

F Series Infrared Burners

Flame Impingement Gas Fired Infrared Burner



The F Series is a flame impingement gas fired infrared burner. It utilizes an air/gas mixture impinging directly on the finned ceramic refractory surface to produce a high density, radiant flux. The flame heats the refractory to temperatures of 1650°F to 2000°F with a turndown ratio of 4 to 1. The refractory in turn emits thermal energy, achieving approximately 70% convection and 30% infrared. Its maximum output is 4000 Btu/in at 6 1/2" w.c. mixture pressure.

The F Series is offered in both a 7" and a 12" size. Burners of different sizes can be combined in order to tailor the length of the burner to the width of the production line. All models have a cast iron body and a choice of alloy or cast iron side plates. All models use Cordierite refractory.

The durable, rugged construction lends itself to a wide variety of applications, and its high velocity facilitates greater heat diffusion into the surface



layers surrounding a part. The air-gas mixture travels from the manifold through the body of the burner and is directed onto the refractory through a slit orifice along the length of the burner. The slit orifice design optimizes the life and performance of the burner since it promotes a smooth, consistent flow of gas and is not prone to particulate build-up or clogging as are other designs, such as ported orifices.

The F Series burners have a modular construction. They are economical and easy to rebuild using replacement parts. The burner is attached to the manifold with a threaded 3 piece union and nipple assembly, allowing for quick removal and installation.



The F-SS-SC is a 12" burner with high temperature, corrosion-resistant alloy side plates and a machined stainless steel baffle plate. The smooth edge of the baffle plate promotes a uniform air/gas flow through the slit orifice, which optimizes the combustion process. The FH-SS-SC is a 7" burner with alloy side and baffle plates. Their corrosion resistance and ability to withstand high temperatures make these two models ideal choices for food applications, such as tortilla chip ovens.

The F Series is also offered with baffle and side plates of cast iron, in 12" (CI-F) and 7" (CI-FH) models. These sturdy, economical infrared

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burners are well suited for industrial applications such as carpet curing, building materials, metal treatment as well as pre-dryers for textile and paper.

The Universal Corner Burner (UCB) aids in flame propagation where production lines make 90° turns. The UCB has the same durable cast iron construction and ceramic refractory as the other F Series burners, and provides a way to connect perpendicular arrays of burners that share a common gas train.



Seven Step Rebuild Process

- 1 Remove burner sections from the manifold.
- 2 Remove side plates and baffle plate bolts and completely disassemble burner sections.
- 3 Inspect components to determine suitability for reuse.
- 4 Wire brush or sand blast cast metal components.
- 5 Rebuild burner sections using new and refurbished components.
- 6 Attach burner sections to the manifold in parallel and matching height alignment.
- 7 Test-fire burner prior to oven reinstallation.