CHEMTEQ®

Breakthrough Indicator For Low-Flow Filters (BTI LFF)

LEAFLET

Filter Change Current Practices

1. Do nothing

Continue using filter until it is exhausted, and toxic gases and vapors emit to the surrounding environment. User replaces filter when;

a. Concentrations of emitted toxic gases and vapors exceed the threshold of the smell. Threshold of smell is always higher than OSHA permissible exposure limits (PEL).
b. Safety officer or industrial hygienist conducts routine air sampling and finds high levels of toxins in the work environment and identifies the exhausted filter as the source of emission.
c. OSHA inspector conducts air sampling and finds high levels of toxins in the work environment and identifies the exhausted filter as the source of emission.

This practice defeats the purpose of using filters as safety devises to protect the user and the environment from emitted toxic gases and vapors

2. Change out schedule

Follow filter change schedule every 3 to 6 months depending on the size and capacity of the filter. Two possible scenarios can happen when users follow the change out schedule practice;

a. Filter is installed into a waste container which has multiple HPLC outlet ports that are continuously used. This heavily used filter would be exhausted in a few weeks and the user ends with a situation similar to the do-nothing scenario mentioned above.
b. Filter is installed into a waste container which has one HPLC outlet port that is rarely used. This barely used filter would take 9 to 12 months to get exhausted. The scarcely used filter would be replaced prematurely.

Following this practice either ends with a situation similar to the do-nothing scenario and getting exposed to toxic gases and vapors or ends with replacing a good filter prematurely.

3. Filter with real-time breakthrough indicator

Continue using filter until breakthrough indicator changes color, alerting user that filter is exhausted and needs to be replaced. Benefits:

a. User is protected from exposure to toxic gases and vapors.
b. The workplace and the environment are protected from toxic emissions.
c. Get the most value from the filter and replace it only when saturated and exhausted.

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Description of The BTI LFF (Patented)

The BTI LFF is essentially a hollow transparent tube having two colorimetric indicator strips inside and a charcoal trap at the top of the tube (Figure 1).

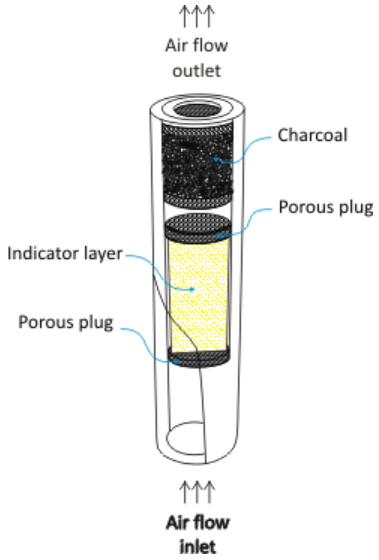

Figure 1

How Does the BTI LFF Works?

When filter becomes exhausted, toxic gases and vapors breakthrough it. The contaminated air then enters the BTI LFF and chemically reacts with the indicating sensor producing vivid color change, thus alerting the user to change the filter.

While the indicator is changing color, the charcoal on top of the BTI LFF traps traces of contaminants from escaping to the outside environment. The charcoal trap also protects the colorimetric indicator from changing color due to exposure to contaminants in the surrounding environment. This ensures that BTI LFF changes color only when filter is exhausted irrespective of the outside environment.

Filter is good **Replace filter**

Figure 2

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How to Install the BTI LFF into Filter?

Use closed pores foam plug in the filter outlet with a ⅜" diameter opening in the middle. Other opening sizes are possible as long as the diameter is equal to or larger than the filters inlet (intake) diameter. Other closed pores flexible plastics can also be used.

Insert the BTI LFF into the opening as shown in Figure 3

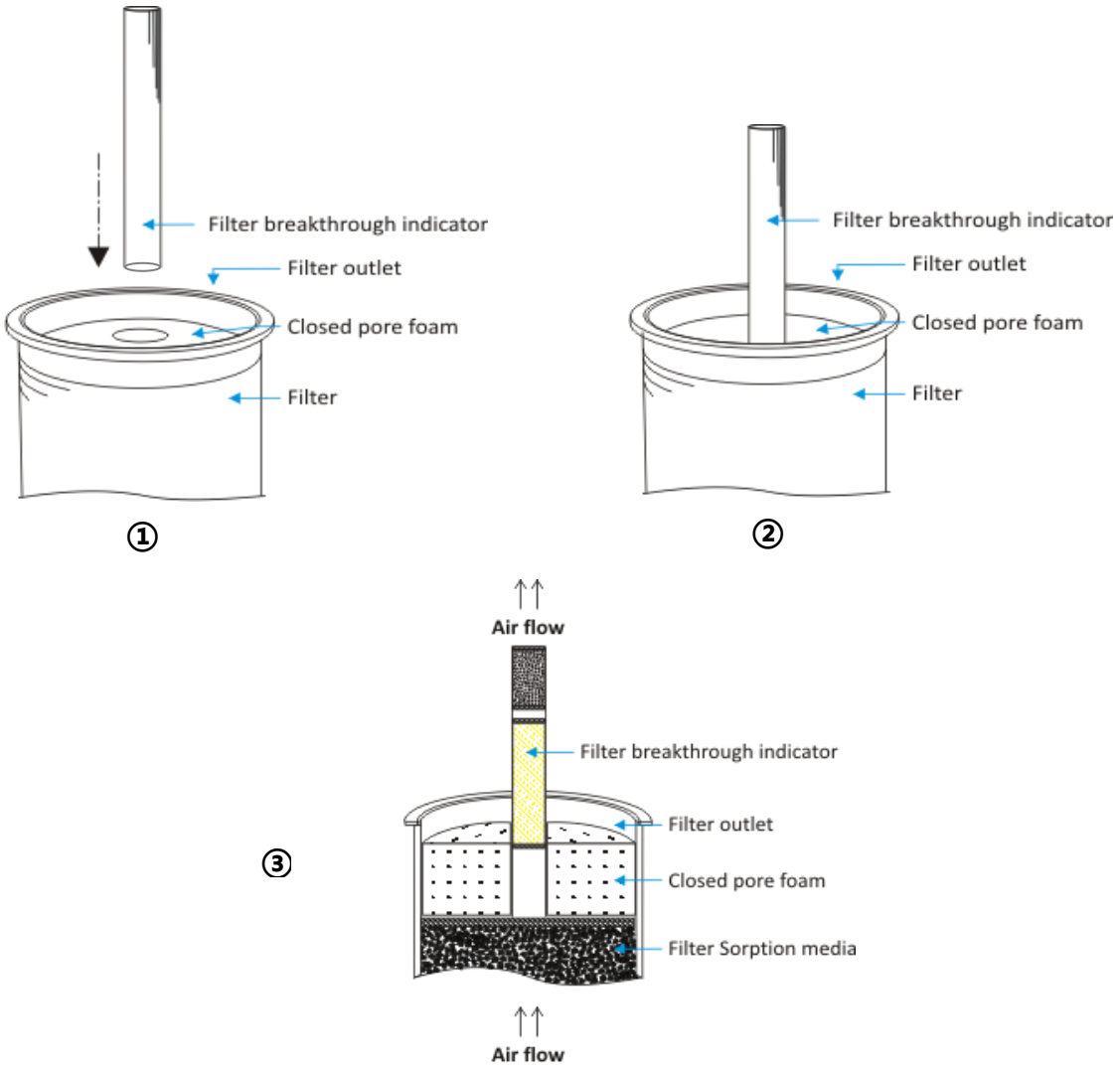

Figure 3

PLEASE CALL OR EMAIL US IF YOU HAVE ANY QUESTIONS REGARDING THE BTI LFF

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