

Thermodynamics

Product Overview

The Sigmafine App for Thermodynamics extends the OSIsoft® PI System® by embedding thermodynamic calculations in the PI Asset Framework (PI-AF). These complex calculations are therefore easy to configure and manage. It eliminates the need for post-processing data in Excel or other engineering tool since everything resides in the PI AF. The equations of state used by the Sigmafine App address specifically the needs of the oil and gas industry.

Features

The Sigmafine® App for Thermodynamics can handle multicomponent mixtures and evaluate vapor-liquid equilibrium and thermodynamic properties through the use of equations of state (Peng-Robinson and Soave-Redlich-Kwong).

The App includes a database of physical property correlations for many chemical species to complement the predictions of the equations of state, especially for the liquid phase.

Moreover, the App can predict properties of petroleum assays based on the definition of an array of pseudocomponents and their laboratory distillation curve.

The most common properties that can be evaluated are: vaporization fraction, composition of each phase, enthalpy and entropy of mixture or of a specific phase, density, compressibility factor, specific heat, etc.

Benefits

Sigmafine® App for Thermodynamics complements the OSIsoft® PI System® and PI AF by adding the capability of on-line un-measurable process data such as enthalpy, density, vaporized fraction etc., bringing performance monitoring to the next level.

Engineers and energy managers have now actionable KPIs based on well proven thermodynamic methods.

This results in better process insight and faster reaction time.

The App, designed to work directly within PI AF, inherits years of field use in Sigmafine® energy balance projects.

System Requirements

- PI Asset Framework 2016 and above
- PI System Access (PSA) license

Ordering Information

- Product ID: SA-EXT-LXG (for use with OSIsoft PI System)

