

## **HYPERtech, Inc.**

"High Performance Technologies Since 1985"

Gladstone, Oregon 97027-1022

3/888-422-0269 or 725/744/9; ; 3

[plh@hypertech-usa.com](mailto:plh@hypertech-usa.com)

[www.hypertech-usa.com](http://www.hypertech-usa.com)

### **ATTENTION HUNTERS, FISHERMAN, BOATERS, AND CAMPERS**

## **The HyperClear® System**

Safe drinking water is often taken for granted, and provision is seldom made for a safe backup supply. Experts advise that you need one gallon per person per day in an emergency. During emergencies, a piped water supply may not be available. It is not uncommon for an earthquake to fracture mains and interrupt municipal water systems. While a person can survive weeks without food, you can only survive three days without clean water. If you drink contaminated water, you may reduce your survival time due to diarrhea or vomiting. Water from rivers, streams, ponds, or rainwater may present the only sources of water. In these cases, the water may be unclear and have an unpleasant odor and taste. More importantly, it could be a source of disease. Even clear and apparently fresh water may be polluted with disease-causing pathogens.

Our filter systems are specifically designed to micro-filter a supply of safe drinking water from cisterns, ponds, streams, and other sources of questionable water. HyperClear® water filters are compact, portable, and simple to operate. Requiring no external plumbing, each system takes only minutes to assemble. Simply pour the source water into the top bucket and it will filter through the Doulton® ceramic candle elements to the bottom bucket providing up to 32 gallons per day of safe drinking water!

Our filtration systems are carefully manufactured one-at-a-time in order to maintain the highest standard of quality. We use food grade 90mil polyethylene buckets that are hygienic, durable, and easy to clean. Each system goes through many quality checks before shipping. We are a family owned business that has been supplying quality products since 1985. The President of HYPERtech, Inc., Scott G. Edwards, makes the final quality check on each filter system kit. Along with the Doulton® name, our family name is also on the line and every system kit is assembled with that in mind. In the highly unlikely event of a problem with your system, we stand ready to take care of you, our customer.

## **The Doulton® Ceramic Candle**

At the heart of each system are the identical ceramic candles used in British Berkefeld® drip gravity systems... The Doulton® ceramic candles.

At the core of the Doulton® ceramic filter candle is the most basic of elements -- **EARTH**. This is the same substance which artisans, first in Asia then in Europe, refined into exquisite porcelain and pottery of the Shoguns and Kings. This material is diatomaceous earth [de.], a fossil substance, made up of tiny silicon shells left by trillions of microscopic, one-celled algae called diatoms that have inhabited the waters of the Earth since it's creation.

Diatoms have one property that sets them apart from other microorganisms. They weave microscopic shells, which they use for protection and locomotion. These shells are covered with a pattern of tiny holes so regular that even the slightest change in their design usually signifies a different species. As the diatoms died, their shells survived, slowly piling up in deposits at the bottom of geological lakes and lagoons. When these lakes dried up, what remained were huge deposits of "diatomaceous earth." Today there are over 1500 uses for diatomaceous earth, abrasives for toothpaste, filtering agents for water and milk, heat insulators for kilns, polishing agents in nail polishes, and many more.

The ceramic shells in our filter candles exhibit a strictly controlled pore structure (80,000,000 pores) which is unparalleled in any other brand of element. This pore structure provides efficient sub-micro filtration (nominal .22 micron), a proven defense against hard-shelled parasites, pathogenic bacteria, and other less harmful but equally unpleasant particulate debris such as rust and dirt. Laboratories consider filtering medium with an effective pore

size of .01 micron to be bacteriological sterile and .45 micron to 1.0 micron to be bacteriological safe. The candles consist of a fine microporous structure, which forms a complete barrier to all particles larger than 0.5 microns in size (ANSI)(1 micron = 1/1,000 of a millimeter). All particles above this size become trapped on the surface and within the ceramic material. Fine particles of silver are evenly dispersed within the structure of the element, which prevents the growth of bacteria (mitosis) within the ceramic wall. The Doulton® elements also contain an additional activated charcoal filling, which removes chemical and organic compounds from the water and improves its taste and odor.

The high-tech silver-impregnated ceramic elements feature a nominal filtration efficiency of **0.2 microns > 98%**, at **0.5 microns > 99.99%**, and at **0.9 microns > 99.999%** which effectively blocks waterborne pathogens and clarifies the water.

What the Doulton® ceramic elements will remove:

- Absolute filtration efficiency to 0.5 microns (US)
- For particles 0.2 microns, efficiency is greater than 98% (Spectrum Labs)
- From 0.3 to 0.5 microns, filtration efficiency is greater than 99% (Hyder Labs -- U.K.)
- Independently tested to remove the following parasites and pathogenic bacteria:

- E. Coli 99.99% (Hyder Labs -U.K.)
- Klebsiella 99.999% (Hyder Labs -U.K.)
- Cholera 99.99% (Hyder Labs -U.K.)
- Shigella 99.99% (Hyder Labs -U.K.)
- Salmonella 99.999% (Hyder Labs -U.K.)
- Giardia Lambia 100%\*
- Live Cryptosporidium 100%\*

Microorganism	Illness
Giardia	Giardiasis
Salmonella	Typhoid
Vibrio Cholerae	Cholera
Schistosoma	Bilharzia
Shigella	Shigellosis
E. Coli	Traveler's Diarrhea
Pseudomonas	Melioidosis
Cryptosporidium	Cryptosporidiosis

\*(University of Arizona-Sterling)

After passing through the filter elements, safe, filtered water then collects in the lower chamber to be drawn off from a tap. The structure of the ceramic material is designed to be cleanable. Each 10" Super Steracyl® candle will filter 2,600 to 15,000 gallons of water depending on the turbidity of the source. As the elements become clogged with particulate, they can be easily cleaned with fresh water and a stiff brush or ScotchBrite® pad exposing a fresh layer of ceramic. This process can be repeated up to 100 times. If the source is relatively non-turbid such as rain water, these filters will be effective for up to 60,000 gallons! Because each element is impregnated with silver, they will not support bacterial growth (mitosis), and never need to be sterilized or boiled like other systems!

Our ceramic filter product is manufactured, tested, and certified to meet:

- National Sanitation Foundation (NSF) Standard 42 and 53 for stated claims (ceramic shell).
- EPA Reg. No. 69096-1 (Sterasyl)
- EPA Establishment No. 69096-GBR-001
- ISO 9002 Quality Standard
- University of Arizona (USA)
- Spectrum Labs (Minneapolis, USA)
- Hyder Labs (Cheshire, England)
- Loughborough University, England
- Thresh, Beale & Suckling Laboratories, England
- Clare Microbiological Laboratories, England
- Severn Trent Laboratories, England
- The World Health Organization
- Department of Health (Toronto, Canada)
- British 5750 Quality Standard
- Englands Water Research Council (WRc) Performance Standards (UK).
- Canadian Government
- The Doulton® Candle is certified by The California Department of Health
- Filtration efficiency is 0.5 micron absolute by American standards (ANSI)
- As manufacturer, Fairey Industrial Ceramics Ltd. (a division of Fairey Group plc) are
- Holders of the Queen's Award for Export and The Queen's Award to Industry.
- Doulton branded goods have been manufactured since 1827

\*\*\*\*\*No other filter manufacturer may claim ANY of the foregoing\*\*\*\*\*

International customers of the Doulton® filter include:

- International Red Cross
- Unicef
- Oxfam
- Medecins Sans Frontieres
- US and British Embassies
- Hong Kong Health Dept
- Save The Children
- Medicare International

## **History of the Doulton® Ceramic Filter**

The roots of the Company stretch back over 200 years to the beginning of the English china industry. In 1815, on the eve of Waterloo, John Doulton was taken into partnership by the widow Martha Jones who had inherited from her late husband a pottery in Vauxhall Walk, Lambeth, by the side of the Thames. Her foreman John Watts was also taken into partnership and the firm became Jones, Watts, and Doulton. John Doulton founded his first pottery in 1815 at Lambeth, England on the banks of the Thames River. The main products of the original company were ceramic busts, figurines, canning jars, and tableware. Influenced by the unrelenting progress of the Industrial Revolution, Doulton placed equal emphasis on industrial applications for ceramic technology. It was John Doulton's son, Henry, however, who carried that tradition of the Lambeth pottery to its zenith.

As early as 1827, Henry Doulton developed ceramic filters for removing bacteria from drinking water. "Offensive to the sight, disgusting to the imagination and destructive to the health." This was how London drinking water, which was drawn from the Thames, was described in a pamphlet published in 1827. The Thames was heavily contaminated with raw sewage; cholera and typhoid epidemics were rampant. The first Doulton® water filters were made using various earth and clay materials. By the time Queen Victoria came to the throne, Doulton was established as a manufacturer of domestic and industrial products in a fine stoneware body that bore comparison with any in Europe.

In 1835, Queen Victoria recognized the present health dangers in her drinking water and commissioned Doulton to produce a water filter for the Royal household. Doulton created a gravity fed stoneware filter that combined the technology of a ceramic filter with the artistry of a hand crafted pottery water container.

By 1846, the Lambeth factory was in the vanguard of the revolution in sanitation which Chadwick and the great reformers of the day brought to metropolitan England. Without the hard work and foresight of Henry Doulton that revolution would have been best delayed by decades.

Henry Doulton introduced the Doulton® Manganous Carbon water filter in 1862, the same year that Louis Pasteur's experiments with bacteria conclusively exploded the myth of spontaneous generation and proved that all microorganisms arise from other microorganisms. This more advanced understanding of bacteria made it possible to direct Research and Development efforts to the creation of a porous ceramic capable of filtering out these tiny organisms. With Pasteur's advancement in microbiology, Doulton's Research and Development Department, headed by Henry Doulton, created microporous ceramic (diatomaceous earth) cartridges capable of removing bacteria with better than 99% efficiency. These were rapidly adopted by the military, Crown Agents, hospitals, laboratories and domestic users throughout the world. In 1862, Doulton filters shown at the Kensington International Exhibition proudly wore the Royal arms of Queen Victoria.

Henry Doulton In 1882 Henry Doulton acquired a small factory in the Midlands, motherland of the Staffordshire potteries and the home of the Doulton Drinking Water Purifier. By 1901, King Edward VII knighted Henry Doulton and in 1902 King Edward VII conferred the double honour of the royal warrant and the specific - as opposed to the assumed - right to use the title "Royal" for his work on drinking water filtration. This Royal Warrant authorized the company to use the word ROYAL in reference to its products. Along the way the honors were won at the great international exhibitions at Chicago and Paris and the range of products proliferated. Queen Victoria bestowed upon Doulton the right to embellish each of its units with the ROYAL CREST.

In 1906, Doulton introduced a filter that proved to be equal to the one Louis Pasteur had developed in France. It was rapidly adopted by hospitals, laboratories and for use in domestic water filtration throughout the world. The popularity and effectiveness of even the early 20th century designs has resulted in their continued use world wide.

The range and efficiency of Doulton® domestic water filters has been widely extended over the years to meet the demands of increasingly sophisticated uses. Doulton® ceramics are now in use in over 150 countries.

The Royal Doulton Visitor Center was opened in May 1996 within the heart of the Royal Doulton factory in Burslem, Stoke-on-Trent, the "Mother Town" of the Potteries. Visitors walk through original factory buildings dating back to the mid-nineteenth century, which have been beautifully refurbished as the Home of the Royal Doulton Figure. In July 1998 the Heart of England Tourist Board named the Visitor Center Visitor Attraction of the Year in its category.

## **SYSTEM INSTRUCTIONS**

Follow these simple instructions and your water filter will provide you with thousands of gallons of safe, clean water.

**Assembly Instructions** (Please refer to the assembly diagram on the back page)

1. Remove the lids, buckets, filter elements (in the blue boxes), and faucet from their packaging, checking each item for damage. **IF YOU HAVE ANY SHIPPING DAMAGE CONTACT THE SHIPPING COMPANY IMMEDIATELY!** Check the parts against the list provided and contact HYPERtech if any are missing. Refer to the diagram when assembling. **NOTE:** The number of elements supplied will depend on the model of filter purchased.
2. Extreme cleanliness is important. Wash all parts, except the elements, before assembly. Wash hands before handling the product and ensure that contamination of the components does not take place during assembly.
3. Remove the wing nuts (5) from each element (3) that is to be installed and check that the rubber sealing o-ring (4) is fully seated over the threaded part of each element.
4. Place the elements into the open holes in the base of the upper bucket (1). Secure the elements in place by screwing the wing nut onto the threaded part of the element, fully tightening the wing nut with moderate pressure. Do not over tighten.
5. Insert the threaded portion of the faucet (8) through the hole in the side of the bottom bucket (6). Make sure there is a gasket (9 & 10) on the outside and the inside of the bucket. Secure the faucet in place with the nut (5) provided.
6. Set the drip lid (7) on top of the bottom bucket and the solid lid (2) on top of the upper bucket. (Do not snap the lids on unless you intend to leave the filter permanently assembled. They are very difficult to remove if snapped on).
7. Place the upper bucket on top of the lower bucket making sure that the filter ends rest exactly over the drip holes. The HyperClear® Gravity Water Filter is now ready to operate.

**To store the filter...** simply remove the drip lid from the bottom bucket and slide the top bucket into the bottom bucket. This can be done with the bucket fully assembled if desired. However, if you intend to transport the system, we recommend placing the filters back in their protective packaging before transport.

### **Water Collection**

Proper water collection is a critical step in the operation of your HyperClear® Gravity Water Filter. You should always collect the cleanest and purest water available. The cleaner the water, the less often the filter candles will need to be cleaned and the longer the ceramic filter candles will last. Rivers, lakes, large ponds, streams, and rainwater cisterns can be used as water sources. In an emergency, even water from a swimming pool can be used. Please keep in mind that the filter system will not remove dissolved minerals such as salt. Avoid collecting water where these elements may be found, such as small cattle ponds, and creeks where water runs off of heavily fertilized land or industrial waste sites. A little care in the collection of your water to be filtered will extend the life of your filter candles and improve the overall quality of the drinking water your HyperClear® Gravity Water Filter will produce. Always pre-filter muddy or cloudy water through a couple layers of tightly woven muslin or some other fabric to extend the life of your filter candles.

## Operation

1. Ensure the faucet is closed securely in the "Off" position.
2. Fill the top section of the filter with raw water. NOTE: Although water will begin dripping within minutes, it will require several hours for new filter element to become wetted and begin producing water at 100% output.
3. Allow the raw water to trickle through the filter elements and accumulate in the lower storage bucket.

NOTE: We recommend that the first gallon of filtered water from new elements, or after the filter has been stored for a week or more, be discarded as it may contain loose carbon washed from the filter elements.

## Water Production

The HyperClear® Gravity Water Filter uses Doulton® ceramic filters. Because these filters work by gravity, it will take time for the water to slowly work its way through the filter. New, dry elements will need several loads of water run through them before they are fully wetted and reach their maximum flow rate. In normal everyday use, water for filtration may be placed in the upper bucket in the evening and allowed to filter through overnight. In the morning, most of the water will have filtered through into the lower bucket. Additional water may then be added to the upper bucket so that a continuous process of filtration and subsequent use may be established. Keeping the upper bucket as full as possible is essential for reaching maximum water production potential. To halt the production of filtered water, simply lift the upper bucket off the lower bucket and empty it. The solid lid may then be placed on the lower bucket, which may then be used as a convenient counter-top water dispenser.

## Servicing

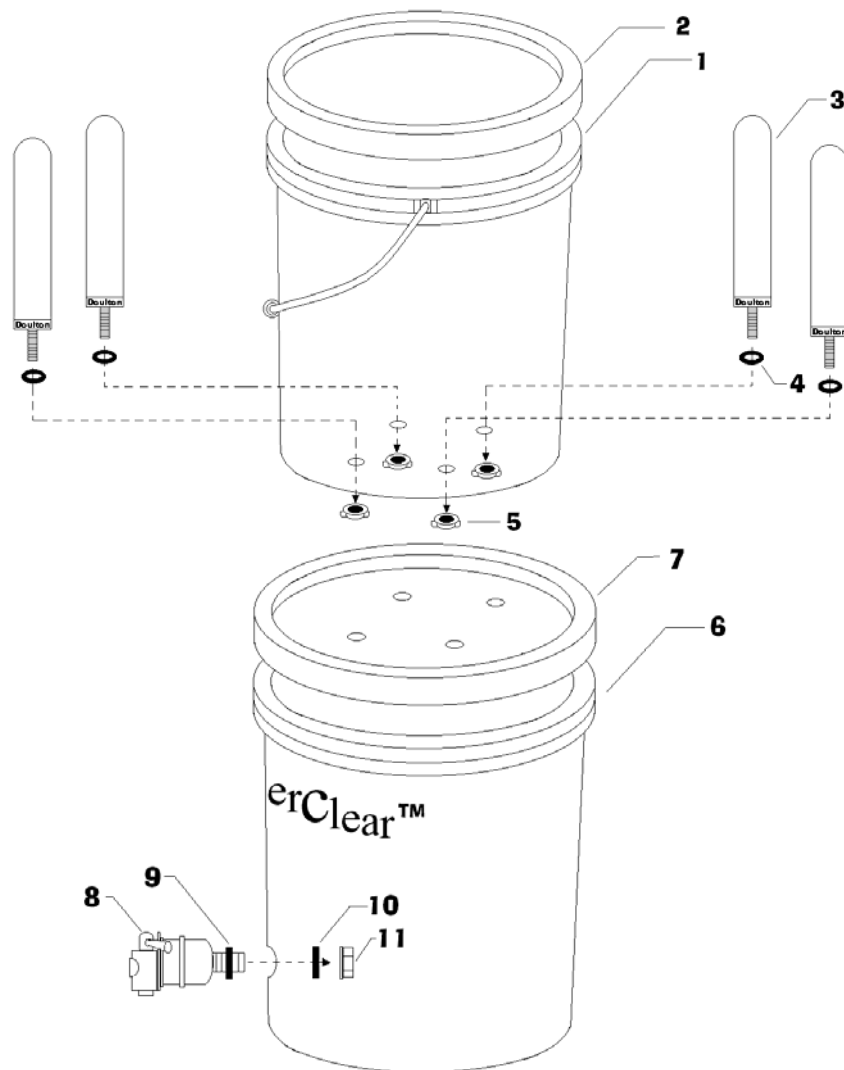
When the filter has been properly operated as described above, periodic cleaning of the elements will only be required when the production of filtered water becomes noticeably less than normal. More frequent cleaning will be necessary when filtering cloudy or turbid water, so always use the clearest water available for maximum filter life. The filter elements are very hard and will endure many cleanings. NOTE: When transporting the filter, remove and carefully pack the elements to prevent damage. Use the original packing materials if available.

## To Clean the Elements

1. Carefully remove the elements from the top section by unscrewing the wing nut. Keep contaminated water from entering the small hole on the threaded end of the filter element.
2. Hold the elements upright, and while taking care that contaminated water does not enter the threaded end of the element, lightly brush the ceramic portion of the filter downward toward the rounded end with a stiff brush or scouring pad. A ScotchBrite® pad works very well. Always brush away from the threaded end. **NOTE: DO NOT USE SOAP OR DETERGENT!** The use of rubber gloves when cleaning is suggested.
3. Rinse the ceramic element after lightly abrading the surface. Again, do not allow contaminated water to enter the small hole at the threaded end of the filter element. If the inside of the filter elements becomes contaminated, You **MUST** boil the element for 15 minutes and allow cooling.
4. Carefully clean and dry the buckets, keeping all surfaces free of contaminated water. A solution of one part household bleach (5% hypochlorite) to eight parts water will sterilize the buckets and lids. Wet all surfaces and allow to stand until dry. Remember to **remove the filter candles before cleaning** and rinse the buckets before you reassemble the system. NOTE: Do not allow the lower bucket to become contaminated, disease-causing pathogens may then be present.
5. Reassemble the filter element into the upper section, taking care that the sealing gasket is properly seated on each element and the wing nut is tightened with moderate pressure to form a secure seal.

# HyperClear® Gravity Water Filters

## PART LIST



<u>Part #</u>	<u>DESCRIPTION</u>
---------------	--------------------

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>1. "Upper Bucket" filter housing</li> <li>2. Solid lid for Upper Bucket (1)</li> <li>3. Doulton® Ceramic Filter Element</li> <li>4. Gasket for sealing Ceramic Element (4)</li> <li>5. Wing Nut for securing Ceramic Element (4)</li> <li>6. "Lower Bucket" for water collection</li> </ul> | <ul style="list-style-type: none"> <li>7. Drip lid for Lower Bucket (6)</li> <li>8. Threaded Water Faucet</li> <li>9. Silicone Faucet Washer (mounts outside)</li> <li>10. Silicone Faucet Washer (mounts inside)</li> <li>11. Plastic nut for securing Faucet (8)</li> </ul> |
|--|---|

## **Current HyperClear Price List - As of April 2011**

### **HyperClear® H2 Filter System - \$119.95\* US**

- 5 gallon reservoir capacity - Two 90 mil polyethylene food grade buckets
- Two Super Steracyl 10" filter elements
- Up to 16 gallons per day
- Life expectancy: 5,200 to 30,000 gallons depending on water quality

### **HyperClear® H4 Filter System - \$179.95\* US**

- 5 gallon reservoir capacity - Two 90 mil polyethylene food grade buckets
- Four Super Steracyl 10" filter elements
- Up to 32 gallons per day
- Life expectancy: 10,400 to 60,000 gallons depending on water quality

### **10" Super Steracyl® Replacement Candle - \$29.95\* US**

Free shipping on all orders (Alaska and Hawaii excluded)

To place an order, call 503-522-7991 or 888-422-0263 and an invoice will be sent via a secure PayPal transaction.

# HyperClear™ Gravity Water Filters

Model **H2** \$119.95

Model **H4** \$179.95  
(shown)

Free shipping in contiguous 48 states



Place your order  
today by calling  
**888-422-0263**  
or visit our Web site at  
[www.hypertech-usa.com](http://www.hypertech-usa.com)

- Filter rain, stream, pond, cistern, lake, or puddle water

- Removes E.Coli, Klebsiellas, Cholera, Shigella, Salmonella, Giardia Lambia, live Cryptosporidium, Schistoma, Pseudomonas, Typhoid, etc.

- Large 5-gallon capacity --- rugged polyethylene construction

- Produces up to 60,000 gallons of safe, clean water ---up to 32 gallons per day

- Uses Doultol™ World-Class Ceramic filter candles

- Certified by over 20 national and international agencies and testing laboratories including NSF and EPA

- Silver impregnated ceramics require no boiling or sterilization---will not support mitosis

- Carbon filled elements reduce chlorine, iodine, pesticides, chemicals, tastes and odors

- Perfect for emergencies, camping & everyday use

## Bacteriologically safe water is an absolute necessity

## No pumping - No chemicals - No plumbing

HYPERTech, Inc. 6660 Doncaster Drive, Gladstone, Oregon 97027-1022

[www.hypertech-usa.com](http://www.hypertech-usa.com)