

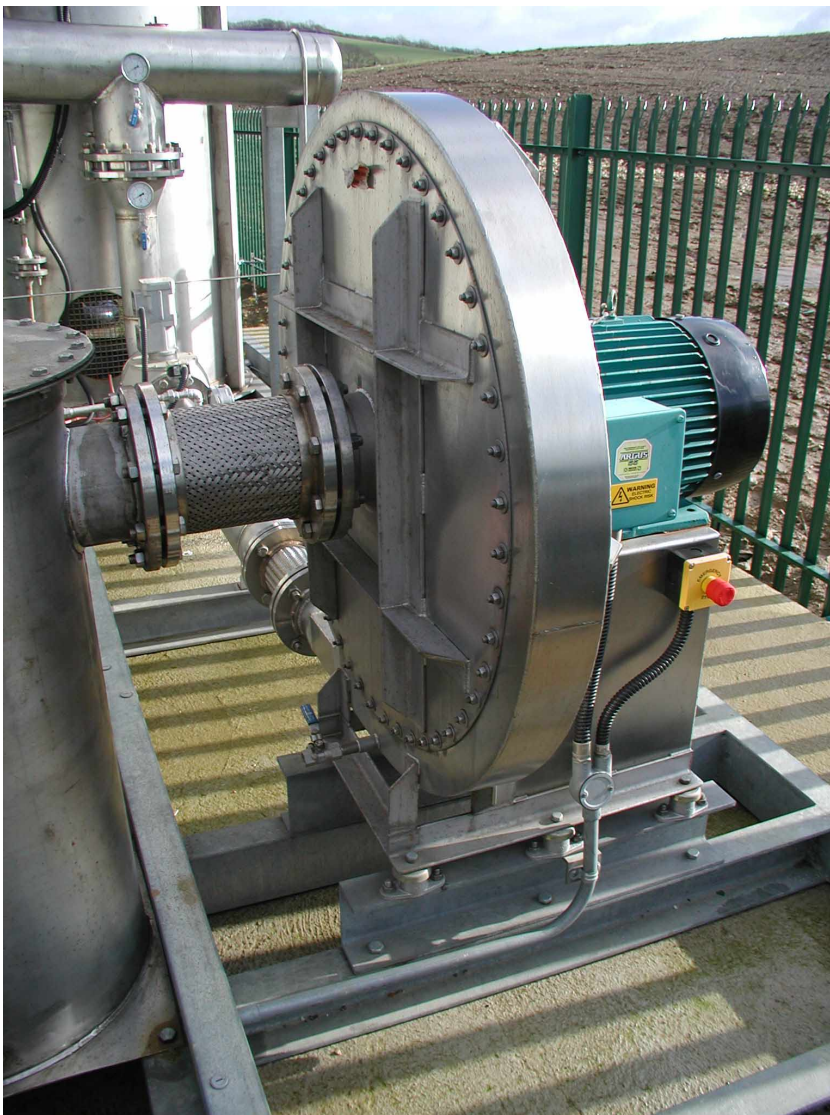


THE RB CLASS OF LANDFILL GAS FLARE STACK

The RB Class flare stack is designed to offer low height, environmentally sound, combustion systems for use in locations where height restrictions apply.

The process is based upon an extended diameter flare shroud and increased flame distribution across the shroud cross-sectional area. With a lower heat-flux to area ratio it is possible to maintain elevated temperatures with extended retention times over a shorter combustion chamber.

A short shroud also gives a lower head for air inspiration, leading to the possibility of long, lazy diffusion flames. The Organics approach is to use a higher pressure at the burner to achieve the conditions required for turbulent diffusion flame combustion, thus avoiding the symptoms of lazy diffusion flames.



KEY FEATURES

LOW-HEIGHT COMBUSTION SYSTEMS

AUTOMATIC FLAME TEMPERATURE CONTROL

NON-VISIBLE COMBUSTION

1,000°C MINIMUM DESIGN TEMPERATURE

0.3 SECONDS MINIMUM RETENTION TIME

EMISSIONS CONTROL TO UK, EUROPEAN AND US STANDARDS

BOOSTER TURN-DOWN TO ZERO FLOW WITHOUT SURGING

FULLY STAINLESS STEEL CONSTRUCTION AS AN OPTION

SKID-MOUNTED FOR EASE OF MOVEMENT AROUND SITE

DUTY/STANDBY THERMO-COUPLES

SHROUD LINING WITH CERAMIC BLANKET BLOCKS HAVING NO HOT-SURFACE FIXINGS

A RANGE OF OPTIONAL INSTRUMENTATION INCLUDING FLOW RATE AND GAS CONCENTRATION MEASUREMENT

HIGH-RELIABILITY LANDFILL GAS PILOT

SPECIFICATION DATA

Flow rate in this standard range:

100 to 15,000 cubic metres per hour

Pressure rise across gas booster:

150 mbar

Flame temperature:

1000°C minimum

Retention time:

0.6 seconds

Minimum methane concentration for combustion at specified temperature:

25%

Number of inlets:

The standard unit is fitted with 2 flanged inlets

Flow rate is controlled by a chemical duty butterfly valves

Additional inlets available upon request

Pipework finish:

Hot dip galvanised to industry standard

Burner material:

High temperature stainless steel

Flame arrestor:

On gas booster inlet and outlet

Flame detection:

Self-checking UV sensor

Colour:

Battleship Grey or to customer's specification

The standard RB Class flare includes the following features:

- dewatering condensate knockout pot prior to the gas blower
- automatic drain-leg to remove condensate from the knockout pot without shutting down the flare
- level switch in the condensate knockout pot to detect a high condensate level
- flame arresters on the inlet and the outlet of the gas blower
- 150 mbar total-head blower
- back-swept blades on the blower, allowing a turn-down to zero flow without surging
- automatic slam-shut valve on the feed to flare line
- manual flow control and isolation valves on the inlet and outlet of the gas blower. This provides for better flow control as the flow may be controlled with either pressure or suction, or both.
- orifice plate flow meter with either a manometer readout or a calibrated differential pressure gauge
- high-reliability landfill gas pilot burner for flare ignition. No propane is required on site.
- shroud internal lining with ceramic blanket blocks. These have no hot surface fixings exposed to the flame.

As with all landfill gas flaring equipment manufactured by Organics, the RB Class is designed for use in the open air.

Hazardous area zoning requires electrical equipment to be either Intrinsically Safe (IS) or to Zone II hazardous area standards. Where required, the plant can be built to Zone I standards, although this will not be necessary for a normal landfill environment.

Control panels are built with a 20% expansion factor to allow for the installation of additional control equipment.

If, for example, it is desired to retrofit a modem to enable remote alarm enunciation or connection to the Internet, an extension unit can be fitted to the plant controller via an RS232 port to manage the connection to the Public Switched Telephone Network.

The panel size will allow for such adaptation and the standard wiring will facilitate the extension. In this manner the primary cause of an alarm signal can be isolated in the plant controller logic and reported via the telephone line.



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