

# LUBER FINER<sup>®</sup>

**BUILT TO DO MORE<sup>™</sup>**

**Heavy-Duty Hydraulic Filters**



Off-Road



Agriculture



Construction



Fleet



Marine

Light Truck, Automotive, Medium, Heavy-Duty,  
Extended Life and High-Efficiency Filters



# LUBER-FINER<sup>®</sup> Heavy-Duty Hy

## The Driving Force in Heavy-Duty Filtration

Luber-finer, a division of Champion Laboratories, Inc. is a global manufacturer of heavy-duty filtration products. Luber-finer provides premium filtration solutions for fleets operating vehicles on-highway as well as off-road applications such as heavy construction, mining, agriculture, the oil and gas industry and marine.

Luber-finer combines groundbreaking research and development with award-winning lean manufacturing, marketing and customer support for all your filtration needs. Luber-finer has been a trusted name in filters since 1936, providing high-efficiency performance in the most demanding work environments. From heavy-duty trucks and buses, off-highway vehicles and light commercial vehicles, Luber-finer's entire product line of filters is designed to keep your vehicles and equipment running cleaner, longer.

Whatever filter you choose from our range of oil, air, fuel, hydraulic or coolant filters you can always count on Luber-finer for high quality and performance. The products are manufactured on the same manufacturing processes as our OE filters and therefore are guaranteed to meet OE performance.

***Luber-finer, Built To Do More!***



## Built To Do More.

### Protecting Today's Hydraulic Systems

Luber-finer hydraulic filters are designed to meet the demands put on your fleet and equipment every day. As today's work requirements increase demands on your system's performance levels so does our ability to provide you with premium filtration to protect your machinery both mechanically and chemically.

Efficient filtration reduces wear, guards against system failure and promotes maximum equipment uptime and performance. Whether the hydraulic system is simple or complicated, it will always need protection from harmful contaminants in the operating fluids by using the Luber-finer range of hydraulic filters.

The Luber-finer product range provides hydraulic filters for on road vehicles, construction, mining, agriculture, marine and industrial markets.

Our hydraulic media removes harmful particles and contaminants in the hydraulic fluid. The fluid path is altered by continuously changing its direction as it flows through the intricate maze of media, trapping contaminants.

### Trust Your Hydraulic Systems to Luber-finer

Luber-finer has built a trusted reputation for being a leader in the filtration industry. We set the standard back in 1936 with the introduction of by-pass technology. We are continually raising the standards by assuming an active role in preparation of new test procedures and development of new products for the industry. Champion Laboratories, manufacturer of the world-famous Luber-finer filters recently invested millions of dollars in new, state-of-the-art manufacturing processes.

### Our Attention to Quality

Luber-finer hydraulic filters are constructed using only the highest quality components. Each component must meet the most stringent criteria to maintain collapse strength, filtering integrity and burst strength.

Our filters are designed to meet or exceed OEM requirements for service life, efficiency and percentage of contaminant removal. Test specifications used include SAE and ISO manufacturers' standards.

Engine and equipment manufacturers' warranties remain in effect when Luber-finer filters are used.





# Hydraulic Filters



## Luber-finer Heavy-Duty Hydraulic Filters Feature:

- **Long lasting Anti-Drainback valve**  
for extended protection against engine dry starts
- **Easy turn, user-friendly**  
low torque valve
- **All metal housing**  
to withstand higher pulse fatigue and provide higher burst strength
- **High performance media**  
designed to trap microscopic contaminants
- **H 60 SYNTHETIC MEDIA**  
The LH 60 Synthetic Media delivers high performance up to 99% efficiency.
- **Molded O-Ring**  
for easy installation and removal

## Top Heavy-Duty Hydraulic Filter System Tips/Facts

All hydraulic systems have a common need for protection from harmful contaminants. Good contamination control means cost effective filtration. Filtering out the particles large enough to be harmful to your system prevents damage and allows the longest possible filter service life. Minimizing maintenance costs through good contamination control practices requires proper filter application based on the specific contamination problems.

Contaminants, the natural enemy of hydraulic systems, cause more than 70% of all failures. If not controlled, particles too small to be seen can reduce hydraulic system efficiency. System efficiencies may be reduced as much as 20% before it is recognized that something is wrong. Contamination affects hydraulic systems in many ways.

- Corrosion of hydraulic systems from acids that form due to fluid breakdown and mixing of incompatible fluids in the system.
- Increased internal leakage, which lowers the efficiency of pumps, motors, and cylinders. It decreases the ability of valves to control flow and pressure accurately. It also wastes horsepower and generates excess heat.
- Sticking of parts due to sludge or silting. Silting is a collection of fine particles in critical areas, which will impair proper system operation.
- Seizure of parts or components caused by large amounts of contaminants getting stuck in the clearances.

## Luber-finer Fact

**Avoid substituting an incorrect model or part number!**

Models may look identical but differ by a fraction of an inch – a difference that makes a positive firm seal impossible. Search and compare any part number on [www.luberfiner.com](http://www.luberfiner.com), call our hotline or search on-the-go with our exclusive smart phone apps.

**Luber-finer is Built To Do More.**

## Hydraulic Filter Efficiency

All Luber-finer hydraulic filters use the high-efficiency media specific to the application. Whatever the micron size rating, Luber-finer hydraulic filters use Beta 75 rating (absolute rating, 98.8% efficiency) for all heavy-duty hydraulic applications.

### Here are some typical listings:

LFH3756 B70 = 75 LFH4223 B60 = 75 LFH4206 B46 = 75  
LFH4229 B25 = 75 LFH4248 B12 = 75 LFH4267 B3 = 75

## How It's Tested, Measured and Rated

Hydraulic fluid contaminants are so small they're measured in microns-millionths of an inch. Filter efficiency is determined by measuring the oil contamination levels going into and coming out of the filters.

Beta Ratio is a formula for calculating the efficiency of a filter media at removing particles. It's simply a relationship between upstream and downstream particle counts.

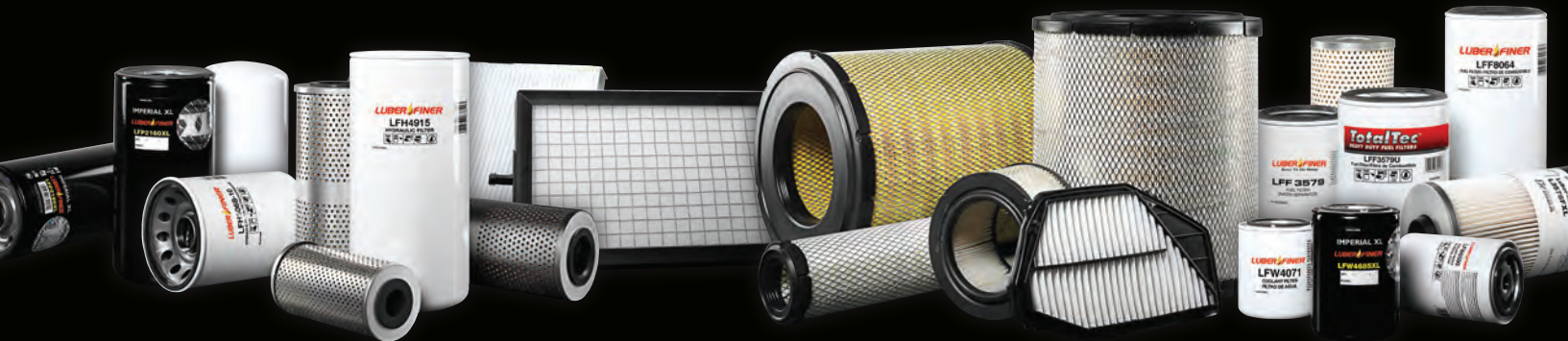
Let's say a filter test shows 1,000 particles at 15 microns or larger upstream, and 50 particles at 15 microns or larger downstream. To calculate the Beta Ratio, simply divide upstream (1000) count by the downstream (50) to get Beta15 Ratio of 20.

## To convert a Beta ratio to efficiency is simple:

Beta Ratio - 1/Beta Ratio = Filter Efficiency. The Beta(x) = 2 efficiency is  $(2 - 1)/2 = 1/2$ , the efficiency is 50%. The Beta(x) = 75 efficiency is  $(75 - 1)/75 = 74/75 = .98666$  or 98.67%. The (x) after the word Beta denotes the size particle that is being considered. Therefore, Beta(10) = 4 means that the filter in question is 75% efficient at removing 10 micron size contaminants and larger from the hydraulic system.

## You can use this table to read efficiencies at a glance. (x for millionths of an inch size)

Beta Ratio	Efficiency (%)
Bx = 2	Bx = 50.0 (Nominal)
Bx = 20	Bx = 95.0
Bx = 50	Bx = 98.0
Bx = 75	Bx = 98.7 (Absolute)
Bx = 100	Bx = 99.0



Luber-finer offers a complete line of products to maintain and protect your equipment investment.

## Find Your Filter With Luber-Finder

Get quick access to Luber-finer filters and cross-reference information on competitive and Original Equipment Manufacturers' products with Luber-finder.

Load the Luber-finder CD-ROM in your Windows-based computer and search the latest information. There's an application section for automotive, light truck, heavy-duty truck and off-highway equipment.

For more information, or to get your quarterly updates of the Luber-finder CD-ROM, contact the Luber-finer sales department at 1-800-851-3641. You can also access Luber-finder basic at [www.luberfiner.com](http://www.luberfiner.com) on the Internet.

## WARRANTY

Luber-finer filters are guaranteed to be free from defects in material and workmanship. In the event of an engine or equipment failure directly caused by a proven defective Luber-finer filter, which was properly installed and changed following the engine or equipment manufacturer's recommended service intervals, Luber-finer will restore the engine or equipment to a condition equivalent to that existing just before the failure. Claims for engine or equipment repairs provided under this warranty must be submitted within 30 days after discovery of damage. Luber-finer Technical Services Department reserves the right to examine the engine or equipment and filter to determine the amount of damage and whether it was caused by a defective Luber-finer filter. This warranty gives you specific legal rights. You may have other rights which vary from state to state. Engine and equipment manufacturer's warranties remain in effect when Luber-finer filters are used.

**LUBER-FINER**  
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A Proud Distributor of Luber-finer Products.