

# Depth Filtration Systems

Improve the Cleanliness of your Equipment

## Contamination Control

HARVARD STAND-ALONE AND PORTABLE DEPTH FILTRATION SYSTEMS PROVIDE YOU WITH THE ULTIMATE SOLUTION FOR BOTH IMPROVING AND MAINTAINING OIL CLEANLINESS.



### BENEFITS

#### **The Ultimate in Contamination Removal**

Harvard depth filtration systems are the ultimate way to improve equipment cleanliness levels. Harvard Corporation utilizes patented non-channeling seals to improve partial-flow filtration by forcing oil through a wound, fiber-filter media so fluids can not bypass the partial-flow filter. As a result Harvard filters remove virtually all particles 1 micron and greater in the fluid.

#### **Multitude of Uses**

Harvard depth filtration systems can be utilized for a variety of applications, including hydraulic systems, gear boxes, turbines, and refrigeration systems. Harvard systems work with mineral oils, most synthetic oils, transformer and quench oils, and solutions for cooling systems are available.

#### **Customized Design**

A variety of the most commonly purchased Harvard depth filtration systems are shown here, however, Harvard systems can be customized to meet the requirements of most applications. Customization includes stand-alone or portable filtration systems, various depth filtration canister sizes, one or two canisters with flow rates from 5 to 8 GPM, optional bag filter units with flow rates from 25 to 200 GPM, integrated pump systems available in either 120, 220, or 575 volt configurations, and a choice of finishes.

#### **Filter Media Variety**

Depth filters are available for hydraulic oils, gear oils or general lube oils and various media are available to work with mineral oils, synthetic oils, water glycol fluids, water-based EDM fluids and coolants. Bag filter membranes are available in a range of sizes from as low as 1 micron up to 200 microns.

#### **The Bottom Line**

Depth filtration systems provide rapid payback through significantly reduced consumable use. Depth filters can hold well in excess of 50 times the amount of dirt and particulates as a comparable spin-on filter, and additionally can remove moderate amounts of water present in the oil. Studies show that it can cost in excess of \$500 per pound to remove dirt using a 3-micron spin-on filter, while the cost of using a 3-micron depth filter is less than \$10 per pound. Depth filters remove more dirt, require significantly less filters changes, to provide cleaner and drier fluid at a significantly lower cost.

U.S. Patents: 4,792,397; 4,780,204; 5,486,290; 6,270,668 B1; 6,319,416 B2

### OVERVIEW

- Harvard Patented depth-filtration system.
- Suitable for a wide variety of applications including hydraulics, gearboxes, turbines, refrigeration systems.
- Works with a variety of fluids including mineral oils, most synthetic oils, water glycol fluids, water-based EDM fluids, and coolants.
- Available in stand-alone and portable systems.
- Optional bag filters, pump systems, choice of finishes.
- Standard depth-filter media is 3 microns absolute, bag filters available in 1 micron to 200 micron ratings.



# LUBRIGARD

PROACTIVE LUBRICATION MANAGEMENT

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## Portable Systems

### 8 GPM - 2 Depth / 1 Bag Filter [HFC10002H1B120V]



**Canisters**  
2 X 1000 Depth Filter  
1 X Bag Filter  
**Flow Rate**  
30 l/min (8 GPM)  
**Motor**  
1 HP 120V single phase  
**Suction/Return Hoses**  
3m (10 ft)  
**Weight**  
102 kg (225 lbs)  
**Finish**  
Chrome-plated Carbon Steel

## Stand-Alone Systems

### 8 GPM - 2 Depth / 1 Bag Filter [HSA10002H1B575VT]



**Canisters**  
2 X 1000 Depth Filter  
1 X Bag Filter  
**Flow Rate**  
30 l/min (8 GPM)  
**Motor**  
3/4 HP 575V three phase  
**Suction/Return Hoses**  
none  
**Weight**  
118 kg (260 lbs)  
**Finish**  
Chrome-plated Carbon Steel

### 8 GPM - 2 Depth Filters [HFC10002H120VPB]



**Canisters**  
2 X 1000 Depth Filter  
**Flow Rate**  
30 l/min (8 GPM)  
**Motor**  
1 HP 120V single phase  
**Suction/Return Hoses**  
3m (10 ft)  
**Weight**  
77 kg (170 lbs)  
**Finish**  
Powder-coated (black)

### 8 GPM - 2 Depth Filters [HSA10002H575VTPB]



**Canisters**  
2 X 1000 Depth Filter  
**Flow Rate**  
30 l/min (8 GPM)  
**Motor**  
3/4 HP 575V three phase  
**Suction/Return Hoses**  
none  
**Weight**  
100 kg (220 lbs)  
**Finish**  
Powder-coated (black)

### 5 GPM - 1 Depth Filter [HFC10001H120V]



**Canisters**  
1 X 1000 Depth Filter  
**Flow Rate**  
19 l/min (5 GPM)  
**Motor**  
3/4 HP 120V single phase  
**Suction/Return Hoses**  
3m (10 ft)  
**Weight**  
50 kg (110 lbs)  
**Finish**  
Chrome-plated Carbon Steel

### 5 GPM - 1 Depth Filter [HSA10001H575VT]



**Canisters**  
1 X 1000 Depth Filter  
**Flow Rate**  
19 l/min (5 GPM)  
**Motor**  
3/4 HP 575V three phase  
**Suction/Return Hoses**  
none  
**Weight**  
82 kg (180 lbs)  
**Finish**  
Chrome-plated Carbon Steel

## Depth Filters

**Diameter:** 19.1 cm (7.50 in)  
**Length:** 50.2 cm (19.75 in)  
**Dirt Holding Capability:** 10 kg (22 lbs)  
**Water Holding Capability:** 3.5 L (0.9 Gal)

**Beta Ratio:**

3 micron	B <sub>3</sub> = 91.99
5 micron	B <sub>5</sub> = 229.10
10 micron	B <sub>10</sub> = 1078.28
15 micron	B <sub>15</sub> = 3002.86
20 micron	B <sub>20</sub> = 4937.68



### Hydraulic Filter [LGDH1002D3A]

For hydraulics oils from ISO VG 2 to VG 100  
Filter Media: Dehydrated Cellulose  
Number of Sections: 2

### Lube Reservoir Filter [LGDH1004D3A]

For increased polishing over 2 section filter  
Filter Media: Dehydrated Cellulose  
Number of Sections: 4

### Gear Oil Filter [LGDH1006D3A]

For gear oils from ISO VG 100 to 220  
Filter Media: Dehydrated Cellulose  
Number of Sections: 6

### High-Visc Gear Oil Filter [LGDH1008D3A]

For gear oils ISO VG 320 and higher  
Filter Media: Dehydrated Cellulose  
Number of Sections: 8

### Water-Based Fluids [LGDH1004D3AWB]

For all water-based fluids  
Filter Media: Treated cellulose  
Number of Sections: 4

## Bag Filters

### Bag Filters [LGBH15DN(X)NN]

For all bag filter canisters (available from 1 - 200µ)  
{X} = 1,5,10,15,25,50,70,100,150 or 200 microns



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