

## AAC LF200 - For Site Spillage & Remediation Applications

### Introduction

The **AAC LF200** is a modular filter unit designed to control emissions from a wide range of liquid applications i.e. wastewater, groundwater treatment and process liquor purification. Designed for the efficient removal of a wide range of organic compounds the **AAC LF200** is ideal for semi-static operations i.e. emergency and temporary situations such as site remediation and spillage scenarios.

Simple and easy to use the **AAC LF200** has been designed to allow the even distribution of liquid across the carbon filter bed, thus enabling maximum exposure to the filter bed to provide improved efficiency and maximum operational life. As the filter bed is permanently saturated with liquid during operations, the media is always ready for service, even in intermittent use applications. The internal liquid distributor has been configured to enable the **AAC LF200** to be serviced in backwash conditions.



AAC LF200 UNIT

### Activated Carbon - AAC LF200

The type of activated carbon used within the **AAC LF200** can be selected depending on the specific function that the filter is required to perform i.e. to provide optimum adsorption capability for a range of contaminants or for the specific removal of individual contaminants such as ozone, chlorine or halogen compounds.

### AAC LF200 Modular Filter Units

The modular nature of the **AAC LF200** enables the unit to be arranged in parallel to increase treatment rates or in series to improve removal efficiency. The filter contains 200 litres of activated carbon and at peak volume flow rates of 1.2m<sup>3</sup>/h an Empty Bed Contact Time (EBCT) OF 10 minutes can be achieved.

### Technical Details

Adsorption Capacity ( mg/g)**	1 mg/l	10mg/l	100mg/l
Styrene	120	440	1700
Trichloroethylene	15	190	1400
Toluene	26	73	210

\*\* based on AAC AS 2002

Parameter	Detail
Height (mm)	870
Diameter (mm)	580
Inlet/Outlet	¾ inch BSP Male
Weight ( kg clean)	100kg
Maximum flow ( m3/h)	1.2
Minimum flow (m3/h)	0.2
<b>Pressure drop (mbar)*</b>	
@min. flow	30
@1.0 m3/h	52
@max. flow	60

\*Based on use of 12x40 USS particle size

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## Implementation Instructions:

The **AAC LF200** filter is supplied complete with project specific grade activated carbon\*  
Once positioned on-site the following steps should be followed to de-gas the carbon media:

- Remove the connector caps
- A sufficient amount of clean water or purified process liquor should be poured into the unit through the outlet port. (Approx 200 litres)
- The filled Unit should then be left for a period of 12-24 hours
- Drain Filter and discard the liquor
- Rinse the filter for approximately 30min in reverse flow or until the wash water clears of particles.
- The filter is now ready to connect the process and drain lines to the appropriate connections and to start the process flow.

### Important:

Wet activated carbon depletes oxygen; therefore external breathing apparatus are a necessary pre-requisite when entering enclosed vessels.

## Operation

No filter maintenance is required during operations. We recommend that for filter units operated in series that an evaluation of the ongoing liquor quality by taking samples extracted between the two filters. If an increase in flow resistance is identified, it is probable that particulate is either entrained in the inlet or within the carbon media.

The following procedures should be employed when entrainment is within the inlet distributor:

- Backwash water should be fed to the filter at a maximum rate of 1.5m<sup>3</sup>/h
- Continue to Backwash for approx 30 minutes, or until the effluent is cleared of entrained dust or particles.
- The Backwash flow should then be reduced gradually over a period of 5-7min

Normal flow should then be re-started.

In the case of entrainment is on the carbon bed or if the above steps have not cleared the flow resistance, the filter should be replaced immediately, as it is no longer serviceable. It may be also necessary to apply additional or improvements to the mechanical filtration techniques upstream to the **AAC LF200**.

**Note:** Backwashing should only be conducted with fresh water. All resulting effluent produced as a result of this process should be disposed of to avoid the re-introduction of carbon fines to the bottom of the filter bed.

## Decommissioning & Disposal

Once the filter has been identified as exhausted the following steps should be followed:

- Isolate the filter and disconnect from the process flow.
- Replace connector caps and move the unit to an appropriate storage area, taking care to consider the weight of the unit\*

The **AAC LF200** Modular filter Unit has been designed to be a totally disposable unit, and is manufactured in a UN approved container. Disposal of the unit should be in line with local, national and international guidelines.

**Note:** Any attempt to replace the activated carbon media held within the **AAC LF200** will not ensure the effective operation of the unit, and will automatically invalidate any process warranty in place.

Weight of the unit when containing untreated process liquor – up to 250kg

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