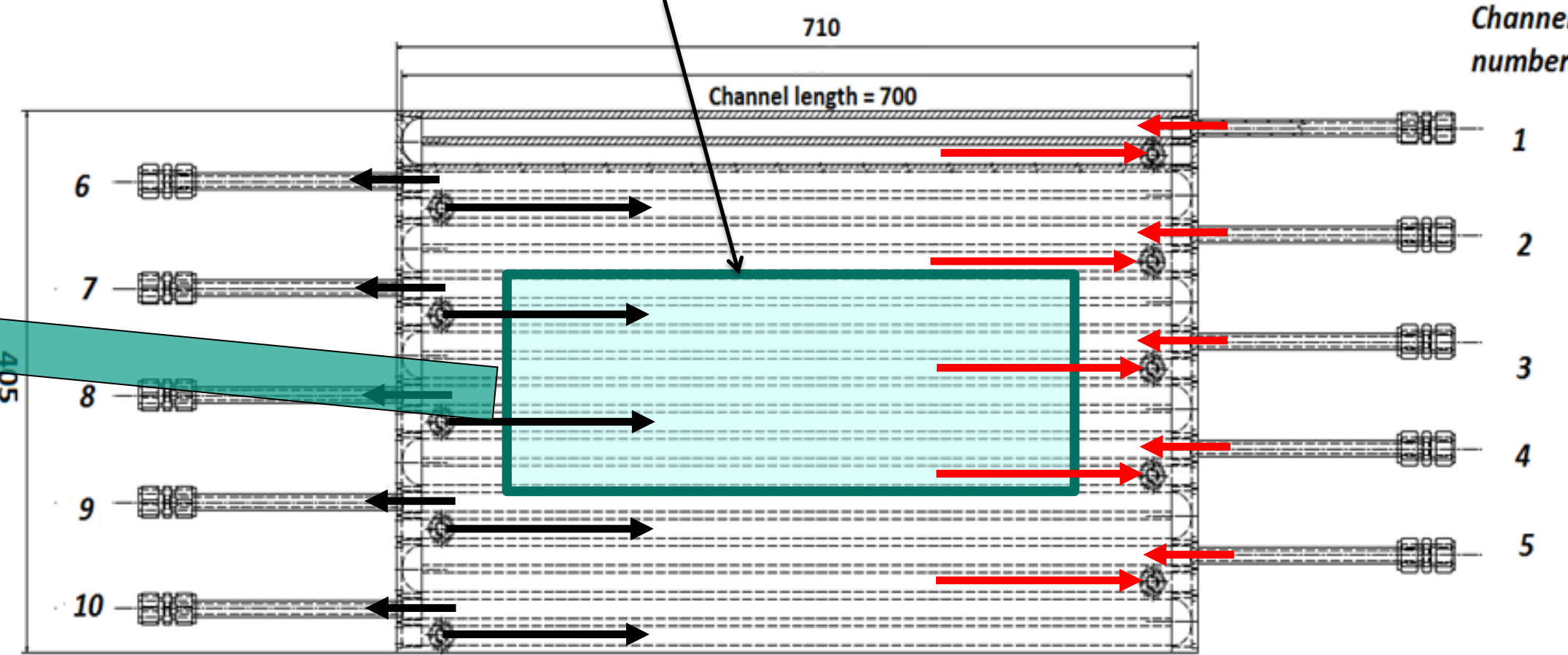


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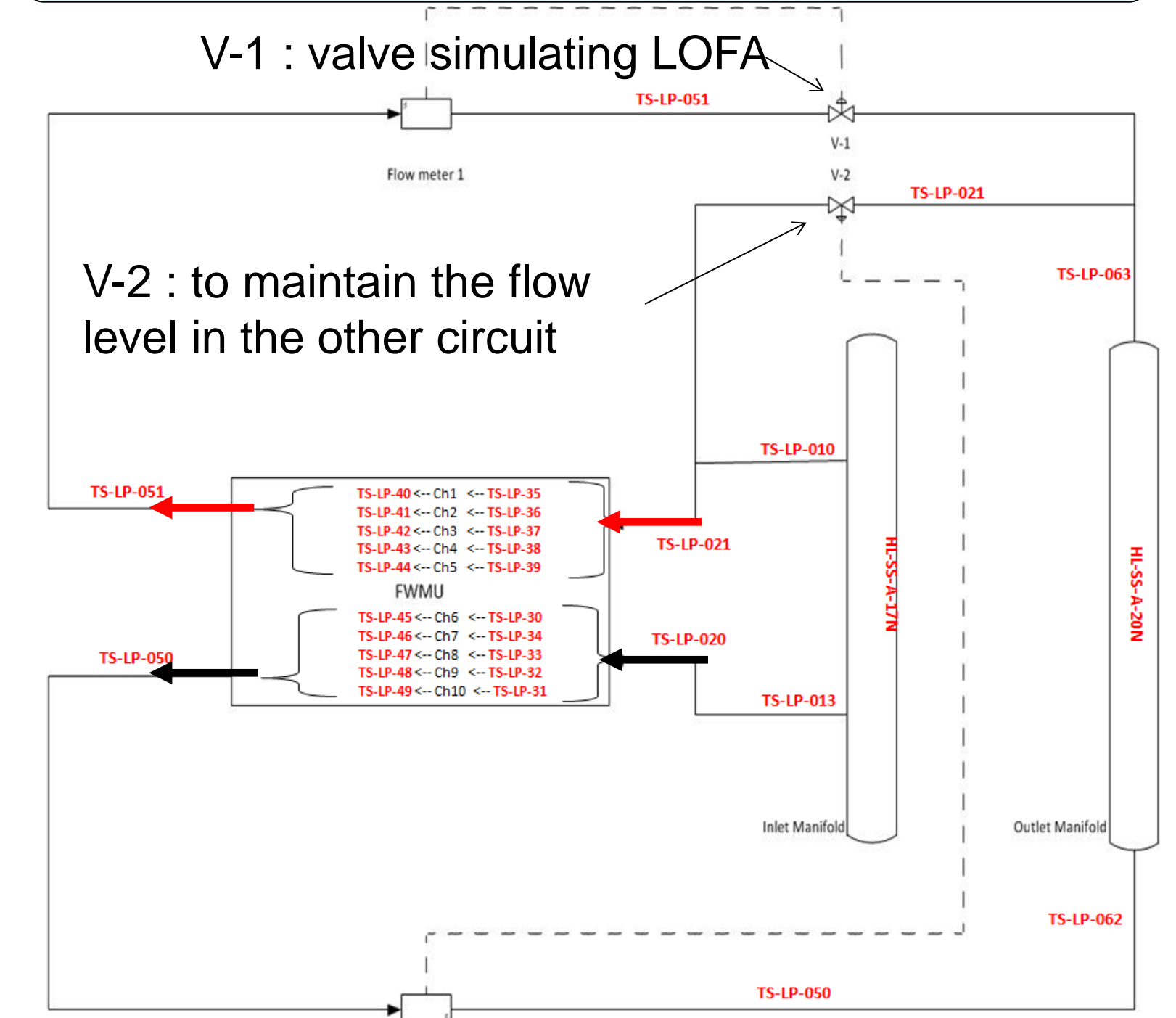


He-cooled Breeding Blanket First Wall mock-up

heated area: ca. 580 mm x 160 mm



Test rig



Test Set-up

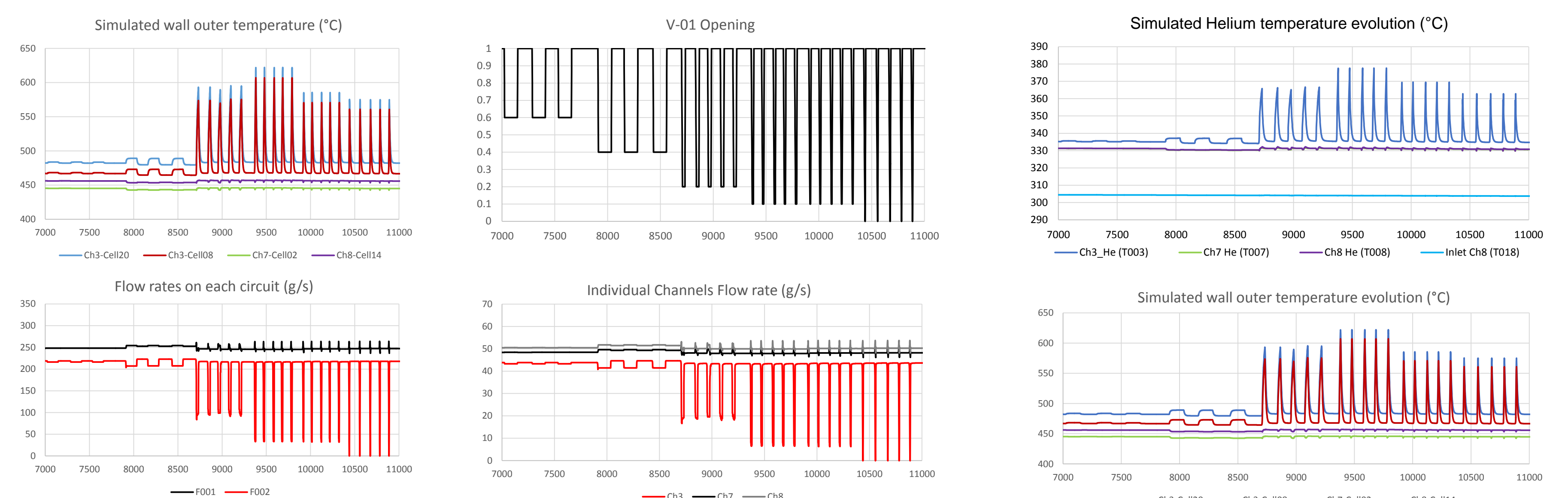
Mock-up:

- 10 channels with 15x15 mm² each,
- plasma side wall thickness is 3 mm,
- material is P92

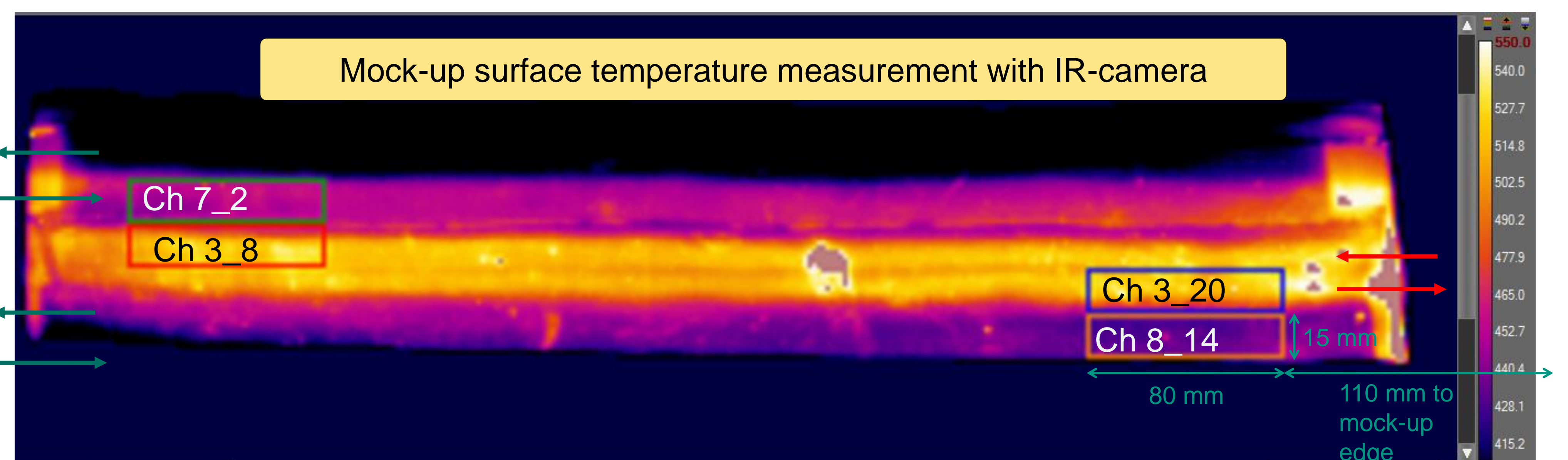
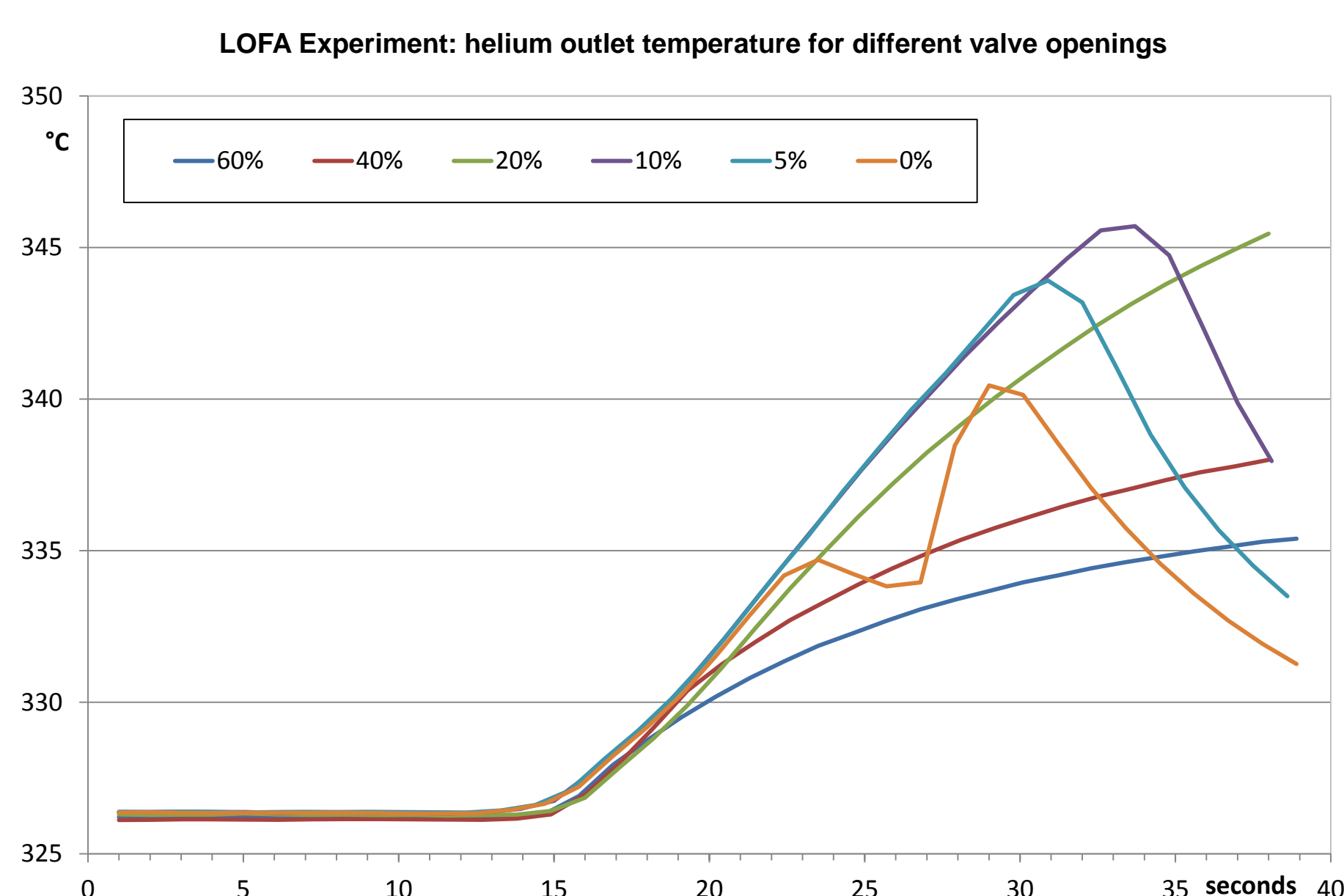
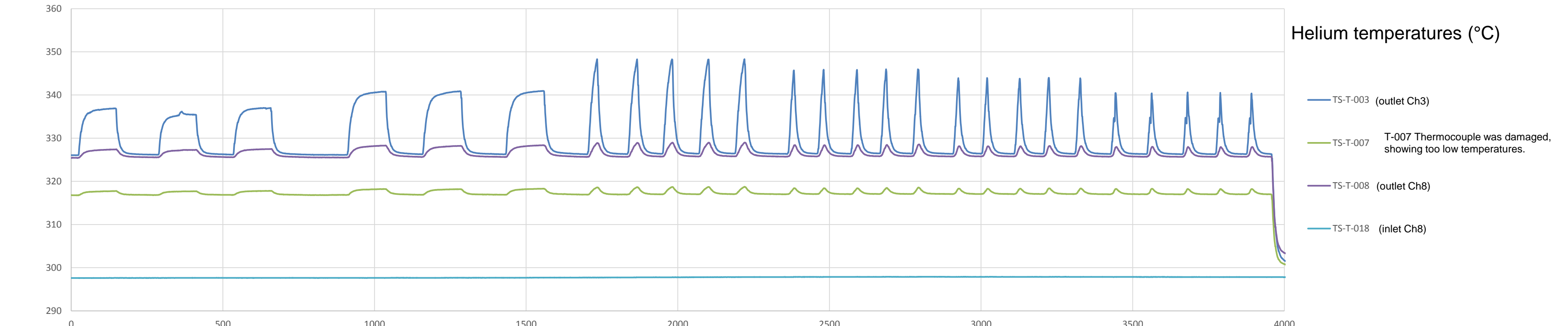
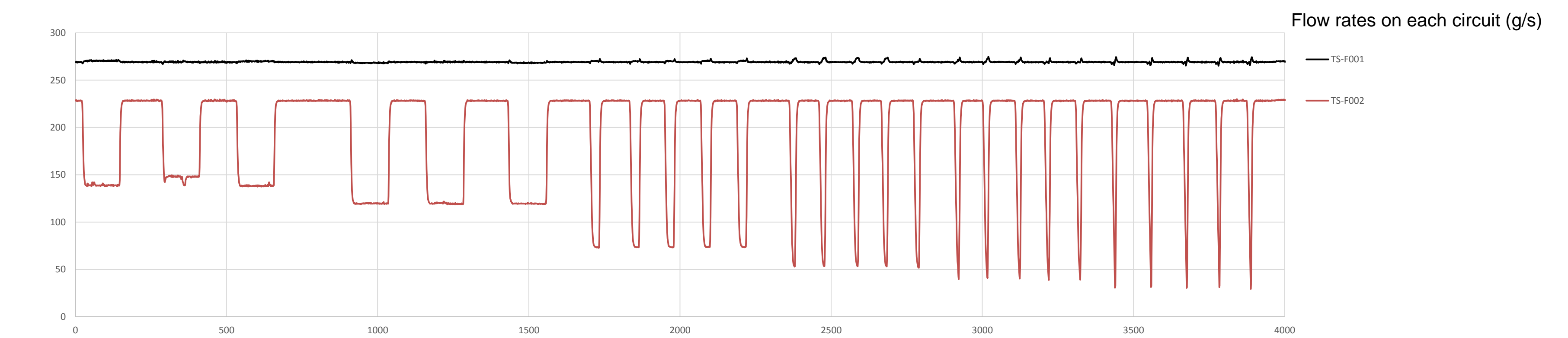
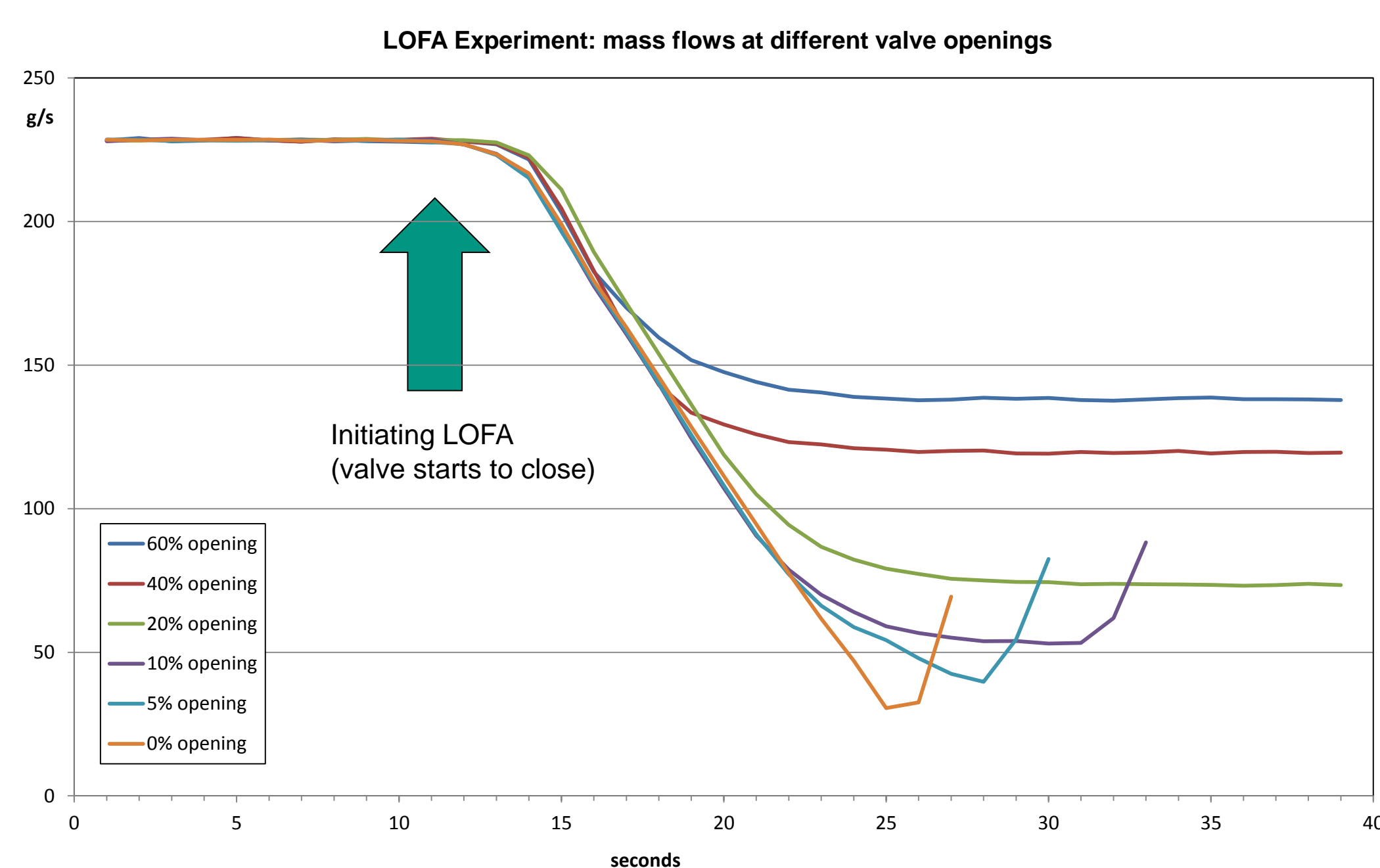
Operating conditions:

- Helium inlet temperature: 300°C
- Helium pressure: 80 bar(a)
- Total helium flow: 500 g/s (about 250 g/s per circuit; 50g/s per channel)
- 2 valves to control the flow in each circuit
- Heat flux: 300 kW/m² by electron beam heating

RELAP5-3D Simulation of the experiment



Experimental results for full and partial LOFA



In the Experiment the valve was opened again to return to full cooling when the mock-up surface temperature exceeded 500°C

