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Equipment for crop protection - Knapsack sprayers - Part 3: Inspection of knapsack sprayers in use (ISO 19932-3:2025)

Táto norma obsahuje anglickú verziu európskej normy.

This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/26

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NORME EUROPÉENNE
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EN ISO 19932-3

August 2025

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English Version

**Equipment for crop protection - Knapsack sprayers - Part
3: Inspection of knapsack sprayers in use (ISO 19932-
3:2025)**

Matériel de protection des cultures - Pulvérisateurs à
dos - Partie 3: Contrôle des pulvérisateurs portables à
dos en service (ISO 19932-3:2025)

Pflanzenschutzgeräte - Tragbare Geräte - Teil 3:
Kontrolle von in Gebrauch befindlichen Geräten (ISO
19932-3:2025)

This European Standard was approved by CEN on 19 April 2025.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN ISO 19932-3:2025 (E)

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European foreword

This document (EN ISO 19932-3:2025) has been prepared by Technical Committee ISO/TC 23 "Tractors and machinery for agriculture and forestry" in collaboration with Technical Committee CEN/TC 144 "Tractors and machinery for agriculture and forestry" the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2026, and conflicting national standards shall be withdrawn at the latest by February 2026.

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

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 19932-3:2025 has been approved by CEN as EN ISO 19932-3:2025 without any modification.

Annex ZA (informative)

Relationship between this European Standard and the health and safety and environmental requirements of Directive 2009/128/EC

This European Standard has been prepared under Commission's standardization request "M/435 Mandate to CEN, CENELEC and ETSI for the development of a standards on inspection of pesticide application equipment in use" to provide one voluntary means of conforming to health and safety and environmental requirements of the Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides [OJ L 309].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in [Table ZA.1](#) confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding health and safety and environmental requirements, of that Directive and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and annex II of EU Directive 2009/128/EC [OJ L 309]

Health and safety and environmental requirements of EU Directive 2009/128/EC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
Annex II — The pesticide application equipment must function reliably and be used properly for its intended purpose ensuring that pesticides can be accurately dosed and distributed.	4.8	
— The equipment must be in such a condition as to be filled and emptied safely, easily and completely and prevent leakage of pesticides.	4.3 , 7.1	
— It must permit easy and thorough cleaning.	6.1.2 , 8	It is not possible to test cleaning efficiency without disassembling the sprayer which is not practical. Due to small tank sizes (<25 litres) there are very limited pesticide residues.
— It must also ensure safe operations, and be controlled and capable of being immediately stopped from the operator's seat.	4.2 , 4.5 , 6.2 , 7.2	There is no operator seat since these are manually carried sprayers.
— Where necessary, adjustments must be simple, accurate and capable	4.5.3	

Health and safety and environmental requirements of EU Directive 2009/128/EC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
of being reproduced.		
1) Power transmission parts	6.3 , 6.6	Only applicable for engine driven knapsack sprayers.
2) Pump	4.8.2	
3) Agitation	Not relevant	These manually carried sprayers generally have very small tanks (<25 litres) which empty rapidly, with any agitation required achieved by the movement of the spray tank on the operators back.
4) Spray liquid tank	4.3 , 5 , 6.1	
5) Measuring systems, control and regulation systems	4.5 , 4.8 , 6.2 , 7.2	
6) Pipes and hoses	4.6	
7) Filtering	4.7 , 5	
8) Spray boom	4.8.2	
9) Nozzles	4.8	
10) Distribution	4.8.1	
11) Blower	Not relevant	Not present on these sprayers.

WARNING 1 Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 Other Union legislation may be applicable to the product(s) falling within the scope of this standard.



International Standard

ISO 19932-3

Equipment for crop protection — Knapsack sprayers —

Part 3: Inspection of knapsack sprayers in use

*Matériel de protection des cultures — Pulvérisateurs à dos —
Partie 3: Contrôle des pulvérisateurs portables à dos en service*

**First edition
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ISO 19932-3:2025(en)**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 document 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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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*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 144, *Tractors and machinery for agriculture and forestry*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

A list of all parts in the ISO 19932 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.

ISO 19932-3:2025(en)

Introduction

There are three main reasons for inspection of the use of knapsack sprayers, which are the most widely used means worldwide of applying plant protection products (PPPs):

- less potential risk to the operator;
- less potential risk of environmental contamination by PPPs; and
- good control of the pest with the minimum possible input of PPPs.

In order to use PPPs in agricultural production safely, the requirements and test methods for knapsack sprayers in use should be defined. This is a relevant step after having standardized minimum requirements for new knapsack sprayers, in respect of safety hazards and potential risks of environmental contamination (see ISO 19932-1:— and ISO 19932-2:—).

Standardizing 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 the 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 document, 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 regional regulations can also apply concerning the qualifications and competence of inspectors.

Equipment for crop protection — Knapsack sprayers —

Part 3: Inspection of knapsack sprayers in use

1 Scope

This document specifies the requirements and test methods for inspection of the use of knapsack sprayers carried on the back or shoulder of the operator for use with plant protection products (PPPs).

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

This document is applicable to lever-operated knapsack sprayers, knapsack compression sprayers and knapsack sprayers driven by an engine or electric motor using hydraulic pressure atomisation of the spray liquid, intended for use primarily in agriculture, forestry and horticulture, with a nominal volume of more than 6,0 l.

It does not apply to

- knapsack combustion engine-driven air-blast sprayers, which are covered in ISO 28139:2019/Amd 1:2024,
- controlled droplet application equipment utilizing rotary atomisers, or
- portable application equipment for spatial application (such as foggers).

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*

ISO 16122-2:2024, *Agricultural and forestry machinery — Inspection of sprayers in use — Part 2: Horizontal boom sprayers*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN