INTERNATIONAL STANDARD

**ISO 10889-7**

First edition
1997-12-15

# Tool holders with cylindrical shank —

# Part 7:
Type F with taper seat

*Porte-outil à queue cylindrique —*

*Partie 7: Porte-outil de type F pour outils à queue conique*



Reference number
ISO 10889-7:1997(E)

## 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10889-7 was prepared by Technical Commitee ISO/TC 29, *Small tools*.

ISO 10889 consists of the following parts, under the general title *Tool holders with cylindrical shank*:

— *Part 1: Cylindrical shank, location bore — Technical delivery conditions*

— *Part 2: Type A, shanks for tool holders of special designs*

— *Part 3: Type B with rectangular radial seat*

— *Part 4: Type C with rectangular axial seat*

— *Part 5: Type D with more than one rectangular seat*

— *Part 6: Type E with cylindrical seat*

— *Part 7: Type F with taper seat*

— *Part 8: Type Z, accessories*





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# Tool holders with cylindrical shank —

# Part 7:
Type F with taper seat



## 1 Scope

ISO 10889 applies to tool holders with cylindrical shank for machine tools with non-rotatating tools, preferably for turning machines.

This part of ISO 10889 specifies dimensions, designations and complementary technical delivery conditions for tool holders with taper seat of type F and with cylindrical shank mounting system in accordance with ISO 10889-1. For non-standardized tool holders with taper seat, such as tool holders as shown in the drawings, it is recommended to apply the corresponding specifications of this part of ISO 10889.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 10889. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 10889 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 296:1991, *Machine tools — Self-holding tapers for tool shanks.*

ISO 2768-1:1989, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications.*

ISO 10889-1:1997, *Tool holders with cylindrical shank — Part 1: Cylindrical shank, location bore — Technical delivery conditions.*

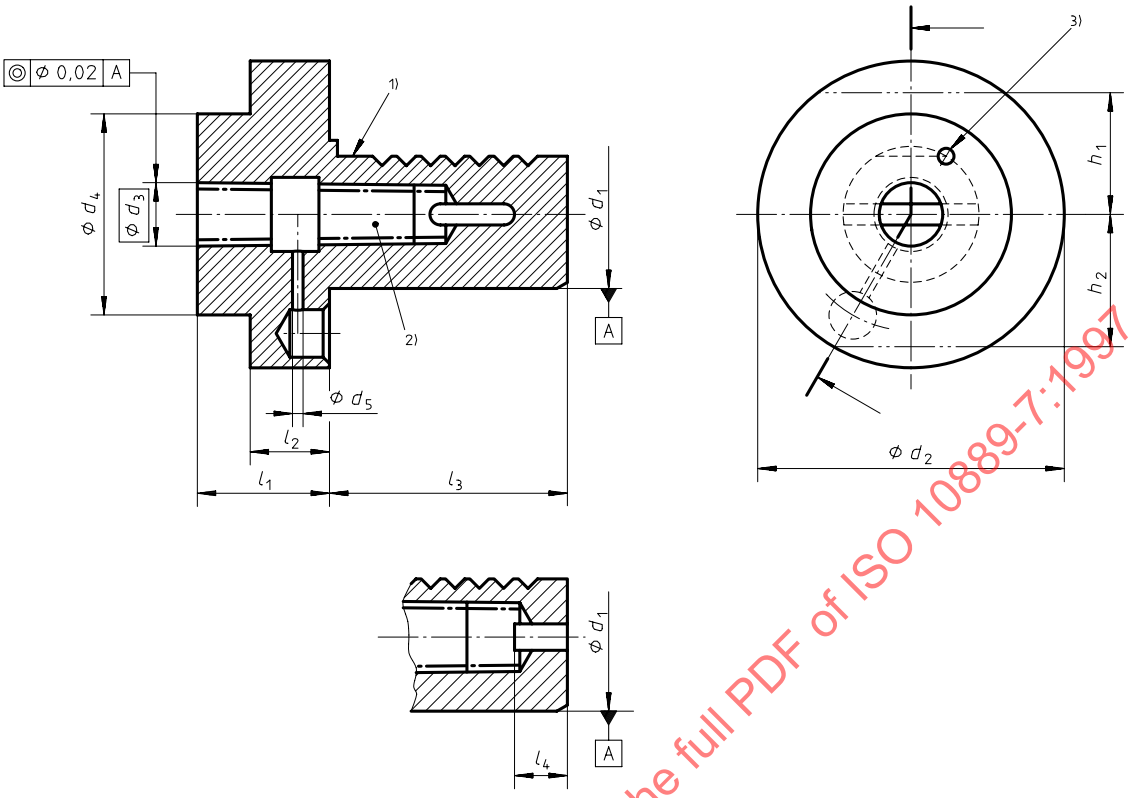
## 3 Dimensions

See figure 1 and table 1.

Unspecified details shall be chosen appropriately.

General tolerances: ISO 2768-1 - mB

Dimensions in millimetres




1) Cylindrical shank in accordance with ISO 10889-1.

2) Internal Morse taper, type BIK in accordance with ISO 296.

3) External coolant supply (closeable).

**Figure 1 — Taper seat type F tool holder, for taper shanks with flat tang**

**Table 1**

Dimensions in millimetres

| $d_1$ | Internal Morse taper, type BIK No. | $d_2$ | $d_3$ | $d_4$ | $d_5$ | $h_1$ | $h_2$ | $l_1$ | $l_2$ | $l_3$ | $l_4$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **20** | 1 | 50 | 12,065 | — | — | — | 23 | 23 | — | 40 | 7 [1)] |
| **25** | 1 | 58 | 12,065 | — | — | 25 | 25 | 23 | — | 48 | — |
| | 2 | | 17,780 | — | 5 | | | 27 | — | | — |
| **30** | 1 | 68 | 12,068 | — | — | 28 | 30 | 27 | — | 55 | — |
| | 2 | | 17,780 | — | 5 | | | | — | | 14 [1)] |
| **40** | 2 | 83 | 17,780 | 55 | 5 | 32,5 | — | 36 | 22 | 63 | — |
| | 3 | | 23,825 | 58 | 6 | | | | | | 14 [1)] |
| | 4 | | 31,267 | 68 | 7 | | | 80 | | | — |
| **50** | 2 | 98 | 17,780 | 55 | 5 | 35 | — | 36 | 30 | 78 | — |
| | 3 | | 23,825 | 58 | 6 | | | | | | — |
| | 4 | | 31,267 | 68 | 7 | | | 80 | | | 18 [1)] |
| **60** | 3 | 123 | 23,825 | 58 | 6 | 42,5 | — | 36 | 30 | 94 | — |
| | 4 | | 31,267 | 68 | 7 | | | 50 | | | — |
| | 5 | | 44,399 | 98 | 7 | | | 63 | | | 32 [1)] |
| **80** | 4 | 158 | 31,267 | 68 | 7 | 55 | — | 50 | 40 | 104 | — |
| | 5 | | 44,399 | 98 | | | | | | | — |

1) These sizes have a recess for taper shanks with falt tang up to the end face of the cylindrical shank. The design of slot is at the discretion of the manufacturer.



## 4 Designation

A type F tool holder with Morse taper seat in accordance with this part of ISO 10889 shall be designated by

a) "Tool holder";
b) reference to this part of ISO 10889, i.e. ISO 10889-7;
c) type (F);
d) nominal diameter, $d_1$, in millimetres;
e) internal taper type.

EXAMPLE

A type F tool holder with a Morse taper seat and nominal diameter $d_1$ = 40 mm and an internal taper, type BIK 3 is designated as follows:

**Tool holder ISO 10889-7 - F - 40 - MT-BIK 3**

## 5 Technical delivery conditions

As a complement to the requirements of ISO 10889-1 the following applies.

The taper socket shall be hardened, with a surface hardeness ($56^{+4}_{0}$) HRC, and a depth of hardening of at least 0,5 mm.

The taper angle tolerance class of taper socket shall be AT5 in accordance with ISO 296.

Tool holders can also be supplied with hardened contact surface. Then it shall be mentioned in the designation (H for hardened contact surface).

For instance, a type F tool holder with a Morse taper seat and nominal diameter $d_1$ = 40 mm, an internal taper type BIK 3 and hardened contact surface is designated as follows:

**Tool holder ISO 10889-7 - F - 40 - MT-BIK 3 H**