

## Predicting saturation in coalescing filters – capillary-based model.

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### Abstract

Modelling the dynamic and/or steady state performance of oil mist filters (e.g. CCV filters or air compressor filters) requires the saturation of the media to first be predicted.

Recent work by the authors has found that many filters exhibit similar behaviour to capillary systems. Therefore, a model based on the classical Washburn capillary rise model was developed. As can be seen in figure 1, the model shows very good agreement with theory.

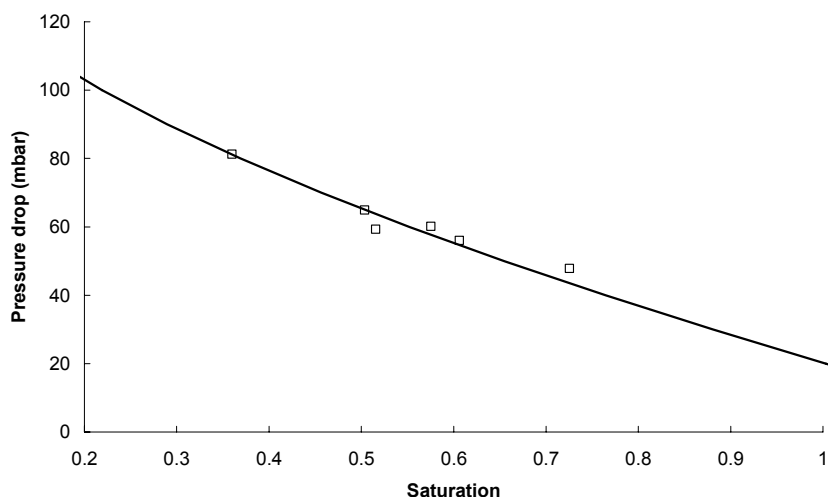


Figure 1 – Experimental (oil) saturation and pressure drop measurements, compared with the fitted model.

### Session Preference:

Engine Filtration (Crankcase Ventilation)