

“Supplemental Materials”

Laboratory Performance of New and Used Residential HVAC Filters: Comparison to Field Results (RP-1649)

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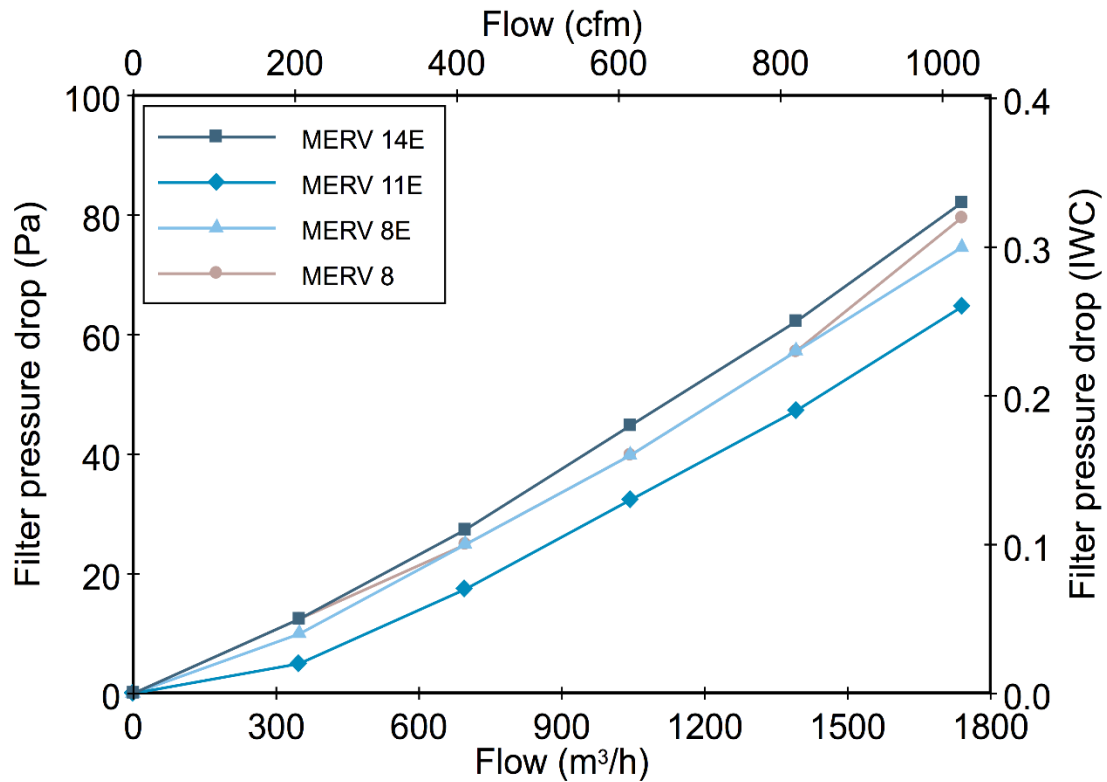


Figure S1 Pressure drops relationships for clean filters as a function of airflow rate.

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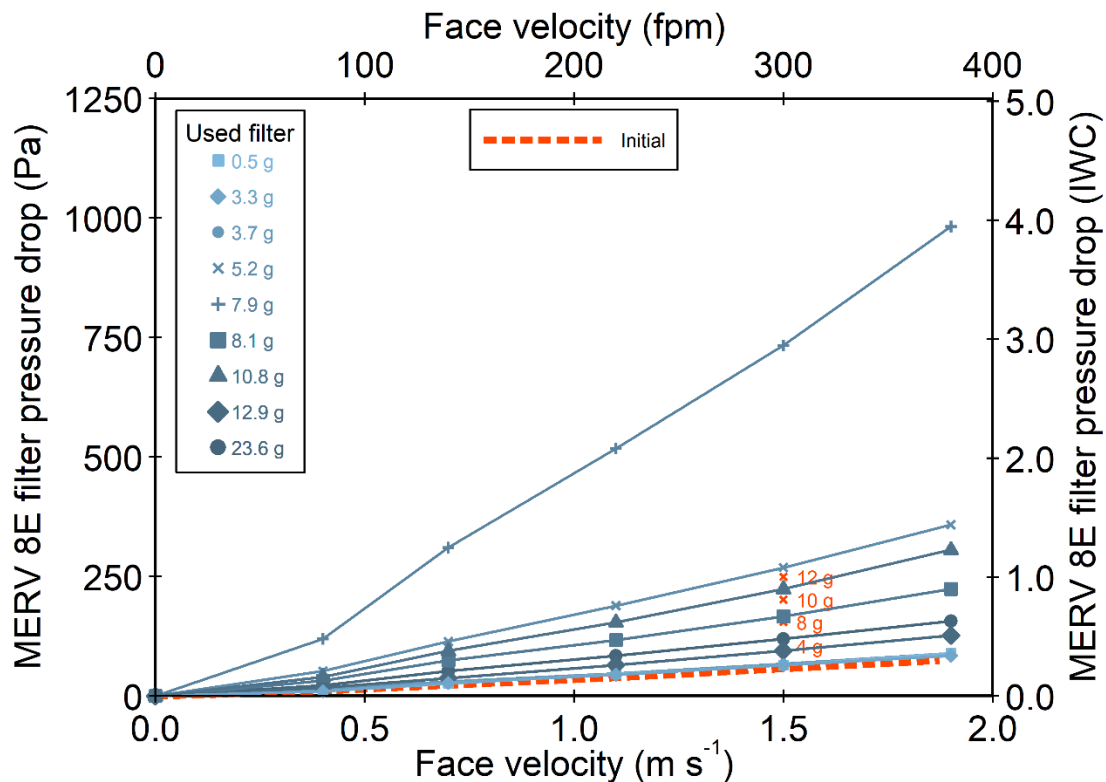


Figure S2. Pressure drop-face velocity relationship of the used nominal MERV 8E filters from the test homes in Toronto. The color intensity and symbol in the solid lines correspond to the amount of dust collected on each used filter indicated on the top left corner of the figures. The orange-dashed line represents the initial pressure face velocity of the clean filter. The x marks labeled with dust amounts (in orange) indicate the pressure drop resulted from the ANSI/ASHRAE Standard 52.2 dust loading procedure at 1.5 m/s.

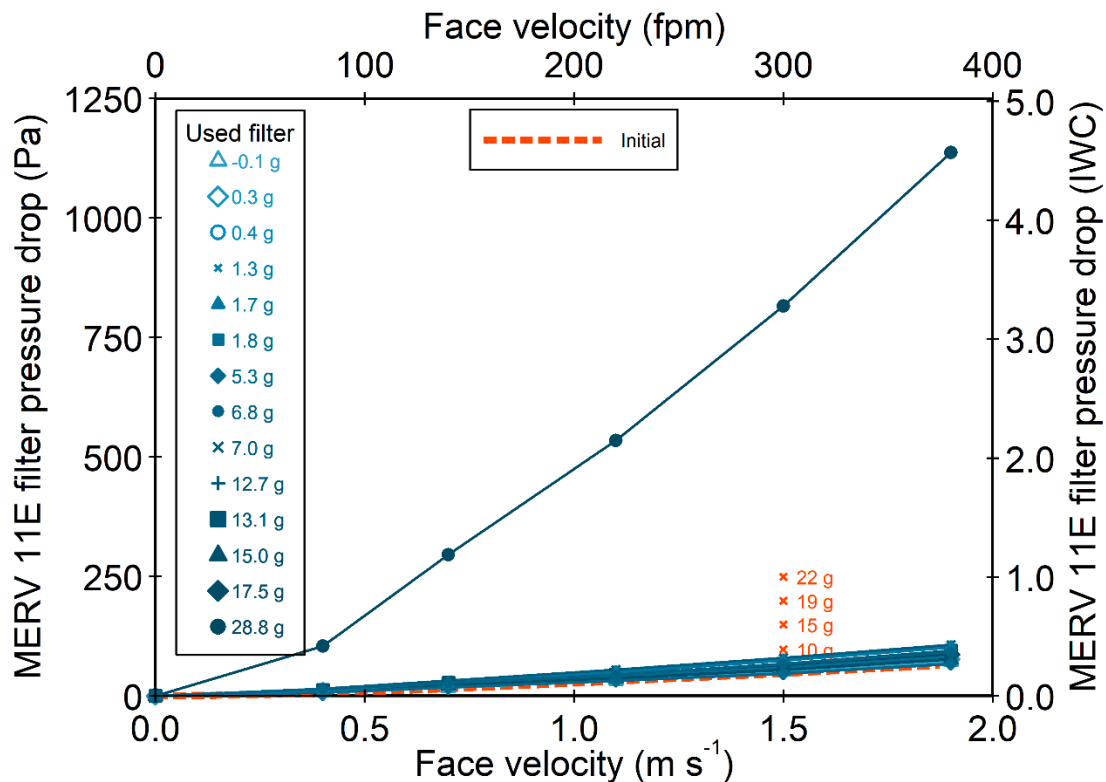


Figure S3. Pressure drop-face velocity relationship of the used nominal MERV 11E filters from the test homes in Toronto. The color intensity and symbol in the solid lines correspond to the amount of dust collected on each used filter indicated on the top left corner of the figures. The orange-dashed line represents the initial pressure face velocity of the clean filter. The x marks labeled with dust amounts (in orange) indicate the pressure drop resulted from the ANSI/ASHRAE Standard 52.2 dust loading procedure at 1.5 m/s.

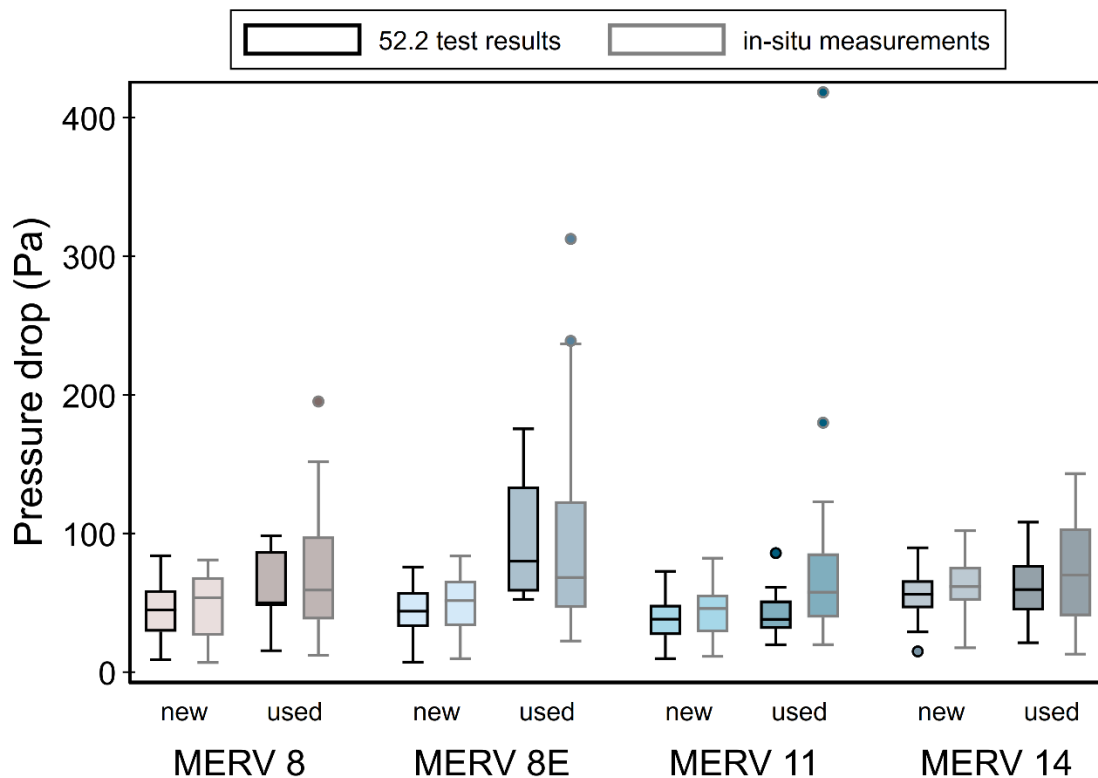


Figure S4. Calculated lab-tested (black outline) and in-situ (grey outline) pressure drop for new (lighter color) and used (darker color) filters. The boxes represent the first and third quartiles, the line in the boxes represent the median, and the whiskers represent 1.5 times the interquartile range. The sample size of the calculated pressure drop results varied from 7 to 14, depending on the filter type. The sample size of in-situ pressure drop measurements for both new and used filters was 20 for each filter type except for the MERV 14E filter (n = 19).