

# SOLAR POWERED FLARES



Interest in solar powered flares has been on the increase in recent years. They provide low-energy, low-system cost, flaring techniques for a medium to long-term resolution of landfill gas combustion requirements at sites gasing at a low rate.

There are two ranges offered by Organics: open, elevated, low-flow flares for connection directly onto wellheads (BCW Range); and enclosed flares for higher flow rates where visible flames would not be acceptable (ACE Range).

Both types of flare are powered from solar-powered battery systems. They are free-standing units, not requiring the connection of electrical power from another source.



## KEY FEATURES

### BCW Range

- Solar-powered, continuous intermittent, spark ignition
- Connects directly onto the wellhead
- Optional tripod stand to support low-strength installations
- Wind-shroud to assist with flame stability
- Insulated vertical feed line to protect against moisture freezing out
- Low pressure-drop flame arrester to prevent flash-backs
- High-quality materials for long-term, trouble-free use

### ACE Range

- Enclosed flame, allowing stable flames and elevated temperatures
- Optional direct-wellhead mounting or off-wellhead installation
- Ceramic-blanket brick insulation with no surface-mount fixings
- Low pressure-drop flame arrester to prevent flash-backs
- High-quality materials for long-term, trouble-free use
- Solar-powered, continuous intermittent, spark ignition
- Optional slam-shut valve for added safety

## SPECIFICATION DATA

**Flow rate in this standard range:**  
10 to 150 cubic metres per hour

**Minimum pressure head required**  
1.5 mbar

**Flame temperature:**  
Up to 1,000°C subject to gas flow rate and methane concentration

**Retention time (ACE):**  
0.5 sec minimum at design maximum flow rate

**Minimum methane concentration for combustion to be sustained:**  
20%

**Number of inlets:**  
The standard unit is fitted with 1 flanged inlet

Flow rate is controlled by a stainless steel ball valve

Additional inlets available upon request

**Pipework finish:**  
Hot dip galvanised to industry standard or stainless steel

**Burner material:**  
High temperature stainless steel

**Flame arrestor:**  
On flare feed line

## BCW Range

The BCW Range of solar, wellhead mounted flares is designed for use in locations where an active landfill gas extraction system may not be practical and landfill gas combustion is required.

The BCW flare provides a minimal intervention system that connects directly onto a wellhead. With an open flame it is designed with a view to simplicity and practicality. The system can be manually isolated during installation and operation. The continuous spark ignition sequence may be disabled to allow passive venting whenever required.

The flare includes a wind shroud as a standard. This will ensure that combustion is maintained at all times possible. In the event of a flame out the continuous timed ignition will re-ignite the flame as soon as conditions allow.

The burner tip and wind shroud are manufactured from high-temperature resistant 310 stainless steel.

Greater levels of automation are available with larger solar panels. Such facilities include slam-shut valving, flame monitoring, alarm sounders and panel mounted lamps.

The BCW Range offers a simple and robust solution for wellhead flaring.

## ACE Range

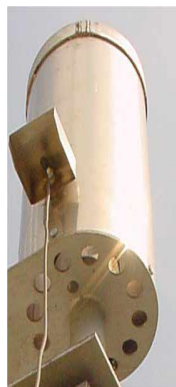
The ACE Range of solar flares is designed for situations where open flames will not be acceptable and power is not available to drive an active extraction gas feed to a flare.

The ACE flare is a high-quality solar powered gas flaring system that uses the power of the sun to maintain power within a battery pack. It is not necessary for the sun to actually shine. Daylight under cloud-cover will still provide energy into the solar cells.

Whilst it is not possible to maintain elevated combustion chamber temperatures across a range of flows and wellhead pressures, the ACE flare is designed to give a minimum retention time of 0.5 seconds within the combustion chamber at maximum design flow.

The ACE flare is tripod mounted for stability on uneven surfaces, each tripod leg being individually adjustable. The connection to the wellhead is a flexible joint which may be sited underneath or adjacent to the flare.

The flare combustion chamber is manufactured from 304 stainless steel and lined with 100 mm of ceramic-blanket bricks. This system has no high-temperature surface-mounted fixings and is designed to last for many years without damage resulting from the combustion process.



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