

## 97300 Waste Gas Burner

The S&J 97300 Waste Gas Burner is specifically designed for dependable "Flaring" operation that utilizes low BTU anaerobic digester waste gases. The 97300 efficiently incinerates waste gases thus minimizing odors and VOC's. The stoichiometric pilot ensures that a proper air to fuel mixture is maintained throughout the wide range of pressure and BTU fluctuations experienced in these processes. A continuous or intermittent burning pilot in the flame area provides stable, controlled nonsmoking combustion to minimize odors and VOC emissions. Alarm outputs and automatic controls provide safe, reliable and simple operation.

The 97300 is capable of withstanding a wind speed load of 150 mph and seismic zone 4 loads. Its stainless steel components endure the severest of process environments. The burner tip is designed with swirl inducers that create a cyclonic effect that produces an efficient air/fuel mixture and maximizes flame retention. The wind shroud induces sufficient air to the flare tip for proper mixing and combustion throughout the operating range.

The Pilot Control Panel includes selector switches for the powering, resetting, and emergency stopping of the unit. It also includes indicator lights for power and flame proven.

The flare pilot control system utilizes state of the art electronics and all necessary instrumentation to safely operate the flare system. Pilot controls are enclosed in a NEMA 4, carbon steel, electrical enclosure. The flare pilot, for automatic operation, can be ordered to operate only during initial start up or continuously. The Pilot Control Panel includes a dry contact input for Remote Start. The Pilot Control Panel also includes Contact Status outputs for Alarm and Flame Proven.

The auto-ignition sequence is started by the closing of the remote start contact or pressure switch contact indicating that the gas pressure limit has been reached and flaring of excess gas should begin. Once the sequence begins, the operation of the Burner will continue until the contact opens.

The S&J 97300 is especially designed to combust unwanted biogases generated in fermentation processes like anaerobic digesters, lagoons, and municipal landfills.



## Features

- High Performance Stoichiometric Pilot
- No Flame Front Burn-out of Pilot Gas During Ignition
- Sizes 2" Through 12"
- Burns High Flow, Low BTU "Wet" Methane
- No Venturi Maintenance
- State-of-the-Art Digital Control
- Fully Automated Continuous or Intermittent Pilot
- Provides Alarm Outputs

**Specifications:**

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**Sizes:**

2", 3", 4", 6", 8", 10" & 12"

**Stack Burner Connection:**

ANSI 150 lb. Raised Face Flange

**Contact Outputs:**

Alarm	SPDT, 120 VAC 1 Amp
Flame Proven	SPDT, 120 VAC 1 Amp
Pilot Failure (Optional)	SPDT, 120 VAC 1 Amp
Main Gas Open (Optional)	SPDT, 120 VAC 1 Amp

**Power Requirements:**

120 VAC 4 Amp 60 Hz; 220 VAC (option)

**Controller:**

Temperature Range:	-20 to 150 degrees F
Enclosure:	Wall Mount NEMA 4 (Optional NEMA 4X or 7);
Enclosure Material:	Carbon Steel Optional: Stainless Steel
Functions:	Manual Start Remote Start Automatic Sequencing Continuous Pilot or Intermittent Pilot

**Stack Materials:**

Top Assembly and Pilot Nozzle:	Stainless Steel
Bottom Stack Assembly:	Carbon Steel (6"-12") (Optional Stainless Steel) Stainless Steel (2"-4") <small>*Other materials available</small>

**Biogas Criteria Composition:**

50%-70% CH<sub>4</sub>, 50%-30% CO<sub>2</sub>, with trace amounts of H<sub>2</sub>S, Inert Gases and Air

**Moisture Content:**

Saturated (100% Humidity)

**Pilot Gas:**

Natural Gas  
LPG (Propane)  
Waste Gas (500 BTU/ Cubic foot Minimum)

**Pilot Gas Pressure:**

1 to 10 PSIG Standard (Low Pressure) - Standard  
10 to 100 PSIG Standard (High Pressure)

**Functions:**

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**Manual Start:**

The operator puts selector to manual and initiates ignition by depressing the start push-button on the control panel.

**Remote Start:**

Remote ignition is performed by placing selector switch in the auto position and closing the remote location dry contact to initiate the operation of the waste gas burner.

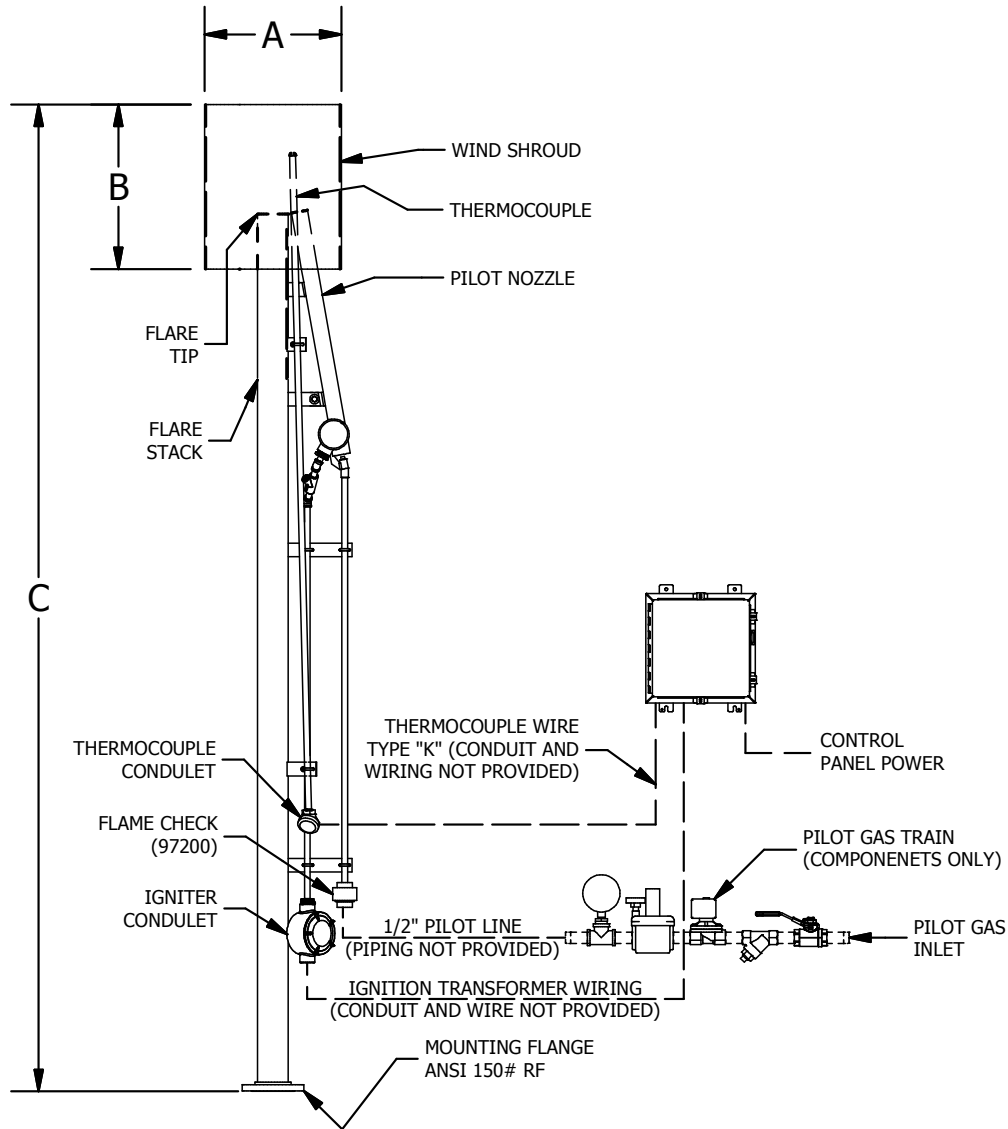
**Auto Start:**

Automatic Start is performed by the sensing of a pressure permissive in the system. The pilot control panel must be set to "Auto" position for this to be controlled by the pressure switch. When the pressure switch contacts close, the auto flaring sequence will begin. Once the pressure drops below the pressure switch set point the contacts will open, halting operation.

**Accessories:**

A pressure regulator / flame arrester should be installed in the digester line just upstream of the flare. For automatic operation, a solenoid option must be included.

## Dimensions:



## Stack Dimensions

Size	Dimensions (Inches [mm])		
	A	B	C
2 [50]	16 [406]	24 [610]	120 [3048]
3 [75]	18 [457]	24 [610]	144 [3658]
4 [100]	20 [508]	24 [610]	144 [3658]
6 [150]	24 [610]	36 [914]	144 [3658]
8 [200]	24 [610]	48 [1219]	192 [4877]
10 [250]	30 [762]	48 [1219]	240 [6096]
12 [300]	36 [914]	60 [1524]	240 [6096]

## Capacity

Size (Inches mm)	Capacity (FT <sup>3</sup> /Hr.)
2 [50]	4000
3 [75]	9970
4 [100]	19150
6 [150]	44200
8 [200]	76800
10 [250]	129000
12 [300]	218600

Flow specified for gas with 0.8 specific gravity, air at 60°F, and .5" WC pressure drop

All designs subject to change. Certified dimensions and specifications available upon request.