

A Simple De-Humidification System

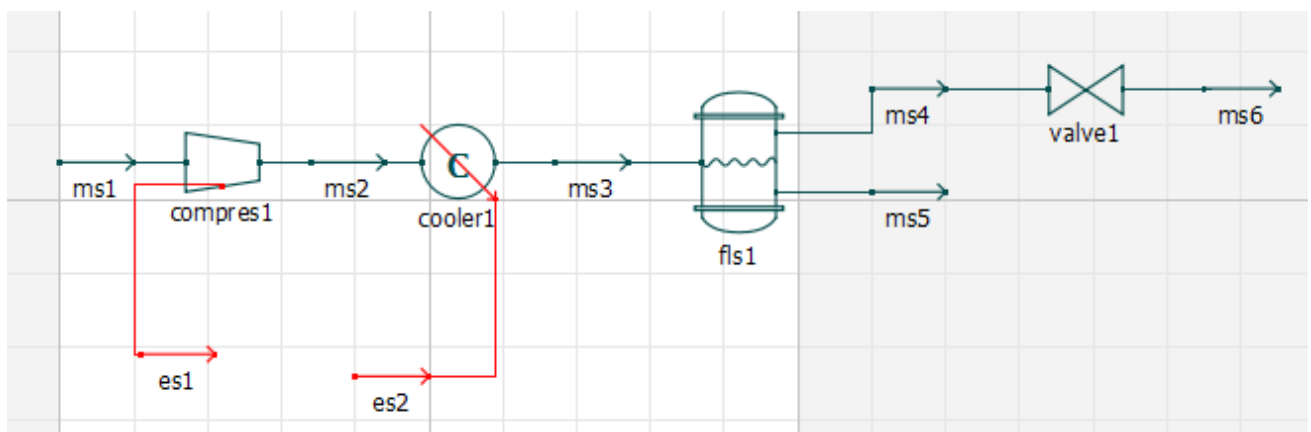
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Background & Description:

The flow rate of the feed is around 1kg/s. The feed enters at a pressure of 100000 Pa and 293K temperature. This feed air enters the compressor which increases the pressure to 274961 Pa. Now the compressed air is cooled to 293K temperature using a cooler. This cooled air is passed on to a gas liquid separator where the condensed water can be separated. The gas-liquid separator separates the condensed liquid which is at a flow rate of 0.004682 kg/s.

Flowsheet:



Results:

Stream	Cooled Air	Feed	Compressed Humid Air	Unit
Temperature	293	293	182.937	K
Pressure	274961	100000	274961	Pa
Molar Flow	34.73	34.73	34.73	mol/s
Molar Fraction(Mixture)/ Air	0.984	0.984	0.984	
Molar Fraction(Mixture)/ Water	0.016	0.016	0.016	