RAD-CON, INC.

S.O. 84-1760

Customer Scott Brass  Location Mishawaka, IN.

GENERAL SPECIFICATIONS

Furnace - Type 132" Dia. x 66" High Non-Ferrous Strip
TUBES - Type "O" @ 4½"OD. x 5'6" O.A.  Number per Furnace 20
HEAT INPUT - Furnace 3,300, BTU 3180 CFH  Tube 156,000 BTU 159 CFH

FUEL DATA

TYPE Natural Gas
B.T.U./Cu.Ft. 1040
SP.GR. 0.60
CU.FT.AIR REG'D. 10.4/1.0
GAS PRESS. - Main Line
Furnace 2 PSI Reg'd.

AUXILIARY EQUIPMENT

BLOWER - Type 2312-26-1-5-D #3 Disch. CPM GAS BOOSTER
CONTROL VALVE N.A. Fig. 5 (2-E-6) AIR MANIFOLD
SAFETY VALVES - Type Maxon Series 808 Size 2" GAS MANIFOLD
VOLTAGE - Control 115 V. - 1 - 60 Power 460 V. - 3 - 60
PRESS.REGULATOR - Main Line Furnace Maxitrol 210E-R, Air Pilot

BURNER DESIGN DATA

PRI.AIR % 25
NOZ.VELOCITY Ft./Sec. 29.4
MIXER PRESSURE In.W.C. -
BURN.HEAD PRESS. In.W.C. 3.75
AIR HEADER " In.W.C. 15.25
GAS HEADER " In.W.C. 15.25

BURNER SPECIFICATIONS

PRI. AIR SPUD I.D. 0.436" ± .001"
O.D. 1½" - 12 Threads, Brass
GAS ORIFICE I.D. -
O.D. -
GAS SPUD I.D. #19 Drill (0.166" dia.)
Size 5/8" - 27 Threads, Brass
AIR ORIFICE I.D. 0.755" ± .001"
O.D. 3½" x 20 Ga. S.S.
NOZZLE Dia. 0.744" ± .001"
PILOT HOLES No. 12
Size #11 Drill (0.191")
GAS TUBE O.D. -
L'gth. -
SEC.AIR PORTS I.D. 7/16" (.4375")
"B" I.D. 7/16" (.4375")
"C" I.D. 7/16" (.4375")

ENGINEER'S INITIALS:

Burner Assembly Dwg. C-663 #8  Burner Tube Dwg.
Burner Head Dwg. C-433 #6  Burner Nozzle C-664 #8
Burner Dist. Plate Dwg.

Field Set-Up Date Calculations EPU
FURNACE EQUIPMENT

ENGINEERING SPECIFICATIONS

Type of Equipment: High Convection Cylindrical Bell Type
                      Coil Annealing Furnace Equipment -
                      Solid Seal Bases.

Charge Size: 132" Diameter x 66" Gross Piling Height.

Operation Temp. 800 degrees C. Work Maximum
                  875 degrees C. Furnace

Available Fuel: Natural Gas.

Available Power: 440 Volt, 3 Phase, 60 Cycles per Second.
                 110 Volt, 1 Phase, 60 Cycles per Second.

Reference Drawings: D-2225 Gen´l Assembly 132" Dia. x 66" Fce.
                   C-2195 Foundation Layout & Crane Clearance.
                   D-2683 Forced Cooler 114" x 90"
                   (Ref. Only)
DESCRIPTION OF EQUIPMENT

Ref. It.#1: Furnaces.

1 - Bell Type Coil Strip Annealing Furnace.

A. Charge size 132" dia. 66" gross piling height.

B. Completely assembled, on job site.

C. 20 - Oval radiant tubes 4-1/2" O.D. 4" 309 alloy 11 ga. wall.

D. Dual pressure burners.

E. Electric ignition.

F. Combustion air blower with 5 HP T.E.F.C. motor.

G. Master control panel.

H. Barber-Colman drive motor.

I. Combination Air/Gas Valve.

J. Gas regulating system.

K. Safety control system including:
   3 - Pressure switches
   1 - Safety shut-off valve

L. Thermocouple (swaged type).
M. Furnace walls and top lined with a 4" of insulating block plus 2 - 1" layers of insulating blanket. Blanket and block are fastened to the furnace wall and top by use of alloy hangers spot welded to the casing.

N. Flexible fuel line with quick connector and flexible electrical connections for power, thermocouple and control as follows:
   1 - 4 pole plug with flexible cable grip - power.
   1 - 8 pole plug with flexible cable grip - thermocouple.
   1 - 8 pole plug with flexible cable grip control.

O. Air-gas Manometer piped in complete.
DESRIPT. OF EQUIPT. – Cont:

Ref. It.#2: Bases

2 - High Convection Coil Strip Annealing Bases; each including:

A. Charge size 132" diameter.

B. Completely assembled on job site.

C. Solid seal design.

D. 40 HP T.E.F.C. extra energy efficient integral base fan motor (installed by customer).

E. 23-1/2" O.D. x 7" Sirocco type alloy fan wheel (installed by customer).

F. Diffuser of heavy bar mild steel fabrication with cast "HF" alloy tip vanes, and 1" thick mild steel bottom plate.

G. Charge plate of mild steel, approximately 1" thick.

H. Plenum chamber of heavy bar mild steel construction with approximately 1" thick mild steel top plate with multiple hole design for multiple coil loading.

I. 4 Alloy corrugated rings to support charge.
DESCRIPT. OF EQUIPT. - Cont.: 

Ref. It.#2: Cont.: 

J. Insulated with insulating cast refractory. 

K. Complete with guide posts. 

L. Includes all internal piping. 

M. Prewired base terminal box with receptacles for power, control, and thermocouple. 

N. 2 Base thermocouples 
   1 - Swaged type for work control. 
   1 - Swaged type for exploratory readings. 

O. Flowmeter for 0 - 1500 CFH Atmosphere gas. 

P. 500 Feet thermocouple leadwire. 

Q. Size #2 combination magnetic starter with 110 volt control transformers. (supplied by customer).