

97300T Waste Gas Burner with Touch Screen Control Panel

Designed for complete automatic operation of the entire Flare System, the S&J 97300T Waste Gas Burner and Touch Screen Control Panel is specifically designed to operate efficiently with low BTU anaerobic digester waste gases. The 97300T 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 97300T 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.

Paired with a touch screen control panel, the flare controller is designed for complete automatic operation of the entire Flare System. Shand & Jurs' Flare System gives the operator much more flexibility in controlling the system with more parameters easily configured via the touch screen control panel. The Control Panel can also be connected to a local PLC.

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 97300T 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"
- Touch Screen Control Panel
- 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:**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:

Type:	Touch Screen
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% 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 Gas Pressure:

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

Functions:**Manual Start:**

The operator puts selector to manual and initiates ignition by depressing start on the touch screen 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.

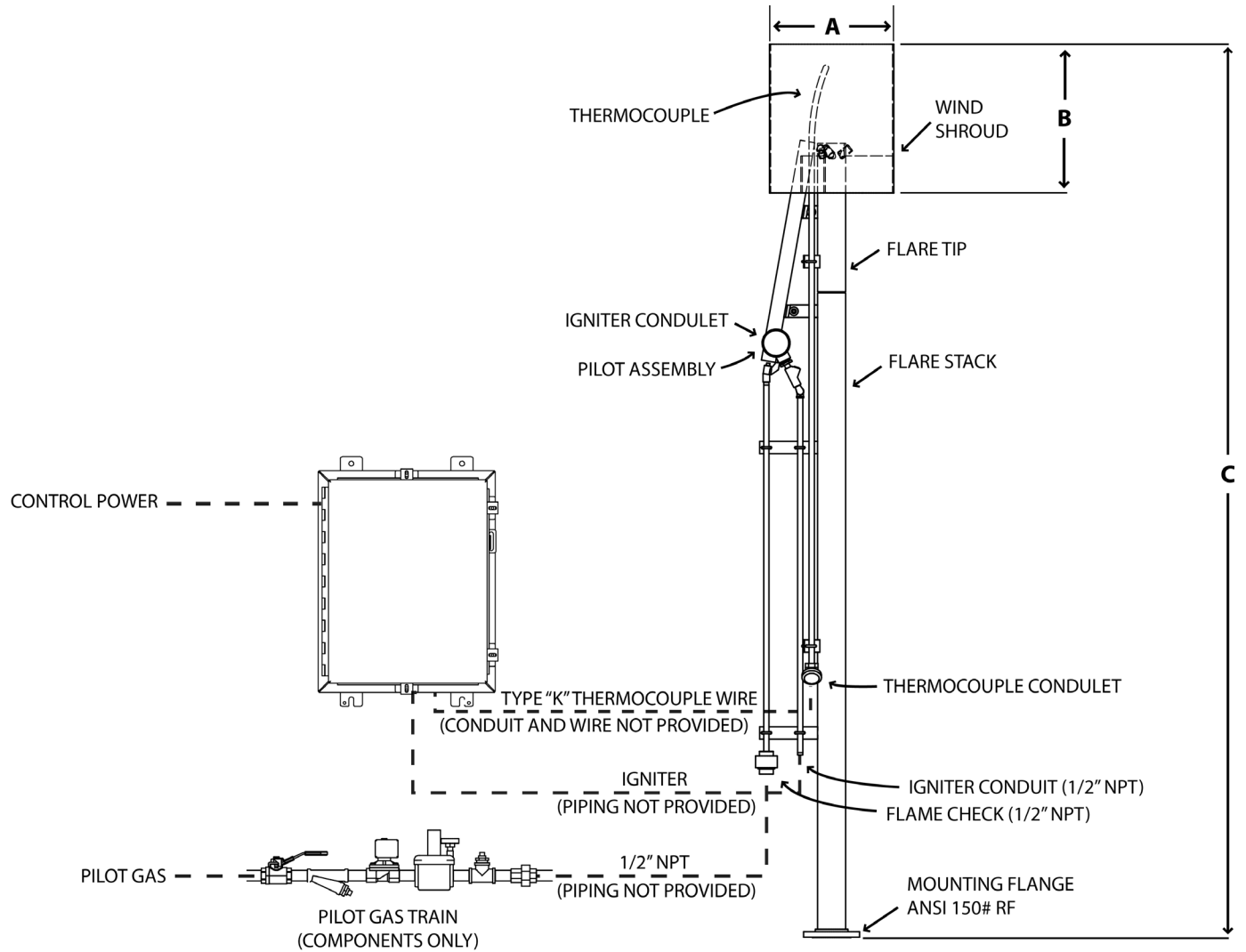
Auto Start:

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 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

97300T Ordering Guide

Model Number Selection

The model number will have a base number **97300T** followed by 8 digit numbers. These digits will represent 8 sets of option tables.

97300T - AB - CD - EF - GH

Table A - Pilot Gas

Option A	Pilot Gas
0	Natural
1	Propane
2	Bio

Table B - Unit Size

Option B	Unit Size
2	2"
3	3"
4	4"
5	6"
7	8"
8	10"
9	12"

Table C - Power Source

Option C	Description
1	120 VAC, 60HZ
2	220/240 VAC, 50/60HZ

Table D - Enclosure Rating

Option D	Description
0	NEMA 4 - Carbon Steel
1	NEMA 7 - Cast Aluminum
2	NEMA 4X - 304 Stainless Steel
3	NEMA 4X - 316 Stainless Steel

*Includes heater and thermostat

Table E - Control

Option E	Description
1	Low Pressure Local Manual Start or Remote Dry Contact
2	Low Pressure Remote Control with Pressure Switch
3	High Pressure Local Manual Start or Remote Dry Contact
4	High Pressure Remote Control with Pressure Switch

Table F - Pilot

Option F	Description
1	Continuous
2	Intermittent

Table G - Gas Train

Option G	Description
1	Standard Regulator / Solenoid Valve 4"-12" W.C.
2	Standard Regulator / Solenoid Valve 12"- 30" W.C.
3	High Pressure Regulator / Solenoid Valve 4"-12" W.C.
4	High Pressure Regulator/Solenoid Valve 12"- 30" W.C.

* Standard regulator pressure is 10 PSIG max

Table H - Materials of Construction

Option H	Shroud / Stack
1	304(L) Stainless Steel / Carbon Steel*
2	304(L) Stainless Steel / 304(L) Stainless Steel**
3	316(L) Stainless Steel / Carbon Steel
4	316(L) Stainless Steel / 316(L) Stainless Steel

*304(L) Stainless Steel Shroud & Carbon Steel Stack is standard for sizes 6"-12"

** 304(L) Stainless Steel Shroud & Stack is standard for sizes 2"-4"

NOTE: Pilot Material 316 Stainless Steel