

# DGA 1000

Diagnostic Gas Analyser



SNAP-ON SUN TECH SYSTEMS

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- **MOT Approved**
- **Basic Emission Test Function**
- **Fast User Friendly Operation**

## PAST

In 1937 Sun introduced their first emission tester for workshop use, which was based on the Thermal Conductivity principle and was used to tune the car to maximum performance and drive-ability. During the 60's measurement technology had progressed. The testers were fitted with analogue meters with scales for AFR and CO. Cars were tuned to performance, drive-ability **and** economy.

The first infra-red emission analyser was introduced in the market in the 70's. Over 10,000 of Sun's 2-gas EPA 75 analysers were sold world-wide. This analyser was designed to meet the US BAR 74 specification. The EPA 75 was the ideal tool to diagnose performance, drive-ability, economy and functionality of emissions control systems.



## PRESENT

Based on this long experience Sun developed the MGA 1200 in the 90's. It had the latest microprocessor technology and was designed to measure CO, HC, CO<sub>2</sub> and O<sub>2</sub> with high accuracy.

The Controller Area Network technology allows for ultimate Modularity and external networking.

## FUTURE

To meet the needs of the future, Sun after considerable research, has developed the DGA 1000. Its fast, user friendly operation, make it truly state of the art.

## HUMAN INTERFACE

The DGA 1000 analyser uses the familiar industry standard ASCII keyboard, and has an optional IR remote, to control the analyser through the measurement process.

Test results and the garage details are reported via the internal high speed thermal printer, that uses easy to fit paper rolls.

The DGA 1000 is a step into the future.

## STATE-OF-THE-ART DISPLAY

The display is a high-tech SVGA 9" (32 grey-shade) monitor. It displays the measurement of CO, CO corrigé, O<sub>2</sub>, NO, CO<sub>2</sub>, HC, Lamda and rpm simultaneously on the overview screen.

## SUN CONFIGURATION

The DGA 1000 is a high performance exhaust gas analyser which meets the performance requirements of OILM class 1 and ISO 3930. The standard software supports the measurement of 4 gases, rpm, oil temperature and Lamda. An external memory is used for the program. It is large enough for legal tests such as MOT, AU and other test programmes with limits. The DGA 1000 is the perfect tune-up tool for modern high-tech engines fitted with complex management systems.



## ANALYSES OF 5 GASES

The standard configuration allows for accurate measurement of 4 gases with standard software:

- CO, CO<sub>2</sub> and HC by infra-red absorption.
- O<sub>2</sub> is measured by electrochemical cell.
- Also measured is NO (optional) by electrochemical cell.

## MODERN IGNITION SYSTEMS

Rpm can be measured by an inductive pick-up on ignition secondary cables, by capacitive pick-up on a primary cable or an injector cable, or by direct connection to a square wave from the engine management system. This will handle conventional, wasted-spark, direct ignition systems and all other modern ignition systems.

## OPTIONS

The DGA 1000 is the complete unit, however to ensure that we offer flexibility to the operator, you can choose to add an Infra Red Remote Control, a 12v adaptor for on the road tests and the ability to analyse five gases.



## TECHNICAL SPECIFICATION

SCALING RANGE			
Parameter	Range(s)	Accuracy -relative	absolute*
%vol CO	0 . . . 10	3 %	0.06
	10 . . 14	5 %	
%vol CO <sub>2</sub>	0 . . . 18	5 %	0.5
ppm vol HC	0 to 2000	5 %	12 ppm
	2000 to 5000	5 %	
	5000 to 9999	10 %	
%vol O <sub>2</sub>	0-25	5 %	0.1
ppm vol NO	0 to 5000	5 %	25
Lamda	0.500 - 2.000	(calculated)	
*accuracy according to OILM class 1			
RESPONSE TIME			
Measured quantity	Initial response time (sec)	Low Flow Response time (sec)	Remark
CO	10	13	t 95 %
HC	11	14	t 95 %
O <sub>2</sub>	<40	<40	t 0.1 %
NO	12	15	t 90 %
CO <sub>2</sub>	10	13	t 95 %

### DIMENSIONS

Dimensions DGA 1000:	
h x w x d (mm) test unit	423 x 326 x 587
test stand	920 x 590 x 600
Noise level	50 dB
Weight	19kg

### POWER SUPPLY

90 - 270V ~, 47 - 62 Hz, switched power supply.  
Optional: DC/AC converter, external for use in car (road tests).