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High-Frequency Thermal-Fluidic Characterization of Dynamic Microchannel Flow Boiling Instabilities: Part 2 – Impact of Operating Conditions on Instability Type and Severity

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**Highlights**

- Dynamic flow boiling instabilities are studied in a single microchannel.
- Flow instability types and their severity are mapped to operating conditions.
- Low inlet liquid subcooling eliminates the time-periodic rapid-bubble-growth instability.
- Increasing flow inertia reduces the severity of the pressure drop instability.
- Time-periodic thermal-fluidic oscillations are quantitatively characterized.

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