

QUALITY RULES THE ROOST AT NTFB

By J. DeLacy, Director of Engineering
L. DelCarlo, Director of Manufacturing

Successful companies recognize the importance of quality performance in all phases of their operations. NTFB Combustion Equipment USA is no exception. Its employees strive for quality in all phases of project performance, including initial application engineering, project engineering, purchasing, planning, manufacturing, checkout, final crating, shipment & delivery, and servicing of their burner systems. While all are significant, the primary focus of this article is on the all-important manufacturing operation and how 'quality' dictates this process.

There are three key elements that make up an NTFB low NOx industrial burner system. These elements, called 'components' in this article are the windbox register, the fuel piping module, and the burner management control panel. They all have their own focus on quality.

Windbox Register Component

All welding of structural steel is per AWS D-1 Standards, with sheet metal welding per AWS D9.1 Standards. As for the individual register gas burner spud elements, flanged gas burner header assembly, and associated hand shut off valves, the entire system is pressure tested with air at minimum 1.2 times the maximum operating pressure at all connections. Any auxiliary electrical wiring associated with the windbox register component, such as burner mounted ignition transformers, airflow control damper actuators (if included) follows all applicable NEC wiring codes. NTFB's focus is on QUALITY combined with 'SAFETY FIRST' in all aspects of burner manufacturing.



Complete Burner Assembly

Fuel Piping Module Component

Here all safety shut off valves, vent valves, control valves, limit devices, etc. are in strict accordance with NFPA 85 requirements with individual electrical components and/or assemblies FM approved, as applicable. Associated welded piping will always be per ASME B31.1, or 31.3 as needed, with any associated structural welding per AWS D.1 standards. All piping is pressure tested at 1.2 x max operating pressure. The entire piping rack assembly is either mounted and wired on the windbox burner or supplied as a freestanding piping module. The entire assembly is built per strict NEMA 4 standards or, when specified, NEMA 7 explosion proof. Upon completion of all testing, all recorded results are provided in a Quality Assurance Report kept on file and available to NTFB's customer on request.

SP6 surface prep, checked with sand blast profile, along with paint primer and finish coat is the norm for fuel piping modules supplied by NTFB's manufacturing partners in the U.S. This helps assure a top quality product is delivered to our valued customers.



Fuel Piping Module

Typical Burner Management System Component

This represents the brains of the entire burner system to safely guide the burner through initial startup to normal operation. It is paramount that 'SAFETY FIRST' and QUALITY also be the focal points of the bms (burner management system) and any related combustion controls supplied by NTFB.

The bms control panel is typically free standing or can be burner mounted. Either way, it is NEMA 4 or optional Explosion Proof NEMA 7 with air purge system, and ALWAYS per NFPA 85 guidelines. Two Quality Assurance tests are conducted on the controls: A point-to-point wiring check to assure all components are properly wired to terminal blocks as intended and a factory acceptance test with terminal blocks connected to a light board by NTFB approved QA technicians to ensure the entire system is working properly.



Burner Management Panel

Quality Control of Auxiliary Equipment

Quality control doesn't stop with NTFB's basic scope of equipment. We are often required to supply such auxiliaries as large combustion air fans. The same attention to quality is enforced with our suppliers to help ensure there are no fit up issues, interference problems, etc. whether remote mounted or burner mounted.



NTFB Shanghai Factory



Robotic Welding
at NTFB Shanghai Factory



CNC Machinery
at NTFB Shanghai
Factory.



Putting it All Together

NTFB Combustion Equipment USA is committed to a quality approach in the products it engineers and produces in the U.S. and in the products that it outsources to qualified U.S. facilities as well as NTFB's state of the art manufacturing facility in Shanghai. (See the four photos directly above of this new facility).

CONTACT US

NTFB Combustion Equipment USA, Inc.
2875 Lakeview Court
Fremont, CA. 94538
USA

Phone: 510.443.0066
Fax: 510.443.0069
Web: www.ntfb.com
Email: info@ntfb.com

2875 Lakeview Court, Fremont, CA 94538, USA
www.ntfb.com - 510.443.0066 - info@ntfb.com



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