DIFFERENCES IN WATER FILTER TECHNOLOGIES

ODAK Solid Carbon Block Technology: Water is forced through the pores of the densely compacted solid *carbon block* filter where a combination of mechanical filtration, electro-kinetic adsorption, and physical/chemical adsorption take place to reduce a wide range of contaminants. Solid Carbon Block Technology can convert chlorine to harmless chloride ions removing chlorine taste and odor problems reduce particulate matter and a wide range of contaminants of health concerns – cysts, VOC's, trihalomethanes (THM's), heavy metals (lead, mercury) turbidity, certain pesticides, and asbestos. ODAK's Solid Carbon Block Filters do not remove healthful, naturally-occurring minerals, require no electricity, and do not add salt or silver to the water. ODAK's solid *carbon block* filters provide refreshing, delicious, and safer drinking water.

Reverse Osmosis: Reverse Osmosis is a process that forces, by the application of pressure, the water to pass through a semi-permeable membrane that rejects contaminants suspended in the water. The product water passes through to a holding tank. The process is slow and wastes 3-4 gallons for every gallon of drinking water produced. It may require professional installation. This system reduces heavy metals and minerals (including healthful, naturally-occurring minerals). Reverse Osmosis does not effectively reduce VOC's, pesticides, or THM's. The Reverse Osmosis membrane can also be sensitive to certain water characteristics.

Activated Granular Carbon: In this type of filter, water flows through a bed of charcoal granules which traps the particulate matter, adsorbs some chlorine, and reduces taste and odors. It is possible for the water to channel around the carbon granules, thus avoiding filtration. If the granules are not impregnated with silver nitrate (which is considered to be poison), the granular bed may become breeding grounds for bacterial growth. This type of filter is primarily used for aesthetic treatment, since it can reduce some chlorine and particulate matter. Granular Activated Carbon filters, because the water can channel around the carbon granules, are not effective in reducing contaminants of health concern (cysts, VOC's, trihalomethanes, pesticides, lead, or asbestos).

Distillation: Water is heated to boiling and turns to vapor, leaving behind contaminants. The water vapor enters a condenser and is cooled and returned to a liquid state. Ready for use, it works slowly, taking a few hours to produce the first quart of water and use a lot of electricity (costing consumers approximately $240.00 per year). The distillation process does kill cysts (giardia, cryptosporidium). However, VOC's and trihalomethanes, because of their volatile nature ("volatile" meaning that these chemicals can be evaporated and then re-condensed into a liquid state), are not effectively reduced by distillation

Mixed Media: This type of filter is especially engineered for specific contaminant reduction. For example, KDF filters reduce chlorine well while ATS filters reduce lead well. These filters show a high performance against the specific contaminants, but not against other contaminants.

Ceramic Filters: Ceramic filters use a process whereby the water is forced through the pores of the ceramic filtration media, providing mechanical filtration only. This type of filter can reduce asbestos, cysts (if the pores of the ceramic media are one micron or smaller), and particulate matter. Ceramic filters cannot reduce VOC's, pesticides, trihalomethanes, or lead.

Carafes/Pitchers: The "pour-through" types of filters are mainly taste and odor filters. Some are effective against lead and/or chlorine. The internal filter is usually a mixed media or granular carbon. These filters do not reduce other contaminants of health concern. Since the carafe can only hold approximately 2 or 3 quarts, there is a limited supply of water.

Ultra-Violet (UV) Treatment: Water passes through a chamber where it is exposed to ultra-violet radiation. Very turbid water can reduce the effectiveness of this type of treatment. This treatment is effective against many bacterial contaminants but is not effective in reducing cryptosporidium or other contaminants of health concern, VOC's, asbestos, trihalomethanes, and lead.

Ion Exchange Treatment (Water Softeners): Ion Exchange uses the chemical ion exchange process to exchange anions or cations on a "resin" bed for cations or anions of the contaminant that needs to be reduced (usually heavy metals or minerals like lead or mercury). Waters softeners are neither filters nor purifiers and are used only to change the water hardness. Softeners put sodium into the water in exchange for magnesium or calcium ions. It is recommended that water softeners be by-passed when installing a water filter. Most softeners must be professionally installed.

Visit our showroom: Green Brook Plaza, 326 Route 22 West, Green Brook NJ 08812

Contact us in NJ: (732) 733 1102 or Toll free in PA: (888) 901 6325 (ODAK)