

DOUBLE PIPE HEAT EXCHANGER

Aim:

The study of the working principle and performance of the homocentric, double tube heat exchanger at parallel flow and reverse flow conditions. The effect of the inlet temperature of the hot stream on the efficiency and the effect of the flow rate of cold flow on the reverse current conditions will be examined.

Experimental method:

Hot water inlet temperature is $T_{Hg} = 50\text{ }^{\circ}\text{C}$, Hot water flow rate is $m_H/\rho_H = 2000\text{ mL/min}$, cold water flow rate is $m_C/\rho_C = 1000\text{ mL/min}$, The following data will be retrieved when the system is operated in the same direction and reverse.

Datas:

	T_{Hg}	T_{Ho}	T_{Hc}	T_{Cg}	T_{Co}	T_{Cc}
Same direction						
Revers direction						

B. Under conditions of reverse flow and hot water flow rate $m_H/\rho_H = 2000\text{ mL/min}$, cold water flow rate is $m_C/\rho_C = 2000\text{ mL/min}$, the following data will be retrieved after the system reaches steady state by changing the inlet temperature of hot water.

Datas:

T_{Hg}	T_{Hg}	T_{Ho}	T_{Hc}	T_{Cg}	T_{Co}	T_{Cc}
50 $^{\circ}\text{C}$						
55 $^{\circ}\text{C}$						
60 $^{\circ}\text{C}$						
65 $^{\circ}\text{C}$						