



## THE ECONOMICAL ALTERNATIVE FOR HARD-TO-HEAT SPACES:

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



**WARNING**

**Not For Residential Use**



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

## SIS & SIU Series

Pull Through (Negative 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.



### SIS SERIES

Available in multiple configurations (straight, L,Z and expanded U-configuration) with lengths up to 50 feet.

### SIU SERIES

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



### SIS/SIU SERIES FEATURES

#### General Features

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

#### Vacuum System

- Products of combustion are pulled through the combustion chamber for increased radiant efficiency and greater safety
- No draft hoods, totally enclosed combustion chamber
- Heavy duty draft inducer assembly with permanently lubricated, totally enclosed and heavy duty ball bearing motor for maintenance-free operation
- 30 second pre-purge period before ignition
- 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 50 ft. outside combustion air capability
- Diagnostic Monitoring Light System

#### Radiant Emitter Tube System

- 4" O. D. heat treated aluminized steel combustion chamber (10' length)
- Standard highly emissive radiant tubes (10' lengths)
- Optional aluminized steel radiant tubes (Tough Guy Option)
- 5 year limited warranty on all tubes
- Suitable for horizontal or angle mounting up to 45°
- Up to 75 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

## TECHNICAL SPECIFICATIONS

| MODEL*  | BTU/HR INPUT | TOTAL EMITTER TUBE LENGTH |       |       |       |       |
|---------|--------------|---------------------------|-------|-------|-------|-------|
|         |              | 15FT.                     | 20FT. | 30FT. | 40FT. | 50FT. |
| SIS 50  | 50,000       | •                         | •     | •     |       |       |
| SIS 75  | 75,000       |                           | •     | •     |       |       |
| SIS 100 | 100,000      |                           |       | •     | •     |       |
| SIS 125 | 125,000      |                           |       | •     | •     | •     |
| SIS 150 | 150,000      |                           |       |       | •     | •     |
| SIS 175 | 175,000      |                           |       |       | •     | •     |

| MODEL*  | BTU/HR INPUT | TOTAL EMITTER TUBE LENGTH |       |       |       |
|---------|--------------|---------------------------|-------|-------|-------|
|         |              | 20FT.                     | 30FT. | 40FT. | 50FT. |
| SIU 50  | 50,000       | •                         | •     |       |       |
| SIU 75  | 75,000       | •                         | •     |       |       |
| SIU 100 | 100,000      |                           | •     | •     |       |
| SIU 125 | 125,000      |                           | •     | •     | •     |
| SIU 150 | 150,000      |                           |       | •     | •     |
| SIU 175 | 175,000      |                           |       | •     | •     |

\* 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). For example, the model number for a straight tube heater would be SIS100-40-N5 and for a U-tube heater would be SIU100-40-N5.

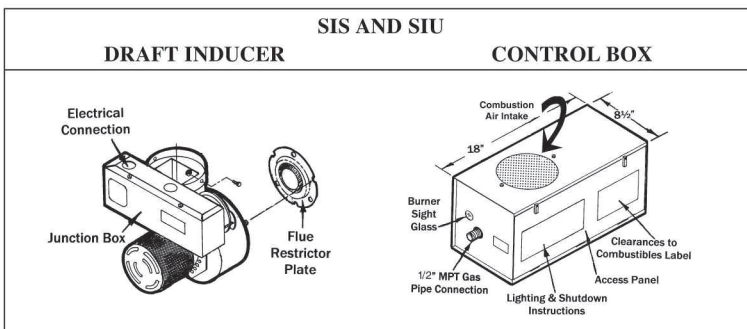
**Tough Guy Option: All aluminized steel radiant tubes**

For Tough Guy option the model number would be SIS100-40-TG-N5. Note: for high humidity / corrosive environments, Tough Guy with all aluminized tubes is recommended.

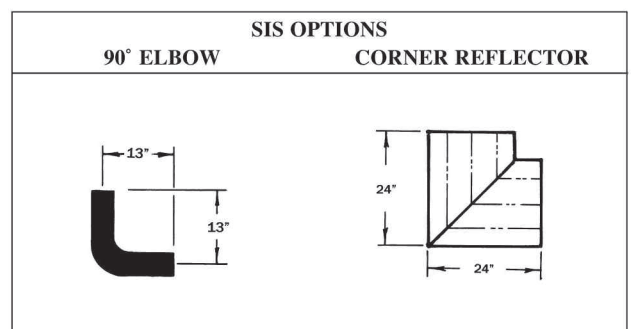
## DIMENSIONS

| SIS - BOTTOM VIEW | MODEL                    | TOTAL TUBE LENGTH (FT) | OVERALL DIMENSION "L" (FT) | SIS - END VIEW |
|-------------------|--------------------------|------------------------|----------------------------|----------------|
|                   | SIS (50)                 | 15'                    | 17' 9"                     |                |
|                   | SIS (50, 75)             | 20'                    | 22' 9"                     |                |
|                   | SIS (50, 75, 100, 125)   | 30'                    | 32' 9"                     |                |
|                   | SIS (100, 125, 150, 175) | 40'                    | 42' 9"                     |                |
|                   | SIS (125, 150, 175)      | 50'                    | 52' 9"                     |                |

| SIU - BOTTOM VIEW | MODEL                    | TOTAL TUBE LENGTH (FT) | OVERALL DIMENSION "L" (FT) | SIU - END VIEW |
|-------------------|--------------------------|------------------------|----------------------------|----------------|
|                   | SIU (50, 75)             | 20'                    | 12' 9"                     |                |
|                   | SIU (50, 75, 100, 125)   | 30'                    | 17' 9"                     |                |
|                   | SIU (100, 125, 150, 175) | 40'                    | 22' 9"                     |                |
|                   | SIU (125, 150, 175)      | 50'                    | 27' 9"                     |                |



Flue Connection: 4" Round for SIS/U (50-175);  
 Fresh Air Connection: 4" or 6" Round for SIS/U (50-75); 6" Round for SIS/U (100-175)

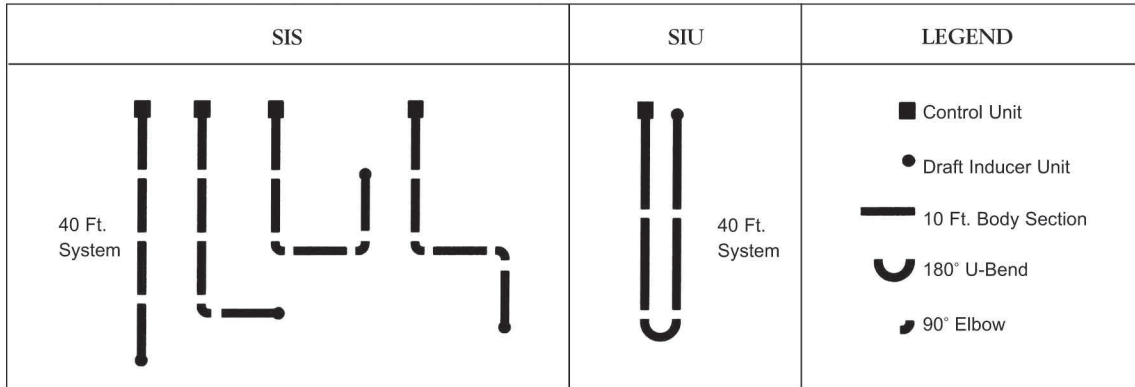


| GAS TYPE   | BURNER PRESSURE | SUPPLY PRESSURE |          | VOLTAGE | AMPS | IGNITION TYPE |
|------------|-----------------|-----------------|----------|---------|------|---------------|
|            |                 | MIN.            | MAX.     |         |      |               |
| N5-Natural | 3.5" W.C.       | 5" W.C.         | 14" W.C. | 120 VAC | 2.4  | Direct Spark  |
| L5-Propane | 10" W.C.        | 11" W.C.        | 14" W.C. | 60 Hz   |      |               |



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

## TYPICAL SIS/SIU 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 |
|-----------|----------------------|---------------------|-----------|----------------------|---------------------|
| SIS/U 50  | 11 Feet              | 10 Feet             | SIS/U 125 | 14 Feet              | 13 Feet             |
| SIS/U 75  | 13 Feet              | 12 Feet             | SIS/U 150 | 15 Feet              | 14 Feet             |
| SIS/U 100 | 14 Feet              | 13 Feet             | SIS/U 175 | 16 Feet              | 15 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 SIU series instead of SIS series for spot heating applications.

## MINIMUM CLEARANCES TO COMBUSTIBLES

|           | MODEL NO. | SIDE | CEILING | BELOW | END | (45°) FRONT | (45°) REAR |
|-----------|-----------|------|---------|-------|-----|-------------|------------|
|           | SIS/U 50  | 27"  | 6"      | 40"   | 30" | 48"         | 12"        |
| SIS/U 75  | 27"       | 6"   | 60"     | 30"   | 48" | 12"         |            |
| SIS/U 100 | 66"       | 6"   | 88"     | 40"   | 66" | 20"         |            |
| SIS/U 125 | 66"       | 6"   | 101"    | 40"   | 66" | 20"         |            |
| SIS/U 150 | 84"       | 6"   | 106"    | 48"   | 84" | 24"         |            |
| SIS/U 175 | 84"       | 6"   | 106"    | 48"   | 84" | 24"         |            |

When used indirect vented, clearance to ceiling from top of exhaust hood must be 12" on SIS/U50-SIS/U75, and 18" on SIS/U100-SIS/U175. 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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