RAMFIRE® Burners

1-1/2" RAMFIRE® Burners: At right, burner assembly with UV scanner (supplied by customer), spark ignitor and optional mounting plate. Basic burner with standard refractory block and seal and support assembly is shown at left.

- **Improve your furnace temperature uniformity and work penetration** with rapid circulation from RAMFIRE® Burner's high exit velocities, up to 550 ft/sec (375 MPH)
- **Increase furnace loading and reduce flame impingement potential** with RAMFIRE® Burner's short flame length. Let the high velocity stream of hot combustion gases stir-up your furnace's heat.
- **Maintenance and/or field inspection is simple** with burner's removable backplate, giving direct and easy access to the gas nozzle and refractory block
- **20:1 turndown capability** promotes faster bring-up times without temperature override
- **Operate "on-ratio" or with "excess air"** to meet specific demands of your process requirements
- **Clean burning with natural or propane gases** to produce lower NO_x levels
- **Requires low pressure combustion air** for heat releases up to 800,000 Btu/hr in two popular sizes for maximum cost effectiveness

MAXON® CORPORATION 201 East 18th Street, P.O. Box 2068, Muncie, Indiana, 47307-0068. Phone: (765) 284-3304. FAX (765) 286-8394

RAMFIRE® Burners

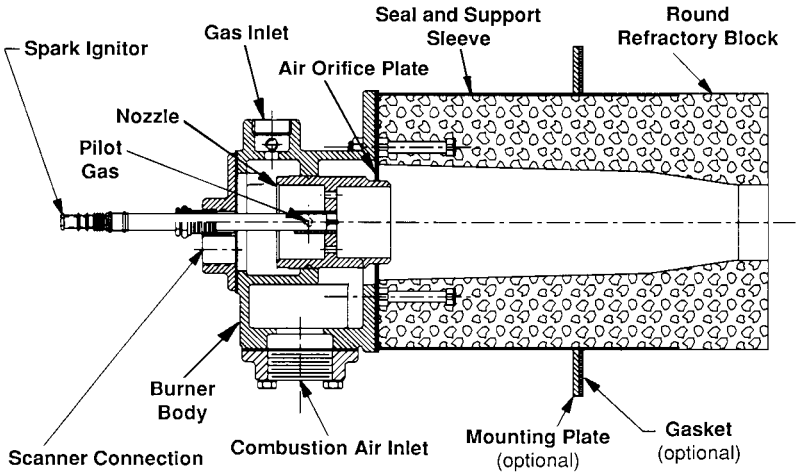
Principle of Operation

Combustion air enters the burner body and is swirled out into the burner block through the air orifice plate. **Gas** enters the burner body and exits to the block through ports in the gas nozzle.

Gas and air are mixed on the face of the nozzle directly in front of the spark ignitor where it is ignited.

The pilot gas is introduced through the side of the burner body and into the gas nozzle.

The ignited gas/air flame front passes down the refractory block tunnel to exit through its reduced area discharge. This helps to develop the short flame length extending from the block and promotes the very high exit velocities characteristic of the RAMFIRE® Burner.



Each RAMFIRE® Burner includes a **seal and support housing** to insure block integrity, spark ignitor, a sight glass, and four test connections to simplify start-up and adjustment.

When used in conjunction with Maxon's MICRO-RATIO® Control Valves, a RAMFIRE® Burner may be adjusted throughout the firing range to fire "on-ratio" or with "excess air". As high as 2100% excess air is possible at minimum capacity.

Maxon catalog bulletin 7000 describes MICRO-RATIO® Control Valves which throttle air and gas volumes to the RAMFIRE® Burner.

Typical applications include kilns, forge furnaces, annealing furnaces, lehrs, and other applications that require heating uniformity.

Provision is made for a UV scanner to monitor both built-in raw gas pilot and main flame. Direct spark ignition of burner is possible if sequencing incorporates low-fire start.

Material temperature limits

Standard burner block material is suitable for operating temperatures up to 2200°F (1204°C). The maximum operating temperature limit may be downrated if the RAMFIRE® Burner is operating under the following conditions:

– burner is installed in a furnace with fiber wall construction
– frequent cycling is present, inducing thermal shock and stresses

Seal and support assemblies reinforce burner blocks in thin soft wall construction.

Carbon steel seal and support assembly is suitable for chamber temperatures of up to 900°F (482°C).

Stainless steel seal and support assembly provides for chamber temperatures up to 1500°F (816°C).

201 East 18th Street, P.O. Box 2068, Muncie, Indiana, 47307-0068. Phone: (765) 284-3304. FAX (765) 286-8394