

Application Report

AR-142

Brückner textile ovens with Eclipse Model 50 RM-Version 2.00 Burners set new world standard for CO emissions

As environmental concerns continue to grow, global manufacturers face the challenge of meeting increasingly stringent emissions regulations. Recently, Brückner-Trocknentechnik GmbH & Co. KG of Leonberg, Germany decided to take a proactive approach to reducing the CO and unburned hydrocarbon emissions exhausted by its textile treating ovens.

As one of the world's largest manufacturers of textile ovens, Brückner exports up to 85 percent of the systems it produces annually for textile and carpet producers around the globe. To assist them in achieving their goal for reducing emissions, representatives of leading industrial heating firms were asked to offer their recommendations, and invited to demonstrate and test their burners with Brückner ovens.

Eclipse Combustion, along with Maxon, Bosch-Jünkers and Küppersbusch, responded. In fact, Menrad Grieshaber, Eclipse sales engineer in Stuttgart, Germany, eagerly accepted the Brückner challenge. According to Mr. Grieshaber, Brückner's commitment to reducing emissions in the entire line of textile ovens makes good business sense. "By engineering their ovens upfront to meet or exceed the most stringent standards on the planet—namely those in Germany and the United States," he said, "Brückner ovens would set a global standard for environmental excellence. From a purely economic

point of view, this 'world class' manufacturing approach is more efficient and cost-effective than customizing different solutions to meet each individual country's set of standards."

Eclipse Model 50 RM - Version 2.00: the ideal choice

Mr. Grieshaber was responsible for coordinating Brückner's testing of Eclipse burners. He called on the technical expertise of Peter di Gooijer of Eclipse Netherlands to design and assemble a heating system package that would meet Brückner's environmental, performance and price requirements.

The system they recommended was based on the new Eclipse Ratiomatic Burner, Model 50 RM - Version 2.00. Mr. di Gooijer explains: "Brückner's textile ovens are fitted with two burners per zone to ensure equal temperature on the total fabric width. The number of zones depends on the customer's requirements. Fabrics pass through the oven at a constant rate of speed and are treated at relatively low temperatures, no higher than 250° F. To ensure fast startup and even heating over all zones, efficient burners with a wide turndown are essential."

When the testing was complete, the Eclipse Model 50 RM - Version 2.00 emerged as the clear winner for Brückner's application. The burner's emissions registered considerably



The Eclipse Ratiomatic Burner, Model 50 RM - Version 2.00, which is specifically engineered for global markets, offers Brückner the ideal combination of size, performance, emissions control and pricing for its textile oven application.

lower than those of competitive burners. Its performance characteristics were equally impressive. The Model 50 RM - Version 2.00 demonstrated its capabilities for good mixing, even heating and an effective turndown range of 25:1, with a UV scanner for flame monitoring. And, when it came to pricing, Eclipse was able to deliver a package price within Brückner's budget requirements, thanks to the favorable price/performance ratio of the Model 50 RM - Version 2.00.

Global design, modularity, flexible installation—in a compact package

The Eclipse 50 RM, Version 2.00 represents a reengineering breakthrough for Ratiomatic burners of this type. Right from the start, Eclipse incorporated the latest combustion technology with advanced design and manufacturing protocols—from computer-aided design and engineering to Design For Manufacture (DFM) principles.

As a result, the 50 RM, Version 2.00 design offers a compact footprint that's significantly smaller than previous burners of this type. The unit measures 12.6" W by 12.6" D by 15.5" H, with a 3.5" tube O.D. (32 cm W by 32 cm D by 39.4 cm H, with a tube O.D. of 8.9 cm). For OEMs like Brückner, reduction of burner package size translates into significant space and weight advantages.

The 50 RM - Version 2.00 features a multi-fuel nozzle that permits the use of natural gas, butane or propane fuels without the need for internal changes. Only the orifice has to be changed for different types of fuel. It is the only burner to offer this level

of flexibility and convenience. In addition, the Eclipse 50 RM - Version 2.00 burner is specifically designed for global markets, offering both metric and English interfaces. Several design features—such as modularity for parts commonality and installation options for optimum flexibility—make the unit easier to install and maintain.

Offering heating solutions for customers around the globe

According to Mr. Grieshaber, when Brückner began its search for solutions to lower emissions, selecting a stable, yet innovative and service-oriented global burner supplier was paramount. He explains: "Brückner



Brückner textile ovens, equipped with compact Eclipse Ratiomatic Burners, Model 50 RM - Version 2.00, are setting a new world standard for environmental excellence.

needed to work with a flexible partner who not only knows the industrial oven business, but is willing to invest the time and expertise to deliver optimal solutions for specific applications. In Eclipse Combustion, they have found that partner."

To date, installations of Brückner textile ovens, equipped with the Eclipse Ratiomatic Burner, Model 50 RM - Version 2.00, have been completed and are currently being operated in fabric-producing plants in Germany, The Netherlands, Italy, France and Turkey.

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