

# Retrofit & Retrofit-Plus LTC Oil Filtration Systems

Reducing Your Oil-Related Maintenance Costs While Improving Reliability

Our retrofit oil filtration systems are designed to be installed on all LTC models to remove carbon and metallic particles produced during normal LTC operation, keeping oil in peak condition with minimal maintenance.

For flexible operation, both systems include an adjustable timer which allows customers to configure the system to their specifications—daily, every other day, weekly or every other week, in intervals of two, four, eight and 24 hours. Because filter replacement does not require pump reversal, dirty oil stays in the filter while system oil stays clean and in peak condition.

## RETROFIT: STANDARD

### Easier to Install and Maintain

- Compact, lightweight design permits easy installation and is equipped with quick-connect fittings that make filter replacements a “snap” (without shutting down the filter system).
- Sealed, environmentally-friendly filter canister design eliminates mess and hassle created when working with traditional filter cartridges in the field.
- New filters ship filled with oil, eliminating the need to supply make-up oil.

### Unique High-Efficiency Filter Design

Our depth-type filter uses a flow path parallel with the center tube instead of the conventional outside-to-inside flow. This forces oil through a greater depth of filter material for more efficient filtration. See back side for more information on this unique filter design.

### Minimum Turbulence in Reservoir

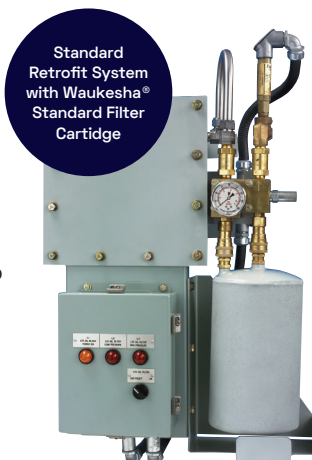
Pump maintains a flow rate of 1.8 GPM to minimize turbulence in the tank.

### Filter Adapter Kit Available for Alternate Style Manufacturer Cartridges

### More Economical

- Less mechanical wear can minimize equipment failure and downtime.
- Economical purchase price combined with less frequent filter replacement can save you money.\*

\* Actual filter life varies depending on transformer loading and frequency of LTC operations and tap changer model.



Customer Configurable

SEE BACK SIDE FOR PART NUMBER CONFIGURATION TOOL.

## RETROFIT-PLUS: CUSTOMIZE YOUR OWN SYSTEM

Our Retrofit-Plus Oil Filtration System has been designed to meet the filtration demands of higher oil volume load tap changers while providing flexibility to meet individual customer specifications. This system provides filtration with an oil flow rate range from 3 to 5 GPM and is adaptable to a variety of industry standard filters. Particle/Moisture removal performance is dependent on make/model of customer-specified oil filter cartridge.

With the appropriate filter installed, the Retrofit-Plus can remove dissolved water, extremely fine carbon and metallic particles to maintain peak performance of LTC oil, extend the life of your equipment and lengthen the period between maintenance intervals. With the appropriate filter installed, the OF2 system can remove dissolved water, extremely fine carbon and metallic particles to maintain peak performance of LTC oil, extend the life of your equipment and lengthen the period between maintenance intervals.

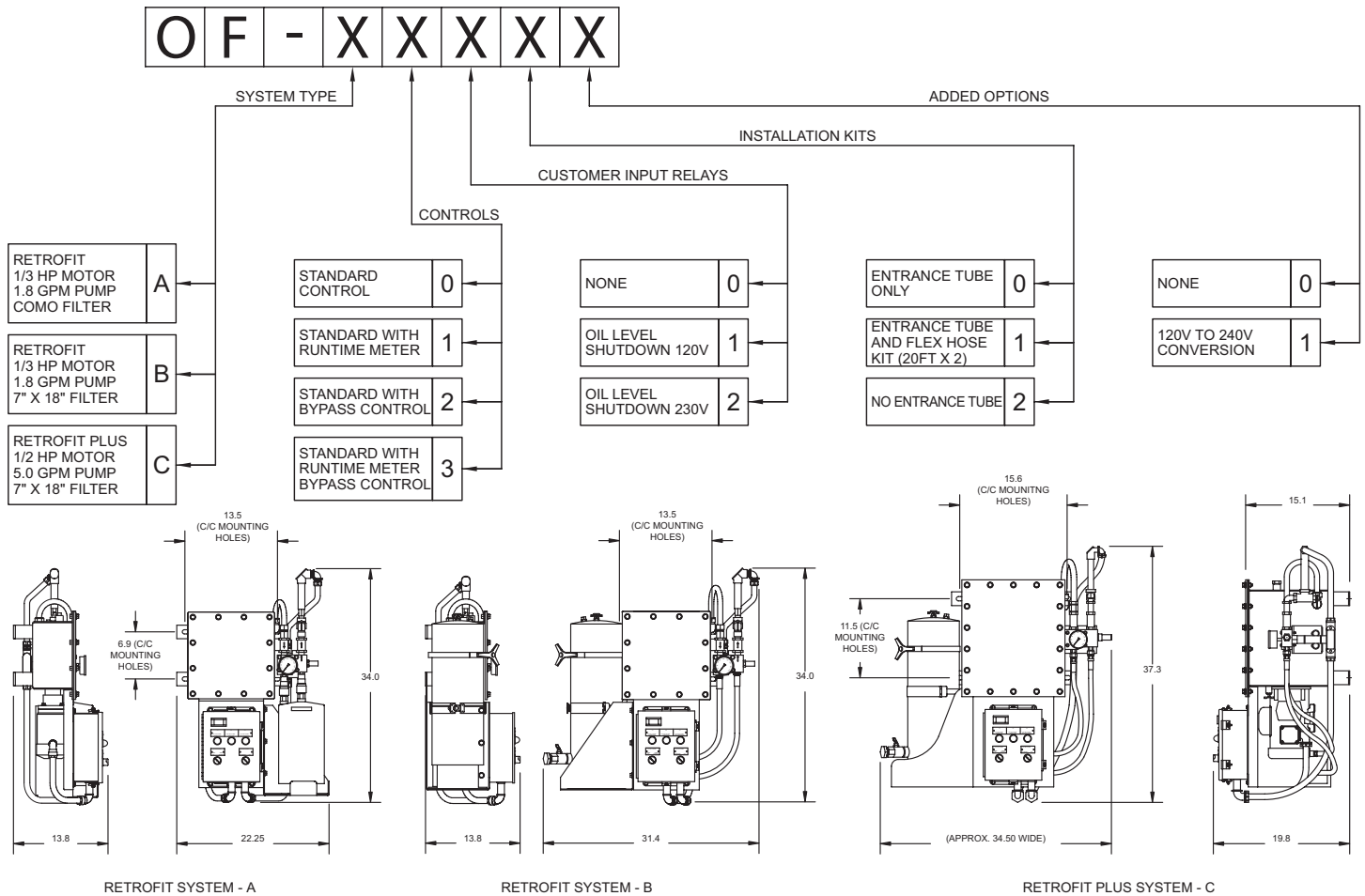


Retrofit-Plus system comes standard with quick connect fittings to easily attach/detach cartridge from unit.

## RETROFIT-PLUS CUSTOMIZING OPTIONS:

- Hourly Run Meter
- Customer Configurable Hourly/Daily Timer
- Power Requirements: 120/240 VAC, 60Hz
- Motor Size: 1/3 to 1/2 HP
- Flow Rate: 3 to 5 GPM
- Adapts to Most Major Manufacturers' Filter Cartridges

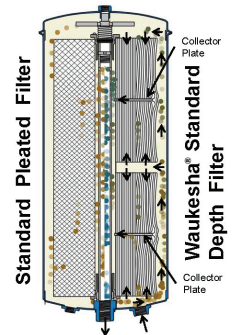
# Build Your Own Part Number Using Configuration Below



| LTC OIL FILTRATION SYSTEM SPECIFICATIONS | STANDARD RETROFIT         | CUSTOMIZABLE RETROFIT-PLUS |
|--|---------------------------|----------------------------|
| Power Requirements                       | 120 VAC, 60 Hz            | 120/240 VAC, 60 Hz         |
| Weight                                   | 120 lbs                   | 120 to 180 lbs             |
| Motor Size                               | 1/3 HP 1700 RPM           | 1/3 to 1/2 HP 1700 RPM     |
| Maximum Flow Rate                        | 1.8 GPM                   | 3 to 5 GPM                 |
| Maximum Operating Pressure               | 68 psi                    | 68 psi                     |
| Low Flow Shut Off                        | 0.9 GPM                   | 0.9 GPM                    |
| First Pass Moisture Absorption           | 200 to < 5 PPM            | Defined by filter type     |
| Optional Daily Timer Settings            | Every 1, 2, 7 or 14 days  | Customer configurable      |
| Optional Hourly Timer Settings           | Every 2, 4, 8 or 24 hours | Customer configurable      |
| Particle Filtration Rating               | Not more than 1 micron    | Defined by filter type     |
| Continuous Run Mode (Control Bypass)     | Available upon request    | Available upon request     |

## WAUKESHA® STANDARD FILTER OFFERS LONG FILTER ELEMENT LIFE

Waukesha® Components depth-type filter element (on standard retrofit system) features a unique fluid flow path: fluid runs parallel with the center tube (axial flow) rather than the conventional outside-to-inside flow (radial flow) of most pleated-type filters. The depth of fluid flow is optimized and provides the capability to filter more efficiently than pleated-type filters. Filter media is constructed as four rolls of filter paper. Oil flows between the layers of media until it reaches one of two collector plates. The collector plates route oil to the center of the element where it is discharged out of the element. The depth filter media has a much greater resistance to flow from outside to center (radial flow) than it does between the layers (axial flow) of filter material. Integrity of the filter element is maintained even as it accumulates contaminants and the Delta-p (pressure across the filter) goes up. Hydraulic pressure of the fluid compressing the layers of media together prevents a channel from forming that could allow oil to pass through the element unfiltered. Recommended pressure limit to change filter is 65 psi.



## Removes Both Dirt and Moisture

- Filter material: Dried cellulose fiber
- Filter can decrease water to < 5 PPM
- Micron rating: 1.0; rated for particles as well as free and emulsified water
- Total water holding capacity: 0.5 kg
- Beta X rating: 75 at 3 microns
- High rate of absorption enables oil to be reduced from 200 to less than 5 PPM in one pass

Contact us for more information. To download a technical manual, field maintenance manual and/or technical paper, visit our website.

To continually improve its products and services, Prolec-GE Waukesha, Inc., reserves the right to change specifications and features without notice. Please contact us for certified dimensions and drawings.

Retrofit-Plus U.S. Patent No. 7,033,512 B2

transformers | service | training | components

**LOCATION**  
 Prolec-GE Waukesha, Inc.  
 9011 Governors Row  
 Dallas, TX 75247  
 800-338-5526  
[waukeshacomponents.com](http://waukeshacomponents.com)

