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Agricultural and forestry machines - Inspection of sprayers in use - Part 5: Aerial spray systems (ISO 16122-5:2020)

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. 05/21

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EUROPEAN STANDARD

**EN ISO 16122-5**

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English Version

**Agricultural and forestry machines - Inspection of sprayers  
in use - Part 5: Aerial spray systems (ISO 16122-5:2020)**

Matériel agricole et forestier - Contrôle des  
pulvérisateurs en service - Partie 5: Systèmes aériens  
de pulvérisation (ISO 16122-5:2020)

Land- und Forstmaschinen - Kontrolle von in Gebrauch  
befindlichen Pflanzenschutzgeräten - Teil 5:  
Pflanzenschutztechnik für Luftfahrzeuge -  
Umweltschutz (ISO 16122-5:2020)

This European Standard was approved by CEN on 5 March 2020.

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

<b>Contents</b>	<b>Page</b>
<b>European foreword.....</b>	<b>3</b>
<b>Annex ZA (informative) Relationship between this European Standard and the essential requirements of Directive 2009/128/EC aimed to be covered.....</b>	<b>4</b>

## **European foreword**

This document (EN ISO 16122-5:2020) 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of an identical text or by endorsement, at the latest by June 2021, and conflicting national standards shall be withdrawn at the latest by June 2021.

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 mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZA, which is an integral part of this document.

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, Turkey and the United Kingdom.

## **Endorsement notice**

The text of ISO 16122-5:2020 has been approved by CEN as EN ISO 16122-5:2020 without any modification.

## Annex ZA (informative)

### Relationship between this European Standard and the essential requirements of Directive 2009/128/EC aimed to be covered

This European Standard has been prepared under Commission's standardization request "M/435 Mandate to CEN, CENELEC and ETSI for the development of standards on inspection of pesticide application equipment in use" to provide one voluntary means of conforming to essential 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.

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 Essential 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**

Essential 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.	4.2.5, 4.4, 4.5, 4.7, 4.8, 4.11	
- The equipment must be in such a condition as to be filled and emptied safely, easily and completely and prevent leakage of pesticides.	4.1, 4.2	
- It must permit easy and thorough cleaning.	4.2.4	
- It must ensure safe operations, and be controlled and capable of being immediately stopped from the operator's seat.	4.3, 4.5, 4.7, 4.8, 4.9, 4.10	
- Where necessary, adjustments must be simple, accurate and capable of being reproduced.	4.8.1, 4.8.2, 4.8.5	
2. Pump	4.5, 4.7.2, 5.2	No direct pump testing since most pumps on aircraft are

		air driven i.e. only operate when the aircraft is in flight. The specified tests should show whether the pump is adequate.
3. Agitation	4.2.7	
4. Spray liquid tank	4.2	
5. Measuring systems, control and regulation systems	4.2.5, 4.8	
6. Pipes and hoses	4.1.2, 4.3	
7. Filtering	4.2.2, 4.6	
8. Spray boom	4.4	
9. Nozzles	4.7	
10. Distribution	4.9	

**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 16122-5

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## **Agricultural and forestry machines — Inspection of sprayers in use —**

### **Part 5: Aerial spray systems**

*Matériel agricole et forestier — Contrôle des pulvérisateurs en  
service —*

*Partie 5: Systèmes aériens de pulvérisation*



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# Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Requirements</b> .....	<b>2</b>
4.1 General requirements.....	2
4.1.1 Static leak test.....	2
4.1.2 Dynamic leak test.....	2
4.2 Sprayer tanks.....	2
4.2.1 General.....	2
4.2.2 Tank opening(s).....	2
4.2.3 Strainers.....	3
4.2.4 Emptying.....	3
4.2.5 Tank emptying device.....	3
4.2.6 Tank contents indicator(s).....	3
4.2.7 Tank agitation.....	3
4.3 Hoses and lines.....	3
4.3.1 General.....	3
4.3.2 Bending/abrasion.....	3
4.4 Spray boom.....	4
4.4.1 Spraying section.....	4
4.4.2 Nozzle orientation.....	4
4.5 Pressure drop.....	4
4.6 Filters.....	4
4.7 Nozzles.....	5
4.7.1 Mounting.....	5
4.7.2 Flow rate and spray quality.....	5
4.8 Measuring systems.....	5
4.8.1 General.....	5
4.8.2 Control.....	6
4.8.3 Pressure indicator (s).....	6
4.8.4 Flow rate and other instruments.....	6
4.8.5 Pressure adjusting devices.....	7
4.9 Volume rate per area.....	7
4.10 Safety/Exposure.....	7
4.10.1 General.....	7
4.10.2 Inspector safety.....	7
4.11 Flow control.....	7
<b>5 Test facility and methods</b> .....	<b>8</b>
5.1 General.....	8
5.2 Validation pressure indicator(s).....	8
5.3 Verification method of the sprayer pressure indicator.....	8
<b>6 Inspection report</b> .....	<b>8</b>
<b>Annex A (informative) Nozzle drop size category websites and aerial deposition models</b> .....	<b>10</b>

## ISO 16122-5:2020(E)

### 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](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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

For an explanation on 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 the following URL: [www.iso.org/iso/foreword.html](http://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*.

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](http://www.iso.org/members.html).

## **Introduction**

Significant areas are sprayed globally by fixed wing and rotary aircraft in order to overcome serious pest threats to agriculture and forestry. Aerial application is used where difficult terrain or crop (forests) dictate as well as for timely application to large areas in order to maximize efficient use of crop protection products and minimize environmental impact. This document specifies requirements and methods for their inspection in use of such spray systems. Industry stakeholders such as the USA National Agricultural Aviation Association (NAAA) and their partner National Agricultural Aviation Research and Education Fund have provided input to the development.



# Agricultural and forestry machines — Inspection of sprayers in use —

## Part 5: Aerial spray systems

### 1 Scope

This document specifies the requirements, test methods and verification of the inspection of aerial fixed wing and rotary aircraft spray systems for agriculture, forestry, turf, and vegetation control in transport access ways (such as gas and electric lines), with regard to minimizing the potential risk of environmental contamination during use.

This document applies only to manned aerial aircraft. It does not cover aircraft safety and design criteria for air worthiness, aircraft registration, pilot or operator requirements, all of which are specified separately by countries or regions.

This document relates mainly to the condition of the equipment with respect to its potential risk for the environment and its performance to achieve good applications.

The general requirements of ISO 16122-1 apply where appropriate, including for the protection of inspectors during an 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, *Equipment for crop protection — Vocabulary*

ISO 5682-1:2017, *Equipment for crop protection — Spraying equipment — Part 1: Test methods for sprayer nozzles*

ISO 5682-2:2017, *Equipment for crop protection — Spraying equipment — Part 2: Test methods to assess the horizontal transverse distribution for hydraulic sprayers*

ISO 16122-1:2015, *Agricultural and forestry machinery — Inspection of sprayers in use — Part 1: General*

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