

## PRODUCT DATA SHEET

# THE DISCARB CELL – GAS PHASE FILTRATION

Carbon filtration is ideal for removing unpleasant or even dangerous odours and gases from a wide variety of sources. Carbon will adsorb chemical molecules in the airstream in varying degrees according to the type of contaminant and the period of time the air remains resident in the carbon. Activated Carbon in its loose granular form can present problems as there is a tendency for the granules to abrade one another. This can cause both settlement of the carbon, creating potential bypass voids, and can produce carbon dust that can be re-entrained into the air-stream. The unique carbon bonding method used in the Discarb filter eradicates these problems by producing a solid and stable “biscuit” of consistent quality and dimensional stability that produces an even airflow resistance.

Typical applications for carbon include: Incoming air in industrial plants; Airports; Art galleries and Museums; Kitchen extract odour control; Industrial processes - sewage plants etc.; Office and Residential air supply.



## OPERATIONAL CRITERIA

In order to ensure a carbon filter operates satisfactorily, certain criteria need to be met which do not apply to particulate filters. The most important aspect is the “dwell time” (the period of time the air is in contact with the carbon). The minimum dwell time used is 0.1 seconds but may vary considerably according to the contaminant to be removed.

As far as possible, water vapour should be eradicated from the air-stream to eliminate condensation within the filter that could cause porous blockage and an increase in resistance. However, humidity levels as high as 80% RH are normally acceptable providing no interstitial condensation takes place.

Air-stream temperatures entering the filter in excess of 40°C should be avoided. Where temperatures above this level are anticipated, steps should be taken to reduce the temperature to an acceptable level by fresh air bleed, cooling coil or heat exchanger. In catering and food preparation applications, smoke and grease must be removed from the air-stream prior to entry into the carbon filter.

## PERFORMANCE

Due to the complex nature of adsorption, carbon filters are generally designed to suit the application, however, the following information is given as an indication of the physical requirements for its use. An extensive range of standard sizes are available - some of the more common ones are shown below. Non-standard sizes are available to order on request.

Typical Discarb Size (mm) (HxWxD)	Maximum Permissible Airflow (m <sup>3</sup> /hr) at 0.1 second dwell time	Resistance at 0.1 second dwell time (Pa)	Carbon Weight (Kg)
595x595x295	1900	98	24
595x595x450	2890	130	36
595x595x595	3825	195	48
595x295x595	1900	195	24
450x450x595	1955	180	24
295x295x295	476	98	6