

Particulate-filter regeneration analysis

The detection of the data relating to the back pressure was performed on a cycle equivalent to the NRTC (Stage IIIB legislation) using a differential pressure meter ABB 364DS. After the regeneration process implemented by NUOVA A.F.R, the particulate filter presents an exhaust decreased by approximately 25%.

Compared to initial use in conditions of virgin filter, it is measured a pressure exceeding 2.8%, at constant volumetric flow rate in the initial instants of NRTC.

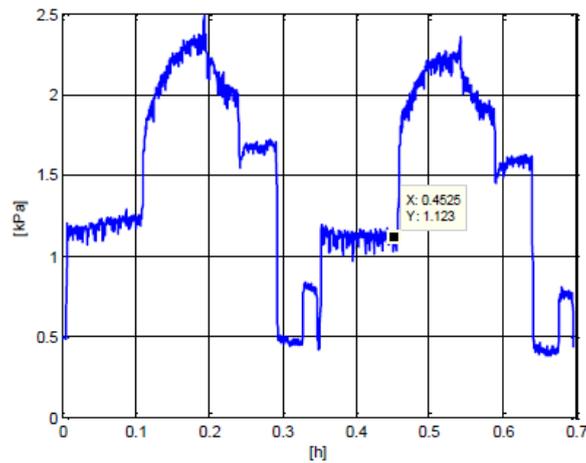


Figure 1: back pressure of the particulate-filter before regeneration process.

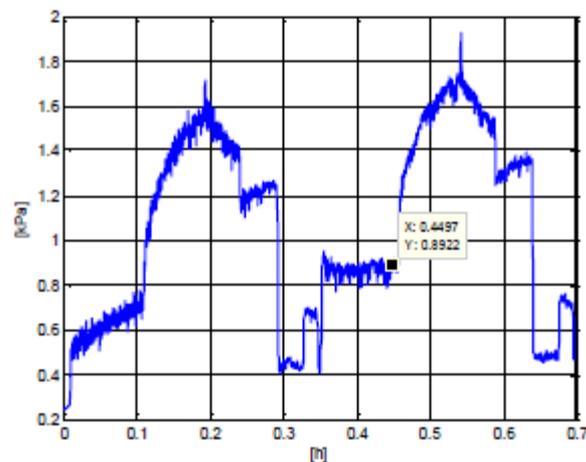


Figure 2: back pressure of the particulate-filter after regeneration process.

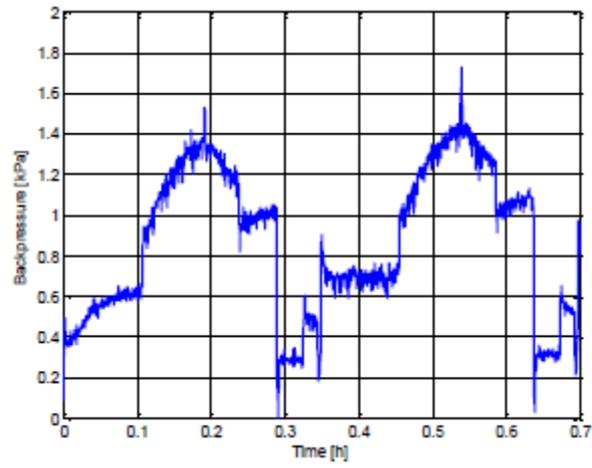


Figure 3: back pressure in condition of virgin filter.

Below are the trends in temperature and mass flow and volume in the measuring ranges of pressure.

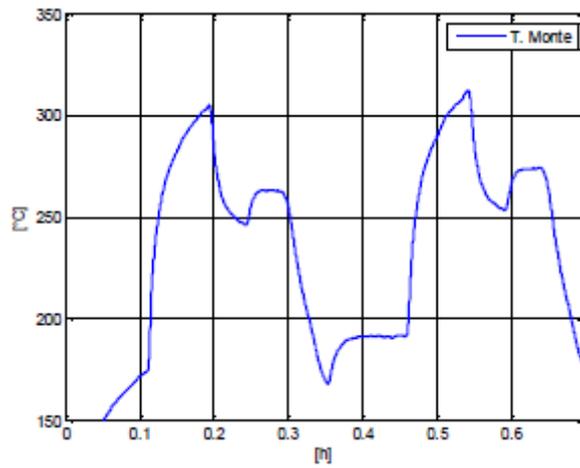


Figure 4: temperature measured upstream.

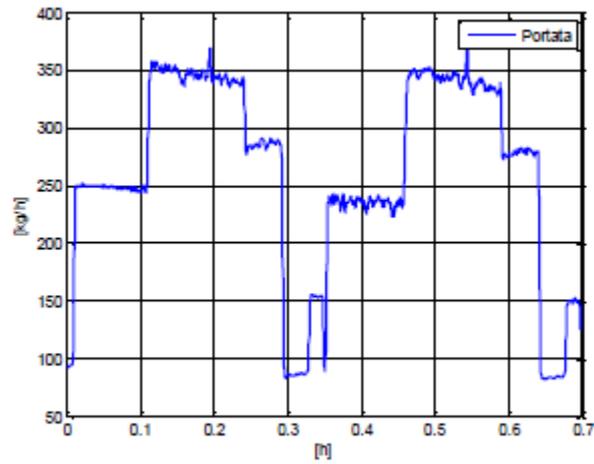


Figure 5: massive load.

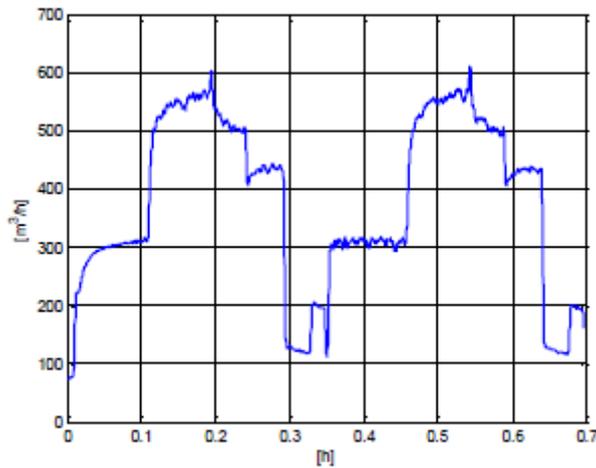


Figure 6: volumetric load.

In the end the regeneration process was successfully accomplished and turned out to be considerably more efficient compared to the results achieved during normal using of the engine.

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