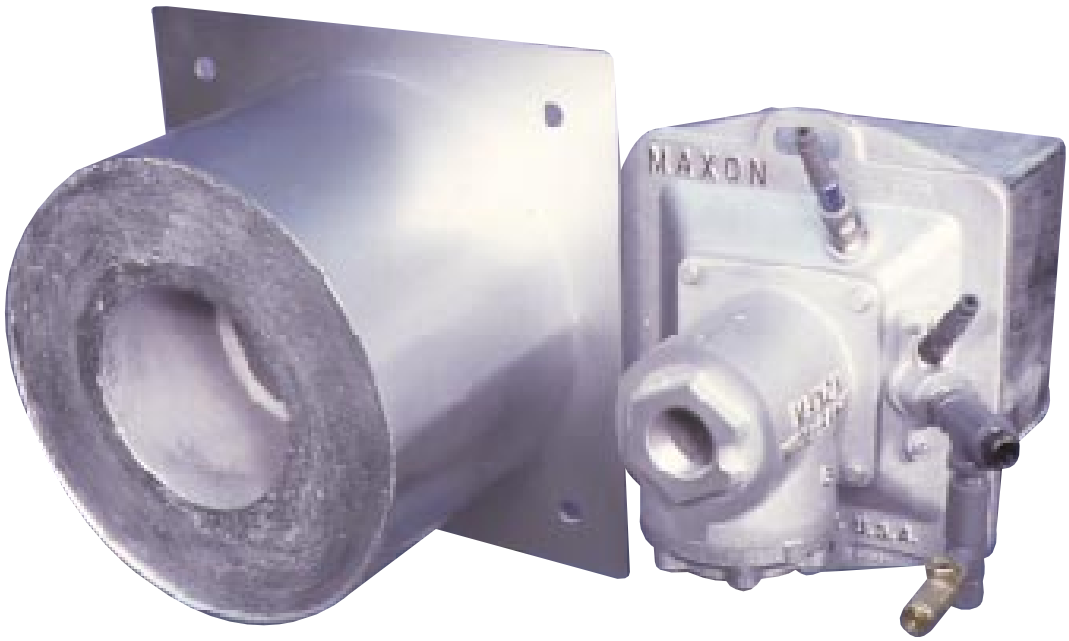
WIDE-RANGE® Gas Burners



3" WIDE-RANGE® Burners: At right, basic burner assembly with UV scanner (supplied by customer), optional pressure pilot assembly and its spark ignitor. Burner with optional seal and support assembly is shown at left.

- **Burns most low-pressure gaseous fuels,** including low-Btu waste gases and hydrogen
- **Flame retention at all firing rates** with multi-stage stepped-tunnel refractory block design
- **Faster bring-up times** without temperature override with 40:1 turndown capability
- **Maximum application flexibility** provided with eight sizes and capacities up to 13,500,000 Btu/hr
- **On-ratio firing** over a broad range of operating conditions
- **Alternate refractory block materials** for temperatures up to 3000°F (1649°C) gives 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

WIDE-RANGE® Burners

Principle of Operation

Combustion air enters the burner body, surrounds the gas insert nozzle, and exits through the air ports on the face of the gas insert nozzle.

Low pressure gas enters the gas insert nozzle and is directed out the gas ports (not shown), where it is intimately mixed with the combustion air in the multi-stage burner block tunnel.

A pilot port tunnel and a flame supervision port intersect the main burner tunnel directly in front of the nozzle face. At this three-way tunnel intersection, the flame safeguard (flame rod or UV scanner) monitors the pilot flame and/or main burner fire.

Material temperature limits

Standard burner block material is suitable for operating temperatures up to 2600°F (1427°C). The maximum operating temperature limit may be downrated to 2400°F (1316°C) if the WIDE-RANGE® Burner is operating under the following conditions:

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

Optional refractory block materials are available to extend maximum operating temperature limits as follows:

– up to 2800°F (1538°C); or
– up to 3000°F (1649°C)

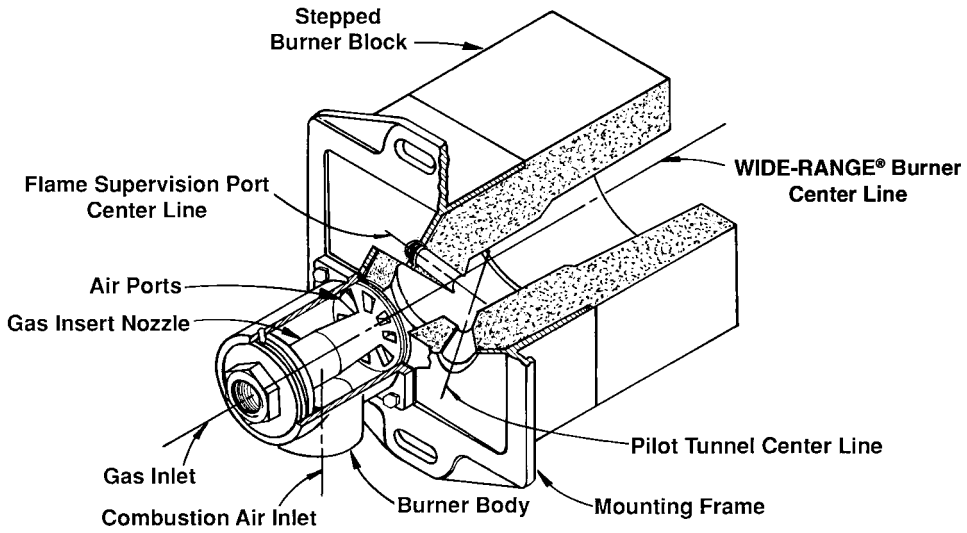
These higher temperature material options are available at net extra cost and may extend normal delivery schedules.

Seal and support assemblies reinforce burner blocks in thin wall construction and air heating installations. Their larger area mounting plate and metallic cylinder surround a heavier round cast block, providing additional strength and support.

Carbon steel seal and support assembly, when used in air heating applications, is suitable for return temperatures across the burner of up to 600°F (316°C) and/or downstream temperatures of up to 900°F (482°C).

Stainless steel seal and support assembly provides for return air temperatures of up to 1000°F (538°C) and/or downstream temperatures up to 1500°F (816°C).

Typical WIDE-RANGE® Burner construction



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