COMSOL CONFERENCE 2014 BOSTON

Baffle Design: Tube-in-Shell Electrical Gas Heaters

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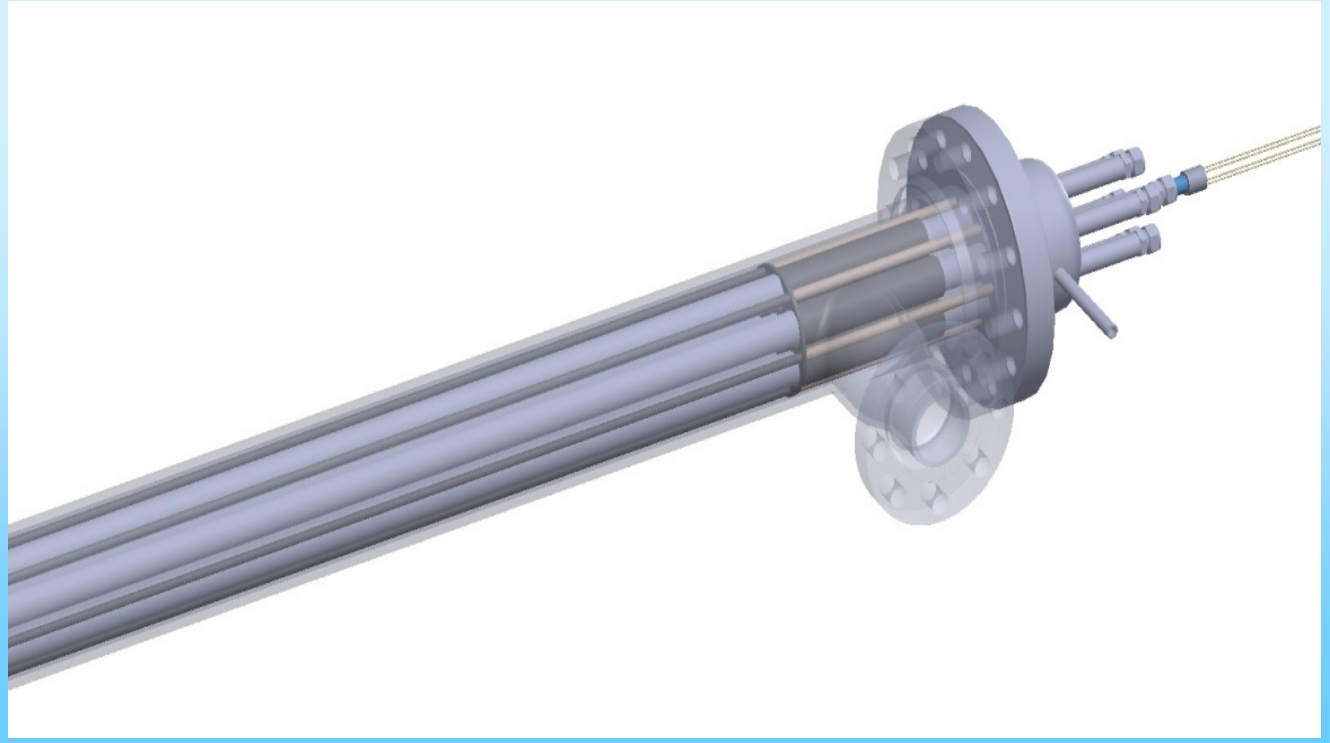
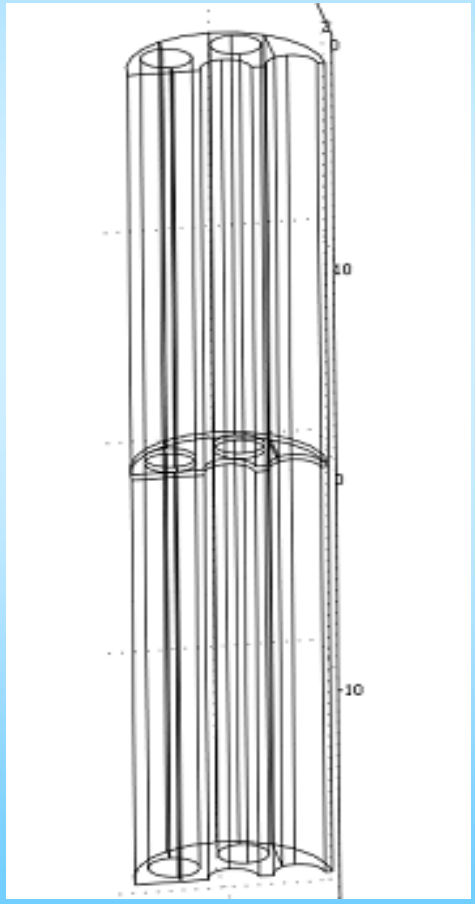
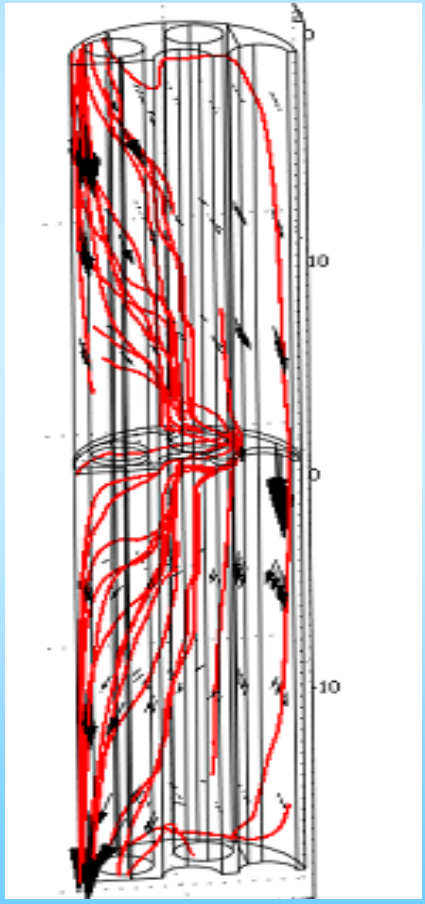


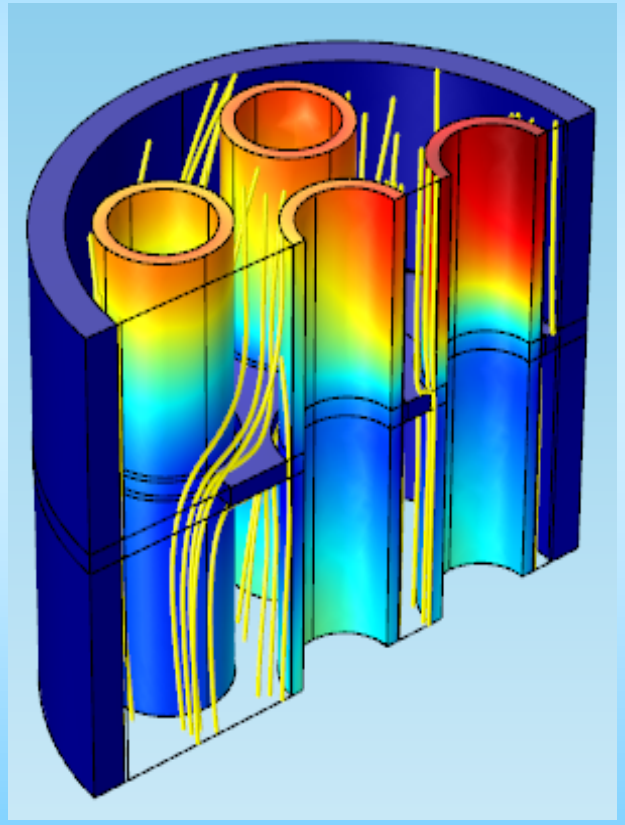
conventional heat exchanger baffle design



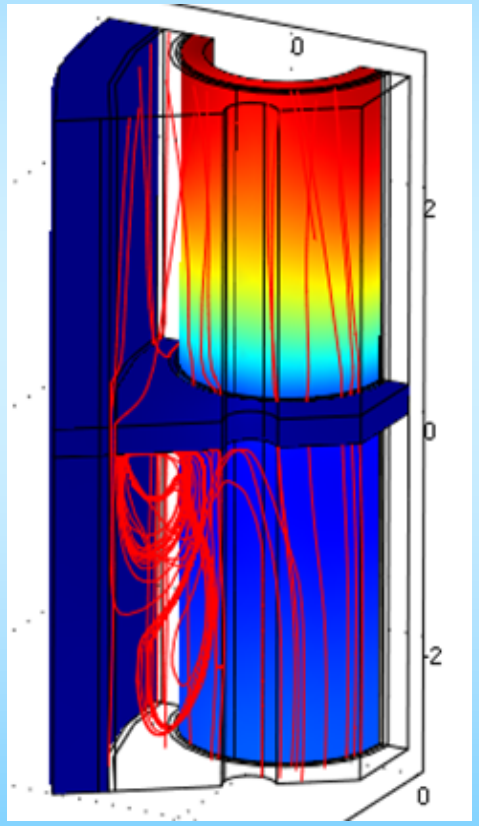


Effect of Electrical Heating

Temperatures near Baffle

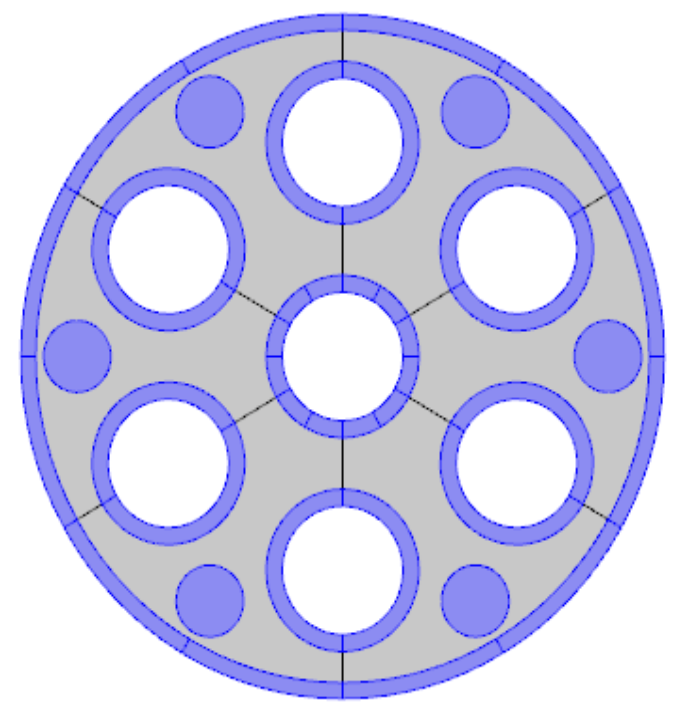


Flow detail

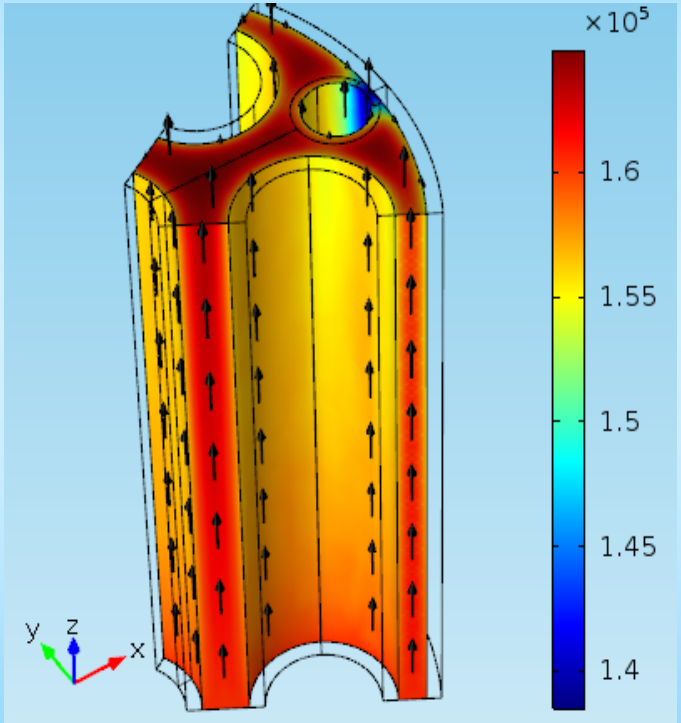


Axial-Flow Models

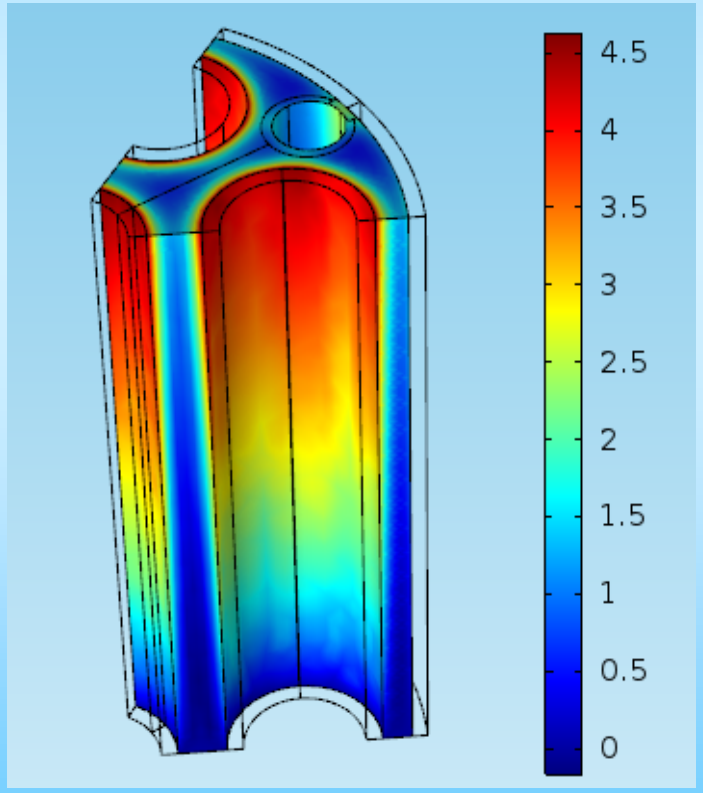
Cross Section of Flow Area



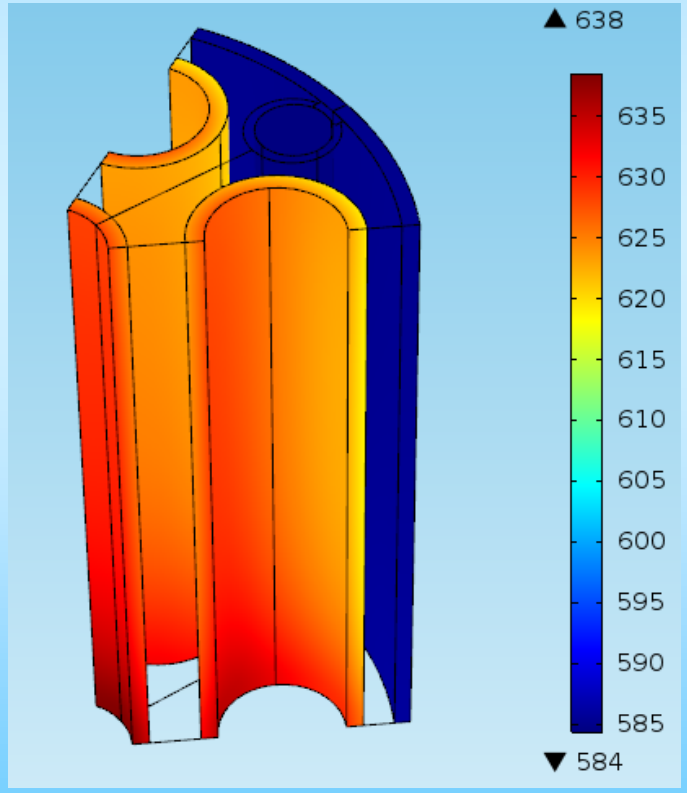
Flow Computation



Gas Temperature Increases (^{O}C)

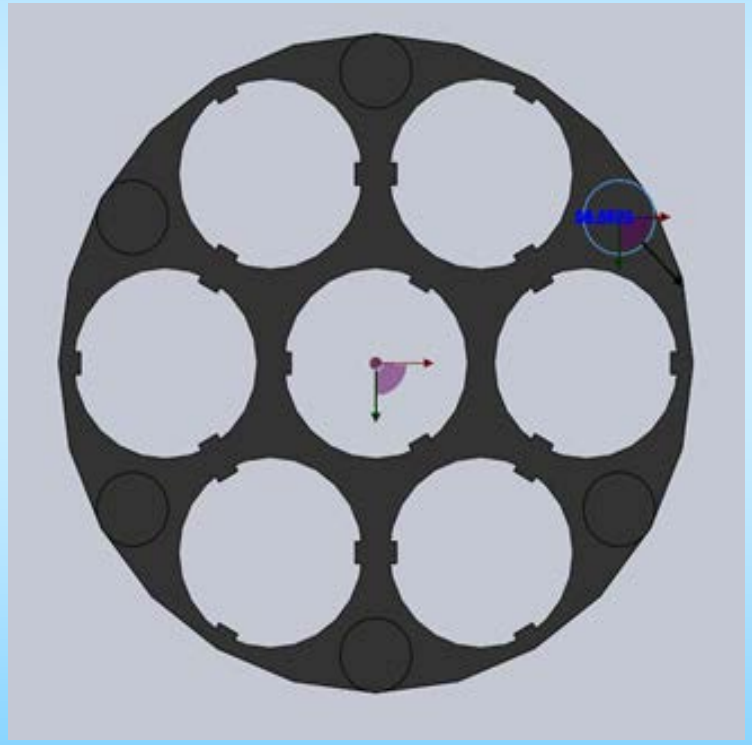


Solid Temperatures (^{O}C)

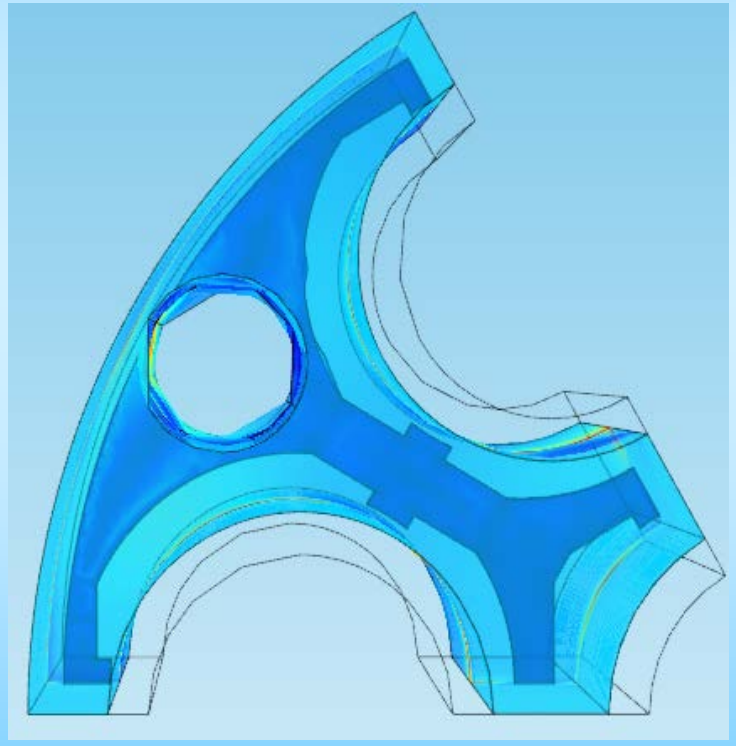


Spider-Type Baffle Model

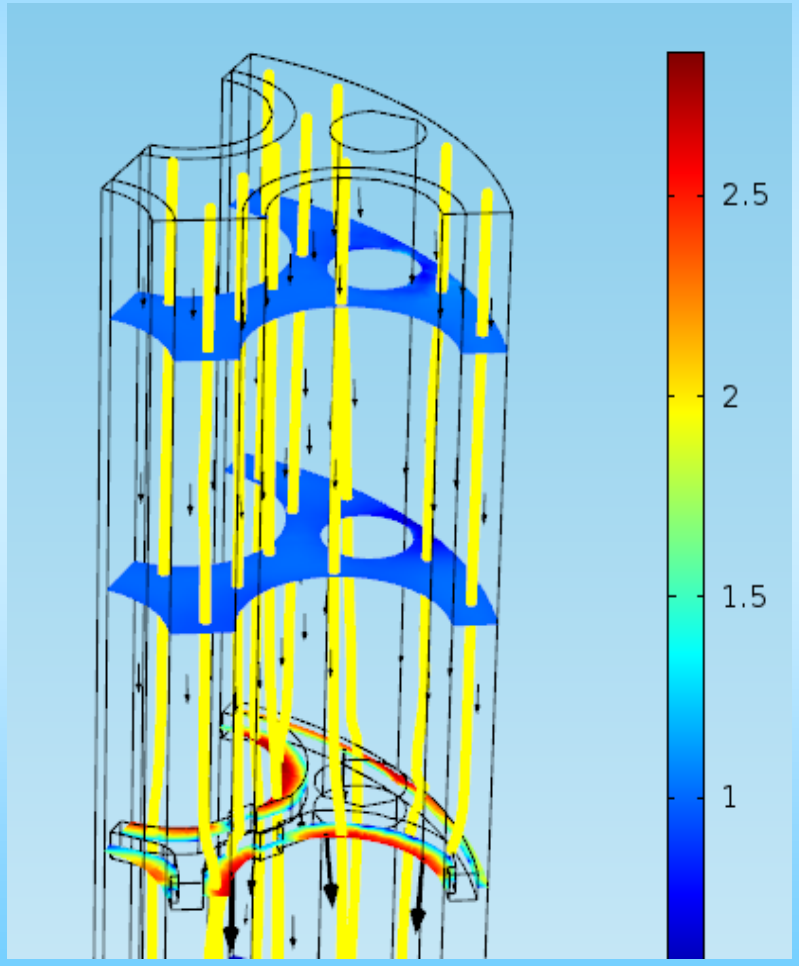
Spider-type Baffle or Spacer



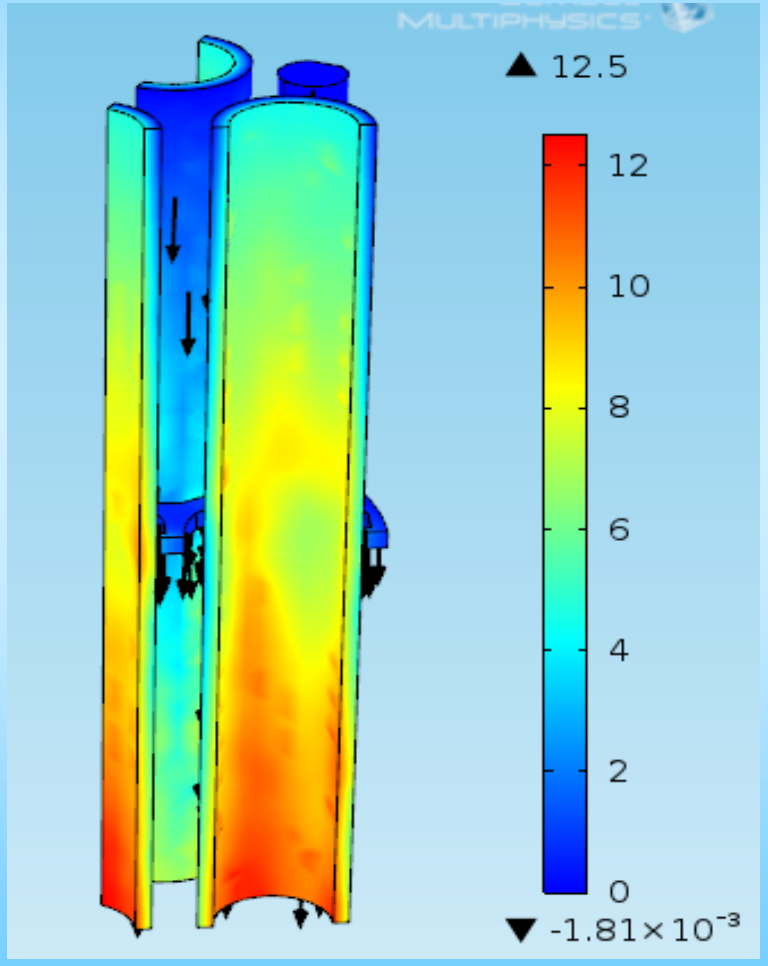
Spacer Placement in Model



Velocity-ratio Increase at Spacer

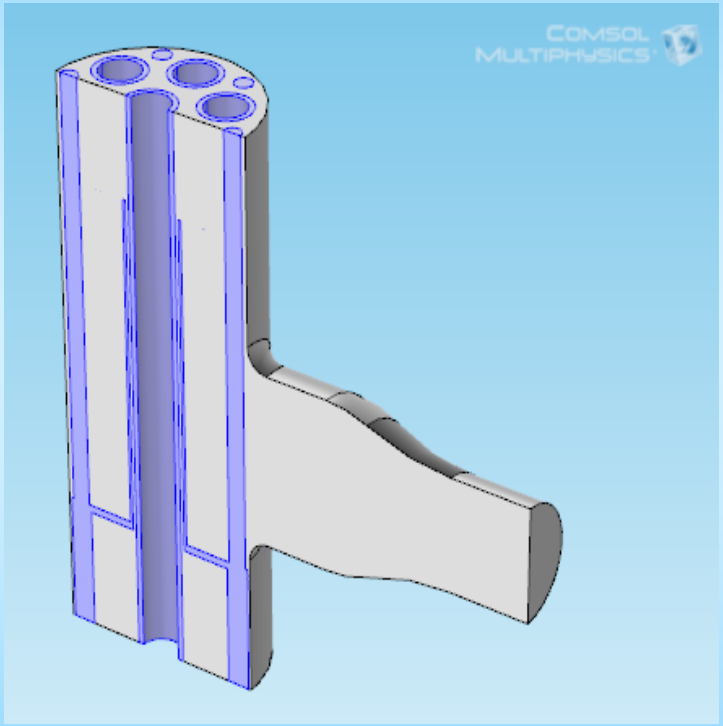


Temperature Increases (^{O}C)

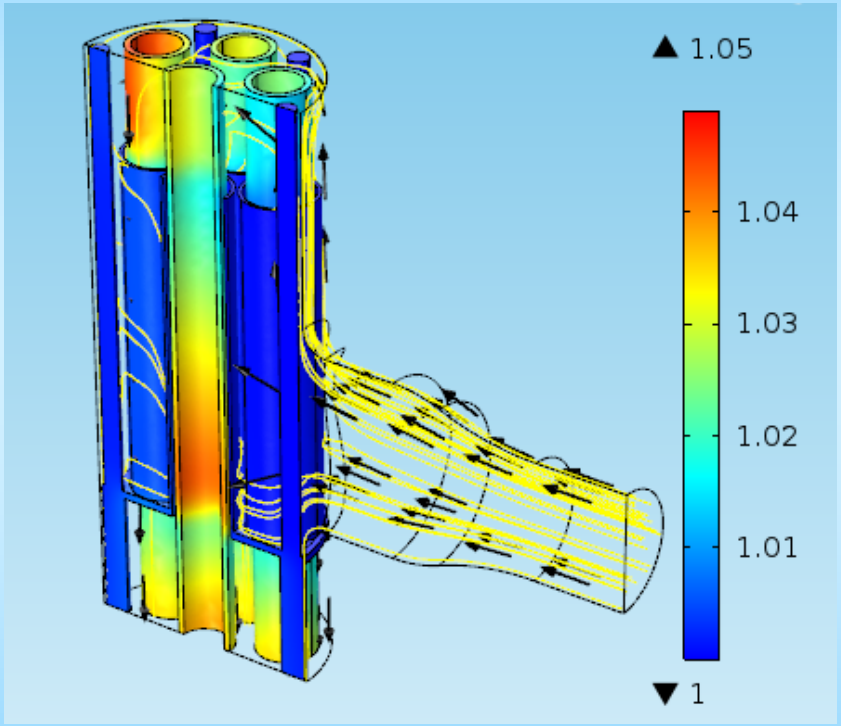


Inlet Turning Baffle

Gas Inlet Geometry



Inlet Temperature Ratios



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thank you