

**Coconut Shell-High Activated Carbon (CS-HAC) may be used for a variety of water treatment applications requiring the reduction of chlorine, tastes and odors.**

# Coconut Shell-High Activated Carbon (CS-HAC)

Clack granular activated carbon is designed for reduction of tastes, odors and dissolved organic chemicals from municipal and industrial water supplies. Manufactured from select grades of coconut shell 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 low molecular weight organic contaminants and oxidizing agents like chlorine and ozone.

One of the most common applications for Clack Coconut Shell-High Activated Carbon (CS-HAC) is the reduction of the undesirable tastes and odors present in many chlorinated water supplies. CS-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 media. CS-HAC has a surface area of 1,050 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.

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



## ADVANTAGES

- CS-HAC is an outstanding material for applications requiring 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 adsorption range.
- CS-HAC is very durable so losses due to attrition are kept to a minimum.
- CS-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.
- CS-HAC will impart a high "polish" to the filtered water.

## PHYSICAL PROPERTIES

- Color: Black
- Mesh Size: 12 x 40
- Bulk Density: 28 lbs./cu. ft.
- Effective Size: 0.55-0.75 mm
- Ash Content: 2.5%
- Iodine Number: 1,000 mg/g
- Moisture as packed: 3%
- pH 10

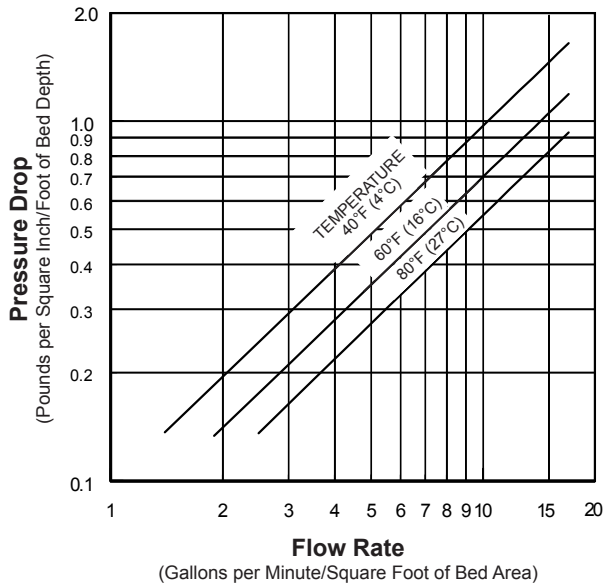
## CERTIFICATIONS AND APPROVALS

- NSF/ANSI Standard 61

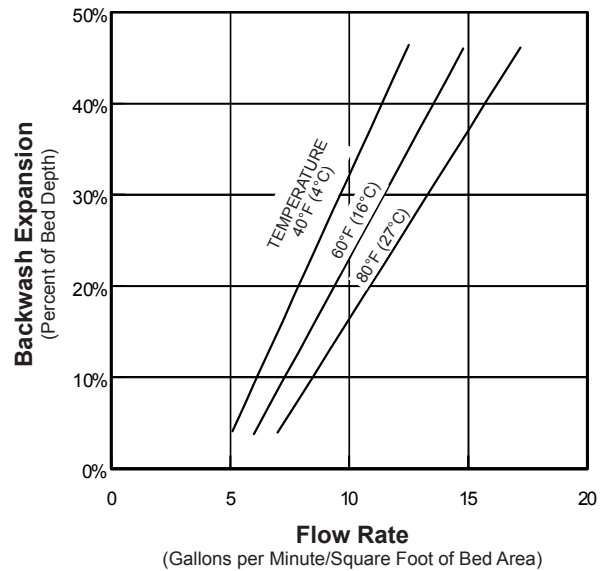
## CONDITIONS FOR OPERATION

- 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

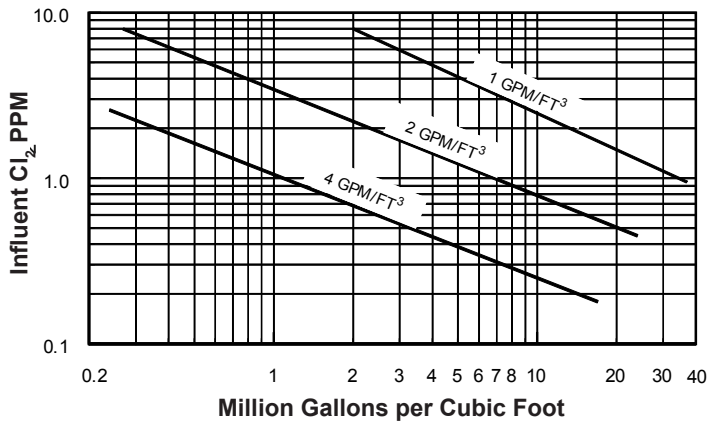
### Service Flow Pressure Drop



### Backwash Bed Expansion



### Dechlorination of Water (pH 7, 21°C)



Certified to NSF/ANSI Standard 61

Coconut Shell-High Activated Carbon (CS-HAC) is manufactured by Calgon Carbon Corporation or Jacobi Carbons, Inc.

### ORDER INFORMATION

Part No.	Description	Cu. Ft./Bag	Wt./Cu. Ft.*	Bags/Pallet	Weight/Pallet	Pallet Dimensions
A8009-14	CS-HAC 12 x 40 mesh	1	28 lbs.	70	2000 lbs.	43"x43"x72" (Calgon Carbon Corporation) 38"x46"x70" (Jacobi Carbons, Inc.)

\*Weight per cubic foot is approximate.

CS-HAC manufactured by Calgon Carbon Corporation is made in Thailand and CS-HAC manufactured by Jacobi Carbons Inc. is made in Sri Lanka.

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The information and recommendations given in this publication should not be understood as recommending the use of our products in violation of any patent or as a license to use any patents of the Clack Corporation.

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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