

Biogas Utility Flare (BUF) Design Form

1.1 Quote Information

Customer Information			
Name		Company	
Business Title			
Email		Phone Number	
Equipment Information			
Quantity:		Preferred Ship Date	Proposal Type ☒ Budgetary ☐ Firm
Ship to Location (City, State, Zip, Address)			
Application Type			
☐ Landfill ☐ RNG ☐ Waste Water ☐ Dairy/Beef ☐ Food Waste			
Other (Please Specify): _____			
Additional Comments			

1.2 Process Conditions

Process Data	Typical	Case 1	Case 2
Methane (CH ₄)	0 - 100%		
Carbon dioxide (CO ₂)	0 - 100%		
Water Vapor (H ₂ O)	0 – 100% RH		
Hydrogen Sulfide (H ₂ S)	0 – 0.5%		
Gas Inlet Pressure (inches WC)	Depends		
Gas Inlet Min/Max Temp (°F)	30 / 100		
Gas Inlet Flowrate (SCFM)	300 - 6,000		
Emissions Required	Typical	Custom	
Destruction Efficiency Required	98%		
CO Emissions (lb./MMBtu)	0.031		
NO _x Emissions (lb./MMBtu)	0.068		
Site Conditions			
Area Classification for Control Panel	☐ Class: _____ Div: _____		☐ Safe Area

1.3 Open Flare Details

Ship Loose Accessories	Typical	Custom
Pilot gas Train	Included	
Waste Gas Shutoff Valve	Included	
Waste Gas Flame Arrester	Included	
Waste Gas Flowmeter	Depends	
Available Site Utilities		
Available Fuel Gas	☐ Natural Gas ☐ Propane ☐ Biogas	
Available Instrument Air	☐ Yes ☐ No	
Available Electricity	☐ 480V/3ph/60Hz ☐ 120V/3ph/60Hz ☐ 600V/3ph/60Hz Other (Please Specify): _____	
Flare Intended Operation		
☐ Continuous Flaring ☐ Intermittent Flaring		
Flare Thermal Turndown Before Shutoff Valve Closes		
☐ 10:1 ☐ 30:1		
Pilot Retraction		
☐ Yes ☐ No		

1.4 Gas Blower Skid (if required)

Blowers	Typical	Custom
Required Blower Turndown	N/A – 10:1	
Blower Spare Capacity	☐ 0% Redundancy ☐ 50% Redundancy ☐ 100% Redundancy	

1.5 Open Flare Sizing Chart:

OD x Height	Gas Composition	Gas Flow [SCFM]	Pressure Drop [inH ₂ O]
4" x 15'	50% CH ₄ / 50% CO ₂	336	< 5
6" x 20'	50% CH ₄ / 50% CO ₂	755	< 5
8" x 25'	50% CH ₄ / 50% CO ₂	1,393	< 5
10" x 30'	50% CH ₄ / 50% CO ₂	2,284	< 5
12" x 35'	50% CH ₄ / 50% CO ₂	3,395	< 5
14" x 40'	50% CH ₄ / 50% CO ₂	4,724	< 5
16" x 45'	50% CH ₄ / 50% CO ₂	6,273	< 5

Notes:

- Sizing chart based on maximum exit velocity per EPA 40 CFR 60.18.
- Pressure-drop is estimated from flare inlet to flare outlet only.
- Consult Applications Engineering for sizing information.