

# Nebula W154 Mk 6

## Combustion System



The WA154 Mk6 System is the culmination of 35 years of product enhancement targeted to provide a complete gas analysis system for the gas, oil, solid fuel boilers and domestic gas appliance systems. The Mk6, by virtue of its incredible system flexibility, can be configured by Users to realise particular features that the User may require in their own application. As standard, the Mk6 has CO/CO<sub>2</sub> with the traditional ranges of 500ppm and 2500ppm for CO plus 3% and 15% for CO<sub>2</sub> these having options for up to 4 ranges for each gas. The wider selection of ranges are available to meet the changes in regulation required by the industry sector.

**CO<sub>2</sub> CO NO CH<sub>4</sub> N<sub>2</sub>O O<sub>2</sub>**

In particular, the Nebula 154 offers a wood burning combustion system which includes CO 20% and CO<sub>2</sub> 20% with additional filtration that can also be configured to the User's application and individual requirements.

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Additional gas measurements for methane, oxygen and NO by infrared or chemiluminescence technology may be added.

By using the MGA3000 analyser the system may be further enhanced with a range of additional sensor options:

- GFC infrared - high performance down to low ppm levels
- SB infrared - mid performance over a wide range of gases
- Oxygen - using a selection of sensor types from ultra-low ppm to 100%
- Chemiluminescence system for total NO<sub>x</sub>

# Specification

Criteria	Gas Filter Correlation (GC)	Single Beam (SB)	Oxygen Paramagnetic (PM)	Oxygen Chemical Cell (ECC)
Gases Measured	CO <sub>2</sub> ,CO,CH <sub>4</sub> , NO,	CO <sub>2</sub> ,CO,CH <sub>4</sub> ,	O <sub>2</sub>	O <sub>2</sub> +
Technology	NDIR gas filled wheel	NDIR single wavelength absorptiometer	Paramagnetic cell	Chemical cell
Ranges	From ppm to 100% for gases	From ppm to 100% for gases	From 1-100% for oxygen	From ppm to 10% for gases
Resolution	0.1% of scale	0.5% of scale	0.1% of scale	0.1% of scale
Detection Limit	0.1% of scale	0.5% of scale	0.01% O <sub>2</sub>	1% of scale
Accuracy	1% of reading	1% of scale	0.1% O <sub>2</sub>	1% of scale
Noise	<0.1% of scale	<0.5% of scale	<0.1% O <sub>2</sub>	0.1% of scale
Zero Stability	1% per week	1% per 24 hours	Absolute Zero	Absolute Zero
Span Stability	0.5% per week	1% per week	0.1% per week	0.5% per week
Temperature Effect on Zero	± 0.1% per deg. C	± 0.25% per deg. C	± 0.1% per deg. C	± 0.1% per deg. C
Temperature Effect on Span	± 0.2% per deg. C	± 0.25% per deg. C	± 0.1% per deg. C	± 0.1% per deg. C
Response Time - Dependent on gas cell length	T90 of 4 seconds	T90 of 4 seconds	T90 of 4 seconds	T90 of 20 seconds

Gas	Min. Detection	Criteria	General Specification
CO <sub>2</sub> CO	<input type="checkbox"/> 0.1ppm Dependent upon technology used	<b>Pump Flow rate</b> <b>Flow-meter</b> <b>Electrical Connections</b>	<input type="checkbox"/> Typically, 0.2 to 1.2 litres per minute <input type="checkbox"/> Electric or manual with control <input type="checkbox"/> Round 8 pin DIN for analogues <input type="checkbox"/> RS232 data port , relay alarm contacts <input type="checkbox"/> M6 compression fittings or User specified
CH <sub>4</sub> NO <sub>2</sub> O <sub>2</sub>	<input type="checkbox"/> 1.0ppm	<b>Gas Connections</b> <b>Operating Conditions</b> <b>Gas Conditioning</b> <b>Power Requirements</b> <b>Dimensions</b> <b>Weight</b>	<input type="checkbox"/> 5-40 deg. C ambient, 0-95% RH <input type="checkbox"/> 0-50 deg. C non-condensing at analyser <input type="checkbox"/> Nominal 90-240VAC. 50/60Hz max 120VA <input type="checkbox"/> H133mm x W483mm x D500mm – 3U <input type="checkbox"/> From 12-15kg dependent upon configuration

## Sample Conditioning

- \* Peltier coolers   \* Compressor coolers   \* Permiation dryers   \* Particulate filters  
 \* Membrane filters   \* Moisture sensors   \* Custom configurations



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