Chapter9_example7

The heat gained by air is 3.88e+04 BTU/hr

The heat lost by oil is 3.89e+04 BTU/hr

The LMTD for counter flow configuration is 27.8 degree F

The Core frontal area on the air side is 0.546 sq.ft

The Core frontal area on the oil side is 0.222 sq.ft

The Overall Coefficient is 1.60e+03 BTU/(hr. degree R)

The capacitance value of air is 968 BTU/(hr. degree R)

The capacitance value of engine oil is 1215 BTU/(hr. degree R)

Air has minimum capacitance

The required parameters are mcp_min/mcp_max=0.797 and (UoAo/mcp_min)=1.65

Summary of Requested Information

(a) UA = 1.60e+03 BTU/(hr. degree R)

(b) The Outlet temperatures (degree F)

	Calculated	Given in Problem Statement
Air	165	166
Engine Oil	158	158