

## CYCLESORB® HP2 Sales Specifications



**CYCLESORB® HP2** in operation – clean and simple

### DESCRIPTION

The **CYCLESORB® HP2 Service** is a mobile adsorption service combining adsorber and transport vessel for the treatment of non-corrosive liquid streams.

The **CYCLESORB® HP2**, pre-loaded, is delivered to a site and moved by forklift where required. The unit is operated until saturation of the activated carbon. A second unit is then delivered at the same time that the exhausted unit is picked to minimise transport.

Once the unit is returned to a **Chemviron Carbon** facility it is discharged of spent carbon, cleaned, checked and refilled with virgin or reactivated carbon.

The **CYCLESORB® HP2** comes complete with piping, valves and connections suitable for immediate connection to the stream to be treated. The frame for the unit allows it to be placed on a suitable flat and hard surface.

The liquid is pumped through the unit in a down flow direction. The outlet should be monitored periodically to check the activated carbon is achieving the treatment objective by regularly taking samples.

For larger flows or duties, a number of units can be used in parallel or series.

### FEATURES

- A mobile adsorber service designed for **rapid and easy site installation** by forklift
- Adsorbers can be shipped with carbon such that **start up is immediate**
- Flexible service (rental) arrangements are available to meet short campaign or long term needs, **avoiding capital investment**
- No maintenance cost
- Carbon can be exchanged by simply changing units, **eliminating on site carbon transfer**
- **Sample connections** are fitted on the inlet and outlet piping for performance evaluation
- Spent carbon may be reactivated and recycled for reuse **to minimise waste**
- A range of **CYCLESORBS®** are available for larger flow applications
- Spare units are available in **Chemviron Carbon** production facility for change out

### APPLICATIONS

#### Industrial

- Chemical purification provided stainless steel is suitable.
- Groundwater remediation and waste water treatment with low chloride provided stainless steel is suitable.

#### Food Grade

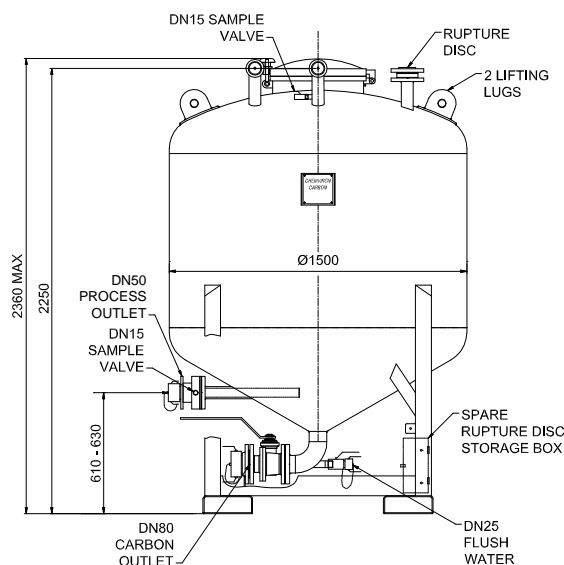
- Sweetener decolourisation
- Glycerine purification
- Other food products
- Drinking Water Treatment

### RECYCLING BY THERMAL REACTIVATION

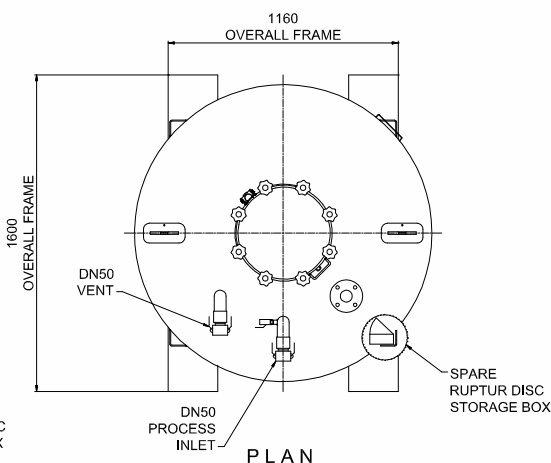
Once granular activated carbon is saturated or the treatment objective is reached, it can be recycled, by thermal reactivation, for reuse. Reactivation involves treating the spent carbon in a high temperature reactivation furnace to over 800°C. During this treatment process, the undesirable organics on the carbon are thermally destroyed. Recycling by thermal reactivation is a highly skilled process to ensure that spent carbon is returned to a reusable quality. **Chemviron Carbon** operates Europe's largest reactivation facilities and daily recycles large quantities of spent carbon for a diverse range of customers. Recycling activated carbon by thermal reactivation meets the environmental need to minimise waste, reducing CO<sub>2</sub> emissions and limiting the use of the world's resource

### CARBON ACCEPTANCE

The return of the exhausted unit is subject to spent carbon acceptance procedures. For some new applications, a sample pot maybe supplied with the unit to allow a small bypass stream to be treated so a representative sample can be obtained for testing prior to return of the unit.



FRONT VIEW



PLAN

## TECHNICAL DESCRIPTION

Carbon consumption, typical	5-50 tonnes/y
Carbon volume per adsorber	Approx. 900 kg; 2 m <sup>3</sup>
Flow rate, maximum	14 m <sup>3</sup> /h
Temperature, maximum <sup>1</sup>	100°C
Pressure, maximum <sup>2</sup>	5 bar (gauge)
Rupture disk settings	5 barg at 20°C 4.7 barg at 50°C 4.4 barg at 100°C
Suspended solids	Up to 10 mg/l
Diameter	1.5 m
Connections – Inlet, outlet and vent	DN50 Kamlok male
Vessel materials	SS316L
Piping material	SS316L
Rupture disc	PTFE lined steel
Gasket for manhole <sup>3</sup>	EPDM, Silicone, Neoprene, or NBR
Gaskets (pipeline) <sup>4</sup>	EPDM Teflon as option
Footprint	1.5 x 1.6 m
Height – upright	2.36 m max.
Recommended clearance	2.5 m
Weight - shipping (dry carbon)	1550 kg
Weight – shipping (drained)	2400 kg
Weight – operating (flooded)	3500 kg

<sup>1</sup> To comply with safety regulations, when operating above 40°C, the appropriate measures will be taken for labour protection.

<sup>2</sup> The unit is not vacuum rated.

<sup>3</sup> Different series have different gaskets.

<sup>4</sup> If Teflon is required, this should be specified in the order.

## SAFETY MESSAGE

Wet activated carbon preferentially removes oxygen from air. In closed or partially closed containers and vessels, oxygen depletion may reach hazardous levels. If workers are to enter a vessel containing carbon, appropriate sampling and work procedures for potentially low-oxygen spaces should be followed.

## QUALITY

Each of our worldwide operations has achieved **ISO 9001** certification for their quality management system related to activated carbon. **Chemviron Carbon** guarantees the specifications against representative sampling.

## CHEMVRON CARBON

**Chemviron Carbon**, the European operation of Calgon Carbon Corporation, is a global manufacturer, supplier, and developer of granular activated carbon, innovative treatment systems, value added technologies, and services for optimising production processes and safely purifying the environment.

With our experience developed since the early years of the twentieth century, facilities around the world and a world-class team of over 1,200 employees, Calgon Carbon Corporation can provide the solutions to your most difficult purification challenges.

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Visit our website at [www.chemvironcarbon.com](http://www.chemvironcarbon.com)

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