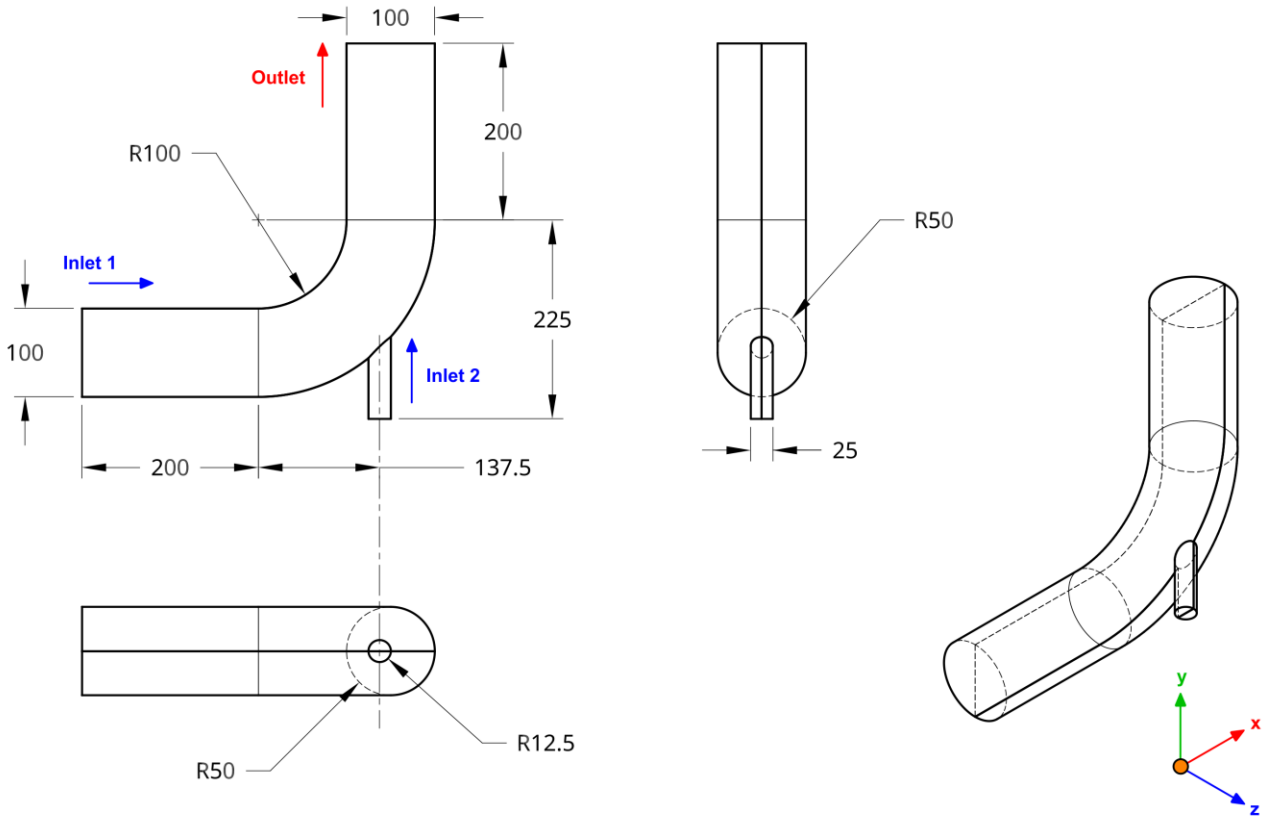
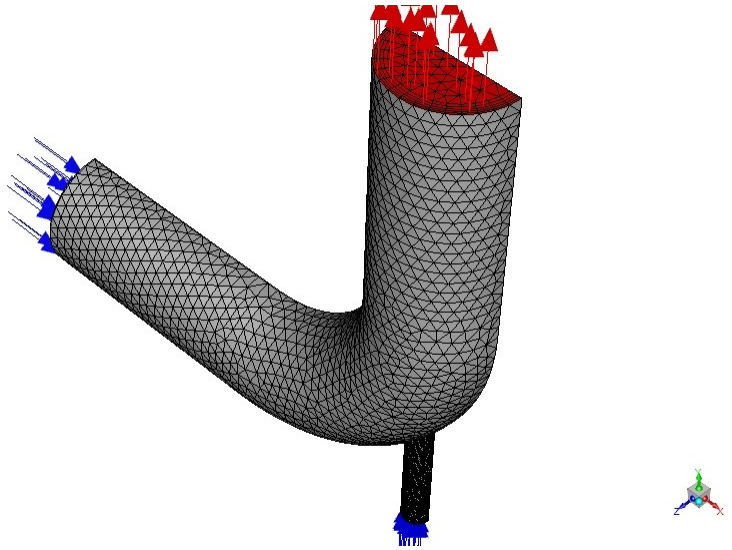
Problem definition

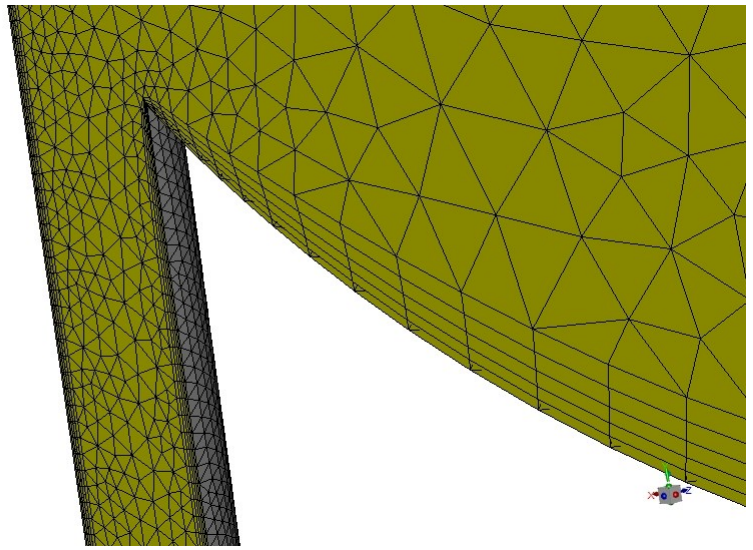


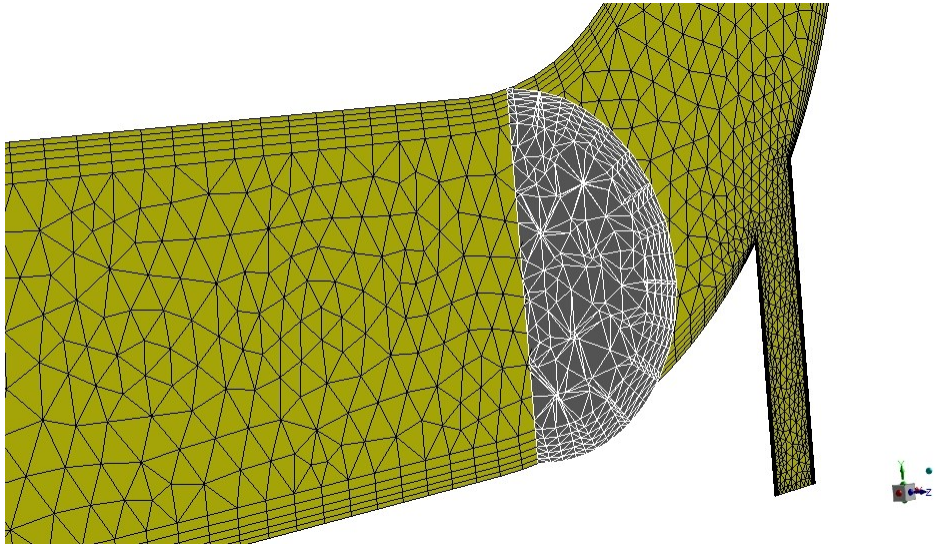
Note: all dimensions are in millimeters

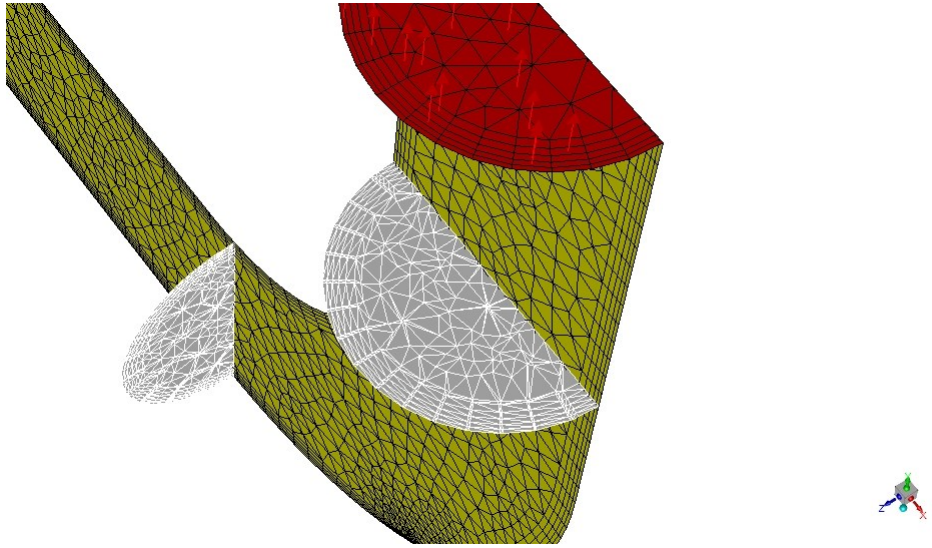
- Working fluid: liquid water.
- Density: 998.2 kg/m^3 (constant).
- Viscosity: 0.001003 kg/m-s (Constant).
- Thermal conductivity: 0.6 W/m-K.
- Specific heat c_p: 4182 J/kg-K.
- Reference pressure: 101325 Pa.
- Inlet 1:
  - Ux = 0.4 m/s.
  - T = 20C.
  - The turbulence quantities values are up to you.
- Inlet 2:
  - Uy = 1.2 m/s.
  - T = 40 C.
  - The turbulence quantities values are up to you.
- Run the case in turbulent regime.

Domain mesh – 2D mesh or surface mesh

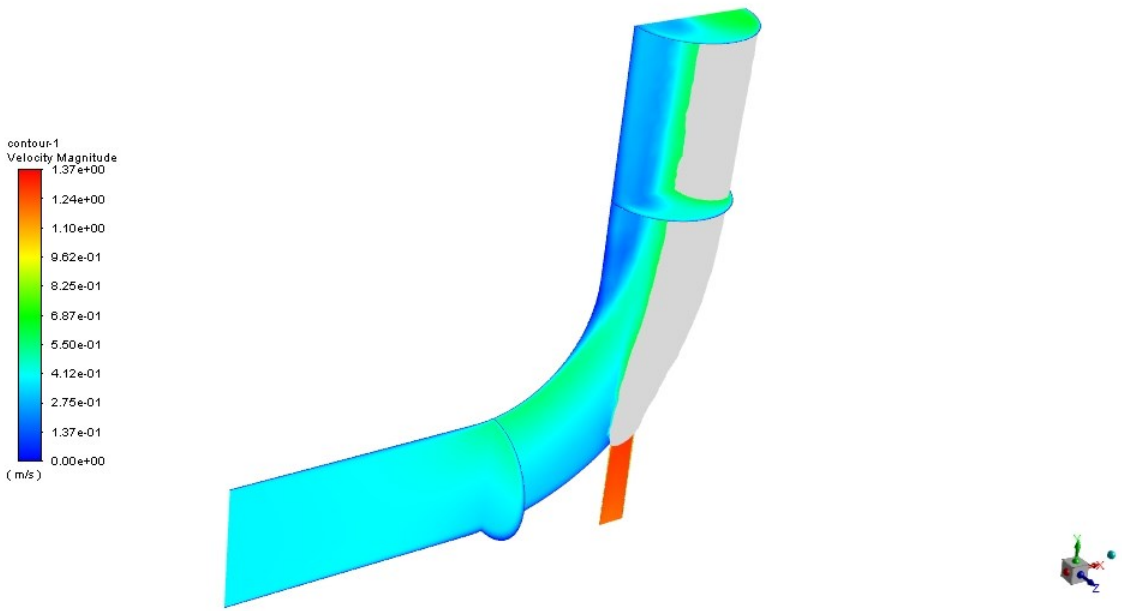




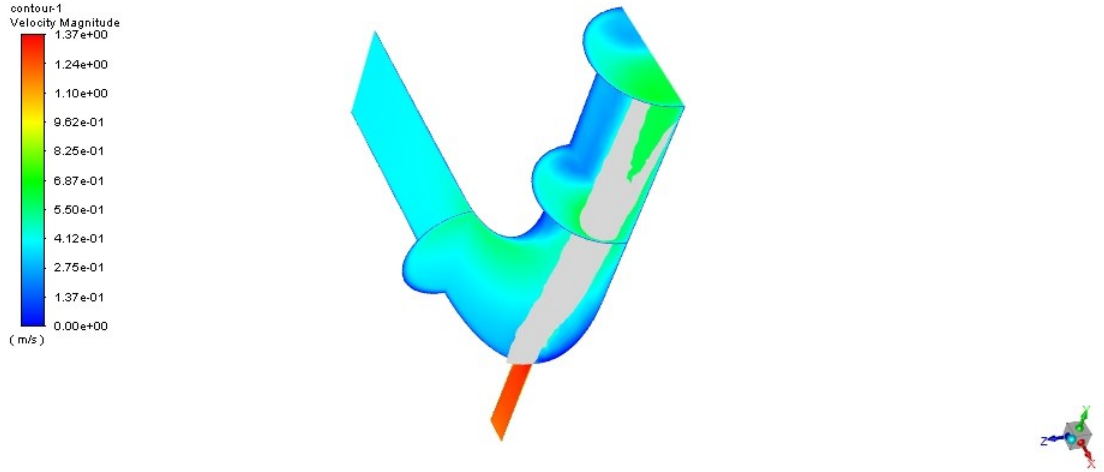




Qualitative results – Contour plots

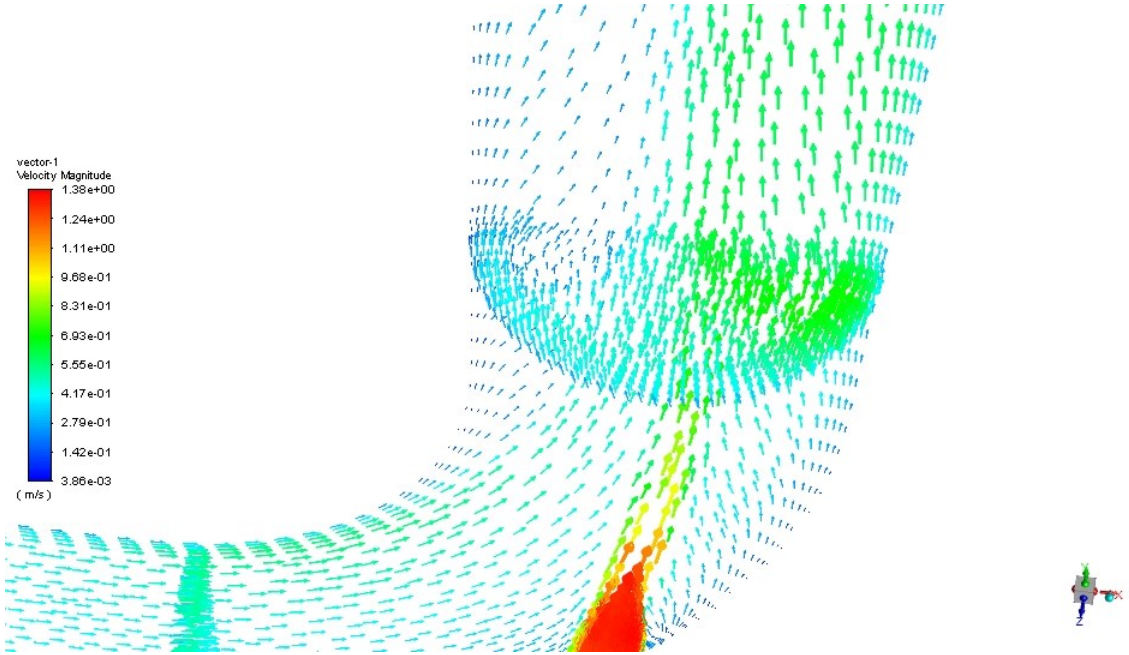


Velocity contours at cut planes and symmetry plane – Iso-surface of temperature (25 C)

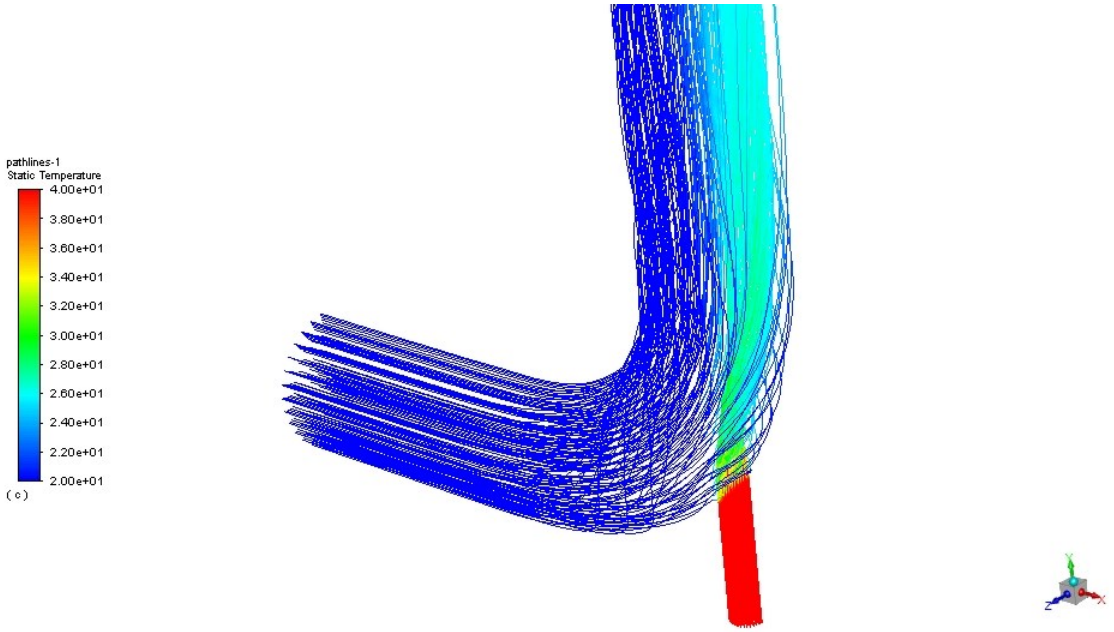


Velocity contours at cut planes and symmetry plane – Iso-surface of temperature (25 C)

Qualitative results – Vector0 plots and streamlines

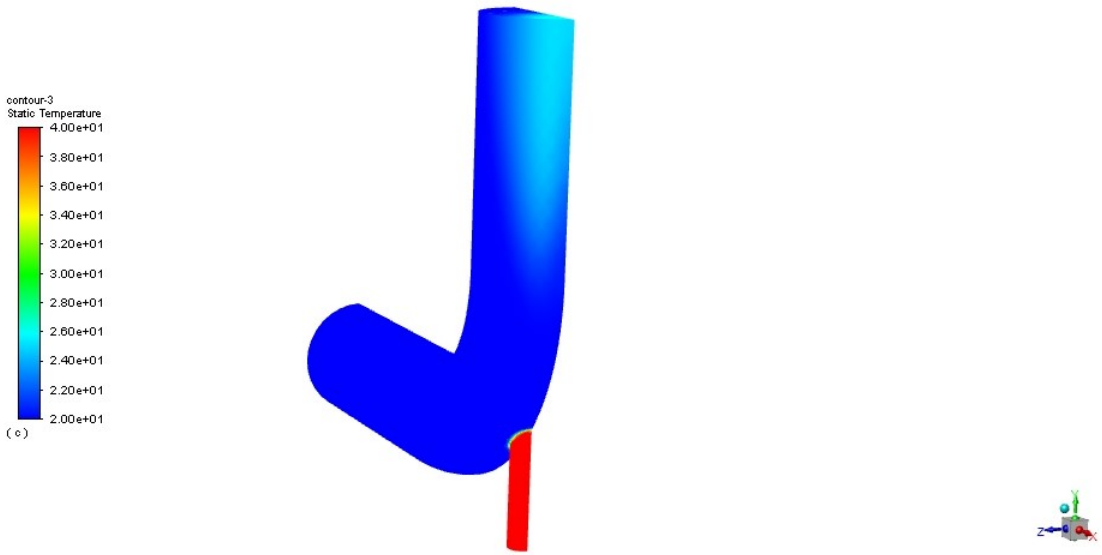


Velocity vectors at cut planes and symmetry plane – Vectors colored by velocity magnitude

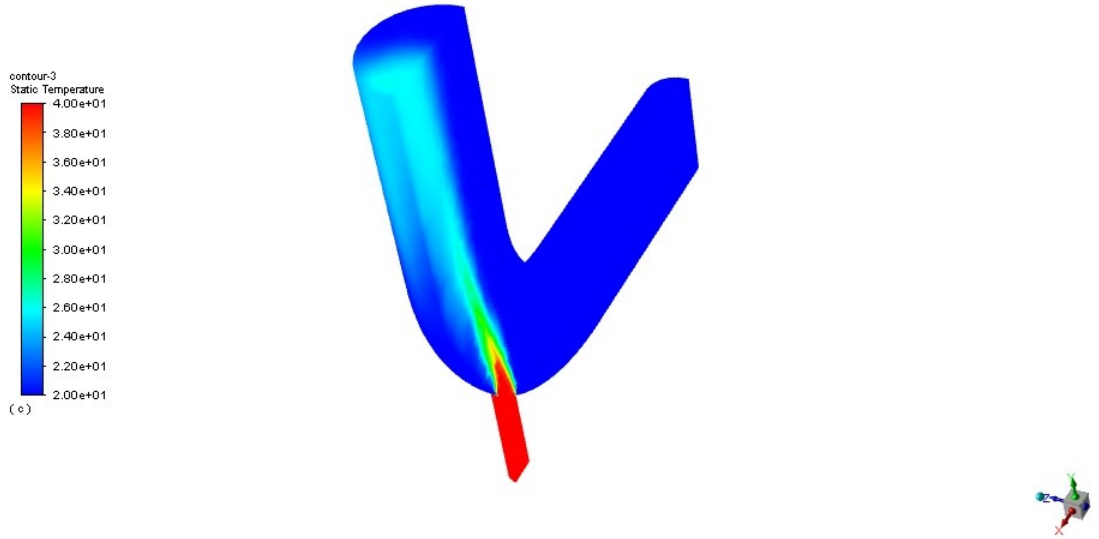


Streamlines released from the inlet boundaries – The streamlines are colored by temperature value

Qualitative results – Contour plots on boudnaries

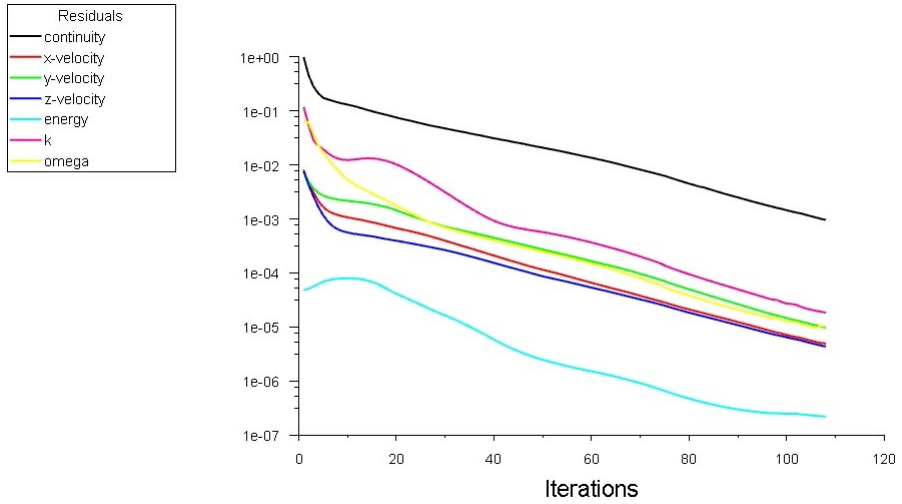


Temperature contours at boundaries

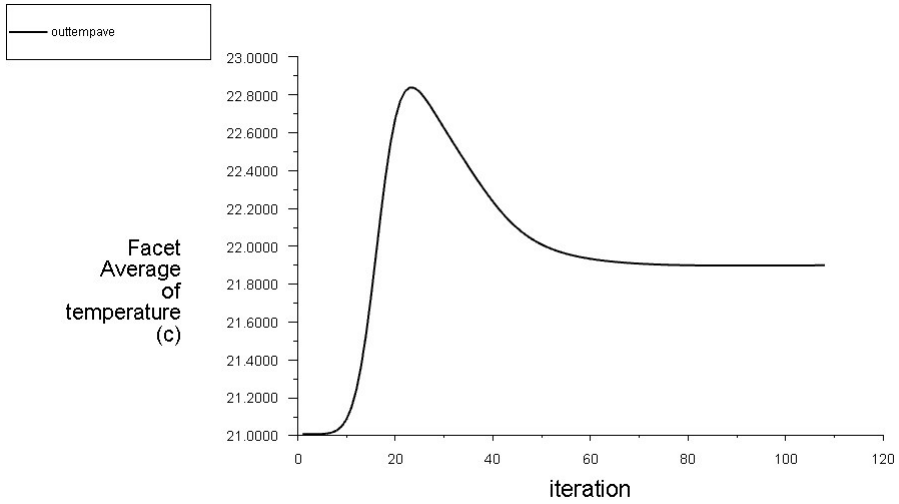


Temperature contours at boundaries

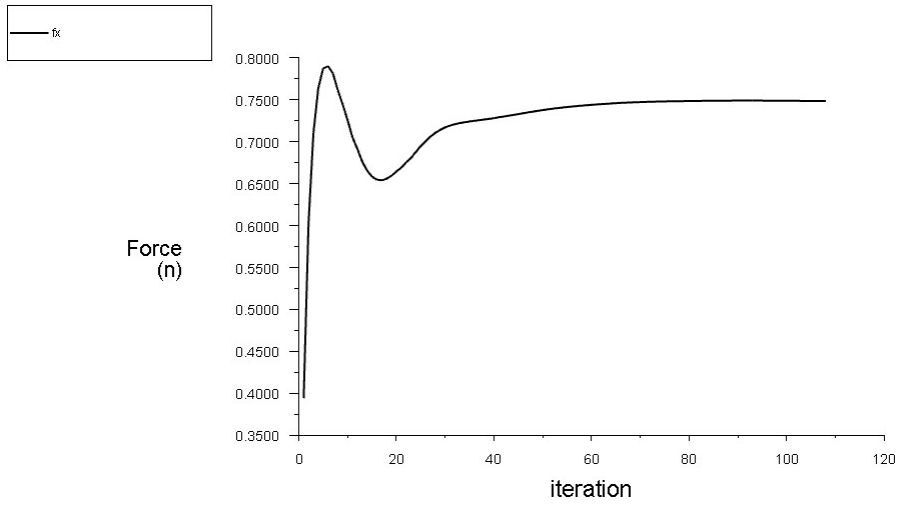
Quantitative results – Residuals and monitored quantities



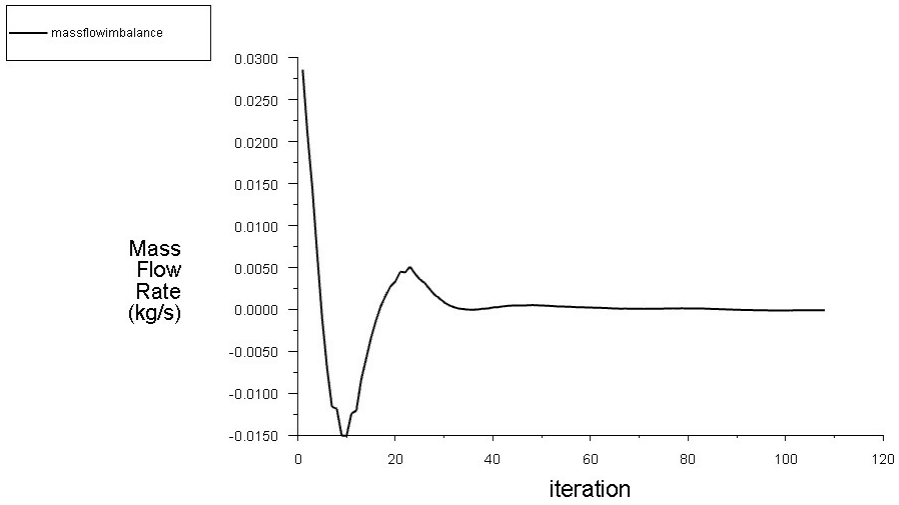
Solution residuals



Iterative average temperature at outlet



Iterative force (x-component) at walls



Mass flow imbalance