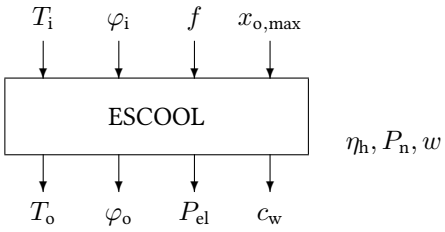
Block ESCOOL

The ESCOOL block simulates an evaporative spray humidifier.





Name	ESCOOL
Function	st0035
Inputs	4
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Parameters	3
Strings	0
Group	S

Inputs

1 Temperature T_i /°C
2 Relative humidity φ_i
3 Control input f (0...100 %)
4 Maximum absolute humidity $x_\mathrm{o,max}$ / g kg^{-1}

Outputs

1 Outlet temperature T_o /°C
2 Relative outlet humidity φ_o
3 Electricity consumption P_el
4 Water consumption c_w/ g kg^{-1}

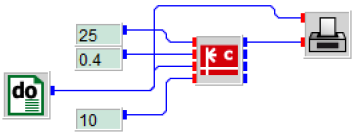
Parameters

1 Humidification maximum efficiency η_h
2 Nominal electricity consumption P_n / W
3 Water consumption factor w

Strings

None

escool.vseit



A continuously drivable spray humidifier with a humidification efficiency of 0.9 and a nominal electricity consumption of 10 W is simulated by the ESCOOL block. The water consumption factor is set to 1.

The control signal is varied by a DO block between 0 and 1 in steps of 0.1. The outlet temperature is plotted as a function of the control signal by a PLOT block.

The other inputs of the ESCOOL block are defined through CONST blocks to for an ambient temperature of 25 degrees Celsius at a relative humidity of the inlet air of 40 percent. The maximum absolute humidity is restricted to 10 kg water per kg air.

