# **HARMSCO® WaterWarmer**<sup>™</sup>

Heat Exchanger/Cartridge Filter

# **Improve your machining quality!**

#### The Only Cartridge Filter With A Built-In Heat Exchanger.

Heat or cool as you filter No need for separate heat exchanger Compact design and dual-purpose features save space, piping and installation time Improves lubrication and cutting performance



- Patented Up-flow design
- Electropolished 304 stainless steel housing
- Cartridge cluster is easily removed for cleaning/replacement
- Three sizes for greater media surface area and thermal output transmittance
- Fail Safe lid closure, rated for 150 psi



#### **Applications**

- Viscous fluid filtration
- Chilling coolants for sawing/machining
- Chilled Water Recirculation/Loops

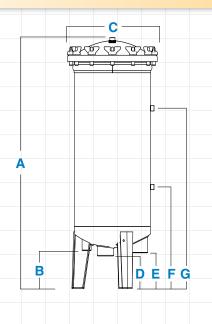
- Parts washers
- Plating industry
- Ultrasonic cleaning





# **Harmsco® WaterWarmer™ Filter Housings**

### WW









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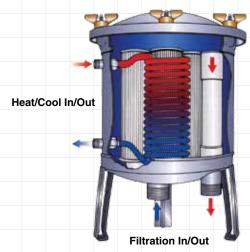
HIF-14-WW

HIF-21-WW

| Filter Model | A<br>Filter Height | B<br>Drain | C<br>Diameter | D<br>Outlet | E<br>Inlet | F<br>Heat-Cool<br>Inlet Ht. | G<br>Heat-Cool<br>Outlet Ht. | Pipe Size<br>NPT | Drain Size<br>NPT | Floor Space<br>(in.) | Service<br>Ht. |
|--------------|--------------------|------------|---------------|-------------|------------|-----------------------------|------------------------------|------------------|-------------------|----------------------|----------------|
| HIF-7-WW     | 19-1/4"            | 4-1/4"     | 13"           | 4-1/8"      | 3-7/8"     | 8-1/8"                      | 15-1/8"                      | 1-1/2"           | 1"                | 15x15                | 31"            |
| HIF-14-WW    | 29-3/8"            | 4-1/4"     | 13"           | 4-1/8"      | 3-7/8"     | 9-13/16"                    | 25-13/16"                    | 1-1/2"           | 1"                | 15x15                | 51"            |
| HIF-21-WW    | 39-1/8"            | 4-1/4"     | 13"           | 4-1/8"      | 3-7/8"     | 9-13/16"                    | 25-13/16"                    | 1-1/2"           | 1"                | 15x15                | 72"            |

## **Specifications**

- Electropolished 304 stainless steel
- Standpipe 304 stainless steel
- Temperature Up to 200°F (93°C)
- Pressure 150 PSI (10 bar) max
- Lid Closure Wing nuts, brass
- Rim Gasket EPDM (Buna-N, Viton avail.)
- Inlet/Outlet Connections standard (1-1/2" NPT plumbing; 1/2" NPT heating/cooling loop)



**Cutaway View** 

#### **Mechanical Specifications**

#### **Operating Specifications For Heat Exchanger\***

| Model     | Filter Area<br>(sq. ft.) | Height<br>(in.) | Floor<br>(in.) | Weight<br>(lbs.) | Coil Area<br>(sq.in.) | Thermal Output<br>(BTUs) | Coil Hot/Cold<br>Water Flow (gpm) | Coil Pressure Drop<br>(ft. of head) | Water Flow<br>(gpm) |
|-----------|--------------------------|-----------------|----------------|------------------|-----------------------|--------------------------|-----------------------------------|-------------------------------------|---------------------|
| HIF-7-WW  | 42                       | 19-1/2          | 13             | 30               | 245                   | 45,000                   | 3                                 | 12.7                                | 22                  |
| HIF-14-WW | 84                       | 28              | 13             | 43               | 434                   | 90,000                   | 6                                 | 35.88                               | 45                  |
| HIF-21-WW | 126                      | 37              | 13             | 54               | 434                   | 90,000                   | 6                                 | 35.88                               | 45                  |

<sup>\*</sup> Thermal output is based upon a temperature difference of 80°F between incoming hot and incoming cold water at the given flow rate. U.S. Patent #4,455,227

Note: This publication is to be used as a guide. The data within has been obtained from many sources and is considered to be accurate. Harmsco does not assume liability for the accuracy and/or completeness of this data. Changes to the data can be made without notification. Temperature, Pressure, Flow Rates, Differential Pressures, Chemical Combinations and other unknown factors can affect performance in unknown ways. Limited Warranty: Harmsco warrants their products to be free of material and workmanship defects. Determination of suitability of Harmsco products for uses and applications contemplated by Buyer shall be the sole responsibility of Buyer. The end user/installer/buyer shall be liable for the product's performance and suitability regarding their specific intended applications. End users should perform their own tests to determine suitability for each application.



#### **HARMSCO®** Filtration Products

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