

**Käeshoitavad mootorajamiga elektritööriistad. Ohutus.
Osa 2-23: Erinõuded peenestusveskitele ja pöörlevatele
väiketööriistadele**

**Hand-held motor-operated electric tools - Safety - Part 2-
23: Particular requirements for die grinders and small
rotary tools (IEC 60745-2-23:2012, modified)**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 60745-2-23:2013 sisaldab Euroopa standardi EN 60745-2-23:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 60745-2-23:2013 consists of the English text of the European standard EN 60745-2-23:2013.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 03.05.2013.	Date of Availability of the European standard is 03.05.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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ICS 25.140, 25.140.30

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**Hand-held motor-operated electric tools -
Safety -
Part 2-23: Particular requirements for die grinders and small rotary tools
(IEC 60745-2-23:2012, modified)**

Outils électroportatifs à moteur -
Sécurité -
Partie 2-23: Exigences particulières
relatives aux meuleuses d'outillage et aux
petits outils rotatifs
(CEI 60745-2-23:2012, modifiée)

Handgeführte motorbetriebene
Elektrowerkzeuge -
Sicherheit -
Teil 2-23: Besondere Anforderungen
für Stabschleifer und rotierende
Kleinwerkzeuge
(IEC 60745-2-23:2012, modifiziert)

This European Standard was approved by CENELEC on 2012-12-24. CENELEC 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.

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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 CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 116/111/FDIS, future edition 1 of IEC 60745-2-23, prepared by IEC/TC 116 "Safety of motor-operated electric tools" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60745-2-23:2013.

A draft amendment, which covers common modifications to IEC 60745-2-23 (116/111/FDIS), was prepared by CLC/TC 116 "Safety of motor-operated electric tools" and approved by CENELEC.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-11-03
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-12-24

This Part 2-23 is to be used in conjunction with EN 60745-1:2009 + A11:2010.

When this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

NOTE 1 When "Part 1" is mentioned in this standard, it refers to EN 60745-1.

This part 2 supplements or modifies the corresponding clauses in EN 60745-1, so as to convert that publication into the EN standard: Safety requirements for die grinders and small rotary tools.

When a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

NOTE 2 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.

NOTE 3 In this standard, the following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

Words in **bold** in the text are defined in Clause 3. When a definition concerns an adjective, the adjective, the adjective and the associated noun are also in bold.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 60745-2-23:2012 are prefixed "Z".

This document is divided into two parts:

- Part 1: General requirements which are common to most hand-held electric motor operated tools (for the purpose of this standard referred to simply as tools) which could come within the scope of this standard;
- Part 2: Requirements for particular types of tools which either supplement or modify the requirements given in Part 1 to account for the particular hazards and characteristics of these specific tools.

This document follows the overall requirements of EN ISO 12100.

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

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive.

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

Endorsement notice

The text of the International Standard IEC 60745-2-23:2012 was approved by CENELEC as a European Standard with agreed common modifications.

COMMON MODIFICATIONS

6 Void

Replace by:

6 Environmental requirements

This clause of Part 1 is applicable except as follows:

6.1.2.4 Modification:

Die grinders and small rotary tools are suspended, the motor axis being horizontal.

6.1.2.5 Modification:

Die grinders and small rotary tools are tested at no-load.

6.2.4.2 Location of measurement

Addition:

Figures Z102 to Z103 show the positions for different types of tools.

6.2.6.3 Operating conditions

Modification:

The tools shall be tested under no-load equipped with an artificial wheel under the conditions described below in Table Z101.

Table Z101 – Vibration test conditions

Orientation	Tool to be held as in normal use, the motor axis being horizontal.
Tool bit	Artificial wheel as specified in Figure Z101 of a diameter equivalent to the rated capacity and dimensions in accordance with Table Z102. When using the artificial wheel, start with a diameter ($e - 1$ mm) and increase the size at the hole in stages of 1/10 mm until the required unbalance is obtained. The artificial wheel is mounted on a mandrel with a diameter suitable for the chuck or collet of the tool.
Feed force	No feed force to be applied. Excessive gripping force shall be avoided.
Test cycle	A test cycle is given by conducting a measurement for at least 10 s. Three series of five consecutive tests shall be carried out using a different operator for each series.

Table Z102 – Dimensions of the artificial wheel of Figure Z101

Rated capacity mm	$\varnothing a$ mm	$\varnothing b$ mm	c mm	$\varnothing d$ mm	$\varnothing e$ mm	Unbalance g mm
< 25	No wheel to be mounted					0
≥ 25 and < 50	25	4,0	$10 \pm 0,05$	$18 \pm 0,02$	4,3	3,6
≥ 50	50	4,0	$10 \pm 0,05$	$35 \pm 0,02$	6,2	14,5

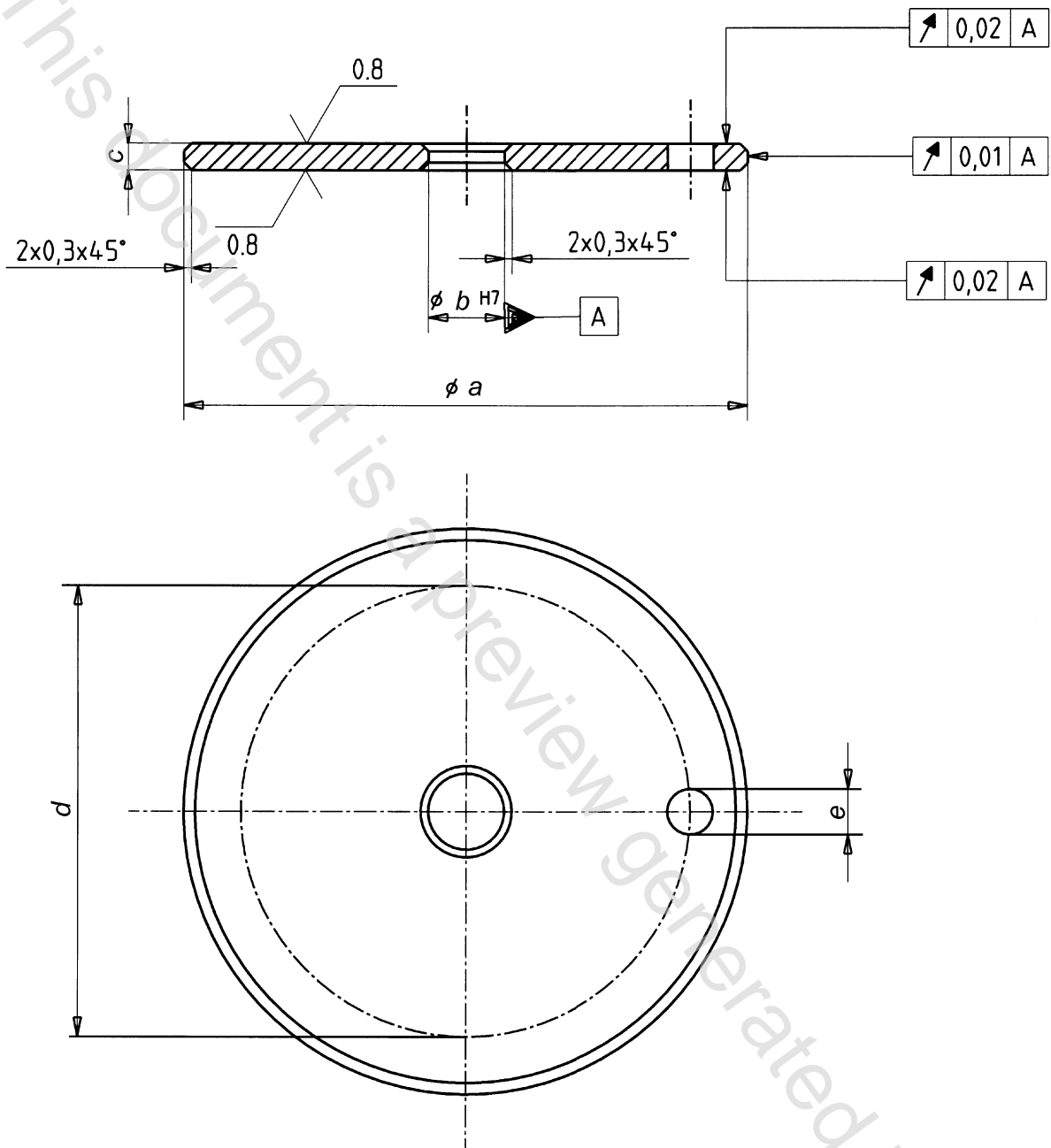
6.2.7.2 Declaration of the vibration total value

Addition:

The vibration total value a_h of the handle with the highest emission and the uncertainty K shall be declared.

Add the following figures:

Dimensions in millimetres



Key

Material: aluminium

Figure Z101 – Artificial wheel

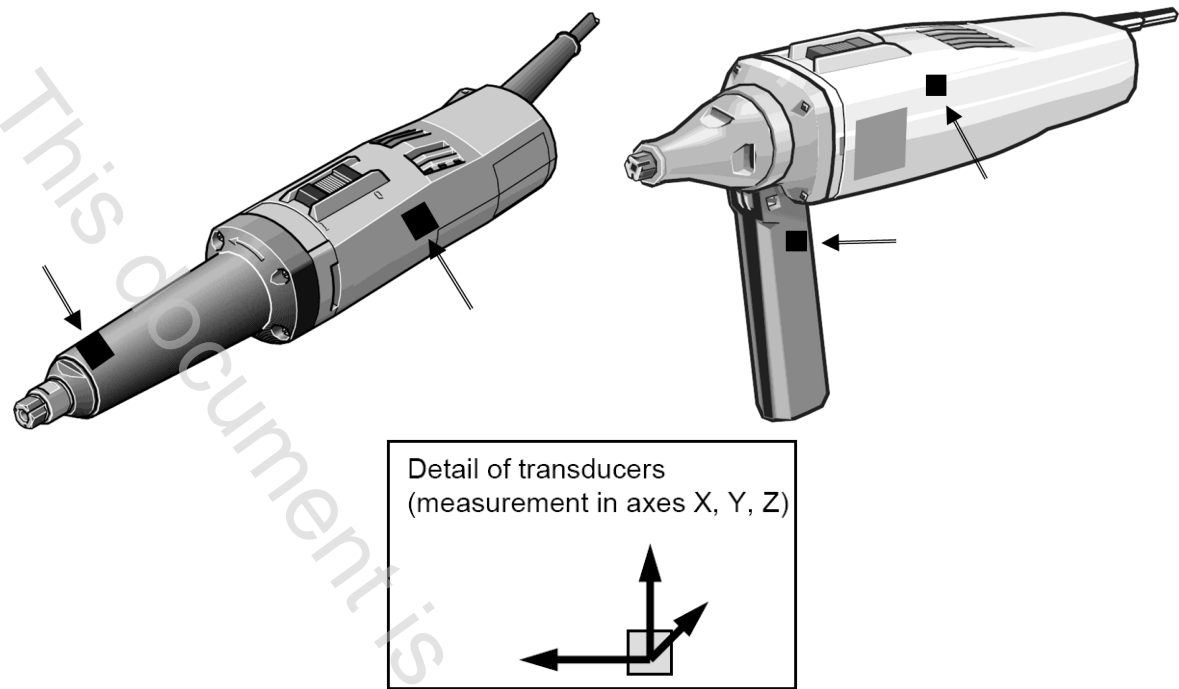


Figure Z102 – Positions of transducers for die grinders

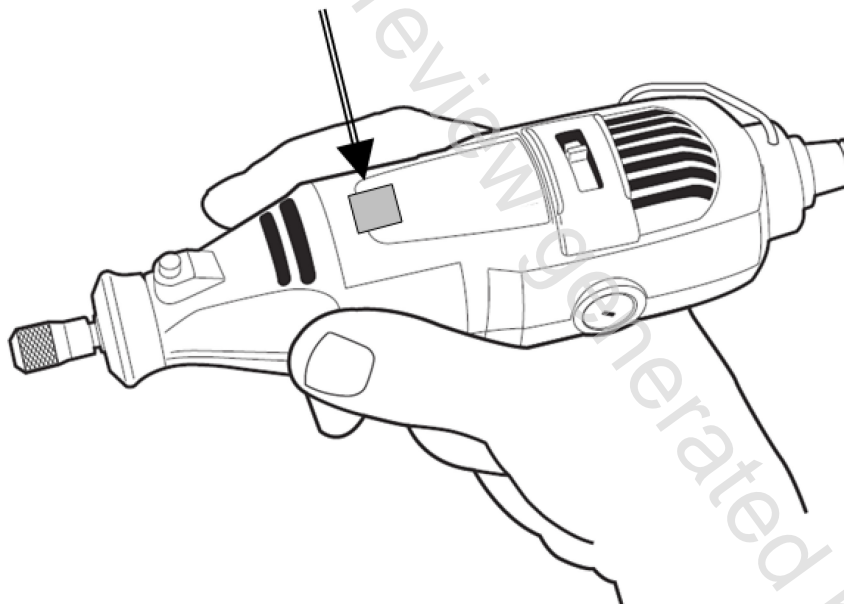


Figure Z103 – Positions of transducers for small rotary tools

Add the following annex:

Annex ZZ
(informative)

Coverage of Essential Requirements of Directive 2006/42/EC

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers all relevant Essential Requirements as given in EU Directive 2006/42/EC (Machinery Directive).

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directives concerned.

WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

Bibliography

Add the following note under IEC 60745-2-3:

NOTE 1 Harmonised as EN 60745-2-3.

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HAND-HELD MOTOR-OPERATED ELECTRIC TOOLS – SAFETY –

Part 2-23: Particular requirements for die grinders and small rotary tools

1 Scope

This clause of Part 1 is applicable, except as follows:

Addition:

This standard applies to **die grinders** and small **rotary tools** for mounted accessories not exceeding 55 mm in diameter and mounted sanding accessories not exceeding 80 mm in diameter such as

- threaded cones or plugs that are threaded on a mandrel with an unrelieved shoulder flange,
- mandrel **mounted wheels**, and
- rotary files

with a **rated speed** not exceeding a peripheral speed of the accessory of 80 m/s at **rated capacity**.

This standard does not apply to straight and vertical grinders utilizing flanges for driving an abrasive accessory. Those tools are covered by IEC 60745-2-3.

2 Normative references

This clause of Part 1 is applicable except as follows:

Addition:

ISO 603-12, *Bonded abrasive products – Dimensions – Part 12: Grinding wheels for deburring and fettling on a straight grinder*

3 Terms and definitions

This clause of Part 1 is applicable, except as follows:

3.101

cones and plugs

organic or inorganic bonded abrasives of various shapes and sizes with a threaded insert

3.102

die grinder

tool with the rotating spindle in-line with the motor shaft equipped with a collet or chuck intended for use with **mounted wheels** or threaded mandrel mounted **cones and plugs**