

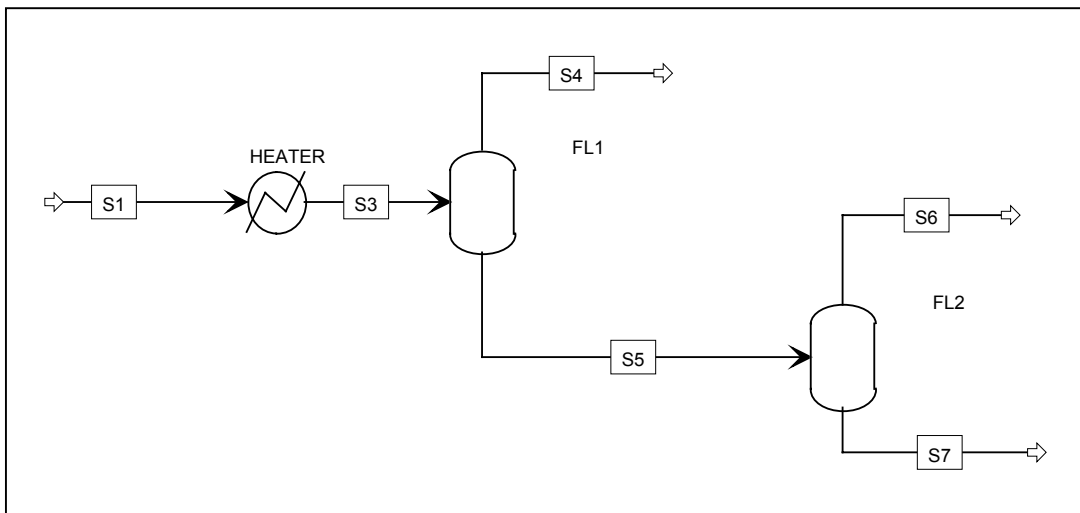
Workshop 102-dynamic-data

Workshop Objectives


- Add dynamic data for simple blocks like **Flash2** and **Heater**
- Export the simulation to Aspen Dynamics

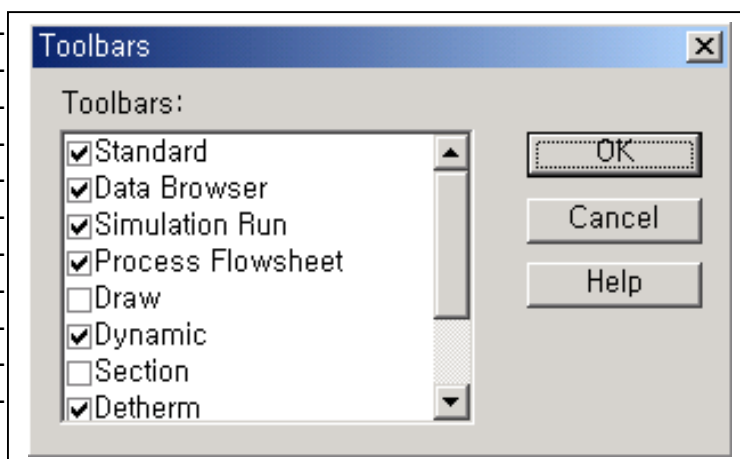
Step 1:

- Open the file **dynamic-data.bkp**
- It contains the following flowsheet;



Step 2:

- Active the Dynamic forms 
- If the Dynamic button is not displayed on the toolbar, select the following:
 - View | Toolbar menu
 - Checkbox "Dynamic"



- Enter the dynamic data:

Heater

Heat transfer option	LMTD
Medium temperature	90 C
Temperature approach	10 C (default)
Heat capacity	1.003153 cal/gm-K (default)

Flash2 FL1

<i>Vessel</i>	
Vessel Type	Vertical
Head Type	Elliptical
Length	4 m
Diameter	2 m

Heat transfer

Heat transfer option	Constant temperature
Medium temperature	80 C

Initial condition

Liquid volume fraction	0.3
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Flash2 FL2

<i>Vessel</i>	
Vessel Type	Vertical
Head Type	Elliptical
Length	4 m
Diameter	2 m

Heat transfer

Heat transfer option	Constant temperature
Medium temperature	100 C

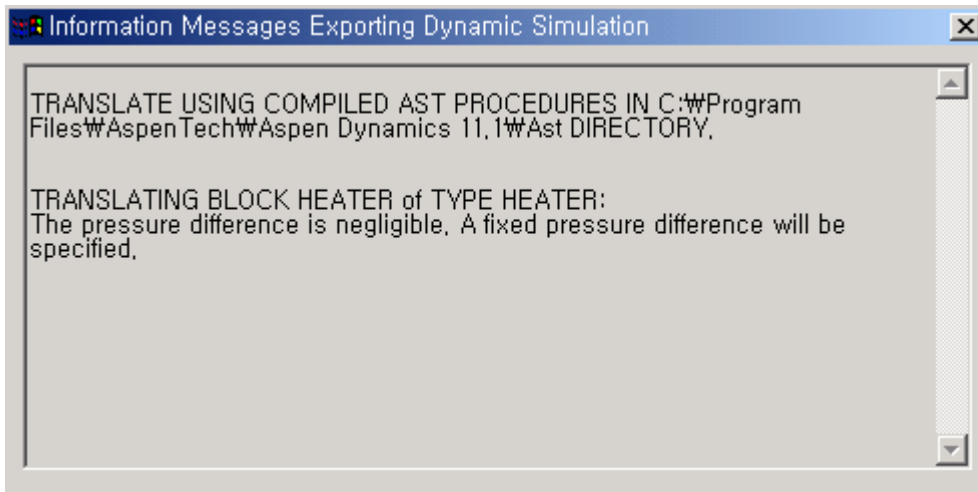
Initial condition

Liquid volume fraction	0.4
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- Run the simulation: Still steady-state simulation !

Step 3:

- Export the dynamic simulation as flow driven
- Can you explain the warning message?

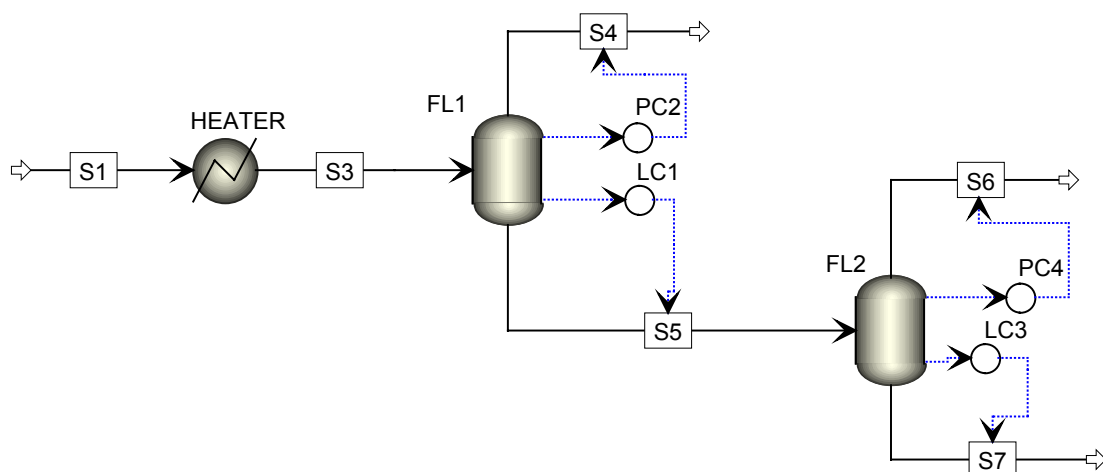


Answers

- The first warning should be easy to understand if you check the specification of the FL1 block
- The second warning in block Heater is caused by the default pressure flow relation that is used in the model, to have the pressure drop be a function of the flowrate. As the pressure drop has been specified to zero in the Heater block, the message lets us know that this relation cannot be used.

Step 4:

- Open the simulation in Aspen Dynamics
- The flowsheet will show the controllers (pressure and level) that were created, as shown below:



- If you remember what you have seen during the demonstration, you can try to run the simulation. The operation of Aspen Dynamics to run a simulation is explained in the next lesson.