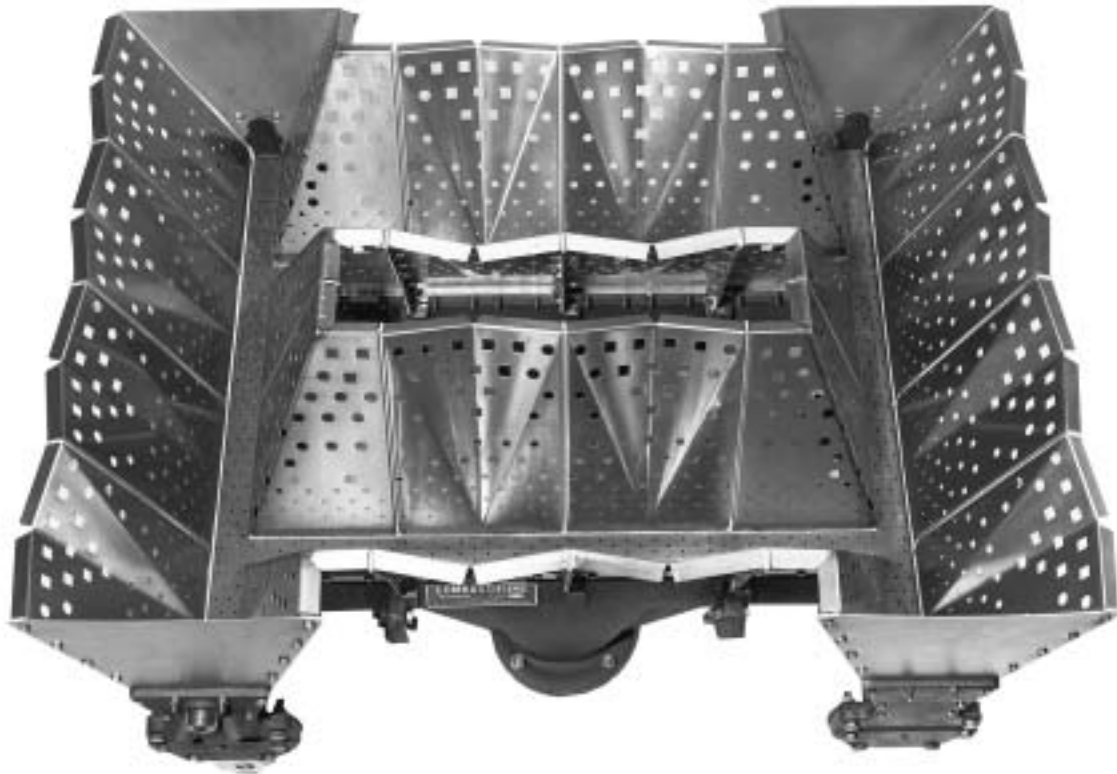


COMBUSTIFUME® Line Burners



8 ft. Series CF5D COMBUSTIFUME® Burner assembly

- **For direct-fired fume incineration** and higher temperature process air heating applications
- **Modular burner design** provides burner assembly configurations and total heat release for maximum application flexibility
- **COMBUSTIFUME® Burner provides stable, efficient, raw gas operations** in air streams with oxygen levels as low as 16% (by volume), or with inlet temperatures up to 1050°F (566°C)
- **Burns clean and odor-free with low levels of NOx production**
- **When air stream oxygen content is low**, primary combustion air may be added through the COMBUSTIFUME® Burner system to produce combustion of most clean gaseous fuels
- **Fume incineration costs are minimized** by direct firing COMBUSTIFUME® Burner in the effluent air stream
- **12 different varieties of COMBUSTIFUME® Line Burners available**, each optimized in materials and/or performance factors to match your specific application requirements

Covered by U.S. Patents #25,626; #3,297,259 and #4,573,907;
Canada #786,136 and #786,137; Great Britain #943,733



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Design and Application Details

Principle of Operation

COMBUSTIFUME® Line Burners are designed for heating high temperature process air in motion and consist of a rust-resistant ductile iron or aluminum bronze body (which serves as the raw gas or air/fuel manifold), drilled to discharge the fuel/gas mixture between diverging stainless steel or Hastelloy-X mixing plates.

The entire burner assembly is mounted inside your duct directly in the air stream being heated. The air stream passes across the burner and through the mixing plates and is used as additional combustion air, particularly at the higher firing rates. Carefully controlled mixing plate aeration patterns give progressive mixing, superior cross-ignition and flame retention across the entire burner assembly length.

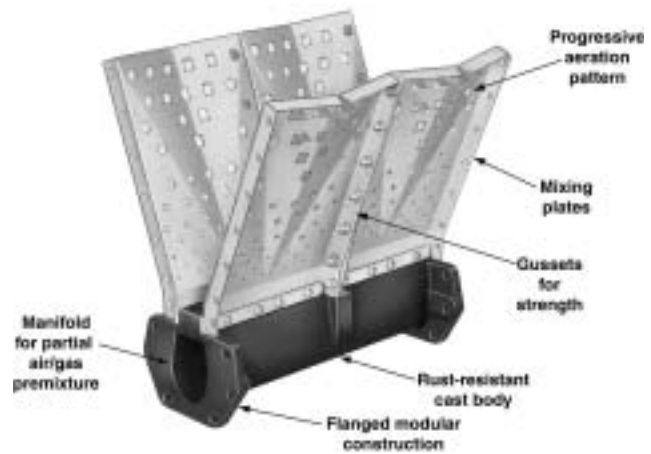
Air velocities and the resulting duct static pressure drop are the key to successful operation. They are established by the use of a customer-installed profile plate within the duct. A minimum profile width of 6" is required surrounding all COMBUSTIFUME® Burner assemblies.

Optimum burner performance and maximum service life demand that air stream velocities be uniform across the entire burner assembly.

Normal capacities vary widely with application. Fuel used and design velocities affect turndown. Modular design permits shape and total heat release to match application needs.

Performance data varies depending upon temperature of air upstream and downstream of burner assembly, the percent of oxygen (by volume) in the passing air stream, and the allowable duct static pressure drop (which relates to velocity of air across the COMBUSTIFUME® Burner).

Several varieties of COMBUSTIFUME® Burners are offered. Each type is optimized for a specific type of application. All varieties can be used when a partial air/gas premixture is required and are intended for use in heating process air-in-motion where high temperatures and/or lower air stream oxygen content are involved.



- **CF4D COMBUSTIFUME® Burners** have ductile iron bodies and #310 stainless steel mixing plates. Four different versions are available, either for raw gas burner applications, or for those requiring a partial air/gas premixture system and/or outlet temperatures up to 1500°F (816°C).
- **CF5D COMBUSTIFUME® Burners** complement their ductile iron bodies with Hastelloy-X mixing plates as above for applications with up to 1700°F (927°C) outlet temperature requirements.
- **CF5B COMBUSTIFUME® Burners** have an aluminum bronze body casting with Hastelloy-X mixing plates for use with applications requiring up to 1700°F (927°C) outlet temperatures with incoming temperatures up to 1050°F (566°C).

Typical applications include:

- | | |
|--------------------------|-----------------------------|
| Adhesive tape curing | Brake lining ovens |
| Coffee roasters | Coil-coating lines |
| Core ovens | Cupola furnace stacks |
| Fat rendering | Fiberglass curing |
| Lithographing ovens | Meat smokehouses |
| Metal-coating ovens | Operating room exhaust |
| Packing house effluents | Paint-baking ovens |
| Paint removal facilities | Plastic curing ovens |
| Printing presses | Roofing paper machine hoods |
| Solvent degreasing | Textile dryers |
| Turbine exhaust reheat | Varnish burn-off |
| Varnish kettles | Vinyl sponge curing |
| Wire enameling | |

