CPL ACTIVATED CARBONS

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Part of CPL Industries

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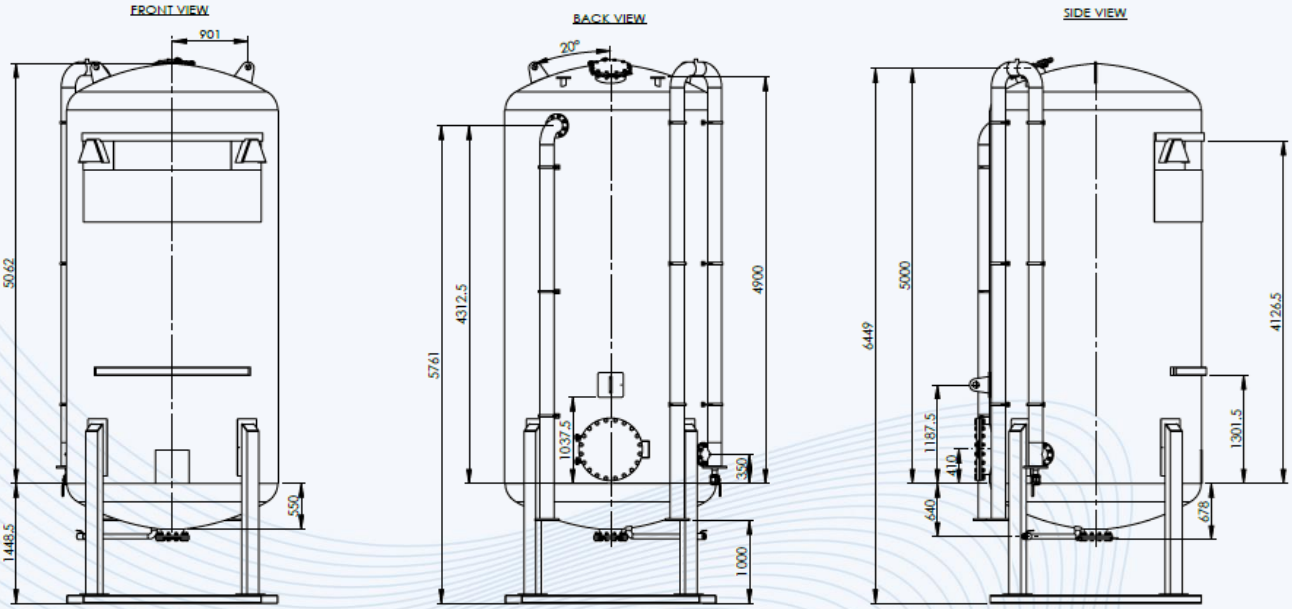
Operating Instructions

CleanFlo® 22-100 AquaSorber®

Carbon Link Limited trading as CPL Activated Carbons. Registered in England No: 2504167
Registered Office: Westthorpe Fields Road, Killamarsh, Sheffield S21 1TZ
Tel: +44 (0)1942 824 420 VAT No. GB 651 6119 50

GENERAL ARRANGEMENT DRAWING



TYPICAL SPECIFICATION

Parameter	Value
Material of construction:	Carbon steel
Outside finish:	Gloss paint
Connection type:	6” PN 16 Flange
Lifting points:	Dedicated trailer
Carbon capacity:	10 MT (22 m^3)
Maximum recommended flow:	100 m^3/h
Operating pressure:	Max. 3 bar
Measurements (approximate)	
Diameter:	2.5 m
Height:	7.0 m
Empty weight:	3.2 MT
Maximum total weight:	36 MT

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GENERAL DESCRIPTION

The CPL Activated Carbons 22-100 AquaSorber® is a high specification deep bed carbon filter ideal for any high volume liquid treatment application. The unit is delivered to site filled with our high quality Filtracarb® activated carbon and ready for connection to existing pipework.

A version for potable water applications is also available, with stainless steel pipework and a DWI approved internal lining.

The vessel design enables simple removal from site with one of our dedicated tipping trailers and the vessel service is completed at our specialist Service Centre.

INSTALLATION INSTRUCTIONS

The unit is delivered to site by our dedicated trailer, and should be positioned on a flat level piece of ground. It is recommended that a concrete plinth is utilised where available. The area should be capable of withstanding a weight of 40,000 kg per unit used.

COMMISSIONING

Commissioning is required to wet and de-aerate the activated carbon. This will ensure effective operation.

1. Connect a clean water supply to the process inlet connection (6” PN16 flanged connector required). The inlet can be identified as the left of the two pipes that enters the top of the vessel. The outlet is connected to the bottom of the vessel and has an anti-siphon loop attached which rises above the top of the vessel before dropping to the same level at the right hand side of the inlet:

2. Fill the vessel slowly with water, until it is full and water is seen coming out of the outlet.

3. Close the water supply valve, and allow the carbon to soak for a period of 12-24 hours.

4. Initial backwash is not required; the unit is now ready for use. If it is required/desired, go to the backwashing step.

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OPERATION

Following completion of the commissioning process, the vessel can now be put into operation.

1. Connect the inlet to the liquid stream to be treated and the outlet to a pipe leading to either a holding tank, or directly to a drain/sewer as designated by the local authorities.

2. If there is any danger of exceeding the pressure rating of the vessel during operation, a suitable pressure release valve should be incorporated in the process line to prevent risk of damage to the vessel.

NB: Do not allow the treated liquid to pass directly to a drain or sewer without written permission from the designated local authorities.

3. Slowly begin to apply flow to the vessel, gradually increasing flow to the level required. **DO NOT EXCEED THE FLOW RATING OF THE VESSEL.**

4. The contamination level of the liquid leaving the outlet should be regularly monitored as agreed with the licensing authorities to ensure that there is no breech of licensed levels for any given contaminant.

5. When the contamination level in the outlet is seen to rise, it may be time to change the carbon. Contact CPL Activated Carbons to arrange the exchange of the vessel for a fresh one.

BACKWASHING

If the bed becomes blocked with particulates, then the pressure drop may become too high. If this happens, then it is necessary to backwash the carbon bed to remove the blockage.

At some sites, particularly those supplying potable water, backwashing may be required prior to placing the vessel into full operation in order to remove any metals compounds contained within the carbon structure.

1. Stop the process flow and disconnect pipework. Connect the vessel to the backwash water in reverse flow direction, i.e. inlet to outlet and vice versa. Ensure that the supply of incoming water is clean and free from particulates.

2. Ensure that the backwash water that is released from this process is not sent directly to drain without prior approval from the designated local authorities. Take great care to ensure that the recommended flow rates are not exceeded at any time.

3. Begin with an initial flow of 30 m^3/h for a period of 10 minutes. Observe the water being released from the process and check that no granular carbon is being removed from the vessel.

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4. After 10 minutes, increase flow to 50 m^3/h for a further 10 minutes. Again, check on the water being released.

5. Finally, increase the flow to 65 m^3/h for a further period of 20 minutes and observe the water being released; by the end of this time, the water being released should be completely clear.

6. Process flow can now be resumed in standard direction; Connect the process pipes and ensure that the inlet and outlet are correctly connected. Slowly introduce process water to maximum flow.

DECOMMISSIONING

1. Disconnect the inlet and outlet from the process flow.

2. Attach a hose to the drain valve at the base of the vessel and direct the hose to a suitable drain point.

3. Under no circumstances drain the vessel direct to a watercourse or open drain, unless you are certain that the water does not exceed any statutory limits.

4. Open the drain valve and allow all liquid to drain from the vessel. This may take several hours.

5. When the vessel has fully drained, it can be removed from site.

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MAINTENANCE

No maintenance should be required during the operation of the vessel. Replacement gaskets for the filling port can be obtained (if required) from CPL Activated Carbons.

LIST OF PARTS:

Air release valve (x 2)

Pressure gauges 0-6 BAR (x 2)

6” PN16 Klingerite gasket

All parts are available from CPL Activated Carbons

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