



General HVAC Module Requirements

1 Introduction

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. This standard defines the general requirements, test conditions and test methods for function, material and static load tests for heating ventilation air conditioning (HVAC) modules for automotive applications.

1.2 Applicability. Heating and air conditioning for the complete vehicle range.

1.3 Remarks. General requirements and requirements for single components are defined in the following parts to this standard.

- GMW3079 Plenum - Heating Ventilation (HV)/HVAC Inlet Water Ingestion (includes Dynamic Separation Test).
- GMW14139 Corporate Body Pressure Relief Valves (PRV).
- GMW14192 Condenser with Integrated Receiver Dryer Product and Test Procedure Specification.
- GMW14319 Refrigerant Hose and Coupling.
- GMW14321 Fuel Operated Heater: Auxiliary and Parking.
- GMW14322 Heater Core.
- GMW14323 HVAC Particle Filter.
- GMW14325 HVAC Air Ducts.
- GMW14483 Vehicle Air Conditioning Compressor and HVAC System Noise and Vibration Evaluation Procedure.
- GMW14718 Heating Unit, Air Conditioning Unit.
- GMW14780 General HVAC Module Requirements.
- GMW14787 HVAC Hybrid Filter, Particle and Odor.
- GMW14788 Variable A/C Compressor.
- GMW14789 Fixed A/C Compressor.
- GMW15259 Blower and Recirculating Air Housing.
- GMW15448 Specification for Heating, Ventilation and Air Conditioning Air Outlets.
- GMW16151 Air Conditioning System Evaporator.
- GMW16154 Corporate Thermostatic Expansion Valve.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

UN R21

EN 10204

FMVSS 302

VDA 260

2.2 GM Standards/Specifications.

GMW3059	GMW3235	GMW14325	GMW15448
GMW3079	GMW3286	GMW14483	GMW16151
GMW3091	GMW14139	GMW14718	GMW16154
GMW3097	GMW14192	GMW14729	GMW16331
GMW3103	GMW14319	GMW14787	GMW17625
GMW3172	GMW14321	GMW14788	
GMW3205	GMW14322	GMW14789	
GMW3232	GMW14323	GMW15259	

2.3 Additional References.

- Drawing specifications.
- Test report.

3 Test Preparation and Evaluation**3.1 Resources.****3.1.1 Facilities.**

3.1.1.1 Calibration. The test facilities and equipment shall be in good working order and shall have a valid calibration label.

3.1.1.2 Alternatives. Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this standard shall be determined correctly with respect to their physical definition.

3.1.1.3 According to the stated standards, test methods, test specifications, etc.

3.1.3.3.1 Recirculating air cabinet:

- Temperature range: (-40 to +90) °C.
- Permissible temperature deviations: ± 3 °C.
- Usable interior space width $\times$ height $\times$ depth: (1.0 $\times$ 1.0 $\times$ 1.0) m (minimum).

3.1.3.3.2 Environmental chamber to test heating and air conditioning modules in high humidity environments to GMW14729.

Chamber dimensions width $\times$ height $\times$ depth: (1.0 $\times$ 1.0 $\times$ 1.0) m (minimum).

3.1.2 Equipment.

- Thermoelectric measuring instrument.
- Directional probe: (0.01 to 1) m/s and (0.01 to 5) m/s.
- Omni directional probe: (0.01 to 1) m/s and (0.01 to 5) m/s.
- Humidity probe: (0 to 99)%.
- Temperature probe: (-20 to +60) °C.

3.1.2.1 Instruments and gauges for dimensional checks.

3.1.2.2 Air volume flow meter (0 to 3) L/s.

3.1.2.3 Suitable blower to produce the following ram pressures:

- ≈ 600 Pa at a flow rate of 100 L/s.
- ≈ 400 Pa at a flow rate of 200 L/s.

3.1.3 Test Vehicle/Test Piece. Not applicable.

3.1.4 Test Time. Not applicable.

3.1.5 Test Required Information. Not applicable.

3.1.6 Personnel/Skills. Not applicable.

3.2 Preparation.