
Cutting tool data representation and exchange —

Part 4: Reference dictionary for adaptive items

*Représentation et échange des données relatives aux outils
coupants —*

*Partie 4: Dictionnaire de référence pour les éléments relatifs aux
attachements*

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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*.

This third edition cancels and replaces the second edition (ISO/TS 13399-4:2014), which has been technically revised.

The main change is as follows:

- update of the classes and properties in line with the modifications in the cutting tool dictionary.

A list of all parts in the ISO 13399 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.

Introduction

This document defines the terms used for adaptive items. The purpose of this document is to provide a reference dictionary to support the use of the general information model defined in ISO 13399-1.

A cutting tool with defined cutting edges is used on a machine to remove material from a workpiece by a shearing action at the cutting edges of the tool. Cutting tool data that can be described by the ISO 13399 series include, but are not limited to, everything between the workpiece and the machine tool. Information about inserts (e.g. regular and irregular shaped replaceable cutting items), solid tools (e.g. solid drill and solid end mill), assembled tools (e.g. boring bars, indexable drills and indexable milling cutters), adaptors (e.g. milling arbor and drilling chuck), components (e.g. shims, screws and clamps) and their relationships can be represented by the ISO 13399 series. The principles of the ISO 13399 series are given in [Annex A](#), and possible assemblies of the components of a cutting tool are illustrated in [Figure A.1](#).

The objective of the ISO 13399 series is to provide the means to represent the information that describes cutting tools in a computer-sensible form that is independent from any particular computer system. The representation facilitates the processing and exchange of cutting tool data within and between different software systems and computer platforms and supports the application of this data in manufacturing planning, cutting operations, and the supply of tools. The nature of this description makes it suitable not only for neutral file exchange but also as a basis for implementing and sharing product databases and for archiving. The methods used for these representations are those developed by ISO/TC 184/SC 4 for the representation of product data by using standardized information models and reference dictionaries.

An information model is a formal specification of types of ideas, facts, and processes which together describes a portion of interest of the real world and which provides an explicit set of interpretation rules. Information is knowledge of ideas, facts, and/or processes. Data are symbols or functions that represent information for processing purposes. Data are interpreted to extract information by using rules for how that should be done and a dictionary to define the terms that identify the data. Everyone in a communication process is expected to use the same information model, the same set of explicit rules and the same dictionary in order to avoid misunderstanding. If an information model and its dictionary are written in a computer-sensible language, then there is the additional benefit that they can be computer processable.

An engineering information model is therefore a specification for data that establishes the meaning of that data in a particular engineering context. A model has to be developed by formal methods to ensure that it meets the needs of the situation that it represents. An engineering information model defines the information objects that represent the concepts in an engineering application, the attributes of the objects, their relationships, and the constraints that add further meaning. An information model is an abstract concept that can be used repeatedly for any example of the real-world situation that it represents. An instance of the model is produced when it is populated with the data items and their values that are applicable to a particular example of that situation.

This document uses the following International Standards developed by ISO/TC 184/SC 4:

- the EXPRESS language defined in ISO 10303-11 for defining the information model in ISO 13399-1;
- the file format for data exchange derived from the model and defined in ISO 10303-21;
- the data dictionary defined in the ISO 13584 series.

Each class, property, or domain of values of this application domain constitutes an entry of the reference dictionary defined in this document. It is associated with a computer-sensible and human-readable definition and with a computer-sensible identification. Identification of a dictionary entry allows unambiguous reference to it from any application that implements the information model defined in ISO 13399-1.

Definitions and identifications of dictionary entries are defined by means of standard data that consist of instances of the EXPRESS entity data types defined in the common dictionary schema, resulting from

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a joint effort between ISO/TC 184/SC 4 and IEC SC 3D, and in its extensions defined in ISO 13584-24 and ISO 13584-25.

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Cutting tool data representation and exchange —

Part 4: Reference dictionary for adaptive items

1 Scope

This document specifies a reference dictionary for adaptive items, together with their descriptive properties and domains of values.

This document specifies a reference dictionary containing:

- definitions and identifications of the classes of adaptive items, with an associated classification scheme;
- definitions and identifications of the data element types that represents the properties of adaptive items;
- definitions and identifications of domains of values for describing the above-mentioned data element types.

The following are within the scope of this document:

- standard data that represent the various classes of adaptive items;
- standard data that represent the various properties of adaptive items;
- standard data that represent domains of values used for properties of adaptive items;
- one implementation method by which the standard data defined in this document can be exchanged.

NOTE 1 The implementation method by which the standard data defined in this document can be exchanged is specified in ISO 10303-21.

The following are outside the scope of this document:

- specialized or expert knowledge in the design and use of cutting tools;
- rules to determine what information should be communicated;
- applications where these standard data can be stored or referenced;
- implementation methods other than the one defined in this document by which the standard data can be exchanged and referenced;
- information model for cutting tools;
- definitions of classes and properties for cutting items;
- definitions of classes and properties for tool items;
- definitions of classes and properties for assembly items;
- definitions of classes and properties for connection systems;
- definitions of classes and properties for reference systems.

NOTE 2 The information model for cutting tools is defined in ISO 13399-1.

NOTE 3 The definitions of classes and properties for cutting items, tool items, and assembly items are provided in ISO/TS 13399-2, ISO/TS 13399-3, and ISO/TS 13399-5.

NOTE 4 The definitions of classes and properties for connection systems and reference systems are provided in ISO/TS 13399-50.

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/TS 13399-50, *Cutting tool data representation and exchange — Part 50: Reference dictionary for reference systems and common concepts*

ISO/TS 13399-100, *Cutting tool data representation and exchange — Part 100: Definitions, principles and methods for reference dictionaries*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/TS 13399-50, ISO/TS 13399-100 and the following apply.

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

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

3.1 applicable property

property (3.17) that is defined for some family of items and that applies to any member of this family

[SOURCE: ISO 13584-24:2003, 3.3, modified — "family of parts" has been replaced by "family of items"; "shall apply" has been replaced by "applies"; "any part" has been replaced by "any member"; the EXAMPLE has been removed.]

3.2 basic semantic unit

entity (3.10) that provides an absolute and universally unique identification of a certain object of the application domain that is represented as a *dictionary* (3.9) element

[SOURCE: ISO 13584-42:2010, 3.4, modified — The 3 EXAMPLES and note 1 to entry have been removed.]

3.3 chip

material removed from a *workpiece* (3.19) by a cutting process

3.4 cutting tool

device or assembly of items for removing material from a *workpiece* (3.19) through a shearing action at the defined cutting edge or edges of the device

Note 1 to entry: A cutting tool can be the assembly of one or more adaptive items, a tool item, and several cutting items on a tool item. See [Figure A.1](#).

[SOURCE: ISO 13399-1:2006, 3.1]

3.5**data**

representation of *information* (3.13) in a formal manner suitable for communication, interpretation, or processing by human beings or computers

[SOURCE: ISO 10303-1:2021, 3.1.29]

3.6**data element type**

unit of *data* (3.5) for which the identification, description, and value representation have been specified

[SOURCE: ISO 13584-42:2010, 3.13, modified — Note 1 to entry has been removed.]

3.7**data exchange**

storing, accessing, transferring, and archiving of *data* (3.5)

[SOURCE: ISO 10303-1:2021, 3.1.31]

3.8**data type**

domain of values

[SOURCE: ISO 10303-11:2004, 3.3.5]

3.9**dictionary**

table consisting of a series of entries with one meaning corresponding to each entry in the dictionary and one dictionary entry identifying a single meaning

Note 1 to entry: In the ISO 13399 series, a dictionary is a formal and computer-sensible representation of an *ontology* (3.16).

[SOURCE: ISO 13584-511:2006, 3.1.9, modified — The original notes 1 to 3 to entry have been replaced by a new note 1 to entry.]

3.10**entity**

class of *information* (3.13) defined by its attributes which establishes a domain of values defined by common attributes and constraints

3.11**entity data type**

representation of an *entity* (3.10)

3.12**implementation method**

means for computers to exchange *data* (3.5)

3.13**information**

facts, concepts, or instructions

[SOURCE: ISO 10303-1:2021, 3.1.41]

3.14**information model**

formal model of a bounded set of facts, concepts, or instructions to meet a specific requirement

3.15**machine side**

identification of a direction pointing towards the machine

3.16

ontology

explicit and consensual specification of concepts of an application domain independent of any use of these concepts

Note 1 to entry: In the ISO 13399 series, a *dictionary* (3.9) is the formal and computer-sensible representation of ontology.

[SOURCE: ISO 13584-511:2006, 3.1.20, modified — In note 1 to entry, the reference to "ISO 13584" has been replaced by "the ISO 13399 series".]

3.17

property

defined parameter suitable for the description and differentiation of products

[SOURCE: ISO 13584-42:2010, 3.37, modified — Notes 1 to 5 to entry have been removed.]

3.18

visible property

property (3.17) that has a definition meaningful in the scope of a given characterization class but does not necessarily apply to the various products belonging to this class

[SOURCE: ISO 13584-42:2010, 3.46]

3.19

workpiece

object on which a cutting action is performed

[SOURCE: ISO/TS 13399-2:2021, 3.21]

3.20

workpiece side

identification of a direction pointing towards the *workpiece* (3.19)

Note 1 to entry: The xzw-plane, the xyw-plane, and the yzw-plane are mutually perpendicular.

4 Abbreviated terms

BSU basic semantic unit

DET data element type

5 Representation of the ontology concepts as dictionary entries

5.1 General

The generic family of adaptive items is divided into several simple families and classes determined by their main function.

NOTE An adaptive item can have one or more than one function.

A concept in the ontology is identified by a name in lower-case characters. The name of a class that represents the concept in the dictionary is identified by lower-case characters with multiple words joined by an underscore character.

EXAMPLE "round shape conversion" is the name for a function of an adaptive item. "round_shape_conversion" is the identifier of the class in the dictionary that represents the concept.

Some of the definitions of properties that are applicable to adaptive items are defined in terms of a primary coordinate system. The coordinate system is the same for adaptive items, cutting items, and

tool items and is defined in ISO/TS 13399-50. The applications of this system to adaptive items are described in this document.

Each entry in the dictionary, either a class or a property, is identified with a numerical code (BSU) that is generated at random when the dictionary is compiled. A BSU can be made unique by the addition of a code that is a reference to the supplier of the dictionary. Each classified item in the following subclasses is associated with its definition from the dictionary.

The ISO 13399 series shall follow the principles in [Annex A](#). The structure of the classification is summarized in [Annex B](#). The complete definitions of the adaptive item classes are provided in [Annex C](#). The properties applicable to adaptive items are defined in [Annex D](#).

5.2 adaptive_item_type

5.2.1 General

Family of objects for the assembly of a cutting tool classified by their main function.

NOTE An adaptive item can have one or more functions.

adaptive_item_type has the following subclasses:

- collet;
- converter;
- driver;
- extender;
- reducer.

5.2.2 collet

A collet is a segmented band that can be expanded or contracted to grip a shaft.

NOTE 1 This class is for general engineering use and is not specific to cutting tools.

NOTE 2 This class can become an item_class_case_of an entry in another dictionary conforming to the ISO 13584 series.

5.2.3 converter

A converter is an adaptive item with a different connection type, style, and size on the machine side from the workpiece side.

5.2.4 driver

A driver is an adaptive item with the capability to rotate a cutting tool for cutting operations not on the main machine spindle axis.

5.2.5 extender

An extender is an adaptive item that increases the length of an assembled cutting tool.

NOTE The adaptive item has the same connection type, style, and size on both the machine side and workpiece side.

5.2.6 reducer

A reducer is an adaptive item that diminishes the size of a connection in an assembled cutting tool.

NOTE The adaptive item has the same connection type and style on the machine side and workpiece side.

The connections on either side of an item shall be different in gender, i.e. male and female.

5.3 Reference system for adaptive items

5.3.1 General

The primary coordinate system used for adaptive items in this document is defined in ISO/TS 13399-50. The additional reference entities relevant for adaptive items are:

- `prismatic_adaptive_item_position`;
- `round_adaptive_item_position`.

`adaptive_item_type` has the following simple families of items as subclasses:

- `dependency`;
- `mirror plane`;
- `mounting coordinate system`;
- `coordinate system workpiece side`;
- `primary coordinate system`;
- `xy-plane`;
- `xyw-plane`;
- `xz-plane`;
- `xzw-plane`;
- `yz-plane`;
- `yzw-plane`.

5.3.2 `prismatic_adaptive_item_position`

A `prismatic_adaptive_item_position` identifies the location of a prismatic adaptive item where:

- the base of the adaptive item shall be coplanar with the XZ-plane;
- the normal for the base of the item shall be in the -Y direction;
- the rear backing surface shall be coplanar with the YZ-plane;
- the normal for the rear backing surface shall be in the -X direction;
- the end of the item shall be coplanar with the XY-plane;
- the normal for the end of the item shall be in the -Z direction;
- if with a bore, then the vector of the bore of the item that points in the Z direction shall also point towards the workpiece side.

NOTE The conditions listed above apply to right-handed adaptive items. Left-hand items are defined as for right-hand items but mirrored through the YZ-plane.

5.3.3 round_adaptive_item_position

A round_adaptive_item_position identifies the location of a round adaptive item where:

- the axis of the adaptive item shall be colinear with the Z axis;
- the vector of the shank that points in the Z direction shall also point towards the workpiece side;
- the drive slots or clamping flats if present shall be parallel with the XZ-plane;
- the contact surface of the coupling, the gauge plane, or the end of the cylindrical shank shall be coplanar with the XY-plane;
- if with a bore, then the vector of the bore of the item that point in the Z direction shall also point towards the workpiece side.

NOTE The conditions listed above apply to right-handed adaptive items. Left-handed adaptive items are defined as for right-handed items but mirrored though the YZ-plane.

5.4 adaptive_item_feature

- torque bracing.

5.5 General feature types

- adjustment:
 - adjustment axial;
 - adjustment radial.
- bolt hole circle;
- coolant supply;
- cutting data association;
- flange;
- keyway;
- locking mechanism;

6 Properties for adaptive items

The properties of adaptive items are defined in [Annex D](#), where the association of a property with a class is specified. In the compilation of the dictionary, all properties are visible properties at the root class of the dictionary and are made applicable properties at the class level where they apply. The names of properties that can be applicable for adaptive item types, with their identification codes (BSU), are shown in [Table 1](#). The order of names in the table should be read in rows from left to right.

NOTE The BSU can be made unique by the addition of the supplier of the dictionary as a prefix to the identification code.

EXAMPLE The unique BSU for adaptor clamp would be: 0112/1///13399_2-71CED04F3300A for version two of the dictionary.

Table 1 — Names of properties for adaptive items

Property name	Symbol	Identification code (BSU)
adaptor clamp	ADC	71CED04F3300A

Table 1 (continued)

Property name	Symbol	Identification code (BSU)
adaptor tool clamp	ATC	71CED04F920EC
adjusting screw protrusion	ASP	71EAC0F0EFDB6
balance device	BLDEV	726E3E971B954
balance quality code	BLQ	71DF151EA5CF1
balancing method code	BLMC	71EAC0CAB861F
body angle workpiece side	BAWS	72C4A71D1B94B
body diameter	BD	71ED6A9AF7D1D
body diameter maximum	BDX	71D08462F8185
body half taper angle	BHTA	71EAC472BD116
body height	HTB	71EBB332C60EB
body length	LB	71ED6AA478A3D
body length maximum	LBX	71DCD3B16750B
body material code	BMX	71DF1523224D8
body section count	BSC	72C5C9C07963B
body taper end diameter	BTED	726E3E85D4D0A
body taper end length	BTEL	71EADEA2BF8DF
body width	WB	71EBB33230236
bracing	BRC	728C565985774
brand	BRAND	728ECFD658014
cartridge size code	CASC	71DF1523EE184
clamping force maximum	MXC	71CED05149532
clamping length machine side	LSCMS	71EBAF896BE9A
clamping length maximum machine side	LSCXMS	71ED6E54B15C4
clamping length minimum machine side	LCSNMS	71EBB339ED2BD
clamping length minimum workpiece side	LSCNWS	72E33DEACC133
clamping length workpiece side	LSCWS	72996F3DC8E8A
clamping method connection interface	CMCS	72C96D143532C
clamping width	WSC	71EBAF85006BD
collet length	LCOL	72724DF38CB41
collet slope type	COLST	726E4223BA018
connection arrangement workpiece side	CONARWS	728C565E652E2
connection code form output side	CCFOP	727212846FDA5
connection code form type machine side	CCFMS	726E3E84DD902
connection code form type workpiece side	CCFWS	726E3E8558953
connection code input side	CCIP	728C565EDCAD
connection code machine side	CCMS	71D102AE3B252
connection code output side	CCOP	7272128615A59
connection code type machine side	CCTMS	726E3E82E53A6
connection code type output side	CCTOS	727212869DDE2
connection code type workpiece side	CCTWS	726E3E83D7357
connection code workpiece side	CCWS	71D102AE8A5A9
connection count workpiece side	CCONWS	71EDD2C17746F
connection depth	CBDP	71EAC48CAD407
connection diameter machine side	DCONMS	71EBDBF5060E6

Table 1 (continued)

Property name	Symbol	Identification code (BSU)
connection diameter maximum workpiece side	DCONXWS	72807E35DE582
connection diameter minimum workpiece side	DCONNWS	72807E3576AAE
connection diameter workpiece side	DCONWS	7272379A5F325
connection protruding length	LPCON	726E3E863255C
connection retention knob thread size	CRKS	71CF298A76B66
connection size code (deprecated)	CZC	71FC193318002
connection size code machine side	CZCMS	727C2BCCC5596
connection size code maximum workpiece side	CZCXWS	72807E36B6C92
connection size code minimum workpiece side	CZCNWS	72807E366B041
connection size code output side	CZCOP	727233FBAC835
connection thread nominal size machine side	THSZMS	727BE508AAB46
connection thread nominal size workpiece side	THSZWS	727BE5090F9AA
connection unit base precision machine side	CUBPMS	7280553C9A894
connection unit base precision maximum workpiece side	CUBPXWS	729A91AC5433F
connection unit base precision minimum workpiece side	CUBRNWS	729A91ABE3690
connection unit base precision workpiece side	CUBPWS	7280605902AD1
connection unit basis	CUB	71ED6E16D5978
contact surface diameter machine side	DCSFMS	71D087D97FCE3
contact surface diameter workpiece side	DCSFWS	71EAC0DD5D650
coolant supply property	CSP	71EBB342CC751
cutting diameter cutting tool maximum	DCCTX	727237959C51F
damping property	DPC	71CED03D70452
data chip provision	DCP	71CF29869CA0F
designation	DES	728ECFD4A0629
diameter access hole	DAH	71EBB2F865924
diameter collet length clamp	DCLC	7272379935018
diameter collet offset bore	DCOB	7272379998737
distance to face	LFSF	727BE4DF9AF4A
drive method	DRVMETH	72807E232B06B
drive size	DRVSC	71E03063ABD6E
driver slot width	DRVSLW	728C5662F4DC6
driving key type	DKTY	71EC5E1ECC776
functional diameter	DFC	7272379AD9C85
functional height	HF	71CF29994E737
functional length	LF	71DCD39338974
functional length minimum	LFN	71EBC1EB8456A
functional width	WF	71CF29984CDA7
gauge diameter distance	LDG	727BA921CDF0C
groove width	GW	72724DEA4CF84
guide diameter	DGUI	726E3EB45D478
guide length	LGUI	726E3EB54F909
height adjustability	ADJHT	726E3E95EEC5D
interlocking capability	ILC	727C2F58CB275
item style code	ISYC	726E424FE9EC2

Table 1 (continued)

Property name	Symbol	Identification code (BSU)
kappa	KAP	71ED6E4A7EFBA
keyway property	KYP	71DF5C0761888
length collet clamp	LCLC	72724DF3005D8
length collet offset bore	LCOB	72724DF34868D
length compensation compression	LCOMP	726E3E94CFA31
length compensation tension	LTENS	726E3E95600FD
lock nut height	HLN	72724DF00D7E0
maximum overhang	OHX	72C4A723AD619
mounting hole count	NOH	726E3E9FCA6C2
overall height	OAH	71D078EB73E87
overall length	OAL	71D078EB7C086
overall width	OAW	71CF299257986
overhang minimum	OHN	72719B21DF5DB
overload clutch	OLCL	728C566189EBC
phi	PHI	71ED6E4AE850B
presetting torque	PSETTO	728C566231A05
prism angle lower	PRMALO	726E3E9EE42A5
prism angle upper	PRMAUP	726E3E9F44AA7
prism height	HTPRM	726E3E9993CE7
prism width	WTHPRM	726E3E9E6A729
protruding length	LPR	71DCD394BB20E
radial height	RADH	726E3E86B5284
radial height chamfer angle lower	RHCAL	726E3E8E6CEE3
radial height chamfer angle upper	RHCAU	726E3E8F2AE05
radial height chamfer distance lower	RHCDL	726E3E8F925AC
radial height chamfer distance upper	RHCDU	726E3E9005480
radial offset height	RADHOF	726E3E8AF37E4
radial offset width	RADWOF	726E3E8E0AE97
radial width	RADW	726E3E8DA5589
reversed rotation direction output side	RIDOP	728C5660F4D6B
rho	RHO	71ED6E4B254E5
rotational speed maximum	RPMX	71DF153A691F2
shank height	H	71CF29883E014
shank length	LS	71CF298870946
shank width	B	71CF298751FCF
side	SIDE	71EBDBF130AE6
spanner flat length	SFL	727BE4F24A271
standard letter	STDLET	72807E1CC4B50
swing angle 2 max	SWANG2X	727BE4FC81BE2
swing angle 3 max	SWANG3X	727BE4FCF2D1B
swing angle 4 max	SWANG4X	727BE4FDB0EE6
swing angle max	SWANGX	727BE4FC198DB
swing arm height	SWAH	727BE4FA45AF9
swing arm length	SWAL	727BE4FAFB5D9

Table 1 (continued)

Property name	Symbol	Identification code (BSU)
swing arm width	SWAW	727BE4FB445A3
swing radius	SWRAD	727BE4FBB782A
taper angle	TA	71EAC4A2B6544
taper angle distance	TAD	727BE507BD9FC
taper length	TPL	726E422B45872
tolerance class connection diameter workpiece side	TCDCONWS	727ED91B5AA66
tool assembly height	HTA	728B074BFC2AD
tool assembly length	LTA	728B074A39EBC
tool assembly width	WTA	728B074B7B0B5
tool change method code	TMCM	726E3EA131DFA
tool changer interference diameter maximum	DIX	71CF298A3A99A
tool changer interference length minimum	LIN	71CF2989AF0E0
tool style code	TSYC	71D078F6C68
torque bracing code	TQBRC	728C566356A00
torque bracing property	TQBR	727BE50D71677
torque maximum	TQX	728C5663D2113
transmission ratio	TMR	728C566854FD5
transmission torque	TMTQ	728C56689ACAD
turret model code	TMC	728C5668CB6F9
unified number	UNNO	726E3E6073B53
unit system	UST	71EBBA9ED6C0A
usable length maximum	LUX	71CF2992BDBCC

Annex A (normative)

Principles of the ISO 13399 series

A.1 General

The ISO 13399 series is intended for use by, among others, tool producers and vendors, manufacturers, and developers of manufacturing software. The ISO 13399 series provides a common structure for exchanging data about cutting tools with defined cutting edges. The ISO 13399 series is intended to provide for, or improve, several manufacturing activities, including:

- the integration and sharing of data for cutting tools and assemblies between different stages for the manufacturing cycle and between different software applications;
- the direct import of data from cutting tool suppliers into a customer's database;
- the management of cutting tool information from multiple sources and for multiple applications.

Different companies use different business models that determine their need for the communication of information about their products. For example, one cutting tool manufacturer can regrind its customers' tools while another can allow its customers to do the regrinding and provide the information to enable them to do so. Therefore, the two cutting tool manufacturers can have a different set of cutting tool properties to communicate using the information model and dictionaries provided in the ISO 13399 series.

The ISO 13399 series defines only the information that can be communicated, but does not specify what information shall be communicated.

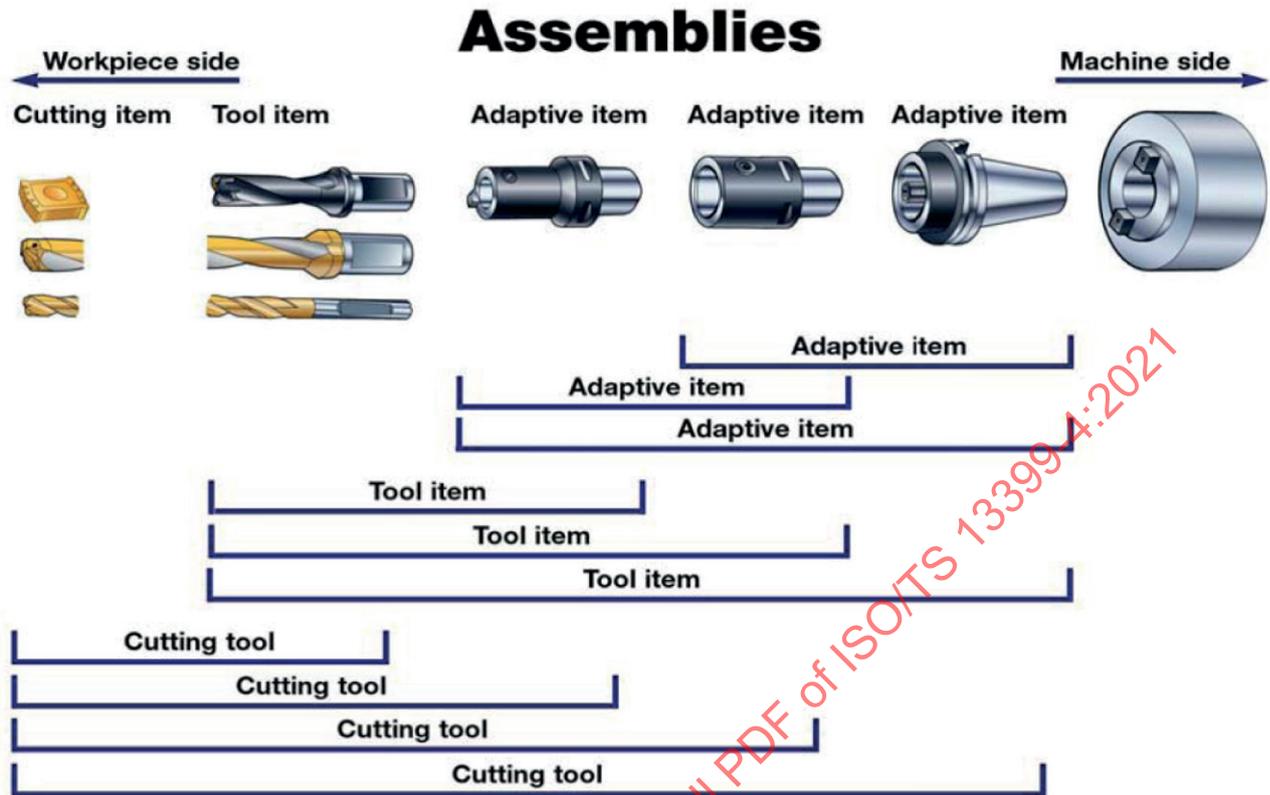


Figure A.1 — Possible assemblies of the components of a cutting tool

Since the content of those dictionaries evolves according to industrial innovations and constant improvement of technology in cutting tools, a Maintenance Agency has been established for the purposes of

- correcting errors in the entries of existing classes and properties,
- adding new properties to existing classes,
- adding new classes and their properties,
- managing the status of those properties and classes, and
- migrating the dictionary to subsequent editions of the ISO 13399 series.

The name, address and contact information of the Maintenance Agency is available at: https://www.iso.org/maintenance_agencies.html.

The reference dictionaries are available in the form of EXPRESS files on the website of the Maintenance Agency. These files are considered complementary to this document; they can be freely downloaded and used for cutting tool data representation and exchange.

The following permission notice and disclaimer shall be included in all copies of this EXPRESS schema ("the Schema"), and derivations of the Schema:

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THIS SCHEMA HAS BEEN MODIFIED FROM THE SCHEMA DEFINED IN THE ISO 13399 SERIES, AND SHOULD NOT BE INTERPRETED AS COMPLYING WITH THAT INTERNATIONAL STANDARD.

A.2 Information object registration

A.2.1 Document identification

In order to provide for unambiguous identification of an information object in an open system, the object identifier:

{iso technical specification 13399 part (4) version (3)}

is assigned to this part of ISO 13399. The meaning of this value is defined in ISO/IEC 8824-1 and is described in ISO 13584-1.

A.2.2 Dictionary identification

The dictionary defined in this document is assigned the object identifier:

{iso standard 13399 part (4) version (3) object (2) adaptive items (2)}

Annex B (informative)

Classification table

[Table B.1](#) shows the classification structure of the generic families in the dictionary with an expanded structure for the classes of adaptive item types. The purpose of [Table B.1](#) is to show the relationships between the classes of cutting items and the other classes in the ISO 13399 series.

NOTE [Annex C](#) contains the definition of all the classes that are relevant to adaptive items and definitions of those classes of reference systems that are used in the definition of the properties of adaptive item types.

Table B.1 — Classification table

Classification structure		Parent	BSU
cutting tool library			71CE7A72B6DA7
	adaptive item type	71CE7A72B6DA7	71EAD37F18F34
	collet	71CE7A72B6DA7	726F59BDC3B08
	converter	71CE7A72B6DA7	71EAD3871D313
	driver	71CE7A72B6DA7	71EAD388173EE
	extender	71CE7A72B6DA7	71EEBDADB63BE
	reducer	71CE7A72B6DA7	71EAD385E51A0
	adaptive feature type	71EAD37F18F34	727BE50E057F1
	torque bracing	71EAD37F18F34	727BE50E9FE57
	adjustment	71CE7A72B6DA7	71ED884159C90
	assembly item type	71CE7A72B6DA7	71CE7A795C05C
	bolt hole circle	71CE7A72B6DA7	71E02520881F1
	connection interface feature	71CE7A72B6DA7	71DF8C37D9115
	coolant supply	71CE7A72B6DA7	71DF8C3C065EB
	cutting data association	71CE7A72B6DA7	72719B234F9E0
	cutting item feature	71CE7A72B6DA7	71DD6C82F72DA
	cutting item type	71CE7A72B6DA7	71D1AA6C8FC75
	cutting operation	71CE7A72B6DA7	71DFF83D21D50
	cutting tool	71CE7A72B6DA7	71CE7A7A5038B
	dependency	71CE7A72B6DA7	727CE22063F8E
	flange	71CE7A72B6DA7	71EC5A767182E
	keyway	71CE7A72B6DA7	71DF5C026BCE7
	locking mechanism	71CE7A72B6DA7	71EBAB85BB5FA
	reference system	71CE7A72B6DA7	71CF2968F7A9E
	runout axial	71CE7A72B6DA7	71EDD2B84143C
	runout radial	71CE7A72B6DA7	71EDD2B858274
	tool item feature	71CE7A72B6DA7	71DD70376771D
	tool item type	71CE7A72B6DA7	71E01A004C775
	tool thread external	71CE7A72B6DA7	71FC1D22BF4CD
	tool thread internal	71CE7A72B6DA7	71FC1D25097D7

Annex C (informative)

Class definitions

C.1 Content and presentation

The content of this annex is limited to the classes of adaptive items and the reference systems required defining the properties of these classes.

The layout of the information for each class in this annex is:

BSU code–version number Revision number

Preferred name Short name

Definition

NOTE

REMARKS

Subclasses:

Properties:

C.2 Classes

71EAD37F18F34-003 003

adaptive item type ait

Family of objects for the assembly of a cutting tool classified by their main function

NOTE An adaptive item can have one or more functions

Subclasses:

71EAD388173EE driver

71EAD3871D313 converter

726F59BDC3B08 collet

727BE50E057F1 adaptive feature type

71EEBDADB63BE extender

71EAD385E51A0 reducer

Properties:

71CED04F3300A adaptor clamp

71CED04F920EC adaptor tool clamp

71CF29862B277 shank diameter (deprecated)

71CF29869CA0F data chip provision
 71CF29994E737 functional height
 71D078EB7C086 overall length
 71D078F6C68 tool style code
 71D102AE8A5A9 connection code workpiece side
 71DCD39338974 functional length
 71DCD394BB20E protruding length
 71DF1523224D8 body material code
 71DF153A691F2 rotational speed maximum
 71EBAF896BE9A clamping length machine side
 71EBB2F865924 diameter access hole
 71EBB339ED2BD clamping length minimum machine side
 71EBB342CC751 coolant supply property
 71EBBA9ED6C0A unit system
 71EBDBF130AE6 side
 71EBDBF5060E6 connection diameter machine side
 71ED6E16D5978 connection unit basis
 71ED6E54B15C4 clamping length maximum machine side
 71FC193318002 connection size code (deprecated)
 726E3E82E53A6 connection code type machine side
 726E3E83D7357 connection code type workpiece side
 726E3E84DD902 connection code form type machine side
 726E3E8558953 connection code form type workpiece side
 726E3E85D4D0A body taper end diameter
 726E3E863255C connection protruding length
 726E3E86B5284 radial height
 726E3E8AF37E4 radial offset height
 726E3E8DA5589 radial width
 726E3E8E0AE97 radial offset width
 726E3E8E6CEE3 radial height chamfer angle lower
 726E3E8F2AE05 radial height chamfer angle upper
 726E3E8F925AC radial height chamfer distance lower
 726E3E9005480 radial height chamfer distance upper

ISO/TS 13399-4:2021(E)

726E3E95EEC5D height adjustability
726E3E971B954 balance device
726E3E9993CE7 prism height
726E3E9E6A729 prism width
726E3E9EE42A5 prism angle lower
726E3E9F44AA7 prism angle upper
726E3E9FCA6C2 mounting hole count
726E3EA07257B pendulum device property (deprecated)
726E3EA131DFA tool change method code
726E424FE9EC2 item style code
72719B21DF5DB overhang minimum
7272379AD9C85 functional diameter
727C2F58CB275 interlocking capability
727ED91B5AA66 tolerance class connection diameter workpiece side
72807E1CC4B50 standard letter
728B074A39EBC tool assembly length
728B074B7B0B5 tool assembly width
728B074BFC2AD tool assembly height
728ECFD4A0629 designation
728ECFD658014 brand
72996F3DC8E8A clamping length workpiece side
72C4A71D1B94B body angle workpiece side
72C4A723AD619 maximum overhang
72C5C9C07963B body section count
72C96D143532C clamping method connection interface

726F59BDC3B08-003 002

collet collet

Segmented band that can be expanded or contracted to grip a shaft

Properties:

71CED04F3300A adaptor clamp
71CED04F920EC adaptor tool clamp
71CF29862B277 shank diameter (deprecated)

71CF29869CA0F data chip provision
 71CF29994E737 functional height
 71D078EB7C086 overall length
 71D078F6C68 tool style code
 71D102AE8A5A9 connection code workpiece side
 71DCD39338974 functional length
 71DCD394BB20E protruding length
 71DF1523224D8 body material code
 71DF153A691F2 rotational speed maximum
 71EAC4A2B6544 taper angle
 71EBAF896BE9A clamping length machine side
 71EBB2F865924 diameter access hole
 71EBB339ED2BD clamping length minimum machine side
 71EBB342CC751 coolant supply property
 71EBBA9ED6C0A unit system
 71EBDBF130AE6 side
 71EBDBF49F96C connection bore diameter minimum (deprecated)
 71EBDBF4D0F49 connection bore diameter maximum (deprecated)
 71EBDBF5060E6 connection diameter machine side
 71ED6E16D5978 connection unit basis
 71ED6E54B15C4 clamping length maximum machine side
 71FC193318002 connection size code (deprecated)
 726E3E6073B53 unified number
 726E3E82E53A6 connection code type machine side
 726E3E83D7357 connection code type workpiece side
 726E3E84DD902 connection code form type machine side
 726E3E8558953 connection code form type workpiece side
 726E3E85D4D0A body taper end diameter
 726E3E863255C connection protruding length
 726E3E86B5284 radial height
 726E3E8AF37E4 radial offset height
 726E3E8DA5589 radial width
 726E3E8E0AE97 radial offset width

ISO/TS 13399-4:2021(E)

726E3E8E6CEE3 radial height chamfer angle lower
726E3E8F2AE05 radial height chamfer angle upper
726E3E8F925AC radial height chamfer distance lower
726E3E9005480 radial height chamfer distance upper
726E3E95EEC5D height adjustability
726E3E971B954 balance device
726E3E9993CE7 prism height
726E3E9E6A729 prism width
726E3E9EE42A5 prism angle lower
726E3E9F44AA7 prism angle upper
726E3E9FCA6C2 mounting hole count
726E3EA07257B pendulum device property (deprecated)
726E3EA131DFA tool change method code
726E3EB45D478 guide diameter
726E3EB54F909 guide length
726E4223BA018 collet slope type
726E422B45872 taper length
726E424FE9EC2 item style code
72719B21DF5DB overhang minimum
7272379935018 diameter collet length clamp
7272379998737 diameter collet offset bore
7272379AD9C85 functional diameter
72724DEA4CF84 groove width
72724DF3005D8 length collet clamp
72724DF34868D length collet offset bore
72724DF38CB41 collet length
727BA921CDF0C gauge diameter distance
727BE4DF9AF4A distance to face
727BE4F24A271 spanner flat length
727BE507BD9FC taper angle distance
727C2F58CB275 interlocking capability
727ED91B5AA66 tolerance class connection diameter workpiece side
72807E1CC4B50 standard letter

728B074A39EBC tool assembly length
 728B074B7B0B5 tool assembly width
 728B074BFC2AD tool assembly height
 728ECFD4A0629 designation
 728ECFD658014 brand
 72996F3DC8E8A clamping length workpiece side
 72C4A71D1B94B body angle workpiece side
 72C4A723AD619 maximum overhang
 72C5C9C07963B body section count
 72C96D143532C clamping method connection interface

71EAD3871D313-003 003**converter cnvtr**

Adaptive item with a different connection type, style, and size on the machine side from the workpiece side

Properties:

71CED03D70452 damping property
 71CED04F3300A adaptor clamp
 71CED04F920EC adaptor tool clamp
 71CED05149532 clamping force maximum
 71CF29862B277 shank diameter (deprecated)
 71CF29869CA0F data chip provision
 71CF298751FCF shank width
 71CF29883E014 shank height
 71CF298870946 shank length
 71CF2989AF0E0 tool changer interference length minimum
 71CF298A3A99A tool changer interference diameter maximum
 71CF298A76B66 connection retention knob thread size
 71CF299257986 overall width
 71CF2992BDBCC usable length maximum
 71CF29984CDA7 functional width
 71CF29994E737 functional height
 71D078EB73E87 overall height
 71D078EB7C086 overall length

ISO/TS 13399-4:2021(E)

71D078FBF6C68 tool style code
71D08462F8185 body diameter maximum
71D087D97FCE3 contact surface diameter machine side
71D102AE8A5A9 connection code workpiece side
71DCD39338974 functional length
71DCD394BB20E protruding length
71DCD3B16750B body length maximum
71DF151EA5CF1 balance quality code
71DF1523224D8 body material code
71DF1523EE184 cartridge size code
71DF153A691F2 rotational speed maximum
71DF5C0761888 keyway property
71E01D92C41E8 connection bore diameter (deprecated)
71EAC0CAB861F balancing method code
71EAC0DD5D650 contact surface diameter workpiece side
71EAC0F0EFDB6 adjusting screw protrusion
71EAC472BD116 body half taper angle
71EAC48CAD407 connection depth
71EADEA2BF8DF body taper end length
71EBAF85006BD clamping width
71EBAF896BE9A clamping length machine side
71EBB2F865924 diameter access hole
71EBB33230236 body width
71EBB332C60EB body height
71EBB339ED2BD clamping length minimum machine side
71EBB342CC751 coolant supply property
71EBBA9ED6C0A unit system
71EBC1EB8456A functional length minimum
71EBDBF130AE6 side
71EBDBF49F96C connection bore diameter minimum (deprecated)
71EBDBF4D0F49 connection bore diameter maximum (deprecated)
71EBDBF5060E6 connection diameter machine side
71EC5E1ECC776 driving key type

71ED6A9AF7D1D body diameter
 71ED6AA478A3D body length
 71ED6E16D5978 connection unit basis
 71ED6E4A7EFBA kappa
 71ED6E4AE850B phi
 71ED6E4B254E5 rho
 71ED6E54B15C4 clamping length maximum machine side
 71EDD2C17746F connection count workpiece side
 71FC193318002 connection size code (deprecated)
 726E3E82E53A6 connection code type machine side
 726E3E83D7357 connection code type workpiece side
 726E3E84DD902 connection code form type machine side
 726E3E8558953 connection code form type workpiece side
 726E3E85D4D0A body taper end diameter
 726E3E863255C connection protruding length
 726E3E86B5284 radial height
 726E3E8AF37E4 radial offset height
 726E3E8DA5589 radial width
 726E3E8E0AE97 radial offset width
 726E3E8E6CEE3 radial height chamfer angle lower
 726E3E8F2AE05 radial height chamfer angle upper
 726E3E8F925AC radial height chamfer distance lower
 726E3E9005480 radial height chamfer distance upper
 726E3E94CFA31 length compensation compression
 726E3E95600FD length compensation tension
 726E3E95EEC5D height adjustability
 726E3E971B954 balance device
 726E3E9993CE7 prism height
 726E3E9E6A729 prism width
 726E3E9EE42A5 prism angle lower
 726E3E9F44AA7 prism angle upper
 726E3E9FCA6C2 mounting hole count
 726E3EA07257B pendulum device property (deprecated)

726E3EA131DFA tool change method code
726E424FE9EC2 item style code
72719B21DF5DB overhang minimum
7272379AD9C85 functional diameter
727C2F58CB275 interlocking capability
727ED91B5AA66 tolerance class connection diameter workpiece side
72807E1CC4B50 standard letter
728B074A39EBC tool assembly length
728B074B7B0B5 tool assembly width
728B074BFC2AD tool assembly height
728C565E652E2 connection arrangement workpiece side
728C566189EBC overload clutch
728C566231A05 presetting torque
728C5668CB6F9 turret model code
728ECFD4A0629 designation
728ECFD658014 brand
72996F3DC8E8A clamping length workpiece side
72C4A71D1B94B body angle workpiece side
72C4A723AD619 maximum overhang
72C5C9C07963B body section count
72C96D143532C clamping method connection interface

71EAD388173EE-003 002

driver drvr

Adaptive item with the capability to rotate a cutting tool for cutting operations not on the main machine spindle axis

Properties:

71CED04F3300A adaptor clamp
71CED04F920EC adaptor tool clamp
71CED05149532 clamping force maximum
71CF29862B277 shank diameter (deprecated)
71CF29869CA0F data chip provision
71CF298751FCF shank width
71CF29883E014 shank height

71CF298870946 shank length
 71CF299257986 overall width
 71CF29984CDA7 functional width
 71CF29994E737 functional height
 71D078EB73E87 overall height
 71D078EB7C086 overall length
 71D078FBF6C68 tool style code
 71D102AE8A5A9 connection code workpiece side
 71DCD39338974 functional length
 71DCD394BB20E protruding length
 71DCD3B16750B body length maximum
 71DF1523224D8 body material code
 71DF153A691F2 rotational speed maximum
 71DF5C0761888 keyway property
 71E01D92C41E8 connection bore diameter (deprecated)
 71E03063ABD6E drive size
 71EAC0DD5D650 contact surface diameter workpiece side
 71EAC48CAD407 connection depth
 71EBAF896BE9A clamping length machine side
 71EBB2F865924 diameter access hole
 71EBB33230236 body width
 71EBB332C60EB body height
 71EBB339ED2BD clamping length minimum machine side
 71EBB342CC751 coolant supply property
 71EBBA9ED6C0A unit system
 71EBC1EB8456A functional length minimum
 71EBDBF130AE6 side
 71EBDBF5060E6 connection diameter machine side
 71EC5E1ECC776 driving key type
 71ED6AA478A3D body length
 71ED6E16D5978 connection unit basis
 71ED6E4A7EFBA kappa
 71ED6E4AE850B phi

71ED6E4B254E5 rho
71ED6E54B15C4 clamping length maximum machine side
71FC193318002 connection size code (deprecated)
726E3E82E53A6 connection code type machine side
726E3E83D7357 connection code type workpiece side
726E3E84DD902 connection code form type machine side
726E3E8558953 connection code form type workpiece side
726E3E85D4D0A body taper end diameter
726E3E863255C connection protruding length
726E3E86B5284 radial height
726E3E8AF37E4 radial offset height
726E3E8DA5589 radial width
726E3E8E0AE97 radial offset width
726E3E8E6CEE3 radial height chamfer angle lower
726E3E8F2AE05 radial height chamfer angle upper
726E3E8F925AC radial height chamfer distance lower
726E3E9005480 radial height chamfer distance upper
726E3E95EEC5D height adjustability
726E3E971B954 balance device
726E3E9993CE7 prism height
726E3E9E6A729 prism width
726E3E9EE42A5 prism angle lower
726E3E9F44AA7 prism angle upper
726E3E9FCA6C2 mounting hole count
726E3EA07257B pendulum device property (deprecated)
726E3EA131DFA tool change method code
726E424FE9EC2 item style code
72719B21DF5DB overhang minimum
727212846FDA5 connection code form output side
7272128615A59 connection code output side
727212869DDE2 connection code type output side
727233FBAC835 connection size code output side
727237959C51F cutting diameter cutting tool maximum

7272379AD9C85 functional diameter
 72724DF00D7E0 lock nut height
 727BE4FA45AF9 swing arm height
 727BE4FAFB5D9 swing arm length
 727BE4FB445A3 swing arm width
 727BE4FBB782A swing radius
 727BE4FC198DB swing angle max
 727BE4FC81BE2 swing angle 2 max
 727BE4FCF2D1B swing angle 3 max
 727BE4FDB0EE6 swing angle 4 max
 727BE50D71677 torque bracing property
 727C2F58CB275 interlocking capability
 727ED91B5AA66 tolerance class connection diameter workpiece side
 72807E1CC4B50 standard letter
 72807E232B06B drive method
 728B074A39EBC tool assembly length
 728B074B7B0B5 tool assembly width
 728B074BFC2AD tool assembly height
 728C565985774 bracing
 728C565E652E2 connection arrangement workpiece side
 728C565EDCADC connection code input side
 728C5660F4D6B reversed rotation direction output side
 728C5662F4DC6 driver slot width
 728C566356A00 torque bracing code
 728C5663D2113 torque maximum
 728C566854FD5 transmission ratio
 728C56689ACAD transmission torque
 728C5668CB6F9 turret model code
 728ECFD4A0629 designation
 728ECFD658014 brand
 72996F3DC8E8A clamping length workpiece side
 72C4A71D1B94B body angle workpiece side
 72C4A723AD619 maximum overhang

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72C5C9C07963B body section count

72C96D143532C clamping method connection interface

71EEBDADB63BE-002 001

extender extdr

Adaptive item that increases the length of an assembled cutting tool

NOTE The adaptive item has the same connection type, style, and size on both the machine side and workpiece side.

Properties:

71CED03D70452 damping property

71CED04F3300A adaptor clamp

71CED04F920EC adaptor tool clamp

71CED05149532 clamping force maximum

71CF29862B277 shank diameter (deprecated)

71CF29869CA0F data chip provision

71CF298A76B66 connection retention knob thread size

71CF299257986 overall width

71CF29994E737 functional height

71D078EB73E87 overall height

71D078EB7C086 overall length

71D078FBF6C68 tool style code

71D08462F8185 body diameter maximum

71D087D97FCE3 contact surface diameter machine side

71D102AE8A5A9 connection code workpiece side

71DCD39338974 functional length

71DCD394BB20E protruding length

71DCD3B16750B body length maximum

71DF151EA5CF1 balance quality code

71DF1523224D8 body material code

71DF153A691F2 rotational speed maximum

71DF5C0761888 keyway property

71E01D92C41E8 connection bore diameter (deprecated)

71EAC0CAB861F balancing method code

71EAC0DD5D650 contact surface diameter workpiece side

71EAC472BD116 body half taper angle
 71EAC48CAD407 connection depth
 71EADEA2BF8DF body taper end length
 71EBAF896BE9A clamping length machine side
 71EBB2F865924 diameter access hole
 71EBB33230236 body width
 71EBB332C60EB body height
 71EBB339ED2BD clamping length minimum machine side
 71EBB342CC751 coolant supply property
 71EBBA9ED6C0A unit system
 71EBC1EB8456A functional length minimum
 71EBDBF130AE6 side
 71EBDBF5060E6 connection diameter machine side
 71EC5E1ECC776 driving key type
 71ED6A9AF7D1D body diameter
 71ED6AA478A3D body length
 71ED6E16D5978 connection unit basis
 71ED6E54B15C4 clamping length maximum machine side
 71FC193318002 connection size code (deprecated)
 726E3E82E53A6 connection code type machine side
 726E3E83D7357 connection code type workpiece side
 726E3E84DD902 connection code form type machine side
 726E3E8558953 connection code form type workpiece side
 726E3E85D4D0A body taper end diameter
 726E3E863255C connection protruding length
 726E3E86B5284 radial height
 726E3E8AF37E4 radial offset height
 726E3E8DA5589 radial width
 726E3E8E0AE97 radial offset width
 726E3E8E6CEE3 radial height chamfer angle lower
 726E3E8F2AE05 radial height chamfer angle upper
 726E3E8F925AC radial height chamfer distance lower
 726E3E9005480 radial height chamfer distance upper

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726E3E95EEC5D height adjustability
726E3E971B954 balance device
726E3E9993CE7 prism height
726E3E9E6A729 prism width
726E3E9EE42A5 prism angle lower
726E3E9F44AA7 prism angle upper
726E3E9FCA6C2 mounting hole count
726E3EA07257B pendulum device property (deprecated)
726E3EA131DFA tool change method code
726E424FE9EC2 item style code
72719B21DF5DB overhang minimum
7272379AD9C85 functional diameter
727C2F58CB275 interlocking capability
727ED91B5AA66 tolerance class connection diameter workpiece side
72807E1CC4B50 standard letter
728B074A39EBC tool assembly length
728B074B7B0B5 tool assembly width
728B074BFC2AD tool assembly height
728C5668CB6F9 turret model code
728ECFD4A0629 designation
728ECFD658014 brand
72996F3DC8E8A clamping length workpiece side
72C4A71D1B94B body angle workpiece side
72C4A723AD619 maximum overhang
72C5C9C07963B body section count
72C96D143532C clamping method connection interface

71EAD385E51A0-002 001

reducer red

Adaptive item that diminishes the size of a connection in an assembled cutting tool

NOTE The adaptive item has the same connection type and style on the machine side and workpiece side.

REMARKS The connections on either side of an item shall be different in gender, i.e. male and female.

Properties:

71CED03D70452 damping property
 71CED04F3300A adaptor clamp
 71CED04F920EC adaptor tool clamp
 71CED05149532 clamping force maximum
 71CF29862B277 shank diameter (deprecated)
 71CF29869CA0F data chip provision
 71CF298751FCF shank width
 71CF29883E014 shank height
 71CF298870946 shank length
 71CF2989AF0E0 tool changer interference length minimum
 71CF298A3A99A tool changer interference diameter maximum
 71CF298A76B66 connection retention knob thread size
 71CF299257986 overall width
 71CF29984CDA7 functional width
 71CF29994E737 functional height
 71D078EB73E87 overall height
 71D078EB7C086 overall length
 71D078FBF6C68 tool style code
 71D08462F8185 body diameter maximum
 71D087D97FCE3 contact surface diameter machine side
 71D102AE8A5A9 connection code workpiece side
 71DCD39338974 functional length
 71DCD394BB20E protruding length
 71DCD3B16750B body length maximum
 71DF151EA5CF1 balance quality code
 71DF1523224D8 body material code
 71DF153A691F2 rotational speed maximum
 71DF5C0761888 keyway property
 71E01D92C41E8 connection bore diameter (deprecated)
 71EAC0CAB861F balancing method code
 71EAC0DD5D650 contact surface diameter workpiece side
 71EAC48CAD407 connection depth
 71EBAF85006BD clamping width

71EBAF896BE9A clamping length machine side
71EBB2F865924 diameter access hole
71EBB33230236 body width
71EBB332C60EB body height
71EBB339ED2BD clamping length minimum machine side
71EBB342CC751 coolant supply property
71EBBA9ED6C0A unit system
71EBC1EB8456A functional length minimum
71EBDBF130AE6 side
71EBDBF5060E6 connection diameter machine side
71EC5E1ECC776 driving key type
71ED6A9AF7D1D body diameter
71ED6AA478A3D body length
71ED6E16D5978 connection unit basis
71ED6E4A7EFBA kappa
71ED6E4AE850B phi
71ED6E4B254E5 rho
71ED6E54B15C4 clamping length maximum machine side
71FC193318002 connection size code (deprecated)
726E3E82E53A6 connection code type machine side
726E3E83D7357 connection code type workpiece side
726E3E84DD902 connection code form type machine side
726E3E8558953 connection code form type workpiece side
726E3E85D4D0A body taper end diameter
726E3E863255C connection protruding length
726E3E86B5284 radial height
726E3E8AF37E4 radial offset height
726E3E8DA5589 radial width
726E3E8E0AE97 radial offset width
726E3E8E6CEE3 radial height chamfer angle lower
726E3E8F2AE05 radial height chamfer angle upper
726E3E8F925AC radial height chamfer distance lower
726E3E9005480 radial height chamfer distance upper

726E3E95EEC5D height adjustability
 726E3E971B954 balance device
 726E3E9993CE7 prism height
 726E3E9E6A729 prism width
 726E3E9EE42A5 prism angle lower
 726E3E9F44AA7 prism angle upper
 726E3E9FCA6C2 mounting hole count
 726E3EA07257B pendulum device property (deprecated)
 726E3EA131DFA tool change method code
 726E424FE9EC2 item style code
 72719B21DF5DB overhang minimum
 7272379AD9C85 functional diameter
 727C2F58CB275 interlocking capability
 727ED91B5AA66 tolerance class connection diameter workpiece side
 72807E1CC4B50 standard letter
 728B074A39EBC tool assembly length
 728B074B7B0B5 tool assembly width
 728B074BFC2AD tool assembly height
 728C5668CB6F9 turret model code
 728ECFD4A0629 designation
 728ECFD658014 brand
 72996F3DC8E8A clamping length workpiece side
 72C4A71D1B94B body angle workpiece side
 72C4A723AD619 maximum overhang
 72C5C9C07963B body section count
 72C96D143532C clamping method connection interface

727BE50E057F1-003 001

adaptive feature type adafeatyp

Characteristic of an adaptive item that cannot exist independently of the adaptive item

Subclasses:

727BE50E9FE57 torque bracing

Properties:

ISO/TS 13399-4:2021(E)

71CED04F3300A adaptor clamp
71CED04F920EC adaptor tool clamp
71CF29862B277 shank diameter (deprecated)
71CF29869CA0F data chip provision
71CF29994E737 functional height
71D078EB7C086 overall length
71D078FBB6C68 tool style code
71D102AE8A5A9 connection code workpiece side
71DCD39338974 functional length
71DCD394BB20E protruding length
71DF1523224D8 body material code
71DF153A691F2 rotational speed maximum
71EBAF896BE9A clamping length machine side
71EBB2F865924 diameter access hole
71EBB339ED2BD clamping length minimum machine side
71EBB342CC751 coolant supply property
71EBBA9ED6C0A unit system
71EBDBF130AE6 side
71EBDBF5060E6 connection diameter machine side
71ED6E16D5978 connection unit basis
71ED6E54B15C4 clamping length maximum machine side
71FC193318002 connection size code (deprecated)
726E3E82E53A6 connection code type machine side
726E3E83D7357 connection code type workpiece side
726E3E84DD902 connection code form type machine side
726E3E8558953 connection code form type workpiece side
726E3E85D4D0A body taper end diameter
726E3E863255C connection protruding length
726E3E86B5284 radial height
726E3E8AF37E4 radial offset height
726E3E8DA5589 radial width
726E3E8E0AE97 radial offset width
726E3E8E6CEE3 radial height chamfer angle lower

726E3E8F2AE05 radial height chamfer angle upper
 726E3E8F925AC radial height chamfer distance lower
 726E3E9005480 radial height chamfer distance upper
 726E3E95EEC5D height adjustability
 726E3E971B954 balance device
 726E3E9993CE7 prism height
 726E3E9E6A729 prism width
 726E3E9EE42A5 prism angle lower
 726E3E9F44AA7 prism angle upper
 726E3E9FCA6C2 mounting hole count
 726E3EA07257B pendulum device property (deprecated)
 726E3EA131DFA tool change method code
 726E424FE9EC2 item style code
 72719B21DF5DB overhang minimum
 7272379AD9C85 functional diameter
 727C2F58CB275 interlocking capability
 727ED91B5AA66 tolerance class connection diameter workpiece side
 72807E1CC4B50 standard letter
 728B074A39EBC tool assembly length
 728B074B7B0B5 tool assembly width
 728B074BFC2AD tool assembly height
 728ECFD4A0629 designation
 728ECFD658014 brand
 72996F3DC8E8A clamping length workpiece side
 72C4A71D1B94B body angle workpiece side
 72C4A723AD619 maximum overhang
 72C5C9C07963B body section count
 72C96D143532C clamping method connection interface

727BE50E9FE57-001 003

torque bracing torbra

Feature of a part of an adaptive item that supports the impact of torque

Properties:

71CED04F3300A adaptor clamp
71CED04F920EC adaptor tool clamp
71CF29862B277 shank diameter (deprecated)
71CF29869CA0F data chip provision
71CF29994E737 functional height
71D078EB7C086 overall length
71D078FBB6C68 tool style code
71D102AE8A5A9 connection code workpiece side
71DCD39338974 functional length
71DCD394BB20E protruding length
71DF1523224D8 body material code
71DF153A691F2 rotational speed maximum
71EBAF896BE9A clamping length machine side
71EBB2F865924 diameter access hole
71EBB339ED2BD clamping length minimum machine side
71EBB342CC751 coolant supply property
71EBBA9ED6C0A unit system
71EBDBF130AE6 side
71EBDBF5060E6 connection diameter machine side
71ED6E16D5978 connection unit basis
71ED6E54B15C4 clamping length maximum machine side
71FC193318002 connection size code (deprecated)
726E3E82E53A6 connection code type machine side
726E3E83D7357 connection code type workpiece side
726E3E84DD902 connection code form type machine side
726E3E8558953 connection code form type workpiece side
726E3E85D4D0A body taper end diameter
726E3E863255C connection protruding length
726E3E86B5284 radial height
726E3E8AF37E4 radial offset height
726E3E8DA5589 radial width
726E3E8E0AE97 radial offset width
726E3E8E6CEE3 radial height chamfer angle lower

726E3E8F2AE05 radial height chamfer angle upper
 726E3E8F925AC radial height chamfer distance lower
 726E3E9005480 radial height chamfer distance upper
 726E3E95EEC5D height adjustability
 726E3E971B954 balance device
 726E3E9993CE7 prism height
 726E3E9E6A729 prism width
 726E3E9EE42A5 prism angle lower
 726E3E9F44AA7 prism angle upper
 726E3E9FCA6C2 mounting hole count
 726E3EA07257B pendulum device property (deprecated)
 726E3EA131DFA tool change method code
 726E424FE9EC2 item style code
 72719B21DF5DB overhang minimum
 7272379AD9C85 functional diameter
 727BE50EE0D11 torque bracing angular position
 727BE50F5E436 torque bracing diameter
 727BE50FBE347 torque bracing length
 727BE5103F9C9 torque bracing radial distance
 727C2F58CB275 interlocking capability
 727ED91B5AA66 tolerance class connection diameter workpiece side
 72807E1CC4B50 standard letter
 728B074A39EBC tool assembly length
 728B074B7B0B5 tool assembly width
 728B074BFC2AD tool assembly height
 728ECFD4A0629 designation
 728ECFD658014 brand
 72996F3DC8E8A clamping length workpiece side
 72C4A71D1B94B body angle workpiece side
 72C4A723AD619 maximum overhang
 72C5C9C07963B body section count
 72C96D143532C clamping method connection interface

71DF8C37D9115-003 002

connection interface feature connect

Family of features of those parts of a tool item or adaptive item that forms a coupling to another tool item or adaptive item or machine tool

Properties:

- 71D102AE3B252 connection code machine side
- 71D102AE8A5A9 connection code workpiece side
- 71E03063ABD6E drive size
- 71EAC48CAD407 connection depth
- 71EBB342CC751 coolant supply property
- 71EBBE32903BD form type
- 71EBDBF130AE6 side
- 71ED6E16D5978 connection unit basis
- 71FC193318002 connection size code (deprecated)
- 726E2FCE0826C counterbore depth connection bore
- 726E2FCF353DE counterbore diameter connection bore
- 726E3E82E53A6 connection code type machine side
- 726E3E83D7357 connection code type workpiece side
- 726E3E84DD902 connection code form type machine side
- 726E3E8558953 connection code form type workpiece side
- 726E3E863255C connection protruding length
- 72719B2BD8041 tolerance class connection diameter machine side
- 727212846FDA5 connection code form output side
- 727212869DDE2 connection code type output side
- 7272379A5F325 connection diameter workpiece side
- 7272379AD9C85 functional diameter
- 72724DE6DABFF drive length
- 727BE508AAB46 connection thread nominal size machine side
- 727BE5090F9AA connection thread nominal size workpiece side
- 727C2BCBC1684 connection size code workpiece side
- 727C2BCCC5596 connection size code machine side
- 7280553C9A894 connection unit base precision machine side
- 7280605902AD1 connection unit base precision workpiece side
- 72807E3576AAE connection diameter minimum workpiece side

72807E35DE582 connection diameter maximum workpiece side
 72807E366B041 connection size code minimum workpiece side
 72807E36B6C92 connection size code maximum workpiece side
 729A91ABE3690 connection unit base precision minimum workpiece
 729A91AC5433F connection unit base precision maximum workpiece side
 729A91AD69059 tolerance class connection diameter minimum workpiece side
 729A91ADE068B tolerance class connection diameter maximum workpiece side

71ED884159C90-001 001**adjustment adj**

Device for making an alteration to achieve a different position

Subclasses:

71ED88419A97C-003 adjustment axial
 71ED8841BA543-001 adjustment radial

Properties:

71EBBE66AA8A3-003 adjustment datum
 71EBBE67E4BD6-003 adjustment deviation lower
 71EBBE682E490-003 adjustment deviation upper
 71EBBE6A5BF09-003 adjustment direction
 71EBBE7266DA2-003 adjustment increment
 71EBBE664BCBD-003 adjustment limit maximum
 71EBBE668A8F3-003 adjustment limit minimum
 71EBBE72A6287-003 adjustment range

71ED88419A97C-003 001**adjustment axial adjax**

Device for making an alteration to achieve a different position in a direction parallel to the longitudinal axis of a component

Properties:

7272127429CCC-003 adjustment range axial
 72721274D0316-003 adjustment range radial

71ED8841BA543-001 001**adjustment radial adjra**

Device for making an alteration to achieve a different position in a direction perpendicular to the longitudinal axis of the component

Properties:

7272127429CCC-003 adjustment range axial

72721274D0316-003 adjustment range radial

71E02520881F1-003 002

bolt hole circle bhcirc

Arrangement of holes in a circle to enable a bolted connection

Properties:

71ED6E58E5A62-003 bolt hole circle count

71EBB2F865924-003 diameter access hole

71EAC0DECE78F-003 diameter bolt circle

726E3E7863BBC-003 thread designation inside

726E3E73D1CF2-003 thread designation outside

71DF8C3C065EB-001 001

coolant supply cool

System of channels to supply a fluid to reduce the temperature of the cutting operation

NOTE The fluid can be a liquid or a gas.

Properties:

71EBDBF22CF58-003 coolant entry centre line distance

71CF2985AA87C-003 coolant entry diameter

71EBDBF2CEE6A-003 coolant entry inclination angle

71EBDBF289BB9-003 coolant entry rotation angle

71CF2985DCED3-003 coolant entry style code

71D07558CEF8A-003 coolant entry thread size

71CF298AA8D1F-003 coolant exit diameter

71CF2985FC5FC-003 coolant exit style code

71D075633189D-003 coolant exit thread size

71EAC478A4164-003 coolant pressure

71CF298963036-003 coolant radial entry thread size

71CF298EB6D72-003 coolant ring seat width (deprecated)

71EC5A767182E-001 001**flange flange**

Projecting rim or edge on the outside of an object

Properties:

71EC61D8A1771-003 flange diameter

71EC61D7F2071-003 flange diameter internal

71EEF5384E141-003 flange height

71F90EA1ED67E-003 flange location

71EEF53809764-003 flange thickness

71EEF5387E914-003 flange width

71DF5C026BCE7-001 001**keyway kwy**

Slot in which a shaped piece of metal can be inserted to transfer torque between two connected items

Properties:

71D0841ADC9E0-003 keyway width

71EBAB85BB5FA-001 001**locking mechanism lock**

Device that can be actuated to secure the coupling of two items together

Properties:

71EBBA9B56D06-003 actuation force

71EBBA9BCB5F2-003 actuation method

71DF153B14F02-003 torque

Annex D (informative)

Adaptive item property definitions

D.1 Presentation

The layout of the entries in this annex is as follows.

BSU – version number Revision number Value format

data type group data type unit identifier

preferred name short name SYMBOL

synonymous name

definition

source of definition

BSU of condition property = name of condition property

Non-quantitative code = meaning of code

Source of code definition

NOTE

REMARKS

Illustration reference: Figure number

Visible class:

Applicable classes:

Allowed values: Available through the website of the Maintenance Agency.

NOTE 1 It is possible that an entry does not contain all the information specified.

NOTE 2 The value formats of properties are specified in ISO/TS 13399-100.

Some of the properties are illustrated in [Annexes E](#) and [F](#).

D.2 Cutting item properties

71CED04F3300A-003 002 X 17

String

adaptor clamp adacla ADC

Method of retaining an adaptor

Illustration reference:

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71CED04F920EC-003 002 X 17

String

adaptor tool clamp adatoocla ATC

Method of holding a tool item in an adaptive item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71EAC0F0EFDB6-003 002 NR2S..4.6

Real measure mm

adjusting screw protrusion adjscrpro ASP

Distance from the body of the tool item or adaptive item to the end of the adjusting screw

NOTE Used also for protrusion of retention knobs on the back end of tapered connections.

REMARK See diagram.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

72719B3479E49-003 retention knob

71EAD3871D313-003 converter

726E3E971B954-003 001 NR1S..1

Enumeration of integers

balance device baldev BLDEV

Identifier for the existence and kind of features for balancing

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71DF151EA5CF1-003 002 X 17

String

balance quality code balquacod BLQ

Identifier for the residual out-of-balance effect of a rotating tool

NOTE See ISO 21940-11.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill
 71E01D8A88F65-002 pilot drill
 71E01A0608FE4-002 twist drill
 71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E0251F304E1-003 rotating borer
 71EAD3871D313-003 converter
 71EEBDADB63BE-002 extender
 71E0250E32A07-002 cylindrical broach
 71EAD385E51A0-002 reducer
 71E01A04A8AEC-003 ream
 71E01A07BC535-001 cylindrical reamer
 71E01A07ECCCF-001 profile reamer
 71E01A07FF350-001 stepped reamer
 71E01A07D2A1B-003 tapered reamer

71EAC0CAB861F-003 002 X 17

Enumeration of codes

balancing method code balmetcod BLMC

Identifier for the type of balancing of a tool item or an adaptive item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill

71E01A069566C-002 chamfer drill

71E01D8A88F65-002 pilot drill

71E01A0608FE4-002 twist drill

71E01A0751456-003 conical drill

71E01A06BF88D-003 counterbore drill

71E01A06A8A08-003 countersink drill

71E01A067F73C-002 step drill

71E01A0769982-002 trepanning drill

71E01A008D13F-003 mill

71E01A05B627B-003 face mill

71E01A05EA320-003 half side mill

71E01A05D27A8-003 end mill

71E01A0600702-003 ring mill

71EF07E037025-003 slotting cutter

71EF07E083383-003 threading grooving mill

71EF07DFC283C-003 double half side mill

71E01A0540BE7-003 slab mill

71E0251F304E1-003 rotating borer

71EAD3871D313-003 converter

71EEBDADB63BE-002 extender

71E0250E32A07-002 cylindrical broach

71EAD385E51A0-002 reducer

71E01A04A8AEC-003 ream

71E01A07BC535-001 cylindrical reamer

71E01A07ECCCF-001 profile reamer

71E01A07FF350-001 stepped reamer

71E01A07D2A1B-003 tapered reamer

72C4A71D1B94B-001 001 NR2S..3.6

Real measure degree of angle

body angle workpiece side bodangworsid BAWS

NOTE Applicable to ISO/TS 13399-2, ISO/TS 13399-3 and this document.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71D1AA6C8FC75-003 cutting item type

71D1AE120D96E-003 nonequilateral equiangular

71DD68D91938A-001 rectangular insert

71D1AA489FD6E-003 nonequilateral nonequangular

71DD68D966F52-002 parallelogram insert

71D1AA486FF89-004 equilateral equiangular

71DD68D829217-001 square insert

71DD68D7CB4FA-001 octagonal insert

71DD68D8446CE-001 triangular insert

71DD68D7A8E5F-001 hexagonal insert

71DD68D80B094-001 pentagonal insert

72550E1361C6C-003 drilling insert

7224CCDD587CF-003 non replaceable cutting item

71D1AE11B8B77-003 equilateral nonequangular

71DD68D73218C-003 trigon insert

71DD68D301C30-001 rhombic insert

ISO/TS 13399-4:2021(E)

71D1AA6635E76-003 round insert
726E3AAC68D91-003 reaming insert
71DDA089C8D1E-003 specific profile insert
71E01A004C775-003 tool item type
71E01A00BD93C-003 drill
71E01A065F635-002 deep hole drill
71FAE7AAE8247-003 core drill
71E01A073CA28-003 centre drill
71E01A069566C-002 chamfer drill
71E01D8A88F65-002 pilot drill
71E01A0608FE4-002 twist drill
71E01A0751456-003 conical drill
71E01A06BF88D-003 counterbore drill
71E01A06A8A08-003 countersink drill
71E01A067F73C-002 step drill
71E01A0769982-002 trepanning drill
71E01A008D13F-003 mill
71E01A05B627B-003 face mill
71E01A05EA320-003 half side mill
71E01A05D27A8-003 end mill
71E01A0600702-003 ring mill
71EF07E037025-003 slotting cutter
71EF07E083383-003 threading grooving mill
71EF07DFC283C-003 double half side mill
71E01A0540BE7-003 slab mill
71E01A04F70F7-003 threading die
71E01A0E4EE75-001 cylindrical die
71E01A0E79239-001 hexagonal die
71E02C544BABE-003 burr tool
71E0251F304E1-003 rotating borer
71E01A05104CF-003 turn
71E01A0E9CBA9-003 boring bar
71E01A0EAF067-003 system tool

71E01A0E85121-003 prismatic tool holder
 71D1066F279AD-002 cartridge
 71E01A04C377D-003 broach
 71E01A082DE72-002 disk broach
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71E0250E32A07-002 cylindrical broach
 7272127CBD7B8-003 feed-out tool, machine operated
 71E01A04E0236-003 threading tap
 71E01A0E34C7F-002 conical tap
 71E01A0A5355D-001 cylindrical tap
 71E01A04A8AEC-003 ream
 71E01A07BC535-001 cylindrical reamer
 71E01A07ECCCF-001 profile reamer
 71E01A07FF350-001 stepped reamer
 71E01A07D2A1B-003 tapered reamer

71ED6A9AF7D1D-003 002 NR2S.4.6

Real measure mm

body diameter boddia BD

Distance between parallel tangents on the circular cross section of a tool item or an adaptive item

REMARK: For an item with several changes in external form the multiple values of body diameter would be aggregated with indexable identifiers.

Illustration reference: [Figure E.1](#), [Figure E.2](#), [Figure E.3](#), [Figure E.4](#), [Figure E.6](#), [Figure E.7](#), [Figure E.9](#), [Figure E.10](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.25](#), [Figure E.26](#), [Figure E.28](#), [Figure E.29](#), [Figure E.30](#), [Figure E.31](#), [Figure E.32](#), [Figure E.33](#), [Figure E.34](#), [Figure E.35](#), [Figure E.36](#), [Figure E.37](#), [Figure E.38](#), [Figure E.39](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A00BD93C-003 drill
 71E01A065F635-002 deep hole drill
 71FAE7AAE8247-003 core drill
 71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill

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71E01D8A88F65-002 pilot drill
71E01A0608FE4-002 twist drill
71E01A0751456-003 conical drill
71E01A06BF88D-003 counterbore drill
71E01A06A8A08-003 countersink drill
71E01A067F73C-002 step drill
71E01A0769982-002 trepanning drill
71E01A008D13F-003 mill
71E01A05B627B-003 face mill
71E01A05EA320-003 half side mill
71E01A05D27A8-003 end mill
71E01A0600702-003 ring mill
71EF07E037025-003 slotting cutter
71EF07E083383-003 threading grooving mill
71EF07DFC283C-003 double half side mill
71E01A0540BE7-003 slab mill
71E02C544BABE-003 burr tool
71E0251F304E1-003 rotating borer
71E01A082DE72-002 disk broach
71EAD3871D313-003 converter
71E01A081855D-003 tapered broach
71EEBDADB63BE-002 extender
71EAD385E51A0-002 reducer
71E01A04A8AEC-003 ream
71E01A07BC535-001 cylindrical reamer
71E01A07ECCCF-001 profile reamer
71E01A07FF350-001 stepped reamer
71E01A07D2A1B-003 tapered reamer

71D08462F8185-003 002 NR2S..4.6

Real measure mm

body diameter maximum boddiamax BDX

Largest diameter of the body of a tool item or an adaptive item

Illustration reference: [Figure E.13](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A00BD93C-003 drill
 71E01A065F635-002 deep hole drill
 71FAE7AAE8247-003 core drill
 71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill
 71E01D8A88F65-002 pilot drill
 71E01A0608FE4-002 twist drill
 71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E01A0E4EE75-001 cylindrical die
 71E01A082DE72-002 disk broach
 71EAD3871D313-003 converter
 71E01A081855D-003 tapered broach
 71EEBDADB63BE-002 extender
 71E0250E32A07-002 cylindrical broach
 71EAD385E51A0-002 reducer
 71E01A04A8AEC-003 ream

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71E01A07BC535-001 cylindrical reamer

71E01A07ECCCF-001 profile reamer

71E01A07FF350-001 stepped reamer

71E01A07D2A1B-003 tapered reamer

71EAC472BD116-003 002 NR2S..3.6

Real measure degree of angle

body half taper angle bodhaltapang BHTA

Angle of the transition between two diameters of the body of a tool item or adaptive item measured from the item axis

NOTE This angle is not used for any connection taper.

REMARKS: Applicable for both tool items and adaptive items.

Illustration reference: [Figure E.1](#), [Figure E.2](#), [Figure E.4](#), [Figure E.6](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A05D27A8-003 end mill

71EAD3871D313-003 converter

71EEBDADB63BE-002 extender

71E01A04E0236-003 threading tap

71E01A0E34C7F-002 conical tap

71E01A0A5355D-001 cylindrical tap

71E01A04A8AEC-003 ream

71E01A07BC535-001 cylindrical reamer

71E01A07ECCCF-001 profile reamer

71E01A07FF350-001 stepped reamer

71E01A07D2A1B-003 tapered reamer

71EBB332C60EB-003 002 NR2S..4.6

Real measure mm

body height bodhei HTB

The distance measured along the Y-axis between the extremes of the body excluding any protrusion of the locking mechanisms

Illustration reference: [Figure E.17](#), [Figure E.18](#), [Figure E.27](#), [Figure E.28](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A04F70F7-003 threading die

71E01A0E4EE75-001 cylindrical die

71E01A0E79239-001 hexagonal die

71EAD388173EE-003 driver

71E01A082DE72-002 disk broach

71D1066F279AD-002 cartridge

71EAD3871D313-003 converter

71E01A0838E9B-002 prismatic broach

71EEBDADB63BE-002 extender

71E01A0E85121-003 prismatic tool holder

71EAD385E51A0-002 reducer

71E01A04E0236-003 threading tap

71E01A0E34C7F-002 conical tap

71E01A0A5355D-001 cylindrical tap

71ED6AA478A3D-003 002 NR2S.4.6

Real measure mm

body length bodlen LB

Distance measured along the Z-axis from that point of the item closest to the workpiece, including the cutting item for a tool item but excluding a protruding locking mechanism for an adaptive item, to a defined change in the external form of a tool item or an adaptive item

REMARKS: For an item with several changes in external form the multiple values of body length would be aggregated with indexable identifiers.

Illustration reference: [Figure E.1](#), [Figure E.2](#), [Figure E.3](#), [Figure E.4](#), [Figure E.6](#), [Figure E.7](#), [Figure E.9](#), [Figure E.10](#), [Figure E.13](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.27](#), [Figure E.28](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A04F70F7-003 threading die

71E01A0E4EE75-001 cylindrical die

71E01A0E79239-001 hexagonal die

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71E01A05B627B-003 face mill
71E0251F304E1-003 rotating borer
71E01A05D27A8-003 end mill
71EAD388173EE-003 driver
71E01A069566C-002 chamfer drill
71D1066F279AD-002 cartridge
71EAD3871D313-003 converter
71EF07E083383-003 threading grooving mill
71E01A0838E9B-002 prismatic broach
71EF07DFC283C-003 double half side mill
71E01A07ECCCF-001 profile reamer
71E01A081855D-003 tapered broach
71E01A07FF350-001 stepped reamer
71EEBDADB63BE-002 extender
71E01A0540BE7-003 slab mill
71E01A0EAF067-003 system tool
71E01A06BF88D-003 counterbore drill
71EAD385E51A0-002 reducer
71E01A06A8A08-003 countersink drill
71E01A067F73C-002 step drill
71E01A0769982-002 trepanning drill
71E01A04E0236-003 threading tap
71E01A0E34C7F-002 conical tap
71E01A0A5355D-001 cylindrical tap

71DCD3B16750B-003 002 NR2S..4.6

Real measure mm

body length maximum bodlenmex LBX

The distance measured along the Z axis from that point of the item closest to the workpiece, including the cutting item for a tool item but excluding a protruding locking mechanism for an adaptive item, to either the front of the flange on a flanged body or the beginning of the connection interface feature on the machine side for cylindrical or prismatic shanks

NOTE If a connection interface feature overlaps with the body of the item then this dimension of the body length includes the overlapping portion of the connection interface feature.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A00BD93C-003 drill
 71E01A065F635-002 deep hole drill
 71FAE7AAE8247-003 core drill
 71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill
 71E01D8A88F65-002 pilot drill
 71E01A0608FE4-002 twist drill
 71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E0251F304E1-003 rotating borer
 71EAD388173EE-003 driver
 71EAD3871D313-003 converter
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71EEBDADB63BE-002 extender
 71E01A0EAF067-003 system tool
 71E0250E32A07-002 cylindrical broach
 71EAD385E51A0-002 reducer
 71E01A04E0236-003 threading tap

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71E01A0E34C7F-002 conical tap

71E01A0A5355D-001 cylindrical tap

71E01A04A8AEC-003 ream

71E01A07BC535-001 cylindrical reamer

71E01A07ECCCF-001 profile reamer

71E01A07FF350-001 stepped reamer

71E01A07D2A1B-003 tapered reamer

71DF1523224D8-003 002 X 17

Enumeration of codes

body material code bodmatcod BMC

Identifier for the main material constituent of the tool item or adaptive item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71E01A004C775-003 tool item type

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill

71E01A069566C-002 chamfer drill

71E01D8A88F65-002 pilot drill

71E01A0608FE4-002 twist drill

71E01A0751456-003 conical drill

71E01A06BF88D-003 counterbore drill

71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E01A04F70F7-003 threading die
 71E01A0E4EE75-001 cylindrical die
 71E01A0E79239-001 hexagonal die
 71E02C544BABE-003 burr tool
 71E0251F304E1-003 rotating borer
 71E01A05104CF-003 turn
 71E01A0E9CBA9-003 boring bar
 71E01A0EAF067-003 system tool
 71E01A0E85121-003 prismatic tool holder
 71D1066F279AD-002 cartridge
 71E01A04C377D-003 broach
 71E01A082DE72-002 disk broach
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71E0250E32A07-002 cylindrical broach
 7272127CBD7B8-003 feed-out tool, machine operated
 71E01A04E0236-003 threading tap
 71E01A0E34C7F-002 conical tap
 71E01A0A5355D-001 cylindrical tap
 71E01A04A8AEC-003 ream
 71E01A07BC535-001 cylindrical reamer

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71E01A07ECCCF-001 profile reamer

71E01A07FF350-001 stepped reamer

71E01A07D2A1B-003 tapered reamer

72C5C9C07963B-001 001 NR1..3

Integer

body section count bodseccou BSC

Number of body sections by which the item collision envelope is constructed

NOTE 1 Applicable to ISO/TS 13399-3 and this document.

NOTE 2 The principles for applying body parameters of rotational symmetrical adapters are given in [Annex G](#).

REMARKS: The examples show how the adaptor body is being described by simple geometric shapes described by BD (body diameter), LB (body length) and BHTA (body half taper angle). BSC parameter defines the number of body sections starting from the workpiece sidemoving towards machine side. Each of the three properties shall be indexed in triplets accordingly (e.g. BD_1, LB_1, BHTA_1 - BD_2, LB_2, BHTA_2). There is no upper limit to how many body section counts can be applied and is defined by the product information provider.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71E01A004C775-003 tool item type

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill

71E01A069566C-002 chamfer drill

71E01D8A88F65-002 pilot drill

71E01A0608FE4-002 twist drill

71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E01A04F70F7-003 threading die
 71E01A0E4EE75-001 cylindrical die
 71E01A0E79239-001 hexagonal die
 71E02C544BABE-003 burr tool
 71E0251F304E1-003 rotating borer
 71E01A05104CF-003 turn
 71E01A0E9CBA9-003 boring bar
 71E01A0EAF067-003 system tool
 71E01A0E85121-003 prismatic tool holder
 71D1066F279AD-002 cartridge
 71E01A04C377D-003 broach
 71E01A082DE72-002 disk broach
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71E0250E32A07-002 cylindrical broach
 7272127CBD7B8-003 feed-out tool, machine operated
 71E01A04E0236-003 threading tap
 71E01A0E34C7F-002 conical tap
 71E01A0A5355D-001 cylindrical tap

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71E01A04A8AEC-003 ream

71E01A07BC535-001 cylindrical reamer

71E01A07ECCCF-001 profile reamer

71E01A07FF350-001 stepped reamer

71E01A07D2A1B-003 tapered reamer

726E3E85D4D0A-003 001 NR2S..4.6

Real measure mm

body taper end diameter bodtapenddia BTED

Dimension of the smaller diameter of a starting taper at the front face of an adaptive item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71EADEA2BF8DF-003 002 NR2S..4.6

Real measure mm

body taper end length bodtapendlen BTEL

Dimension from the front of a tool item or adaptive item to the end of the tool body taper measured along the tool item axis or adaptive item axis

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD3871D313-003 converter

71EEBDADB63BE-002 extender

71EBB33230236-003 002 NR2S..4.6

Real measure mm

body width bodwid WB

The distance measured along the X-axis between the extremes of the body excluding any protrusion of the locking mechanisms

Illustration reference: [Figure E.17](#), [Figure E.18](#), [Figure E.20](#), [Figure E.21](#), [Figure E.24](#), [Figure E.27](#), [Figure E.28](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

71D1066F279AD-002 cartridge

71EAD3871D313-003 converter

71E01A0838E9B-002 prismatic broach

71E01A0E79239-001 hexagonal die

71EEBDADB63BE-002 extender

71E01A0E85121-003 prismatic tool holder

71EAD385E51A0-002 reducer

728C565985774-003 001 NR1S..2

Integer

bracing bra BRC

Total number of supports on the driver

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

728ECFD658014-003 001 X25

String

brand brn BRAND

Name that describes the brand of an item

NOTE See ISO/TS 13399-2, ISO/TS 13399-3, ISO/TS 13399-5 and this document.

REMARKS: e.g. WalterTitex.

Visible class:

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71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71D1AA6C8FC75-003 cutting item type

71D1AE120D96E-003 nonequilateral equiangular

71DD68D91938A-001 rectangular insert

71D1AA489FD6E-003 nonequilateral nonequiangular

71DD68D966F52-002 parallelogram insert

71D1AA486FF89-004 equilateral equiangular

71DD68D829217-001 square insert

71DD68D7CB4FA-001 octagonal insert

71DD68D8446CE-001 triangular insert

71DD68D7A8E5F-001 hexagonal insert

71DD68D80B094-001 pentagonal insert

72550E1361C6C-003 drilling insert

7224CCDD587CF-003 non-replaceable cutting item

71D1AE11B8B77-003 equilateral nonequiangular

71DD68D73218C-003 trigon insert

71DD68D301C30-001 rhombic insert

71D1AA6635E76-003 round insert

726E3AAC68D91-003 reaming insert

71DDA089C8D1E-003 specific profile insert

71CE7A795C05C-003 assembly item type

71EC56BBA9A2E-001 sleeve

71FAD519268DE-001 centre pin

71EC56BA16ACB-001 spring

71EC56E106606-001 flat wire compression spring
 71EC56E165BC7-001 cup spring
 71EC56E223664-001 leaf spring
 71EC56E04199D-001 helical coil spring
 71EC56E0D4D19-001 helical disk spring
 71EC56E1C4C7D-001 gas spring
 71EC56BD5DCD8-001 insert shim
 71ED80DF6F976-002 insert clamp
 71FAD54E5A5BF-001 floating wedge clamp
 71FAD54E002D6-001 cantilever clamp
 71FAD54EABA17-001 wedge clamp
 71FAD54E2FE26-001 lever top clamp
 72719B3479E49-003 retention knob
 727CE214BF281-003 nut
 727CE216A3092-001 adjustment nut
 727CE21C733E3-001 lock nut
 71EC56B608ADC-001 insert wedge
 71ED80E1EC9F6-001 nozzle
 71EC56BC68ED7-001 bearing
 71EC56B51596E-001 driving key
 71EC56B58A355-001 driving ring
 71EC56BAC1A7E-001 insert clamping system
 71EC56D6D0499-001 cantilever clamping
 71EC56D828198-001 wedge clamping
 71EC6588A8C9E-001 lever insert clamping
 71EC56D8A655A-001 insert screw clamping
 71EC56D7601AD-001 floating wedge clamping
 71EC56D97E8B0-001 deflection screw clamping
 71EC56D908782-001 eccentric screw clamping
 71FAD547E744B-001 integrated clamping
 71EC56D71B815-001 lever top clamping
 71EC56BA2E64E-001 screw thread lining
 71EC61E259139-001 bush

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71EC56B5B6465-001 pin
71EC5A6CFD68B-001 spacer
71EAD70F1B95A-001 nest
71ED80DFB6371-001 insert lever
71EC5A6E85D77-001 sealing ring
71EC5A6E9F6F0-001 retaining ring
71FA4B678C52A-002 externally threaded fastener component
71ED798F61BC2-002 insert screw
71FAE07C0A4A6-001 differential screw
71FAE07B90EEC-002 eccentric screw
71FC030E04050-002 deflection screw
71FAE07BCAC80-002 lever screw
71FC81BA3ECE9-002 shim screw
71ED80E62E75A-001 coolant deflector
71E01A004C775-003 tool item type
71E01A00BD93C-003 drill
71E01A065F635-002 deep hole drill
71FAE7AAE8247-003 core drill
71E01A073CA28-003 centre drill
71E01A069566C-002 chamfer drill
71E01D8A88F65-002 pilot drill
71E01A0608FE4-002 twist drill
71E01A0751456-003 conical drill
71E01A06BF88D-003 counterbore drill
71E01A06A8A08-003 countersink drill
71E01A067F73C-002 step drill
71E01A0769982-002 trepanning drill
71E01A008D13F-003 mill
71E01A05B627B-003 face mill
71E01A05EA320-003 half side mill
71E01A05D27A8-003 end mill
71E01A0600702-003 ring mill
71EF07E037025-003 slotting cutter

71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E01A04F70F7-003 threading die
 71E01A0E4EE75-001 cylindrical die
 71E01A0E79239-001 hexagonal die
 71E02C544BABE-003 burr tool
 71E0251F304E1-003 rotating borer
 71E01A05104CF-003 turn
 71E01A0E9CBA9-003 boring bar
 71E01A0EAF067-003 system tool
 71E01A0E85121-003 prismatic tool holder
 71D1066F279AD-002 cartridge
 71E01A04C377D-003 broach
 71E01A082DE72-002 disk broach
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71E0250E32A07-002 cylindrical broach
 7272127CBD7B8-003 feed-out tool, machine operated
 71E01A04E0236-003 threading tap
 71E01A0E34C7F-002 conical tap
 71E01A0A5355D-001 cylindrical tap
 71E01A04A8AEC-003 ream
 71E01A07BC535-001 cylindrical reamer
 71E01A07ECCCF-001 profile reamer
 71E01A07FF350-001 stepped reamer
 71E01A07D2A1B-003 tapered reamer

71DF1523EE184-003 002 X 17

String

cartridge size code carsizcod CASC

Identifier for the size of a cartridge

NOTE See ISO 5608 and the ISO 5611 series.

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Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71D1066F279AD-002 cartridge

71EAD3871D313-003 converter

71E01A04C377D-003 broach

71E01A082DE72-002 disk broach

71E01A0838E9B-002 prismatic broach

71E01A081855D-003 tapered broach

71E0250E32A07-002 cylindrical broach

71CED05149532-003 002 NR2S..3.3

Real measure MPa

clamping force maximum claformax MXC

Greatest force that can be applied by an assembly item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

71EAD3871D313-003 converter

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71EBAF896BE9A-003 003 NR2S..4.6

Real measure mm

clamping length machine side clalenmacsid LSCMS

Dimension of the length of that portion of a tool item or an adaptive item that can participate in a connection on the machine side

NOTE See ISO/TS 13399-3 and this document.

Illustration reference: [Figure E.5](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver
 71EAD3871D313-003 converter
 726F59BDC3B08-003 collet
 727BE50E057F1-003 adaptive feature type
 727BE50E9FE57-001 torque bracing
 71EEBDADB63BE-002 extender
 71EAD385E51A0-002 reducer
 71E01A004C775-003 tool item type
 71E01A00BD93C-003 drill
 71E01A065F635-002 deep hole drill
 71FAE7AAE8247-003 core drill
 71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill
 71E01D8A88F65-002 pilot drill
 71E01A0608FE4-002 twist drill
 71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E01A04F70F7-003 threading die
 71E01A0E4EE75-001 cylindrical die
 71E01A0E79239-001 hexagonal die
 71E02C544BABE-003 burr tool

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71E0251F304E1-003 rotating borer
71E01A05104CF-003 turn
71E01A0E9CBA9-003 boring bar
71E01A0EAF067-003 system tool
71E01A0E85121-003 prismatic tool holder
71D1066F279AD-002 cartridge
71E01A04C377D-003 broach
71E01A082DE72-002 disk broach
71E01A0838E9B-002 prismatic broach
71E01A081855D-003 tapered broach
71E0250E32A07-002 cylindrical broach
7272127CBD7B8-003 feed-out tool, machine operated
71E01A04E0236-003 threading tap
71E01A0E34C7F-002 conical tap
71E01A0A5355D-001 cylindrical tap
71E01A04A8AEC-003 ream
71E01A07BC535-001 cylindrical reamer
71E01A07ECCCF-001 profile reamer
71E01A07FF350-001 stepped reamer
71E01A07D2A1B-003 tapered reamer

71ED6E54B15C4-002 002 NR2S..4.6

Real measure mm

clamping length maximum machine side clalenmaxmacsid LSCXMS

Greatest portion of the connection feature that is necessary to ensure the normal function of the tool item or the adaptive item

NOTE See ISO/TS 13399-3 and this document.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type
 727BE50E9FE57-001 torque bracing
 71EEBDADB63BE-002 extender
 71EAD385E51A0-002 reducer
 71E01A004C775-003 tool item type
 71E01A00BD93C-003 drill
 71E01A065F635-002 deep hole drill
 71FAE7AAE8247-003 core drill
 71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill
 71E01D8A88F65-002 pilot drill
 71E01A0608FE4-002 twist drill
 71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E01A04F70F7-003 threading die
 71E01A0E4EE75-001 cylindrical die
 71E01A0E79239-001 hexagonal die
 71E02C544BABE-003 burr tool
 71E0251F304E1-003 rotating borer
 71E01A05104CF-003 turn
 71E01A0E9CBA9-003 boring bar

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71E01A0EAF067-003 system tool
71E01A0E85121-003 prismatic tool holder
71D1066F279AD-002 cartridge
71E01A04C377D-003 broach
71E01A082DE72-002 disk broach
71E01A0838E9B-002 prismatic broach
71E01A081855D-003 tapered broach
71E0250E32A07-002 cylindrical broach
7272127CBD7B8-003 feed-out tool, machine operated
71E01A04E0236-003 threading tap
71E01A0E34C7F-002 conical tap
71E01A0A5355D-001 cylindrical tap
71E01A04A8AEC-003 ream
71E01A07BC535-001 cylindrical reamer
71E01A07ECCCF-001 profile reamer
71E01A07FF350-001 stepped reamer
71E01A07D2A1B-003 tapered reamer

71EBB339ED2BD-003 003

Level mm

clamping length minimum machine side clalenminmacsid LSCNMS

Smallest portion of the connection feature on the machine side that is necessary to ensure that no damage is caused neither to the tool item nor to the adaptive item

NOTE See ISO/TS 13399-3 and this document.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type
71EAD388173EE-003 driver
71EAD3871D313-003 converter
726F59BDC3B08-003 collet
727BE50E057F1-003 adaptive feature type
727BE50E9FE57-001 torque bracing
71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer
 71E01A004C775-003 tool item type
 71E01A00BD93C-003 drill
 71E01A065F635-002 deep hole drill
 71FAE7AAE8247-003 core drill
 71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill
 71E01D8A88F65-002 pilot drill
 71E01A0608FE4-002 twist drill
 71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E01A04F70F7-003 threading die
 71E01A0E4EE75-001 cylindrical die
 71E01A0E79239-001 hexagonal die
 71E02C544BABE-003 burr tool
 71E0251F304E1-003 rotating borer
 71E01A05104CF-003 turn
 71E01A0E9CBA9-003 boring bar
 71E01A0EAF067-003 system tool
 71E01A0E85121-003 prismatic tool holder
 71D1066F279AD-002 cartridge

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71E01A04C377D-003 broach
71E01A082DE72-002 disk broach
71E01A0838E9B-002 prismatic broach
71E01A081855D-003 tapered broach
71E0250E32A07-002 cylindrical broach
7272127CBD7B8-003 feed-out tool, machine operated
71E01A04E0236-003 threading tap
71E01A0E34C7F-002 conical tap
71E01A0A5355D-001 cylindrical tap
71E01A04A8AEC-003 ream
71E01A07BC535-001 cylindrical reamer
71E01A07ECCCF-001 profile reamer
71E01A07FF350-001 stepped reamer
71E01A07D2A1B-003 tapered reamer

72E33DEACC133-001 001 NR2 S..3.3

Real measure mm

clamping length minimum workpiece side clalenminworsid LSCNWS

Dimension of the minimum length of that portion of an adaptive item that can participate in a connection at workpiece side

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

726F59BDC3B08-003 collet

71EAD3871D313-003 converter

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71E01A004C775-003 tool item type

71E01A04F70F7-003 threading die

71E01A0E4EE75-001 cylindrical die

71E01A0E79239-001 hexagonal die
 71E02C544BABE-003 burr tool
 71E0251F304E1-003 rotating borer
 71E01A05104CF-003 turn
 71E01A0E9CBA9-003 boring bar
 71E01A0EAF067-003 system tool
 71E01A0E85121-003 prismatic tool holder
 71E01A00BD93C-003 drill
 71E01A065F635-002 deep hole drill
 71FAE7AAE8247-003 core drill
 71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill
 71E01D8A88F65-002 pilot drill
 71E01A0608FE4-002 twist drill
 71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71D1066F279AD-002 cartridge
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71E01A05EA320-003 half side mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E01A04C377D-003 broach
 71E01A082DE72-002 disk broach
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach

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71E0250E32A07-002 cylindrical broach
7272127CBD7B8-003 feed-out tool, machine operated
71E01A04E0236-003 threading tap
71E01A0E34C7F-002 conical tap
71E01A0A5355D-001 cylindrical tap
71E01A04A8AEC-003 ream
71E01A07D2A1B-003 tapered reamer
71E01A07ECCCF-001 profile reamer
71E01A07BC535-001 cylindrical reamer
71E01A07FF350-001 stepped reamer

72996F3DC8E8A-003 001 NR2S..4.6

Real measure mm

clamping length workpiece side clalenworsid LSCWS

Dimension of the length of that portion of an adaptive item that can participate in a connection at workpiece side

NOTE See ISO/TS 13399-3 and this document.

Illustration reference: [Figure E.2](#), [Figure E.3](#), [Figure E.4](#), [Figure E.6](#), [Figure E.9](#), [Figure E.12](#), [Figure E.29](#), [Figure E.30](#), [Figure E.31](#), [Figure E.32](#), [Figure E.33](#), [Figure E.34](#), [Figure E.35](#), [Figure E.36](#), [Figure E.37](#), [Figure E.38](#), [Figure E.39](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type
71EAD388173EE-003 driver
71EAD3871D313-003 converter
726F59BDC3B08-003 collet
727BE50E057F1-003 adaptive feature type
727BE50E9FE57-001 torque bracing
71EEBDADB63BE-002 extender
71EAD385E51A0-002 reducer
71E01A004C775-003 tool item type
71E01A00BD93C-003 drill
71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill
71E01A073CA28-003 centre drill
71E01A069566C-002 chamfer drill
71E01D8A88F65-002 pilot drill
71E01A0608FE4-002 twist drill
71E01A0751456-003 conical drill
71E01A06BF88D-003 counterbore drill
71E01A06A8A08-003 countersink drill
71E01A067F73C-002 step drill
71E01A0769982-002 trepanning drill
71E01A008D13F-003 mill
71E01A05B627B-003 face mill
71E01A05EA320-003 half side mill
71E01A05D27A8-003 end mill
71E01A0600702-003 ring mill
71EF07E037025-003 slotting cutter
71EF07E083383-003 threading grooving mill
71EF07DFC283C-003 double half side mill
71E01A0540BE7-003 slab mill
71E01A04F70F7-003 threading die
71E01A0E4EE75-001 cylindrical die
71E01A0E79239-001 hexagonal die
71E02C544BABE-003 burr tool
71E0251F304E1-003 rotating borer
71E01A05104CF-003 turn
71E01A0E9CBA9-003 boring bar
71E01A0EAF067-003 system tool
71E01A0E85121-003 prismatic tool holder
71D1066F279AD-002 cartridge
71E01A04C377D-003 broach
71E01A082DE72-002 disk broach
71E01A0838E9B-002 prismatic broach
71E01A081855D-003 tapered broach

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71E0250E32A07-002 cylindrical broach
7272127CBD7B8-003 feed-out tool, machine operated
71E01A04E0236-003 threading tap
71E01A0E34C7F-002 conical tap
71E01A0A5355D-001 cylindrical tap
71E01A04A8AEC-003 ream
71E01A07BC535-001 cylindrical reamer
71E01A07ECCCF-001 profile reamer
71E01A07FF350-001 stepped reamer
71E01A07D2A1B-003 tapered reamer

72C96D143532C-001 001 NR1S..1

Enumeration of integers

clamping method connection interface clametconint CMCS

Technical application for the mounting of a tool item with a machine side cylindrical shank (ZYL01) onto an adaptive item

REMARKS: Applicable to this document.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type
71EAD388173EE-003 driver
71EAD3871D313-003 converter
726F59BDC3B08-003 collet
727BE50E057F1-003 adaptive feature type
727BE50E9FE57-001 torque bracing
71EEBDADB63BE-002 extender
71EAD385E51A0-002 reducer

71EBAF85006BD-003 002 NR2S..4.6

Real measure mm

clamping width clawid WSC

Dimension of the width of that portion of a tool item or an adaptive item that can participate in a connection

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD3871D313-003 converter

71E01A0838E9B-002 prismatic broach

71E01A0E85121-003 prismatic tool holder

71EAD385E51A0-002 reducer

72724DF38CB41-003 001 NR2S..4.6

Real measure mm

collet length collen LCOL

Length of the collet measured from its end to that part, which is covered by the clamping mechanism, but without the collet length clamp

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

726F59BDC3B08-003 collet

726E4223BA018-003 001 NR1S..1

Enumeration of integers

collet slope type colslotyp COLST

Identifier for how the slots of a collet are designed

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

726F59BDC3B08-003 collet

728C565E652E2-003 001 NR1S..1

Enumeration of integers

connection arrangement workpiece side conarrworsid CONARWS

Identifier for connection placement on the workpiece side of the adaptive item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

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71EAD388173EE-003 driver

71EAD3871D313-003 converter

727212846FDA5-003 001 X 2

String

connection code form output side concodforoutsid CCFOP

Identifier for the more specific design of a connection on the output side on driven adaptive items

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

71EAD388173EE-003 driver

726E3E84DD902-003 001 X..2

String

connection code form type machine side concodfortypmacsid CCFMS

Identifier for the more specific design of a connection on the machine side

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71E01A004C775-003 tool item type

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill
 71E01D8A88F65-002 pilot drill
 71E01A0608FE4-002 twist drill
 71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E01A04F70F7-003 threading die
 71E01A0E4EE75-001 cylindrical die
 71E01A0E79239-001 hexagonal die
 71E02C544BABE-003 burr tool
 71E0251F304E1-003 rotating borer
 71E01A05104CF-003 turn
 71E01A0E9CBA9-003 boring bar
 71E01A0EAF067-003 system tool
 71E01A0E85121-003 prismatic tool holder
 71D1066F279AD-002 cartridge
 71E01A04C377D-003 broach
 71E01A082DE72-002 disk broach
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71E0250E32A07-002 cylindrical broach

7272127CBD7B8-003 feed-out tool, machine operated

71E01A04E0236-003 threading tap

71E01A0E34C7F-002 conical tap

71E01A0A5355D-001 cylindrical tap

71E01A04A8AEC-003 ream

71E01A07BC535-001 cylindrical reamer

71E01A07ECCCF-001 profile reamer

71E01A07FF350-001 stepped reamer

71E01A07D2A1B-003 tapered reamer

726E3E8558953-003 001 X 2

String

connection code form type workpiece side concodfortypworsid CCFWS

Identifier for the more specific design of a connection on the workpiece side

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71E01A004C775-003 tool item type

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill

71E01A069566C-002 chamfer drill

71E01D8A88F65-002 pilot drill

71E01A0608FE4-002 twist drill
 71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E01A04F70F7-003 threading die
 71E01A0E4EE75-001 cylindrical die
 71E01A0E79239-001 hexagonal die
 71E02C544BABE-003 burr tool
 71E0251F304E1-003 rotating borer
 71E01A05104CF-003 turn
 71E01A0E9CBA9-003 boring bar
 71E01A0EAF067-003 system tool
 71E01A0E85121-003 prismatic tool holder
 71D1066F279AD-002 cartridge
 71E01A04C377D-003 broach
 71E01A082DE72-002 disk broach
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71E0250E32A07-002 cylindrical broach
 7272127CBD7B8-003 feed-out tool, machine operated
 71E01A04E0236-003 threading tap
 71E01A0E34C7F-002 conical tap

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71E01A0A5355D-001 cylindrical tap

71E01A04A8AEC-003 ream

71E01A07BC535-001 cylindrical reamer

71E01A07ECCCF-001 profile reamer

71E01A07FF350-001 stepped reamer

71E01A07D2A1B-003 tapered reamer

728C565EDCADC-003 001 X 20

String

connection code input side concodinpsid CCIP

Identifier for a connection that allows to transmit a rotational movement from the machine tool to the adaptive item and to the tool item

NOTE See ISO/TS 13399-3 and this document.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

7272127CBD7B8-003 feed-out tool, machine operated

71D102AE3B252-003 002 X 14

String

connection code machine side concodmacsid CCMS

Identifier for the capability to connect a component of a cutting tool to another component on the machine side

NOTE 1 Example for a cylindrical shank conforming to ISO 3338-2 with shank diameter of 25 mm, with internal coolant would be: ZYL025010M1EXT.

NOTE 2 Two items can be connected together if they have the same value of the code.

NOTE 3 The connection code is not applicable to assembly items in general but is applicable to the collet class.

REMARKS The value of a code shall be constructed from the combination of the item feature class short name and the values of connection size code, variant, connection units basis, coolant supply property and form type.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

7272128615A59-003 001 X 14

String

connection code output side concodoutsid CCOP

Identifier for the capability to connect a component of a cutting tool to another component on the output side of a driven adaptive item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

726E3E82E53A6-003 001 X 3

String

connection code type machine side concodttypmacsid CCTMS

Identifier for the main type of a connection on the machine side

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057E1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

727212869DDE2-003 001 X 3

String

connection code type output side concodtypoutsid CCTOS

Identifier for the main type of a connection on the output side of a driven adaptive item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

71EAD388173EE-003 driver

726E3E83D7357-003 001 X 3

String

connection code type workpiece side concodtypworsid CCTWS

Identifier for the main type of connection on the workpiece side

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71E01A004C775-003 tool item type

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill

71E01A069566C-002 chamfer drill

71E01D8A88F65-002 pilot drill

71E01A0608FE4-002 twist drill

71E01A0751456-003 conical drill

71E01A06BF88D-003 counterbore drill

71E01A06A8A08-003 countersink drill

71E01A067F73C-002 step drill

71E01A0769982-002 trepanning drill

71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E01A04F70F7-003 threading die
 71E01A0E4EE75-001 cylindrical die
 71E01A0E79239-001 hexagonal die
 71E02C544BABE-003 burr tool
 71E0251F304E1-003 rotating borer
 71E01A05104CF-003 turn
 71E01A0E9CBA9-003 boring bar
 71E01A0EAF067-003 system tool
 71E01A0E85121-003 prismatic tool holder
 71D1066F279AD-002 cartridge
 71E01A04C377D-003 broach
 71E01A082DE72-002 disk broach
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71E0250E32A07-002 cylindrical broach
 7272127CBD7B8-003 feed-out tool, machine operated
 71E01A04E0236-003 threading tap
 71E01A0E34C7F-002 conical tap
 71E01A0A5355D-001 cylindrical tap
 71E01A04A8AEC-003 ream
 71E01A07BC535-001 cylindrical reamer
 71E01A07ECCCF-001 profile reamer
 71E01A07FF350-001 stepped reamer
 71E01A07D2A1B-003 tapered reame

71D102AE8A5A9-003 002 X 14

String

connection code workpiece side concodworsid CCWS

Identifier for the capability to connect a component to another component of a cutting tool on the workpiece side

NOTE 1 Example for a collet chuck adaptor fitting a collet conforming to DIN 6499 with a size of 16 mm without coolant would be: SZD016002M0INT.

NOTE 2 Two items can be connected together if they have the same value of the code.

NOTE 3 The connection code is not applicable to cutting items or assembly items in general but is applicable to the collet class.

REMARKS: The value of a code shall be constructed from the combination of the item feature class short name and the values of: connection size code, variant, connection unit's basis, coolant supply property and form type.

Illustration reference: [Figure E.1](#), [Figure E.2](#), [Figure E.3](#), [Figure E.4](#), [Figure E.6](#), [Figure E.7](#), [Figure E.9](#), [Figure E.10](#), [Figure E.11](#), [Figure E.12](#), [Figure E.13](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.27](#), [Figure E.28](#), [Figure E.29](#), [Figure E.30](#), [Figure E.31](#), [Figure E.32](#), [Figure E.33](#), [Figure E.34](#), [Figure E.35](#), [Figure E.36](#), [Figure E.37](#), [Figure E.38](#), [Figure E.39](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill

71E01A069566C-002 chamfer drill

71E01D8A88F65-002 pilot drill

71E01A0608FE4-002 twist drill

71E01A0751456-003 conical drill

71E01A06BF88D-003 counterbore drill

71E01A06A8A08-003 countersink drill

71E01A067F73C-002 step drill

71E01A0769982-002 trepanning drill

71E01A008D13F-003 mill

71E01A05B627B-003 face mill

71E01A05EA320-003 half side mill

71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71DF8C37D9115-003 connection interface feature

71EDD2C17746F-003 002 NR1..4

Integer

connection count workpiece side concouworsid CCONWS

Effective numbers of connections that can participate in a connection between any component of a cutting tool, except cutting items and assembly items, on the workpiece side

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E0251F304E1-003 rotating borer

71EAD3871D313-003 converter

71EAC48CAD407-003 002 NR2S..4.6

Real measure mm

connection depth conbordep CBDP

Total depth of the connection hole in the centre of a tool or adaptive item used for making a connection

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

71EBDBF5060E6-003 002 NR2S..4.6

Real measure mm

connection diameter machine side condiamacsid DCONMS

Nominal dimension of the diameter of a cylindrical portion of a tool item or an adaptive item on the side of the item that points toward the machine side and can participate in a connection

Illustration reference: [Figure E.9](#), [Figure E.11](#), [Figure E.12](#), [Figure E.13](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.27](#), [Figure E.28](#), [Figure E.33](#), [Figure E.36](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill

71E01A069566C-002 chamfer drill

71E01D8A88F65-002 pilot drill

71E01A0608FE4-002 twist drill

71E01A0751456-003 conical drill

71E01A06BF88D-003 counterbore drill

71E01A06A8A08-003 countersink drill

71E01A067F73C-002 step drill

71E01A0769982-002 trepanning drill

71E01A008D13F-003 mill

71E01A05B627B-003 face mill

71E01A05EA320-003 half side mill

71E01A05D27A8-003 end mill

71E01A0600702-003 ring mill

71EF07E037025-003 slotting cutter

71EF07E083383-003 threading grooving mill

71EF07DFC283C-003 double half side mill

71E01A0540BE7-003 slab mill

71E01A04F70F7-003 threading die

71E01A0E4EE75-001 cylindrical die

71E01A0E79239-001 hexagonal die

71E0251F304E1-003 rotating borer

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet
 727BE50E057F1-003 adaptive feature type
 727BE50E9FE57-001 torque bracing
 71EEBDADB63BE-002 extender
 71EAD385E51A0-002 reducer
 71E01A05104CF-003 turn
 71E01A0E9CBA9-003 boring bar
 71E01A0EAF067-003 system tool
 71E01A0E85121-003 prismatic tool holder
 71E01A04C377D-003 broach
 71E01A082DE72-002 disk broach
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71E0250E32A07-002 cylindrical broach
 71E01A04E0236-003 threading tap
 71E01A0E34C7F-002 conical tap
 71E01A0A5355D-001 cylindrical tap
 71E01A04A8AEC-003 ream
 71E01A07BC535-001 cylindrical reamer
 71E01A07ECCCF-001 profile reamer
 71E01A07FF350-001 stepped reamer
 71E01A07D2A1B-003 tapered reamer

72807E35DE582-003 001 NR2S..4.6

Real measure mm

connection diameter maximum workpiece side condiamaxworsid DCONXWS

Dimension of the diameter of a cylindrical portion of a tool item or an adaptive item on the side of the item that points toward the workpiece and can participate in a connection

NOTE See ISO/TS 13399-60.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

729A91AD69059-001 001 X..5

String

tolerance class connection diameter minimum workpiece side **tolclacondiaminworsid**
TCDCONNWS

Label for the minimum level and size for the tolerance of the connection diameter on the workpiece side

NOTE See ISO/TS 13399-60.

REMARKS This property shall only be used for the creation of the connection code.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

7272379A5F325-003 001 NR2S..4.6

Real measure mm

connection diameter workpiece side **condiaworsid** **DCONWS**

Nominal dimension of the diameter of a cylindrical portion of a tool item or an adaptive item on the side of the item that points toward the workpiece and can participate in a connection

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

726E3E863255C-003 001 NR2S..4.6

Real measure mm

connection protruding length **conprolen** **LPCON**

Dimension of the length of a connection that is visible while the item is connected to a cutting tool or is fixed on to a machine tool

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet
 727BE50E057F1-003 adaptive feature type
 727BE50E9FE57-001 torque bracing
 71EEBDADB63BE-002 extender
 71EAD385E51A0-002 reducer
 71E01A004C775-003 tool item type
 71E01A00BD93C-003 drill
 71E01A065F635-002 deep hole drill
 71FAE7AAE8247-003 core drill
 71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill
 71E01D8A88F65-002 pilot drill
 71E01A0608FE4-002 twist drill
 71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E01A04F70F7-003 threading die
 71E01A0E4EE75-001 cylindrical die
 71E01A0E79239-001 hexagonal die
 71E02C544BABE-003 burr tool
 71E0251F304E1-003 rotating borer
 71E01A05104CF-003 turn

ISO/TS 13399-4:2021(E)

71E01A0E9CBA9-003 boring bar
71E01A0EAF067-003 system tool
71E01A0E85121-003 prismatic tool holder
71D1066F279AD-002 cartridge
71E01A04C377D-003 broach
71E01A082DE72-002 disk broach
71E01A0838E9B-002 prismatic broach
71E01A081855D-003 tapered broach
71E0250E32A07-002 cylindrical broach
7272127CBD7B8-003 feed-out tool, machine operated
71E01A04E0236-003 threading tap
71E01A0E34C7F-002 conical tap
71E01A0A5355D-001 cylindrical tap
71E01A04A8AEC-003 ream
71E01A07BC535-001 cylindrical reamer
71E01A07ECCCF-001 profile reamer
71E01A07FF350-001 stepped reamer
71E01A07D2A1B-003 tapered reamer

71CF298A76B66-003 002 X 17

String

connection retention knob thread size conretknothrsiz CRKS

Identifier for the size of the thread size of the device that pulls a cutting tool into the machine tool

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill

71E01A069566C-002 chamfer drill

71E01D8A88F65-002 pilot drill

71E01A0608FE4-002 twist drill

71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E0251F304E1-003 rotating borer
 71EAD3871D313-003 converter
 71E01A081855D-003 tapered broach
 71EEBDADB63BE-002 extender
 71E0250E32A07-002 cylindrical broach
 71EAD385E51A0-002 reducer
 71E01A04A8AEC-003 ream
 71E01A07BC535-001 cylindrical reamer
 71E01A07ECCCF-001 profile reamer
 71E01A07FF350-001 stepped reamer
 71E01A07D2A1B-003 tapered reamer

727C2BCCC5596-003 001 X 4

String

connection size code machine side consizcodmacsid CZCMS

Identifier for the size of the connection on the machine side of an item between items of a cutting tool, excluding cutting items

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

ISO/TS 13399-4:2021(E)

71DF8C37D9115-003 connection interface feature

72807E36B6C92-003 001 X..4

String

connection size code maximum workpiece side consizcodmaxworsid CZCXWS

Identifier for the greatest size of the connection on the workpiece side of an item between items of a cutting tool, excluding cutting items

NOTE See ISO/TS 13399-60.

REMARKS Property shall be used for the creation of a connection range code, describing the upper limit of the range.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

72807E366B041-003 001 X..4

String

connection size code minimum workpiece side consizcodminworsid CZCNWS

Identifier for the smallest size of the connection on the workpiece side of an item between items of a cutting tool, excluding cutting items

NOTE See ISO/TS 13399-60.

REMARKS Property shall be used for the creation of a connection range code, describing the lower limit of the range.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

727233FBAC835-003 001 X 4

String

connection size code output side consizcodoutsid CZCOP

Identifier for the size of the connection on the output side of a driven tool unit

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

727BE508AAB46-003 001 X30

String

connection thread nominal size machine side conthrnomsizmacsid THSZMS

Complete description of a thread on the machine side of a connection that is used for a detachable connection of two components to create a complete tool

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

727BE5090F9AA-003 001 X 30

String

connection thread nominal size workpiece side conthrnomsizworsid THSZWS

Complete description of a thread on the workpiece side of a connection that is used for a detachable connection of two components to create a complete tool

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

7280553C9A894-003 001 X 1

Enumeration of codes

connection unit base precision machine side conunibaspremacsid CUBPMS

Label for the coded range of a connection size code to identify the connection diameter on the machine side

NOTE See ISO/TS 13399-60.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

729A91AC5433F-001 001 X 1

ISO/TS 13399-4:2021(E)

Enumeration of codes

connection unit base precision maximum workpiece side conunibaspremaxworsid CUBPXWS

Label for the maximum coded range of a connection size code to identify the connection diameter on workpiece side

NOTE See ISO/TS 13399-60.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

729A91ABE3690-001 001 X 1

Enumeration of codes

connection unit base precision minimum workpiece side conunibaspreminworsid CUBPNWS

Label for the minimum coded range of a connection size code to identify the connection diameter on workpiece side

NOTE See ISO/TS 13399-60.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

7280605902AD1-003 001 X 1

Enumeration of codes

connection unit base precision workpiece side conunibaspreworsid CUBPWS

Label for the coded range of a connection size code to identify the connection diameter on workpiece side

NOTE See ISO/TS 13399-60.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

71ED6E16D5978-003 002 X 1

Enumeration of codes

connection unit basis conunibas CUB

Label to identify the system of units in which the design of the connection is defined

REMARKS: The C value of this property is used to identify the design basis of tapered shanks such as Steep taper.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71E01A004C775-003 tool item type

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill

71E01A069566C-002 chamfer drill

71E01D8A88F65-002 pilot drill

71E01A0608FE4-002 twist drill

71E01A0751456-003 conical drill

71E01A06BF88D-003 counterbore drill

71E01A06A8A08-003 countersink drill

71E01A067F73C-002 step drill

71E01A0769982-002 trepanning drill

71E01A008D13F-003 mill

71E01A05B627B-003 face mill

71E01A05EA320-003 half side mill

71E01A05D27A8-003 end mill

71E01A0600702-003 ring mill

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71EF07E037025-003 slotting cutter
71EF07E083383-003 threading grooving mill
71EF07DFC283C-003 double half side mill
71E01A0540BE7-003 slab mill
71E01A04F70F7-003 threading die
71E01A0E4EE75-001 cylindrical die
71E01A0E79239-001 hexagonal die
71E02C544BABE-003 burr tool
71E0251F304E1-003 rotating borer
71E01A05104CF-003 turn
71E01A0E9CBA9-003 boring bar
71E01A0EAF067-003 system tool
71E01A0E85121-003 prismatic tool holder
71D1066F279AD-002 cartridge
71E01A04C377D-003 broach
71E01A082DE72-002 disk broach
71E01A0838E9B-002 prismatic broach
71E01A081855D-003 tapered broach
71E0250E32A07-002 cylindrical broach
7272127CBD7B8-003 feed-out tool, machine operated
71E01A04E0236-003 threading tap
71E01A0E34C7F-002 conical tap
71E01A0A5355D-001 cylindrical tap
71E01A04A8AEC-003 ream
71E01A07BC535-001 cylindrical reamer
71E01A07ECCCF-001 profile reamer
71E01A07FF350-001 stepped reamer
71E01A07D2A1B-003 tapered reamer

71D087D97FCE3-003 002 NR2S..4.6

Real measure mm

contact surface diameter machine side consurdiamacsid DCSFMS

Diameter of the surface on the machine side forming the contact between a tool item and an adaptor item

REMARKS: See diagram.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A00BD93C-003 drill
 71E01A065F635-002 deep hole drill
 71FAE7AAE8247-003 core drill
 71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill
 71E01D8A88F65-002 pilot drill
 71E01A0608FE4-002 twist drill
 71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E0251F304E1-003 rotating borer
 71EAD3871D313-003 converter
 71EEBDADB63BE-002 extender
 71E01A0EAF067-003 system tool
 71E0250E32A07-002 cylindrical broach
 71EAD385E51A0-002 reducer
 71E01A04A8AEC-003 ream
 71E01A07BC535-001 cylindrical reamer

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71E01A07ECCCF-001 profile reamer

71E01A07FF350-001 stepped reamer

71E01A07D2A1B-003 tapered reamer

71EAC0DD5D650-003 002 NR2S..4.6

Real measure mm

contact surface diameter workpiece side consurdiaworsid DCSFWS

Diameter of the surface on the workpiece side forming the contact between a tool item and an adaptor item

REMARKS: See diagram.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

71EAD3871D313-003 converter

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71EBB342CC751-003 002 B 1

Boolean type

coolant supply property coosuppro CSP

Identification for whether a tool item, an adaptive item or a cutting item has a coolant supply

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71E01A004C775-003 tool item type
71E01A00BD93C-003 drill
71E01A065F635-002 deep hole drill
71FAE7AAE8247-003 core drill
71E01A073CA28-003 centre drill
71E01A069566C-002 chamfer drill
71E01D8A88F65-002 pilot drill
71E01A0608FE4-002 twist drill
71E01A0751456-003 conical drill
71E01A06BF88D-003 counterbore drill
71E01A06A8A08-003 countersink drill
71E01A067F73C-002 step drill
71E01A0769982-002 trepanning drill
71E01A008D13F-003 mill
71E01A05B627B-003 face mill
71E01A05EA320-003 half side mill
71E01A05D27A8-003 end mill
71E01A0600702-003 ring mill
71EF07E037025-003 slotting cutter
71EF07E083383-003 threading grooving mill
71EF07DFC283C-003 double half side mill
71E01A0540BE7-003 slab mill
71E01A04F70F7-003 threading die
71E01A0E4EE75-001 cylindrical die
71E01A0E79239-001 hexagonal die
71E02C544BABE-003 burr tool
71E0251F304E1-003 rotating borer
71E01A05104CF-003 turn
71E01A0E9CBA9-003 boring bar
71E01A0EAF067-003 system tool
71E01A0E85121-003 prismatic tool holder
71D1066F279AD-002 cartridge
71E01A04C377D-003 broach

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71E01A082DE72-002 disk broach
71E01A0838E9B-002 prismatic broach
71E01A081855D-003 tapered broach
71E0250E32A07-002 cylindrical broach
7272127CBD7B8-003 feed-out tool, machine operated
71E01A04E0236-003 threading tap
71E01A0E34C7F-002 conical tap
71E01A0A5355D-001 cylindrical tap
71E01A04A8AEC-003 ream
71E01A07BC535-001 cylindrical reamer
71E01A07ECCCF-001 profile reamer
71E01A07FF350-001 stepped reamer
71E01A07D2A1B-003 tapered reamer

727237959C51F-003 001 NR2S..4.6

Real measure mm

cutting diameter cutting tool maximum cutdia cuttoomax DCCTX

Largest diameter of a cutting tool that can be assembled to the driven tool unit

Illustration reference: [Figure E.26](#), [Figure E.27](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

71CED03D70452-003 002 B 1

Boolean type

damping property dampro DPC

Ability to reduce the amplitude of vibrations

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A05104CF-003 turn

71E01A0E9CBA9-003 boring bar

71E01A0EAF067-003 system tool
 71E01A0E85121-003 prismatic tool holder
 71E01A05D27A8-003 end mill
 71EAD3871D313-003 converter
 71EEBDADB63BE-002 extender
 71E0250E32A07-002 cylindrical broach
 71EAD385E51A0-002 reducer

71CF29869CA0F-003 002 B 1

Boolean type

data chip provision datchipro DCP

Indication of provision for a data chip on a tool item or an adaptive item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type
 71EAD388173EE-003 driver
 71EAD3871D313-003 converter
 726F59BDC3B08-003 collet
 727BE50E057F1-003 adaptive feature type
 727BE50E9FE57-001 torque bracing
 71EEBDADB63BE-002 extender
 71EAD385E51A0-002 reducer
 71E01A004C775-003 tool item type
 71E01A00BD93C-003 drill
 71E01A065F635-002 deep hole drill
 71FAE7AAE8247-003 core drill
 71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill
 71E01D8A88F65-002 pilot drill
 71E01A0608FE4-002 twist drill
 71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill

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71E01A06A8A08-003 countersink drill
71E01A067F73C-002 step drill
71E01A0769982-002 trepanning drill
71E01A008D13F-003 mill
71E01A05B627B-003 face mill
71E01A05EA320-003 half side mill
71E01A05D27A8-003 end mill
71E01A0600702-003 ring mill
71EF07E037025-003 slotting cutter
71EF07E083383-003 threading grooving mill
71EF07DFC283C-003 double half side mill
71E01A0540BE7-003 slab mill
71E01A04F70F7-003 threading die
71E01A0E4EE75-001 cylindrical die
71E01A0E79239-001 hexagonal die
71E02C544BABE-003 burr tool
71E0251F304E1-003 rotating borer
71E01A05104CF-003 turn
71E01A0E9CBA9-003 boring bar
71E01A0EAF067-003 system tool
71E01A0E85121-003 prismatic tool holder
71D1066F279AD-002 cartridge
71E01A04C377D-003 broach
71E01A082DE72-002 disk broach
71E01A0838E9B-002 prismatic broach
71E01A081855D-003 tapered broach
71E0250E32A07-002 cylindrical broach
7272127CBD7B8-003 feed-out tool, machine operated
71E01A04E0236-003 threading tap
71E01A0E34C7F-002 conical tap
71E01A0A5355D-001 cylindrical tap
71E01A04A8AEC-003 ream
71E01A07BC535-001 cylindrical reamer

71E01A07ECCCF-001 profile reamer
 71E01A07FF350-001 stepped reamer
 71E01A07D2A1B-003 tapered reamer

728ECFD4A0629-003 001 X40

String

designation des DES

Code of an item that describes the item without material specification

NOTE See ISO/TS 13399-2, ISO/TS 13399-3, ISO/TS 13399-5 and this document.

REMARKS: e.g. ISO 1832, ISO 11529.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type
 71EAD388173EE-003 driver
 71EAD3871D313-003 converter
 726F59BDC3B08-003 collet
 727BE50E057F1-003 adaptive feature type
 727BE50E9FE57-001 torque bracing
 71EEBDADB63BE-002 extender
 71EAD385E51A0-002 reducer
 71D1AA6C8FC75-003 cutting item type
 71D1AE120D96E-003 nonequilateral equiangular
 71DD68D91938A-001 rectangular insert
 71D1AA489FD6E-003 nonequilateral nonequangular
 71DD68D966F52-002 parallelogram insert
 71D1AA486FF89-004 equilateral equiangular
 71DD68D829217-001 square insert
 71DD68D7CB4FA-001 octagonal insert
 71DD68D8446CE-001 triangular insert
 71DD68D7A8E5F-001 hexagonal insert
 71DD68D80B094-001 pentagonal insert
 72550E1361C6C-003 drilling insert

7224CCDD587CF-003 non replaceable cutting item
71D1AE11B8B77-003 equilateral nonequangular
71DD68D73218C-003 trigon insert
71DD68D301C30-001 rhombic insert
71D1AA6635E76-003 round insert
726E3AAC68D91-003 reaming insert
71DDA089C8D1E-003 specific profile insert
71CE7A795C05C-003 assembly item type
71EC56BBA9A2E-001 sleeve
71FAD519268DE-001 centre pin
71EC56BA16ACB-001 spring
71EC56E106606-001 flat wire compression spring
71EC56E165BC7-001 cup spring
71EC56E223664-001 leaf spring
71EC56E04199D-001 helical coil spring
71EC56E0D4D19-001 helical disk spring
71EC56E1C4C7D-001 gas spring
71EC56BD5DCD8-001 insert shim
71ED80DF6F976-002 insert clamp
71FAD54E5A5BF-001 floating wedge clamp
71FAD54E002D6-001 cantilever clamp
71FAD54EABA17-001 wedge clamp
71FAD54E2FE26-001 lever top clamp
72719B3479E49-003 retention knob
727CE214BF281-003 nut
727CE216A3092-001 adjustment nut
727CE21C733E3-001 lock nut
71EC56B608ADC-001 insert wedge
71ED80E1EC9F6-001 nozzle
71EC56BC68ED7-001 bearing
71EC56B51596E-001 driving key
71EC56B58A355-001 driving ring
71EC56BAC1A7E-001 insert clamping system

71EC56D6D0499-001 cantilever clamping
 71EC56D828198-001 wedge clamping
 71EC6588A8C9E-001 lever insert clamping
 71EC56D8A655A-001 insert screw clamping
 71EC56D7601AD-001 floating wedge clamping
 71EC56D97E8B0-001 deflection screw clamping
 71EC56D908782-001 eccentric screw clamping
 71FAD547E744B-001 integrated clamping
 71EC56D71B815-001 lever top clamping
 71EC56BA2E64E-001 screw thread lining
 71EC61E259139-001 bush
 71EC56B5B6465-001 pin
 71EC5A6CFD68B-001 spacer
 71EAD70F1B95A-001 nest
 71ED80DFB6371-001 insert lever
 71EC5A6E85D77-001 sealing ring
 71EC5A6E9F6F0-001 retaining ring
 71FA4B678C52A-002 externally threaded fastener component
 71ED798F61BC2-002 insert screw
 71FAE07C0A4A6-001 differential screw
 71FAE07B90EEC-002 eccentric screw
 71FC030E04050-002 deflection screw
 71FAE07BCAC80-002 lever screw
 71FC81BA3ECE9-002 shim screw
 71ED80E62E75A-001 coolant deflector
 71E01A004C775-003 tool item type
 71E01A00BD93C-003 drill
 71E01A065F635-002 deep hole drill
 71FAE7AAE8247-003 core drill
 71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill
 71E01D8A88F65-002 pilot drill
 71E01A0608FE4-002 twist drill

71E01A0751456-003 conical drill
71E01A06BF88D-003 counterbore drill
71E01A06A8A08-003 countersink drill
71E01A067F73C-002 step drill
71E01A0769982-002 trepanning drill
71E01A008D13F-003 mill
71E01A05B627B-003 face mill
71E01A05EA320-003 half side mill
71E01A05D27A8-003 end mill
71E01A0600702-003 ring mill
71EF07E037025-003 slotting cutter
71EF07E083383-003 threading grooving mill
71EF07DFC283C-003 double half side mill
71E01A0540BE7-003 slab mill
71E01A04F70F7-003 threading die
71E01A0E4EE75-001 cylindrical die
71E01A0E79239-001 hexagonal die
71E02C544BABE-003 burr tool
71E0251F304E1-003 rotating borer
71E01A05104CF-003 turn
71E01A0E9CBA9-003 boring bar
71E01A0EAF067-003 system tool
71E01A0E85121-003 prismatic tool holder
71D1066F279AD-002 cartridge
71E01A04C377D-003 broach
71E01A082DE72-002 disk broach
71E01A0838E9B-002 prismatic broach
71E01A081855D-003 tapered broach
71E0250E32A07-002 cylindrical broach
7272127CBD7B8-003 feed-out tool, machine operated
71E01A04E0236-003 threading tap
71E01A0E34C7F-002 conical tap
71E01A0A5355D-001 cylindrical tap

71E01A04A8AEC-003 ream

71E01A07BC535-001 cylindrical reamer

71E01A07ECCCF-001 profile reamer

71E01A07FF350-001 stepped reamer

71E01A07D2A1B-003 tapered reamer

71EBB2F865924-003 002 NR2S..4.6

Real measure mm

diameter access hole diaacchol DAH

Dimension of a hole through an item to provide access to a screw or other feature or to be used for fixing of a connection between tool items and adaptive items excluding cutting items

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71E02520881F1-003 bolt hole circle

7272379935018-003 001 NR2S..4.6

Real measure mm

diameter collet length clamp diacollencla DCLC

Outside diameter of that part of the collet that is in front of the planar surface in the direction of the workpiece

NOTE The collet length clamp is used to enlarge the clamping length.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

726F59BDC3B08-003 collet

7272379998737-003 001 NR2S..4.6

Real measure mm

diameter collet offset bore **diacoloffbor** **DCOB**

Enlarged part at the end of the clamping diameter towards the machine side, which is used to limit the clamping length

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

726F59BDC3B08-003 collet

727BE4DF9AF4A-003 001 NR2S..4.6

Real measure mm

distance to face **distofac** **LFSF**

Dimension measured from a basic element to the front face of an object, measured parallel to the axis of the item

NOTE A basic element is either a gauge diameter, a contact surface or a mating surface.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

726F59BDC3B08-003 collet

72807E232B06B-003 001 X..1

Enumeration of codes

drive method **drimeth** **DRVMETH**

Label for how components of an adaptive item or tool item are actuated or driven

NOTE See ISO/TS 13399-3 and this document.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

7272127CBD7B8-003 feed-out tool, machine operated

72724DE725029-003 001 X..20

String

drive size code **drisizcod** **DRVSC**

Identifier for the non measure size of the portion of an item that is used to lock or unlock the item

Illustration reference: [Figure E.13](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.2](#), [Figure E.28](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

7272127CBD7B8-003 feed-out tool, machine operated

728C5662F4DC6-003 001 NR2S..4.6

Real measure mm

driver slot width **drislowid** **DRVSLW**

Inner width of a driven tool unit to carry disc shaped cutting tools

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

71EC5E1ECC776-003 002 X 17

Enumeration of codes

driving key type **drikeytyp** **DKTY**

Form of a driving key

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

71EAD3871D313-003 converter

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

7272379AD9C85-003 001 NR2S..4.6

Real measure mm

functional diameter fundia DFC

Dimension on tapered connections that determines the main functional diameter for the ability to mount connections together

Illustration reference: [Figure E.29](#), [Figure E.30](#), [Figure E.31](#), [Figure E.32](#), [Figure E.34](#), [Figure E.36](#), [Figure E.37](#), [Figure E.38](#), [Figure E.39](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71CF29994E737-003 002 NR2S..4.6

Real measure mm

functional height funhei HF

Distance from the XZ-plane of the tool item to the cutting point

Illustration reference: [Figure E.5](#), [Figure E.13](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.27](#), [Figure E.28](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71DCD39338974-003 002 NR2S..4.6

Real measure mm

functional length funlen LF

Distance from the gauge plane or from the end of the shank, if a gauge plane does not exist, to the cutting reference point determined by the main function of the tool on tool item types or to the gauge plane on the workpiece side or the seating surface on adaptive items, if a gauge plane does not exist

NOTE The functional length is multiplied on stepped tools.

REMARKS: The positioning of LF can be different for cylindrical shanks according to ISYC 307-01 (cylindrical shanks), ISYC 307-02 (weldon shanks) and cylindrical shanks with planar contact surface.

Illustration reference: [Figure E.1](#), [Figure E.2](#), [Figure E.3](#), [Figure E.4](#), [Figure E.5](#), [Figure E.6](#), [Figure E.7](#), [Figure E.8](#), [Figure E.9](#), [Figure E.10](#), [Figure E.11](#), [Figure E.12](#), [Figure E.13](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.27](#), [Figure E.28](#), [Figure E.29](#), [Figure E.30](#), [Figure E.31](#), [Figure E.32](#), [Figure E.33](#), [Figure E.34](#), [Figure E.35](#), [Figure E.36](#), [Figure E.37](#), [Figure E.38](#), [Figure E.39](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill

71E01A069566C-002 chamfer drill

71E01D8A88F65-002 pilot drill

71E01A0608FE4-002 twist drill

71E01A0751456-003 conical drill

71E01A06BF88D-003 counterbore drill

71E01A06A8A08-003 countersink drill

71E01A067F73C-002 step drill

71E01A0769982-002 trepanning drill

71E01A008D13F-003 mill

71E01A05B627B-003 face mill

71E01A05EA320-003 half side mill

71E01A05D27A8-003 end mill

71E01A0600702-003 ring mill

71EF07E037025-003 slotting cutter
71EF07E083383-003 threading grooving mill
71EF07DFC283C-003 double half side mill
71E01A0540BE7-003 slab mill
71E02C544BABE-003 burr tool
71EAD37F18F34-003 adaptive item type
71EAD388173EE-003 driver
71EAD3871D313-003 converter
726F59BDC3B08-003 collet
727BE50E057F1-003 adaptive feature type
727BE50E9FE57-001 torque bracing
71EEBDADB63BE-002 extender
71EAD385E51A0-002 reducer
72550E1361C6C-003 drilling insert
71E01A05104CF-003 turn
71E01A0E9CBA9-003 boring bar
71E01A0EAF067-003 system tool
71E01A0E85121-003 prismatic tool holder
71D1066F279AD-002 cartridge
71E01A04C377D-003 broach
71E01A082DE72-002 disk broach
71E01A0838E9B-002 prismatic broach
71E01A081855D-003 tapered broach
71E0250E32A07-002 cylindrical broach
71E01A04E0236-003 threading tap
71E01A0E34C7F-002 conical tap
71E01A0A5355D-001 cylindrical tap
71DDA089C8D1E-003 specific profile insert
71E01A04A8AEC-003 ream
71E01A07BC535-001 cylindrical reamer
71E01A07ECCCF-001 profile reamer
71E01A07FF350-001 stepped reamer
71E01A07D2A1B-003 tapered reamer

71EBC1EB8456A-003 002 NR2S..4.6

Real measure mm

functional length minimum funlenmin LFN

Least distance from the gauge plane or from the end of the shank, if a gauge plane does not exist, to the cutting reference point determined by the main function of the tool

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A0E9CBA9-003 boring bar

71EAD388173EE-003 driver

71EAD3871D313-003 converter

71EEBDADB63BE-002 extender

71E01A0E85121-003 prismatic tool holder

71EAD385E51A0-002 reducer

71CF29984CDA7-003 002 NR2S..4.6

Real measure mm

functional width funwid WF

Distance between the cutting reference point and the rear backing surface of a turning tool or the axis of a boring bar

NOTE See the ISO 5609 series and ISO 5610-1.

Illustration reference: [Figure E.5](#), [Figure E.13](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.25](#), [Figure E.27](#), [Figure E.28](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A05104CF-003 turn

71E01A0E9CBA9-003 boring bar

71E01A0EAF067-003 system tool

71E01A0E85121-003 prismatic tool holder

71EAD388173EE-003 driver

71D1066F279AD-002 cartridge

71EAD3871D313-003 converter

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71EAD385E51A0-002 reducer

71DDA089C8D1E-003 specific profile insert

727BA921CDF0C-003 001 NR2S..4.6

Real measure mm

gauge diameter distance gaudiadis LDG

Dimension from a basic element to the gauge diameter, measured parallel to the axis of the item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

726F59BDC3B08-003 collet

72724DEA4CF84-003 001 NR2S..4.6

Real measure mm

groove width growid GW

Space in the outside contour of a collet that is used to lock the collet in a defined position, measured parallel to the collet axis

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

726F59BDC3B08-003 collet

726E3EB45D478-003 001 NR2S..4.6

Real measure mm

guide diameter guidia DGUI

Diameter of that part of a collet that participates to centre the collet into the adaptor

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

726F59BDC3B08-003 collet

726E3EB54F909-003 001 NR2S..4.6

Real measure mm

guide length guilen LGUI

Length of that part of a collet that participates to centre the collet into the adaptor

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

726F59BDC3B08-003 collet

726E3E95EEC5D-003 001 B 1

Boolean type

height adjustability heiadj ADJHT

Indication of an adjustment element that enables to change the position of height perpendicular to the xy-plane either of a cutting edge on a tool item or a tool item on an adaptive item

NOTE 0 - not adjustable in height; 1 - adjustable in height.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

727C2F58CB275-003 002 NR1S..4

Enumeration of integers

interlocking capability intloccap ILC

Identifier for the type of interlocking mechanism

REMARKS: Applicable for driven adaptive item and feed-out tool.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

726E424FE9EC2-003 001 X..6

Enumeration of codes

item style code itestycod ISYC

Identifier for the main design or shape of cutting item, tool item or adaptive item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71D1AA6C8FC75-003 cutting item type

71D1AE120D96E-003 nonequilateral equiangular

71DD68D91938A-001 rectangular insert

71D1AA489FD6E-003 nonequilateral nonequangular

71DD68D966F52-002 parallelogram insert

71D1AA486FF89-004 equilateral equiangular

71DD68D829217-001 square insert

71DD68D7CB4FA-001 octagonal insert

71DD68D8446CE-001 triangular insert

71DD68D7A8E5F-001 hexagonal insert

71DD68D80B094-001 pentagonal insert

72550E1361C6C-003 drilling insert
 7224CCDD587CF-003 non replaceable cutting item
 71D1AE11B8B77-003 equilateral nonequiangular
 71DD68D73218C-003 trigon insert
 71DD68D301C30-001 rhombic insert
 71D1AA6635E76-003 round insert
 726E3AAC68D91-003 reaming insert
 71DDA089C8D1E-003 specific profile insert
 71E01A004C775-003 tool item type
 71E01A00BD93C-003 drill
 71E01A065F635-002 deep hole drill
 71FAE7AAE8247-003 core drill
 71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill
 71E01D8A88F65-002 pilot drill
 71E01A0608FE4-002 twist drill
 71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E01A04F70F7-003 threading die
 71E01A0E4EE75-001 cylindrical die
 71E01A0E79239-001 hexagonal die

ISO/TS 13399-4:2021(E)

71E02C544BABE-003 burr tool
71E0251F304E1-003 rotating borer
71E01A05104CF-003 turn
71E01A0E9CBA9-003 boring bar
71E01A0EAF067-003 system tool
71E01A0E85121-003 prismatic tool holder
71D1066F279AD-002 cartridge
71E01A04C377D-003 broach
71E01A082DE72-002 disk broach
71E01A0838E9B-002 prismatic broach
71E01A081855D-003 tapered broach
71E0250E32A07-002 cylindrical broach
7272127CBD7B8-003 feed-out tool, machine operated
71E01A04E0236-003 threading tap
71E01A0E34C7F-002 conical tap
71E01A0A5355D-001 cylindrical tap
71E01A04A8AEC-003 ream
71E01A07BC535-001 cylindrical reamer
71E01A07ECCCF-001 profile reamer
71E01A07FF350-001 stepped reamer
71E01A07D2A1B-003 tapered reamer

71ED6E4A7EFBA-003 003 NR2S..3.6

Real measure degree of angle

kappa kap KAP

Rotation angle for the yzw-plane counterclockwise about the y-axis

Illustration reference: [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.28](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

71ED6E3E9AECB-001 xzw-plane

71EAD3871D313-003 converter

71EAD385E51A0-002 reducer

71DF5C0761888-003 002 B 1

Boolean type

keyway property keypro KYP

Possession of a keyway by either a tool item or an adaptive item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A05B627B-003 face mill

71E01A05EA320-003 half side mill

71E0251F304E1-003 rotating borer

71EAD388173EE-003 driver

71EF07E037025-003 slotting cutter

71EAD3871D313-003 converter

71EF07DFC283C-003 double half side mill

71EEBDADB63BE-002 extender

71E01A04C377D-003 broach

71E01A082DE72-002 disk broach

71E01A0838E9B-002 prismatic broach

71E01A081855D-003 tapered broach

71E0250E32A07-002 cylindrical broach

71E01A0540BE7-003 slab mill

71E01A06BF88D-003 counterbore drill

71EAD385E51A0-002 reducer

71E01A06A8A08-003 countersink drill

71E01A0769982-002 trepanning drill

71E01A04A8AEC-003 ream

71E01A07BC535-001 cylindrical reamer

71E01A07ECCCF-001 profile reamer

71E01A07FF350-001 stepped reamer

71E01A07D2A1B-003 tapered reamer

ISO/TS 13399-4:2021(E)

72724DF3005D8-003 001 NR2S..4.6

Real measure mm

length collet clamp lencolcla LCLC

Length of the diameter of a part of the collet that is before the planar surface and is used to enlarge the clamping length of the collet

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

726F59BDC3B08-003 collet

72724DF34868D-003 001 NR2S..4.6

Real measure mm

length collet offset bore lencoloffbor LCOB

Length of the enlarged part of the clamping diameter that is used to limit the clamping length

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

726F59BDC3B08-003 collet

726E3E94CFA31-003 002 NR2S..4.6

Real measure mm

length compensation compression lencomcom LCOMP

Dimension for the difference between the limits of the adjustment length that acts as overflow for a compression

Illustration reference: [Figure E.7](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD3871D313-003 converter

726E3E95600FD-003 002 NR2S..4.6

Real measure mm

length compensation tension lencomten LTENS

Dimension for the difference between the limits of the adjustment length that acts as overflow for a tension

Illustration reference: [Figure E.7](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD3871D313-003 converter

72724DF00D7E0-003 001 NR2S..4.6

Real measure mm

lock nut height locnuthei HLN

Distance between the two parallel surfaces of a lock nut, which are perpendicular to the axis

Illustration reference: [Figure E.10](#), [Figure E.11](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

72C4A723AD619-001 001 NR2S..4.3

Real measure

maximum overhang maxove OHX

Maximum recommended distance from CRP on tool item or CSW on adaptive item to actual mounting position to avoid malfunction

NOTE Applicable to ISO/TS 13399-3 and this document.

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

ISO/TS 13399-4:2021(E)

71EAD385E51A0-002 reducer
71E01A004C775-003 tool item type
71E01A00BD93C-003 drill
71E01A065F635-002 deep hole drill
71FAE7AAE8247-003 core drill
71E01A073CA28-003 centre drill
71E01A069566C-002 chamfer drill
71E01D8A88F65-002 pilot drill
71E01A0608FE4-002 twist drill
71E01A0751456-003 conical drill
71E01A06BF88D-003 counterbore drill
71E01A06A8A08-003 countersink drill
71E01A067F73C-002 step drill
71E01A0769982-002 trepanning drill
71E01A008D13F-003 mill
71E01A05B627B-003 face mill
71E01A05EA320-003 half side mill
71E01A05D27A8-003 end mill
71E01A0600702-003 ring mill
71EF07E037025-003 slotting cutter
71EF07E083383-003 threading grooving mill
71EF07DFC283C-003 double half side mill
71E01A0540BE7-003 slab mill
71E01A04F70F7-003 threading die
71E01A0E4EE75-001 cylindrical die
71E01A0E79239-001 hexagonal die
71E02C544BABE-003 burr tool
71E0251F304E1-003 rotating borer
71E01A05104CF-003 turn
71E01A0E9CBA9-003 boring bar
71E01A0EAF067-003 system tool
71E01A0E85121-003 prismatic tool holder
71D1066F279AD-002 cartridge

71E01A04C377D-003 broach
 71E01A082DE72-002 disk broach
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71E0250E32A07-002 cylindrical broach
 7272127CBD7B8-003 feed-out tool, machine operated
 71E01A04E0236-003 threading tap
 71E01A0E34C7F-002 conical tap
 71E01A0A5355D-001 cylindrical tap
 71E01A04A8AEC-003 ream
 71E01A07BC535-001 cylindrical reamer
 71E01A07ECCCF-001 profile reamer
 71E01A07FF350-001 stepped reamer
 71E01A07D2A1B-003 tapered reamer

726E3E9FCA6C2-003 001 NR1S..2

Integer

mounting hole count mouholcou NOH

Number of mounting holes that are located on the same bolt hole circle

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71D078EB73E87-003 002 NR2S..4.6

Real measure mm

overall height **ovehei** **OAH**

Largest dimension of an item in the direction of the Y-axis that would cause interference, including the master insert and clamping where applicable

Illustration reference: [Figure E.5](#), [Figure E.13](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.27](#), [Figure E.28](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A05104CF-003 turn

71E01A0E9CBA9-003 boring bar

71E01A0EAF067-003 system tool

71E01A0E85121-003 prismatic tool holder

71EAD388173EE-003 driver

71D1066F279AD-002 cartridge

71EAD3871D313-003 converter

71E01A0838E9B-002 prismatic broach

71EC56E223664-001 leaf spring

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71D078EB7C086-003 002 NR2S..4.6

Real measure mm

overall length **ovelen** **OAL**

Largest dimension of an item in the direction of the Z-axis

Illustration reference: [Figure E.1](#), [Figure E.2](#), [Figure E.3](#), [Figure E.4](#), [Figure E.5](#), [Figure E.6](#), [Figure E.7](#), [Figure E.8](#), [Figure E.9](#), [Figure E.10](#), [Figure E.11](#), [Figure E.12](#), [Figure E.13](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.27](#), [Figure E.28](#), [Figure E.29](#), [Figure E.30](#), [Figure E.31](#), [Figure E.32](#), [Figure E.33](#), [Figure E.34](#), [Figure E.35](#), [Figure E.36](#), [Figure E.37](#), [Figure E.38](#), [Figure E.39](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet
727BE50E057F1-003 adaptive feature type
727BE50E9FE57-001 torque bracing
71EEBDADB63BE-002 extender
71EAD385E51A0-002 reducer
71EC56E106606-001 flat wire compression spring
71E01A004C775-003 tool item type
71E01A00BD93C-003 drill
71E01A065F635-002 deep hole drill
71FAE7AAE8247-003 core drill
71E01A073CA28-003 centre drill
71E01A069566C-002 chamfer drill
71E01D8A88F65-002 pilot drill
71E01A0608FE4-002 twist drill
71E01A0751456-003 conical drill
71E01A06BF88D-003 counterbore drill
71E01A06A8A08-003 countersink drill
71E01A067F73C-002 step drill
71E01A0769982-002 trepanning drill
71E01A008D13F-003 mill
71E01A05B627B-003 face mill
71E01A05EA320-003 half side mill
71E01A05D27A8-003 end mill
71E01A0600702-003 ring mill
71EF07E037025-003 slotting cutter
71EF07E083383-003 threading grooving mill
71EF07DFC283C-003 double half side mill
71E01A0540BE7-003 slab mill
71E01A04F70F7-003 threading die
71E01A0E4EE75-001 cylindrical die
71E01A0E79239-001 hexagonal die
71E02C544BABE-003 burr tool
71E0251F304E1-003 rotating borer

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71E01A05104CF-003 turn
71E01A0E9CBA9-003 boring bar
71E01A0EAF067-003 system tool
71E01A0E85121-003 prismatic tool holder
71D1066F279AD-002 cartridge
71E01A04C377D-003 broach
71E01A082DE72-002 disk broach
71E01A0838E9B-002 prismatic broach
71E01A081855D-003 tapered broach
71E0250E32A07-002 cylindrical broach
7272127CBD7B8-003 feed-out tool, machine operated
71E01A04E0236-003 threading tap
71E01A0E34C7F-002 conical tap
71E01A0A5355D-001 cylindrical tap
71E01A04A8AEC-003 ream
71E01A07BC535-001 cylindrical reamer
71E01A07ECCCF-001 profile reamer
71E01A07FF350-001 stepped reamer
71E01A07D2A1B-003 tapered reamer
71EC56E223664-001 leaf spring

71CF299257986-003 002 NR2S..4.6

Real measure mm

overall width **ovewid** **OAW**

Largest dimension of an item in the direction of the X-axis including the master insert where applicable

Illustration reference: [Figure E.5](#), [Figure E.13](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.27](#), [Figure E.28](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A05104CF-003 turn

71E01A0E9CBA9-003 boring bar

71E01A0EAF067-003 system tool

71E01A0E85121-003 prismatic tool holder

71EAD388173EE-003 driver

71D1066F279AD-002 cartridge

71EAD3871D313-003 converter

71E01A0838E9B-002 prismatic broach

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

72719B21DF5DB-003 001 NR2S..4.6

Real measure mm

overhang minimum ovemin OHN

Minimum required overhang of a tool item or adaptive item to ensure functionality measured from that cutting reference point, CRP, that is furthest away from the primary coordinate reference system PCS for tool items or from that coordinate system workpiece side, CSW, that is furthest away from the primary coordinate reference system PCS for adaptive items

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71E01A004C775-003 tool item type

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill

71E01A069566C-002 chamfer drill

71E01D8A88F65-002 pilot drill

71E01A0608FE4-002 twist drill

71E01A0751456-003 conical drill
71E01A06BF88D-003 counterbore drill
71E01A06A8A08-003 countersink drill
71E01A067F73C-002 step drill
71E01A0769982-002 trepanning drill
71E01A008D13F-003 mill
71E01A05B627B-003 face mill
71E01A05EA320-003 half side mill
71E01A05D27A8-003 end mill
71E01A0600702-003 ring mill
71EF07E037025-003 slotting cutter
71EF07E083383-003 threading grooving mill
71EF07DFC283C-003 double half side mill
71E01A0540BE7-003 slab mill
71E01A04F70F7-003 threading die
71E01A0E4EE75-001 cylindrical die
71E01A0E79239-001 hexagonal die
71E02C544BABE-003 burr tool
71E0251F304E1-003 rotating borer
71E01A05104CF-003 turn
71E01A0E9CBA9-003 boring bar
71E01A0EAF067-003 system tool
71E01A0E85121-003 prismatic tool holder
71D1066F279AD-002 cartridge
71E01A04C377D-003 broach
71E01A082DE72-002 disk broach
71E01A0838E9B-002 prismatic broach
71E01A081855D-003 tapered broach
71E0250E32A07-002 cylindrical broach
7272127CBD7B8-003 feed-out tool, machine operated
71E01A04E0236-003 threading tap
71E01A0E34C7F-002 conical tap
71E01A0A5355D-001 cylindrical tap

71E01A04A8AEC-003 ream

71E01A07BC535-001 cylindrical reamer

71E01A07ECCCF-001 profile reamer

71E01A07FF350-001 stepped reamer

71E01A07D2A1B-003 tapered reamer

728C566189EBC-003 001 NR1S..1

Enumeration of integers

overload clutch oveclu OLCL

Identifier for whether the object is equipped with a design feature that avoids an overload by torque to the tool or adaptive item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD3871D313-003 converter

71ED6E4AE850B-002 002 NR2S..3.6

Real measure degree of angle

phi phi PHI

Rotation angle for the xzw-plane counterclockwise about the z-axis

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

71EAD3871D313-003 converter

71ED6E3F268C6-001 xyw-plane

71EAD385E51A0-002 reducer

728C566231A05-003 001 NR2S..3.3

Real measure Nm

presetting torque pretor PSETTQ

Preset torque where the transmission of power will be cut to avoid damage to the cutting tool

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD3871D313-003 converter

726E3E9EE42A5-003 001 NR2S..3.6

Real measure degree of angle

prism angle lower prianglow PRMALO

Angle between the prism base plane and the lower clamping surface of a prismatic connection measured perpendicular to the prism base plane

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

726E3E9F44AA7-003 001 NR2S..3.6

Real measure degree of angle

prism angle upper priangupp PRMAUP

Angle between the prism base plane and the upper clamping surface of a prismatic connection measured perpendicular to the prism base plane

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

726E3E9993CE7-003 001 NR2S..4.6

Real measure mm

prism height prihei HTPRM

Distance between the theoretical corners of a prismatic connection measured between the upper and lower prism angle

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

726E3E9E6A729-003 001 NR2S..4.6

Real measure mm

prism width priwid WTHPRM

Distance between the prism base plane and a plane through the intersection of the prism angular plane and the connection plane measured perpendicular to the prism base plane

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71DCD394BB20E-003 002 NR2S..4.6

Real measure mm

protruding length prolen LPR

Distance from the MCS to the furthest point of a tool or adaptive item measured in the negative Z-axis direction

NOTE 1 For tool items the protruding length can be equal to the functional length if the furthest point is the cutting reference point.

NOTE 2 For adaptive items the protruding length can be equal to the functional length if the furthest point is the origin of the coordinate system workpiece side.

Illustration reference: [Figure E.1](#), [Figure E.2](#), [Figure E.3](#), [Figure E.4](#), [Figure E.5](#), [Figure E.6](#), [Figure E.7](#), [Figure E.8](#), [Figure E.9](#), [Figure E.10](#), [Figure E.11](#), [Figure E.12](#), [Figure E.13](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.27](#), [Figure E.28](#), [Figure E.29](#), [Figure E.30](#), [Figure E.31](#), [Figure E.32](#), [Figure E.33](#), [Figure E.34](#), [Figure E.35](#), [Figure E.36](#), [Figure E.37](#), [Figure E.38](#), [Figure E.39](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill

71E01A069566C-002 chamfer drill

71E01D8A88F65-002 pilot drill

71E01A0608FE4-002 twist drill

71E01A0751456-003 conical drill

71E01A06BF88D-003 counterbore drill

71E01A06A8A08-003 countersink drill

71E01A067F73C-002 step drill

71E01A0769982-002 trepanning drill

71E01A008D13F-003 mill

71E01A05B627B-003 face mill

71E01A05EA320-003 half side mill

71E01A05D27A8-003 end mill

71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E0251F304E1-003 rotating borer
 71EAD37F18F34-003 adaptive item type
 71EAD388173EE-003 driver
 71EAD3871D313-003 converter
 726F59BDC3B08-003 collet
 727BE50E057F1-003 adaptive feature type
 727BE50E9FE57-001 torque bracing
 71EEBDADB63BE-002 extender
 71EAD385E51A0-002 reducer
 72550E1361C6C-003 drilling insert
 71E01A04C377D-003 broach
 71E01A082DE72-002 disk broach
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71E0250E32A07-002 cylindrical broach
 71E01A0EAF067-003 system tool
 71E01A04E0236-003 threading tap
 71E01A0E34C7F-002 conical tap
 71E01A0A5355B-001 cylindrical tap
 71DDA089C8D1E-003 specific profile insert
 71E01A04A8AEC-003 ream
 71E01A07BC535-001 cylindrical reamer
 71E01A07ECCCF-001 profile reamer
 71E01A07FF350-001 stepped reamer
 71E01A07D2A1B-003 tapered reamer

726E3E86B5284-003 001 NR2S..4.6

Real measure mm

radial height radhei RADH

height of the adaptive item measured from either the item axis or the bottom backing surface to the farthest body contour along the negative Y-axis

Illustration reference: [Figure E.5](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.27](#), [Figure E.28](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

726E3E8E6CEE3-003 001 NR2S..3.6

Real measure degree of angle

radial height chamfer angle lower radheichaanglow RHCAL

Angle of the chamfer located at the lower opposite side of the radial offset dimensions measured from a line parallel to the X-axis of PCS in clockwise direction

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

726E3E8F2AE05-003 001 NR2S..3.6

Real measure degree of angle

radial height chamfer angle upper radheichaangupp RHCAU

Angle of the chamfer located at the upper opposite side of the radial offset dimensions measured from a line parallel to the X-axis of PCS in clockwise direction

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

726E3E8F925AC-003 001 NR2S..4.6

Real measure mm

radial height chamfer distance lower radheichadislow RHCDL

Distance of the chamfer located at the lower opposite side of the radial offset dimensions measured from the origin of PCS parallel to the Y-axis

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

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726E3E9005480-003 001 NR2S..4.6

Real measure mm

radial height chamfer distance upper radheichadisupp RHCDU

Distance of the chamfer located at the upper opposite side of the radial offset dimensions measured from the origin of PCS parallel to the Y-axis

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

726E3E8AF37E4-003 001 NR2S..4.6

Real measure mm

radial offset height radoffhei RADHOF

Distance of a surface for easier access to the mounted tool item at the adaptive item measured from either the item axis or the bottom backing surface along the negative Y-axis

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

726E3E8E0AE97-003 001 NR2S..4.6

Real measure mm

radial offset width radoffwid RADWOF

Distance of a surface for easier access to the mounted tool item at the adaptive item measured backwards from the surface dimensioned with radial width along the X-axis

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

726E3E8DA5589-003 001 NR2S..4.6

Real measure mm

radial width radwid RADW

Distance of a surface for easier access to the mounted tool item at the adaptive item measured from either the item axis or the bottom backing surface along the negative Y-axis

Illustration reference: [Figure E.5](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.27](#), [Figure E.28](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

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71EAD385E51A0-002 reducer

728C5660F4D6B-003 001 B 1

Boolean type

reversed rotation direction output side revrotidiroutsid RIDOP

Identifier for reversed direction rotation on workpiece side

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

71ED6E4B254E5-002 002 NR2S..3.6

Real measure degree of angle

rho rho RHO

Rotation angle for the x-y-z-plane counterclockwise about the x-axis

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

71ED6E3F84723-001 y-z-plane

71EAD3871D313-003 converter

71EAD385E51A0-002 reducer

71DF153A691F2-003 002

Level

rotational speed maximum rotspemax RPMX

Maximum rotational speed allowed for an item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill
 71E01D8A88F65-002 pilot drill
 71E01A0608FE4-002 twist drill
 71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E01A04F70F7-003 threading die
 71E01A0E4EE75-001 cylindrical die
 71E01A0E79239-001 hexagonal die
 71E0251F304E1-003 rotating borer
 71EAD37F18F34-003 adaptive item type
 71EAD388173EE-003 driver
 71EAD3871D313-003 converter
 726F59BDC3B08-003 collet
 727BE50E057F1-003 adaptive feature type
 727BE50E9FE57-001 torque bracing
 71EEBDADB63BE-002 extender
 71EAD385E51A0-002 reducer
 71E01A04E0236-003 threading tap
 71E01A0E34C7F-002 conical tap
 71E01A0A5355D-001 cylindrical tap

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71E01A04A8AEC-003 ream

71E01A07BC535-001 cylindrical reamer

71E01A07ECCCF-001 profile reamer

71E01A07FF350-001 stepped reamer

71E01A07D2A1B-003 tapered reamer

71CF29883E014-003 002 NR2S..4.6

Real measure mm

shank height shahei H

Dimension of the height of a shank

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A0E9CBA9-003 boring bar

71EAD388173EE-003 driver

71D1066F279AD-002 cartridge

71EAD3871D313-003 converter

71E01A0838E9B-002 prismatic broach

71E01A0E85121-003 prismatic tool holder

71EAD385E51A0-002 reducer

71CF298870946-003 002 NR2S..4.6

Real measure mm

shank length shalen LS

Dimension of the length of a shank

Illustration reference: [Figure E.9](#), [Figure E.11](#), [Figure E.12](#), [Figure E.13](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.27](#), [Figure E.28](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A0E9CBA9-003 boring bar

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill
 71E01A073CA28-003 centre drill
 71E01A069566C-002 chamfer drill
 71E01D8A88F65-002 pilot drill
 71E01A0608FE4-002 twist drill
 71E01A0751456-003 conical drill
 71E01A06BF88D-003 counterbore drill
 71E01A06A8A08-003 countersink drill
 71E01A067F73C-002 step drill
 71E01A0769982-002 trepanning drill
 71E01A008D13F-003 mill
 71E01A05B627B-003 face mill
 71E01A05EA320-003 half side mill
 71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E02C544BABE-003 burr tool
 71EAD388173EE-003 driver
 71D1066F279AD-002 cartridge
 71EAD3871D313-003 converter
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71E01A0E85121-003 prismatic tool holder
 71E0250E32A07-002 cylindrical broach
 71EAD385E51A0-002 reducer
 71E01A04E0236-003 threading tap
 71E01A0E34C7F-002 conical tap
 71E01A0A5355D-001 cylindrical tap
 71E01A04A8AEC-003 ream
 71E01A07BC535-001 cylindrical reamer

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71E01A07ECCCF-001 profile reamer

71E01A07FF350-001 stepped reamer

71E01A07D2A1B-003 tapered reamer

71CF298751FCF-003 002 NR2S..4.6

Real measure mm

shank width shawid B

Dimension of the width of a shank

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A0E9CBA9-003 boring bar

71EAD388173EE-003 driver

71D1066F279AD-002 cartridge

71EAD3871D313-003 converter

71E01A0838E9B-002 prismatic broach

71E01A0E85121-003 prismatic tool holder

71EAD385E51A0-002 reducer

71EBDBF130AE6-003 002 X 17

Enumeration of codes

side sid SIDE

Identifier of a condition to assign the value of a property of a tool item or adaptive item to either the machine side or the workpiece side of the item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71DF8C37D9115-003 connection interface feature

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

727BE4F24A271-003 001 NR2S..4.6

Real measure mm

spanner flat length spaflalen SFL

Length of the spanner flats on an item, which are used to support the mounting of the item

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

726F59BDC3B08-003 collet

72807E1CC4B50-003 001 X..5

String

standard letter stalet STDLET

Label for the identification of different products or different designs of a product that is based on a standard referenced in the property "standard number"

NOTE See ISO/TS 13399-2, ISO/TS 13399-3 and this document.

REMARKS: If applicable, the property shall only be used in conjunction with the property "standard number" value. For example, ISO 6462 contains forms A, B, C, D for a milling cutter. The valid value for a milling cutter with tenon drive and cutter retaining screw according to ISO 6462 is "B", in connection with the property "standard number" where the entry shall be "ISO6462".

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71D1AA6C8FC75-003 cutting item type

71D1AE120D96E-003 nonequilateral equiangular

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71DD68D91938A-001 rectangular insert
71D1AA489FD6E-003 nonequilateral nonequiangular
71DD68D966F52-002 parallelogram insert
71D1AA486FF89-004 equilateral equiangular
71DD68D829217-001 square insert
71DD68D7CB4FA-001 octagonal insert
71DD68D8446CE-001 triangular insert
71DD68D7A8E5F-001 hexagonal insert
71DD68D80B094-001 pentagonal insert
72550E1361C6C-003 drilling insert
7224CCDD587CF-003 non replaceable cutting item
71D1AE11B8B77-003 equilateral nonequiangular
71DD68D73218C-003 trigon insert
71DD68D301C30-001 rhombic insert
71D1AA6635E76-003 round insert
726E3AAC68D91-003 reaming insert
71DDA089C8D1E-003 specific profile insert
71E01A004C775-003 tool item type
71E01A00BD93C-003 drill
71E01A065F635-002 deep hole drill
71FAE7AAE8247-003 core drill
71E01A073CA28-003 centre drill
71E01A069566C-002 chamfer drill
71E01D8A88F65-002 pilot drill
71E01A0608FE4-002 twist drill
71E01A0751456-003 conical drill
71E01A06BF88D-003 counterbore drill
71E01A06A8A08-003 countersink drill
71E01A067F73C-002 step drill
71E01A0769982-002 trepanning drill
71E01A008D13F-003 mill
71E01A05B627B-003 face mill
71E01A05EA320-003 half side mill

71E01A05D27A8-003 end mill
 71E01A0600702-003 ring mill
 71EF07E037025-003 slotting cutter
 71EF07E083383-003 threading grooving mill
 71EF07DFC283C-003 double half side mill
 71E01A0540BE7-003 slab mill
 71E01A04F70F7-003 threading die
 71E01A0E4EE75-001 cylindrical die
 71E01A0E79239-001 hexagonal die
 71E02C544BABE-003 burr tool
 71E0251F304E1-003 rotating borer
 71E01A05104CF-003 turn
 71E01A0E9CBA9-003 boring bar
 71E01A0EAF067-003 system tool
 71E01A0E85121-003 prismatic tool holder
 71D1066F279AD-002 cartridge
 71E01A04C377D-003 broach
 71E01A082DE72-002 disk broach
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71E0250E32A07-002 cylindrical broach
 7272127CBD7B8-003 feed-out tool, machine operated
 71E01A04E0236-003 threading tap
 71E01A0E34C7F-002 conical tap
 71E01A0A5355D-001 cylindrical tap
 71E01A04A8AEC-003 ream
 71E01A07BC535-001 cylindrical reamer
 71E01A07ECCCF-001 profile reamer
 71E01A07FF350-001 stepped reamer
 71E01A07D2A1B-003 tapered reamer

727BE4FC81BE2-003 001 NR2S..3.6

Real measure degree of angle

swing angle 2 max swiang2max SWANG2X

Maximum rotational movement of a swing arm about the Y axis, measured from the Z axis in mathematical negative direction (clockwise)

Illustration reference: [Figure E.15](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

727BE4FCF2D1B-003 001 NR2S..3.6

Real measure degree of angle

swing angle 3 max swiang3max SWANG3X

Maximum rotational movement of a swing arm about the Z axis, measured from the X axis in mathematical negative direction (clockwise)

Illustration reference: [Figure E.16](#), [Figure E.19](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

727BE4FDB0EE6-003 001 NR2S..3.6

Real measure degree of angle

swing angle 4 max swiang4max SWANG4X

Maximum rotational movement of a swing arm about the Z axis, measured from the X axis in mathematical positive direction (counterclockwise)

Illustration reference: [Figure E.16](#), [Figure E.19](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

727BE4FC198DB-003 001 NR2S..3.3

Real measure degree of angle

swing angle max swiangmax SWANGX

Maximum rotational movement of a swing arm about the Y axis, measured from the Z axis in mathematical positive direction (counterclockwise)

Illustration reference: [Figure E.15](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

727BE4FA45AF9-003 001 NR2S..4.6

Real measure mm

swing arm height swiarmhei SWAH

Largest elongation of that part of an item, which is able to be revolved about an axis, measured parallel to the Y axis of the primary coordinate system

Illustration reference: [Figure E.15](#), [Figure E.16](#), [Figure E.19](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

727BE4FAFB5D9-003 001 NR2S..4.6

Real measure mm

swing arm length swiarmlen SWAL

Largest elongation of that part of an item, which is able to be revolved about an axis, measured parallel to the Z axis of the primary coordinate system

Illustration reference: [Figure E.15](#), [Figure E.16](#), [Figure E.19](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

727BE4FB445A3-003 001 NR2S..4.6

Real measure mm

swing arm width swiarmwid SWAW

Largest elongation of that part of an item, which is able to be revolved about an axis, measured parallel to the X axis of the primary coordinate system

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Illustration reference: [Figure E.15](#), [Figure E.16](#), [Figure E.19](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

727BE4FBB782A-003 001 NR2S..4.6

Real measure mm

swing radius swirad SWRAD

Distance between the tool axis and the origin of the coordinate system workpiece side, measured radial from the tool axis

Illustration reference: [Figure E.15](#), [Figure E.16](#), [Figure E.19](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD388173EE-003 driver

71EAC4A2B6544-003 003 NR2S..3.6

Real measure degree of angle

taper angle tapang TA

Included angle between generatrices in the axial plane section

NOTE See ISO 1119.

Illustration reference: [Figure E.5](#), [Figure E.29](#), [Figure E.30](#), [Figure E.31](#), [Figure E.32](#), [Figure E.37](#), [Figure E.38](#), [Figure E.39](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71E01A05D27A8-003 end mill

71E01A0E34C7F-002 conical tap

71EF07E037025-003 slotting cutter

726F59BDC3B08-003 collet

71E01A081855D-003 tapered broach

71E01A0751456-003 conical drill

71E01A0540BE7-003 slab mill

71E01A07D2A1B-003 tapered reamer

71E01A06A8A08-003 countersink drill

727BE507BD9FC-003 001 NR2S..4.6

Real measure mm

taper angle distance tapangdis TAD

Dimension between the both tapers, measured perpendicular to the surface of the cones

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

726F59BDC3B08-003 collet

726E422B45872-003 001 NR2S..4.6

Real measure mm

taper length taplen TPL

Linear extension of a taper along the taper axis

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

726F59BDC3B08-003 collet

727ED91B5AA66-003 001 X..5

String

tolerance class connection diameter workpiece side tolclacondiaworsid TCDCONWS

Label for the level and size for the tolerance of the connection diameter on the workpiece side

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

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727BE50E9FE57-001 torque bracing
71EEBDADB63BE-002 extender
71EAD385E51A0-002 reducer
71E01A004C775-003 tool item type
71E01A00BD93C-003 drill
71E01A065F635-002 deep hole drill
71FAE7AAE8247-003 core drill
71E01A073CA28-003 centre drill
71E01A069566C-002 chamfer drill
71E01D8A88F65-002 pilot drill
71E01A0608FE4-002 twist drill
71E01A0751456-003 conical drill
71E01A06BF88D-003 counterbore drill
71E01A06A8A08-003 countersink drill
71E01A067F73C-002 step drill
71E01A0769982-002 trepanning drill
71E01A008D13F-003 mill
71E01A05B627B-003 face mill
71E01A05EA320-003 half side mill
71E01A05D27A8-003 end mill
71E01A0600702-003 ring mill
71EF07E037025-003 slotting cutter
71EF07E083383-003 threading grooving mill
71EF07DFC283C-003 double half side mill
71E01A0540BE7-003 slab mill
71E01A04F70F7-003 threading die
71E01A0E4EE75-001 cylindrical die
71E01A0E79239-001 hexagonal die
71E02C544BABE-003 burr tool
71E0251F304E1-003 rotating borer
71E01A05104CF-003 turn
71E01A0E9CBA9-003 boring bar
71E01A0EAF067-003 system tool

71E01A0E85121-003 prismatic tool holder
 71D1066F279AD-002 cartridge
 71E01A04C377D-003 broach
 71E01A082DE72-002 disk broach
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71E0250E32A07-002 cylindrical broach
 7272127CBD7B8-003 feed-out tool, machine operated
 71E01A04E0236-003 threading tap
 71E01A0E34C7F-002 conical tap
 71E01A0A5355D-001 cylindrical tap
 71E01A04A8AEC-003 ream
 71E01A07BC535-001 cylindrical reamer
 71E01A07ECCCF-001 profile reamer
 71E01A07FF350-001 stepped reamer
 71E01A07D2A1B-003 tapered reamer

728B074BFC2AD-001 002 NR2S.4.6

Real measure mm

tool assembly height tooasshei HTA

Distance, measured in the Y-axis direction, from the MCS of an adaptive item or a tool item to the CSW of an adaptive item or to the CRP of a tool item

NOTE Tool assembly dimensions of multiple items can be used to calculate the functional height of assembled items as they are fitted together to create a multi-item cutting tool.

REMARKS: See ISO/TS 13399-3 and this document.

Illustration reference: [Figure E.5](#), [Figure E.13](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.27](#), [Figure E.28](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type
727BE50E9FE57-001 torque bracing
71EEBDADB63BE-002 extender
71EAD385E51A0-002 reducer
71E01A004C775-003 tool item type
71E01A00BD93C-003 drill
71E01A065F635-002 deep hole drill
71FAE7AAE8247-003 core drill
71E01A073CA28-003 centre drill
71E01A069566C-002 chamfer drill
71E01D8A88F65-002 pilot drill
71E01A0608FE4-002 twist drill
71E01A0751456-003 conical drill
71E01A06BF88D-003 counterbore drill
71E01A06A8A08-003 countersink drill
71E01A067F73C-002 step drill
71E01A0769982-002 trepanning drill
71E01A008D13F-003 mill
71E01A05B627B-003 face mill
71E01A05EA320-003 half side mill
71E01A05D27A8-003 end mill
71E01A0600702-003 ring mill
71EF07E037025-003 slotting cutter
71EF07E083383-003 threading grooving mill
71EF07DFC283C-003 double half side mill
71E01A0540BE7-003 slab mill
71E01A04F70F7-003 threading die
71E01A0E4EE75-001 cylindrical die
71E01A0E79239-001 hexagonal die
71E02C544BABE-003 burr tool
71E0251F304E1-003 rotating borer
71E01A05104CF-003 turn
71E01A0E9CBA9-003 boring bar

71E01A0EAF067-003 system tool
 71E01A0E85121-003 prismatic tool holder
 71D1066F279AD-002 cartridge
 71E01A04C377D-003 broach
 71E01A082DE72-002 disk broach
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71E0250E32A07-002 cylindrical broach
 7272127CBD7B8-003 feed-out tool, machine operated
 71E01A04E0236-003 threading tap
 71E01A0E34C7F-002 conical tap
 71E01A0A5355D-001 cylindrical tap
 71E01A04A8AEC-003 ream
 71E01A07BC535-001 cylindrical reamer
 71E01A07ECCCF-001 profile reamer
 71E01A07FF350-001 stepped reamer
 71E01A07D2A1B-003 tapered reamer

728B074A39EBC-001 002 NR2S..4.6

Real measure mm

tool assembly length tooasslen LTA

Distance, measured in the Z-axis direction, from the MCS of an adaptive item or a tool item to the CSW of an adaptive item or to the CRP of a tool item

NOTE 1 Tool assembly dimensions of multiple items can be used to calculate the functional length of assembled items as they are fitted together to create a multi-item cutting tool.

NOTE 2 See ISO/TS 13399-2 (only drilling insert), ISO/TS 13399-3 and this document.

REMARKS: As an example, starting on the machine side with a tapered shank collet chuck adapter and fitting a solid drill into it, and adding the tool assembly lengths of each item, would provide a functional length of the assembled cutting tool.

Illustration reference: [Figure E.1](#), [Figure E.2](#), [Figure E.3](#), [Figure E.4](#), [Figure E.5](#), [Figure E.6](#), [Figure E.7](#), [Figure E.8](#), [Figure E.9](#), [Figure E.10](#), [Figure E.12](#), [Figure E.13](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.27](#), [Figure E.28](#), [Figure E.29](#), [Figure E.30](#), [Figure E.31](#), [Figure E.32](#), [Figure E.33](#), [Figure E.34](#), [Figure E.35](#), [Figure E.36](#), [Figure E.37](#), [Figure E.38](#), [Figure E.39](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type
71EAD388173EE-003 driver
71EAD3871D313-003 converter
726F59BDC3B08-003 collet
727BE50E057F1-003 adaptive feature type
727BE50E9FE57-001 torque bracing
71EEBDADB63BE-002 extender
71EAD385E51A0-002 reducer
72550E1361C6C-003 drilling insert
71E01A004C775-003 tool item type
71E01A00BD93C-003 drill
71E01A065F635-002 deep hole drill
71FAE7AAE8247-003 core drill
71E01A073CA28-003 centre drill
71E01A069566C-002 chamfer drill
71E01D8A88F65-002 pilot drill
71E01A0608FE4-002 twist drill
71E01A0751456-003 conical drill
71E01A06BF88D-003 counterbore drill
71E01A06A8A08-003 countersink drill
71E01A067F73C-002 step drill
71E01A0769982-002 trepanning drill
71E01A008D13F-003 mill
71E01A05B627B-003 face mill
71E01A05EA320-003 half side mill
71E01A05D27A8-003 end mill
71E01A0600702-003 ring mill
71EF07E037025-003 slotting cutter
71EF07E083383-003 threading grooving mill
71EF07DFC283C-003 double half side mill
71E01A0540BE7-003 slab mill
71E01A04F70F7-003 threading die
71E01A0E4EE75-001 cylindrical die

71E01A0E79239-001 hexagonal die
 71E02C544BABE-003 burr tool
 71E0251F304E1-003 rotating borer
 71E01A05104CF-003 turn
 71E01A0E9CBA9-003 boring bar
 71E01A0EAF067-003 system tool
 71E01A0E85121-003 prismatic tool holder
 71D1066F279AD-002 cartridge
 71E01A04C377D-003 broach
 71E01A082DE72-002 disk broach
 71E01A0838E9B-002 prismatic broach
 71E01A081855D-003 tapered broach
 71E0250E32A07-002 cylindrical broach
 7272127CBD7B8-003 feed-out tool, machine operated
 71E01A04E0236-003 threading tap
 71E01A0E34C7F-002 conical tap
 71E01A0A5355D-001 cylindrical tap
 71E01A04A8AEC-003 ream
 71E01A07BC535-001 cylindrical reamer
 71E01A07ECCCF-001 profile reamer
 71E01A07FF350-001 stepped reamer
 71E01A07D2A1B-003 tapered reamer
 71DDA089C8D1E-003 specific profile insert

728B074B7B0B5-001 002 NR2S..4.6

Real measure mm

tool assembly width tooasswid WTA

Distance, measured in the X-axis direction, from the MCS of an adaptive item or a tool item to the CSW of an adaptive item or to the CRP of a tool item

NOTE Tool assembly dimensions of multiple items can be used to calculate the functional width of assembled items as they are fitted together to create a multi-item cutting tool.

REMARKS: See ISO/TS 13399-3 and this document.

Illustration reference: [Figure E.5](#), [Figure E.13](#), [Figure E.14](#), [Figure E.15](#), [Figure E.16](#), [Figure E.17](#), [Figure E.18](#), [Figure E.19](#), [Figure E.20](#), [Figure E.21](#), [Figure E.22](#), [Figure E.23](#), [Figure E.24](#), [Figure E.25](#), [Figure E.26](#), [Figure E.27](#), [Figure E.28](#).

Visible class:

71CE7A72B6DA7-003 cutting tool library

Applicable classes:

71EAD37F18F34-003 adaptive item type

71EAD388173EE-003 driver

71EAD3871D313-003 converter

726F59BDC3B08-003 collet

727BE50E057F1-003 adaptive feature type

727BE50E9FE57-001 torque bracing

71EEBDADB63BE-002 extender

71EAD385E51A0-002 reducer

71E01A004C775-003 tool item type

71E01A00BD93C-003 drill

71E01A065F635-002 deep hole drill

71FAE7AAE8247-003 core drill

71E01A073CA28-003 centre drill

71E01A069566C-002 chamfer drill

71E01D8A88F65-002 pilot drill

71E01A0608FE4-002 twist drill

71E01A0751456-003 conical drill

71E01A06BF88D-003 counterbore drill

71E01A06A8A08-003 countersink drill

71E01A067F73C-002 step drill

71E01A0769982-002 trepanning drill

71E01A008D13F-003 mill

71E01A05B627B-003 face mill

71E01A05EA320-003 half side mill

71E01A05D27A8-003 end mill

71E01A0600702-003 ring mill

71EF07E037025-003 slotting cutter

71EF07E083383-003 threading grooving mill

71EF07DFC283C-003 double half side mill

71E01A0540BE7-003 slab mill