EPSILON Modelica library for thermal applications

Laurent Lachassagne[1]   Arnaud Colleoni[1]   Hervé Feral[1]   Nicolas Dolin[1]

[1]Epsilon Ingénierie, France,

{llachassagne,acolleoni,hferal,ndolin}@epsilon-alcen.com

This paper presents the Modelica library built by the French company "Epsilon Ingénierie" in order to provide system models of several technologies for thermal applications. The Epsilon library has its own structure for media definition, allowing simulation of two-phase phenomena in the library models. This library also includes several heat transfer technologies models such as heat exchangers, thermo-electric generators, heat pipes, loop heat pipes, etc… This paper presents two examples of system modeling with the Epsilon library using OpenModelica: a capillary pumped loop and a Fresnel solar plant.
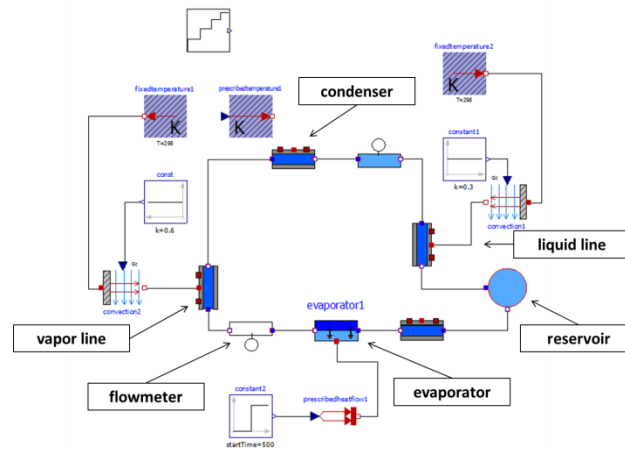

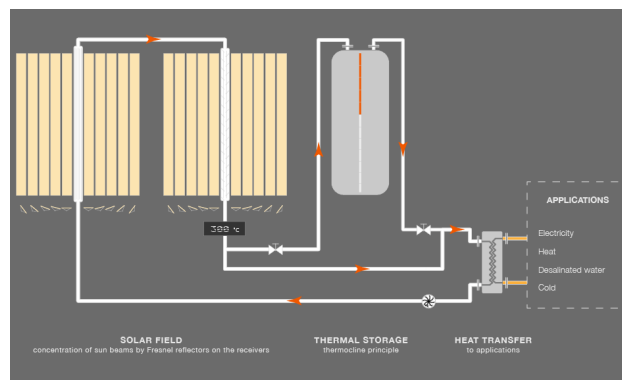**Figure 1.** Epsilon OpenModelica model of a capillary pumped loop (CPL).

Figure 2. Linear Fresnel solar power plant of Alsolen company.