
**Earth-moving machinery — Operator
enclosure environment —**

**Part 3:
Pressurization test method**

*Engins de terrassement — Environnement de l'enceinte de
l'opérateur —*

Partie 3: Méthode d'essai du système de pressurisation



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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10263-3 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 2, *Safety, ergonomics and general requirements*.

This second edition cancels and replaces the first edition (ISO 10263-3:1994), which has been technically revised.

ISO 10263 consists of the following parts, under the general title *Earth-moving machinery — Operator enclosure environment*:

- *Part 1: Terms and definitions*
- *Part 2: Air filter element test method*
- *Part 3: Pressurization test method*
- *Part 4: Heating, ventilating and air conditioning (HVAC) test method and performance*
- *Part 5: Windscreen defrosting system test method*
- *Part 6: Determination of effect of solar heating*

Earth-moving machinery — Operator enclosure environment —

Part 3: Pressurization test method

1 Scope

This part of ISO 10263 specifies a test method which will provide for uniform measurement of the maximum pressurization inside an operator enclosure of an earth-moving machine when equipped with a pressurization system.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 10263-1, *Earth-moving machinery — Operator enclosure environment — Part 1: Terms and definitions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10263-1 and the following apply.

3.1

pressurization

pressure differential between the static pressure inside and outside of the operator enclosure

3.2

pressurization system

means used to pressurize the operator enclosure, including any components which influence the performance of the system

4 Test equipment

4.1 Device to measure pressure with a measuring accuracy of 5 % of the observed values.

4.2 Voltmeter or other voltage measuring device to measure blower voltage, with a measuring accuracy of 2 %.

4.3 Thermometers or other temperature measuring devices, with a measuring accuracy of $\pm 0,5$ °C.

4.4 Device to measure barometric pressure, with a measuring accuracy of 2 % of the observed values.

4.5 Anemometer to measure wind speed, with a measuring accuracy within 0,5 m/s.

5 Test conditions

5.1 The pressurization system shall be completely powered by the standard equipment on the test machine with the engine operating at rated speed when the engine or other components influence the environment within the operator enclosure. The voltage at blower motor terminals shall be no more than 15 % above the nominal rating of the system (for example 13,8 V for a 12 V system).

5.2 All machine accessories pertinent to the operation of the enclosure, enclosure components and blowers shall be standard production parts or the equivalent, adjusted within the machine manufacturer's specification limits. Clean air filters are recommended since the amount of particulate matter in the filters may affect the pressurization.

5.3 It is recommended that the test be conducted in a controlled inside environment to minimize the influence of wind speed on the vehicle pressurization.

5.4 If the vehicle must be tested in an outside environment, the vehicle must be oriented such that the normal operating direction of the vehicle is facing into the wind, and the wind direction is not more than 30 ° off the vehicle centreline. Test data must not be recorded when the wind speed is greater than 5 m/s.

5.5 An operator may be present in the enclosure throughout the duration of the test.

5.6 Maximum wind speed passing the machine: 5 m/s.

6 Test procedure

6.1 Operate the pressurization system for a minimum of 15 min prior to obtaining data. The pressurization system shall be operated using maximum outside air, with maximum blower speed setting. No automatic pressurization controls shall be locked out.

6.2 To obtain uniform results, neither the air conditioning nor heating systems shall be transferring heat during the pressurization system tests.

6.3 Record, for information purposes only, the blower voltage, ambient dry bulb temperature, barometric pressure, wind speed, and wind direction in relation to the machine centreline.

6.4 Record enclosure pressure in pascals (Pa).

6.5 The pressure measuring device shall be positioned to avoid velocity head by keeping its reference and measuring points away from air streams.

7 Test report

The obtained enclosure pressure (Pa) shall be included in the test report.

An example of a suitable test report form is given in Annex A.

Annex A (informative)

Example of test report form for pressurization

Test machine

Type: Model: PIN (or serial number):

Pressurization test (ISO 10263-3:2008, Clause 6)

Blower voltage (6.3): V

Ambient dry bulb temperature (6.3): °C

Barometric pressure (6.3): Pa

Wind speed passing machine (6.3): m/s

Wind direction relative to the machine centreline (6.3): deg (°)

Enclosure pressure (6.4): Pa

Setting of adjustable controls:

