

Efficiency

The computer calculates the efficiency level. The reading, calculated from the temperature and oxygen readings and the type of fuel selected, is not absolute; rather, it is a relative indication of the degree of improvement achieved by adjusting the burner. The efficiency is based on British Standards recommendations and is calculated from this formula:

$$\text{Efficiency} = 100 - K_3 - \frac{K_1 T}{K_2 \left(1 - \frac{O_2}{21}\right)}$$

Where T = net temperature °C

O₂ = oxygen concentration %

K₁ = fuel factor on hydrocarbon composition

K₂ = theoretical maximum CO₂ concentration of flue gas

K₃ = correction factor for latent heat ("wet" losses)

The values of K₁, K₂ and K₃ for the four fuels covered by the MAX 5 are:

	K ₁	K ₂	K ₃
Natural gas	0.38	11.8	11.0
#2 oil	0.56	15.6	6.0
#6 #3 oil	0.6	15.9	5.0
Coal	0.63	18.6	3.0