

Biogas Gas Enclosed Flare Design Data Form

1.1. Quote Information

Customer Information			
Name		Company	
Business Title			
Email		Phone Number:	
Equipment Information			
Quantity:		Ship to Location (City, State, Zip)	
Proposal Due Date		Freight Terms	<input checked="" type="checkbox"/> EXW <input type="checkbox"/> FCA <input type="checkbox"/> FOB <input type="checkbox"/> CIF <input type="checkbox"/> Other _____
Potential Order Date:		Preferred Ship Date:	
Application	<input type="checkbox"/> Landfill	<input type="checkbox"/> Anaerobic Digester	<input type="checkbox"/> Other:
Additional Comments			

1.2 Process Conditions

Process Data	Typical	Custom	Custom
Case Description		CASE 1	CASE 2
Inlet Fluid Composition and Conditions (recommended for most accurate sizing)			
Methane (CH ₄)	50%		
Carbon dioxide (CO ₂)	50%		
Water Vapor (H ₂ O)			
Gas Inlet Pressure (inches WC)	5-6		
Gas Inlet Min/Max Temp (°F)	100		
Gas Inlet Flowrate (SCFM)	300-5500		
Turndown	10-1		
<u>Emission Required</u>			
Destruction Efficiency Required [%]	98%		
CO Emissions (lb./MMBtu)	0.2		
NO _x Emissions (lb./MMBtu)	0.06		

Fuel Gas Characteristics for Pilot		
	Typical	Custom
Inlet Fluid Composition	Natural gas / Propane	Attach Composition
Gas Inlet Pressure (PSIG)	20	
Gas Inlet Min/Max Temp (°F)	100	

1.3 Environmental/Structural Conditions

Site Conditions	
Site Elevation (Ft)	
Ambient Temperature	
Humidity [%]	
Design Wind Speed	
Seismic Parameters	

1.4 Electrical Design

Electrical Design		
	Typical	Customer Requirement
Area Classification	Unclassified	
Power	120V/1ph/60hZ	
Programmable Logic Controller	Allen Bradley Compact Logix / Siemens	
HMI	6 INCH Color Display	
Panel Box	NEMA 4- Ship Loose	
Communication	Ethernet	
Operation	Local/Remote	

1.5 Enclosed Flare Details

Enclosed Flare Design		
	Typical	Customer Requirement
Stack Material of Construction	A-36	
Refractory	2 inch Ceramic Blanket	
Ladder and Platform -Ship Loose	Not Included	
Burner Type	Anti- Flashback	
Air Dampers	Included	
Pilot	Included	
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Flame Recognition	UV Sensor	
Paint	Inorganic Zinc Primer	

Additional Ship Loose Accessories		
	Typical	Customer Requirement
Pilot gas Train	Ship Loose	
Waste Gas Shutoff Valve	Included – CS Body/SST Trim	
Waste Gas Flame Arrester	Included – CS Body/SST Trim	
Knock Out Drum	Not Included – HDPE?	
Purge Blower	Included	

1.6 Gas Blower Skid (if required)

Process Data	Typical	Custom	Custom
Case Description		CASE 1	CASE 2
Inlet Fluid Composition and Conditions (recommended for most accurate sizing)			
Methane (CH ₄)	50%		
Carbon dioxide (CO ₂)	50%		
Water Vapor (H ₂ O)			
Gas Inlet Pressure (inches WC)	SPECIFY		
Gas Inlet Min/Max Temp (°F)	100		
Gas Inlet Flowrate (SCFM)	300-5500		
Turndown	10-1		
Redundancy	100%		
Skid Mounted	Yes		
Area Classification	Unclassified		
VFD	Included		
Power	480V/3ph/60hZ		

1.7 Preliminary Sizing Chart (Based on Typical Gas Composition)

S.No	Flow Rate (SCFM)	Flare Outer Diameter (ft.)	Height (ft.)
1.	300	3.5	30
2.	400	4	40
3.	650	5	40
4.	950	6	40
5.	1300-1750	8	40
6.	2225	9	40
7.	2800	10	40
8.	3400	10	50
9.	3900-5500	12	50