

PROJECT :			DATE :	18-Oct-04
CLIENT:			BY :	S.R.M.
PROJ. NO. :			REV :	
UNIT :			DOC NO.:	

Aircooler Preliminary Sizing

Input Data	AE-1003	
Cooling Duty	kW	9748
Process Inlet Temp.	C	97.00
Process Outlet Temp.	C	77.60
Air Inlet Temperature	C	48.00
Performance Factor (PF)	kW/m ² K	1.90
Standard Tube Length	m	12.19

Preliminary Results		
Temp. Efficiency	---	0.40
Temp. Cor. Factor	---	0.80
Required Plot Area	m ²	130.57
Aircooler Width	m	10.71
Min. No. of Fan	----	3.51
No. of Fans	----	4

Final Results		
No of Bay per Unit	----	2.0
No of Fan per Bay	----	2.0
Bay Width	m	5.35
Fan Diameter	m	4.08
Fans Diameter/Aircooler Leng	%	67
Air Outlet Temp.	C	70.40
LMTD	C	28.08
Overall HTC	W/m ² K	512.89
Bare Surface Area	m ²	676.94
Total No. of Tubes	----	696
No. of Rows	----	4
Total Fan Power	kW	97.93
Power per Fan	kW	24.48

Notes