



DATA SHEET

WA154 Mk6

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/CO₂ with the traditional ranges of 500ppm and 2500ppm for CO plus 3% and 15% for CO₂ 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.

In particular, Nebula offers a wood burning combustion system which includes CO 20% and CO₂ 20% with additional filtration that can also be configured to the User's application and individual requirements.



The system can be combined with an enhanced sampling system incorporating Peltier coolers, moisture sensors to stop the sample pump in emergencies together with particulate filters and alternate dryer configurations.

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 NOx

CO₂
CO
NO
CH₄
N₂O
O₂

SPECIFICATION

WA 154 Mk6 COMBUSTION SYSTEM

Criteria	Gas Filter Correlation (GC)	Single Beam (SB)	Oxygen Paramagnetic (PM)	Oxygen Chemical Cell (ECC)
Gases Measured	CO ₂ ,CO,CH ₄ , NO,	CO ₂ ,CO,CH ₄ ,	O ₂	O ₂ +
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 ₂	1% of scale
Accuracy	1% of reading	1% of scale	0.1% O ₂	1% of scale
Noise	<0.1% of scale	<0.5% of scale	<0.1% O ₂	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	Minimum Detection	Criteria	General Specification
CO ₂ CO	<input type="checkbox"/> 0.1ppm Dependant upon technology used	Pump Flow rate Flow-meter Electrical Connections	<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 RS232 data port , relay alarm contacts
CH ₄ NO ₂ O ₂	<input type="checkbox"/> 1.0ppm	Gas Connections Operating Conditions Gas Conditioning Power Requirements Dimensions Weight	<input type="checkbox"/> M6 compression fittings or User specified <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 dependant upon configuration

Sample Conditioning
<input type="checkbox"/> Peltier coolers <input type="checkbox"/> Compressor coolers <input type="checkbox"/> Permiation dryers <input type="checkbox"/> Particulate filters <input type="checkbox"/> Membrane filters <input type="checkbox"/> Moisture sensors <input type="checkbox"/> Custom configurations



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