

POINT SCREEN

The "point screen" allows one to define a point and to calculate and display values taken by all its state functions. Three modes of presentation exist: by default for open systems, enterable values are pressure and enthalpy; on the other hand for closed systems, one enters the specific volume and internal energy; and finally for water vapor / gas mixtures (a specific section is dedicated to this topic).

For condensable vapors, the software does not calculate the values of specific heats C_p and C_v except in the liquid zone, nor their ratio γ .

For open systems, the knowledge of the pressure and the temperature allows for the calculation of all the other state functions directly by clicking on the checkbox labeled "p and T known" (the temperature must be entered in the unit chosen in the Global properties editor, but it is also displayed in the other unit when the point is calculated). Exergy is calculated on the basis of the reference temperature entered in the Global properties editor. If the pressure and enthalpy are known, select "p and h known". If the pressure and entropy are known, select "p and s known".

For condensable vapors are displayed:

- two checkboxes, «set psat» and «set Tsat» which serve to set either the saturation pressure or the saturation temperature
- a field labeled Tsat approach which, used in conjunction with "set Tsat", allows one to set the value of the temperature to $(T_{sat} + T_{sat\ approach})$. If you set it to 10 K, T will be set to the saturation temperature plus 10 K. If set to 0, T equals the saturation temperature. For instance, if you set Tsat approach to - 5 K, as in this example, T will be set to the saturation temperature (621.33 K) minus 5 K, which gives 616.33 K.
- the quality x of the mix which must be entered in the case when the point is located in the liquid-vapor zone.