



# Guardian GS4 & GS8

## The Industry Standard For Thermal Oxidation

**T**he Guardian GS4 & GS8 scrubbers are the industry standard for reliable, thermal oxidation and combustion of process gases. The GS4 & GS8 systems are designed to thermally oxidize spent process gases using active flame oxidation. The effluent gases pass through a wall of flame in the main chamber, ensuring ignition of flammable and pyrophoric process gas by-products.

In these burn-boxes, an active flame front is produced by injecting a small quantity of hydrogen or methane fuel ignited by redundant, fail-safe igniters. Air enters the chamber creating a swirling action for efficient air and process gas mixing in addition to post combustion cooling. The combustion chamber and gases are air-cooled, eliminating the need for water cooling. The cooled reaction gases exit the burn-box and flow to the house exhaust system.

Over 1,500 installations worldwide have proven the thermal systems as safe and effective at treating flammable gases from process effluents and gas cabinet vent lines. Multiple safety interlocks provide a high level of safety during operation. Instantaneous shutoff of fuel and igniters eliminates a potential ignition source from upstream gas flows. With no moving parts, maintenance intervals are extended with MTBF measured in years.

The GS4 & GS8 technology is a proven effective solution for thermal oxidation.



### Applications

- Solar
- Polysilicon
- CVD
- Pyrophoric/flammable gas combustion
- Gas cabinet vent purge

### Advantages

- Simultaneous treatment of multiple chambers & tubes
- Low cost of ownership
- Immediate cool down
- Natural gas fueled
- Low maintenance
- MTBF measured in years

**BAZM Solutions**

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# Specifications GS4

## Performance

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- Inert Gas Capacity 220slm for H<sub>2</sub> and CH<sub>4</sub> (CH<sub>4</sub> requires flame stability kit to achieve this capacity)\*
- Exhaust Air Flow 250 - 550scfm (118 - 260 lps)
- Power Consumption 200 watts
- Fuel Consumption 15 - 37.5 slm Hydrogen, or 12 - 16.5 slm Nat Gas/LPG
- Clean Dry Air 3.5 slm (7.5 scfh)
- Nitrogen 100 slm (212 scfh) only required with optional flash back arrester

## Facilities

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- Inlet connection options KF40, KF50, ½" VCR
- Nitrogen 80 - 100 psig
- Clean Dry Air 80 psig (552 kPa) 3/8" compression fitting
- Electrical 115VAC, 50/60 Hz, 10A
- Process Exhaust 4 in I.D. (102mm), 4.5 in O.D. (114mm)
- Fuel Supply
  - Hydrogen 35psig (241 kPa), ¼" VCR
  - Natural Gas 7.5 in w.c. ½" compression
- Dimensions 42H x 19W x 36D inches (1,067 x 483 x 914 mm)
- Weight 200lbs (91Kg)

# Specifications GS8

## Performance

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- Inert Gas Capacity 600slm for H<sub>2</sub> and CH<sub>4</sub> (CH<sub>4</sub> requires flame stability kit to achieve this capacity)\*
- Exhaust Air Flow 800-2000scfm (378 - 944 lps)
- Power Consumption 200 watts
- Fuel Consumption 15 - 37.5 slm Hydrogen, or 12 - 16.5 slm Nat Gas/LPG
- Clean Dry Air 3.5 slm (7.5 scfh)
- Nitrogen 100 slm (212 scfh) only required with optional flash back arrester

## Facilities

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- Inlet connection options KF40, KF50, ½" VCR
- Nitrogen 80 - 100 psig
- Clean Dry Air 80 psig (552 kPa) 3/8" compression fitting
- Electrical 115VAC, 50/60 Hz, 10A
- Process Exhaust 8 in I.D. (203mm), 8.62 in O.D. (219mm)
- Fuel Supply
  - Hydrogen 35psig (241 kPa), ¼" VCR
  - Natural Gas 7.5 in w.c. ½" compression
- Dimensions 58H x 21W x 76D inches (1,480 x 533 x 1,930 mm)
- Weight 600lbs (273Kg)

\*The inert capacity of CH<sub>4</sub> fuel without the flame stability kit is: **GS4** 110slm and **GS8** 180slm