

Vedanta MANUFACTURING			Thermal Efficiency Test Report	
Test Method : IS 4246 : 2002			CM/L : 6700000198	
Model Name : Edge shine 3B			Clause : 26	
Description : New Design Burner			Date : 02/07/2024	
Formula :	$E = \frac{100(G+W)(T2-T1)}{MK}$		Spec : Should be above 68%	
E = Thermal efficiency of the burner in percent			M = Gas consumption in kg (M=M1-M2)	
G= Quantity of water in the vessel in kg			M1= Initial weight of cylinder in kg	
T1= Initial temperature of water in °C			M2= Final weight of the cylinder in kg	
T2= Final temperature of water in °C			K=Calorific value of the gas in (kcal/kg 10900)	
W= Water equivalent of the vessel complete with stirrer and lid			Specific heat of aluminium is 0.214	
Burner: Small				
Jet Rate: 58				
T1 : 27			Burner To Pansupport Height in mm :	
T2 : 90			Room Temperature °C : 25.7	
M1 : 2.6387			Time Duration in min. : 15.50	
M2 : 2.6063			Weight of Vessel+Stirrer+Lid in Kg : 0.531	
W : 0.113634			Gas Consumption in L/hr :	
G : 3.7			Calorific value K : 10900	
			Specific Heat Of Aluminium : 0.214	
	= $\frac{24025.8942}{353.16}$			
	Thermal efficiency = 68.03			
Burner: Medium				
Jet Rate: 77				
T1 : 26.5			Burner To Pansupport Height in mm :	
T2 : 90.5			Room Temperature °C : 28	
M1 : 2.6063			Time Duration in min. : 20.28	
M2 : 2.5524			Weight of Vessel+Stirrer+Lid in Kg : 0.717	
W : 0.153438			Gas Consumption in L/hr :	
G : 6.1			Calorific value K : 10900	
			Specific Heat Of Aluminium : 0.214	
	= $\frac{40022.0032}{587.51}$			
	Thermal efficiency = 68.12			
Burner: Big				
Jet Rate: 90				
T1 : 26.5			Burner To Pansupport Height in mm :	
T2 : 90.5			Room Temperature °C : 27	
M1 : 2.5524			Time Duration in min. : 21.1	
M2 : 2.4835			Weight of Vessel+Stirrer+Lid in Kg : 0.814	
W : 0.1742602			Gas Consumption in L/hr :	
G : 7.7			Calorific value K : 10900	
			Specific Heat Of Aluminium : 0.214	
	= $\frac{50395.26528}{751.01}$			
	Thermal efficiency = 67.10			
Burner: -				
Jet Rate: -				
T1 : -			Burner To Pansupport Height in mm :	
T2 : -			Room Temperature °C : -	
M1 : -			Time Duration in min. : -	
M2 : -			Weight of Vessel+Stirrer+Lid in Kg : -	
W : #VALUE!			Gas Consumption in L/hr :	
G : -			Calorific value K : 10900	
			Specific Heat Of Aluminium : 0.214	
	= #VALUE!			
	#VALUE!			
	Thermal efficiency = #VALUE!			
Remarks: Thermal Efficiency test failed in the Big Burner.				
Note: In jumbo Burner minor yellow flame observed				
Prepared By:	Dhruv		Verified By:	02/07/24
			Approved By:	7/2/24