

97301 Waste Gas Burner

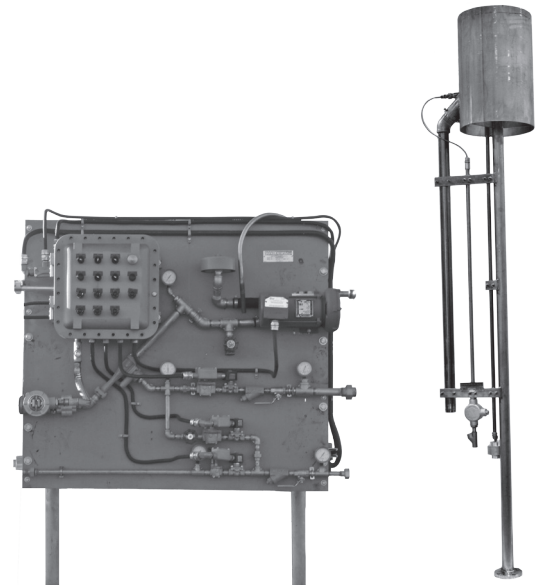
The S&J 97301 Waste Gas Burner is specifically designed for dependable "Flaring" operation that utilizes low BTU anaerobic digester waste gases. Typical applications include anaerobic digesters, lagoons, landfills and methane offgas from other fermentation processes. The 97301 efficiently incinerates waste gases thus minimizing odors and VOC's.

Using a stoichiometric pilot ignition system, the 97301 is able to achieve a stable pilot flame. Air and pilot gas are combined and ignited at ground level, separate from the burner. This process gives the burner a controlled pilot flame with an ideal gas-to-air ratio.

A continuous or intermittent burning pilot in the flame area provides stable, controlled nonsmoking combustion to minimize odors and reduce hazardous emissions. Automatic controls and alarm outputs and automatic controls provide safe, reliable and simple operation.

Both manual and automatic ignition systems are incorporated. The automatic system provides remote ignition start capability with automatic monitoring. The remote signal is provided by dry contacts or a pressure switch installed in the biogas stream. Pilot status and flame failure alarms are also provided.

The 97301 utilizes stainless steel components that can withstand the severest of process environments. This candlestick flare is capable of withstanding a wind speed load of 150 mph and seismic zone 4 loads. The S&J 97301 is specifically designed to combust unwanted biogases generated in fermentation processes like anaerobic digesters, lagoons, and municipal landfills. These gases are primarily methane with a high moisture content (or "wet") and typically have low BTU values.



Features

- High Performance Stoichiometric Pilot
- Sizes 2" Through 12"
- Burns High Flow, Low BTU "Wet" Methane
- Stainless Steel Flame Area
- Superior Pilot Wind Protection
- Solid State Controls
- Fully Automated Continuous or Intermittent Pilot
- Ground Level Venturi Pilot Ignition
- Provides Alarm Outputs

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Specifications:

Sizes:

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

Stack Burner Connection:

ANSI 150 lb. Raised Face Flange

Contact Outputs:

Pilot On: SPDT, 120 VAC 1 Amp
Pilot Off: SPDT, 120 VAC 1 Amp
Pilot Fail: SPDT, 120 VAC 1 Amp

Power Requirements:

120 VAC 8 Amp 60 Hz (NEMA 7: 15 Amp);
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:

Burner Assembly &
Pilot Nozzle: Stainless Steel
Bottom Stack (Optional): Carbon Steel (6"-12")
(Optional Stainless Steel)
Stainless Steel (2"-4")
*Other materials available

Biogas Criteria Composition:

50%-70% CH₄, 50%-30% CO₂, with trace amounts of
H₂S, Inert Gases and Air

Moisture Content:

Saturated (100% Humidity)

Pilot Gas:

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

Pilot/Ignition Gas Pressure:

4"-30" W.C. Low Pressure - Standard
1-100 PSIG High Pressures

Functions:

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:

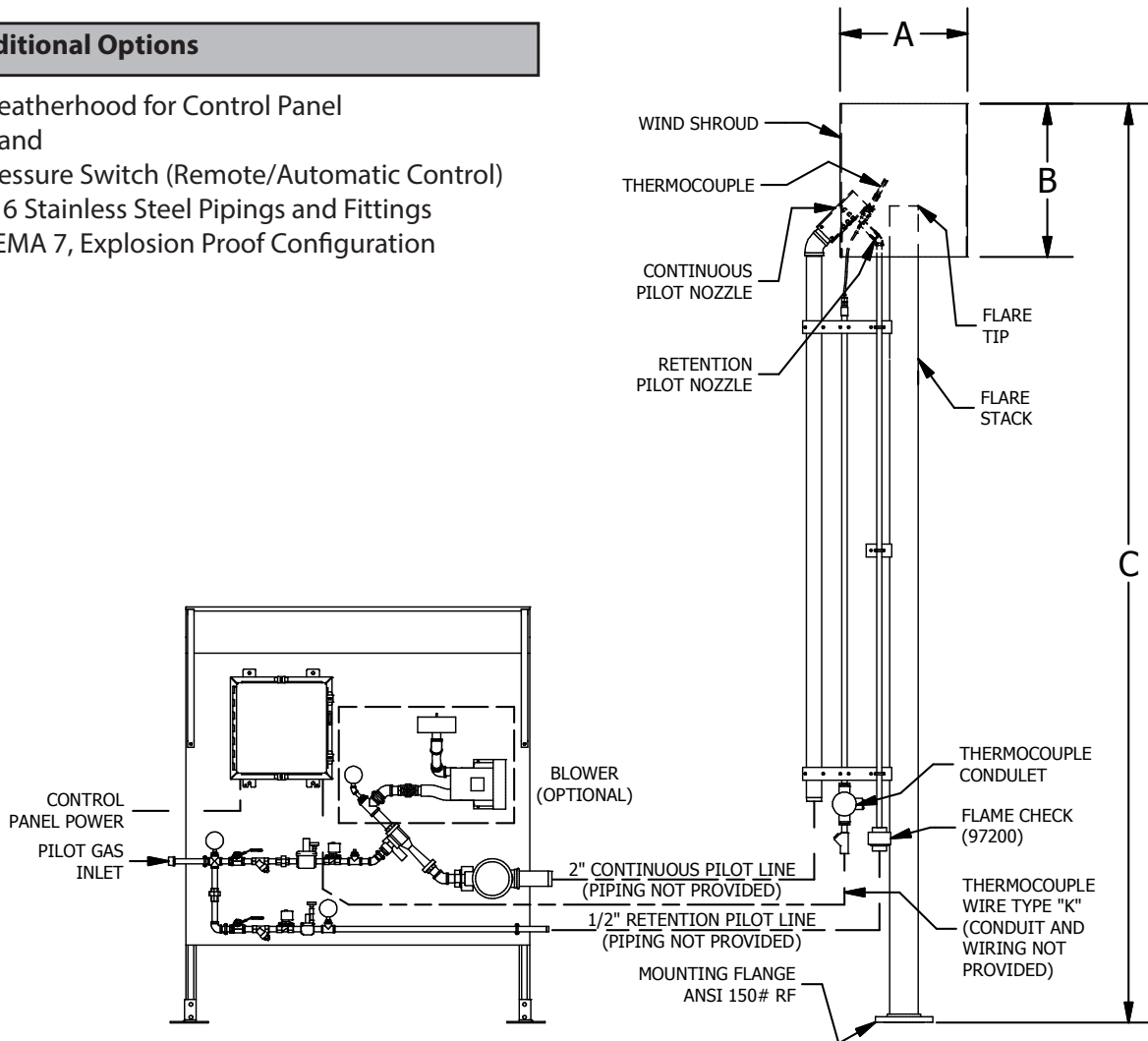
A pressure regulator / flame arrester should be installed in the digester line just upstream of the flare. For automatic operation, a solenoid option must be included.



Dimensions:

Additional Options

- Weatherhood for Control Panel
- Stand
- Pressure Switch (Remote/Automatic Control)
- 316 Stainless Steel Piping and Fittings
- NEMA 7, Explosion Proof Configuration



Stack Dimensions

Dimensions (Inches [mm])			
Size	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 ³ /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.