



**SLOVENSKI STANDARD**  
**SIST EN ISO 16122-3:2015**

**01-junij-2015**

**Nadomešča:**  
**SIST EN 13790-2:2004**

---

**Kmetijski in gozdarski stroji - Kontrola škropilnikov v uporabi - 3. del: Navpični jamborni škropilniki in podobne naprave (ISO 16122-3:2015)**

Agricultural and forestry machinery - Inspection of sprayers in use - Part 3: Sprayers for bush and tree crops (ISO 16122-3:2015)

Land- und Forstmaschinen - Kontrolle von in Gebrauch befindlichen Pflanzenschutzgeräten - Teil 3: Geräte mit vertikalem Gestänge, Sprühgeräte und ähnliche Geräte (ISO 16122-3:2015)

Matériel agricole et forestier - Contrôle des pulvérisateurs en service - Partie 3: Pulvérisateurs à rampe verticale, nébulisateurs et similaires (ISO 16122-3:2015)

**Ta slovenski standard je istoveten z: EN ISO 16122-3:2015**

---

**ICS:**

65.060.40 Oprema za nego rastlin Plant care equipment

**SIST EN ISO 16122-3:2015 en**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN ISO 16122-3:2015](#)

<https://standards.iteh.ai/catalog/standards/sist/f0c263a7-a646-4fbb-aa83-f60d6c3e31f8/sist-en-iso-16122-3-2015>

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN ISO 16122-3**

March 2015

ICS 65.060.40

Supersedes EN 13790-2:2003

English Version

**Agricultural and forestry machinery - Inspection of sprayers in use - Part 3: Sprayers for bush and tree crops (ISO 16122-3:2015)**

Matériel agricole et forestier - Contrôle des pulvérisateurs en service - Partie 3: Pulvérisateurs pour cultures arbustives et arboricoles (ISO 16122-3:2015)

Land- und Forstmaschinen - Kontrolle von in Gebrauch befindlichen Pflanzenschutzgeräten - Teil 3: Geräte mit vertikalem Gestänge, Sprühgeräte und ähnliche Geräte (ISO 16122-3:2015)

This European Standard was approved by CEN on 13 September 2014.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

<b>Contents</b>	<b>Page</b>
<b>Foreword</b> .....	<b>3</b>
<b>Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2009/128/EC</b> .....	<b>4</b>

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN ISO 16122-3:2015](https://standards.iteh.ai/catalog/standards/sist/f0c263a7-a646-4fbb-aa83-f60d6c3e31f8/sist-en-iso-16122-3-2015)  
<https://standards.iteh.ai/catalog/standards/sist/f0c263a7-a646-4fbb-aa83-f60d6c3e31f8/sist-en-iso-16122-3-2015>

## Foreword

This document (EN ISO 16122-3:2015) 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 September 2015, and conflicting national standards shall be withdrawn at the latest by September 2015.

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

This document supersedes EN 13790-2:2003.

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 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

[SIST EN ISO 16122-3:2015](https://standards.iteh.ai/catalog/standards/sist-en-iso-16122-3-2015)

<https://standards.iteh.ai/catalog/standards/sist-en-iso-16122-3-2015>  
**Endorsement notice** - a646-4fbb-aa83-f60d6c3e31f8/sist-en-iso-16122-3-2015

The text of ISO 16122-3:2015 has been approved by CEN as EN ISO 16122-3:2015 without any modification.

## Annex ZA (informative)

### Relationship between this European Standard and the Essential Requirements of EU Directive 2009/128/EC

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide one means of conforming to Essential Requirements of the New Approach Directive 2009/128/EC Sustainable use of pesticides.

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard confers, within the limits of the scope of this standard, a presumption of conformity with the relevant Essential Requirements of that Directive and associated EFTA regulations.

**WARNING:** Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 16122-3:2015](https://standards.iteh.ai/catalog/standards/sist/f0c263a7-a646-4fbb-aa83-f60d6c3e31f8/sist-en-iso-16122-3-2015)

<https://standards.iteh.ai/catalog/standards/sist/f0c263a7-a646-4fbb-aa83-f60d6c3e31f8/sist-en-iso-16122-3-2015>

INTERNATIONAL  
STANDARD

ISO  
16122-3

First edition  
2015-03-15

---

---

**Agricultural and forestry  
machinery — Inspection of sprayers in  
use —**

**Part 3:  
Sprayers for bush and tree crops**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**  
*Matériel agricole et forestier — Contrôle des pulvérisateurs en  
service —  
Partie 3: Pulvérisateurs pour cultures arbustives et arboricoles*

[SIST EN ISO 16122-3:2015](https://standards.iteh.ai/catalog/standards/sist/f0c263a7-a646-4fbb-aa83-f60d6c3e31f8/sist-en-iso-16122-3-2015)

[https://standards.iteh.ai/catalog/standards/sist/f0c263a7-a646-4fbb-aa83-  
f60d6c3e31f8/sist-en-iso-16122-3-2015](https://standards.iteh.ai/catalog/standards/sist/f0c263a7-a646-4fbb-aa83-f60d6c3e31f8/sist-en-iso-16122-3-2015)



Reference number  
ISO 16122-3:2015(E)

© ISO 2015

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 16122-3:2015](https://standards.iteh.ai/catalog/standards/sist/f0c263a7-a646-4fbb-aa83-f60d6c3e31f8/sist-en-iso-16122-3-2015)

<https://standards.iteh.ai/catalog/standards/sist/f0c263a7-a646-4fbb-aa83-f60d6c3e31f8/sist-en-iso-16122-3-2015>



### **COPYRIGHT PROTECTED DOCUMENT**

© ISO 2015

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

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](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland



# Contents

Page

<b>Foreword</b> .....	<b>v</b>
<b>Introduction</b> .....	<b>vi</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 and method of verification</b> .....	<b>2</b>
4.1 Leaks and dripping.....	2
4.1.1 Static leaks.....	2
4.1.2 Dynamic leaks.....	2
4.1.3 Spraying and dripping on parts.....	2
4.2 Pump(s).....	2
4.2.1 Capacity.....	2
4.2.2 Pulsations.....	3
4.2.3 Air chamber.....	3
4.3 Spray mix agitation.....	3
4.3.1 Hydraulic.....	3
4.3.2 Mechanical.....	3
4.4 Spray liquid tank(s).....	3
4.4.1 Lid.....	3
4.4.2 Filling hole(s).....	3
4.4.3 Induction hopper.....	4
4.4.4 Pressure compensation.....	4
4.4.5 Tank content indicator(s).....	4
4.4.6 Tank emptying.....	4
4.4.7 Tank filling.....	4
4.4.8 Cleaning device for plant protection product containers.....	4
4.4.9 Cleaning equipment.....	4
4.5 Measuring systems, controls and regulation systems.....	5
4.5.1 General.....	5
4.5.2 Pressure indicator.....	5
4.5.3 Other measuring devices.....	6
4.5.4 Pressure adjusting devices.....	6
4.6 Lines (pipes and hoses).....	6
4.7 Filters.....	6
4.7.1 Filter presence.....	6
4.7.2 Isolating device.....	6
4.7.3 Filter insert changeability.....	6
4.8 Nozzles.....	6
4.8.1 Symmetry.....	6
4.8.2 Dripping.....	7
4.8.3 Switching off.....	7
4.8.4 Adjustment.....	7
4.9 Pressure drop.....	7
4.9.1 General.....	7
4.9.2 Compensative returns.....	7
4.9.3 Distribution.....	7
4.10 Blower.....	8
4.10.1 Switching off.....	8
4.10.2 Adjustability.....	8
4.11 Spray guns and lances.....	9
4.11.1 Trigger.....	9
4.11.2 Adjustment of flow rate and angle.....	9

## ISO 16122-3:2015(E)

<b>5</b>	<b>Test methods</b> .....	<b>9</b>
5.1	Test facilities.....	9
5.2	Spray and agitation pump(s).....	9
	5.2.1 Pump capacity test.....	9
	5.2.2 Pump pulsations.....	10
5.3	Sprayer's pressure indicators.....	10
	5.3.1 Specifications of pressure indicators used for verification.....	10
	5.3.2 Verification method of the sprayer pressure indicator.....	11
5.4	Flow meters for controlling the volume/hectare rate.....	11
	5.4.1 General.....	11
	5.4.2 Operating procedure No. 1: Verification by nozzle flow rate measurement.....	11
	5.4.3 Operating Procedure No. 2: Verification by installing a calibrated flow meter on the circuit of the sprayer.....	12
5.5	System for controlling forward speed.....	12
5.6	Flow rate of the spray nozzles.....	13
	5.6.1 General.....	13
	5.6.2 Measurement with nozzles fitted on the sprayer.....	13
	5.6.3 Measurement with nozzles removed from the sprayer.....	13
5.7	Pressure drop.....	14
5.8	Pressure variation when the spray is switched off.....	14
5.9	Pressure distribution.....	14
	<b>Bibliography</b> .....	<b>15</b>

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 16122-3:2015](https://standards.iteh.ai/catalog/standards/sist/f0c263a7-a646-4fbb-aa83-f60d6c3e31f8/sist-en-iso-16122-3-2015)

<https://standards.iteh.ai/catalog/standards/sist/f0c263a7-a646-4fbb-aa83-f60d6c3e31f8/sist-en-iso-16122-3-2015>

## 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. [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. [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 meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

ISO 16122-3 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 144, *Tractors and machinery for agriculture and forestry*, in collaboration with ISO Technical Committee TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 6, *Equipment for crop protection*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

ISO 16122 consists of the following parts, under the general title *Agricultural and forestry machinery — Inspection of sprayers in use*:

- *Part 1: General*
- *Part 2: Horizontal boom sprayers*
- *Part 3: Sprayers for bush and tree crops*
- *Part 4: Fixed and semi-mobile sprayers*