

**Supplementary Material for:**  
**Large-scale test facility for modeling bubble behavior**  
**and liquid metal two-phase flows in a steel ladle**

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**Supplementary Movie S1**

The Supplementary Movie S1 shows the behavior of the free surface for a gas volume flow rate of 0.5 NL/min injected through the porous plug at the central position for ambient pressure (case D).

**Supplementary Movie S2**

The Supplementary Movie S2 shows the behavior of the free surface for a gas volume flow rate of 0.5 NL/min injected through the porous plug at the central position for low pressure conditions at 10 mbar (case D).