AT608 SMOKE METER

USER MANUAL

ATAL®

Vehicle Emission Testing with Smoke Meter AT608

This manual describes the standard procedure and technical requirements for emission testing of road vehicles using a modern measuring device and technological software. It is intended for trained personnel of emission stations and service centres.

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1. Equipment used

Smoke Meter AT608

- Optical measuring module for smoke opacity, especially for diesel engines.
- Measurement performed with heated probe (standard length 6 m).
- Automatic cleaning cycle after each measurement cycle.

Technological software

- Provides communication with devices via GIEG LAN network.
- Enables recording, logging, and evaluation of measured data.

Measurement procedure

- Input parameter setup, RPM and temperature check (if devices not supported, screen skipped), probe insertion, pipe flushing, measurement, evaluation of results, and probe removal.

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2. Preparation before measurement

- Connect the measuring probe.
- Check tightness of all connections and correct function of suction system.
- Select required measurement procedure.
- Start the test.

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3. Measurement process

- Measurement runs without engine speed recording (non-RPM method).
- Measured parameter: Smoke opacity (for diesel engines).
- All values are transferred in real time to PC.

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4. Evaluation of results

- Software automatically evaluates data in accordance with valid standards and emission limits.
- Results are processed into an official measurement report.

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5. Printing, archiving, and sending

The emission measurement report is:

- Printed and handed to the customer.
- Saved in the measuring station database.
- Sent to the respective MOT center (STK).

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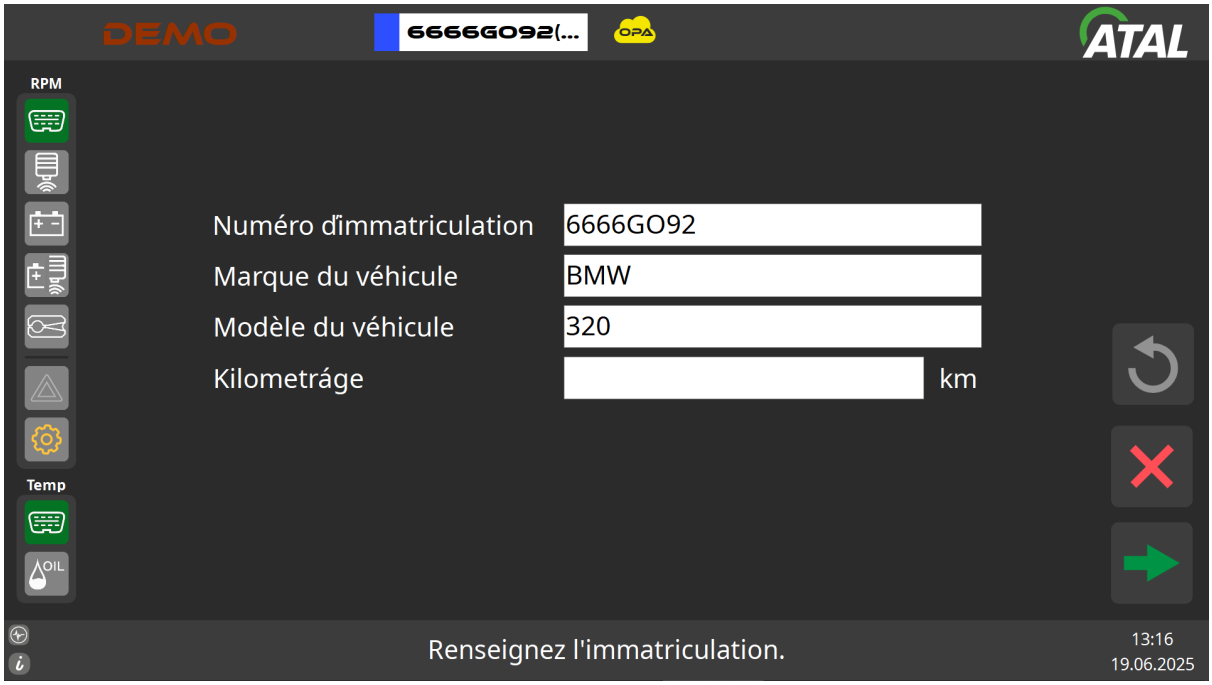
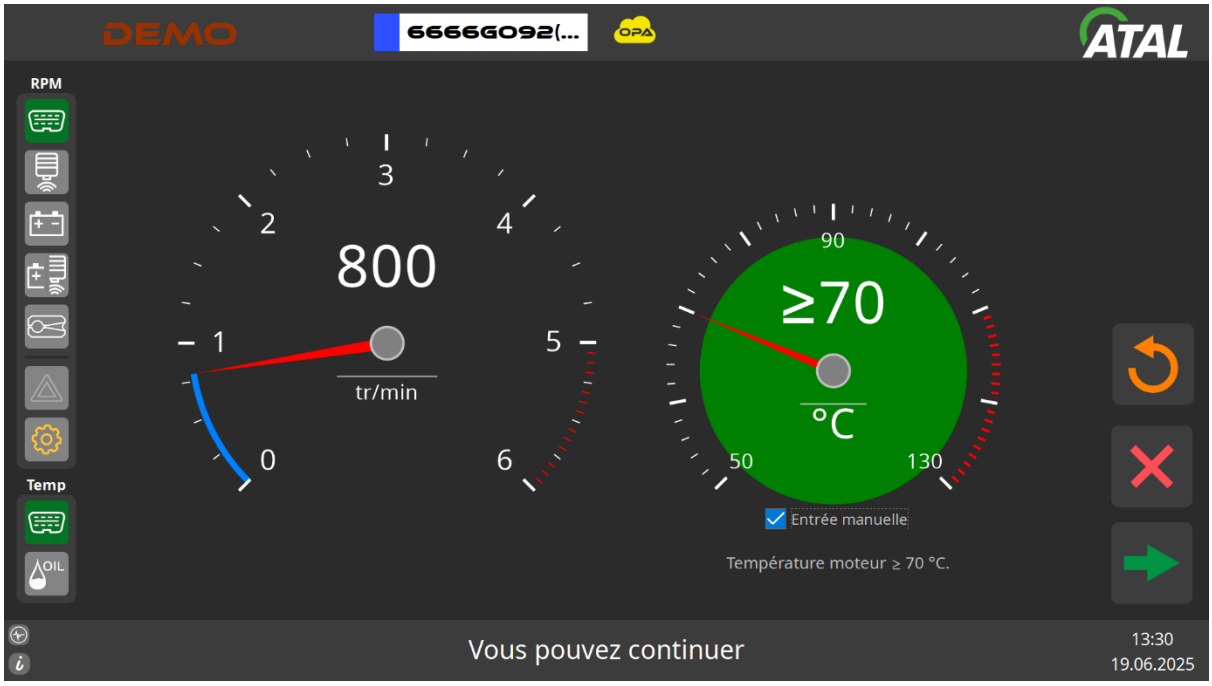
6. Safety warnings

- Use personal protective equipment (PPE) when working with measurement equipment and exhaust gases.
- Perform tests only in well-ventilated areas.
- Follow safety instructions and manufacturer’s recommendations.

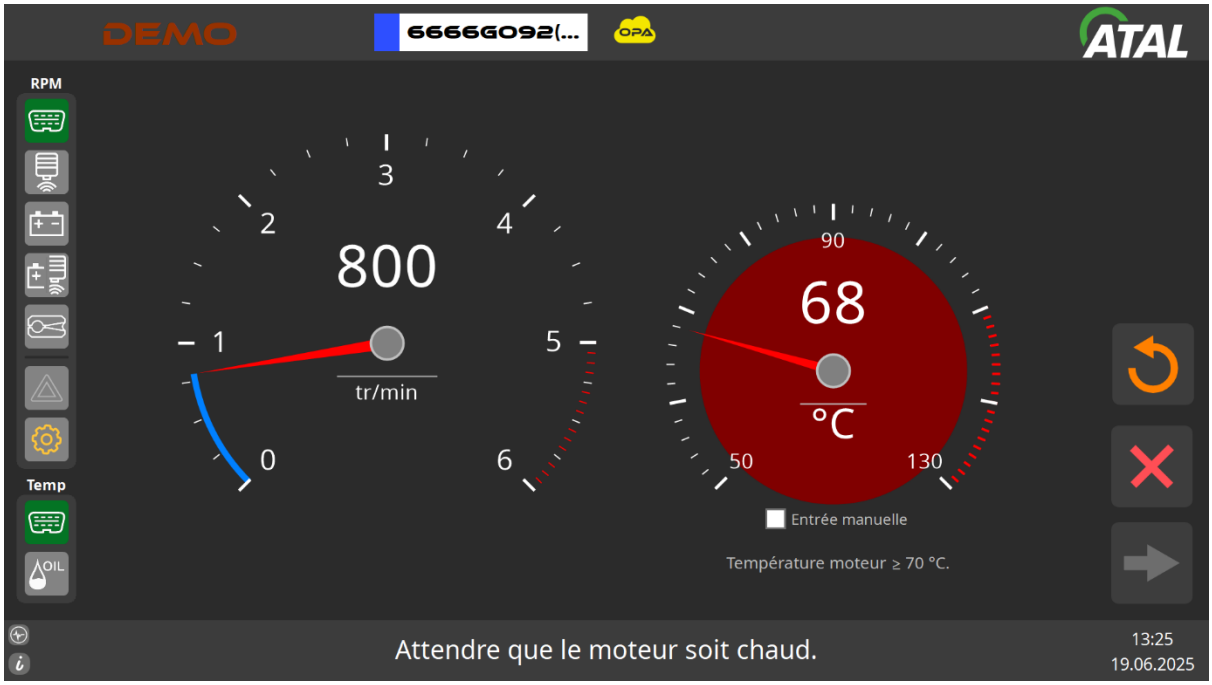
Measurement details:



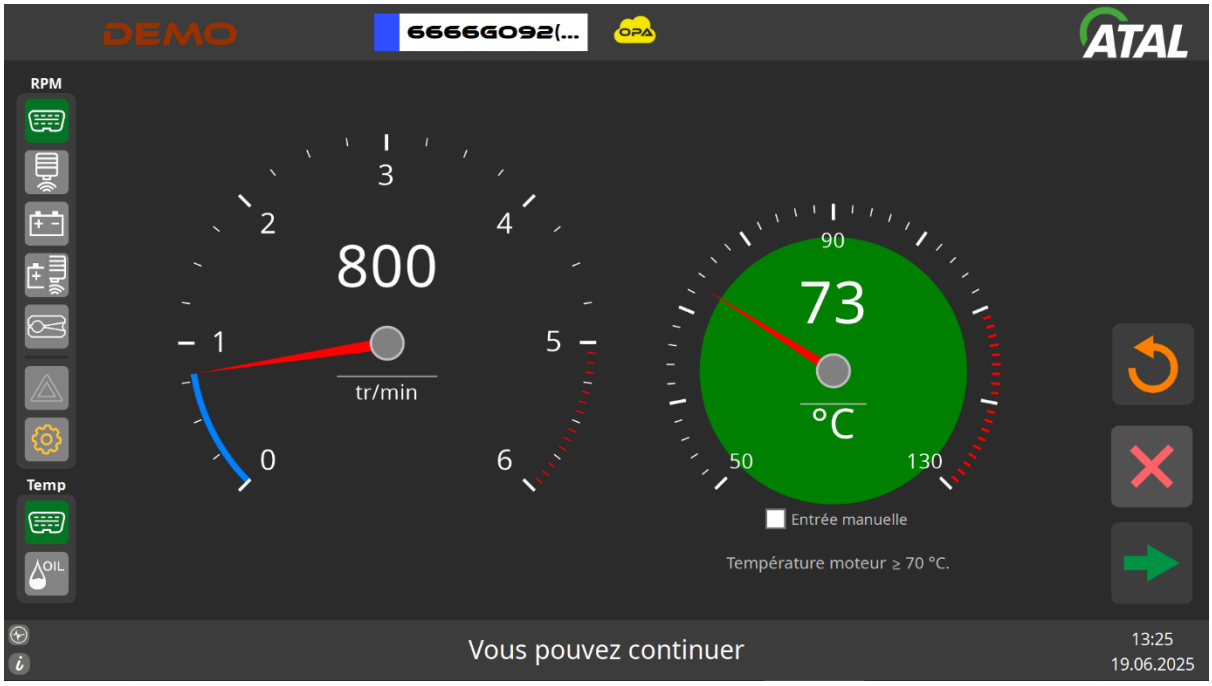
Vehicle data is automatically retrieved via GIEG LAN, or entered manually if not available.



Engine must reach a minimum temperature of 70 °C before testing. Can be confirmed manually.



If required temperature not reached, test cannot start.



Indicated RPM values are only indicative for the technician.

Next step prompts to insert probe into exhaust.

Countdown prepares technician before flushing exhaust pipe.

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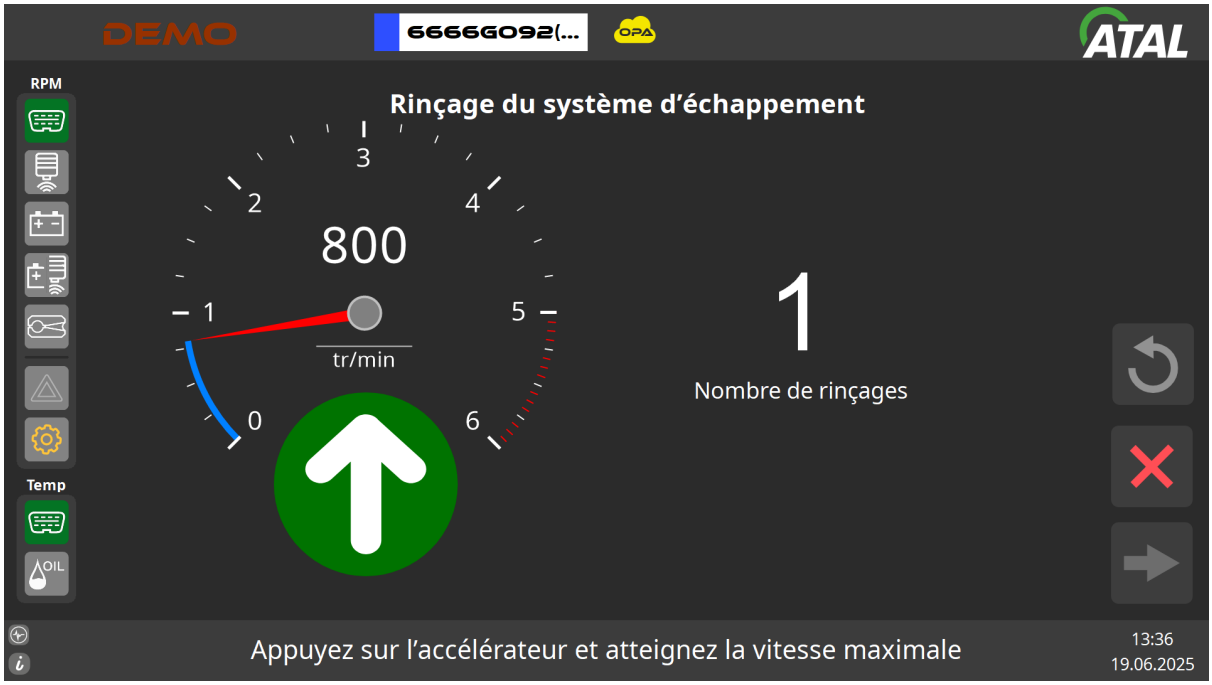


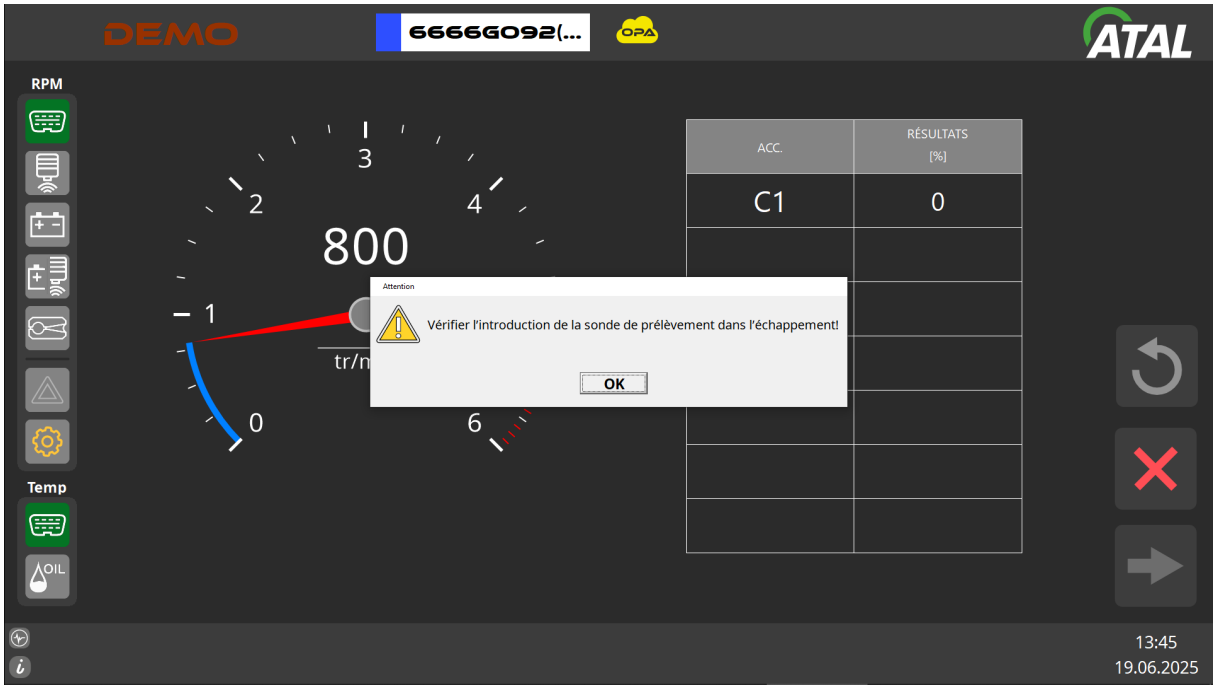
Green upward arrow: press accelerator fully within 1 s and hold until rated RPM is reached.

Red arrow: exhaust pipe flushing.

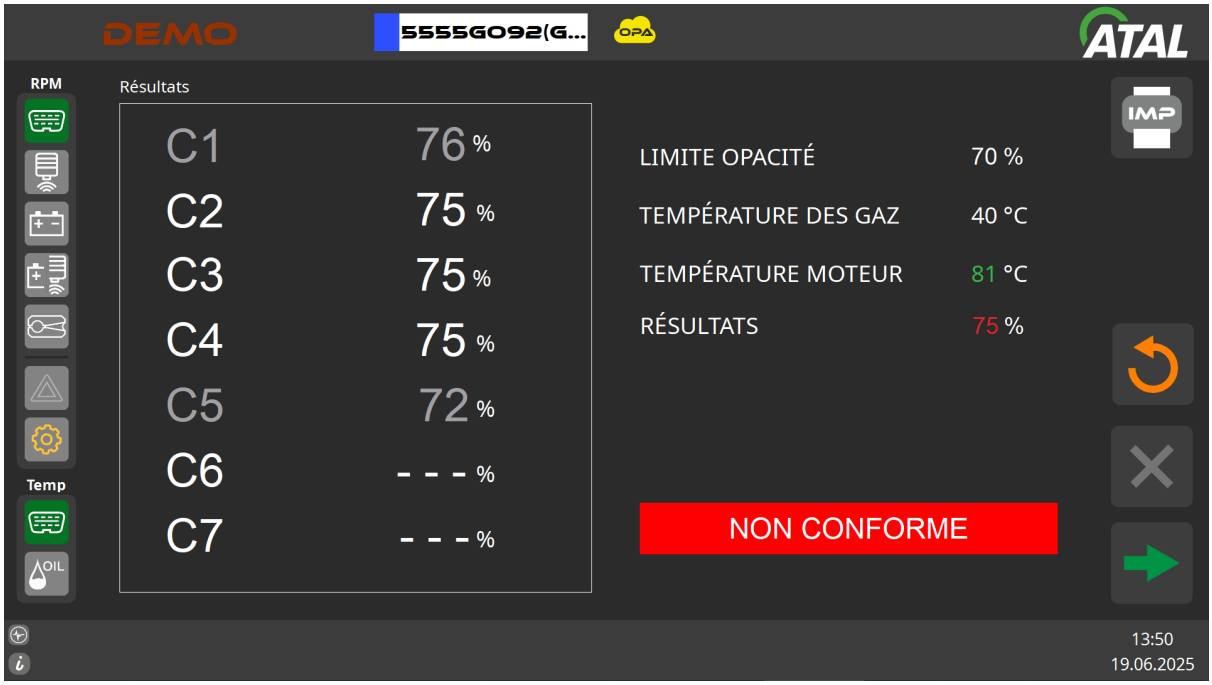
Countdown: acceleration measurement, idle.

Acceleration measurement: green arrow indicates full accelerator press.

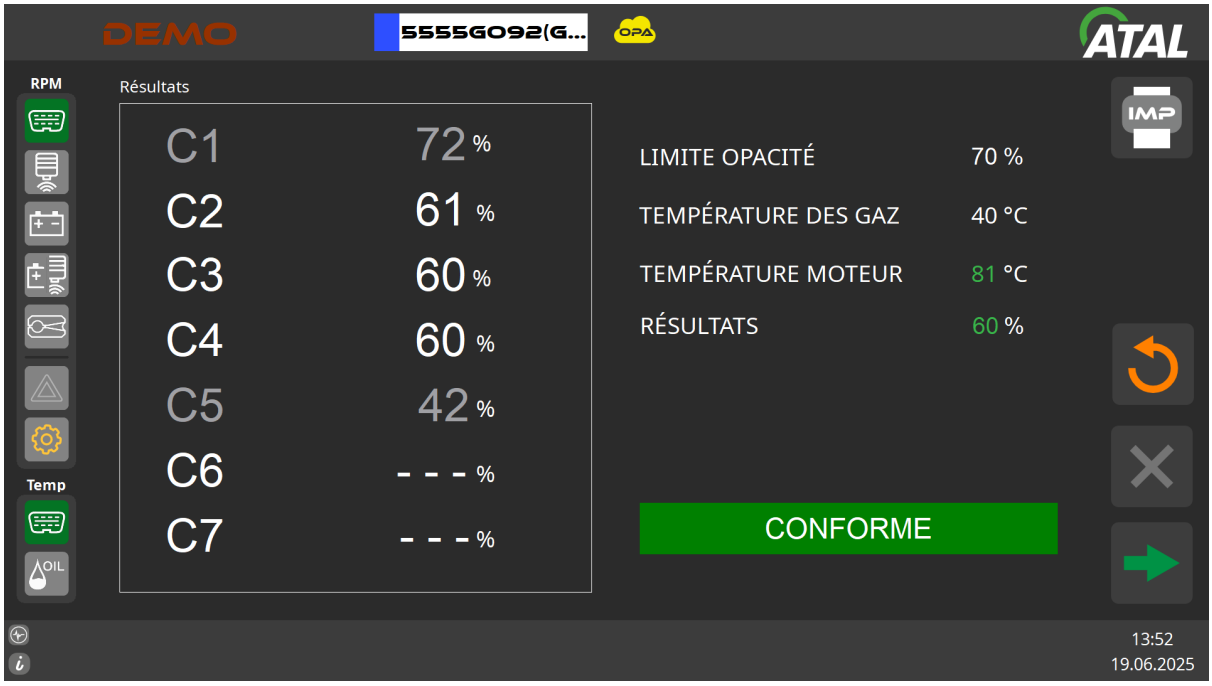
Acceleration measurement



Software automatically detects probe in exhaust, warns if missing.



Test evaluates five acceleration measurements, discards highest and lowest. Average of remaining used for evaluation.



Result compared with defined limits: green = within limits, red = exceeds limits.

After test completion, probe may be removed from exhaust.