

Application brief

Eclipse Product: ThermJet Burner
Submitted by: Bill Chihata – Eclipse Combustion, Toronto
Application: Fluid Bed Roaster
Description:

Inco Technical Services in Mississauga, ON was looking for a pre-heat burner to get pilot fluid bed up to auto ignition temperature of about 900° C. Once target temperatures are attained, cold oxide material will be added to the bed through a top feeder. The bottom of the fluid bed will be at a pressure of about 15 PSI due to the fluidized oxide material in the reactor.

The feed to the system will be sulphide materials which will generate heat and SO₂ gas. The process will be Exothermic so no heat will be required during operation. After preheat, approximately 700 kg of cold starter oxide material will be loaded onto the fluid bed. This material has a heat capacity of about 160 cal/kg C. The fluid bed has an ID of 12" with refractory 3" thick. The fluid bed is about 15 feet tall. The refractory has a heat capacity of about 270 cal/kg C.

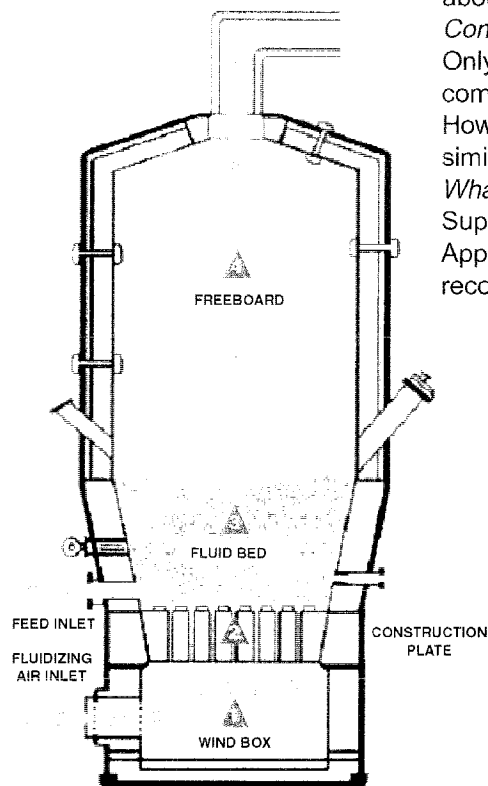
Competition:

Only Eclipse & North American were invited to submit a bid for the turnkey combustion system including installation and start-up.

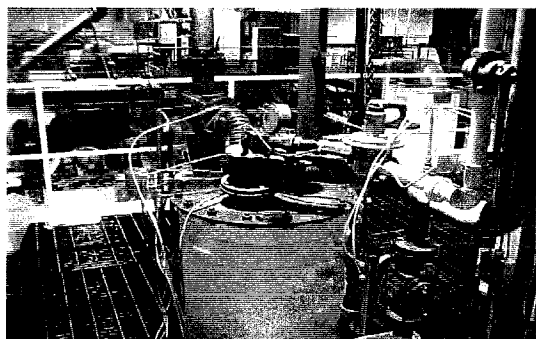
However, the customer was leaning towards North American since there was a similar fluid bed system with North American Burner in the same facility.

What we did to win the job:

Supplied the customer with literature on the TJ burner as well as previous Application Reports. We also submitted a drawing of the proposed system with recommended bill of materials (see page 2).



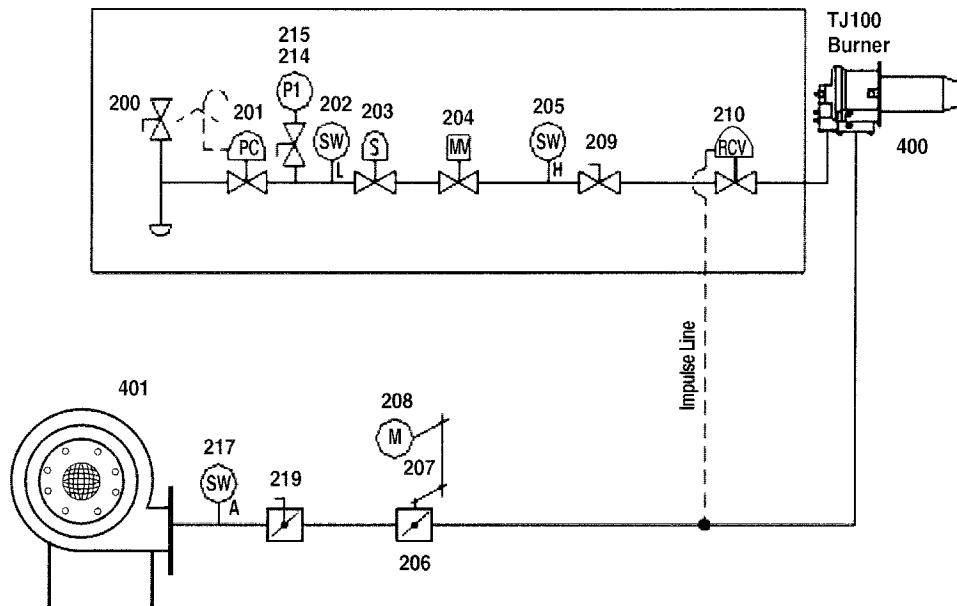
Typical
Fluidized Bed



ThermJet Burner mounted on Fluidized Bed

ThermJet Burner System

1-1/2" N.P.T.
 1000 CFH Nat Gas
 1 PSIG Inlet Pressure



Equipment List

ITEM	QTY	DESCRIPTION
200	1	1-1/2" Ball Valve
201	1	1-1/2" B-34SR Main Regulator
202	1	Low Gas Pressure Switch
203	1	1-1/2" Main Solenoid Valve
204	1	1-1/2" Main Motorized Valve
205	1	High Gas Pressure Switch
206	1	4" Red. Port Control BV Valve
207	1	Mounting Kit & Linkage
208	1	Control Actuat
209	1	1-1/2" Lubricated Plug Cock
210	1	Ratio Control Vave
214	1	1/4" Test Point Ball Valve
215	1	Test Point Pressure Gauge
217	1	Combustion Air Switch
218	1	Ignition Transformer
219	1	4" Full Port BV Valve
400	1	TJ100MCSNX ThermJet Burner
401	1	SMJ4615-3/4 Combustion Air Blower

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