Project Proposal

Attn: Jon

Introduction

Dear Jon

Further to our earlier discussions, we are pleased to submit our firm proposal for the supply of an outdoor horizontal mounted modulating afterburner.

Our units utilize industrial grade burners, fuel trains and controls which can withstand the roof top environment for decades. The 304 stainless steel shell option that we have offered for a small premium will give the longest life possible and zero maintenance. We have included the painted steel option as well for comparison. We use a high quality polyurethane finish which will stand up to the environment but will require refinishing and repair periodically. We have selected a modulating burner system that can react to changing roaster exhaust conditions. It will modulate between low and high fire to maintain your desired temperature set point as efficiently as possible.

We are confident that this system will provide you with an unparalleled performance and reliability.

We invite you to review the included project proposal that contains more information about our product.

Thank you for your consideration.

Roaster Operating Data

Roaster Type	Diedrich CR-70
Maximum/Minimum roaster capacity	70kg
Longest roast	TBA
Roaster Exhaust	750 SCFM (from Diedrich website)
Cooling fan rating max	N/A
Max. Roaster Exhaust Gas Outlet Temp	460° F
Roaster Outlet Connection	Side
Stack Height	TBA
Existing Roof Structure	Flat

Our Product:
The Inproheat Smoke Dog SD-MOD-1H1 Afterburner

Fig 1: the SD-MOD-1H1 in standard painted carbon steel

Fig 2: the SD-MOD-1H1 in Optional 304SS for beet weather resistance

Fig 3: Example of High Temperature Morgan Thermal Ceramics Insulation with Long life Inconel Studs.

Equipment Supply for CR-70

The **SD-MOD-1H1** Afterburner features an appropriately sized combustion chamber to ensure the required residence time and oxidation of roaster exhaust gases. (Maximum residence time would be 0.79 seconds).

The Afterburner will be operating at approximately 1250°F for excellent smoke and odor destruction. This is the temperature which we most commonly see mandated in the USA. The system will be capable of 1400°F operation if required.

Specific design features of the Afterburner include:

- A 10-gauge Carbon Steel or 304 SS heavy-walled combustion chamber with Horizontal orientation, lined with 4" high temperature light-weight Morgan Thermal ceramic fiber lining to ensure optimum service life. Roaster exhaust gases will enter from the side- burner end and exit through the top.

- A Maxon OP2 model 415 forced draft burner assembly utilizing NFPA approved components, a c/w combustion air fan, and main and pilot gas fuel trains.

- One (1) local control panel mounted to the afterburner. This panel with be NEMA 4 rated and house the following:

    1. A local start/stop switch
    2. Honeywell 7800L1087 flame relay to monitor the burner system
    3. Omron high temp safety switch
    4. Allinson Ignition Transformer

- A remote control panel to be setup in the roastry. This will also house the burner reset, the burner on Light, and the digital temperature Indication of Afterburner temperature. The digital temperature indicator will also include an adjustable high temperature cutout switch. The unit will provide modulating controls and the panel will be CUL approved.

- Final Afterburner operating temperature set point will be achieved by adjusting the supply gas pressure. Maximum burner firing rate will be 1,500,000 Btu/hr.

- One (1) burner peep sight to view the inside of the Afterburner during operation.

- One (Dungs) modular fuel train assembly with NEMA 4 rating, high and low gas pressure switches, dual safety shutoff valves and regulator.

- One (1) temperature sensing thermocouple, mounted on the side of the Afterburner to provide a signal to the control panel, which is located adjacent to the Roaster. The thermocouple will have a dual element capability.

Additional Equipment Options

Inproheat can accommodate special design requirements upon customers' requests. Some common changes are as follows.

- Additional Afterburner colors available to match roaster/décor.
- 304 Stainless steel combustion chamber to provide exceptional long life and aesthetic appeal.
- Pedestal for remotely mounted controls. This allows the user to put the controls for the Afterburner at the most ideal location in their facility.

The above unit will be supplied assembled and ready for installation (by others) and immediate operation.

Installation

The Afterburner is required to be commissioned by a local gas contractor who is certified to work on natural gas-fired equipment. Documentation of this should be kept by customer for warranty purposes. Inproheat has a factory service tech that could travel to site, assist with Installation and commission the system. Due to your close proximity to our factory we would recommend using our technician for startup. Our technicians conduct a full function test in our facility before shipment. The have excellent hands on knowledge of our products and can typically get units running is less time than outside contractors. Inproheat can provide a startup quote if this option is considered.

Required installation services (by others) should include:

- Lift and installing the Afterburner onto roof.
- Preparing and/or modifying the inlet duct from roasters and connecting the exhaust stack to the Afterburner outlet.
- Supplying and installing the required natural gas line to the inlet of the Afterburner gas line.
- The size of the gas supply line is determined by the available gas pressure. The gas line must supply 14 inches of WC to the inlet of the gas regulator supplied.
- Supplying and installing a 120V/1Ph/60Hz electrical power supply to the Afterburner control panel.

Specifications

Approximate Dimensions:

100” Long x 40” outside Diameter,

Weighs approximately 1300 lbs

BUDGET Price Basis painted carbon steel: $37,239.00

BUDGET Price Basis 304 stainless Steel $39,899.00

USD funds, F.O.B. Vancouver, B.C. Applicable taxes not included.

Delivery:

Ready to ship, 10-12 weeks after approved drawings

Terms of Payment:

50% at issue of order

50% at readiness to ship

Closing Thoughts

With our 55 years of combustion engineering experience, we will assure you a safe and reliable Afterburner system operation. The unit will include a 12-month warranty on controls and instrumentation and lifetime customer support.

Inproheat is proud to employ local Canadian manufacturing for all our afterburners and sources all Smokedog Components from the United States and Germany to generate equipment you can count on.

Thank you for the opportunity to offer our services. Please feel free to contact us with any questions you might have.

We look forward to the opportunity of supplying the Inproheat Smoke Dog SD-MOD-1H1 Afterburner for your application.

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