

UNISTAR™



Description

Calgon Carbon's Unistar™ is a compact, all stainless steel portable liquid treatment unit developed primarily for the food industry. The Unistar is ideal for both batch and continuous process applications where low flow and long contact time equipment is required. The Unistar is shipped with approximately 750 pounds of granular activated carbon. Containing all the essential elements of a full scale carbon adsorption system, the Unistar requires only a fork truck to lift and set the unit. Delivered completely assembled on a skid, the Unistar system requires only site process and utility hookups to be ready for operation. The pre-engineered Unistar design assures that all adsorption system functions can be performed with the provided equipment. A plug in/plug out feature eliminates the need for messy carbon change-outs. When treatment is complete, the Unistar becomes a convenient shipping container which can be returned to Calgon Carbon for safe reactivation of the spent carbon.

The Unistar has wide applications in the food industry including:

- Glycerine Deodorization
- Scrap Candy Recycling
- Purification of Off-Spec Product
- Process Water Purification
- Powdered Activated Carbon Replacement
- Feasibility of Pilot Column Studies

Features

Flexibility The Unistar treats the liquid down-flow through a fixed bed of granular activated carbon, and therefore can handle varying flows and on/off operating conditions. The units can be arranged in parallel to treat higher flows, or can be connected in series to optimize carbon usage.

Durability The Unistar adsorber is constructed of Type 304L stainless steel, and has no interior coating or lining that may be eroded by carbon movement or damaged during handling. The vessel support and fork channels are constructed of Type 304L stainless steel.

Corrosion Resistance The Unistar adsorber and all piping are constructed of Type 304L stainless steel. Other parts are Neoprene gaskets, graphite rupture disk, and TFE valve seats and seals.

Operating Pressure The Unistar is hydrostatic pressure tested at 75 psig before shipment, and is provided with a rupture disk to assure that this pressure is not exceeded.

Granular Activated Carbon The Unistar unit can be provided with most of the granular activated carbons from Calgon Carbon's extensive product line. One of Calgon Carbon's Technical Service Representatives can assist in selecting the most cost effective carbon for specific applications.

Safe Spent Carbon Handling When treatment is complete, the Unistar becomes the shipping container for the return of the spent carbon to a Calgon Carbon reactivation facility. This feature eliminates the need to handle spent carbon at the site. These containers meet all applicable transportation regulations for shipment of spent activated carbon.

Service Agreement With the service agreement, there is no capital investment required. Calgon Carbon retains ownership of the units, takes responsibility for inventory and maintenance, and provides a new unit when the spent unit is to be removed so continuous treatment is assured.

Safety Message

Wet activated carbon can deplete oxygen from air in enclosed spaces. If use in an enclosed space is required, procedures for work in an oxygen deficient environment should be followed.

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Dimensions and Field Connections

Connections

1" Kamlock (inlet/outlet)

1" Kamlock (sample ports/utility connections)

Dimensions

Overall Height 125"

Overall Width 40"

Overall Length 40"

Vessel Diameter 2'

Vessel Straight-side 8'

System Specifications

Granular Activated Carbon per Unit 750 lb (340 kg)

Pressure Rating 75 psig (517 kPa)

Pressure Relief Graphite rupture disk @ 75 psig

Max. Operating Temperature 212°F (100°C)

Adsorber 304L Stainless Steel

Piping 304L Stainless Steel

Support 304L Stainless Steel

Lifting Fork lift truck or crane (lift lugs & sling provided)

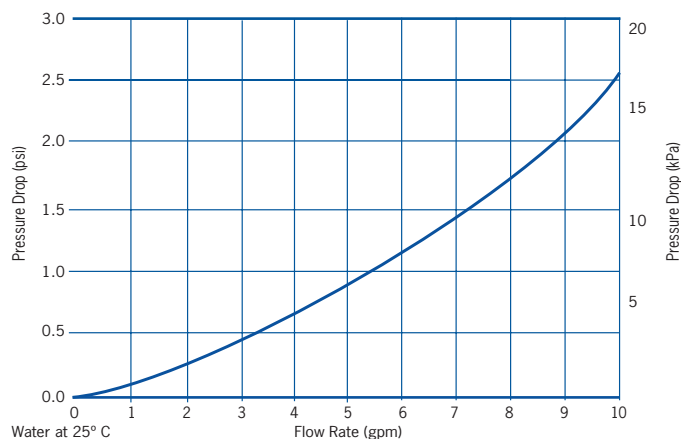
Wetted Parts Materials Type 304L Stainless Steel, Neoprene Gaskets, Teflon Valve Seats & Seals, Graphite Rupture Disk

Unit Weights

Empty 1185 lb (540 kg)

With Dry Carbon (ship) 1935 lb (880 kg)

Operating 3750 lb (1705 kg)



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