

# Tempest

## Flue Gas Analysers

Carbon monoxide, oxygen, nitric oxide and other flue gases



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The Tempest range offers a rugged and reliable solution for monitoring combustion performance and carrying out emissions analysis. Fast and effective monitoring and logging of a range of gases which can be used to meet specific monitoring requirements, reduce service costs and ensure the safe operation and efficiency of appliances.

Available in 2 models, the Tempest 50 and 100 both feature dependable sensors designed specifically for use in flue gases.

### Flexible

- Easy to use menu
- Selectable fuel types
- Operates direct from mains or from onboard rechargeable battery
- Country specific versions with language, power and gas modifications for Belgium, Brazil, France, Italy, Turkey, UK & USA

### Professional standard

- Robust, splash proof design
- High quality stainless steel probe
- Durable soft carry case

### Measures

- Tempest 50 provides determination of CO, CO<sub>2</sub>, O<sub>2</sub> and NO
- Tempest 100 enables up to 7 gases to be analysed by addition of NO, SO<sub>2</sub>, and H<sub>2</sub>S sensors
- Calculates CO<sub>2</sub>, boiler CO<sub>2</sub> / CO ratio and efficiency reading
- Positive and negative pressure with differential measurement
- Differential temperature measurement with two thermocouples
- Gross or net efficiency selection

### Reporting

- Built-in printer for easy report keeping
- Data output to printer or PC
- Storage log of flue gas analysis reports

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gas monitoring



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The single function buttons provide quick and easy snap-shot indicators; whilst more advanced logging requirements can be easily configured.

Several options are available with the instruments including different sensors and data output options which can be specified prior to delivery or can be added later.



Gases	Range	Resolution	Accuracy
Oxygen	0-25%	0.1%	+/- 0.3%
Carbon monoxide	0-10,000ppm	+/- 1ppm	<100ppm; +/- 5ppm >100ppm; +/- 5%
Nitric oxide	0-1,000ppm	+/- 1ppm	<100ppm; +/- 5ppm >100ppm; +/- 5%
Carbon dioxide (calculated)	0-25%		
CO/CO <sub>2</sub> ratio	0-0.9999		
Combustion efficiency	0-100%		

Optional Sensors (Tempest 100 only)			
Nitrogen dioxide	0-200ppm	+/- 1ppm	<20ppm; +/- 2ppm >20ppm; +/- 5%
Sulphur dioxide	0-2,000ppm	+/- 1ppm	<100ppm; +/- 5ppm >100ppm; +/- 5%
Hydrogen sulphide	0-200ppm	+/- 1ppm	<40ppm; +/- 2ppm >40ppm; +/- 5%
High capacity carbon monoxide (in lieu of standard CO)	0-100,000ppm	+/- 1ppm	<100ppm; +/- 5ppm >100ppm; +/- 5%
H <sub>2</sub> compensated carbon monoxide (in lieu of standard CO)	0-100,000ppm	+/- 1ppm	<100ppm; +/- 5ppm >100ppm; +/- 5%

Specifications:	
Weight	1.3kg
Dimensions (H x W x D)	280 x 120 x 112mm (11 x 4.7 x 4.4 inches)
Selectable fuel types	Natural gas, light oil, heavy oil, propane, butane, coal, coke
Display	4 lines, 20 characters per line. Backlit LCD
Data logging	<b>Tempest 50:</b> 100 reports <b>Tempest 100:</b> 75 reports
Battery	>4 hours
Battery type	Rechargeable Ni-Cd
Operating time	24-hour real time clock
Operating temperature	-5°C to 50°C (23°F to 122°F)
Relative humidity	20-90% R.H.

Draught/Pressure measurement:	
• Range	+/- 150mbar (+/- 61 inWG)
• Resolution	0.01mbar (0.4 inWG)
• Accuracy	+/- 0.5% fsd
Probe:	
• Construction	Pistol grip, 250mm (10") stainless steel probe with depth gauge and 2.5m (8.2") hose
• Max Temperature	800°C (1472°F)
• K-type thermocouple	+/- 0.3%; +/- 1°C (+/- 1.8°F)
Probe Options	
PRB20062	1m (3'3") std stainless steel probe to 800°C (1472°F)
PRB20061	1m (3'3") high temperature probe to 1100°C (2012°F)
PRB20072	1m (3'3") std stainless steel probe with Viton hose (for use when NO <sub>2</sub> sensor fitted)
PRB20073	1m (3'3") high temperature probe to 1100°C (2012°F) with Viton hose (for use when NO <sub>2</sub> sensor fitted)
TUB99066	2.5m (8'2") Viton hose for use with standard probe when NO <sub>2</sub> sensor fitted
TUB20082	2m (6'6") thermocouple extension and standard hose
TUB20083	4m (13') thermocouple extension and standard hose
TUB20084	2m (6'6") thermocouple extension and Viton hose
TUB20085	4m (13') thermocouple extension and Viton hose



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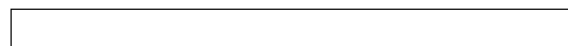
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