## Plantware

Radiators

P-Engineering handles Sizing of Radiator Installations with regards to

- Overall Energy Loss Calculation
- Necessary surplus for
  - Speedy Regulation
  - Minimum Cooling of Heating Water

Pressure loss in distribution piping system is carefully optimized to have even flow distribution in sets of parallel radiators. This to avoid additional flow regulation valves etc. Furthermore, this reduces the necessary time for Commissioning of the Heating System.

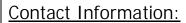


P-Engineering designs with the following Scope:

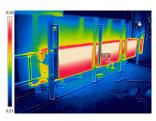
- PFD
- PID
- Process Calculations
- Radiator, Pipe and Valve Sizing
- Pipe Design
- Pipe Support
- Instrumentation
- Insulation Specification
- BMS/SCADA Specification and Functional Descriptions.

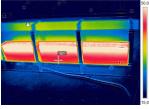
P-Engineering uses e.g.

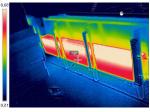
- AVEVA PDMS Software for 3D design
- <u>CONVAL®</u> for Control Valve Design
- PIPE-FLO® Pump Sizing and Pressure Loss



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Pictures of surface temperature measurement of Radiator - Left is 41.5°C, Middle is 42.3°C and Right one is 41.1°C without any adjustments or commissioning of the installation. These radiators have a Power surplus of nominal 40% and therefor the flow distribution is adequate.