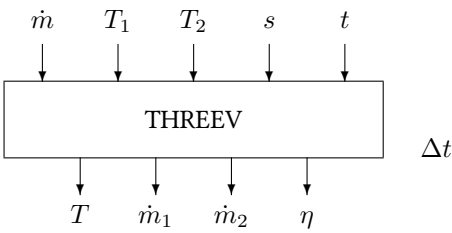


Block THREEV

The THREEV block simulates a three way mixing valve including the valve dynamics.



Name	THREEV
Function	st0041
Inputs	5
Outputs	4
Parameters	1
Strings	0
Group	S

Inputs

- 1 Total mass flow rate / kg s^{-1}
- 2 Temperature of source 1 / $^{\circ}\text{C}$
- 3 Temperature of source 2 / $^{\circ}\text{C}$
- 4 Control signal (0–100 %) (1...-1)
- 5 Time / s

Outputs

- 1 Mixed temperature / $^{\circ}\text{C}$
- 2 Mass flow medium 1 / kg s^{-1}
- 3 Mass flow medium 2 / kg s^{-1}
- 4 Valve position / %

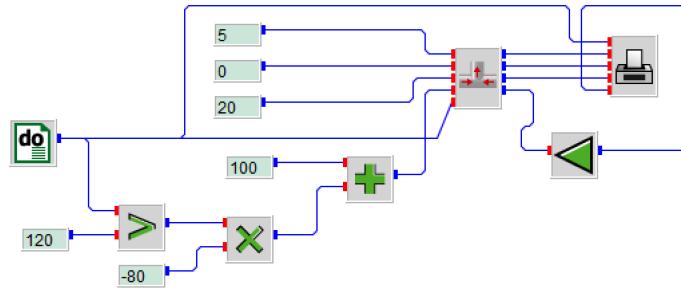
Parameters

- 1 Time to fully open valve (0–100%) / s

Strings

None

threev.vseit



A three-way valve is supplied with media at temperatures of zero and twenty degrees. A total massflow of 5 kg/s shall be achieved. The dynamic opening time of the valve is set to 120 seconds, i. e., two minutes.

A **DO** block provides the time (240 seconds). At the beginning the valve gets a control signal of 100 percent. After two minutes this signal is restricted to 20 percent through the logics of the **GT** block.

A **PLOT** block is used to show what happens. The magenta curve shows the normalized control signal. The red signal is the achieved mix temperature.

