High Activity Carbon (HAC) may be used for a variety of water treatment applications requiring the reduction of chlorine, tastes, and odors.

Activated Carbon

Clack granular activated carbon is designed for reduction of tastes, odors and dissolved organic chemicals from municipal and industrial water supplies. Manufactured in the United States from select grades of bituminous coal to produce a high density, durable granular product capable of withstanding the abrasion and dynamics associated with repeated hydraulic transport, backwashing and mechanical handling. Activation is carefully controlled to produce exceptionally high internal surface area with optimum pore size for the adsorption of a broad range of high and low molecular weight organic contaminants.

One of the most common applications for Clack High Activity Carbon (HAC) is the reduction of the undesirable tastes and odors present in many chlorinated water supplies. HAC has been successful for many years in the reduction of free chlorine from water supplies. The end product is clean, fresh water with no objectionable taste or odor characteristics.

To obtain maximum efficiency of the activated carbon in the adsorption process, it is desirable to have the greatest possible surface area in the smallest practical volume. This is necessary because the rate of adsorption is proportional to the amount of surface area of the adsorbing medium media. HAC has a surface area of 850 square meters per gram. This results in high efficiency and greater system economy. Clack has for many years provided activated carbon to the OEM and replacement market as a pre-treatment for other water purification systems as well as for use in individual treatment equipment for the removal of specific impurities.

HAC requires periodic backwashing to eliminate accumulated suspended matter and to re-grade the filter bed. HAC has an extremely high capacity but must be replaced when the filter bed loses the capacity for reduction of taste and odor. HAC may be used in either domestic or industrial applications using gravity flow or pressurized filter vessels.



ADVANTAGES

- HAC is an outstanding material for applications requring taste, odor and dissolved organic chemical removal from water with suspended matter present. This product can be used for filtering waters having a wide range of pH levels.
- Large surface area results in an exceptionally high capacity and efficiency.
- Balanced pore structure gives a more efficient adsorbtion range.
- HAC is very durable so losses due to attrition are kept to a minimum.
- HAC has a very high carbon-low ash content.
- Service rates of 5 gpm/sq. ft. are practical for ordinary taste, odor and chlorine loads.
- HAC will impart a high “polish” to the filtered water.

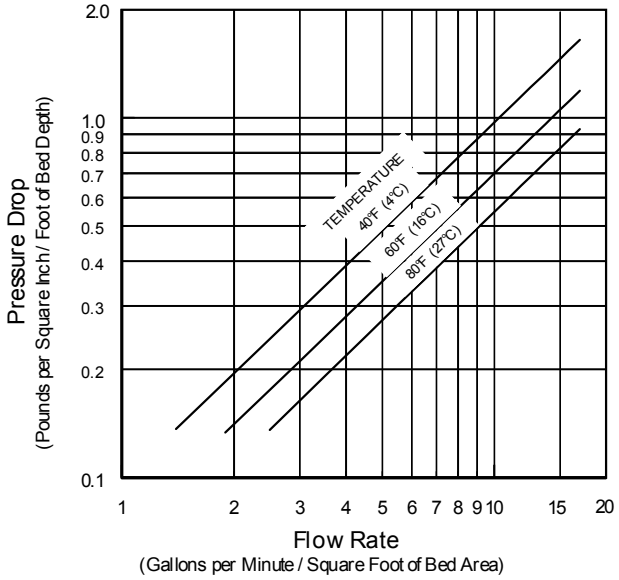
PHYSICAL PROPERTIES

- Color: Black
- Mesh Size: 12 x 40
- Bulk Density: 31 lbs./cu. ft.
- Specific Gravity: 1.4-1.5 gm/cc
- Effective Size: 0.55-0.75 mm, 0.65 typical
- Water Soluble Ash: less than 0.5%
- Iodine #: 850 min., 900 typical
- Abrasion #: 75 min., 81 typical
- Moisture as packed: 2% max., 0.7% typical
- Meets American Water Works Association standard B604-96

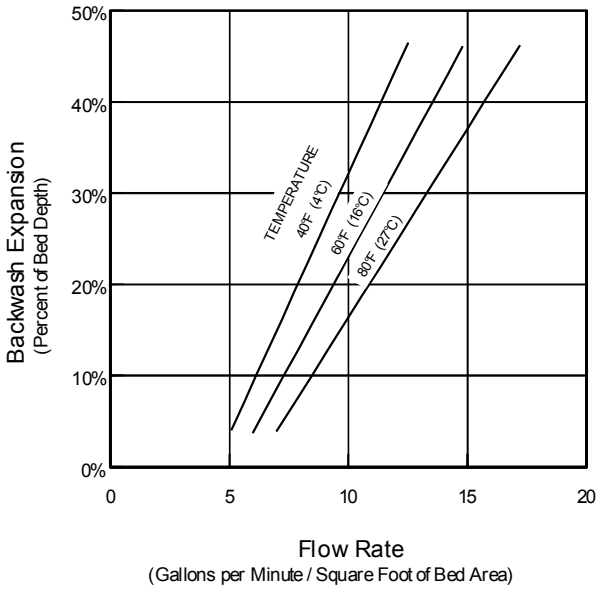
CONDITIONS FOR OPERATION

- Water to be filtered should preferably be free of oil and suspended matter
- The water to be filtered should be relatively free of iron and turbidity for maximum service life
- Water pH range: wide range
- Bed depth: 26-30 in.
- Freeboard: 50% of bed depth (min.)
- Service flow rate: 5 gpm/sq. ft.
- Backwash flow rate: 10-12 gpm/sq. ft.
- Backwash bed expansion: 30-40% of bed depth
- Upon installation, backwash to remove carbon fines before placing unit into service

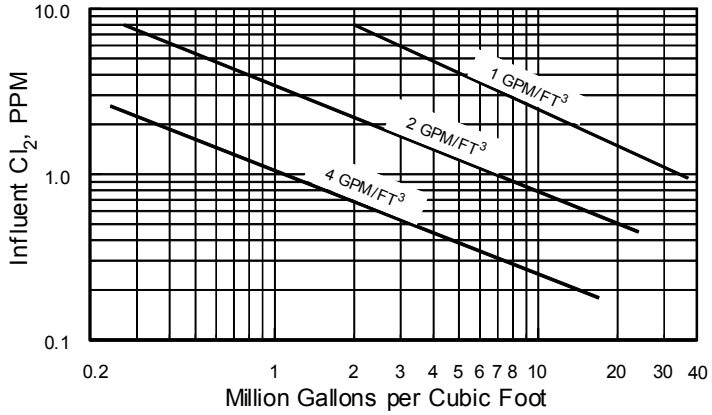
Service Flow Pressure Drop



Backwash Bed Expansion



Dechlorination of Water (pH 7, 21°C)



Certified to ANSI/NSF Standard 61

Granular Activated Carbon is manufactured by Calgon Carbon Corp.

ORDER INFORMATION

Part No.	Description	Cu. Ft./Bag	Wt./Cu. Ft.*	Bags/Pallet	Weight/Pallet	Pallet Dimensions
A8009-12	HAC 12 x 40 mesh	1	31 lbs.	70	2220 lbs.	50″ x 45″ x 60″

*Weight per cubic foot is approximate.

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The filter medias listed in this brochure do not remove or kill bacteria. Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

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