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Agricultural and forestry machinery - Inspection of sprayers in use - Part 1: General
(ISO/DIS 16122-1:2022)

Land- und Forstmaschinen - Kontrolle von in Gebrauch befindlichen
Pflanzenschutzgeräten - Teil 1: Allgemeines (ISO/DIS 16122-1:2022)

Matériel agricole et forestier - Contrôle des pulvérisateurs en service - Partie 1:
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Agricultural and forestry machinery — Inspection of sprayers in use —

Part 1: General

*Matériel agricole et forestier — Contrôle des pulvérisateurs en service —
Partie 1: Généralités*

ICS: 65.060.40

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 6, *Equipment for crop protection*.

This second edition cancels and replaces the first edition ISO 16122-1:2015, which has been technically revised.

The main purpose of this second edition was to remove errors and resolve contradictions to the ISO 16119 series which specifies environmental requirements for new sprayers.

The main changes compared to the previous edition are as follows:

- Normative references (updated)
- Pre-inspection (modified)
- Inspection (modified)
- Test report (modified)

A list of all parts in the ISO 16122 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

There are two main reasons for the inspection:

- less potential risk of environmental contamination by plant protection products;
- good control of the pest with the minimum possible input of plant protection product.

In order to use plant protection products in agricultural production safely, it is necessary to define the requirements and test methods for sprayers in use. This is a relevant step after having standardized minimum requirements for new sprayers, in respect of safety hazards (see ISO 4254-6) and potential risks of environmental contamination (see ISO 16119 series).

Standardising the requirements and methods for inspection of sprayers in use takes into consideration not only the original performance of the sprayer but also its use, care and maintenance. This is a logical link to ensure the continued benefit arising from the supply of new sprayers of good quality.

The inspection of sprayers in use can be a mandatory requirement or adopted on a voluntary basis. In both cases further requirements, outside the scope of this standard, are necessary for the management of inspections. These include, for example, requirements for the competence of persons carrying out inspections and the frequency of inspections.

NOTE National or local regulations may also apply concerning the qualifications and competence of inspectors.

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Agricultural and forestry machinery — Inspection of sprayers in use —

Part 1: General

1 Scope

This part of ISO 16122 defines the general requirements to be fulfilled for the inspection of all types of sprayers for plant protection products used in agriculture, horticulture, forestry and other areas, except knapsack sprayers.

NOTE For knapsack sprayers, see ISO 19932-3.

The specific requirements for the different types of sprayers are defined in the relevant specific parts of ISO 16122. When used in conjunction with the relevant sprayer specific part (see [Annex A](#)), this part of ISO 16122 specifies the requirements and test methods for the inspection of sprayers in use.

The requirements relate mainly to the condition of the sprayer with respect to potential risks for the environment and its performance to achieve a good application.

This part of ISO 16122 also includes minimum requirements for the preparation of the sprayer for the inspection and the minimum safety requirements with respect to the safety of the inspector (test operator) during the inspection.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 5681:2020, *Equipment for crop protection — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5681:2020 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

NOTE The terms and definitions for specific sprayers are given in the relevant specific parts

4 Criteria for classification of sprayers

In order to define the application of each part of ISO 16122, a classification of sprayers has been established. See [Annex A](#).

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5 Pre-inspection requirements

5.1 General

The owner/operator of the sprayer should be present at the inspection and should ensure that known faults are remedied before the inspection.

All equipment necessary for the inspection and used by the inspector for testing the sprayer (e.g. flow meters, pressure indicators, forward speed sensors) shall be checked at regular intervals, normally at least once a year with certified equipment. Proof of calibration shall be available.

5.2 Place for inspection

The inspection shall be made at a location which avoids risks of pollution and water contamination.

The influence of external conditions on the reproducibility of the results of the inspection shall be minimized (e.g. effects of wind, rain).

The water used during the inspection shall be managed to prevent potential contamination of the environment.

5.3 Pre-inspection

5.3.1 General

A preliminary inspection in accordance with 5.3.2 to 5.3.9, shall be carried out by the inspector to avoid:

- incidents that could result in either injury or damage to the health of the inspector;
- wasting time by making measurements on sprayers with very obvious serious faults

5.3.2 Cleaning

The sprayer shall be clean.

Cleaning shall include internal parts, filters, filter inserts and external surfaces giving special consideration to areas of contamination to which the inspector could be exposed during the inspection.

Compliance shall be checked by inspection.

5.3.3 Power transmission parts

The power take-off (PTO) drive shaft guard and the guard of the power input connection (PIC) shall be fitted and in good condition. In addition,

- the different parts of the shaft, the universal joints and locking systems shall not show excessive wear,
- the PTO drive shaft guard shall be present and shall not show any deformations or tears, and
- in case of non-rotating guards, the restraining device that prevents the rotation of the power take off drive shaft guard shall be present and shall work properly.

Protective devices and any moving or rotating transmission parts shall not be affected in their function.

Compliance shall be checked by inspection.

5.3.4 Moving parts

All guards provided for protection of the operator shall be present and function correctly.