

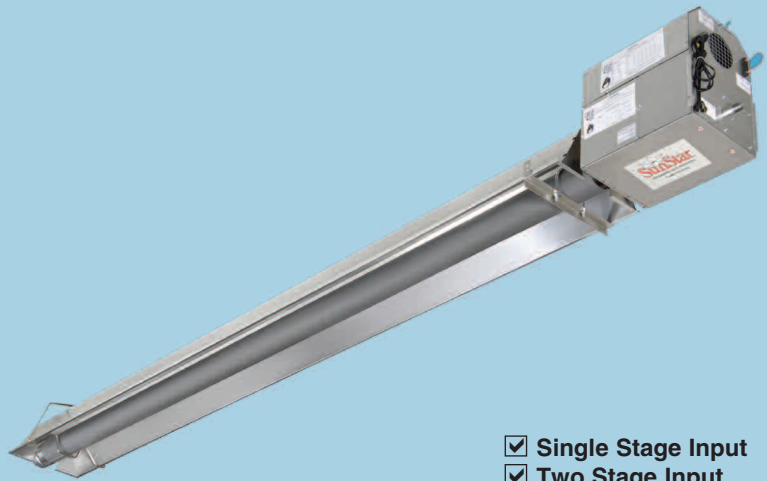


THE ECONOMICAL ALTERNATIVE FOR HARD-TO-HEAT SPACES:

- Manufacturing Plants
- Warehouses
- Auto Dealerships
- Aircraft Hangars
- Loading Docks
- Weld Shops
- Car Washes
- Fire Stations
- Greenhouses
- Gymnasiums
- Garages
- Machine Shops
- Tennis Courts
- Swimming Pools
- Maintenance Shops
- Farm Buildings
- Truck Service Areas
- Auto Body Shops



WARNING
Not For Residential Use



- ✓ Single Stage Input
- ✓ Two Stage Input

Whether you need to heat your warehouse, garage, or other hard-to-heat spaces, the SunStar SPS/U Series infrared heaters provide both the fuel efficiency of radiant heat and the installation flexibility you need . . . and all at a comfortable price.

INTRODUCING

SPS & SPU Series

Push Through (Positive Pressure)

INFRARED TUBE HEATER

SunStar infrared tube heaters are ideal for complete building heat or spot heating needs. The best applications are those where doors open and close frequently and in buildings where ceiling heights are above ten feet. The flexible SunStar infrared heating system can be designed to meet any commercial or industrial heating needs.

HEAT LIKE THE SUN

SunStar infrared tube heaters heat like the sun by transferring radiant heat energy directly into the area to be heated. This energy is then absorbed by concrete floors, objects and people and is then re-radiated to warm the surrounding area. This creates a warm comfort zone at floor level, not at the ceiling.

FUEL SAVINGS UP TO 50%

This extremely efficient method of heating can result in fuel savings of between 30% and 50% when compared to forced air convection heating. With the SunStar system, investment payback accrues not only from reduced energy costs, but from the reduced maintenance costs, too.



CONVECTION HEAT

Forced air convection heat works from the top down, heating the air first and stratifying from the ceiling downward. More heat is wasted in the upper area of the building.



INFRARED HEAT

Infrared heat works from the bottom up, warming people, floors and machines first. Comfortable heat is retained in the lower working areas of your building.



SPS SERIES

Available in multiple configurations (straight, L,Z and expanded U-configuration) with lengths up to 70 feet. Ideal for complete building heating.

SPU SERIES

Provides more uniform radiant heat energy distribution. Ideal for high heat loss areas and spot heating.

SPS/SPU SERIES FEATURES

General Features

- 8 different Btu sizes and more than 60 different configurations to custom design your infrared heating system
- Single stage or two stage input controls
- CSA design certified
- Available in natural and propane gas
- Optional decorative grille
- Optional elbow and corner reflectors
- Sidewall or through the roof venting
- Vented or indirect vented operation

Push Through Positive Pressure System

- Products of combustion are pushed through the combustion chamber
- Tube Integrity Safety System (TISS)
- No draft hoods, totally enclosed combustion chamber
- Blower motor totally enclosed in the burner box. Ideal for applications where minimal noise (less than 50 dB) is desired
- Heavy duty permanently lubricated and ball bearing motor for maintenance-free operation
- Pre-purge and Post purge functions
- Diaphragm air switch for proof of venting before gas flow and ignition

Burner System

- Heavy duty cast iron burner
- Reliable direct spark ignition system and 100% gas shut-off safety control
- Burner inspection sight glass
- Step-opening redundant combination gas valve for quiet ignition and added safety
- Inside or outside air for combustion
- Up to 25 ft. outside combustion air capability
- Standard outside combustion air intake collar
- Diagnostic Monitoring Light System
- Line voltage or 24V thermostat connection

Radiant Emitter Tube System

- 4" O. D. heat treated aluminized steel or aluminized steel combustion chamber (10' length)
- Standard highly emissive radiant tubes (10' lengths)
- Optional heat treated aluminized steel radiant tubes (Tough Guy Option)
- 5 year limited warranty on all tubes
- Suitable for horizontal or angle mounting up to 45° with optional tube support hanger bracket
- Up to 25 feet sidewall vent capability

Reflector System

- Highly efficient aluminum reflectors
- Individual reflectors can be rotated up to 45° to direct heat where needed
- Optional end, corner, U-bend and side extension reflectors

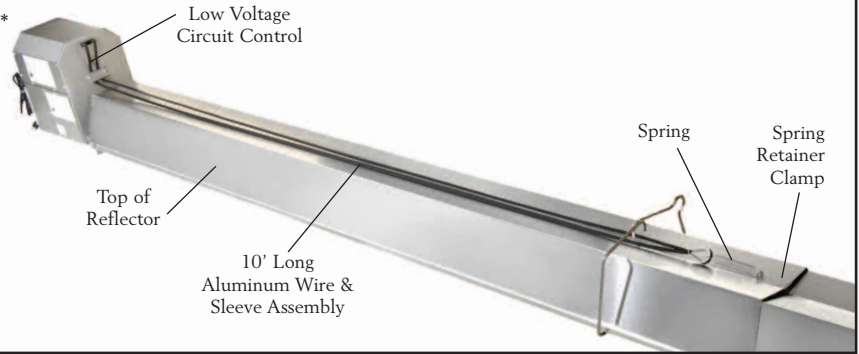
GAS TYPE	BURNER PRESSURE	SUPPLY PRESSURE		VOLTAGE	AMPS	IGNITION TYPE	FLUE CONNECTION	FRESH AIR CONNECTION
		MIN.	MAX.					
Natural	3.5" W.C.	5" W.C.	14" W.C.	120 VAC	1.8	Direct	4" Round	4" Round
Propane	10" W.C.	11" W.C.	14" W.C.	60 Hz		Spark		

NOTE: For installations higher than 2000 ft. above sea level, call SunStar for recommended derating of heaters.



PIPE INTEGRITY SAFETY SYSTEM (TISS™)

SunStar's newly developed Tube Integrity Safety System* (TISS) provides peace of mind. It may never be needed, but in the unlikely event of a tube failure, you will be happy that you have a TISS. It is simple. A low voltage circuit continuously monitors the clearance above the reflector for excessive overheat and tube integrity compromise. You may never know it is there, but on a positive pressure tube heater it is nice to know you have the TISS.



* US & worldwide Patents Pending

TECHNICAL SPECIFICATIONS

MODEL	SINGLE STAGE BTU/HR INPUT	TWO STAGE		TOTAL EMITTER TUBE LENGTH*			
		Btu/hr High Input	Btu/hr Low Input	10 FT**	20 FT	30 FT	40 FT
SPS/U 40	40,000	40,000	25,000	•	•		
SPS/U 50	50,000	50,000	30,000		•	•	•
SPS/U 75	75,000	75,000	50,000		•	•	•
SPS/U 100	100,000	100,000	65,000			•	•

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	60 FT	70 FT
SPS/U 125	125,000	125,000	80,000	•	•	•	•	
SPS/U 150	150,000	150,000	100,000		•	•	•	
SPS/U 175	175,000	175,000	110,000			•	•	•
SPS/U 200	200,000	200,000	125,000			•	•	•

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 - Two Stage Input - High/Low Fire

* Model number is based on Btu/hr input (e.g., 100,000 Btu/hr), total emitter length (e.g., 40 feet) and gas type (e.g., natural gas single stage input). For example, the model number for a natural gas single stage straight tube heater would be SPS100-40-N5 and for a U-tube heater would be SPU100-40-N5. ** Available only on SPS models.

Tough Guy Option: All aluminized steel radiant tubes

For Tough Guy option the model number would be SPS100-40-TG-N5. Note: for Carwashes, Dairy Barns, Greenhouses, Swimming Pools, Waste Water Treatment Plants, and other high humidity / corrosive environments, Tough Guy with all aluminized tubes is recommended.

DIMENSIONS

SPS - BOTTOM VIEW		SPS - END VIEW	
MODEL	TOTAL TUBE LENGTH (FT)	OVERALL DIMENSION "L"(FT)	
SPS (40)	10'	11' 2"	
SPS (40, 50, 75)	20'	21' 2"	
SPS (50, 75, 100, 125)	30'	31' 2"	
SPS (50, 75, 100, 125, 150)	40'	41' 2"	
SPS (100, 125, 150, 175, 200)	50'	51' 2"	
SPS (125, 150, 175, 200)	60'	61' 2"	
SPS (175, 200)	70'	71' 2"	

SPU - BOTTOM VIEW		SPU - END VIEW	
MODEL	TOTAL TUBE LENGTH (FT)	OVERALL DIMENSION "L" (FT)	
SPU (40, 50, 75)	20'	12' 5"	
SPU (50, 75, 100, 125)	30'	17' 5"	
SPU (50, 75, 100, 125, 150)	40'	22' 5"	
SPU (100, 125, 150, 175, 200)	50'	27' 5"	
SPU (125, 150, 175, 200)	60'	32' 5"	
SPU (175, 200)	70'	37' 5"	

SPS & SPU BURNER BOX

24V Thermostat Connection

Standard Outside Combustion Air Collar

Diaphragm Air Safety Switch

1/2" MPT Gas Connection

Step Opening Gas Valve

Monitoring Lights

Three Prong Power Cord Connection

TISS Connection

Totally Enclosed Blower Assembly

Heavy Duty Cast Iron Burner

Hinged Access Doors

Flanged Connection To Ensure Proper Alignment

Heavy Duty Reflector Support Eliminates Reflector Separation

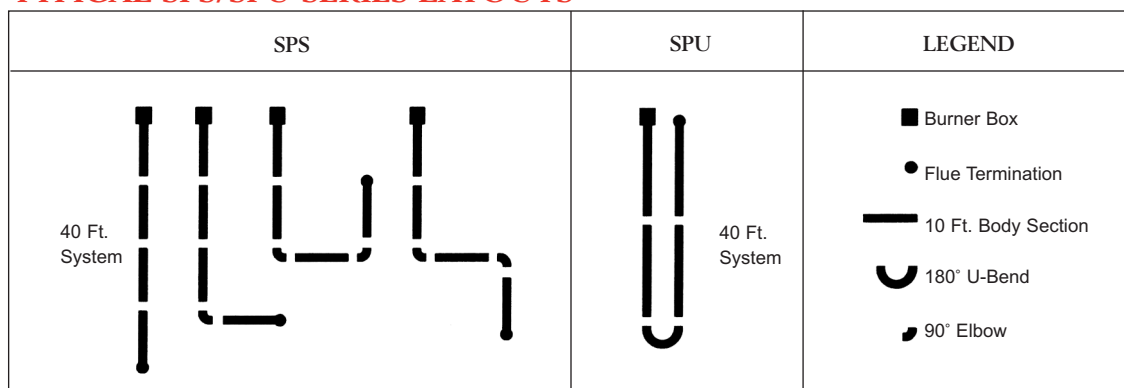
Burner Box Dimensions
(10" W x 14" L x 14" H)

SPS OPTIONS

CORNER REFLECTOR

90° ELBOW

TYPICAL SPS/SPU SERIES LAYOUTS



Over 60 different layout configurations are available. 40 ft. system layout is shown. For complete layout possibilities, refer to Installation and Operation Instructions.

MINIMUM RECOMMENDED MOUNTING HEIGHTS

MODEL	HEIGHT AT HORIZONTAL	HEIGHT AT 45° ANGLE	MODEL	HEIGHT AT HORIZONTAL	HEIGHT AT 45° ANGLE
SPS/U 40	10 Feet	9 Feet	SPS/U 125	14 Feet	13 Feet
SPS/U 50	11 Feet	10 Feet	SPS/U 150	15 Feet	14 Feet
SPS/U 75	13 Feet	12 Feet	SPS/U 175	16 Feet	15 Feet
SPS/U 100	14 Feet	13 Feet	SPS/U 200	18 Feet	16 Feet

This chart is intended as a guide only and heaters may be mounted at various heights and angles. Please consult your local SunStar Representative or Distributor for a detailed analysis of your particular infrared heating requirements.

NOTES: Since straight tubes are always hotter at the burner end than at the exhaust end, always observe the minimum recommended mounting heights shown on the specification sheet for greatest human comfort. Use SPU series instead of SPS series for spot heating applications.

MINIMUM CLEARANCES TO COMBUSTIBLES

MODEL NO.	SIDE	CEILING	BELOW	END	(45°) FRONT	(45°) REAR
SPS/U 40	22"	6"	52"	15"	40"	12"
SPS/U 50	22"	6"	56"	15"	48"	12"
SPS/U 75	22"	6"	60"	15"	52"	12"
SPS/U 100	28"	6"	70"	15"	58"	12"
SPS/U 125	28"	6"	76"	20"	66"	12"
SPS/U 150	34"	6"	81"	20"	70"	12"
SPS/U 175	38"	6"	86"	20"	75"	12"
SPS/U 200	42"	6"	93"	20"	80"	12"

* When used indirect vented, clearance to CEILING must be: 12" for SPS/U (50-75) and 18" for SPS/U (100-200).

** Maximum clearance below reduces by 50% once you are 25ft. downstream from the burner box. Call SunStar if reduced clearances are required

COMBUSTION AIR VENTILATION

Combustion air and venting requirements for all gas-fired heating equipment must be provided per National Fuel Gas Code NFPA 54 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, direct vented or indirect vented. Refer to 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 on propane). For indirect vented applications, building exhaust opening 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 SUNSTAR 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 with local codes. In the absence of local codes, the installation must conform with the National Fuel Gas Code ANSI Z223.1 (latest edition also known as NFPA 54) or CGA B149 installation codes (latest edition). These codes are available from ANSI, 1430 Broadway, New York, NY 10018, The National Fire Protection Association, Inc., Batterymarch Park, Quincy, MA 02269 or the Canadian Gas Association, 55 Scarsdale Road, Toronto, Ontario M3B 2R3 Canada.

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