

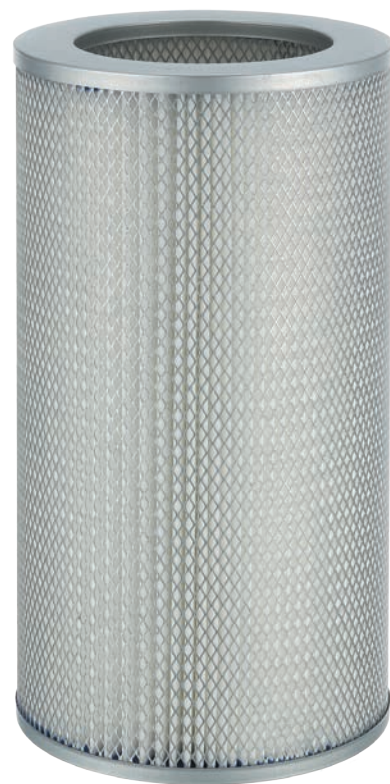
LOWER YOUR OPERATING COSTS WITHOUT COMPROMISING HEALTH



DA600-LL (LONG LIFE / HIGH EFFICIENCY)

DIESEL EXHAUST FILTERS FOR COAL MINING VEHICLES.

- Microfresh® Diesel Exhaust filters offer the highest level of nanoparticle protection available

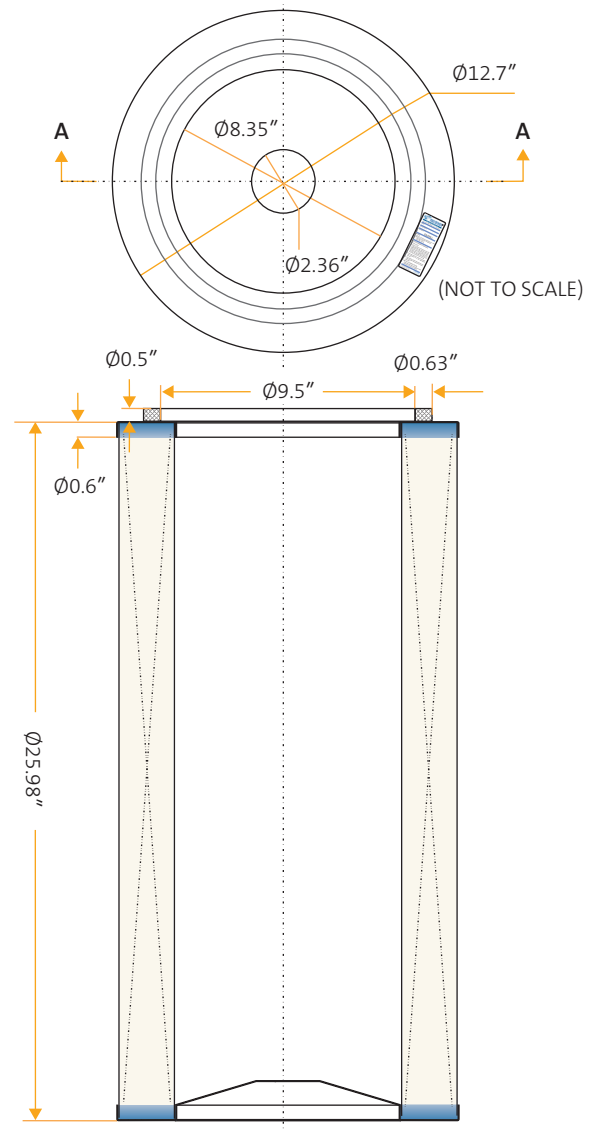


PRODUCT APPROVALS



New version can be provided with or without gaskets as shown

- Added to the list of MSHA registered diesel exhaust filters, January 2016
- Register at:
<http://www.msha.gov/01-995/Coal/DPM-FilterEfflist.pdf>



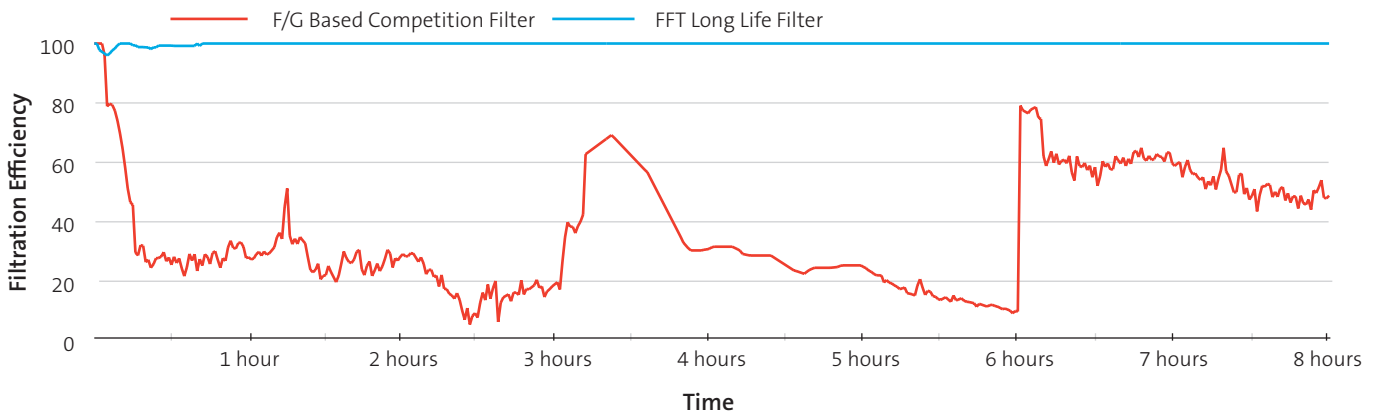
CRITICAL OPERATING TEMPERATURES

	DA600LL (Long Life)
Maximum Continuous Operating Temperature:	150 Deg°C
Minimum Auto Ignition Temperature (New Filter):	410 Deg°C
Minimum Auto Ignition Temperature (Used Filter):	400 Deg°C

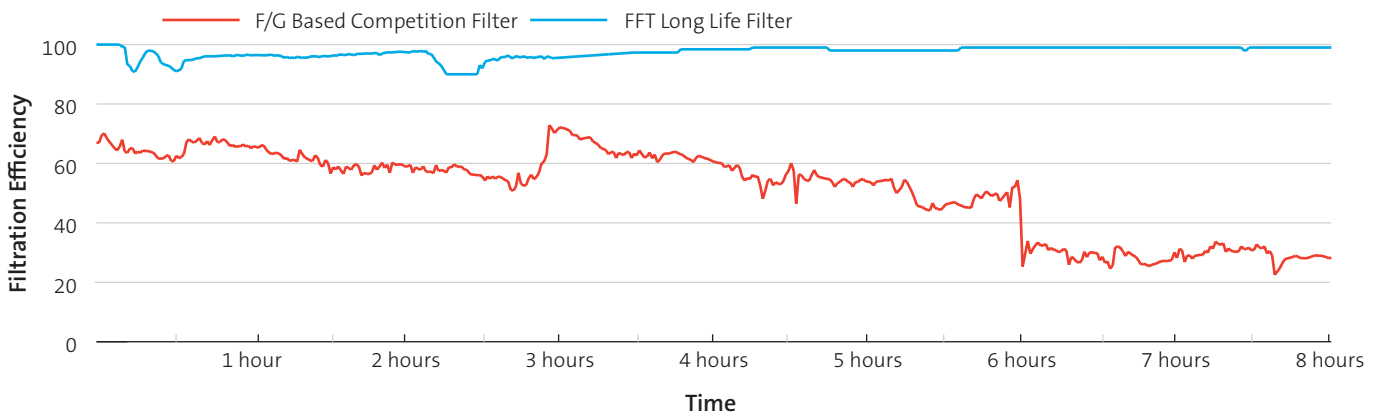
As per NSW Trade & Investment T15-00354

FILTRATION PERFORMANCE COMPARISON

TOTAL MASS REDUCTION FILTRATION EFFICIENCY

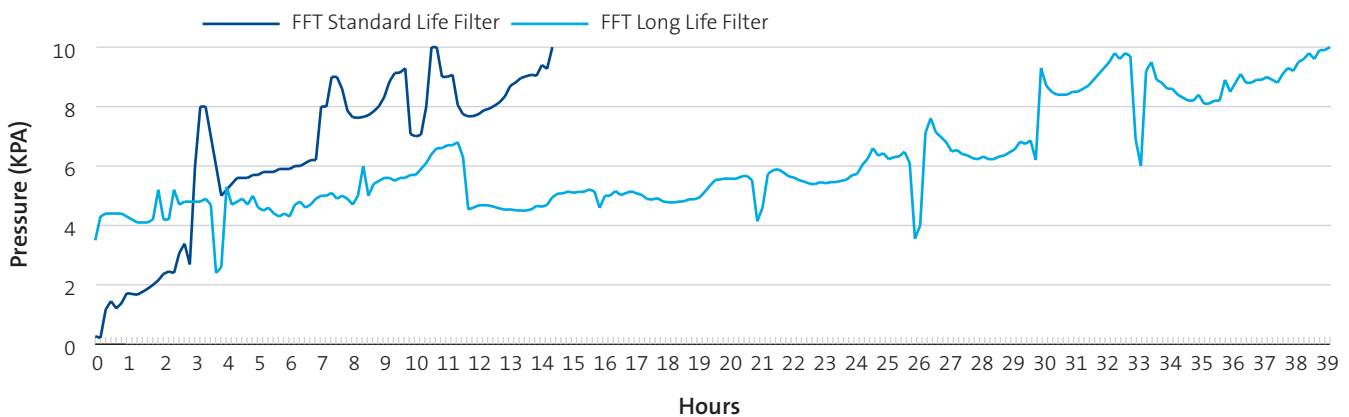


TOTAL PARTICLE NO. FILTRATION EFFICIENCY



Test period for each filter was one day, over this time the fibreglass technology competition filter was shown to slightly increase in mass reduction filtration efficiency and slightly decrease in total particle number filtration efficiency. This is possibly due to larger particles of higher mass being stopped and beginning to assist in filtration of other larger particles but smaller particles still being able to pass through and in greater number as the porous surface of glass fibres is masked by the larger soot particles. This is over the “conditioning / greening-in” period of the filters’ life and it would be expected that both mass reduction and particle number reduction efficiency will increase later in filters’ life.

PRESSURE INCREASE OVER TIME



Testing conducted on engine equipped with water scrubber, filter life is longer on engines equipped with dry scrubbers.

All data from independent testing conducted by Peak3 Pty. Ltd. (7/2013-7/2014) on Waterbrake Dynamometer setup
 Engine: CAT C7 fitted with filter housing and run at exhaust flow to suit tested filters
 Analysis equipment: MAHA MPM-4M for particle mass measurement, EEPS for particle number measurement
 Steady state testing (some parameter fluctuations due to use of batch scrubber with variable water level)

DA600LL

DIESEL EXHAUST FILTERS FOR COAL MINING VEHICLES

Used Filter Disposal

- Freudenberg Filtration Technologies' ®Microfresh Diesel Exhaust Filters have been classed as solid industrial non-hazardous waste suitable for disposal in landfill
- Due to use of polymer based media, there is potential for used filters to be processed in a waste heat recovery plant that runs turbines for power generation, metal from the filters can then be separated and recycled.

Waste Disposal Operators are now

- Incinerating used filters in a waste heat recovery process that runs turbines for power generation
- Metal from the filters is then separated and recycled.

Whilst filter disposal cost is negligible in regions where waste is measured by mass, disposal cost via volume basis (even at reduced rates due to recycling) can be significant.

Solutions

- Reduce volume of filters (I.e. Long life / high efficiency filters)
- Talk to you waste contractor and arrange weight basis disposal
- Reduce waste volume through crushing.

Washing of Diesel Exhaust filters

Freudenberg Filtration Technologies do not recommend the washing of used Diesel Particulate Filters due to;

- Ongoing OHS / Environmental risks / lack of process compliance (ISO14001)
- Washing filters reduces filtration efficiency with each wash (limit number of washes)
- Request a detailed filtration efficiency report after each wash.



Hydraulic Filter Crushing System

- Cycle time of 30 seconds for crush of 5 filters
- The unit is compliant with Australian Safety Regulations AS3000 / AS 4204.1
- Crushing chamber fully sealed
- Filters can be crushed in their disposal bag (bags big enough for air movement).

