



Reflect-O-Ray[®]

EDS 4 – Stainless Steel

Products by: Combustion Research Corporation

SUBMITTAL DATA

PROJECT:

Specifications for
Reflect-O-Ray[®] EDS 4 GAS FIRED SYSTEMS

PART 1 - GENERAL

It is the intent of this specification to identify design requirements and minimum standards for the quality, construction, delivery, installation, and operation of the low intensity, vacuum vented, gas fired infrared heating equipment. Minor variations, in accordance with standard practice, shall be indicated on the shop drawings and submitted for approval.

1.1 - CODES AND STANDARDS

- 1.1.1 The entire heating system shall be designed certified to:
- a) American Gas Association "Gas-Fired Low-Intensity Infrared Heaters" conforming to the ANSI Z83.20- (Current Standard).
 - b) Canadian Gas Association Certified " Gas-Fired Low-Intensity Infrared Heaters " conforming to CSA 2.34 – (Current Standard).
- 1.1.2 Installation shall conform to local codes and local gas authorities including the National Electrical Code, National Fuel Gas Code, and applicable ANSI, NFPA & CAN/CGA & CSA codes.

1.2 - QUALITY ASSURANCE

- 1.2.1 The material construction and operation of the infrared heating equipment shall conform to the performance specifications contained herein. Approved manufacturer is: Combustion Research Corporation, 2516 Leach Rd., Rochester Hills, MI, 48309; Tel. No. 248.852.3611, Fax. No. 248.852.9165.
- 1.2.2 Manufacturer shall warrant mechanical and electrical components for a period of one year from original invoice date.
- 1.2.3 Manufacturer shall warrant radiant tube for a period of ten (10) years (against internally created corrosion) from the original invoice date provided system is installed and maintained in accordance with the owner's manual.
- 1.2.4 System shall be furnished complete with Burner(s), Vacuum Exhauster(s), Tubular infrared emitters, Fittings, Reflector Shields, Hangers and System Controls.

1.3 - MANUFACTURER AND INSTALLER QUALIFICATIONS

- 1.3.1 The low intensity, gas fired infrared heating system shall be a product of a manufacturer who has had at least ten years experience in design and fabrication and who is regularly engaged in the manufacture of the type of gas fired low intensity infrared heating equipment specified herein. Only manufacturers who can submit evidence of actual installations of comparable designed construction, and that the products have proven practical, durable, and require a minimum of maintenance, will be qualified under this specification.
- 1.3.2 Installation of the gas fired low intensity infrared heating equipment shall be by supervised by an authorized representative of the heater manufacturer and shall be in accordance with approved installation drawings. Mechanics shall be skilled and experienced in the erection of the low intensity infrared heating equipment of the type specified herein.

1.4 - DELIVERY AND STORAGE

- 1.4.1 Materials shall be shipped in the manufacturers standard protective packaging to the designated site.
- 1.4.2 The installing contractor is responsible for receiving, unloading and storage of materials. Storage shall be in dry locations free from dust and water and available for inspection and handling. Handle equipment carefully to prevent damage. Remove damaged items that cannot be restored to like new condition and replace with new items.

PART 2 - PRODUCT

2.1 - BURNERS

- 2.1.1 Burners shall be capable of firing at 40,000 BTU/hr (11.71 kW) up to and including 250,000 BTU/hr (73.2 kW) at 5,000 BTU/hr (1.46 kW) increments with natural gas or LP gas. Burners of larger input shall not be allowed.
- 2.1.2 Burner power requirements 24 Volt, 60 Hz AC 40VA.
- 2.1.3 Burners shall include the following features:
 - a) Fitted with a 4" (101.6 mm)-diameter combustion air inlet with a fixed combustion air-metering orifice.
 - b) Burners shall be fitted a differential air pressure switch so as to prove adequate combustion air is present before burner fires.
 - c) Burners shall be fitted with solid state electronic controls with spark ignition & 100% lockout in event of low fire or main flame failure - Hot surface ignition shall not be allowed.
 - d) Regulator to be factory set at 3.5" W.C. (6.54 mm/Hg) for natural gas and 10.0" W.C. (18.68 mm/Hg) for propane gas.
 - e) Burner(s) flame sensing shall be by flame rectification with a separate probe.
 - f) Burner(s) shall have a minimum 15-second pre-purge before ignition.
 - g) Burner(s) shall casing to be constructed of 16 Ga. (1.587mm) stainless steel.
 - h) Burner(s) shall be fitted with inspection window for visual inspection of spark and flame.
 - i) Burner(s) shall be fitted with 3 indicator lights - "Power On", "Air Flow On", & "Burner On".
 - j) Burner controls, differential pressure switch, gas valve, electrical wiring, etc. shall be segregated from the combustion air supply.
- 2.1.4 Burner(s) and vacuum exhauster electrically interlocked.

2.2 - VACUUM EXHAUSTER

- 2.2.1 Dynamically balanced forward inclined fan wheel constructed of stainless steel with a cast iron hub.
- 2.2.3 Direct Drive.
- 2.2.4 Inlet cone and venturi plate (stainless steel) engineered for maximum efficiency.
- 2.2.5 16-gauge (1.587 mm) stainless steel housing and mounting bracket to be powder coated.
- 2.2.6 Motor to be one sixth (1/6) HP (115V, 3.0 amp), one quarter (1/4) HP (115V, 3.5 amp - 402.5 watts), one half (1/2) HP dual voltage (115/230V 6.2/3.1 Amps - 713 watts), or one (1) HP dual voltage (115/230 V 12/6 Amps - 1,380 watts) - 3450 RPM, 60 Hz capacitor start internally protected, class B insulation. Sealed ball bearings front and rear. No sub fractional motors allowed.
- 2.2.7 Vibration isolating rubber mounts.
- 2.2.8 Stainless steel bird screen on side wall venting.
- 2.2.9 Four-inch (4.0" / 101.6 mm) Stainless steel, insulated flexible vibration isolation connector.

2.3 - SYSTEM CONTROLS

- 2.3.1 Thermostat provided by equipment manufacturer, 115V, 16 amp (1,840 watt) rating.
- 2.3.2 Control Panels (if used) shall be enclosed in a NEMA 4 enclosure.

2.4 - RADIANT TUBE HEAT EXCHANGING NETWORK

- 2.4.1 Combustion tube shall be 10' long 16 gauge (1.587mm) aluminized steel 4.0" (101.6 mm) OD swaged one end for inputs of 40,000 Btu/hr (11.71 kW) up to 175,000 Btu/hr (51.24 kW). For inputs of 180,000 Btu/hr (52.7 kW) up to 250,000 Btu/hr (73.2 kW) a 10' long 16 gauge (1.587mm) alumatherm steel 4.0" (101.6 mm) OD and a 10' long 16 gauge (1.587mm) aluminized steel 4.0" (101.6 mm) OD swaged one end shall be used.
- 2.4.2 Balance of radiant tubing shall be constructed of patented, spiral wound 22 gauge (0.76 mm) aluminized steel, 4.0" (101.6 mm) OD.
- 2.4.3 Elbows and tube coupler to be made of min. 18 gauge (1.32 mm) aluminized steel, swaged at both ends so as to fit into 4.0" (101.6 mm) spiral tube.

- 2.4.4 Reflectors to be made of minimum 0.025" (0.635 mm), bright one side, stainless steel.
- 2.4.5 Tubing and reflector hangers to be made of 0.25" (6.35 mm) Dia. Zinc plated CRS.
- 2.4.6 All radiant tube joints are to be sealed and mechanically fastened with self drilling and tapping screws.
- 2.4.7 All radiant tubing to be continuously covered by the reflector, i.e. radiant tube elbows, "U" bends and fittings to be covered by reflectors -- NO GAPS BETWEEN REFLECTORS. Reflectors are to be overlapped a minimum of one-inch (1"/25.4 mm) and secured together with sheet metal screws allowing for one unsecured overlap joint for expansion on each straight run exceeding ten feet (10' / 3.048m).
- 2.4.8 Minimum lineal length of radiant tubing per 100,000 Btu/hr (29.3 kW) of input shall be 40 feet (12.194m).
- 2.4.9 The maximum firing rate shall be 2500 Btu/hr (0.732 kW) per square foot (0.0929 square meter) of radiant tubing surface area. The total radiant tubing surface area is the radiant tubing which is covered by reflectors and associated with one vacuum exhauster.

2.5 - COMBUSTION AIR

- 2.5.1 Outside combustion air (if used) is to be provided without the use of supplementary supply blowers or fans.
- 2.5.2 Outside combustion air ducting to be minimum of 4" (101.6 mm) or 6" (152.5 mm) OD (S&D PVC or galvanized stovepipe) as required.

2.6 - SYSTEM PERFORMANCE

- 2.6.1 System shall operate as vacuum system, whereas the entire radiant tube system will be under a negative pressure to preclude any possibility of the products of combustion venting into the heated space.
- 2.6.2 System shall attain a net exhaust temperature of not less than 200°F (93.3°C) in a 15 min. run cycle and shall not exceed a maximum net temperature of 375°F (190.46°C).
- 2.6.3 System STEADY STATE EFFICIENCY shall be a minimum of 82%, maximum 87%. The system cyclic efficiency shall be a minimum of 85%, maximum 91% (this is based on a 15 min. run time).
- 2.6.4 System shall be a non-condensing dry tube system, i.e. - After a minimum run time of 8 min. all condensation will cease and moisture will exit the system in a vapor state.
- 2.6.5 Maximum temperature of radiant tube shall not exceed a NET temperature of 1000°F (537.8°C).

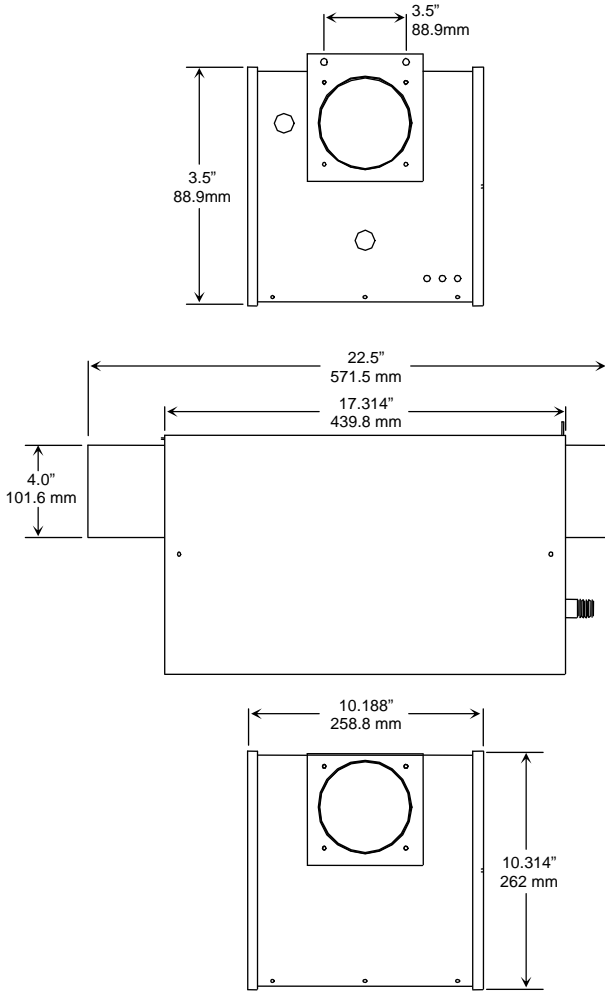
PART 3 - EXECUTION

3.1 - INSTALLATION

- 3.1.1 Power Requirements: It is the installers' responsibility to verify the correct power requirements for the project.
- 3.1.2 Fuel Supply and Distribution:
 - a) A suitably designed gas distribution system shall be installed per shop drawings.
 - b) Each burner assembly shall be furnished with a stainless steel gas connector with manual shut off valve.
- 3.1.3 Assembly: Assemble and install the heating system in accordance with the installation manual and shop drawings.
- 3.1.4 Cleaning: Clean reflectors as may be required and touch up painted surfaces as may be needed.
- 3.1.5 Testing: Upon completion of installation, including work by other trades, adjust and test the heating system in accordance to the manufacturer's owners manual. Adjust and re-test heating system until entire installation is fully operable and acceptable.

END OF SECTION

BURNER DIMENSIONS



GAS INLET PRESSURE

Natural Gas: 5.0" Minimum 14.0" Maximum
 LP Gas: 11.0" Minimum 14.0" Maximum

GAS PRESSURE AT MANIFOLD

Natural Gas: 3.5" W.C.
 LP Gas: 10.0" W.C.
 1/2" NPT Gas Connection (40K thru 175K)
 3/4" NPT Gas Connection (180K thru 250K)

BURNER ASSEMBLY ELECTRICAL RATING

24 VAC, 50/60 Hz., 31 VA (STANDARD)
 (Optional - 115 VAC hook up-available)

ALTITUDE

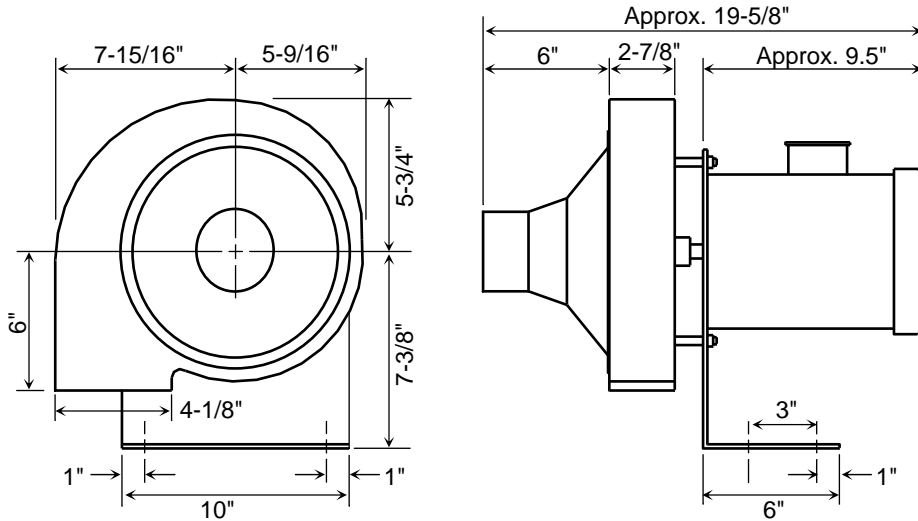
United States: 0 – 2,000 Ft. **(0 - 609 m)**
 Canada: 0 – 2,000 Ft. **(0 - 609 m)** Inputs of 180K – 50k
 0 - 4,500 Ft. **(0 - 1,370 m)** Inputs of 40k to 175K

BURNER PART NO.	BTU/Hr INPUT	ELECTRICAL RATING
08040.NG/LPSS	40,000	24 V, 31 VA
08045.NG/LPSS	45,000	24 V, 31 VA
08050.NG/LPSS	50,000	24 V, 31 VA
08055.NG/LPSS	55,000	24 V, 31 VA
08060.NG/LPSS	60,000	24 V, 31 VA
08065.NG/LPSS	65,000	24 V, 31 VA
08070.NG/LPSS	70,000	24 V, 31 VA
08075.NG/LPSS	75,000	24 V, 31 VA
08080.NG/LPSS	80,000	24 V, 31 VA
08085.NG/LPSS	85,000	24 V, 31 VA
08090.NG/LPSS	90,000	24 V, 31 VA
08095.NG/LPSS	95,000	24 V, 31 VA
08100.NG/LPSS	100,000	24 V, 31 VA
08105.NG/LPSS	105,000	24 V, 31 VA
08110.NG/LPSS	110,000	24 V, 31 VA
08115.NG/LPSS	115,000	24 V, 31 VA
08120.NG/LPSS	120,000	24 V, 31 VA
08125.NG/LPSS	125,000	24 V, 31 VA
08130.NG/LPSS	130,000	24 V, 31 VA
08135.NG/LPSS	135,000	24 V, 31 VA
08140.NG/LPSS	140,000	24 V, 31 VA
08145.NG/LPSS	145,000	24 V, 31 VA
08150.NG/LPSS	150,000	24 V, 31 VA
08155.NG/LPSS	155,000	24 V, 31 VA
08160.NG/LPSS	160,000	24 V, 31 VA
08165.NG/LPSS	165,000	24 V, 31 VA
08170.NG/LPSS	170,000	24 V, 31 VA
08175.NG/LPSS	175,000	24 V, 31 VA
08180.NG/LPSS	180,000	24 V, 31 VA
08185.NG/LPSS	185,000	24 V, 31 VA
08190.NG/LPSS	190,000	24 V, 31 VA
08195.NG/LPSS	195,000	24 V, 31 VA
08200.NG/LPSS	200,000	24 V, 31 VA
08205.NG/LPSS	205,000	24 V, 31 VA
08210.NG/LPSS	210,000	24 V, 31 VA
08215.NG/LPSS	215,000	24 V, 31 VA
08220.NG/LPSS	220,000	24 V, 31 VA
08225.NG/LPSS	225,000	24 V, 31 VA
08230.NG/LPSS	230,000	24 V, 31 VA
08235.NG/LPSS	235,000	24 V, 31 VA
08240.NG/LPSS	240,000	24 V, 31 VA
08245.NG/LPSS	245,000	24 V, 31 VA
08250.NG/LPSS	250,000	24 V, 31 VA

0401.040SS & 0402.040SS - VACUUM EXHAUSTERS, STAINLESS STEEL

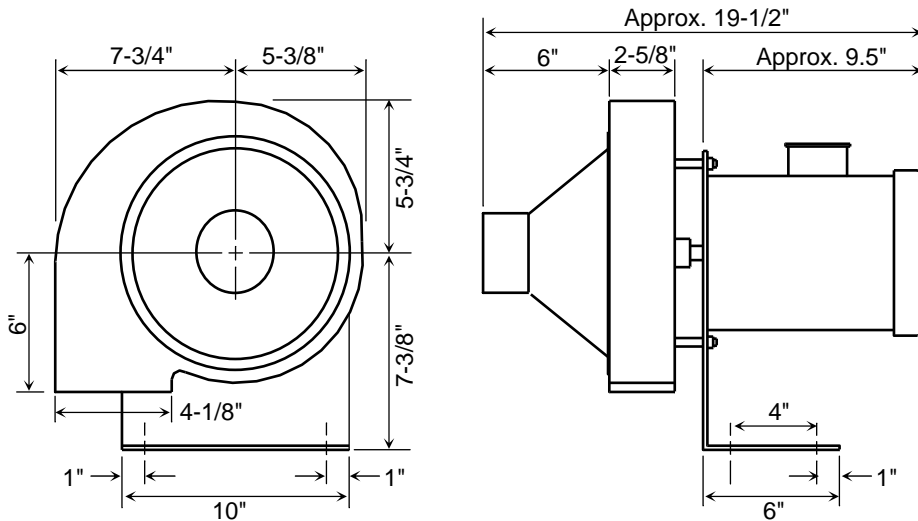
0401.040SS - 115 / 208-230V, 6.2 / 3.1-3.0 FLA, 60 Hz, 1 Ph., 3450 RPM, totally enclosed motor (TENV or TEFC), thermally protected.

0402.040SS - 115 / 208-230V, 12.4 / 3.0-2.7 FLA, 60 Hz, 1 Ph., 3450 RPM, totally enclosed motor (TENV or TEFC), thermally protected.



0201.040SS - VACUUM EXHAUSTERS, STAINLESS STEEL

0201.040SS – ¼ HP / 115 / 208-230V, 3.6 / 3.0-3.0 FLA, 60 Hz, 1 Ph., 3450 RPM, totally enclosed motor (TENV or TEFC), thermally protected. NOTE – 1/3 HP motor may be substituted.

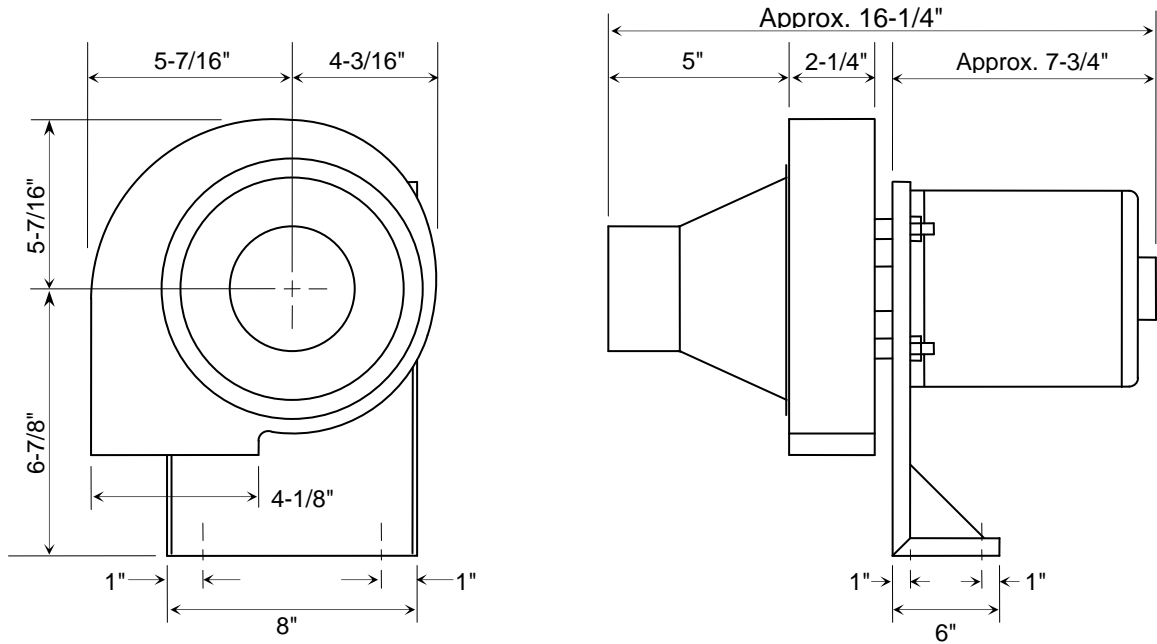


NOTE - Motor substitutions can occur, always refer to the motor manufacturer nameplate for electrical information and wiring instructions.

Note: One 40 VA, 24-volt transformer is shipped with each burner assembly.

0101.040SS VACUUM EXHAUSTER, STAINLESS STEEL

0101.040SS - 1/6 HP, 115V, 3.0 FLA, 60 Hz, 1 Ph., 3450 RPM, totally enclosed motor (TENV or TEFC), thermally protected.

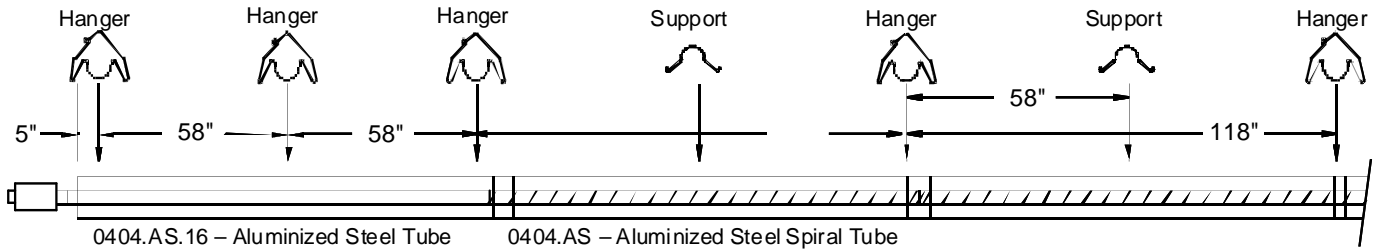


NOTE - Motor substitutions can occur, always refer to the motor manufacturer nameplate for electrical information and wiring instructions

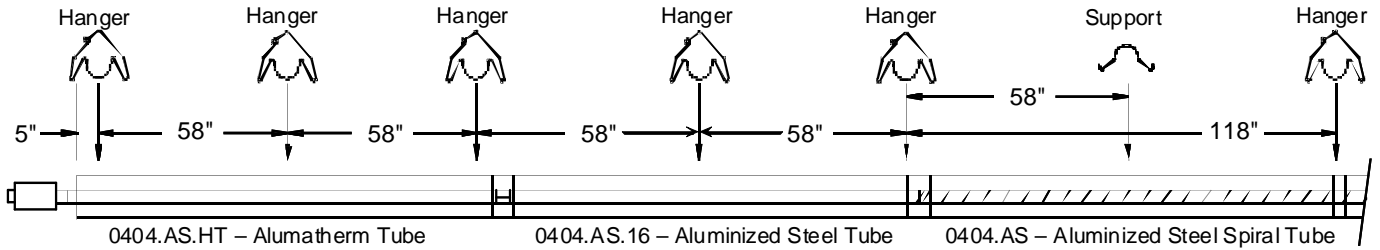
Note: One 40 VA, 24-volt transformer is shipped with each burner assembly.

HANGER & SUPPORT LOCATIONS - STANDARD INSTALLATION

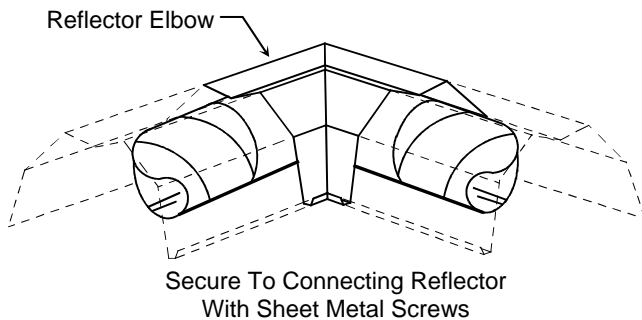
For Btu/hr Inputs 40,000 to 175,000



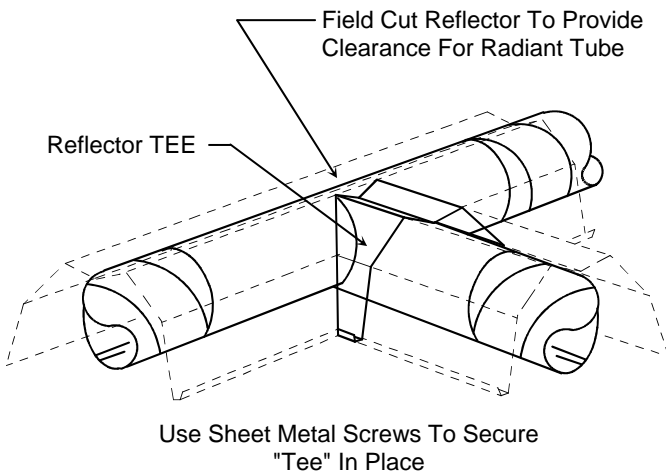
For Btu/hr Inputs 180,000 to 250,000



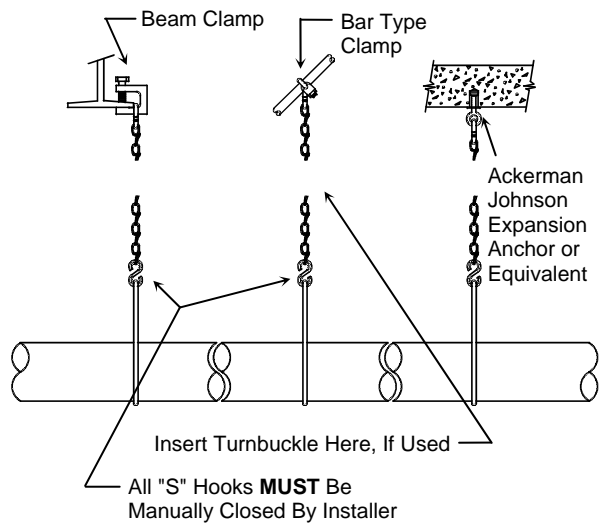
REFLECTOR ELBOW CONNECTION



REFLECTOR TEE CONNECTION



SUSPENSION METHODS



System shall be suspended by chain (trade size #3 or larger), wire rope, etc., minimum workload of 90 Lbs. All suspension hardware must be corrosion resistant. For fine adjustment turnbuckles may be used.

NOTES:

- DO NOT HANG VACUUM EXHAUSTER WITH CHAIN.
- SECURE TURNBUCKLES SO THAT THEY WILL NOT UNWIND OR UN-SCREW.
- CRIMP "S" HOOKS CLOSED BEFORE LEAVING JOB.
- LISTED MATERIALS ARE MINIMUM REQUIRED, USE EQUIVALENT OR BETTER MATERIALS



STAINLESS STEEL GAS CONNECTOR

- ◆ Stainless steel construction - Corrosion resistance.
- ◆ No-Neck™ Design - Added safety.
- ◆ Manual connector valve included.

SPECIFICATIONS

CRC Part No.:

0317.00

For Btu inputs up to 175,000 Btu/hr

Dimensions:

1/2" F.I.P x 1/2" F.I.P Connections

7/8" O.D x 1/2" I.D. Stainless Steel Gas Connector,
36" Long.

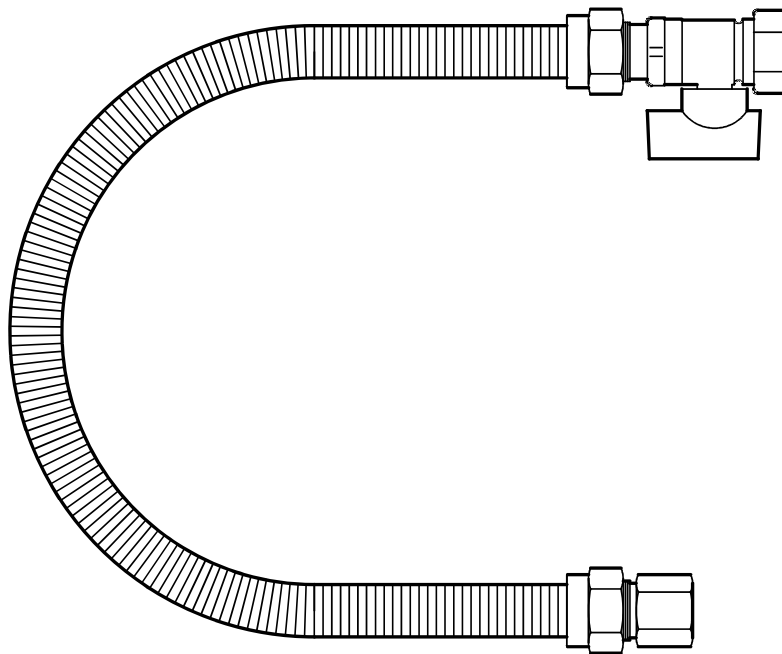
INSTALLATION & CHECKOUT

INSTALLATION

Install the stainless gas connector as outlined in the owner's manual. The stainless steel gas connector is to be installed with the manual gas valve on the up-stream side.

CHECKOUT

Make sure that the gas connector is installed in accordance with the owner's manual. Check connections for leaks with a soap solution. If bubbling occurs tighten flare connections or reapply pipe joint compound to pipe thread connections. Recheck for gas leaks.





STAINLESS STEEL GAS CONNECTOR

- ◆ Stainless steel construction - Corrosion resistance.
- ◆ No-Neck™ Design - Added safety.
- ◆ Manual connector valve included.

SPECIFICATIONS

CRC Part No.:

0417.00

For Btu inputs of 180,000 Btu/hr thru 250,000 Btu/hr.

Dimensions:

½" F.I.P x ½" F.I.P Connections

7/8" O.D x ½" I.D. Stainless Steel Gas Connector,
36" Long.

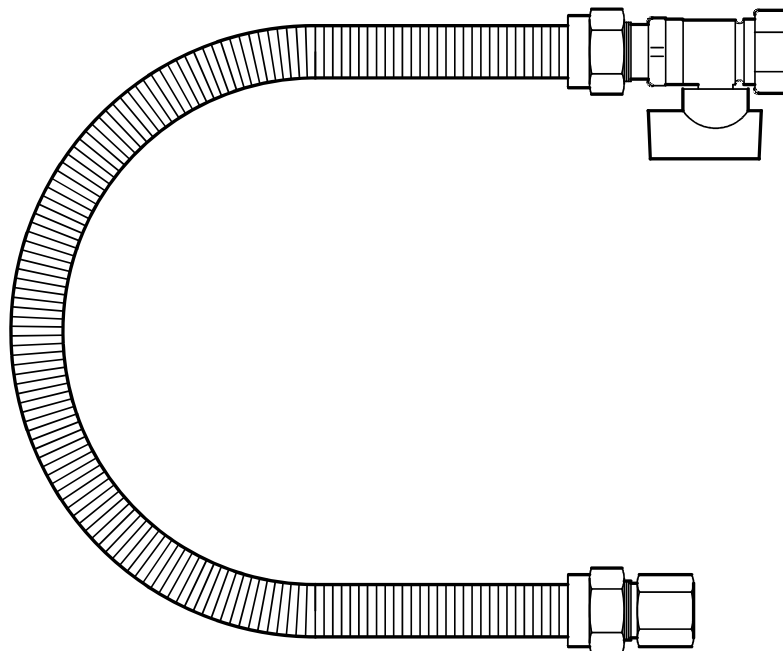
INSTALLATION & CHECKOUT

INSTALLATION

Install the stainless steel gas connector as outlined in the owner's manual. The stainless steel gas connector is to be installed with the manual gas valve on the up-stream side.

CHECKOUT

Make sure that the gas connector is installed in accordance with the owner's manual. Check connections for leaks with a soap solution. If bubbling occurs tighten flare connections or reapply pipe joint compound to pipe thread connections. Recheck for gas leaks.





HIGH PRESSURE REGULATOR

- ◆ Maxitrol 325-5A Brand High Pressure Regulator
- ◆ Max certified inlet pressure 5 psi Natural Gas and 2 psi LP – Tested to 10 psi.
- ◆ Set for 7.0" W.C. Outlet Pressure.
- ◆ 3/4" NPT female pipe connections.
- ◆ Maximum capacity with 2 psi inlet pressure is 430 CFH based on 1" W.C pressure drop from set point – 0.64 sp. gr. gas.

SPECIFICATIONS

CRC Part No.:

5221.04

Dimensions:

5-1/4" tall, 5-7/8" long, 5-7/16" wide

6-1/8" swing radius

3/4" F.I.P x 3/4" F.I.P Connections

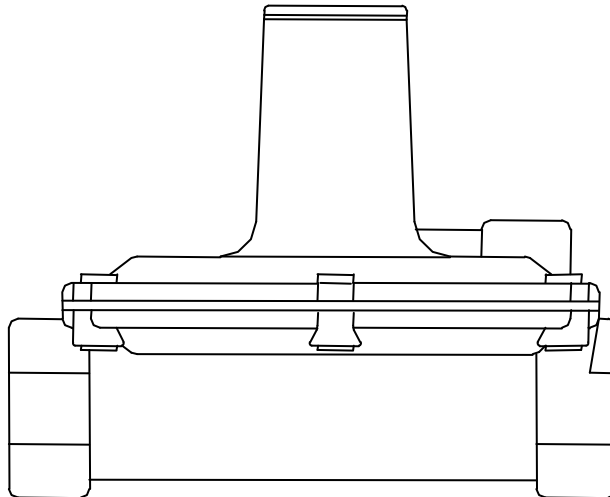
INSTALLATION & CHECKOUT

INSTALLATION

Install the regulator in strict accordance with the information in the owner's manual. This high pressure regulator is typically installed on the up-stream side of the stainless steel gas flex, before the manual gas valve. Regulator should be mounted with diaphragm horizontal and vent on top.

CHECKOUT

Make sure that the gas regulator is installed in accordance with local and national codes. Check connections for leaks with a soap solution. If bubbling occurs tighten connections or reapply pipe joint compound to pipe thread connections. Recheck for gas leaks.





BRASS MANUAL GAS VALVE

- ◆ Brass construction - Corrosion resistance.
- ◆ Rated for 125 psi (ANSI/ASME B16.33 for use in gas piping systems).

SPECIFICATIONS

CRC Part No.:

5040.04

Dimensions:

3/4" F.I.P x 3/4" F.I.P Connections

INSTALLATION & CHECKOUT

INSTALLATION

Install the manual gas valve in strict accordance with the information in the owner's manual. This manual gas valve is typically supplied and installed on the up-stream side of the stainless steel gas connector and any high pressure regulators.

CHECKOUT

Make sure that the manual gas valve is installed in a accordance with the owner's manual and local codes. Check connections for leaks with a soap solution. If bubbling occurs tighten connections or reapply pipe joint compound to pipe thread connections. Recheck for gas leaks.





ALUMATHERM STEEL TUBE

- ◆ Alumatherm Steel Construction
- ◆ Used With Reflect-O-Ray® EDS 4.0 Radiant Tube System
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:
0404.AT.16

Dimensions:
Minimum 16 Ga. alumatherm steel, 4" Tubing
10' long

Temperature Rating:
1150°F (621°C)

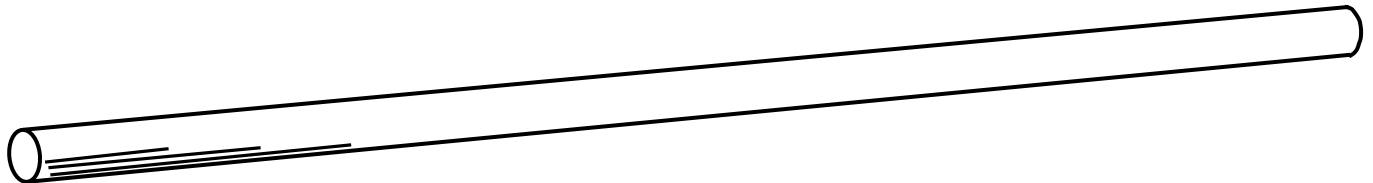
INSTALLATION & CHECKOUT

Installation

Install 16 Ga. burner alumatherm combustion tube immediately down stream of burner for inputs of 180,000 Btu/hr through 250,000 Btu/hr. Connect to next tube (P/N 0404.AS.16) with drawband coupler (P/N 0403.00). Note - One end of the second tube (P/N 0404.AS.16) tube is swaged to fit inside the next radiant tube. Position weld seam so that it is on the bottom. Refer to the owner's manual for installation guidance.

Checkout

Make sure that the weld seam is positioned on the bottom of the tube. Inspect to make sure that all radiant tubes are connected square and straight





ALUMINIZED STEEL RADIANT TUBE

- ◆ Aluminized Steel Construction
- ◆ Used With Reflect-O-Ray® EDS4 Radiant Tube System
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:

0404.AS.16 - 4.0" diameter radiant tube
Wt. – 26.0 lbs. (11.79 kg)

Dimensions:

Minimum 16 Ga. aluminized steel, 4.0" Tubing

Temperature Rating:

1050°F (565°C)

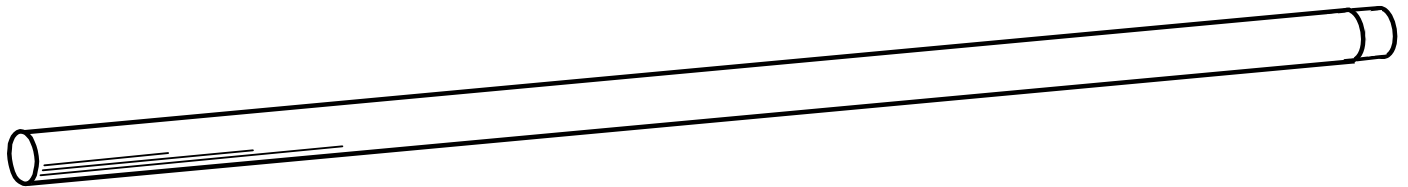
INSTALLATION & CHECKOUT

Installation

Install 16 Ga. burner combustion tube immediately down stream of burner. Note one end is swaged to fit inside the next radiant tube. Position weld seam so that it is on the bottom. Secure burner assembly to this tube with P/N 0403.00 drawband coupler. Refer to the owner's manual for installation guidance.

Checkout

Make sure that the weld seam is positioned on the bottom of the tube. Inspect to make sure that all radiant tubes are connected square and straight.





**HEAT TREATED ALUMINIZED STEEL
RADIANT TUBE**

- ◆ Aluminized Steel Construction – Heat treated
- ◆ Used With Reflect-O-Ray® Radiant Tube System
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:

0404.16.HT - 4.0 diameter radiant tube
Wt. – 23.5 lbs. (10.6 kg)

Dimensions:

Minimum 16 Ga. heat treated aluminized steel,
4.0" Tubing

Temperature Rating:

1050°F (565°C)

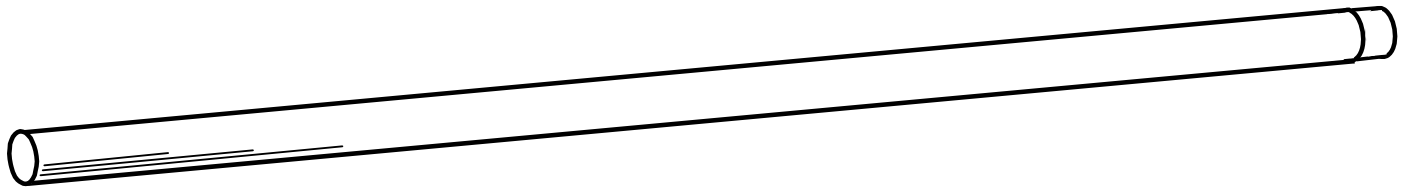
INSTALLATION & CHECKOUT

Installation

Install 16 Ga. burner combustion tube immediately down stream of burner. Note one end is swaged to fit inside the next radiant tube. Position weld seam so that it is on the bottom. Secure radiant tubes burner assembly with 0507.00 stainless steel drawband couplers. Refer to the owner's manual for installation guidance.

Checkout

Make sure that the weld seam is positioned on the bottom of the tube. Inspect to make sure that all radiant tubes are connected square and straight.





ALUMINIZED STEEL RADIANT TUBE

- ◆ Aluminized Steel Spiral Construction
- ◆ 9'-9" Long Sections
- ◆ Used With Reflect-O-Ray® EDS4 Radiant Tube System
- ◆ Patented, Strong, Low Mass Tube (Min. 22 Ga.)
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:

0404.AS – 4.0" diameter radiant tube
Wt. – 11.25 lbs. (5.1 kg)

Dimensions:

4.0" Diameter – 9'-9" maximum length Minimum
22 Ga. aluminized steel

Temperature Rating:

1050°F (565°C)

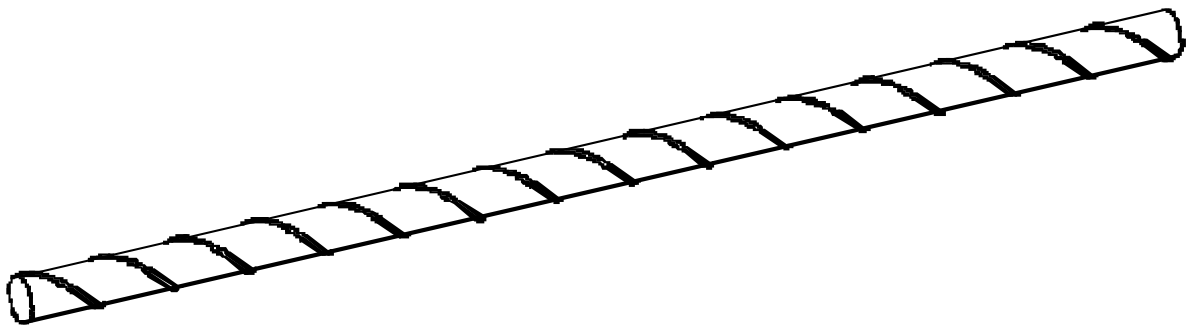
INSTALLATION & CHECKOUT

Installation

Install radiant tube as shown on shop drawing. Note, radiant tubes are connected by swaged couplers (P/N 0411.AS) designed to fit inside the spiral radiant tube. Refer to the owner's manual for installation guidance.

Checkout

Make sure that radiant tubes are installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure that all radiant tubes are connected square and straight.





ALUMINIZED STEEL RADIANT TUBE

- ◆ Aluminized Steel Spiral Construction
- ◆ 19'-6" Long Sections
- ◆ Used With Reflect-O-Ray® EDS4 Radiant Tube System
- ◆ Patented, Strong, Low Mass Tube (Min. 22 Ga.)
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:

0404.AS.20 – 4.0" diameter radiant tube
Wt. – 22.5 lbs. (10.2 kg)

Dimensions:

4.0" Diameter – 19'-6" maximum length
Minimum 22 Ga. aluminized steel

Temperature Rating:

1050°F (565°C)

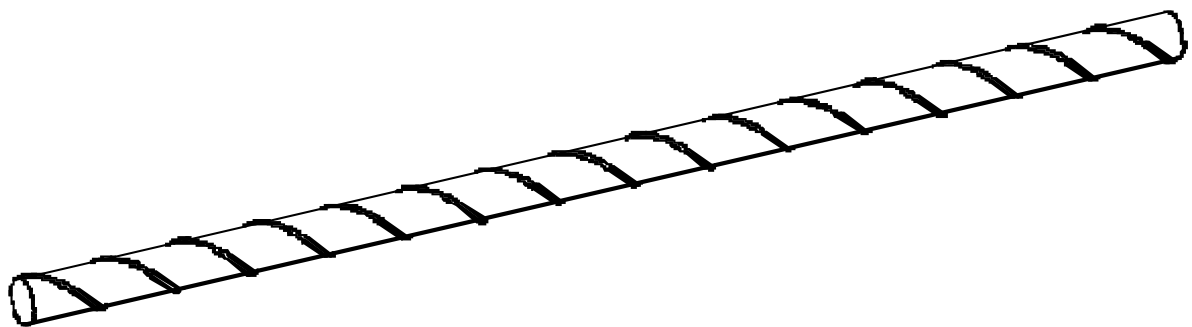
INSTALLATION & CHECKOUT

Installation

Install radiant tube as shown on shop drawing. Note, radiant tubes are connected by swaged couplers (P/N 0411.AS) designed to fit inside the spiral radiant tube. Refer to the owner's manual for installation guidance.

Checkout

Make sure that radiant tubes are installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure that all radiant tubes are connected square and straight.





ALUMINIZED STEEL RADIANT TUBE

- ◆ Heat treated aluminized Steel Spiral Construction
- ◆ 9'-9" Long Sections
- ◆ Used With Reflect-O-Ray® EDS4 Radiant Tube System
- ◆ Patented, Strong, Low Mass Tube (Min. 22 Ga.)
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:

0404.AS – 4.0" diameter radiant tube
Wt. – 11.25 lbs. (5.1 kg)

Dimensions:

4.0" Diameter – 9'-9" maximum length Minimum
22 Ga. heat treated aluminized steel

Temperature Rating:

1050°F (565°C)

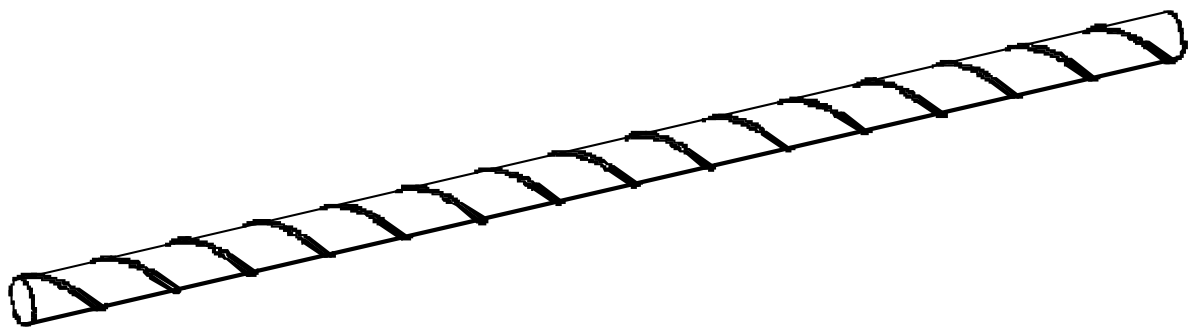
INSTALLATION & CHECKOUT

Installation

Install radiant tube as shown on shop drawing. Note, radiant tubes are connected by swaged couplers (P/N 0411.AS) designed to fit inside the spiral radiant tube. Refer to the owner's manual for installation guidance.

Checkout

Make sure that radiant tubes are installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure that all radiant tubes are connected square and straight.





STAINLESS STEEL REFLECTOR

- ◆ Bright Finish Stainless Steel Reflector
- ◆ High Reflectivity
- ◆ Used With Reflect-O-Ray® EDS 4 Radiant Tube System
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:

0363.02 – 10'-0" Long

Dimensions:

Minimum 24 Gauge, 304 Stainless Steel,
10'-0" Long.

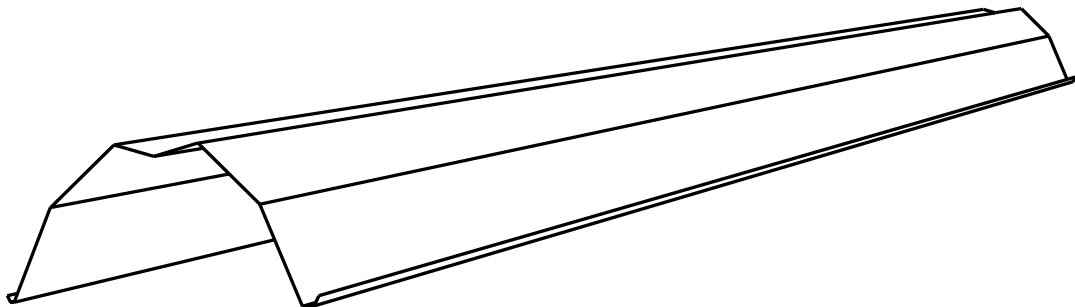
INSTALLATION & CHECKOUT

Installation

Install reflectors over radiant tubes as shown on shop drawing. Note, secure reflectors together at each straight run allowing for one unsecured joint for expansion - Refer to the owner's manual for installation guidance.

Checkout

Make sure that the radiant tubes and reflectors are installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure that all radiant tubes are connected square and straight. Make sure that one expansion joint for each straight run is installed





ALUMINUM REFLECTOR END CAP

- ◆ Bright Finish Aluminum Reflector End Cap
- ◆ High Reflectivity
- ◆ Used With Reflect-O-Ray® EDS 4 Radiant Tube System
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:
0363.WH – End Cap

Dimensions:
Minimum 0.025" Thick Bright Aluminum,

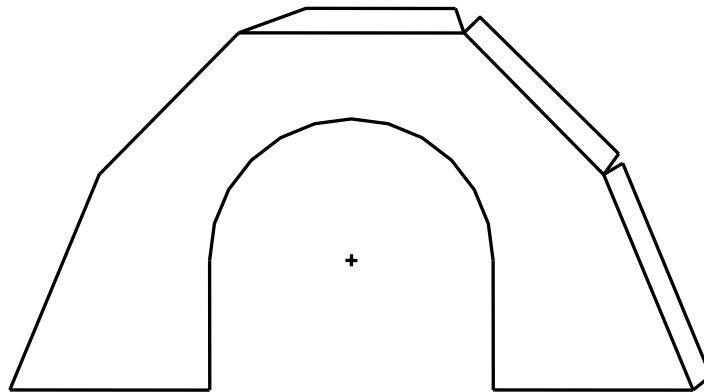
INSTALLATION & CHECKOUT

Installation

Attach reflector end cap to reflector at the burner end and at the vacuum exhaust end. Refer to the owner's manual for installation guidance.

Checkout

Make sure that the radiant tubes and reflectors are installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure that all radiant tubes are connected square and straight. Make sure that one expansion joint for each straight run is installed





ALUMINUM REFLECTOR ELBOW

- ◆ 0.025" Minimum, Aluminum – Bright one side, minimum 97% reflectivity.
- ◆ 90° Horizontal Reflector Elbow
- ◆ Used With Reflect-O-Ray® EDS 4 Radiant Tube Systems.
- ◆ Bright Finish - Corrosion Resistant

SPECIFICATIONS

CRC Part No.:
0363.EB

Dimensions:
Minimum 0.025" Thick Bright Aluminum

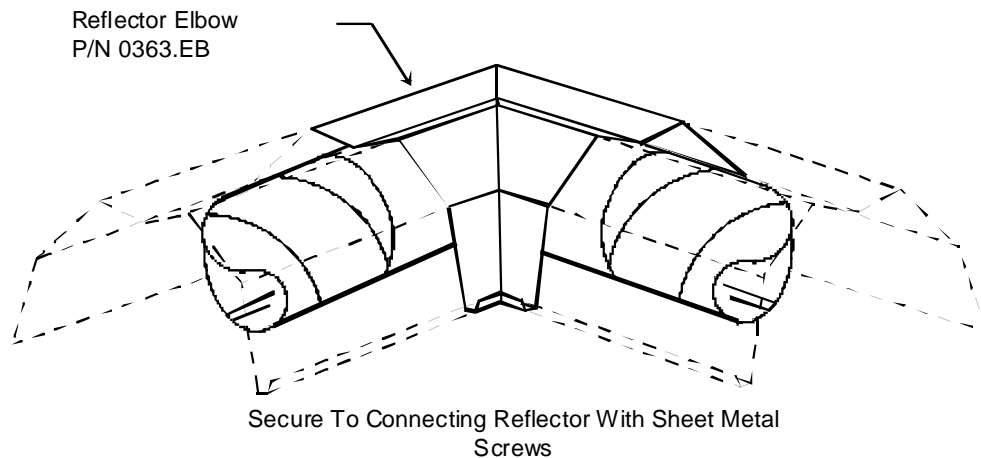
INSTALLATION & CHECKOUT

INSTALLATION

Install reflector elbow as outlined on the shop drawings. Secure reflector elbow to reflectors with pop rivets or screws. Refer to the owner's manual for installation guidance.

CHECKOUT

Make sure that reflectors and reflector elbows are straight and true with a expansion joint in each straight run of reflector. In high wind conditions install a "tether wire" to secure reflectors from swaying. Refer to drawing "660-seismic" for details.





ALUMINUM REFLECTOR ELBOW

- ◆ 0.025" Minimum, Aluminum – Bright one side, minimum 97% reflectivity.
- ◆ Horizontal Reflector Tee
- ◆ Used With Reflect-O-Ray® EDS 4 Radiant Tube Systems.
- ◆ Bright Finish - Corrosion Resistant

SPECIFICATIONS

CRC Part No.:
0363.TB

Dimensions:
Minimum 0.025" Thick Bright Aluminum

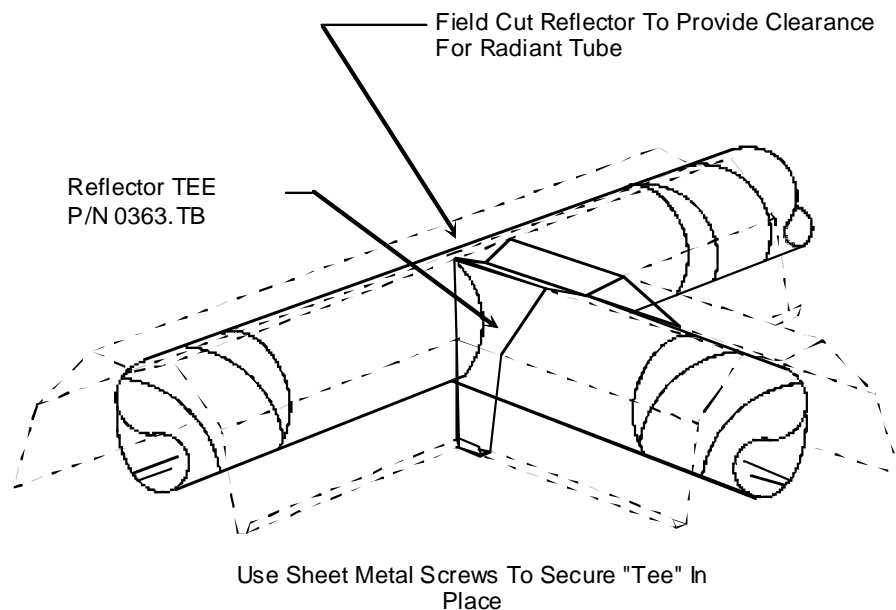
INSTALLATION & CHECKOUT

INSTALLATION

Install reflector Tee as outlined on the shop drawings. Secure reflector elbow to reflectors with pop rivets or screws. Refer to the owner's manual for installation guidance.

CHECKOUT

Make sure that reflectors and reflector Tee is straight and true with a expansion joint in each straight run of reflector. Secure adjoining reflectors with sheet metal screws or pop rivets.





ALUMINUM SIDE SHIELD

- ◆ Bright Finish Aluminum Side Shield
- ◆ High Reflectivity
- ◆ Used With Reflect-O-Ray® EDS 4 Radiant Tube System
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:
0366.00 – 10'-0" Long

Dimensions:
Minimum 0.025" Thick Bright Aluminum,
10'-0" Long.
6.0 lbs. (2.72 Kg)

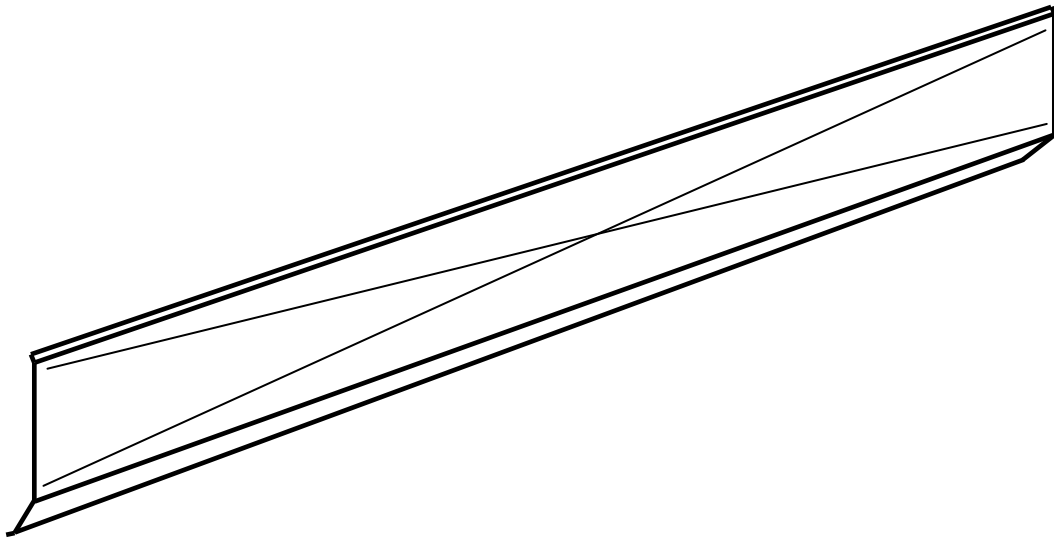
INSTALLATION & CHECKOUT

INSTALLATION

Install side shield as outlined on the shop drawings. Secure to reflectors with sheet metal screws or pop rivets. Expansion joint shall match the reflector expansion joint. Attach side shield supports (P/N 0363.0050) - Refer to the owner's manual for installation guidance.

CHECKOUT

Make sure that reflectors and side shields are straight and true with a expansion joint in each straight run of reflector.





SIDE SHIELD SUPPORT

- ◆ 16 Ga. Aluminized steel.
- ◆ Used With P/N 0363.00 Reflectors
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:

0366.0050

Dimensions:

1" Wide x 14-1/2" (Approx.) Long

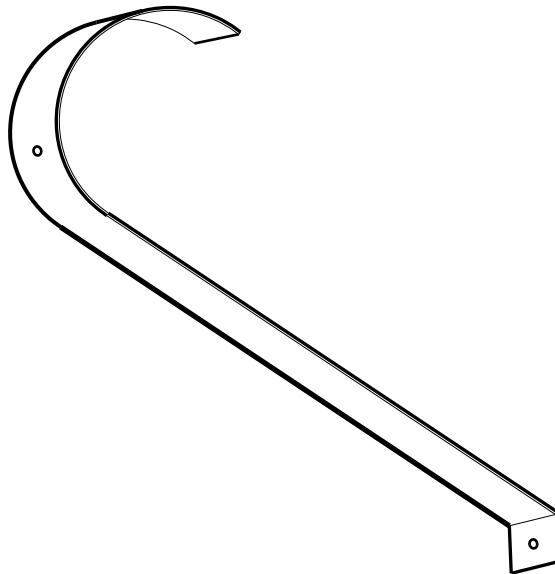
INSTALLATION & CHECKOUT

INSTALLATION

Install side shield as outlined on the shop drawings. Side shield supports are to be installed approximately every five feet (5'). Secure side shield support to radiant tube and side shield with self drilling and tapping screws. Secure side shields to reflector with pop rivets or screws allowing for at least one unsecured expansion joint for each straight run – these should coincide with the expansion joints of the reflector. Refer to the owner's manual for installation guidance.

CHECKOUT

Make sure that reflectors are straight and true with a expansion joint in each straight run.





PROTECTIVE SCREEN

- ◆ Minimum 14 Ga. Galvanized wire construction.
- ◆ 2" x 4" openings.
- ◆ Used With Omega II[®] and Reflect-O-Ray[®] Radiant Tube Systems.
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:

0360.PS

Dimensions:

5' Long Protective Screen

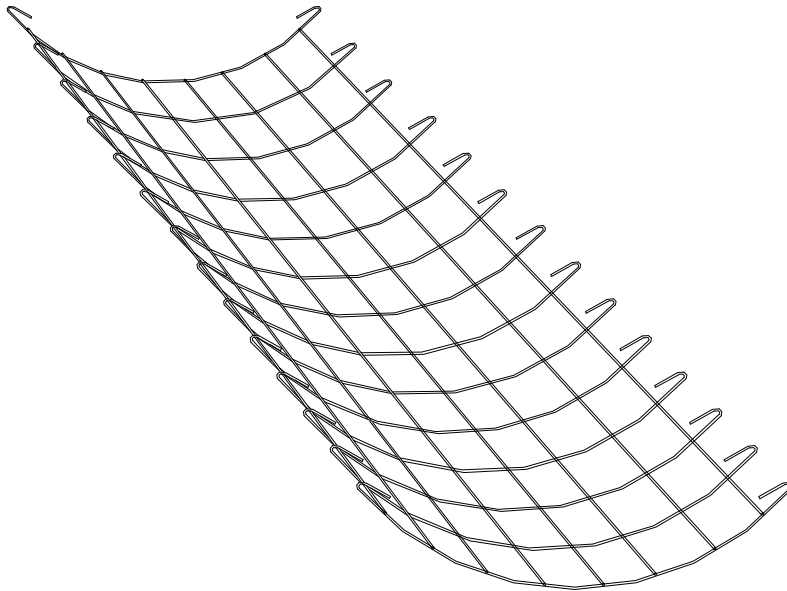
INSTALLATION & CHECKOUT

INSTALLATION

Install Protective Screen as outlined on the shop drawings. Secure Protective Screens to reflector as outlined in the installation instruction.

CHECKOUT

Make sure that reflectors are straight and true with a expansion joint in each straight run. Make sure Protective Screen is secured to the radiant tube and reflector hangers as outlined in the installation instructions. In high wind conditions install a "tether wire" to insure reflectors and protective screens will not sway. Refer to drawing "360-seismic" for details.





ALUMINIZED STEEL TUBE COUPLER

- ◆ Aluminized Steel Construction
- ◆ Swaged For Internal Connection to 0404.AS Radiant tubes.
- ◆ Used With Reflect-O-Ray® EDS 4 Radiant Tube System
- ◆ Aluminized Steel, Min. 18 Ga.
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:
0411.AS

Dimensions:
Minimum 18 Ga. aluminized steel, 4" Tubing
Swaged on Both Ends

Temperature Rating:
1050°F (565°C)

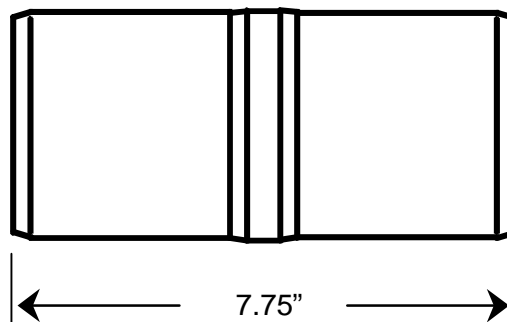
INSTALLATION & CHECKOUT

Installation

Install coupler as shown on shop drawing. Note couplers are designed to fit inside the spiral radiant tube. Apply sealer to internal surface of radiant tube before inserting coupler. Secure with three self drilling and tapping screws on each swaged end. Refer to the owner's manual for installation guidance.

Checkout

Make sure that the radiant tubes and couplers are installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure that all radiant tubes are securely connected, and are square and straight.





ALUMINIZED STEEL TUBE ELBOW

- ◆ Aluminized Steel Construction
- ◆ Swaged Ends For Internal Connection To 0404.AS Radiant tubes.
- ◆ Used With Reflect-O-Ray® EDS 4 Radiant Tube System
- ◆ Aluminized Steel, Min. 18 Ga.
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:
0406.AS

Dimensions:
Minimum 18 Ga. Aluminized Steel, 4.0" - 90°
Elbow, Swaged on Both Ends

Temperature Rating:
1050°F (565°C)

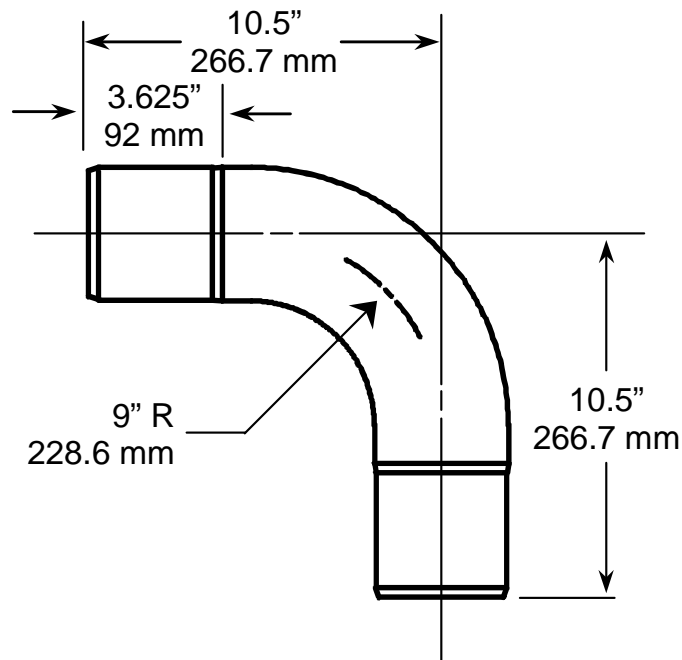
INSTALLATION & CHECKOUT

Installation

Install elbow as shown on shop drawing. Note elbows are designed to fit inside the spiral radiant tube. Apply sealer to internal surface of radiant tube before inserting coupler. Secure with three self drilling and taping screws on each swaged end. Refer to the owner's manual for installation guidance.

Checkout

Make sure that the radiant tubes and couplers are installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure that all radiant tubes are securely connected, and are square and straight.





ALUMINIZED STEEL TUBE ELBOW

- ◆ Aluminized Steel Construction
- ◆ Swaged Ends For Internal Connection To 0404.AS Radiant tubes.
- ◆ Used With Reflect-O-Ray® EDS 4 Radiant Tube System
- ◆ Aluminized Steel, Min. 18 Ga.
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:
0436.AS

Dimensions:
Minimum 18 Ga. Aluminized Steel, 4.0" - 45°
Elbow, Swaged on Both Ends

Temperature Rating:
1050°F (565°C)

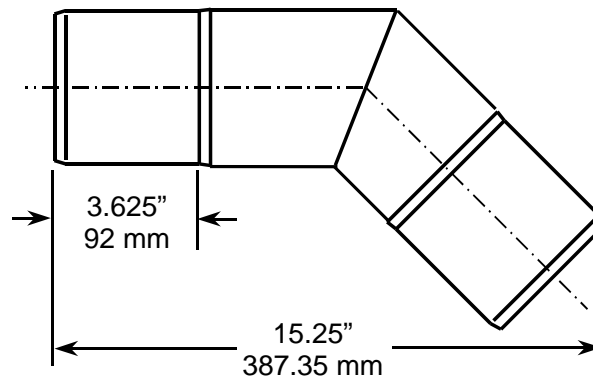
INSTALLATION & CHECKOUT

Installation

Install elbow as shown on shop drawing. Note elbows are designed to fit inside the spiral radiant tube. Apply sealer to internal surface of radiant tube before inserting coupler. Secure with three self drilling and taping screws on each swaged end. Refer to the owner's manual for installation guidance.

Checkout

Make sure that the radiant tubes and couplers are installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure that all radiant tubes are securely connected, and are square and straight.





ALUMINIZED STEEL TEE

- ◆ Aluminized Steel Construction
- ◆ Swaged Ends For Internal Connection To 0404.AS Radiant tubes.
- ◆ Used With Reflect-O-Ray® EDS 4 Radiant Tube System
- ◆ Aluminized Steel, Min. 18 Ga.
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:
0407.AS

Dimensions:
Minimum 18 Ga. Aluminized Steel, 4.0" x 4.0" x
4.0" Tee, Swaged Ends

Temperature Rating:
1050°F (565°C)

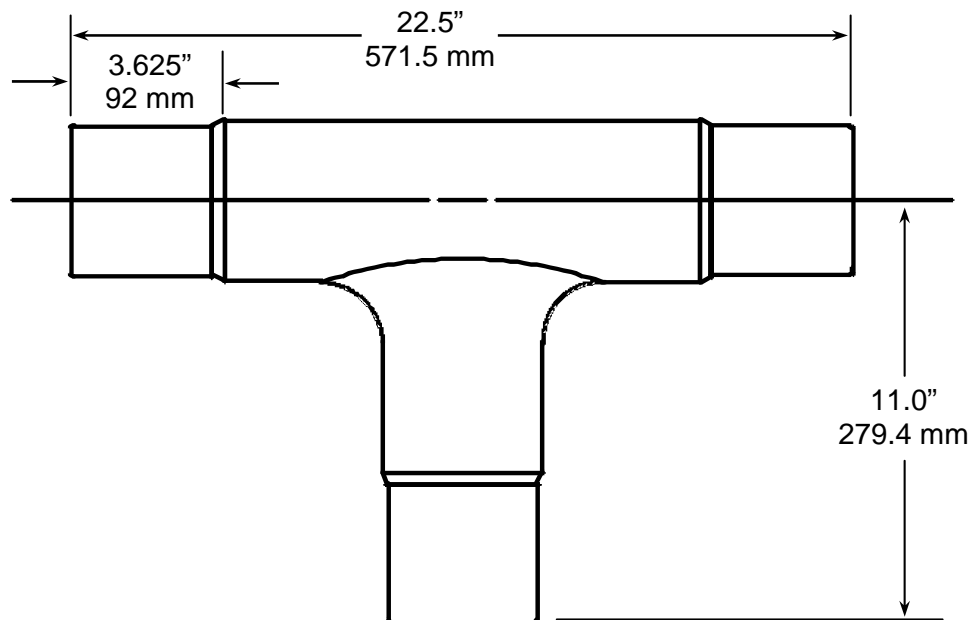
INSTALLATION & CHECKOUT

Installation

Install tee as shown on shop drawing. Note tee is designed to fit inside the spiral radiant tube. Apply sealer to internal surface of radiant tube before inserting coupler. Secure with three self drilling and taping screws on each swaged end. Refer to the owner's manual for installation guidance.

Checkout

Make sure that the radiant tubes and tee's are installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure that all radiant tubes are securely connected, and are square and straight.





ALUMINIZED STEEL TEE WITH DAMPERS INLINE

- ◆ Aluminized Steel Construction
- ◆ Swaged Ends For Internal Connection To 0404.AS Radiant tubes.
- ◆ Dampers Installed Inline
- ◆ Used With Reflect-O-Ray® EDS 4 Radiant Tube System
- ◆ Aluminized Steel, Min. 18 Ga.
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:
0407.AS.B

Dimensions:
Minimum 18 Ga. Aluminized Steel, 4.0" x 4.0" x 4.0" Tee With Dampers, Swaged Ends

Temperature Rating:
850°F (454°C)

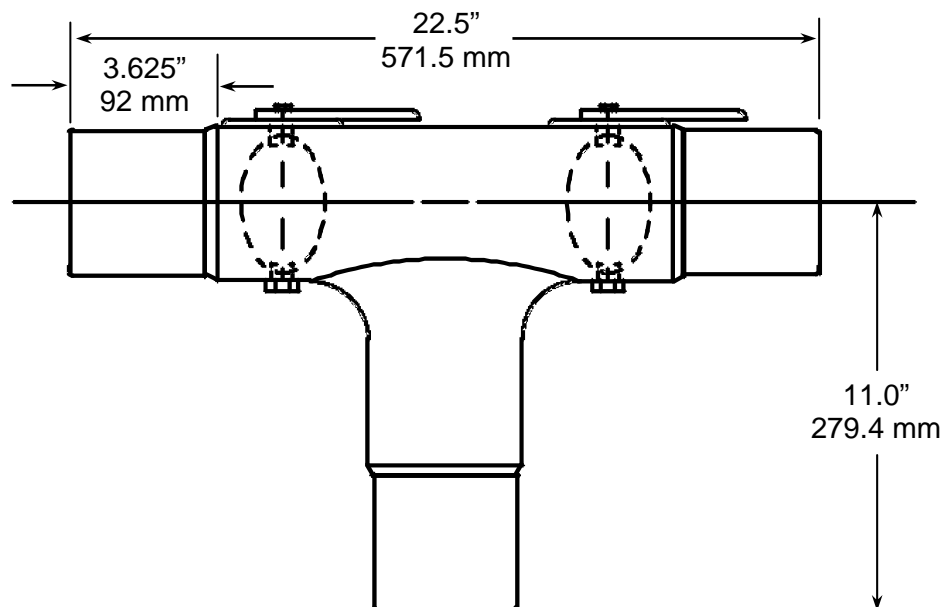
INSTALLATION & CHECKOUT

Installation

Install damper tee as shown on shop drawing. Note tee is designed to fit inside the spiral radiant tube. Apply sealer to internal surface of radiant tube before inserting coupler. Secure with three self drilling and taping screws on each swaged end. Refer to the owner's manual for installation guidance and method for setting the system vacuum.

Checkout

Make sure that the radiant tubes and tee's are installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure that all radiant tubes are securely connected, and are square and straight.





ALUMINIZED STEEL TEE WITH DAMPERS AT 90°

- ◆ Aluminized Steel Construction
- ◆ Swaged Ends For Internal Connection To 0404.AS Radiant tubes.
- ◆ Dampers Installed Inline
- ◆ Used With Reflect-O-Ray® EDS 4 Radiant Tube System
- ◆ Aluminized Steel, Min. 18 Ga.
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:
0407.AS.C

Dimensions:
Minimum 18 Ga. Aluminized Steel, 4.0" x 4.0" x 4.0" Tee With Dampers, Swaged Ends

Temperature Rating:
850°F (454°C)

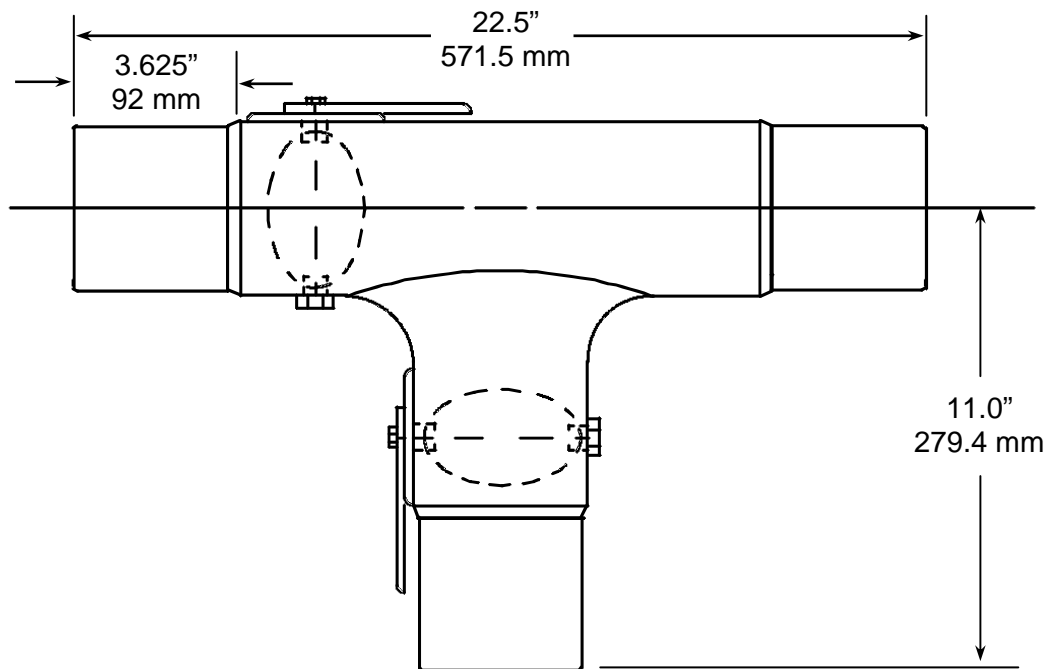
INSTALLATION & CHECKOUT

Installation

Install damper tee as shown on shop drawing. Note tee is designed to fit inside the spiral radiant tube. Apply sealer to internal surface of radiant tube before inserting coupler. Secure with three self drilling and taping screws on each swaged end. Refer to the owner's manual for installation guidance and method for setting the system vacuum.

Checkout

Make sure that the radiant tubes and tee's are installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure that all radiant tubes are securely connected, and are square and straight.





ALUMINIZED STEEL DAMPER

- ◆ Aluminized Steel Construction
- ◆ Swaged End For Internal Connection To 0404.AS Radiant tubes.
- ◆ Single Flow Damper Application
- ◆ Used With Reflect-O-Ray® EDS 4 Radiant Tube System.
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:
0441.00 - Damper

Dimensions:
8" section of 4" spiral tube with damper in the center. 0411.AS coupler inserted in one end.

Temperature Rating:
850°F (454°C)

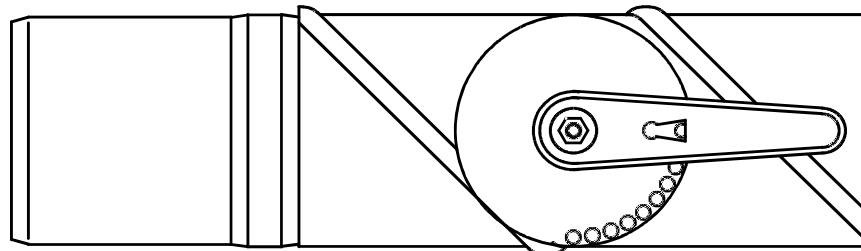
INSTALLATION & CHECKOUT

Installation

Install the damper as shown on shop drawing. Note coupler in damper assembly is designed to fit inside the spiral radiant tube. Apply sealer to internal surface of radiant tube before inserting coupler. Secure with three self drilling and taping screws on each swaged end. Refer to the owner's manual for installation guidance and method for setting the system vacuum.

Checkout

Make sure that the radiant tubes and couplers and fittings are installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure that all radiant tubes are securely connected, and are square and straight.





STAINLESS STEEL EXHAUST FLEX

- ◆ Stainless steel inner liner with black fiberglass outer liner.
- ◆ 4.0" (101.6 mm) ID, 30" (762 mm) Long
- ◆ High temperature rating
- ◆ Two stainless steel hose clamps included
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:
0434.SS – Stainless Steel Exhaust Flex & Clamps

Dimensions:
4.0" (101.6 mm) ID, 30" (762mm) Long

Temperature Rating:
Max. 850°F (454°C)

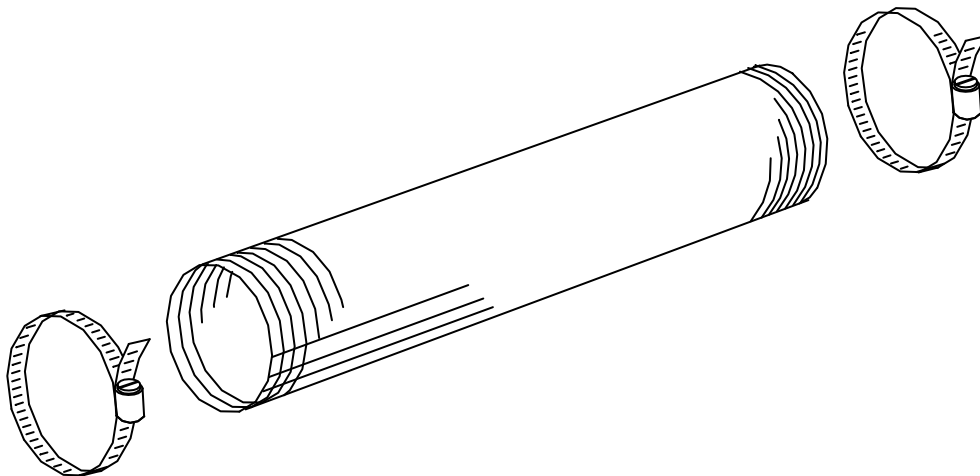
INSTALLATION & CHECKOUT

Installation

Install the flex assembly as shown on shop drawing. Refer to the owner's manual for installation guidance and method for setting the system vacuum.

Checkout

Make sure that the exhaust flex is installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure that all radiant tubes are securely connected, and are square and straight.





FRESH AIR INLET ASSEMBLY

- ◆ PVC and Aluminum Construction
- ◆ Weather Proof
- ◆ Inlet Flex & Clamps Included
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:

0314.00 – Fresh Air Inlet, Flex & Clamps

Dimensions:

4.0" (101.9mm) OD on Inlet Hood

24" (609.6mm) Long PVC Coated Aluminum Flex & Clamps

Temperature Rating:

Min. -40°F (-40°C)

Max. 200°F (93°C)

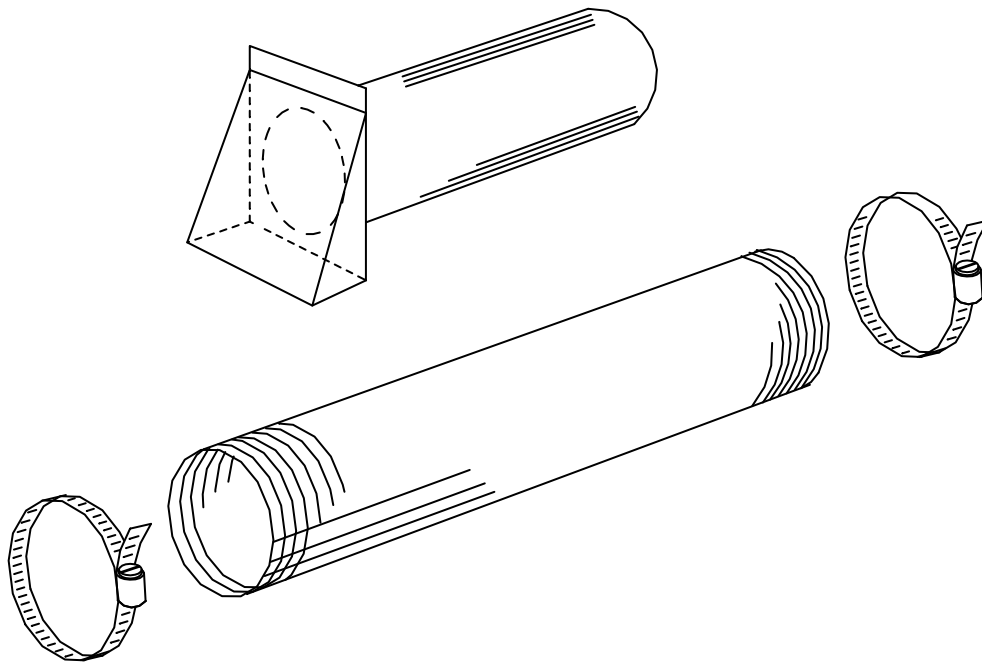
INSTALLATION & CHECKOUT

Installation

Install the fresh air assembly as shown on shop drawing. Apply silicone sealer to external surface that mounts against wall. Secure to wall with three screws. Refer to the owner's manual for installation guidance.

Checkout

Make sure that the fresh air assembly and flex is installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure flex is securely fastened with clamps provided.





FRESH AIR FLEX & CLAMPS

- ◆ PVC and Aluminum Construction
- ◆ Weather Proof
- ◆ Clamps Included
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:

0314.AC – Fresh Air Inlet Flex & Clamps

Dimensions:

4.0" (101.9mm) ID, 24" (609.6mm) Long PVC Coated
Aluminum Flex & Clamps

Temperature Rating:

Min. -40°F (-40°C)
Max. 200°F (93°C)

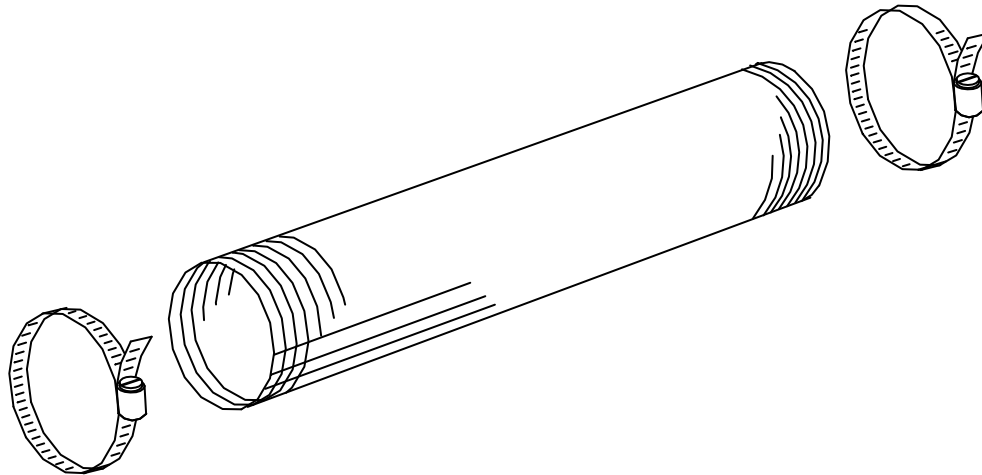
INSTALLATION & CHECKOUT

Installation

Install the fresh air assembly as shown on shop drawing. Apply silicone sealer to external surface that mounts against wall. Secure to wall with three screws. Refer to the owner's manual for installation guidance.

Checkout

Make sure that the fresh air assembly and flex is installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure flex is securely fastened with clamps provided.





THERMOSTAT FEATURES

- N.E.M./A. 4X enclosure complies with N.E.C Article 547 when used with appropriate watertight connections
- Rugged weather resistant enclosure made of corrosion resistant materials.
- Low Mass, high surface area of stainless steel coiled sensor provides rapid response to temperature change.
- Underwriters Laboratories (UL) listed and CSA Certified
- Multi-positional mounting meets new or existing wiring.
- Insulated enclosure
- Easily removable knockouts in sides, ends and back of enclosure
- Large wiring compartment with water tight cover separated from thermostat compartment.
- Large dial with temperature in Fahrenheit (40° F to 110° F) & Celsius (5° C to 113° C)

SPECIFICATIONS

CRC Part No.:
5487.00 - Heating only.

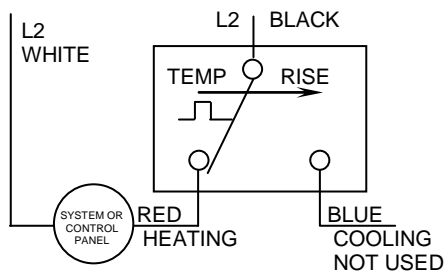
Control Range:
40°F (5°C) to 110°F (113°C)

Electrical Ratings:

50-60Hz	120 V	240 V	277 V	480V
Full Load Amp	16	12	10	--
LRA	80	60	50	--
Resistive Amp	25	25	22	5
Pilot Duty	125 VA	125 VA	125 VA	125 VA

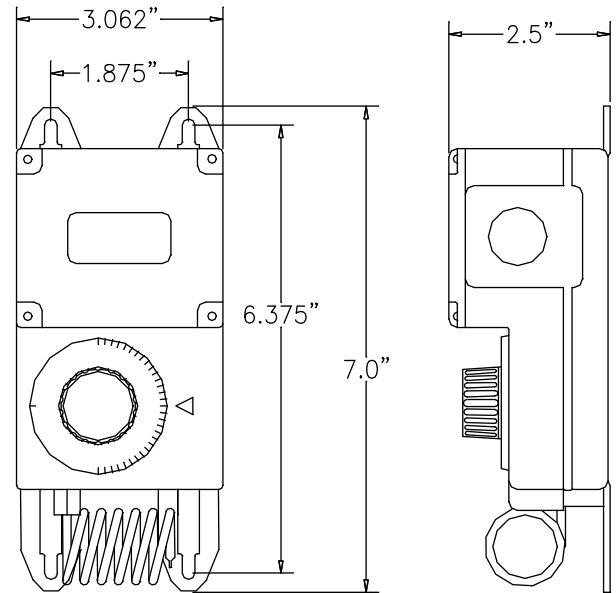
NOTE: This thermostat is suitable for 24 V operation

Wiring:



(Figure 1)

Dimensions:



INSTALLATION & CHECKOUT

MOUNTING:

Position thermostat on inside wall about 5' (1.5m) above floor, mount on wall with 4 screws (not provided) through 4 slotted feet on thermostat. Remove the desired knockout and install electrical conduit. In wet applications use of appropriate watertight conduit (4X Listed) is required. Install conduit with a drip loop so that water or other liquids cannot enter the thermostat.

CAUTION: Failure to use suitable watertight connections and suitable drip loop could result in water or other liquids entering the enclosure which can cause control failure, personal injury and/or property damage.

Do not mount thermostat where it can be affected by drafts, direct radiant heat from the heater as well as the sun or other sources of heating or cooling. Do not bend, crimp or damage the sensor - the calibration and operation may be affected.

Wire as shown in figure 1.

SETTING AND CHECKOUT:

Turn on power. Raise the temperature setting to energize the heating load. The heater will turn on. The heater will turn off when the temperature rises to the set point.

Lower the temperature setting to lowest setting to de-energize the heating load. The heater will turn off.



LOCKING THERMOSTAT GUARD FEATURES

- ◆ Metal construction with beige coating.
- ◆ Keyed lock
- ◆ Ring Base: 6.625" L x 4.5"
- ◆ Vertical or horizontal mounting

SPECIFICATIONS

CRC Part No.:

5485.LC – Locking Thermostat Guard

Dimensions:

6.625" L (168 mm) x 4.5" H (114mm) x 3.375" D (86mm)

INSTALLATION & CHECKOUT

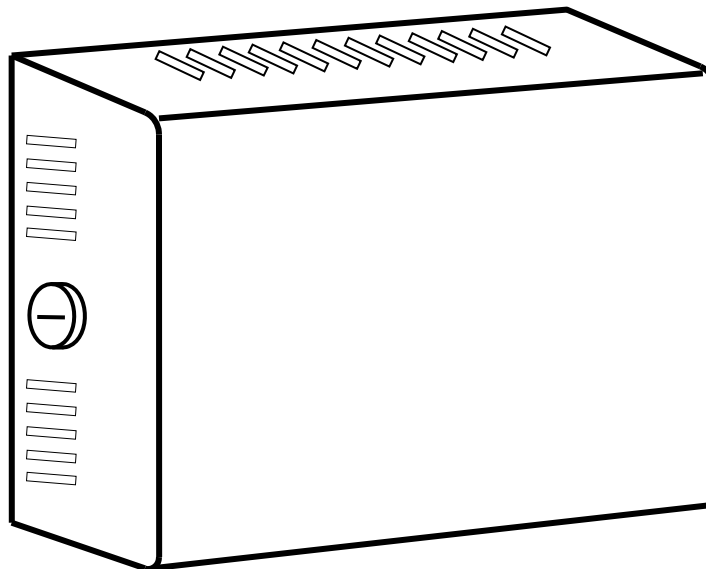
MOUNTING

Position thermostat and guard on inside wall about 5' (1.5m) above floor, mounted on 2" x 4" vertical electrical outlet box. Do not mount thermostat where it can be affected by drafts, direct radiant heat from the heater as well as the sun or other sources of heating or cooling.

Remove cover by pulling out at the bottom. Install thermostat by screwing base to electrical box. **DO NOT** press on the bimetal sensor or set point knob to seat the thermostat to the electrical box - thermostat will be damaged.

CHECKOUT

Make sure that the thermostat guard locks and un-locks properly. Leave keys with building owner



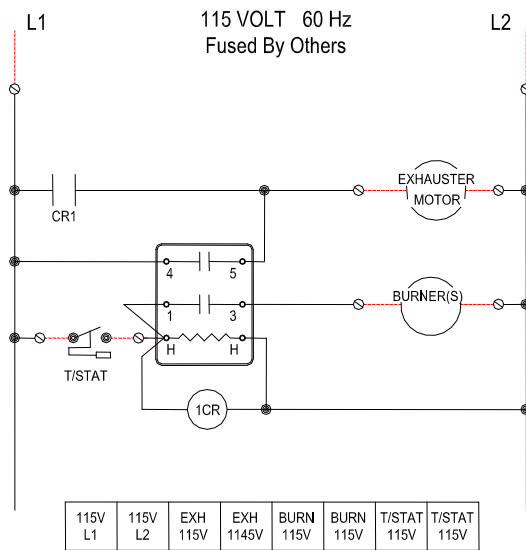


CONTROL PANEL

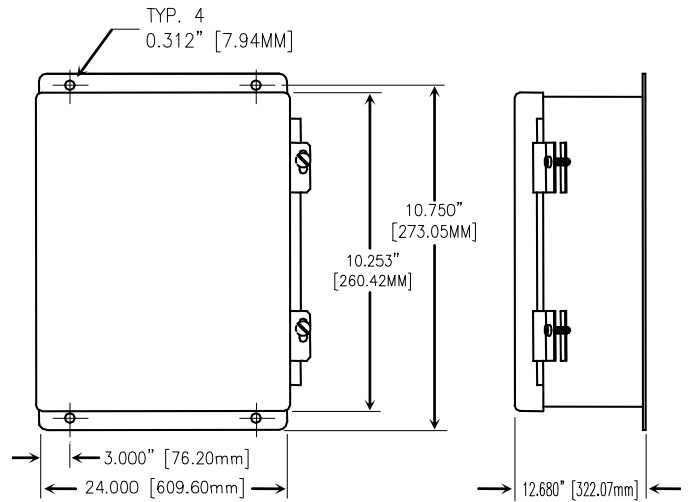
- ◆ JIC Enclosure
- ◆ Corrosion Resistant
- ◆ Approximately 60 seconds pre purge
- ◆ Approximately 80 seconds post purge

SPECIFICATIONS

CRC Part No.:
5500.00 – Control Panel, Pre & Post Purge



Dimensions:



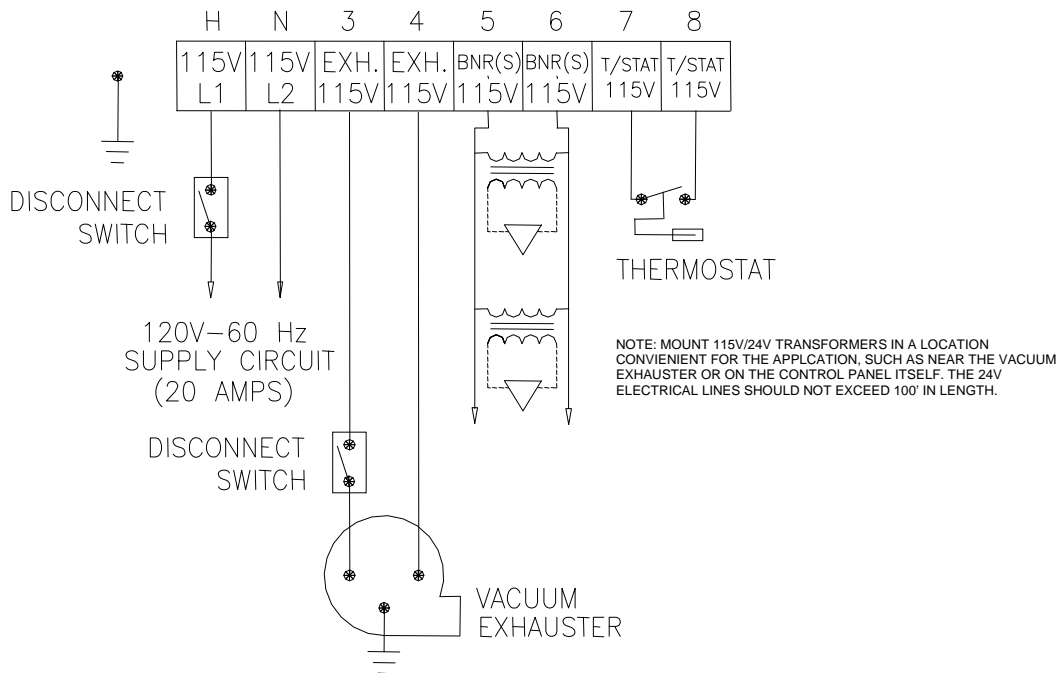
INSTALLATION & CHECKOUT

Installation

Install the fresh air assembly as shown on shop drawing. Apply silicone sealer to external surface that mounts against wall. Secure to wall with three screws. Refer to the owner's manual for installation guidance.

Checkout

Make sure that the fresh air assembly and flex is installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure flex is securely fastened with clamps provided.



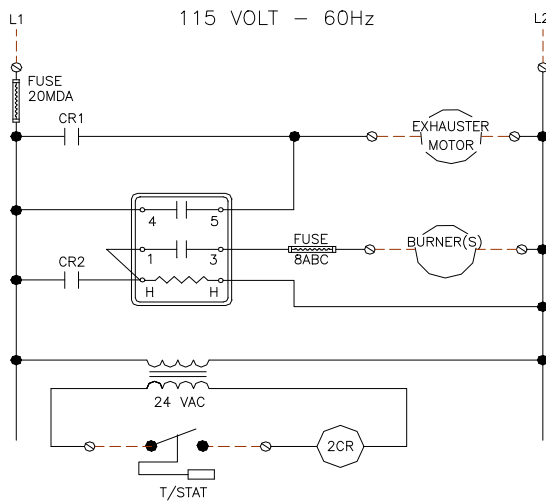


CONTROL PANEL

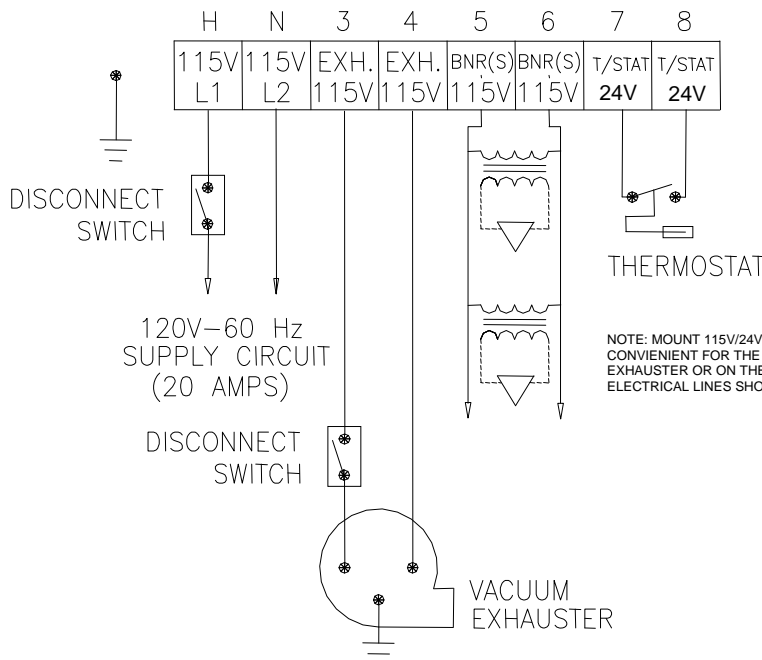
- ◆ JIC Enclosure
- ◆ Corrosion Resistant
- ◆ Approximately 60 seconds pre purge
- ◆ Approximately 80 seconds post purge

SPECIFICATIONS

CRC Part No.:
5500.04 – Control Panel, Pre & Post Purge With
24 Volt Thermostat Control

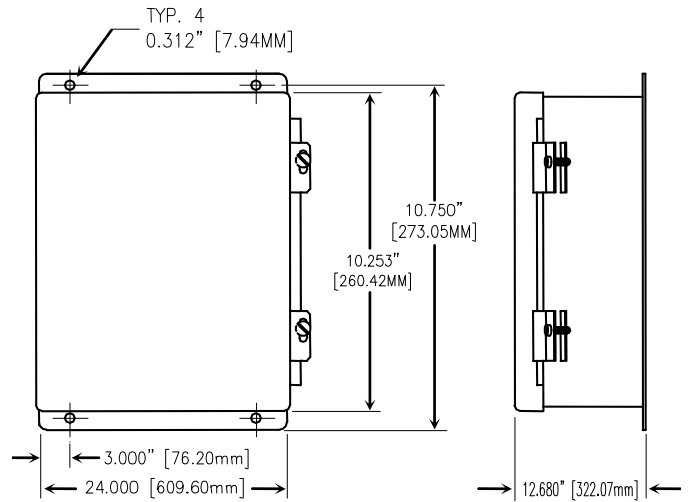


115V L1	115V L2	EXH. 115V	EXH. 115V	BURN 115V	BURN 115V	T/STAT 24V	T/STAT 24V
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NOTE: MOUNT 115V/24V TRANSFORMERS IN A LOCATION CONVENIENT FOR THE APPLICATION, SUCH AS NEAR THE VACUUM EXHAUSTER OR ON THE CONTROL PANEL ITSELF. THE 24V ELECTRICAL LINES SHOULD NOT EXCEED 100' IN LENGTH.

Dimensions:



INSTALLATION & CHECKOUT

Installation

Install the fresh air assembly as shown on shop drawing. Apply silicone sealer to external surface that mounts against wall. Secure to wall with three screws. Refer to the owner's manual for installation guidance.

Checkout

Make sure that the fresh air assembly and flex is installed in accordance with the owner's manual as well as the shop drawing. Inspect to make sure flex is securely fastened with clamps provided.



SIDE WALL VENT TERMINAL

- ◆ Powder Coated Aluminized Steel Construction
- ◆ Stainless Steel Bird Screen
- ◆ Powder Coated
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:

0419.00 – Used with 0401 & 0402 series
Vacuum Exhausters

Dimensions:

0419.00 – 2.5" (63.5mm) x 5.312" (134.9mm)
(ID Dimensions), 24" (609.6mm) Long

Temperature Rating:

450°F (232°C)

INSTALLATION & CHECKOUT

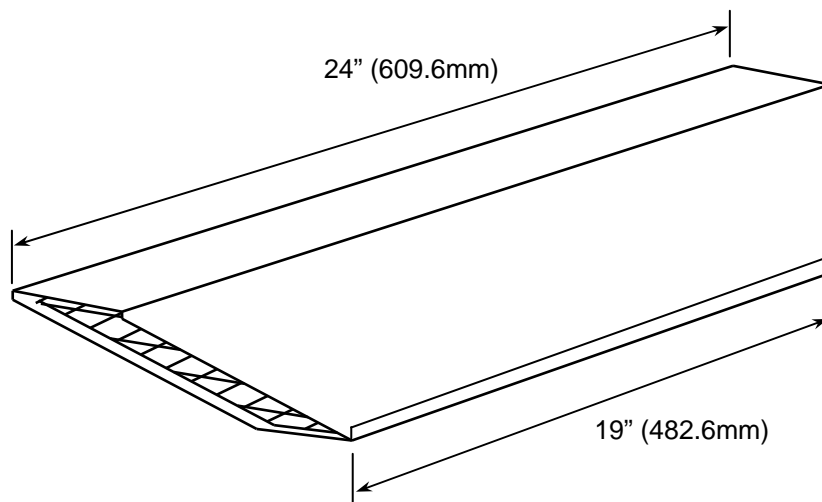
MOUNTING

Position thermostat and guard on inside wall about 5' (1.5m) above floor, mounted on 2" x 4" vertical electrical outlet box. Do not mount thermostat where it can be affected by drafts, direct radiant heat from the heater as well as the sun or other sources of heating or cooling.

Remove cover by pulling out at the bottom. Install thermostat by screwing base to electrical box. **DO NOT** press on the bimetal sensor or set point knob to seat the thermostat to the electrical box - thermostat will be damaged.

CHECKOUT

Make sure that the thermostat guard locks and un-locks properly. Leave keys with building owner





SIDE WALL VENT TERMINAL

- ◆ Powder Coated Aluminized Steel Construction
- ◆ Stainless Steel Bird Screen
- ◆ Powder Coated
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:

0219.00 – Used with 0201 series Vacuum
Exhausters

Dimensions:

0219.00 – 2.5" (63.5mm) x 5.312" (134.9mm)
(ID Dimensions), 24" (609.6mm) Long

Temperature Rating:

450°F (232°C)

INSTALLATION & CHECKOUT

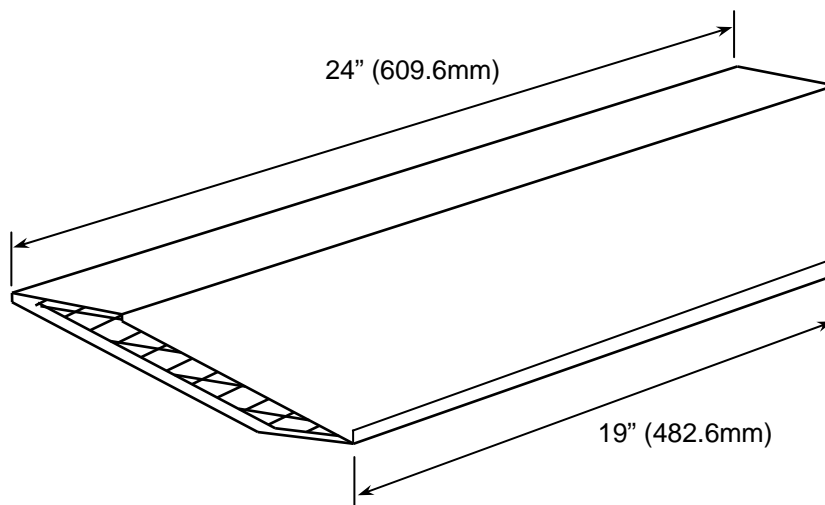
MOUNTING

Position thermostat and guard on inside wall about 5' (1.5m) above floor, mounted on 2" x 4" vertical electrical outlet box. Do not mount thermostat where it can be affected by drafts, direct radiant heat from the heater as well as the sun or other sources of heating or cooling.

Remove cover by pulling out at the bottom. Install thermostat by screwing base to electrical box. **DO NOT** press on the bimetal sensor or set point knob to seat the thermostat to the electrical box - thermostat will be damaged.

CHECKOUT

Make sure that the thermostat guard locks and un-locks properly. Leave keys with building owner





SIDE WALL VENT TERMINAL

- ◆ Powder Coated Aluminized Steel Construction
- ◆ Stainless Steel Bird Screen
- ◆ Powder Coated
- ◆ Corrosion Resistant

SPECIFICATIONS

CRC Part No.:

0119.00 – Used with 0101 series Vacuum
Exhausters

Dimensions:

0119.00 – 2.28 (57.9mm) x 5.218" (132.5mm)
(ID Dimensions), 24" (609.6mm) Long

Temperature Rating:

450°F (232°C)

INSTALLATION & CHECKOUT

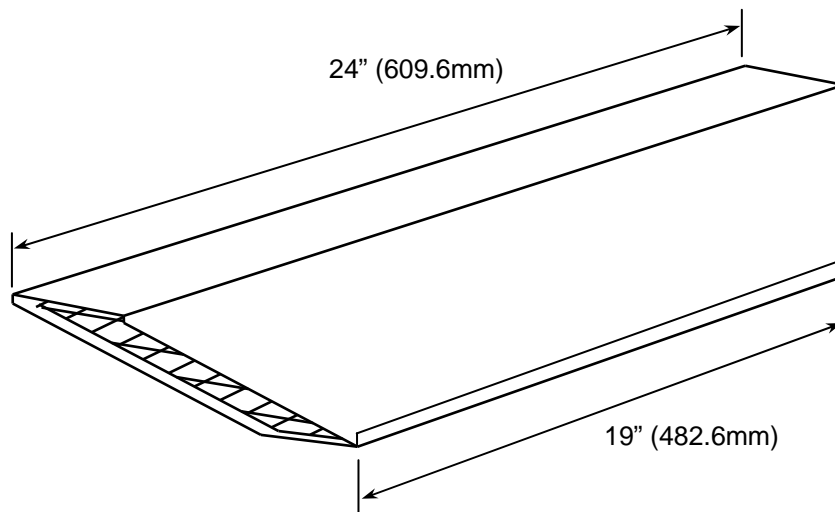
MOUNTING

Position thermostat and guard on inside wall about 5' (1.5m) above floor, mounted on 2" x 4" vertical electrical outlet box. Do not mount thermostat where it can be affected by drafts, direct radiant heat from the heater as well as the sun or other sources of heating or cooling.

Remove cover by pulling out at the bottom. Install thermostat by screwing base to electrical box. **DO NOT** press on the bimetal sensor or set point knob to seat the thermostat to the electrical box - thermostat will be damaged.

CHECKOUT

Make sure that the thermostat guard locks and un-locks properly. Leave keys with building owner





SIDE WALL & ROOF VENT TERMINAL

- ◆ High Wind Vent Cap
- ◆ 4" Diameter Inlet
- ◆ Aluminum Construction
- ◆ Corrosion resistant

SPECIFICATIONS

CRC Part No.:

1811.VT.400

Dimensions:

4" , "B" Vent Connection

Maximum Temperature:

Maximum 600°F (315°C)

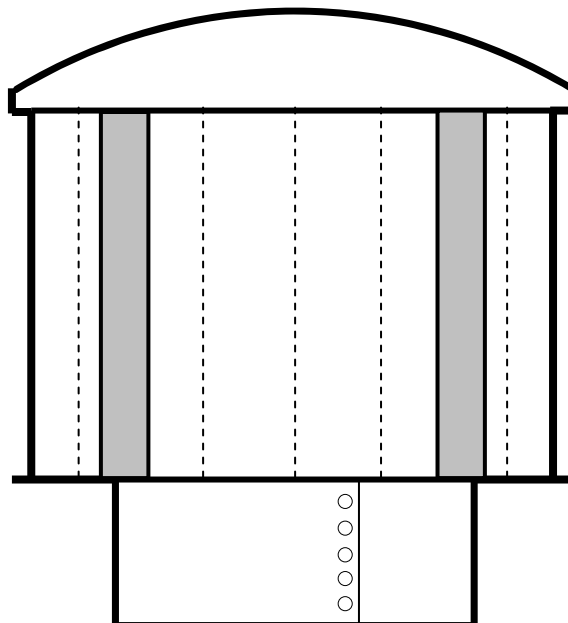
INSTALLATION & CHECKOUT

INSTALLATION

Install the vent cap as shown in the Owners' Manual and shop drawings. Observe any clearance to combustibles and applicable installation codes.

CHECKOUT

Make sure that vent terminal is securely fastened to venting pipe (supplied by installer). Install as outlined in the Owners' Manual and in accordance with applicable codes.





SIDE WALL & ROOF VENT TERMINAL

- ◆ High Wind Vent Cap
- ◆ 6" Diameter Inlet
- ◆ Aluminum Construction
- ◆ Corrosion resistant

SPECIFICATIONS

CRC Part No.:

1811.VT.600

Dimensions:

6" , "B" Vent Connection

Maximum Temperature:

Maximum 600°F (315°C)

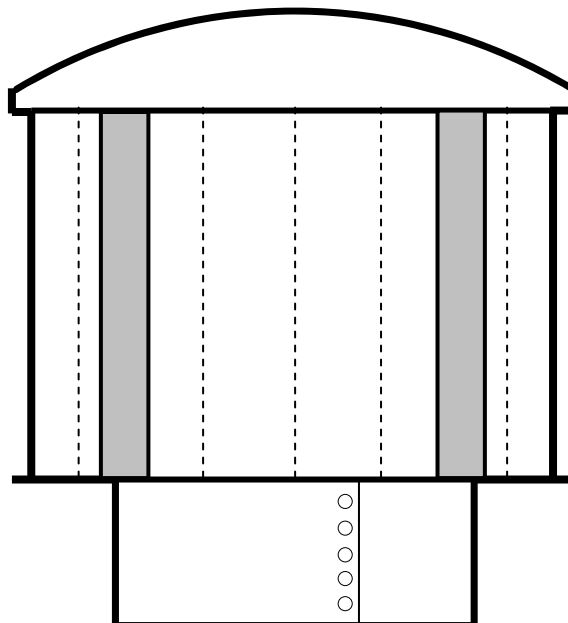
INSTALLATION & CHECKOUT

INSTALLATION

Install the vent cap as shown in the Owners' Manual and shop drawings. Observe any clearance to combustibles and applicable installation codes.

CHECKOUT

Make sure that vent terminal is securely fastened to venting pipe (supplied by installer). Install as outlined in the Owners' Manual and in accordance with applicable codes.





HANGING CHAIN

- ◆ Double Loop Hanging Chain – 100' Long
- ◆ Zinc plated or galvanized steel construction

SPECIFICATIONS

CRC Part No.:

1800.CH.000

Dimensions:

100' (30,481mm) Hanging Chain – Workload rating of 90 pounds – Zinc plated or galvanized steel construction.

Maximum Temperature:

Maximum 600°F (315°C)

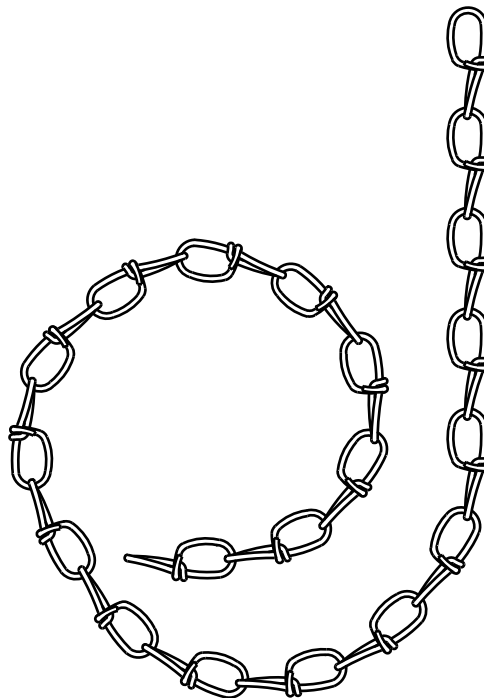
INSTALLATION & CHECKOUT

INSTALLATION

Install chain and “S” hooks as shown in the Owners' Manual and shop drawings.

CHECKOUT

Make sure that all “S” are crimped closed Install as outlined in the Owners' Manual and in accordance with applicable codes.





"S" HOOK

- ◆ Zinc plated or galvanized steel construction

SPECIFICATIONS

CRC Part No.:

1800.SH.000

Dimensions:

50 Pieces of "S" Hook – Workload rating of 90 pounds – Zinc plated or galvanized steel construction.

Maximum Temperature:

Maximum 600°F (315°C)

INSTALLATION & CHECKOUT

INSTALLATION

Install chain and "S" hooks as shown in the Owners' Manual and shop drawings.

CHECKOUT

Make sure that all "S" are crimped closed Install as outlined in the Owners' Manual and in accordance with applicable codes.

S



TURNBUCKLE

- ◆ Zinc plated or galvanized steel construction

SPECIFICATIONS

CRC Part No.:

1800.TB.000

Dimensions:

Turnbuckle – Minimum workload rating of 90 pounds – Zinc plated or galvanized steel construction.

Maximum Temperature:

Maximum 600°F (315°C)

INSTALLATION & CHECKOUT

INSTALLATION

Install turnbuckle as shown in the Owners' Manual and shop drawings.

CHECKOUT

Make sure that all turnbuckles are wired closed – see Owners' Manual for details.

