



**Model : Eco Smoke 100 A  
Eco Smoke 100 B  
Eco Smoke 100 BA**



- ⊗ DC Operation
- ⊗ PC Interface
- ⊗ Free Acceleration Test

## PC Interface (Optional)



### Test Report (PC Printout)

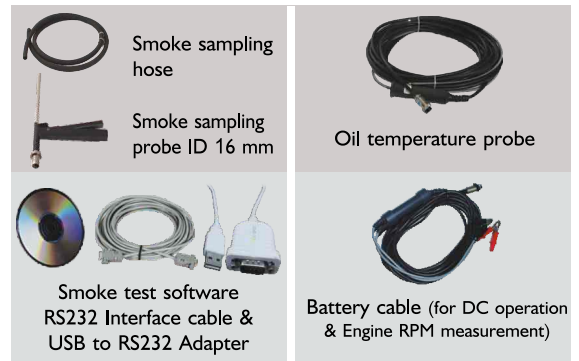
FORM (EMISSION ENGINE CONTROL TESTING STATION) (DIESEL EMISSION)						
SI No. :	High Tech Wheel Care 500 Feet Road, Madhapur, Hyderabad - 500 084, PH : 91 43 228856					
TRANSPORT IDENTIFICATION SEAL :	Registering Authority / License No. - 3638					
EMISSION TEST CERTIFICATE						
Job No. : 28653	Make : Maruti Suzuki					
Serial No. : 4806	Model : Logan					
Yr of Regn. : 2008	Yr of Regn. : 2008					
Customer Name : Anil Kumar	Vehicle Type : Four Wheeler					
Test Date : 06/08/2014	Test Time : 03:23:25 AM					
Vehicle No. : TN-01-M-2561	Know Regn. : 85733					
Vehicle Target Data						
Idle RPM : 700	Max. RPM : 4000					
Oil Temperature : 75°C						
Test Data						
Sl. No.	Opacity	K-value	Idle	Max.	Time	Oil Temp.
1.	35.5	1.81	750	2500	1.5	67%
2.	35.5	1.82	750	2500	3.5	67%
3.	35.5	1.81	760	2600	1.6	67%
4.	35.5	1.81	760	2600	2.4	67%
Avg. 35.5 I.R.I						
RESULT <b>PASS</b> Thank you for keeping your Vehicle clean and Environment Green						
Certified that this vehicle's Smoke Emission level conforms to the standard prescribed under Rule 152(a) of C.V. Rules 1989.						
Permissible limit of I-Value is 2.45 I/m (Opacity : 65%)						
Valid Till : 05 / 02 / 2015						
Seal of Testing Station		Name of Testing Person		Authorized Signature		
Thank you for using MANATEC Diesel smoke meter						

## Salient Features

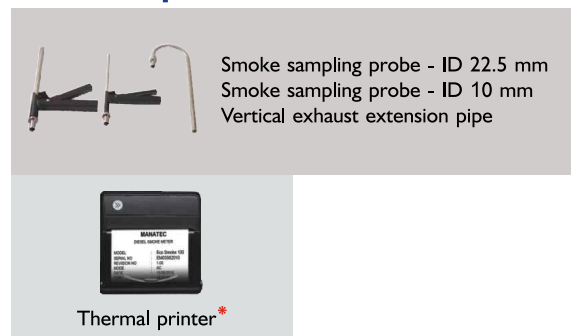
- Measures smoke opacity of diesel vehicles in % opacity and K value
- Measurement principle : Partial flow, optics based on folded geometry
- Suitable for free acceleration test
- Engine oil temperature measurement
- Operates on 230V AC (or) 12V DC power supply
- Portable, Compact & light weight design, suitable for "Road tests" using vehicle battery
- Low & High voltage indication for battery operation
- Automatic Zero and Span calibration
- Automatic Pressure regulation and moisture separation
- Handheld, Menu driven LCD remote control unit
- Compatible with VAHAN Online API software
- RS232C serial port for PC interface
- Conforms to IS : 14553 - derived from ISO 11614 : 1999

Ecosmoke 100 A	Ecosmoke 100 B	Ecosmoke 100 BA
Accelerometer based RPM measurement	Battery based RPM measurement	Battery & Accelerometer based RPM measurements

## Standard Accessories



## Optional Accessories



\* To be ordered along with machine. Field implementation not possible.

## Technical Specification

Measurement Parameters	Range	Resolution
Opacity	0 – 99.9 %	0.10 %
K-value	0 – 9.99 m <sup>-1</sup>	0.01 m <sup>-1</sup>
Linearity	± 0.1 m <sup>-1</sup>	
Repeatability	± 0.1 m <sup>-1</sup>	
Zero & Span drift	± 0.1 m <sup>-1</sup>	
Response time – Physical	< 0.4 seconds	
Response time – Electrical	< 1 millisecond	
Warm up time @ 25°C and above	< 7 minutes	
Engine RPM (Battery based)	400 - 9990 RPM	10 RPM
Oil Temperature	0 - 150° C	1° C
Operating Temperature	+ 5° C to + 50° C	
Smoke measuring cell length	215 mm (430 mm folded length)	
Power supply	12V DC ± 2V battery 100-265V AC, Single phase, 50-60 Hz	
Power	300W AC / 100W DC (without heater)	

## ENGINE RPM METER (Optional) for Ecosmoke 100 B



### Salient Features :

- Accelerometer based RPM measurement
- Compatible for Diesel & Petrol vehicles
- The Engine RPM meter allows easy measurement of RPM
- Use of multiple acquisition systems

### Technical Specification :

- RPM measurement range : 400 - 9990 RPM
- Resolution : 10 RPM
- Display : Four digit LED display