

# Advanced pressure relief services (modelling)



Emergency situations and complicated process reactions are often too complex for standard pressure relief calculations. Modelling provides an answer.

Runaway reactions or emergency situations, such as fires, can lead to complex pressure relief scenarios. Standard pressure relief calculation methods can't provide the level of assurance required in these situations.

### What we offer

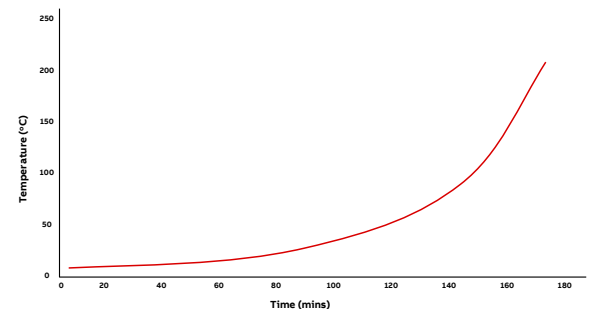
Our experienced team builds bespoke models to help determine credible worst-case relief scenarios. We take into account effects such as:

- External heating or cooling
- Loss of material
- Thermal mass of vessels
- Fluid composition changes as material is lost through a relief valve
- Behaviour of heat exchangers during abnormal condition (e.g. fire)

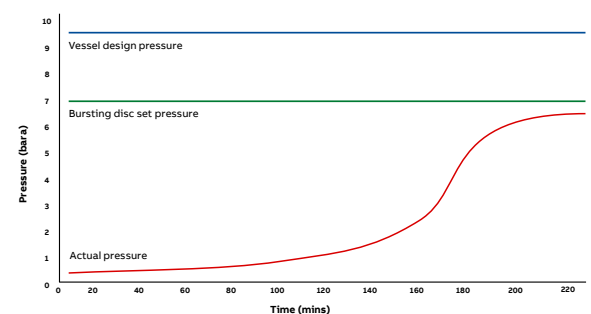
We use the results from the model to design and specify a satisfactory pressure relief system:

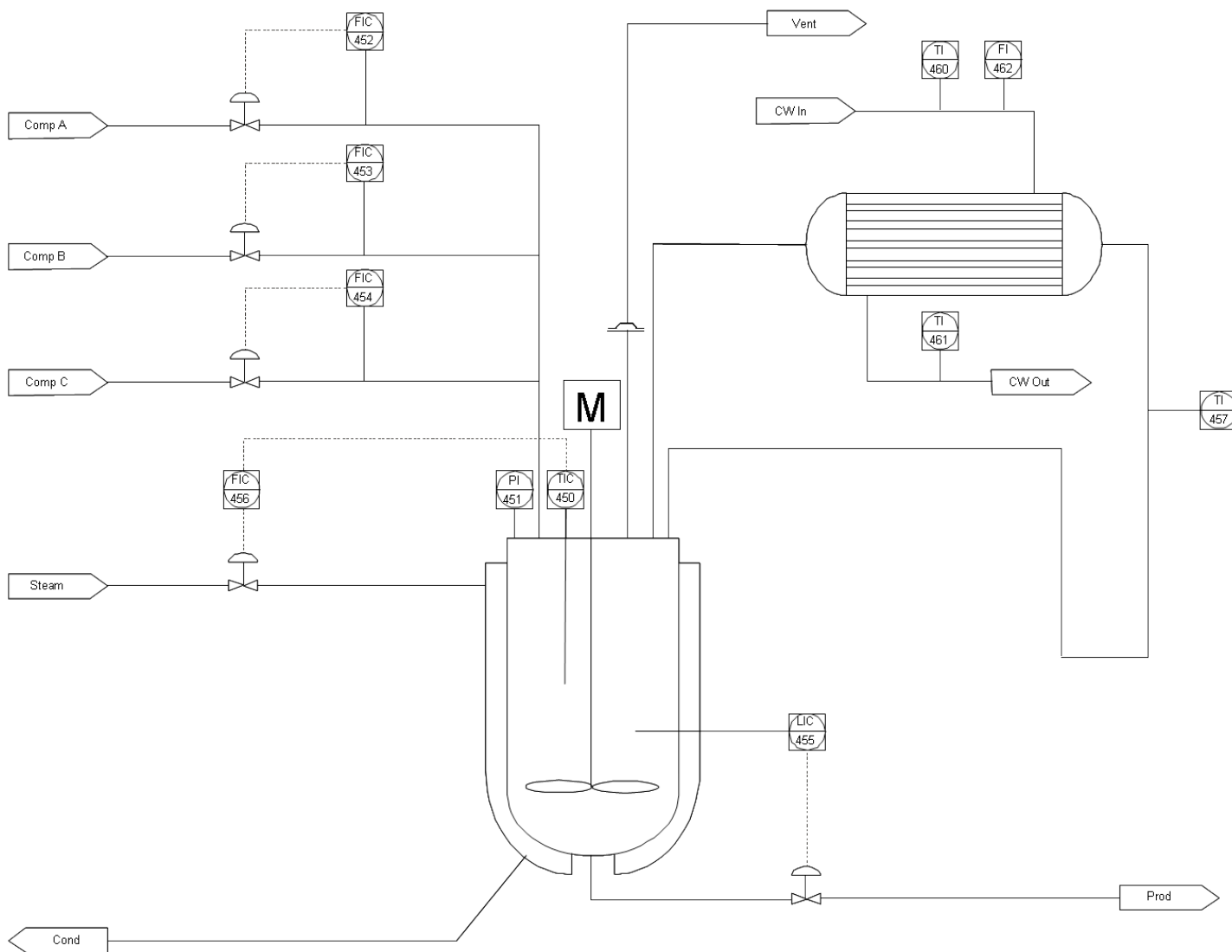
- We assess the problem, taking into account physical properties, process conditions, design and control data
- We predict the composition and flow rate of a vent or relief system
- We interpret the results, and represent them graphically, allowing major influencing factors to be quickly and easily visualised and understood

Calorimetry data.



Model results - predicted pressure rise.





**Benefits**

- Provides a better understanding of how a process behaves
- Enhanced safety
- Composition and rate of a vent or relief stream predicted accurately

**Why ABB?**

We are leading pressure relief experts, having developed and licensed a widely adopted methodology to pressure relief design and management. This pressure relief experience together with powerful mathematical modelling tools provide a tailored solution.

Our consultants have operational heritage which allows them to offer pragmatic judgements and solutions.

We run IChemE accredited pressure relief courses and have trained thousands of engineers in pressure relief design.

We can call upon a broad range of technical knowledge across our range of services.

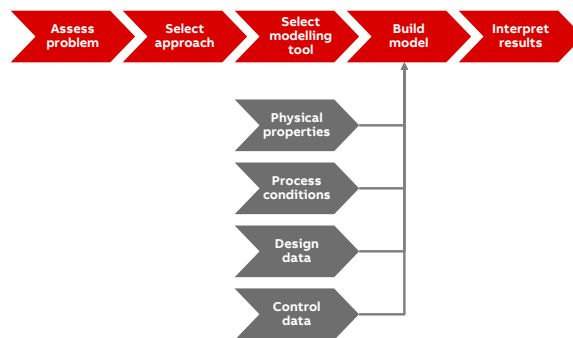


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