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## Question 29: What are your current best practices for protecting the charge heater from backflow?

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Our design practice for a gas only heater uses a check valve at the outlet of the heater mainly to cut down on the chance of liquid flowing back into the heater during a compressor trip. For a combined feed heater (two phase) we do not use a check valve and instead concentrate on a robust and conservative heater design so that a tube rupture, which would be the cause of the backflow, is less likely to occur. Given the relative effectiveness of the check valve (it can stick in place), it is not considered a highly reliable safeguard for two phase operation.

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