

The Benefits of Upgrading to BSMmax Filters on the LITHOGUARD* Filtration System for Your ASML Tools

* LITHOGUARD 5-high / 7-high / 300

Introduction

This document introduces Donaldson's new BSMmax filters (P510610) and explains the benefits of upgrading from the original BSM (P199595) filters. Both filters are designed for Donaldson LITHOGUARD systems used on ASML tools. And both filters remove three groups of contaminants that can affect semiconductor lithography tools and processes:

- Bases, typically amines, NH_3 , NMP etc.
- Acids such as SO_2 , HCl,
- Condensable volatile organic compounds (VOCs).

With its improved chemistry and an increase in filter media, BSMmax can double filter life.

BSMmax filters meet the latest OEM specifications for lithography applications, which call for initial breakthrough of basic contamination at commonly given operating conditions of 25ppb/ NH_3 , 5ppb/ SO_2 and 50ppb/organic compounds.

Filter Description

The LITHOGUARD BSM filter contains five cells packed in "V" formation. Each cell contains acid and base filter media, as shown in Figure 1. Both the acid and base media remove VOCs efficiently.

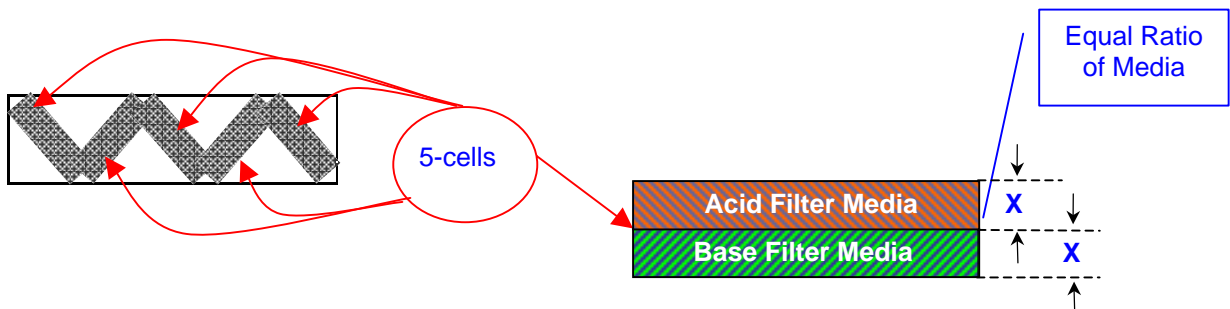


Fig.1

The LITHOGUARD BSMmax filters remove the same contaminants as BSM filters, but include:

- 6 cells (BSMmax) versus 5 cells (BSM)
- Increased media thickness in each BSMmax cell (not reflected in the illustration below)
- Improved media chemistry in each BSMmax cell

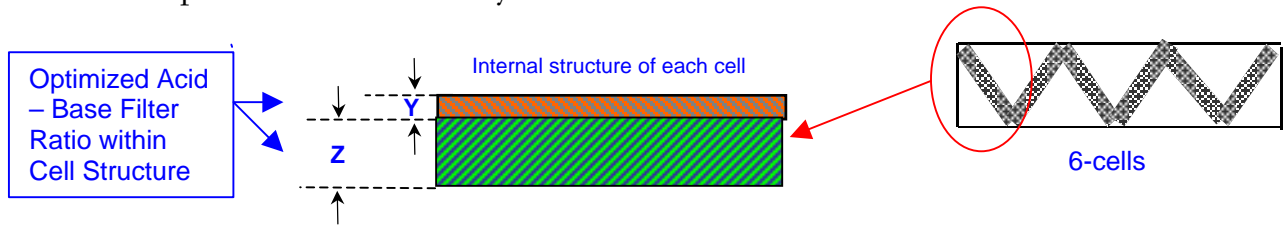
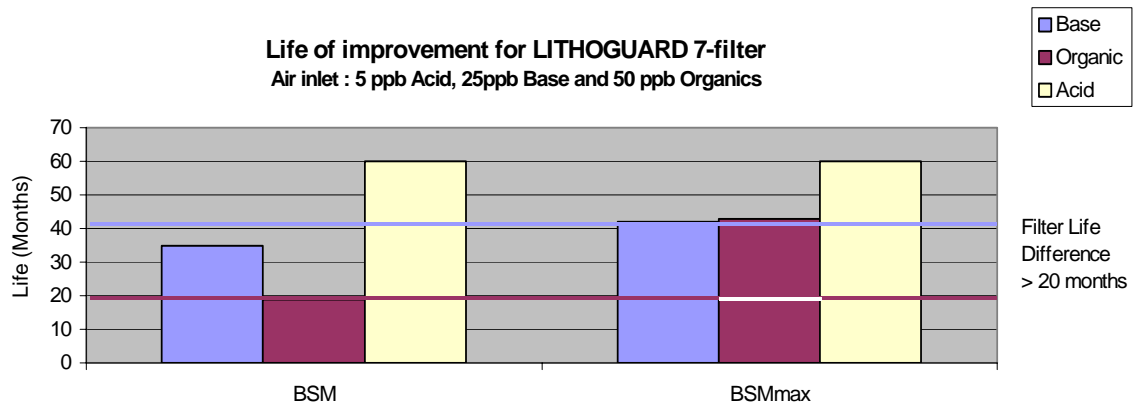


Fig.2

The graph below shows how BSMmax almost doubles filter life under given operating conditions.



Conclusion

BSMmax not only offers more balanced filter life for the different levels and classes of contaminants (acids, bases, organics), but it also offers increased life and a reduced cost of ownership for the typical semiconductor fab air contamination levels.

For additional information on how to estimate filter life, please refer to the Donaldson Life Estimator at: <http://www.donaldson.com/en/semiconductor/>

Filter Part Numbers

BSMmax Filter -- P510610

BSM Filter -- P199595

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