

REACT – LIQUID PHASE

DSR A 8x40, DSR C 8x30, RX A PH Granular Activated Carbon

Description

Liquid phase reactivated carbon is available in two grades, DSR A and DSR C, and is designed for the removal of organic contaminants from industrial wastewater, process water, groundwater remediation and other non potable waters. The carbon is manufactured by the reactivation of previously used granular activated carbon to produce a high density, high surface area and durable product capable of withstanding repeated cycles of use and reactivation.

For situations where the pH of effluent or backwash water is a critical parameter, whether the limitation is due to process or permit restrictions, Calgon Carbon offers RX A PH - a pH stabilized version of DSR A. RX A PH is specifically designed to alleviate the pH rise commonly found on startup of fresh carbon beds, which may exceed acceptable water quality parameters and cause a significant loss in production. RX A PH is applicable in these situations where the influent pH is greater than 3.

DSR A, DSR C and RX A PH are effective in a wide range of applications providing reliable removal of dissolved organic compounds. They are screened prior to packaging to insure low pressure drop. These products are not intended for use in food grade or potable systems.

Features

- Manufactured from selected sources of previously used granular activated carbons
- Reactivated/recycled product
- High surface area/pore structure
- Product is screened prior to packaging

Benefits

- Strongly adsorbing pore structure for a broad range of contaminants and concentrations.
- Economical alternative to virgin carbon
- Screened for less fines and lower pressure drop; minimize backwashing
- Propagates the cycle of responsible resource utilization

Applications

DSR A, DSR C and RX A PH are effective in a wide range of applications. Some typical applications are:

- Point source treatment to remove undesirable chemicals from water sources
- Groundwater remediation applications
- Pump tests
- Dewatering/construction projects
- Biological waste treatment systems, pretreatment or polishing

Specifications

	DSR A 8x40	DSR C 8x30
Iodine Number, mg/g	750 (min)	800 (min)
Moisture, (As Packaged), wt%	2 (max)	2 (max)
Density (Apparent), g/cc	0.60 (max)	0.60 (max)
< 30 US Mesh (PAN), wt% –	—	5 (max)
< 40 US Mesh (PAN), wt%	5 (max)	—
Modified Contact pH [Product is RX A PH]	8.7 (max)	—

Design Considerations

The design of an activated carbon adsorption system is dependent on the adsorbate type, influent concentration, temperature, flow rate, performance objective, and other factors. Calgon Carbon has extensive experience designing custom adsorption systems and can help evaluate the suitability of DSR A, DSR C or RX A PH to satisfy your project specific needs. In addition to the supply of activated carbon, Calgon Carbon offers a complete line of standardized, pre-engineered and custom designed adsorption systems.

To determine what is best for your application and assistance with the design please contact Calgon Carbon Corporation by calling 1-800-4-CARBON.

Reactivation

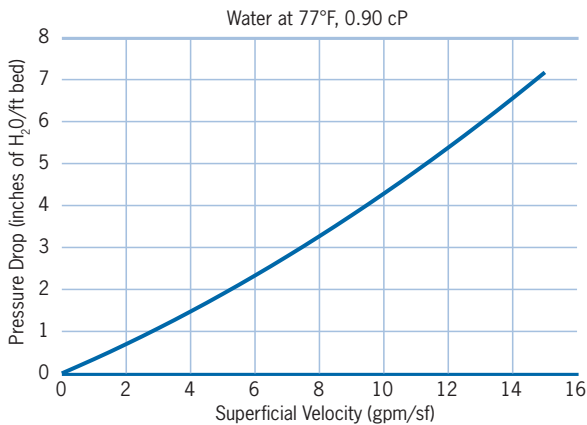
Once granular activated carbon is saturated or the treatment objective is reached, it can be recycled by thermal reactivation for reuse. Reactivation involves treating the spent carbon in a high temperature reactivation furnace or kiln. During this treatment process, the undesirable organic compounds on the carbon are thermally destroyed. Recycling by thermal reactivation is a highly technical process to ensure that spent carbon is returned to a reusable quality.

pH Stabilization [RX A PH]

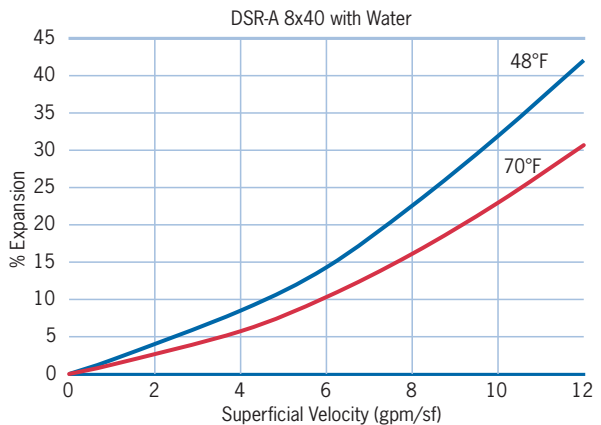
High effluent pH values observed during fresh carbon bed start up may exceed process water quality standards and may last for 150 to 300 bed volumes. During water treatment, anions are partially removed from the solution and a pH rise is observed. Laboratory studies have shown that the mechanism responsible for the pH excursions is an interaction (ion exchange type) between the anions present in the water (SO₄, Cl⁻, NO₃⁻, etc.) the hydroxide ion (OH⁻), the hydronium ion (H₃O⁺) and the surface groups of the activated carbon. The intensity and duration of the pH excursions depend on the type of carbon and the characteristics of the water to be treated, and especially of the water pH. The pH stabilization process alleviates the initial pH spike. A modified contact pH method has been developed and optimized for this purpose.

Typical Pressure Drop (DSR-A 8x40)

Based on a backwashed and segregated bed

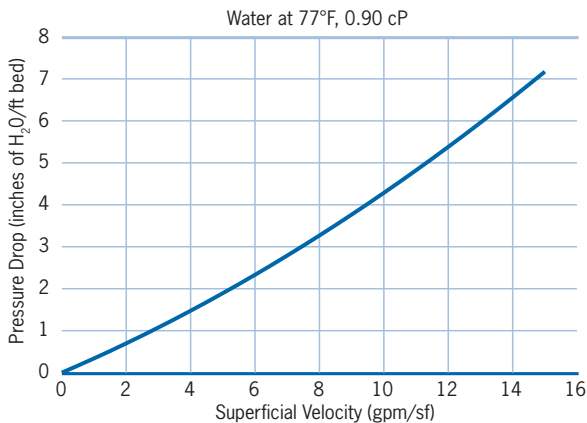


Bed Expansion During Backwash

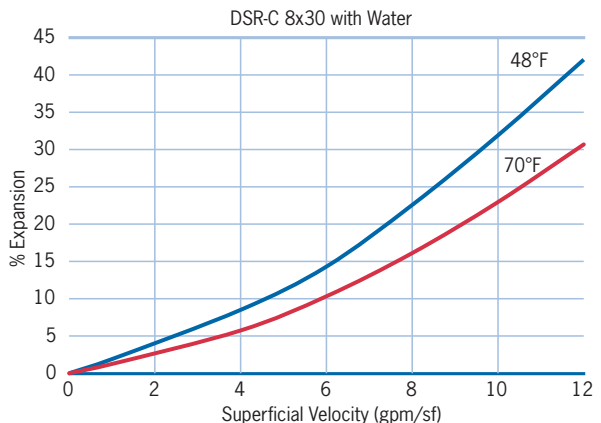


Typical Pressure Drop (DSR-C 8x30)

Based on a backwashed and segregated bed



Bed Expansion During Backwash



Packaging

Please contact CalgonCarbon for options and availability.

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, including all applicable federal and state requirements. Please refer to the MSDS for all up to date product safety information.

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