

SVENSK STANDARD

SS-ISO 26623-1:2020

Verktygskopplingar – Polygonal verktygskoppling med flänskontakt –

Del 1: Mått och beteckning för skaft (ISO 26623-1:2020, IDT)

Polygonal taper interface with flange contact surface —
Part 1: Dimensions and designation of shanks
(ISO 26623-1:2020, IDT)



sis Svenska
Institutet för
Standarder

Language: engelska/English

Edition: 3

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Vill du delta i ett standardiseringsprojekt?

Genom att delta som expert i någon av SIS 300 tekniska kommittéer inom CEN (europeisk standardisering) och/eller ISO (internationell standardisering) har du möjlighet att påverka standardiseringsarbetet i frågor som är viktiga för din organisation. Välkommen att kontakta SIS för att få veta mer!

Kontakt

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Standarden är framtagen av kommittén för Skärande verktyg, SIS/TK 273.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

Den internationella standarden ISO 26623-1:2020 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av ISO 26623-1:2020.

Denna standard ersätter SS-ISO 26623-1:2014, utgåva 2

The International Standard ISO 26623-1:2020 has the status of a Swedish Standard. This document contains the official English version of ISO 26623-1:2020.

This standard supersedes the SS-ISO 26623-1:2014, edition 2

LÄSANVISNINGAR FÖR STANDARDER

I dessa anvisningar behandlas huvudprinciperna för hur regler och yttre begränsningar anges i standardiseringsprodukter.

Krav

Ett krav är ett uttryck i ett dokumentets innehåll som anger objektivet verifierbara kriterier som ska uppfyllas och från vilka ingen avvikelse tillåts om efterlevnad av dokumentet ska kunna åberopas. Krav uttrycks med hjälpverbet ska (eller ska inte för förbud).

Rekommendation

En rekommendation är ett uttryck i ett dokumentets innehåll som anger en valmöjlighet eller ett tillvägagångssätt som bedöms vara särskilt lämpligt utan att nödvändigtvis nämna eller utesluta andra. Rekommendationer uttrycks med hjälpverbet bör (eller bör inte för avrådanden).

Instruktion

Instruktioner anges i imperativ form och används för att ange hur något görs eller utförs. De kan underordnas en annan regel, såsom ett krav eller en rekommendation. De kan även användas självständigt, och är då att betrakta som krav.

Förklaring

En förklaring är ett uttryck i ett dokumentets innehåll som förmedlar information. En förklaring kan uttrycka tillåtelse, möjlighet eller förmåga. Tillåtelse uttrycks med hjälpverbet får (eller motsatsen behöver inte). Möjlighet och förmåga uttrycks med hjälpverbet kan (eller motsatsen kan inte).

READING INSTRUCTIONS FOR STANDARDS

These instructions cover the main principles for the use of provisions and external constraints in standardization deliverables.

Requirement

A requirement is an expression, in the content of a document, that conveys objectively verifiable criteria to be fulfilled, and from which no deviation is permitted if conformance with the document is to be claimed. Requirements are expressed by the auxiliary shall (or shall not for prohibition).

Recommendation

A recommendation is an expression, in the content of a document, that conveys a suggested possible choice or course of action deemed to be particularly suitable, without necessarily mentioning or excluding others. Recommendations are expressed by the auxiliary should (or should not for dissuasion).

Instruction

An instruction is expressed in the imperative mood and is used in order to convey an action to be performed. It can be subordinated to another provision, such as a requirement or a recommendation. It can also be used independently and is then to be regarded as a requirement.

Statement

A statement is an expression, in the content of a document, that conveys information. A statement can express permission, possibility or capability. Permission is expressed by the auxiliary may (its opposite being need not). Possibility and capability are expressed by the auxiliary can (its opposite being cannot).

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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).

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).

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

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 29, *Small tools*, Subcommittee SC 9, *Tools with defined cutting edges, holding tools, cutting items, adaptive items and interfaces*.

This third edition cancels and replaces the second edition ISO 26623-1:2014, which has been technically revised.

The main changes compared to the previous edition are as follows:

- size 80X is removed;
- Figure 1 is divided in 6 figures to achieve better readability;
- internal design is changed to fit medium-transfer unit referenced (ISO 22402-2);
- information about medium-transfer unit is added;
- dimensions for dynamical balancing by design when used are added in [Annex A](#);

A list of all parts in the ISO 26623 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.

Polygonal taper interface with flange contact surface —

Part 1: Dimensions and designation of shanks

1 Scope

This document specifies dimensions for polygonal taper interfaces with flange contact surface — polygon shanks for automatic and manual tool exchange to be applied on machine tools (e. g. turning machines, drilling machines, milling machines and turn/milling centres as well as grinding machines). A range of shank sizes is specified.

These shanks incorporate a grooved flange to enable automatic tool exchange. The clamping can be realized by a circular groove using clamping segments or internal screw threads using centre-bolts.

The torque is transmitted by form lock (polygon).

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 965-2, *ISO general purpose metric screw threads — Tolerances — Part 2: Limits of sizes for general purpose external and internal screw threads — Medium quality*

ISO 2768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

ISO 2768-2, *General tolerances — Part 2: Geometrical tolerances for features without individual tolerance indications*

ISO 22402-2, *Medium-transfer units for tool interfaces — Part 2: Transfer units for polygonal taper interfaces in accordance with ISO 26623*

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

4 Polygonal taper interface with flange contact surface

4.1 General

Tolerances for linear dimensions for features without individual tolerance indications shall be of tolerance class “m” in accordance with ISO 2768-1 and geometrical tolerances for features without individual tolerance indications shall be of tolerance class “K” in accordance with ISO 2768-2.

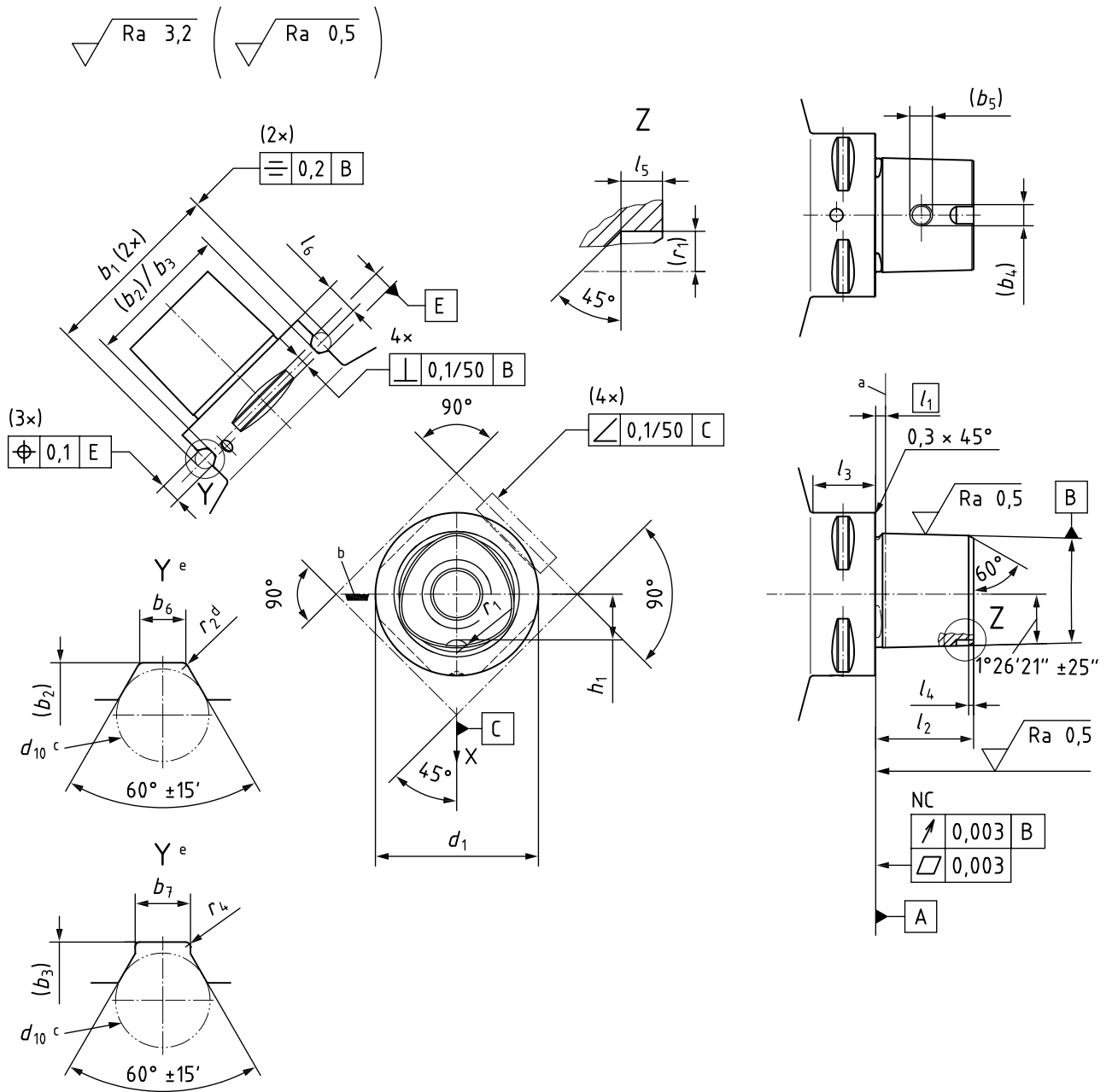
Tolerances for threads where tolerance is not stated shall be in accordance with ISO 965-2.

4.2 Polygon shanks

The dimensions of polygon shanks shall be in conformance with [Figure 1](#) to [Figure 7](#) and [Table 1](#). [Figure 6](#) only applies if chip hole bore is used.

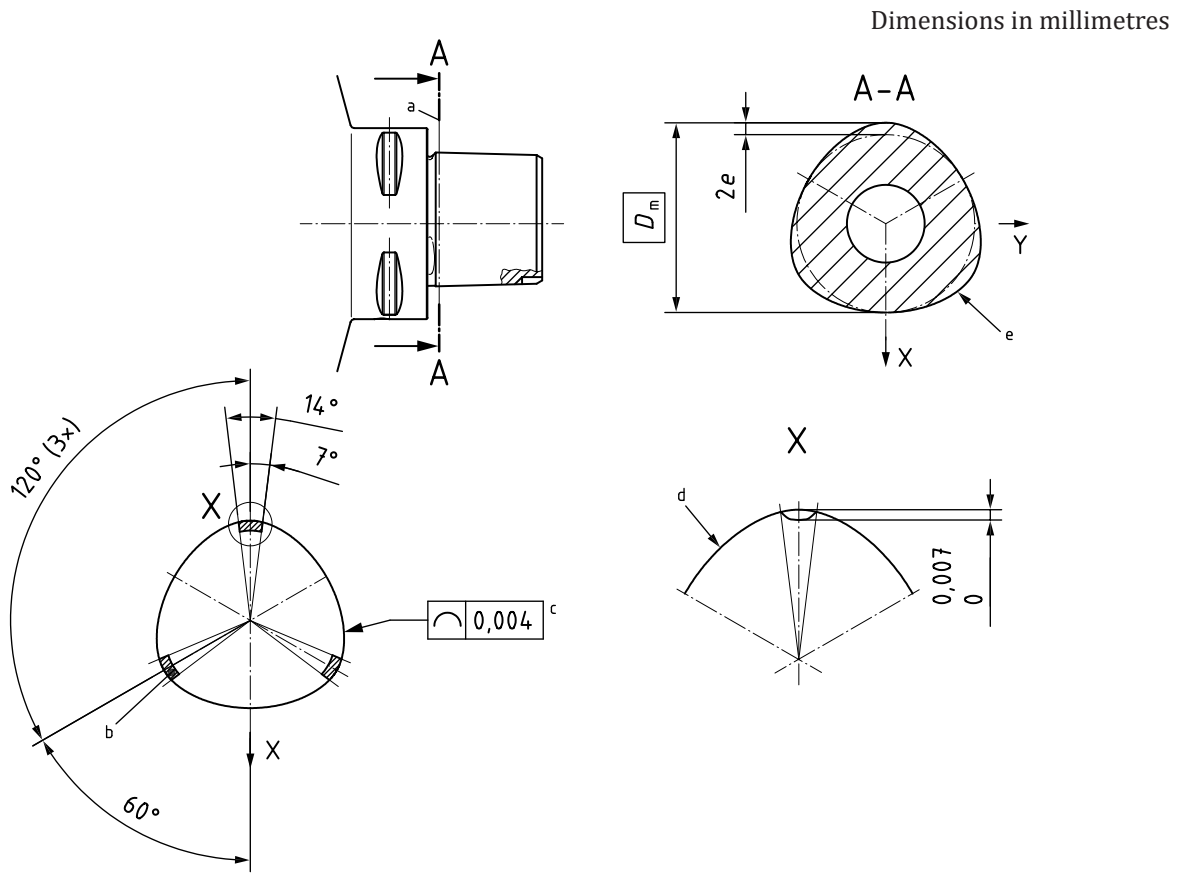
NOTE Additional recommendations for use and application (i.e. dynamical balancing by design) are given in [Annex A](#). Only in cases where stationary tools need extra room for clamping devices or coolant supply, dimensions specified in [Annex B](#) are valid.

Surface roughness in micrometres
Dimensions in millimetres



- a Gauge line.
- b Position of the cutting edge for right hand tools with single cutting edge.
- c Gauge pin.
- d r_2 or f_1 as alternative.
- e Detail Y shows the two alternatives.

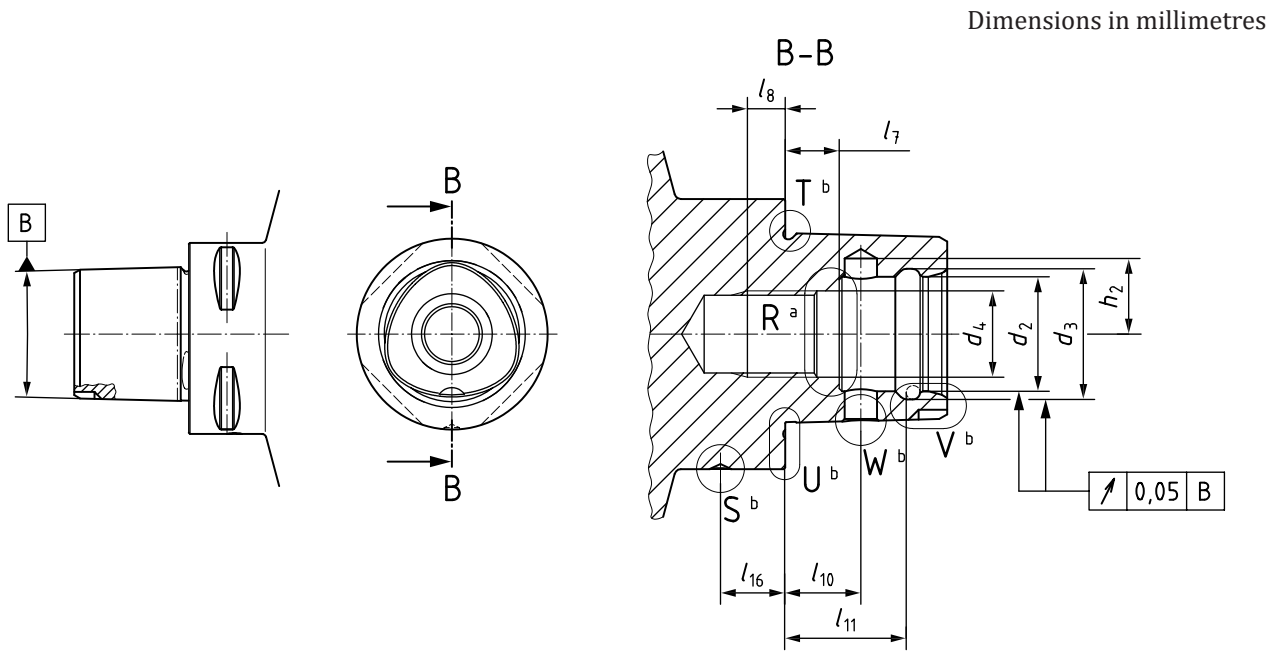
Figure 1 — External dimensions of polygon shanks



Key

- | | | | |
|---|--|---|--|
| a | Gauge line. | e | Polygon curve according to Figure 7 . |
| b | Form of profile from actual ground curve = $\begin{matrix} +0 \\ -0,007 \end{matrix}$ (sectioned areas). | X | x-axis for theoretical polygon curve according to Figure 7 |
| c | Theoretical polygon curve. | Y | y-axis for theoretical polygon curve according to Figure 7 |
| d | Actual ground curve. | | |

Figure 2 — Shape of polygon shanks



a See [Figure 5](#).

b See [Figure 4](#).

NOTE Details S, T, U, V and W are shown in [Figure 4](#).

Figure 3 — Dimensions of polygon shanks (overview)