Process Combustion™ Ltd.

www.process-combustion.co.uk

Vaporisers

Vaporisor Equipment to:
convert cryogenic or fully refrigerated gases to their gaseous state. Such equipment will process LNG, liquid nitrogen or oxygen, and fully refrigerated petroleum gases (propane, ethylene and butane).

System Design and Build
Project Management
Installation
Commissioning,
Training, Service
and Support

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Process Combustion™ Ltd.

Vaporisers

Process Combustion has many years' experience in the design and supply of a range of vaporisation equipment and systems to convert cryogenic or fully refrigerated gases to their gaseous state.

SUBMERGED COMBUSTION VAPORISERS

Over the last decade Process Combustion has provided over 50 submerged combustion vaporiser units to the gas industry. These have been single and multiple burner format, for peak shaving and base load duty applications at many of the large UK refineries and other similar gas terminals, refineries and similar sites throughout Europe and the world.

Process Combustion vaporiser design can offer heat transfer efficiencies in the tube bundle of 99% or greater providing highly efficient vaporisation.

All the vaporiser units Process Combustion supply are fully site commissioned to ensure they reach their load requirements and offer total reliability.

Design

Our design skills ensure that safety and reliability are at the forefront of our vaporiser technology. The all-metal burner technology has been developed by Process Combustion over many years and we continue to improve the design to achieve lower NOx levels and for cogeneration applications. We have also carried out multiple to single burner conversion work for clients.

Industries & Applications

We have supplied vaporiser systems into many industries including oil & gas, petrochemical and nuclear for the following applications:

- LNG
- Ethylene, Propane, Butane
- Nitrogen
- Oxygen

The performance of the equipment described in this document will vary depending on the particular design and application.

Variety of Design Options and Applications

CONTROL SYSTEMS

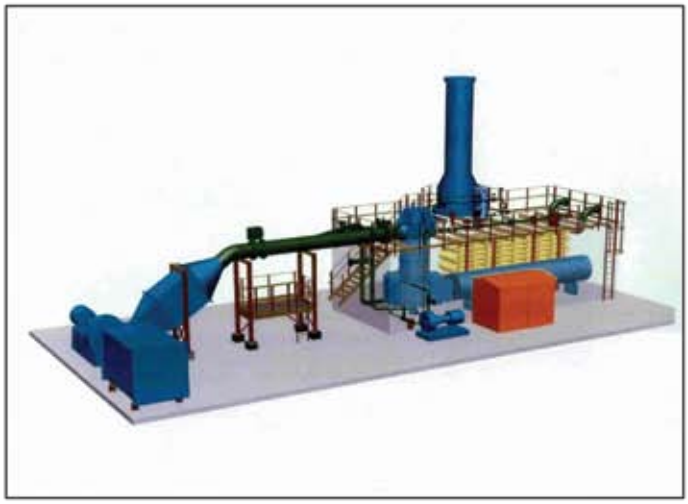
Vaporisers must be controlled by a system that ensures safety and reliability. Process Combustion has in-house expertise to design, build, test and commission fully integrated control panels and flow control skid packages.

STATIC & SKID MOUNTED UNITS

Process Combustion vaporisers can be permanent or mobile. Clients may be major gas utilities or engineering companies wishing to test 'process critical' equipment destined for offshore applications, before it is shipped.

HIGH THERMAL EFFICIENCY

In submerged combustion the fuel and air are introduced into the burner so that the combustion gases pass downwards and along a distribution tube inside the water tank. The combustion gases then pass out of a sparger arrangement and directly contact with the water which then heats the process tube bundle. For temperatures below 50 °C this is a highly efficient method. For low temperature applications, 100 % nett thermal efficiency is common.



Understanding water chemistry and pH control is important with submerged combustion systems as the combustion products are in direct contact with the water bath. Process Combustion have considerable expertise in this area and can design and supply control systems which maintain operability of the system with increased equipment lifetime.

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For a Design & Estimate, Contact
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Installation Code and Annual Inspections: All installation and service of PROCESS COMBUSTION™ equipment must be performed by a contractor qualified in the installation and service of equipment sold and supplied by Process Combustion Ltd and conform to all requirements set forth in the Process Combustion Ltd manuals and all applicable governmental authorities pertaining to the installation, service and operation of the equipment. To help facilitate optimum performance and safety, Process Combustion Ltd recommends that a qualified contractor conduct, at a minimum, annual inspections of your PROCESS COMBUSTION™ equipment and perform service where necessary, using only replacement parts sold and supplied by Process Combustion Ltd.

This document is intended to assist licensed professionals in the exercise of their professional judgment.

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