

Air To Water Intercooler Design					
Engine Displacement :	2.60	L			
Engine Speed :	7000	rpm			
Naturally Aspirated Air Flowrate (Ideal) :	9.1	m ³ /min			
Intake Air Temperature @ Air Cleaner :	40.0	°C		313.15	°K
Intake Air Temperature @ Aftercooler Inlet :	168.0	°C		441.15	°K
Intake Air Temperature @ Aftercooler Outlet :	49.0	°C		322.15	°K
Intake Air Flowrate :	33.0	m ³ /min		0.55000	m ³ /sec
Atmospheric Air Pressure :	101.325	kPa		14.696	psi
Intake Air Density :	0.88699	m ³ /kg			
Intake Air Mass Flowrate :	0.62008	kg/sec			
Intake Air Enthalpy @ Aftercooler Inlet :	442.694	kJ/kg			
Intake Air Enthalpy @ Aftercooler Outlet :	323.278	kJ/kg			
Required Heat Transfer to Aftercooler Water :	74.047	kW		99.259	hp
Ambient Air Temperature @ Radiator Inlet :	40.0	°C		313.15	°K
Ambient Air Velocity :	20.0	km/hr		5.56	m/sec
Radiator Height :	1500	mm			
Radiator Width :	1500	mm			
Radiator Area :	2.25	m ²			
Ambient Air Flowrate :	12.5	m ³ /sec		26486.02	cfm
Ambient Air Density :	0.88699	m ³ /kg			
Ambient Air Mass Flowrate :	14.09264	kg/sec			
Ambient Air Enthalpy @ Radiator Inlet :	314.246	kJ/kg			
Ambient Air Enthalpy @ Radiator Exit :	319.500	kJ/kg			
Ambient Air Temperature @ Radiator Exit :	45.1	°C			
Water Temperature @ Aftercooler Inlet :	45.0	°C		318.15	°K
Water Temperature @ Aftercooler Outlet :	48.0	°C		321.15	°K
Aftercooler Water Enthalpy @ Aftercooler Inlet :	1331.140	kJ/kg			
Aftercooler Water Enthalpy @ Aftercooler Outlet :	1343.692	kJ/kg			
Aftercooler Water Mass Flowrate :	5.89924	kg/sec			
Aftercooler Water Flowrate :	352.893	l/min			
Overall Heat Transfer Coefficient :	98.000	W/m ² .°C			
Log Mean Temperature Difference :	25.352	°C			
Heat Transfer Area Required :	29.803	m ²			