PROCESS | UTILITES

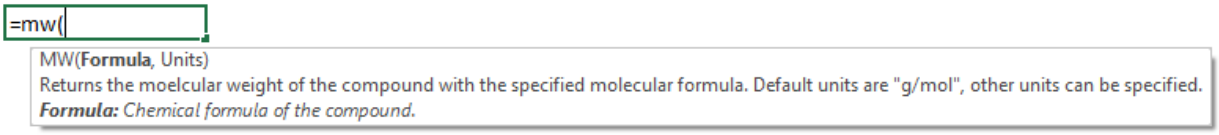
[Changes in Version 2.0]

www.ProcessUtilities.com

Version 2.0 is a significant update for ProcessUtilities. Some of the highlights include the integration of *Intellisense* (those online screen tips that pop up when you're typing in a function) and a macro for extracting ProcessUtilities functions/constants to make sharing easier. There are also a number of new functions and other useful macros. Some function names and syntax has also been changed in an effort to make them more descriptive and intuitive.

1. Intellisense

Look for screen tips when you're typing function names. Like this:



This feature is incredible useful, especially for functions with a number of arguments.

2. New functions

2.1. ConvFactor

Calculates the value of a conversion factor, i.e. ConvFactor("gal/ft3") returns 7.48.

2.2. PackedBedPressureDrop

Uses the Ergun equation to estimate the pressure drop through a packed bed.

2.3. MassToMoleComposition/MoleToMassComposition

Converts between mole and mass composition based on molecular formulas.

2.4. FlowRegime

Returns the flow regime for flow in a pipe based on Reynolds Number.

2.5. MassMolesVolume

Converts between moles/standard volume, mass, volume, density, molecular weight, and molar volume. Replaces the MConv function with more functionality.

2.6. IdealGas

Uses up to five parameters in the ideal gas equation to calculate the parameter with the result units specified, i.e. temperature, pressure, moles, volume, mass, molecular weight, molar volume, molar density, and mass density. Replaces the VConv and Gas Density functions with more functionality.

2.7. CountAtom

Now can also be used to count the occurrences of a particular element in an array of molecular formulas with an array of coefficients. This is intended for counting element flow rates in streams.

2.8. CvGas_Critical & CvGas_Subcritical

CvGas functions are now split into two, one for critical flow and one for subcritical flow

3. Function name changes

3.1. PPOWER	*changed to*	PumpPower
3.2. CPOWER	*changed to*	CompressorPower
3.3. SATSTEAM	*changed to*	SaturatedSteam
3.4. SUPERSTEAM	*changed to*	SuperheatedSteam
3.5. CVL	*changed to*	CvLiquid
3.6. CvG	*changed to*	CvGas_Critical & CvGas_Subcritical
3.7. QUADRATIC	*changed to*	QuadraticFormula

4. Syntax changes

4.1. CountAtom

Arguments are entered in reverse order (element first, molecule second).

4.2. SuperSteam, PressureDrop, CompressorPower, PumpPower

Arguments now need to be entered in a specific order. This is facilitated by Intellisense.

4.3. CvLiquid, CvGas_Subcritical, CvGas_Critical

Now uses density instead of specific gravity.

5. Functions that no longer exist

5.1. GASDENSITY	*Replaced by IdealGas.*
5.2. VCONV	*Replaced by IdealGas.*
5.3. MCONV	*Replaced by MassMolesVolume.*

6. New and updated ribbon buttons and macros

6.1. Export tool	*The Export Tool allows you to make a copy of your Excel file that will work without the ProcessUtilities add-in. It will save all necessary constants and conversion factors as named ranges in a new worksheet.*
6.2. SigFigs settings	*New options.*
6.3. Units formatting	*Automatically format text as units, i.e. kg-m2/s2 → kg-m^2/s^2.*
6.4. Mol. formatting	*Automatically format text as a molecular formula, i.e. C2H6 → C_2H_6.*
6.5. AutoConv shortcut	*Pressing 'Ctrl+j' automatically inserts the Conv() function.*

7. Other changes

7.1. SaturatedSteam & SuperheatedSteam (formerly SATSTEAM & SUPERSTEAM) are now more accurate due to increased granularity in NIST source data.

7.2. ProcessUtilities is no longer linked to an HTML help file, but instead uses a linked PDF document.