

EBSILON® Professional System Engineering and Design

Intuitive operation

- User-friendly and customizable, Windows-based graphical user interface
- Mapping of facility topology with plant components and material flows
- Customizable component display and structure
- User-defined keyboard shortcuts
- Operating languages include German, English, French, Spanish, Turkish and Chinese

Reliable results by safe convergence

- Highly efficient computation module
- Fast solution algorithm, simulates 1,100 components and 1,400 pipes in 2.5 s
- Convergence diagrams and customizable iteration behavior

Presentation of results and analysis

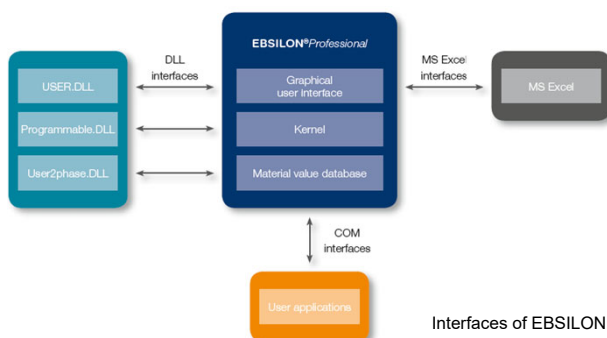
- Value crosses and interactive fields in modeling workspace
- Standard and user defined reports in MS Excel
- Model output as HTML for presentation of results in web browser
- State diagrams: Q,s; h,s; T,s; log(p) h; H,xi etc.
- Convergence and control diagrams
- Templates for user-defined diagrams in MS Excel

Extensive component library

- Components for all kinds of thermal power plant processes: CCPP, coal-fired, CHP, CSP, ORC, geothermal, desalination and nuclear plants
- Adjustment of part-load performance with parameters and performance characteristics
- User-defined components and macros
- Extensive and customizable gas turbine library comprising gas turbine models based on manufacturer data
- Continuous maintenance and expansion in cooperation with partners like the German Aerospace Center (DLR), VTU Austria and TU Darmstadt

Comprehensive material libraries

- Water and steam (IAPWS-IF97)
- REFPROP library (NIST): 90 fluids from acetone to xenon
- Moist air
- Salt water
- Thermal liquids for CSP applications
- ORC liquids and liquid mixtures
- Two-phase fluids
- Binary blends:
 - Ammonia/water
 - Lithium bromide/water
- Fuels:
 - Coal (database of calorific values included)
 - Oil
 - Natural gas
 - user-defined e.g. wood



EBSILON®*Professional* System Engineering and Design

Software architecture and interfaces

- Integration into existing software infrastructure and user-specific programs due to object-based software architecture
- Expansion of component library with user-defined components
- Easy data exchange with MS Excel
- Error analysis tools with root cause identification
- Online help with detailed explanations of the physical function of all structural components
- Sample circuits for all components and various power plant type

Add-on modules

Add-on modules expand the functionality of EBSILON®*Professional* and support your engineering work with the knowledge of our experts.

- OEM-GTLib - Gas turbine library based on manufacturer data
- EbsSolar - Components for detailed mapping of CSP collector technologies
- EbsBoiler - Components for detailed mapping of the boiler geometry
- EbsOptimize - Integrated optimizer on the basis of a genetic algorithm
- EbsValidate - Data validation according to VDI 2048
- EbsHTML - Output of EBSILON®*Professional* circuits in HTML format
- EbsScript - PASCAL-based script language for EBSILON®*Professional*

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Contact person:

STEAG Energy Services GmbH
Detlef Günzel
Wetzbach 35
64673 Zwingenberg (Germany)
P +49 6251 1059-15
detlef.guenzel@steag.com