JSteam Excel Add-In

Steam Utility Modelling Software

ADVANCED THERMODYNAMICS

Dual thermodynamic model engine ensures accurate modelling of steam, fuel gas & emission calculations.

LATEST STANDARDS

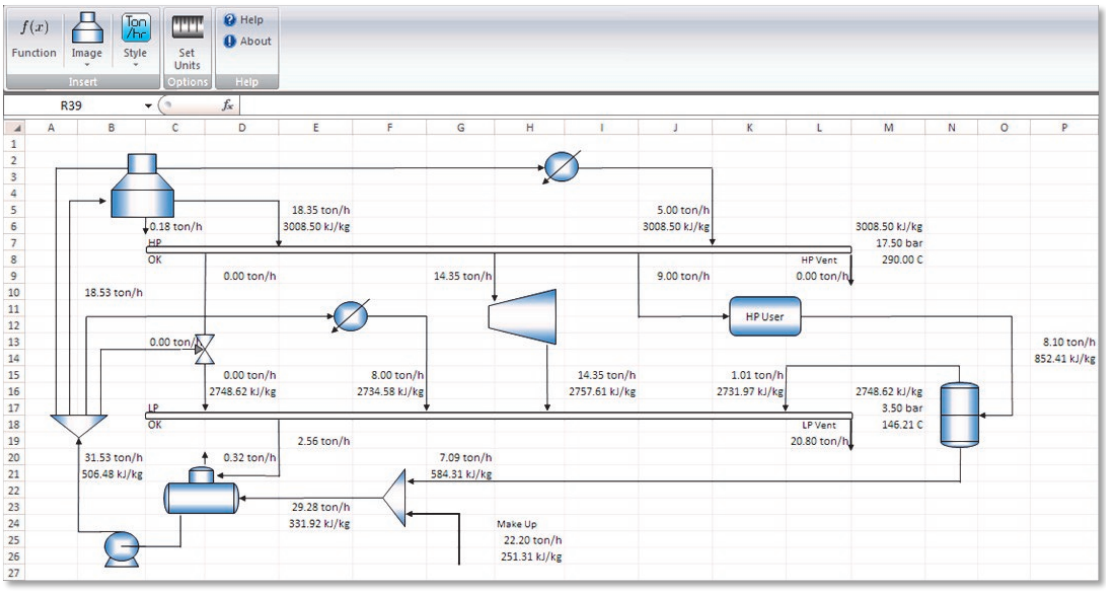
JSteam uses the latest International Association for the Properties of Water & Steam (IAPWS) 1997-2007 standards for the most accurate modelling.

OPTIMIZED CODE

Utilizing extensive benchmarking on implementation and compilation techniques has resulted in near instantaneous model convergence.

EASY TO LEARN

Excel users will migrate naturally to JSteam using standard cell functions & references.



The Technology

JSteam is an Excel 2007 add-in to allow process and energy engineers to be able to model a range of industrial steam utility systems within the familiar Excel environment. JSteam utilizes the latest code optimization features to enable high speed thermodynamics for near instantaneous model convergence.

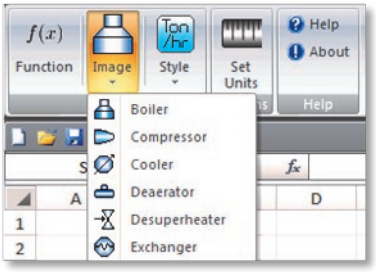
The thermodynamic engine uses the International Association for the Properties of Water & Steam (IAPWS) 1997-2007 standards to ensure exceptional accuracy from 0-100bar and 0 -1500°C, covering the operating ranges of most industrial systems.

Complementing the steam thermodynamic engine is a Peng-Robinson Equation of State (EoS) engine for calculating the properties of twenty common fuel gas and combustion components including a range of hydrocarbons and sulphurous elements.

The EoS model is used for predicting both fuel gas consumption and emission generation for a range of advanced unit operations including boilers, furnaces, gas turbines and Heat Recovery Steam Generators (HRSGs).

Interface

JSteam is written using the latest code libraries from Microsoft to enable enhanced functionality including an intuitive Excel Ribbon interface and function wizard.



INDUSTRIAL INFORMATION & CONTROL CENTRE

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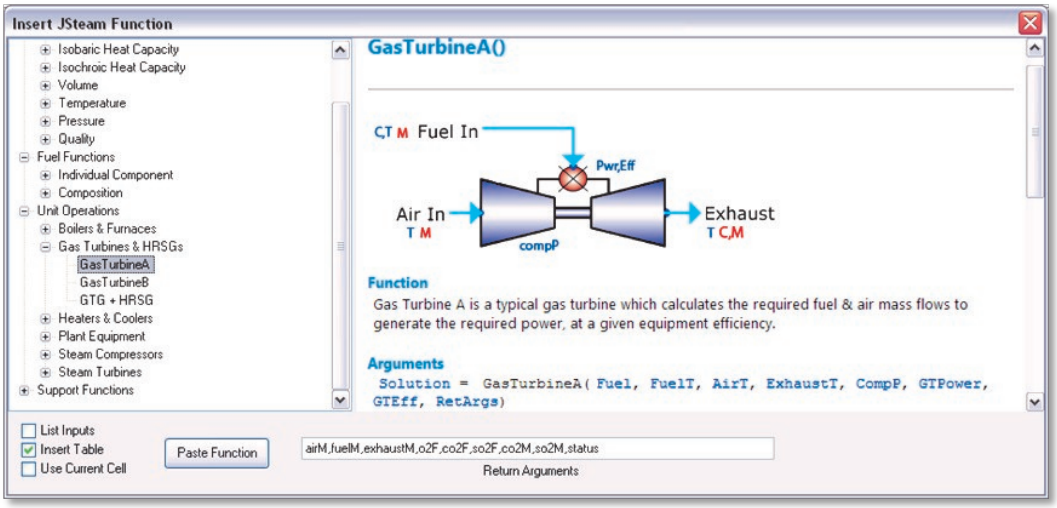

ADVANCED UNIT OPERATIONS

JSteam includes advanced models such as Gas Turbines, Furnaces & Heat Recovery Steam Generators.

MODELLING & SUPPORT

Let our team of chemical, electrical and mechanical engineers assist you developing plant models.

MATLAB® TOOLBOX

Also available free is the JSteam Toolbox for MATLAB®. Check www.i2c2.aut.ac.nz for details.

FREE DEMO

Download the JSteam Excel Add-In demo for free from:

www.i2c2.aut.ac.nz/Resources/Software.html

MORE INFORMATION

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Model Building

Utility models are built around a graphical Process Flow Diagram (PFD) using standard PFD symbols inserted similarly to standard Excel shapes. Unit operation results and thermodynamic properties are calculated in user defined cell locations, and are linked using standard cell reference techniques.

Automatically inserted and formatted tables speed up the model building process which results in an easy to use and learn modelling system. Utilizing Excel enables the model to be expanded across multiple Excel sheets to best suit the plant, model, and engineers preference.

Advanced Unit Operations

Unit operations are designed to keep modelling simple with only basic thermodynamic and physical properties required to estimate the equipment operating data.

Advanced unit operations such as the gas turbine can predict fuel flow required to meet process demands as well as emissions generated from any specified fuel composition.

Documentation

JSteam Excel Add-In is fully documented with detailed function descriptions and tutorials.

Industrial Information & Control Centre

The Industrial Information and Control (I^2C^2) is a joint collaboration between AUT and the University of Auckland and was established in 2007. Our team is multidisciplinary group of chemical, mechanical, and electrical engineers with backgrounds from pulp and paper to dairy, aluminium and biotechnology.

I^2C^2 SERVICES AVAILABLE

- System Modelling
- Software Design
- APC Tuning & Assessment
- Onsite Training
- Software Installation and Setup
- Technical Support

Industrial Information & Control Centre
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