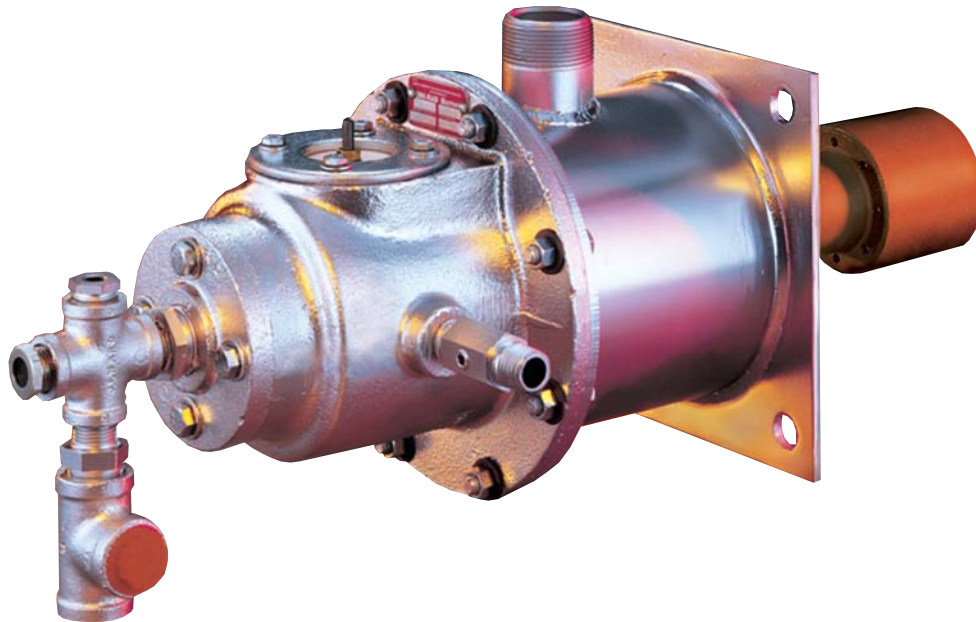


UNI-RAD

Gas Fired Radiant Tube Burner System



The Maxon UNI-RAD Burner System consists of two major components

UNI-RAD Direct Spark Ignited Burner MAX-SAVER® In-Situ Recuperator

When the above features are combined, they have shown:

- **Fuel savings ranging from 30% to 50% combined with:**
- **Increased alloy life** for decreased maintenance/rebuild costs
- **Improved furnace temperature uniformity** for better product quality
- **Improved production quality**



Features and Benefits

Maxon's UNI-RAD Radiant Tube Burner produces an extremely stable and luminous flame envelope profile that maximizes heat transfer throughout the radiant tube. Flame ignition is maintained by a patented continuous spark system that ensures ignition each and every time. Options are available to operate with preheated combustion air to 1200°F (650°C) and the UNI-RAD Burner fires on any clean fuel gas.

UNI-RAD Features

Plasma Type Ignition	Unlike most spark ignited burners, the UNI-RAD Burner provides a zone of ionized air enriched with a small quantity of combustion gas to provide high energy ignition.
Annular Ignition Electrodes	The UNI-RAD Burner does not use a conventional spark plug; instead, the primary air and gas inlet tubes provide the electrical path for the ignition spark. This design feature provides many times the electrode area for extended life and positive burner ignition.
Adjustable Flame Length	The flame length may be tailored to your specific needs by changing the combustion air to ignition air ratios. This simple adjustment allows the burner to obtain optimum tube temperature uniformity over a wide range of firing rates and preheated air temperatures.
Wide Input Range	The unique design of the UNI-RAD Burner allows it to operate over a large range of fuel gas inputs. Stability is maintained and flame length is controllable with firing rates ranging from as little as 80,000 Btu/hr input to as much as 700,000 Btu/hr.
Instantaneous Ignition	The burner's continuous plasma spark provides instantaneous ignition allowing the burner to operate from the Duration Adjusting Type (DAT) output from a Proportional, Integral, Derivative (PID) Control Loop. When controlled using the appropriate valving, single point tube temperature variations may be reduced to as little as plus or minus 4° F (2.2°C).
Flame Supervision	The UNI-RAD Burner may be used in conjunction with IR flame supervision equipment. Contact Maxon for details.
Super Forced Cooling	In applications requiring rapid cooling, the UNI-RAD Burner has been used with secondary cooling manifolds to provide high rates of heat removal using conventional radiant tubes. The UNI-RAD Burner can sustain radiant tube pressure in excess of 10 PSIG (0.7 bars).
Radiant Tube Types	The UNI-RAD System is suitable for use on customer-supplied pressure tubes, negative pressure tubes, and electrified radiant tubes.

Modes Of Operation

The UNI-RAD Burner can be operated in the following control modes:

- Proportional control over the entire firing rate range
- High-Low
- ON-OFF
- Pulse-Fired

The Pulse-Fired control mode is recommended, as it produces the tightest temperature control available while also maximizing furnace alloy life.