

Blackstone Home Guard Water Filter

GAPS Australia

Price per Unit

\$1,080.00

includes postage in both Australia and New Zealand

100% MONEY BACK GUARANTEE

Let WFC take the worry out of water filtering!

*Try our HomeGuard whole of house water filter for 30 days and if you cannot taste the difference, we will refund your money. **



Water Filter Corp is an Australian company and we manufacture our unique and patented filters here in Australia at our Queensland factory.



ARE YOU COMFORTABLE ABOUT YOUR FAMILY DRINKING AND WASHING IN RECYCLED WATER WITH ADDED FLUORIDE?



When you install a HomeGuard Water Filter your baby or children will no longer be at risk wearing clothes that have been washed in possibly contaminated water next to sensitive skin all day.



When you install a HomeGuard Water Filter you and your family will be showering in clean filtered water and brushing your teeth in clean filtered water.



AND OF COURSE YOU WILL BE ABLE TO ACTUALLY DRINK FILTERED WATER THAT WILL TASTE GOOD FROM EVERY TAP IN YOUR HOUSE!

Filtration Stages:

1. Particulate Removal.

The Blackstone HomeGuard water filter is fitted with a One micron bag pre filter

Many situations arise where a source water requiring filtration is loaded with a fine particulate that needs to be removed from the water prior to filtration with activated Carbon. This fine particulate which if removed by the carbon filter element will reduce the carbon filter elements life expectancy and effectiveness as a molecular filter.

There is also a group of contaminants, which includes microscopic worms, parasites and protozoa. The biggest offenders are Giardia Lambda and Cryptosporidium, which cause major diarrhea, dehydration, intestinal disorders and even death. Water experts estimate that over 63% of water problems are directly caused by Giardia and Cryptosporidium.

Giardia is seven to fourteen microns in size and Cryptosporidium is from three to five microns in size. When the environment becomes inhospitable (like in the presence of chlorine), both parasites can go into the cystic form (like a hard, round, impermeable

microscopic egg). The cyst form is resistant to chlorine and very hard to kill. Municipal water authorities are unable to remove the cysts economically. Healthy individuals infected by these parasites experience cholera like illness: watery diarrhoea, headache, abdominal cramps, nausea, vomiting and low-grade fever. For the immunocompromised, however, the results of the infection are much more severe; the parasite can severely damage the liver and respiratory tract, as well as the gall bladder and pancreas. Even worse, there is a 40% to 50% mortality rate for the immunocompromised. Those at risk include cancer patients undergoing chemotherapy, infants, the elderly, kidney dialysis patients, recent transplant patients, aids patients and others with suppressed immune systems. The only sure way of removing these cysts and other protozoa and fine particulate material is to run the water through a membrane with a mesh size of less than 3 microns.

The Blackstone HomeGuard water filter is fitted with a One micron bag pre filter to perform this initial and very important pre filtering function

2. Fluoride Removal Media.

The Blackstone HomeGuard water filter is fitted with a large high quality fluoride removal filter element

Fluoride removal is achieved by passing the water through an activated media filter element which aggressively and effectively removes the free fluoride from the water in one simple adhesion process

The Blackstone HomeGuard Water Filter is fitted with a large Fluoride Removal Filter Element

3. CARBON FILTRATION. The Blackstone HomeGuard water filter is fitted with a large high quality silver impregnated activated carbon filter element

4. How does it work

Carbon is manufactured by the controlled burning of Cellulose. The temperature of the burn and the amount of oxygen entering the process control the hardness, filtering power and grain size of the carbon.

Carbon filters through both its grain size and by its ability to bind up organic and inorganic materials to itself through an electrical charge on its surface. This is known as Adsorption.

Carbon filtration is used successfully in industry for filtering wastewater, for the removal of fine insolubles from water and to remove metals and chlorine compounds from domestic water. Carbon filtration is also used to control biological contamination in water.

Activated Coal carbon has a different internal structure than coconut carbon and is used in particular applications allowing for more uptakes of certain contaminants.

What is activated carbon made from?

Activated carbon can be manufactured from any organic material containing carbon. Commercial carbons are made from sawdust, wood, charcoal, peat, lignite, petroleum coke, bituminous coal, and coconut shells. We choose these raw materials in order to provide the best activated carbon to our customers.

How is activated carbon produced?

For example when using coal, the coal is pulverized to a very fine particle, about the size of talcum powder. The powdered coal is mixed with a binder to "glue" it back together and pressed into briquettes. These in turn are crushed and classified to the size of the desired end product. This process, called reagglomeration, creates an activated carbon that is harder and less dusty than a direct activation process.

Reagglomeration also assures that the activation occurs through the granule to the core. Some direct activation processes only activate the exterior of the granule.

Having all of the carbon activated uniformly is essential to provide active adhesion filtration

The sized material is heated in an oxygen void environment to avoid burning and to remove the volatile components of the coal. The carbon is activated by additional heating in a controlled environment of oxygen and steam. The activation process creates a highly porous graphitic plate structure with tremendous surface area.

How much surface area does activated carbon have?

A single pound of activated carbon has the surface area equal to 125 acres.

How much does it weigh?

Pure carbon weighs about 130 pounds per cubic foot. It is much denser than activated carbon. During the manufacturing process the structure is "opened up," creating porosity (pore volume) inside the granule. The finished product "activated carbon" has a density between 25 to 40 pounds per cubic foot.

How much void space is in carbon?

A container of carbon is roughly 20% carbon, 40% interstitial space (the volume between the carbon granules), and 40% pore volume (the volume inside the carbon granules). Another way to visualize this is: If you had a 55 gallon drum full of dry carbon, you could add 44 gallons of water to the drum before it would overflow. Therefore, 80 percent of the drum volume is air.

In liquid applications, why is it important to deairiate (fully wet) the carbon?

A container of carbon is roughly 20% carbon, 40% interstitial space (the volume between the carbon granules), and 40% pore volume (the volume inside the carbon granules). If air remains in the pore volume, the fluid being treated cannot migrate to the adsorption sites. The air becomes a barrier to the carbon functioning properly.

How long does it take to fully wet the carbon?

Typically, Calgon Carbon recommends filling the system with the fluid you will be treating and allowing the system to sit idle for 24 hours. This time will allow the fluid to displace all of the air in the pores of the carbon. After the system has been idle for 24 hours, the next step is to use an upflow backwash to displace any air that has been trapped in the carbon bed. This backwash will also remove most of the carbon fines in the system.

What is this pore space?

The pore space is the internal volume of the carbon granule. It consists of all the cracks and crevices created when the coal is crushed and glued back together, and the volume between the graphite plates. The distance between the graphite plates determines whether the space is an adsorption pore or a transport pore.

What is an adsorption pore?

Adsorption pores are the internal volume where the graphitic plates are very close together creating a higher energy. Higher energy is important to adsorption because it is the energy that "holds" the contaminant (the carbon "adsorbs" the contaminant). The volume where the graphite plates are far apart and the cracks and crevices make up the transport pores. It is important to note that all adsorption takes place in the adsorption pores and not the transport pores.

What do you mean - an adsorption pore is a higher-energy area?

There is a natural attractive force between all things in the universe. Gravity is one of these forces. In adsorption theory, the force between the contaminate and the carbon is the adsorptive force. It technically is a Van der Waals force. It is this attractive force that enables adsorption to occur. The forces are a function of the distance between the two objects. The closer together the objects are, the higher the attractive force is. The higher the attractive force, the higher the "energy" level of the pore space.

What is a transport pore?

Transport pores are the internal volume of the carbon granule where the graphitic plates are far apart or the cracks and crevices of the particle. The transport pores act as the "highways" for the contaminants to reach the adsorption pores where they are adsorbed. It is important to note that no adsorption takes place in the transport pores. Transport pores are vitally important, as they allow access to the adsorption pores - especially those deeper within the carbon granule.

How does the carbon remove the contaminant?

Once the contaminant enters the carbon granule via the transport pore space, it diffuses into the carbon matrix until it enters the smaller pores where the adsorptive forces begin to take effect. Once it reaches a higher-energy area, it can no longer migrate (or diffuse) because the adsorptive force is stronger than the diffusional force. The contaminant is adsorbed to the carbon surface by the adsorptive forces (the Van der Waals forces). In this state, the contaminant is referred to as the adsorbate.

The Blackstone HomeGuard water filter is fitted with large silver impregnated highly activated carbon filter element to perform this very important contaminant removal

Now you know all the technical stuff but the most important information is that the Blackstone HomeGuard Ion Exchange Water Filter has all of these important filtration and water treatment components built in as part of our high quality and high flow rate water filter that is ideal for your whole of house application to protect you and your family.

Filter Replacement & Frequency Guide

Blackstone Home Guard Filter

Retail \$1080

The following three replacement filters are required to be replaced every 6 months for both above filter

Blackstone HomeGuard ELE-BSHG 101 Retail: \$97.76

Blackstone Homeguard ELE-BSHG 104s Retail: \$97.76

Blackstone Homeguard ELE-BSHG 1m Bag Retail: \$77.14

TOTAL: \$272.66