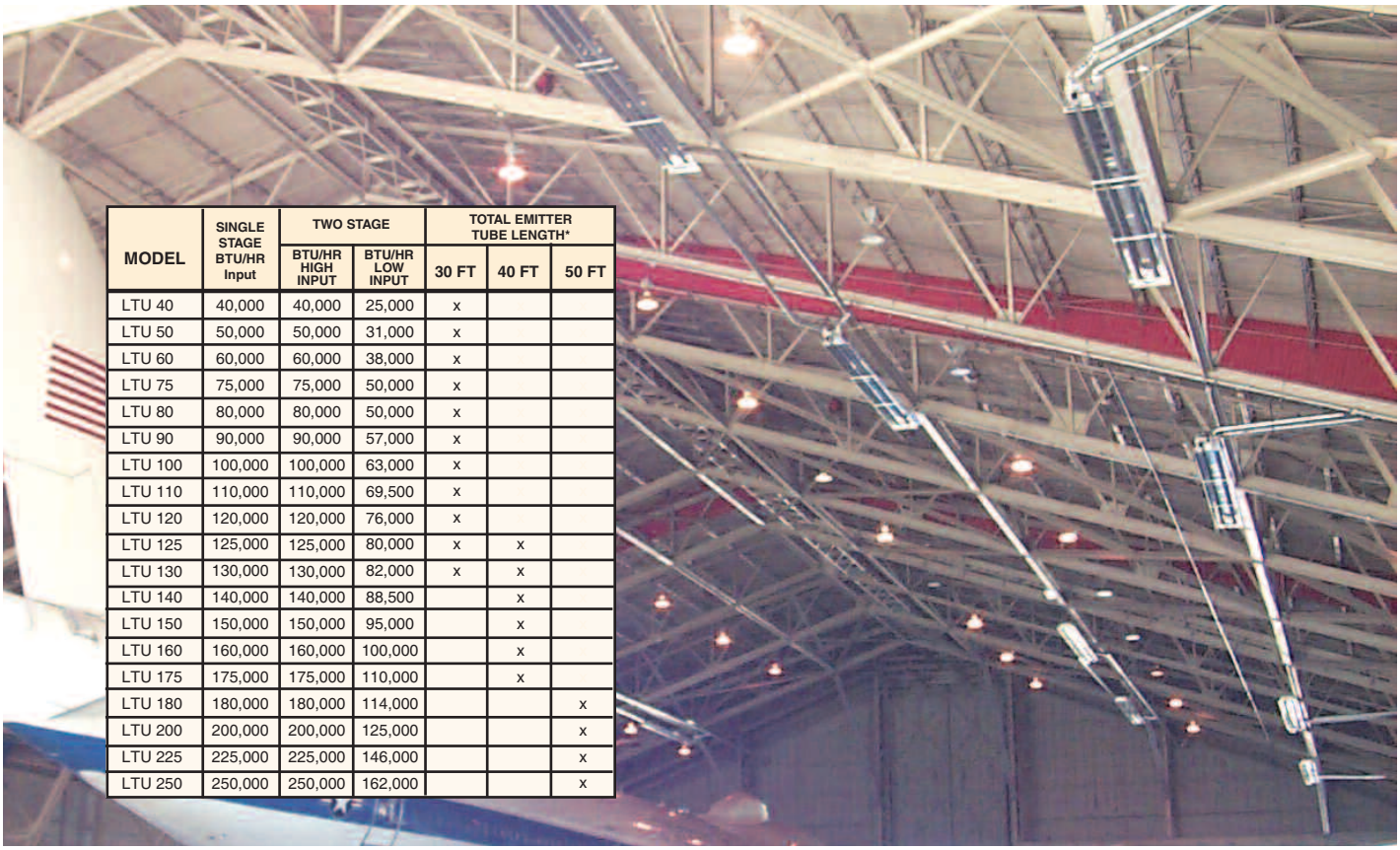
Burner & Control Systems:

- Monitoring light system for on-line diagnosis.
- One piece cast iron burner with stainless steel flame retainer.
- 10 year limited warranty on burner.
- Inside or outside air for combustion.
- CSA design certified for 50 ft. fresh air inlet duct.
- Burner inspection sight glass.
- 36” stainless steel flexible gas connector included with control box.
- State-of-the-art redundant, step opening, combination gas valve for quiet ignition and added safety.
- Direct Spark ignition system with 100% Gas Shut-Off Safety Control (30 second pre-purge).
- Diaphragm Air Proving Switch for proof of venting before gas flow and ignition.
- Quick slip-on electrical connectors.
- Uncomplicated maintenance access.

Reflector System:

- Shipped factory pre-assembled on tube body to reduce installation cost.
- Highly efficient aluminum reflectors with reflectivity rating of 97.5%.
- Reflector ends are enclosed for maximum radiant heat output and minimum convection loss.
- Optional side deflectors and Optional Decorative grille.
- Easy-to-use mounting brackets.

LTU Models & Control Options



MODEL	SINGLE STAGE BTU/HR Input	TWO STAGE		TOTAL EMITTER TUBE LENGTH*		
		BTU/HR HIGH INPUT	BTU/HR LOW INPUT	30 FT	40 FT	50 FT
LTU 40	40,000	40,000	25,000	x		
LTU 50	50,000	50,000	31,000	x		
LTU 60	60,000	60,000	38,000	x		
LTU 75	75,000	75,000	50,000	x		
LTU 80	80,000	80,000	50,000	x		
LTU 90	90,000	90,000	57,000	x		
LTU 100	100,000	100,000	63,000	x		
LTU 110	110,000	110,000	69,500	x		
LTU 120	120,000	120,000	76,000	x		
LTU 125	125,000	125,000	80,000	x	x	
LTU 130	130,000	130,000	82,000	x	x	
LTU 140	140,000	140,000	88,500		x	
LTU 150	150,000	150,000	95,000		x	
LTU 160	160,000	160,000	100,000		x	
LTU 175	175,000	175,000	110,000		x	
LTU 180	180,000	180,000	114,000			x
LTU 200	200,000	200,000	125,000			x
LTU 225	225,000	225,000	146,000			x
LTU 250	250,000	250,000	162,000			x

CONTROL SUFFIX	TYPE OF GAS	CONTROL OPTION DESCRIPTION
N5 / L5	Natural / Propane	Single Stage Gas Valve - Single Stage Input
N7 / L7	Natural / Propane	Two Stage Gas Valve - Modulating Input - High/Low Fire

* Indicate model number based on Btu/hr input (e.g. 100,000Btu/hr), emitter length (e.g. 30 ft.). Control suffix (e.g. Natural Gas single stage input) . The unit selection would be LTU100-30-N5

From warehouses, fire stations and manufacturing plants to automotive repair facilities, aircraft hangars, greenhouses and restaurants, Space-Ray LTU Infrared Gas Heaters are designed to provide comfortable, efficient heating at an affordable cost, regardless of the size of your facility.

GAS TYPE	BURNER PRESSURE	SUPPLY PRESSURE MIN	SUPPLY PRESSURE MAX	VOLTAGE	AMPS	IGNITION TYPE	FLUE CONNECTION	OUTSIDE COMBUSTION AIR CONNECTION
NATURAL	3.5" W.C.	5" W.C*	14" W.C.	120 VAC 60 HZ	2.6	DIRECT SPARK	4" Round for LTU (40-175) 6" Round for LTU (200-250)	4" Round for LTU (40-75) 6" Round for LTU (80-250)
PROPANE	10" W.C.	11" W.C.**	14" W.C.					

* 7" W.C. for LTU (150-250) **12" W.C. for LTU (180-250) NOTE: For all installations higher than 2000 ft. above sea level, please consult the factory regarding recommended derating of heaters.

A highly radiant efficient Space-Ray infrared heating system can normally save a building owner 30% to 50% in annual fuel costs compared to forced air heating systems.

LTU Mounting Heights, Clearances & Dimensions

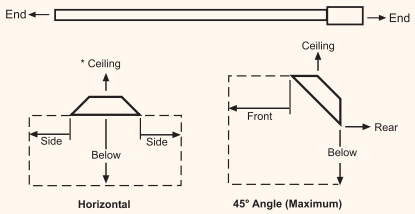
Minumum Recommended Mounting Heights

MODEL	HEIGHT AT HORIZONTAL	HEIGHT AT 45° ANGLE
LTU 40	10 feet	9 feet
LTU 50	11 feet	10 feet
LTU 60	12 feet	11 feet
LTU 75, 80, 90,100	13 feet	12 feet

MODEL	HEIGHT AT HORIZONTAL	HEIGHT AT 45° ANGLE
LTU 110, 120, 125, 130	14 feet	13 feet
LTU 140, 150,160, 175	15 feet	14 feet
LTU 180, 200	18 feet	17 feet
LTU 225, 250	20 feet	19 feet

This chart is intended as a guide only, as heaters may be mounted at various heights and angles. Mount heaters as high as possible. Minimums are shown as a guideline for human comfort and uniform energy distribution for complete building applications. Please consult your local Space-Ray Representative for a detailed analysis of your particular infrared heating requirements.

Minimum Clearances To Combustibles

MINIMUM CLEARANCES TO COMBUSTIBLES	MODEL NO.	SIDE	CEILING*	BELOW**	END	(45°) FRONT	(45°) REAR
	LTU (40, 50)	24”	6”	40”	15”	40”	12”
	LTU (60, 75)	24”	6“	60”	15”	52”	12”
	LTU (80, 90)	26”	6”	66”	15”	52”	12”
	LTU (100)	28”	6”	76”	15”	60”	12”
	LTU (110, 120, 125, 130)	32”	6”	82”	20”	66”	12”
	LTU (140, 150, 160, 175)	42”	6”	93”	20”	77”	12”
	LTU (180, 200, 225, 250)	56”	6”	112”	20”	90”	18”

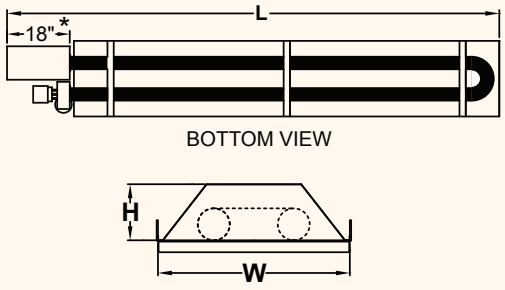
** When used indirect vented, clearances to ceiling from top of exhaust hood must be 12” on LTU (40-75), and 18” on LTU (80-250). **Clearance below the tube reduces to 72” - 20ft. downstream from the control box. Note: Consult factory if reduced clearances are required.*

Dimensions

For versatility side reflectors are available for close area mounting near walls and decorative grilles above suspended ceiling applications.

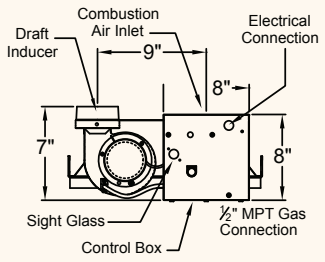
MODEL	TUBE DIAMETER	TOTAL TUBE LENGTH (FT)	OVERALL DIMENSIONS “L” (FT)	REFLECTOR WIDTH “W” (IN)	REFLECTOR HEIGHT “H” (IN)
LTU 40, 50, 60, 75	3”	30’	16’ -10”	18 1/2”	5 1/2”
LTU 80, 90, 100, 110, 120, 125, 130	4”	30’	17’ - 6 -1/2”	28”	7”
LTU 125, 130, 140, 150, 160, 175	4”	40’	22’ - 6 -1/2”	28”	7”
LTU 180, 200, 225, 250	4”	50’	27’- 7”	28”	7”

HEATER

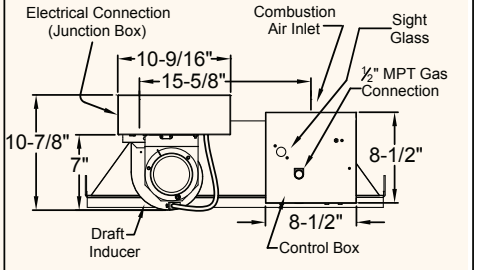


*15" for LTU40-75

CONTROL BOX / DRAFT INDUCER



LTU40-75



LTU80-250

Combustion Air and Ventilation

Combustion air and venting requirements for all gas-fired heating equipment must be provided per the National Fuel Gas Code NFPA54 or the authority having jurisdiction over the installation. In contaminated atmospheres or high humidity areas, optional outside air for combustion can be supplied. Heaters can be common vented, vented, or indirect vented. Refer to the Installation and Operation Instructions for further information. A vented installation must be vented to the outside of the building with a flue pipe. An Indirect vented installation requires a minimum ventilation flow of 4 CFM per 1000 Btu/hr of total installed heater capacity on natural gas by either gravity or power ventilation (4.18 CFM per 1000 Btu/hr for propane). For indirect vented applications, building exhaust openings must be located above the level of the heaters and inlet air openings must be located below the level of the heaters.

For Your Safety

OPERATE SPACE-RAY GAS INFRARED HEATERS WITH PROPER CARE AND OBSERVE ALL SAFETY PRECAUTIONS. Installation and service must be performed by a licensed contractor. The installation must conform to local codes. In the absence of local codes, the installation must conform to the National Fuel Gas Code ANSI Z223.1 (latest edition), also known as NPFA54) or CAN/CSA-B149 installation codes (latest edition). These codes are available from the National Fire Protection Association, Inc., Batterymarch Park, Quincy, MA 02269, or the Canadian Gas Association, 55 Scarsdale Road, Toronto, Ontario MB3 2R3 Canada.

SPACE-RAY®

A Division of Gas-Fired Products, Inc

P.O. Box 36485 Charlotte, NC 28236 Telephone (Toll Free) 1-800-438-4936 (704) 372-6391 Fax (704) 332-5843

www.spaceray.com • email: info@spaceray.com