

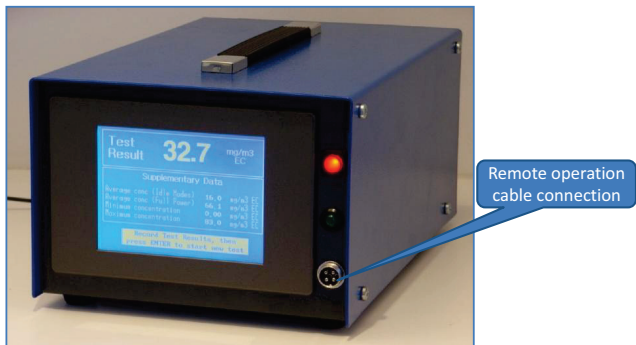
A New Method for Diesel Particulate Measurement of Raw Engine Emissions

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- Utilises similar laser light scattering technology to existing analysers currently in use
- Developed by PM-Tech Australia in conjunction with MAHA Germany
- Testing configured to comply with MDG29 Guidelines for raw emission testing of diesel engines in NSW



MPM-4M diesel particulate analyser



MPM-4M Features and improvements over similar devices

- Heated sample line eliminating drying system
- Sample not diluted, single sample tube. Alternative systems utilise combination of 2-3 lines (i.e. water trap, diluted sample, undiluted sample lines)
- Single accessible water trap/ filter system
- Internal program and display automatically prompts user for load/idle conditions during emission testing (timer displayed on screen)
- Auto zero feature
- Can be calibrated using a range of calibration 'plugs'
- Single operator possible using removable remote start cable
- Simple maintenance and reduction in internal components
- Compact enclosure
- Reliable operation



MPM-4M Calibration plug and filters



MPM-4M – Test sequence



Typical test sequence

1. Start Zero: To zero instrument hold probe in clean air then press **ENTER**

2. Auto Zero (3 seconds): Zeroing PM Sensor 1

3. Prepare to Test: Ready to Test Insert Probe in Exhaust Press **ENTER** to begin test

4. Five Seconds Countdown: Test will start in 3 seconds

5. 20 sec Idle (Phase 1): IDLE PM Concentration 0.0 mg/m³

6. 20 sec Full Power (Phase 2): FULL POWER PM Concentration 62.3 mg/m³

Typical test sequence

7. 20 sec Idle (Phase 3): IDLE PM Concentration 19.7 mg/m³

8. Test Over: TEST COMPLETED

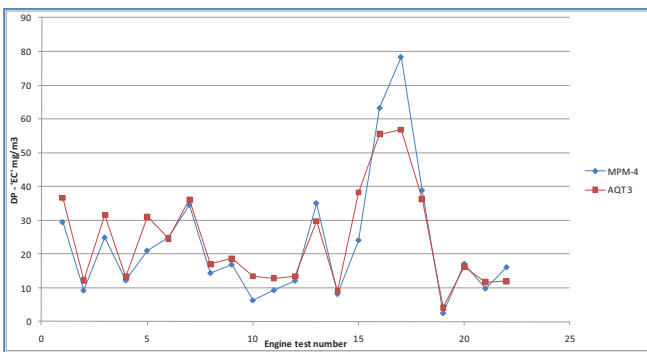
Test Result: **142** mg/m³ EC

Supplementary Data:

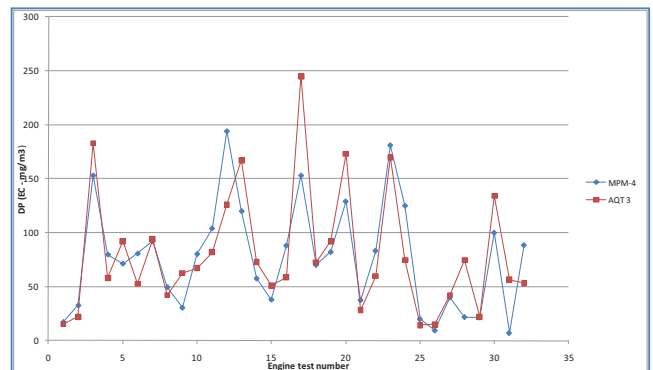
| | | | |
|---------------------------|------|-------------------|----|
| Average conc (Idle Modes) | 75.1 | µg/m ³ | EC |
| Average conc (Full Power) | 277 | µg/m ³ | EC |
| Minimum concentration | 0.00 | µg/m ³ | EC |
| Maximum concentration | 545 | µg/m ³ | EC |

Record Test Results, then press **ENTER** to start new test

MPM-4M Correlation data – Site 'A'



MPM-4M Correlation data – Site 'B'



Test equipment has noticeably downsized!

