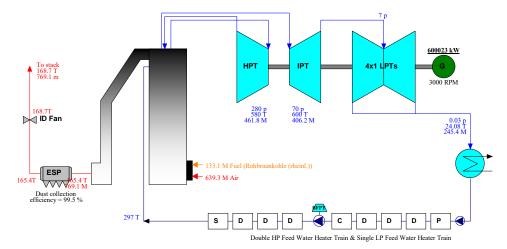
Conventional Cycle Design, Simulation, and Cost Estimation

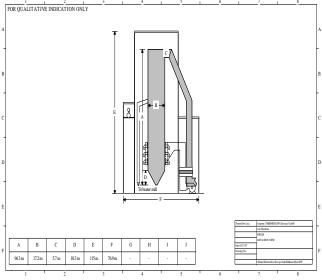
STEAM PRO° automates the process of designing a conventional (Rankine Cycle) steam power plant. It is particularly effective for creating new plant designs and finding their optimal configuration and design parameters considering the plant performance and total plant cost (techno-economic optimization).

569992 kW Plant net power Number of units 1.013 p 15 T Plant net HR (HHV) 10003 kJ/kWh Plant net HR (HHV)
Plant net eff (LHV)
Plant net eff (LHV)
Aux. & losses
Fuel heat input (HHV) 8491 kJ/kWh 60% RH 8491 35.99 42.4 30031 1583803 1344344 kW kJ/s kJ/s Fuel heat input (LHV) Fuel flow t/day



th STEAM PRO 17.0 Huschka THERMOFLOW (Europe) GmbH

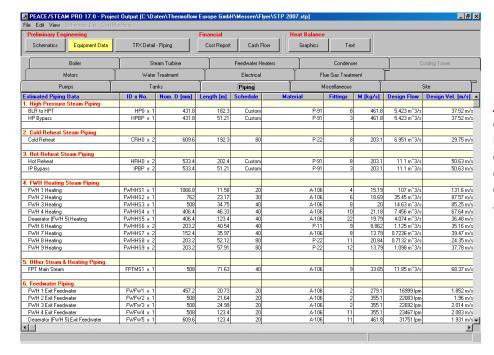
p [bar] T [C] M [kg/s]



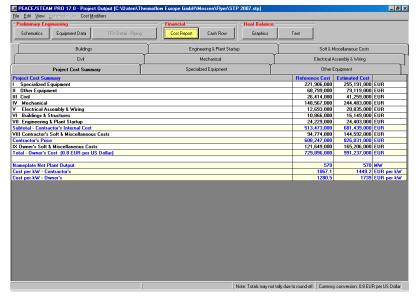
TEAMPRO 17.0 Huschka THERMOHLOW (Europe) GmbH

The user inputs design criteria and assumptions and the program computes heat and mass balance, system performance, and component sizing. The scope and level of detail in STEAM PRO has been continuously growing since 1990, to the point that the latest Version has over 3,500 user-adjustable inputs. Most key inputs are automatically created by intelligent design procedures that help the user identify the best design with minimal time and effort, while preserving the flexibility to make any changes or adjustments.

STEAM PRO is truly easy to use, typically requiring only a few minutes to create a new plant design. It normally computes a heat balance and simultaneously designs the required equipment in under fifteen seconds. When run in conjunction with the optional *PEACE** (Plant Engineering And Cost Estimator) module, the programs provide extensive engineering and cost estimation details.



STEAM PRO allows you to quickly create steam plant design point heat balances, complete with outputs for plant hardware description, preliminary engineering and hardware details, and cost estimate with PEACE.



The variety of steam plant configurations is virtually endless. From back pressure units with gas fired boilers feeding desalination plants, to oil-fired boilers feeding straight condensing turbines with a small number of heaters, to coal fired PC boilers, or CFBs feeding single reheat turbines with seven or eight heaters, to supercritical double-reheat plants of the largest variety, or even biomass plants and waste incineration plants using grate fired boilers or BFB, each with any sort cooling system, all of are easily accommodated in STEAM PRO.

STEAM PRO includes a fuel database with more than 180 pre-defined coals, biomass, waste materials, and other fuels. STEAM PRO, in conjunction with PEACE, has an option to automatically include/exclude FGD, ESP or baghouse filter, and SCR using current fuel characteristics and plant size for guidance. It also allows inclusion of a chemical/physical **CO₂ Capture Plant**.

STEAM MASTER is the companion to STEAM PRO and is used for Off-Design simulation. STEAM MASTER computes plant performance for varying ambient conditions, fuel characteristics and fuel blends, equipment loading, process steam/water flows, hardware degradation levels, etc.