

CYCLESORB[®] MA20S Sales Specifications



CYCLESORB[®] MA20S – clean and simple

DESCRIPTION

The **CYCLESORB[®] MA20S Service** is a mobile adsorption service combining a **stainless steel adsorber** and transport vessel for the treatment of food grade liquid streams.

The **CYCLESORB[®] MA20S**, pre-loaded, is delivered to a site on a special trailer with an elevation system to place the unit 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[®] MA20S** 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 downflow direction. The outlet should be monitored periodically to check the activated carbon is achieving the treatment objective by regularly taking samples. The process outlet of the unit is directed to above the height of the activated carbon bed with a siphon break at the top. This prevents the vessel draining down when flow is stopped.

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

FEATURES

- A mobile **stainless steel** adsorber service designed for **rapid and easy site installation** without crane.
- Adsorbers can be shipped with carbon for **immediate start up** and no other delivery trailer is required.
- 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**.
- Spare units are available in **Chemviron Carbon** production facility for change out.
- A range of smaller **CYCLESORBS** portable by forklift truck are available for lower flow applications.

APPLICATIONS

Food Grade

- Drinking Water Treatment
- Food products

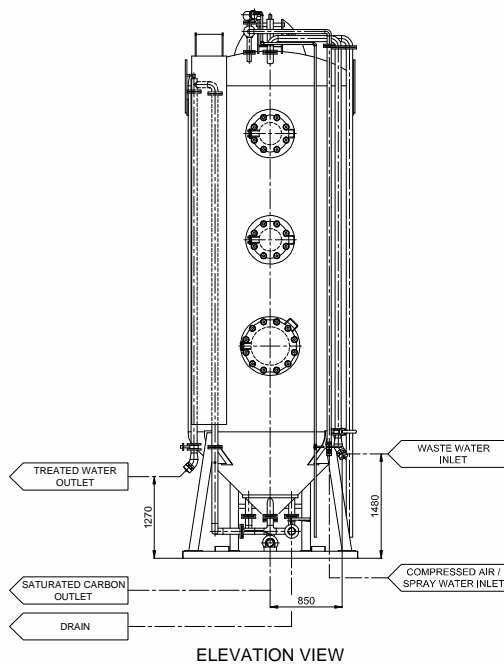
FOOD GRADE UNITS ARE KEPT IN A SEPARATE POOL TO AVOID ANY RISK OF CONTAMINATION.

RECYCLING BY THERMAL REACTIVATION

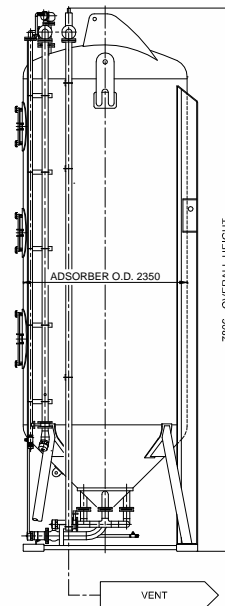
Once granular activated carbon is saturated or the treatment objective is reached, it can be recycled, by thermal reactivation, for reuse. Reactivation involves treating the spent carbon in a high temperature reactivation furnace to over 800°C. During this treatment process, the undesirable organics 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 CO₂ emissions and limiting the use of the world's resources.

CARBON ACCEPTANCE

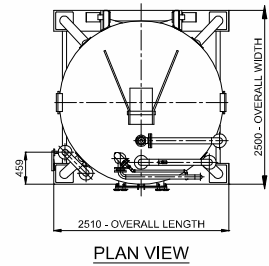
The return of the exhausted unit is subject to spent carbon acceptance procedures. For some new applications, a sample pot maybe supplied with the unit to allow a small bypass stream to be treated so a representative sample can be obtained for testing prior to return of the unit. Generally speaking the food grade application will pass easily this procedure.



ELEVATION VIEW



RIGHT SIDE VIEW



PLAN VIEW

TECHNICAL DESCRIPTION

Carbon consumption, typical	10-100 tonnes/y
Carbon volume per adsorber	6500 – 9000 kg; up to 21 m ³
Flow rate, maximum	Up to 130 m ³ /h
Temperature, maximum ¹	0 - 100°C
Pressure, maximum	5 bar (gauge)
Suspended solids ²	Up to 10 mg/l
Diameter	2.35 m
Connections - Main inlet/outlet	DN100 Kamlok male DN100 Kamlok male
Vessel materials	Stainless steel
Piping material	Stainless steel
Valves	EPDM seat
Gaskets for manhole	EPDM
Gaskets (pipeline)	EPDM as standard FPM (Viton®)
Footprint	2.6 x 2.6 m
Height - upright	8.1 m
Height - clearance for elevating	10.0 m
Height for truck	4.1 m
Weight - Shipping (drained)	25 tonnes
Weight - Operating	35 tonnes
Utilities - Water at 2 bar pressure	25 m ³ /h
Utilities - Drainage	35 m ³ /h

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

² Allowable suspended solids concentration depends on the flow

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

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Corporate Headquarters
400 Calgon Carbon Drive
Pittsburgh, PA 15205, USA
Tel.: +1 (0) 412 787-6700
Fax: +1 (0) 412 787-6713

**Chemviron
Carbon**

European Operations of
Calgon Carbon Corporation
Zoning Industriel C de Feluy
B - 7181 Feluy, Belgium
Tél.: +32 (0) 64 51 18 11
Fax: +32 (0) 64 54 15 91

Your local office

