Figure S1. Valve opening signals for the individual free and stuck FMs deployed in the laboratory experiment (dots indicate abrupt change points in the mean of the opening signals when the mean opening changes by more than 25%).
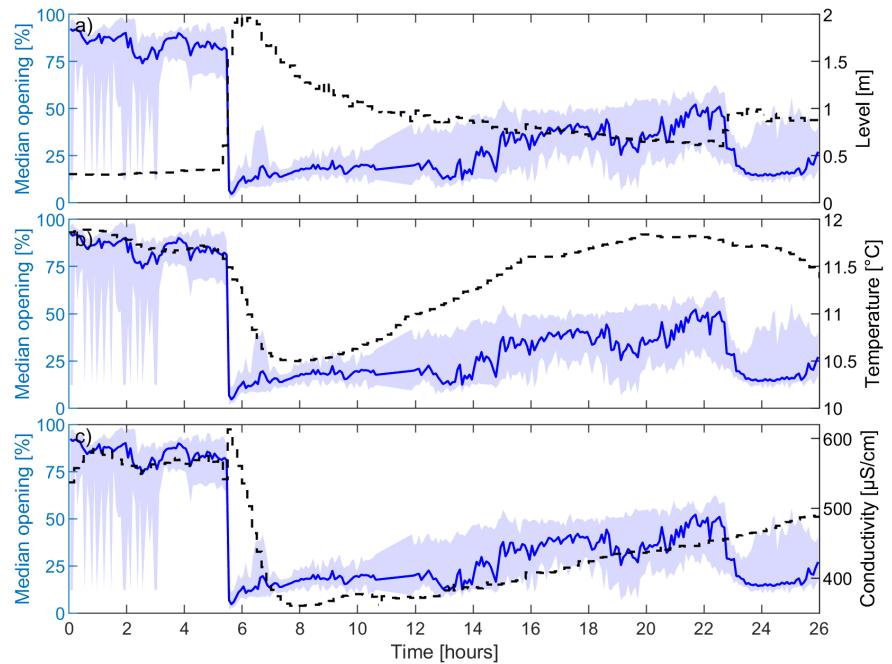
Figure S2. Data from the multiparametric sensor installed at the Paglia River pilot site; a) left y-axis: median valve opening signal with 25th and 75th percentiles indicated by the shaded area; right y-axis: water level; b) left y-axis: as in a); right y-axis: water temperature; c) left y-axis: as in a); right y-axis: water conductivity.
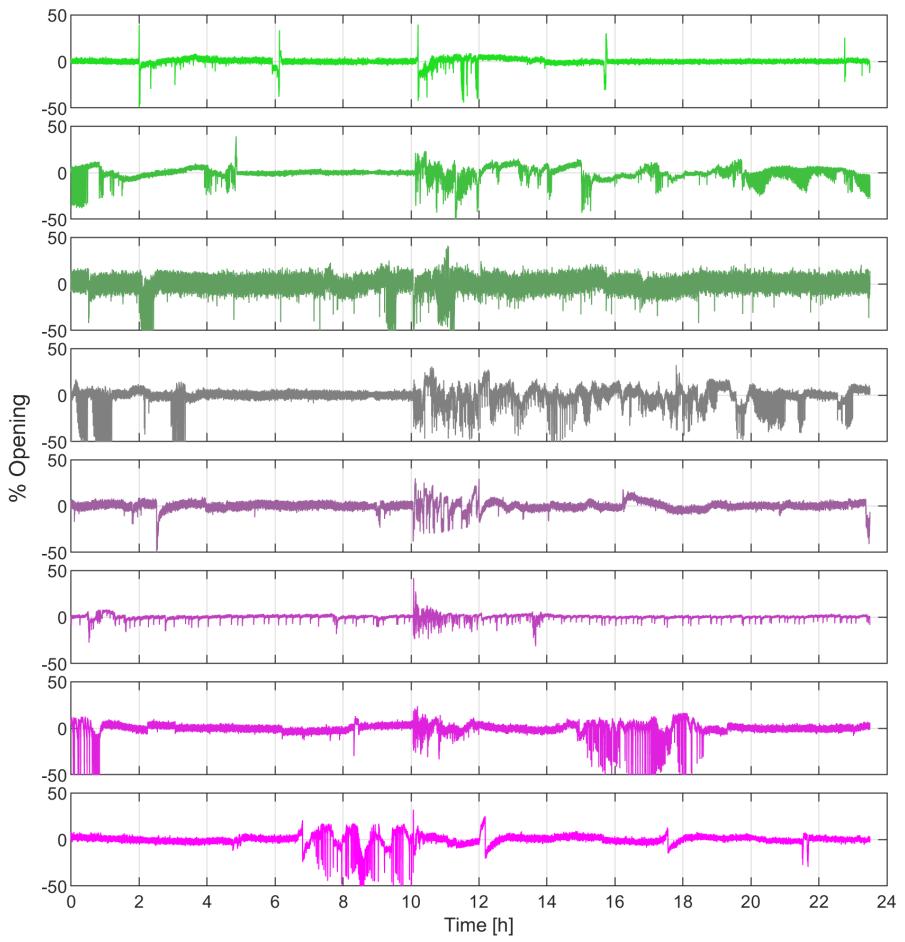
Figure S3. Valve opening signals for the individual free and stuck FMs deployed in the laboratory experiment after detrending and removal of changes in the mean valve opening.
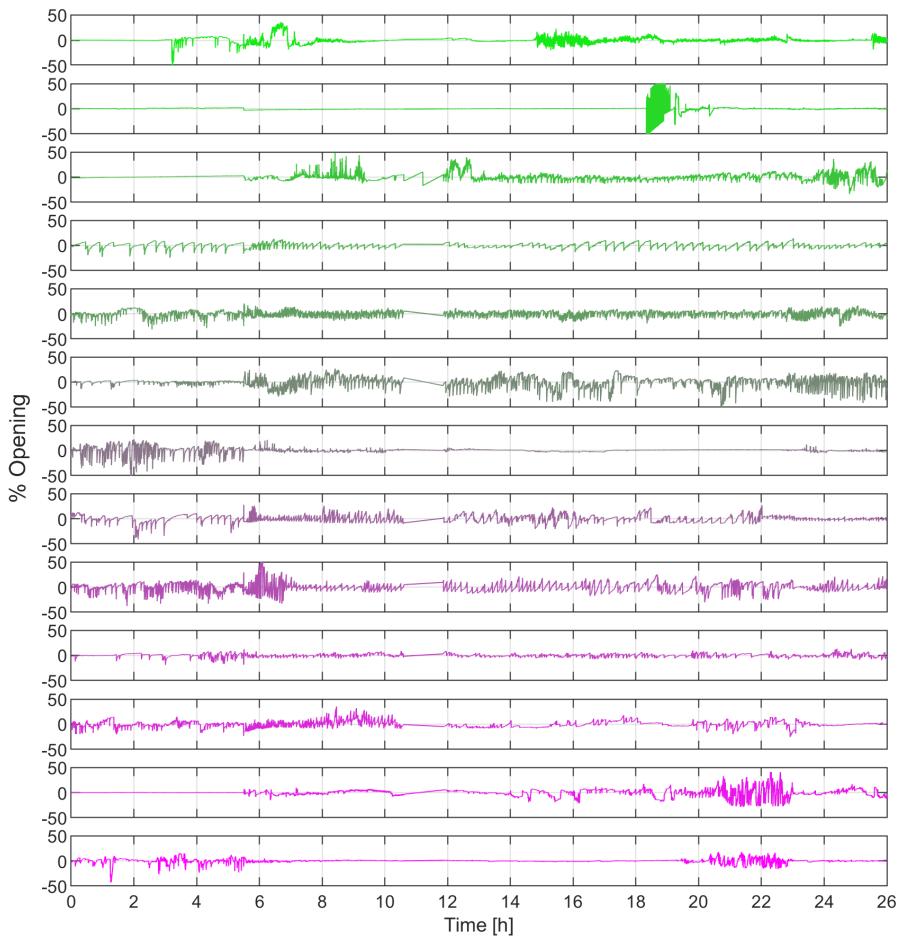
Figure S4. Valve opening signals for the individual free and stuck FMs deployed at the Paglia River pilot site after detrending and removal of changes in the mean valve opening.