



## 简易工况法检测设备

# oaded Mode Emission Test System



## Model: ProASM-9000® series

型号: ProASM-9000® 系列

With loaded mode, ProASM-9000® performs vehicle emission test for diesel and gasoline engines.

ProASM9000® system meets BAR97 requirements and integrated with chassis dynamometer, gas analyzer, smoke meter, computer and other accessories.

With selection of system configuration by customer themselves, they can use ProASM9000® to test diesel or gasoline vehicle emissions or both in loaded mode.

ProASM9000® system awards National Gold Award of Innovation of Environment Protection in China.

该系统采用负荷法（简易工况法）检测汽油与柴油车辆的排放。系统满足国标及 BAR97 标准，主要由底盘测功机、气体分析仪、烟度计、计算机以及其它附件所组成。

## Main testing variables 主要功能

ProASM9000® tests vehicle emissions according to one testing mode or several combinations below thanks to up-to-date technology.

本系统可以按照下述一个或数个不同的工况对车辆进行检测（需要采用不同的配置）

### To test gasoline engine emission by procedures

#### 汽油车测试

ASM (Acceleration simulation mode)

ASM 工况

IG 195

简易瞬态工况

TSI (Two speeds idle)

双怠速法

### To test diesel engine emission by procedures

#### 柴油车测试

LugDown

加载减速法

FA (Free acceleration)

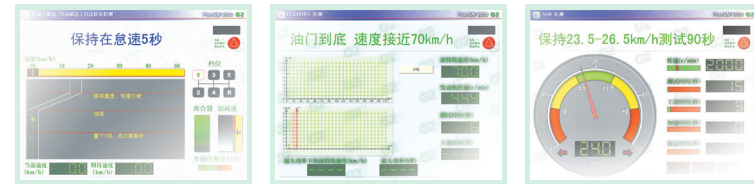
自由加速法

All functions selected would be implemented by selection of different sub-assemblies, accessories and software modules.

所选择的测试工况应配置不同的部件、附件以及软件模块方可实现预定功能。



## Funtion and Interface 性能简介



■ Software Version G2, based on our team's experience over 10 years, shows a great function of security, easy maintenance, friendly interface, compatibility, self diagnostics, etc.

■ The testing functions include testing procedure, self diagnostic procedure, data management procedure and LAN function etc.

■ The functions can be initiated in despite of what combination of hardware selected by user. The controlling and management of a emission testing system can be done after setup easily.

■ The friendly interface makes operating easily

■ All operation of calibration, audit and leakage are prompted.

■ Operating in case of any failure happens can be solved and leaded by PC.

■ The results are display in digit and curve as well.

■ Multi-language version available

多年开发完成的 G2 版本软件，具有安全、容易维护、界面友好、自我故障诊断等许多功能。

主要功能模块包括简易工况法测试、自我诊断、数据处理、LAN 等。

只要根据硬件结构对软件加以正确设置，系统就可以投入运行。

友好的用户界面，操作简单方便

提示进行标定、自动发现泄露

引导进行故障发现与排除

显示测试结果数据与过程曲线

多语言可选

## Remote management 远距离管理

■ Ability of communicate with a city's Vehicle Emission control and Management System or VID.

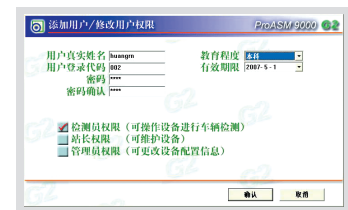
具备与 VECMS 或 VID 系统连接功能

■ It is possible to monitor testing procedure by authority through internet.(optional)

可以通过互联网监测检测过程（可选）

■ All monitoring requirements can be implemented by on-line module.

可以通过联网实现监控功能



## Auto maintenance 自动维护

■ Checking the HC residence and starting the piping cleaning automatically.

自动检查 HC 残余量，自动清扫气路

■ Checking zero gas automatically(optional)

自动检测零空气（可选）

■ Zeroing sensors and checking sensors status periodically.

周期性检查传感器状态，自动清零

■ Cleaning the piping every time before shut down.

每次关机前自动反吹气路

■ Warming up automatically.

自动预热



Chassis Dynamometer 底盘测功机

Parameter 项目	Middle duty 中型	Heavy duty 重型	Twin axle 双后轴型
Model 型号	Ca-Dyno	Me-Dyno	Mh-Dyno/T
Axle load 最大轴荷	3,000	10,000	10,000
Roller diameter 滚筒直径 mm	217	217	420
Roller spacing 滚筒间距 mm	436	436	670/1350
Min. Track length 最小跨距 mm	760	750	780
Max. Track length 最大跨距 mm	2540	2710	2740
Max. Power absorbed 最大吸收功率 kW	140-180	270-330	2X350
Max. Torque absorbed 最大吸收扭矩 Nm	1750	3300	2X3300
Motor Power 反拖电机 kW	5.5	7.5	15
Base inertia 基础惯量 kg	908	908	1460
Speed test range 最大车速 km/h	120		
Speed test accuracy 速度测试精度 km/h	±0.2		
Torque test accuracy 扭矩测试精度	2%		
Drive 驱动器	PWM+IGBT		
Port 接口	RS232C		
Dimision 外形尺寸 L×W×H mm	3980X700X370	4300X1410X550	4800X2650X550

Gas analyzer 气体分析仪

Gas 气体	Measuring Range 量程	Resolution 分辨率	Accuracy 精度
HC	0-2000X10 <sup>-6</sup> 2001-15000X10 <sup>-6</sup> 15001-30000X10 <sup>-6</sup>	1X10 <sup>-6</sup>	±4X10 <sup>-6</sup> abs or ±3% ±5% ±8%
CO	0.00-10% 10.01-15.00%	0.01%	±0.02%abs or ±3% ±5%
CO <sub>2</sub>	0.00-16% 16.01-20.00%	0.01%	±0.3%abs or ±3% ±5%
NO	0-4000×10 <sup>-6</sup> 4001-5000X10 <sup>-6</sup>	1X10 <sup>-6</sup>	±25X10 <sup>-6</sup> abs or 4% ±5%
O <sub>2</sub>	0.00-25%	0.01%	±0.1% or ±3%

Opacity meter 烟度计

Parameter 项目	Data
Measuring range 测量范围	N, 0~99.9%    K, 0~15/m
Resolution 分辨率	N, 0.1%    K, 0.01/m
Accuracy 精度	±2%
Stability 稳定性	±1%h
Working environment 工作环境	Temp. 5~40℃    Humidity 0~90%    Baro 86~106kPa
Power supply 电源	AC220V±10%, 50Hz ±1%
Output 信号输出	RS232C (baud rate 1200,2400,4800,9600,19200)
Weight 重量	~13kg

Console 控制柜

1. U3 console body, corrosion free surface by powder spray.    U3型柜体,表面防腐喷涂处理	
2. Computer system 计算机系统    Industrial PC, PIII 1GHz or more, 128M memory, 40G hard driver, 10/100M Ethernet Port, 17' color flat CRT. LaserJet A4.	
3. Communication Protocol 联网通讯	TCP/IP
4. Optional 选件	Tamper recognizing device 防止非法接近装置
* 5. Power supply 电源	220VAC 50Hz 2kW
6. Air pressure 气源压力	0.6-0.9 MPa
7. Operation temperature 使用温度	5-40 ℃
8. Operation humidity 使用湿度	<=90% (No condense)
9. Dimension 外形尺寸	900X600X1050 mm

\*Note: Other specification of power supply is available on request.  
 注：如需其它规格的电源请在订货前提出。

Safety and security 系统安全性

- No possibility to use any other software unless permitted.
- All data are saved with MD5 encoded to prevent illegal change.
- Protection of un-allowed operations such as, the un-enough sampling length into the tail pipe, un-authorized operator, un-satisfied circumstance, etc.
- All events will be logged.

阻止使用无关软件

所有的数据都经过了 MD5 加密处理，即使侵入了数据库,也无法改变数据。

自动判别并提示不正确操作，例如取样管插入深度不够等。

自动日志记录所有事件。



Weather Station 气象站

Parameter 项目	Measuring Range 量程	Accuracy 精度
Temperature 温度 ℃	-25    —    +85	±1.5
Humidity 湿度 RH	5%    —    99%	±3.0%
Air pressure 大气压力 kpa	50    —    110	±3%


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