Liquid fuel (waste oil): Component % by mass Carbon (C) 86 Hydrogen(H2) 14

•The stoichiometric air-to-fuel ratio is thus 3.41 + 11.23 = 14.6 : 1

Fuel rate = 9.3 kg/hour (from manufacturer data)

Flue gas flow rate = 9.3 kg/h / density air at flue gas temperature
Flue gas flow rate = 9.3 kg/h / 0.6 kg/m³
Flue gas flow rate = 226.3 m³/hour
Flue gas flow rate = 0.0627 m³/second

Flue diameter = 180mm
Flue internal area = 0.0255m²

Flue velocity (v) = Volume(Q) /Area
Therefore flue velocity = 0.0627m³/s / 0.0255 m²
Flue velocity (v) = 2.45 m/sec

Tapered flue diameter (outlet) = 150mm
Flue internal diameter = 0.0177m²
Flue velocity (v) = Volume(Q) /Area
Therefore flue velocity = 0.0627m³/s / 0.0177 m²
Flue velocity (v) = 3.54 m/sec

Therefore the exit/discharge velocity is above minimum OFTEC guidance.