



Ground Remediation Systems Limited

Catalytic Oxidation

Soil and Groundwater Remediation

Water Treatment

Vapour Treatment

Design & Supply

Installation & Commissioning

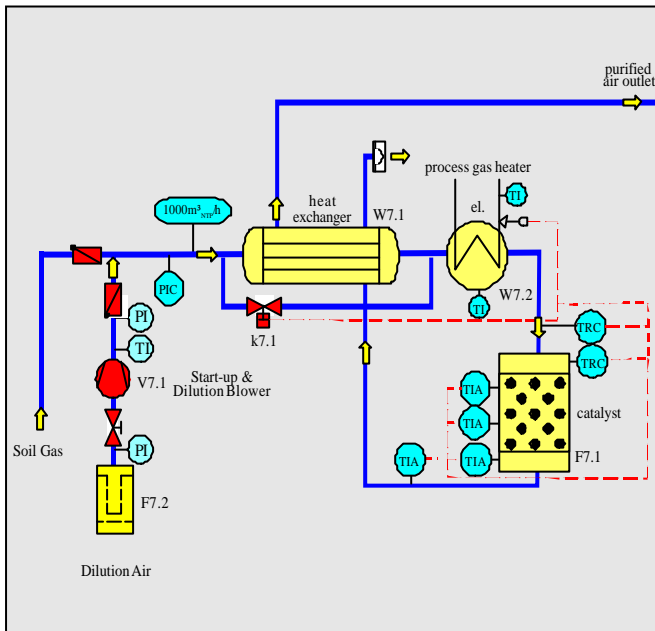
Operation and Control

Project Management

A vertical banner image showing a clear blue sky with scattered white clouds, a blue ocean horizon, and a green grassy field at the bottom.

For a
cleaner
world

Catalytic Oxidisers



GRS has many years experience in the design and rental of catalytic oxidation systems for the off-gas treatment for in-situ remediation projects. A range of systems is offered including:

- 1) The standard containerised "CatOx" models;
- 2) The flexible "Moducat" version which adapted for substantially different air flow rates (with corresponding rental rate adjustments) and
- 3) The latest, very small "Microcat".

The systems can be connected to any of our vapour extraction systems or air strippers. An on-board PLC maintains overall safety start and shut-down control over

the SVE/MPE system inclusive of the facility for remote monitoring/operation (screen shot above). When appropriate, the system can be simply disconnected and replaced with our activated carbon treatment systems.

GRS systems are designed to operate only within the efficient temperature range and so prevent the unintended discharge of untreated vapour or operation at unsafe temperatures or temperatures detrimental to the catalyst media. Once the system has been brought up to operating temperature the CatOx PLC starts the SVE or MPE system and contaminants are introduced. The thermal reaction generated by the contami-

nants depends on their calorific value and their concentration in the vapour streams. The on board PLC then controls the temperature within the operating limits either by the addition of extra electrical power or introduction of propane gas or, if the contaminant concentration is too high, by the introduction of fresh dilution air to reduce the temperature. The system has a fail-safe shut-off facility which also shuts down the SVE/MPE system..

Catalytic oxidisers are inherently tolerant of a high moisture content in the vapour stream as is commonly associated with SVE/MPE processes. The discharge from a

CatOx can be used for hot air re-injection.

Catalytic oxidation systems offer a cost effective treatment technology in the event that contaminant concentrations are high (and would lead to high consumption of activated carbon). GRS can offer a cost/benefit analysis between the use of Catalytic oxidisers and other forms of vapour treatment such as activated carbon.

We can offer **rental** rates for periods as little as 3 months.

GRS also offers catalytic oxidisers equipped with **HCL scrubbers**, a requirement when treating chlorinated hydrocarbons.

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