

Steam Boiler: Heat Recovery

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Industrial Boiler Plants for generation of Steam often have unutilized Energy in the Flue Gas Exhaust. P-Engineering design bespoke Heat Recovery Systems for these Purposes – for example:

- Step#1 Flue Gas Cooling for Producing 80-90°C hot Water for feeding of Absorption Chiller.
- Step#2 Down stream of above a Flue Gas Cooler for Condensing the Flue Gas and produce 50-55°C Hot Water for Heating.

P-Engineering designs e.g.,

- Flue Gas Cooler – Either Detail Design or Specification
- Ducting System and Exchanger Bypass with Seal Off Dampers
- Condensate Collection.

Design Package includes

- Piping Design acc. EN13480
- Instrumentation
- Control System – Spec., Functional Desc., SCADA spec.
- Pumping Sizing and Selection
- MCC's and Electrical Supply
- Cabling – Power, Signal & IT

P-Engineering uses e.g.

- [AVEVA PDMS](#) Software for 3D design
- [ROHR2](#) for Pipe Flexibility investigations
- [Pipeflo®](#) for Piping and Pump Sizing
- [DXT](#) Software EN13445 and EN13480

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Top Pictures from a Pharmaceutical Plant with Flue Gas Condensation for Supplementary Heating Production. Bottom Picture from an API-factory with 2 step Flue Gas Cooling for both Cooling Production and Supplementary Heating Production.