Exercise 1: Boiling phenomena

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| Group | Student 1 |
|  | Student 2 |
| Date | Assistant |

Staple the graphs, which you base your analysis on, to the answer form.

The level of detail of a complete answer is such that the answer fits in the box if typed in average handwriting.

Instead of typing in the boxes below, you may write on separate sheets.

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| 1. What kind of systematic errors can be identified in the measurement setup? |
| 2. How do you record a boiling curve? Which parameters are controlled or regulated and how are they related to the relevant quantities of this exercise? Which ones are measured? |
| 3. Define the heat flux and heat transfer coefficient at constant pressure. How are they related? |
| 4. Based on your results, how does the heat transfer coefficient depend on overheating of the surface? How do you explain such a dependency? |
| 5. Based on the measurements, how does the critical heat flux depend on the pressure (150 kPa, 175 kPa, 200 kPa and 250 kPa of absolute pressure)? |
| 6. Calculate the heating power of the condensing vapour in the different measurements  and compare it to heating power. What is the origin of the possible difference? |