

Apollo-Ray® Infrared Burner

Surface Combustion Gas-Fired



The Apollo-Ray (AR) burner is a surface combustion gas-fired infrared burner. The premixed air and gas passes through the burner body and out through the porous emitter surface. Combustion takes place in a thin layer just above the outer surface.

The emitter is a sintered metal fiber alloy construction. Its many micro pores effectively disperse and entrain the air/gas mixture. Once ignited, robust infrared radiance is dispersed over the emitter's entire surface. This produces fuel savings of 20%+ over knit metal fiber burners.

The emitter is flexible by nature but backed by a rigid support. This allows it to resist damage during routine maintenance or by thermal shock after repeated firings. When firing face down on a conveyORIZED product, the emitter remains flat and does not sag, unlike conventional knit metal fiber burners.



The all stainless steel construction of the Apollo Ray burner body provides excellent heat and chemical resistance. The emitter, reinforcing base plate and baffle plate are welded to the body. These attributes make the Apollo-Ray burner an ideal choice for both industrial and food grade applications. Because it is a flat faced burner, it can be placed close to the product. Its turndown ratio is 2.5 to 1, without flash-back into the burner.

Ignition and flame propagation are reliable when using Selas's Red-Ray Series 2000 pilot bracket assemblies, even with burners that are 30'+ long. The burners can be attached to the manifold with standard (1-1/2") or long (2-3/8") union connectors. In a retrofit situation, longer connectors will move the burners closer to the conveyor belt for increased line speed or higher product output.



The Apollo-Ray body can withstand continuous operating temperatures of 800°F. If operated at these temperatures, ceramic fiber insulation is recommended around the bodies of the burners so that only the emitter is exposed to the heat. If rows of burners operate facing each other, the rows should be staggered so that the IR radiance is not directed against another burner. High temperature ceramic panels are often used opposite a burner as a way to reflect the IR radiation back onto a part.

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The Apollo-Ray burner comes in two sizes, 8"x6" (6.25 sq. in.) and 12"x5" (60.33 sq. in. Input capacities are 22,000 btu/hr/ and 30,000 btu/hr respectively. The radiant output of the burner is approximately 65% IR and 35% convective heat. The emitter temperature reaches 1700°F (927°C) at high fire. The burner is designed to operate best at 19.3% oxygen in the air/gas feed.



All Apollo-Ray burners are quick heating and quick cooling to prevent burning of product and waste of gas if there is a line stoppage. Labor and lost productivity costs are also minimized with short heat up and cool down periods. The burner sections can be mounted parallel (horizontal) or perpendicular (vertical) to the manifold. This allows the optimal combination of heat flux and length for different applications and line speeds.