MOBILE
GAS SAMPLING UNIT

EXTRACTION OF STACK GAS SAMPLE FOR ANALYSIS OF PARTICULATE AND RADIOACTIVE IODINE SPECIES

MECHATECH SYSTEMS
TECHNICAL VACUUM EXCELLENCE SINCE 2008

enquiries@mechatechsystems.co.uk
+44 (0) 1454 414723

PRINCIPLE OF OPERATION

A sample of stack gas is drawn through a combined filter / activated carbon container to remove particulate and radioactive iodine species.

The sample flow rate is regulated by a mass flow controller. The mass flow controller automatically compensates for changes in system pressure. The pump is turned on and off manually to start and finish sampling.

After an appropriate volume (mass) of gas has been sampled, the particulate material and activated carbon granules are analysed. The analysis determines their radioactivity, from which the total burdens of particulates and iodine species released to the environment can be calculated.

DESCRIPTION

The sampling equipment is mounted in a mobile cubicle with removable front and rear panels. Heavy-duty castors (two swivel and lockable, two fixed) are fitted to the base. The filter unit is easily accessible from the front of the equipment via a hinged, lockable Perspex door. Inlet and outlet connections protrude from the top panel, with the inlet connection positioned directly above and in line with the filter unit and isolation valve.

The front control panel comprises a flow controller / display, a pump on / off button, fault and power indicators, buzzer and mute control.

The pump is mounted in the base of the unit together with the mass flow controller. The unit operates from a power source of 110 volt 50Hz.

The flow controller has two, factory configured, user adjustable alarm set points.

MechaTech Systems Ltd,
Unit 9 Brunel Way,
Thornbury Industrial Estate,
Thornbury, Bristol, UK. BS35 3UR
Registered in England and Wales No. 06469333
www.mechatechsystems.co.uk

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