

RAUDTEEALASED RAKENDUSED. PIDURDAMINE.
KOORMUSE MUUTUSE AUTOMAATANDURID

Railway applications - Braking - Automatic variable
load sensing devices

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 15625:2021 sisaldab Euroopa standardi EN 15625:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 15625:2021 consists of the English text of the European standard EN 15625:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 10.02.2021.	Date of Availability of the European standard is 10.02.2021.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 45.040

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis- ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis- ja Akrediteerimiskeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation and Accreditation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD

EN 15625

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2021

ICS 45.040

Supersedes EN 15625:2008+A1:2010

English Version

Railway applications - Braking - Automatic variable load sensing devices

Applications ferroviaires - Freinage - Dispositifs de pesée variable automatiques

Bahnanwendungen - Bremse - Automatisch kontinuierlich wirkende Lasterfassungseinrichtungen

This European Standard was approved by CEN on 20 December 2020.

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, 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 United Kingdom.



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

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

Contents

Page

European foreword.....	4
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions.....	5
4 Symbols and abbreviations.....	7
5 Design and manufacture.....	7
5.1 General.....	7
5.2 Functional requirements.....	7
5.2.1 Operating requirements.....	7
5.2.2 Characteristics of weighing valves.....	7
5.2.3 Mechanical requirements.....	8
5.2.4 Tightness.....	8
5.3 Fire behaviour.....	8
5.4 Shock and vibration.....	9
5.5 Service life.....	9
5.6 Compressed air quality.....	9
5.7 Environmental conditions.....	9
5.7.1 General.....	9
5.7.2 Ambient temperature.....	9
5.7.3 Altitude.....	9
5.7.4 Humidity.....	10
5.7.5 Rain.....	10
5.7.6 Snow, ice and hail.....	10
5.7.7 Solar radiation.....	10
5.7.8 Pollution.....	10
5.8 External appearance.....	11
5.9 Design requirements regarding pressure stress.....	11
5.10 Pneumatic connections.....	11
6 Type tests.....	11
6.1 General.....	11
6.2 Individual automatic variable load sensing device type tests.....	12
6.2.1 Test bench for individual automatic variable load sensing devices type tests.....	12
6.2.2 Sampling for type test.....	13
6.2.3 Test requirements.....	13
6.2.4 Check of physical and geometrical characteristics.....	14
6.2.5 Tightness.....	14
6.2.6 Characteristic, hysteresis.....	15
6.2.7 Operation at extreme temperature.....	16
6.2.8 Shock and vibration tests.....	18
7 In-service assessment.....	19
8 Designation.....	19
9 Identification and marking.....	19

Annex A (informative) Assessment of an automatic variable load sensing device when fitted to a vehicle.....	21
A.1 General	21
A.2 Design acceptance testing set up	21
A.3 Running tests.....	21
A.3.1 General	21
A.3.2 Pneumatic automatic variable load sensing device – Air consumption	21
A.3.2.1 Procedure	21
A.3.2.2 Pass/fail criteria	21
A.3.3 Automatic variable load sensing device – Output signal variation	22
A.3.3.1 Procedure	22
A.3.3.2 Pass/fail criteria	22
Annex B (normative) In-service assessment	23
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2016/797/EU aimed to be covered.....	24
Bibliography	26

European foreword

This document (EN 15625:2021) has been prepared by Technical Committee CEN/TC 256 "Railway applications", the secretariat of which is held by DIN.

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 August 2021, and conflicting national standards shall be withdrawn at the latest by August 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 supersedes EN 15625:2008+A1:2010.

The main changes compared to EN 15625:2008+A1:2010 are:

- a) normative references have been updated;
- b) terms and definitions have been revised;
- c) requirements on design and manufacture have been revised;
- d) requirements on materials have been removed;
- e) requirements on type tests have been revised;
- f) requirements on routine test and inspection have been removed;
- g) requirements on type validation have been removed;
- h) requirements on in-service assessment have been added;
- i) requirements on documentation have been removed;
- j) requirements on designation, identification and marking have been revised;
- k) Annex ZA has been updated.

This document has been prepared under a standardization request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 2016/797/EU.

For relationship with EU Directive 2016/797/EU, see informative Annex ZA, which is an integral part of this document.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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.

1 Scope

This document applies to automatic variable load sensing devices designed to continuously sense the load of a railway vehicle and provide a pneumatic output signal that can be used by a relay valve for the automatic variation of the air pressure used for brake applications, thereby adjusting the brake force accordingly to achieve the required brake performance.

This document specifies the requirements for the design, testing and quality assurance of automatic variable load sensing devices.

The requirements of this document are not fully applicable for tests on vehicle level (vehicle homologation tests).

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.

EN 14478:2017, *Railway applications — Braking — Generic vocabulary*

EN 60721-3-5:1997, *Classification of environmental conditions — Part 3: Classification of groups of environmental parameters and their severities — Section 5: Ground vehicle installations (IEC 60721-3-5:1997)*

EN 61373:2010, *Railway applications — Rolling stock equipment — Shock and vibration tests (IEC 61373:2010)*

EN 45545-2:2020, *Railway applications — Fire protection on railway vehicles — Part 2: Requirements for fire behavior of materials and components*

EN ISO 228-1:2003, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*

ISO 8573-1:2010, *Compressed air — Part 1: Contaminants and purity classes*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 14478:2017 and the following apply.

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

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

3.1

automatic variable load sensing device weighing valve

device connected to the vehicle, which responds to the loading of that vehicle to provide a continuous load proportional signal to the brake control device

Note 1 to entry: The load input is normally a share of the wagon's mass because of the devices position in the vehicle suspension system. The result is a pneumatic output signal pressure that can be any value between a