International Standard

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# Polygonal turret interface with flat contact surface —

## Part 3: Coupling for driven tool holders with shanks of type F and A

*Interfaces de tourelle polygonales avec surface de contact plane —*

*Partie 3: Accouplement pour porte-outils entraînés avec des queues de type F et A*



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# Foreword

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This document was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 9, *Tools with defined cutting edges, holding tools, cutting items, adaptive items and interfaces*.

A list of all parts in the ISO 5686 series can be found on the ISO website.

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# Polygonal turret interface with flat contact surface —

# Part 3:
# Coupling for driven tool holders with shanks of type F and A

## 1 Scope

This document specifies the dimensions of couplings for driven tool holders with polygonal taper shanks with flat contact surface (PTI). These shanks are the tool-side part of the interface to the (in cutting process non-rotating) tool carrier of machine tools (e.g. turret lathes, turning centres).

This document specifies a coupling type that applies to two of the three tool-side interface types defined in ISO 5686-1 (F, A). The tool shanks themselves are designed identically for all types.

— Shank type F has two holes for the coolant supply (F = fluid) on the face contact for use in two installation positions (offset by 180°).

— Shank type A has two holes on the face contact for the primary coolant supply and additional two holes for supplying the tool holder (driven tool) with sealing air (A = air). An installation position offset by 180° is possible. A spring-type straight pin belongs to the holder and avoids incorrect insertion.



## 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 5686-1, *Polygonal turret interface with flat contact surface — Part 1: Shanks of type F, H and A*



ISO 5686-2, *Polygonal turret interface with flat contact surface — Part 2: Receivers of type F, H, A and X for shanks of type F, H and A*

## 3 Terms and definitions

No terms and definitions are listed in this document.

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

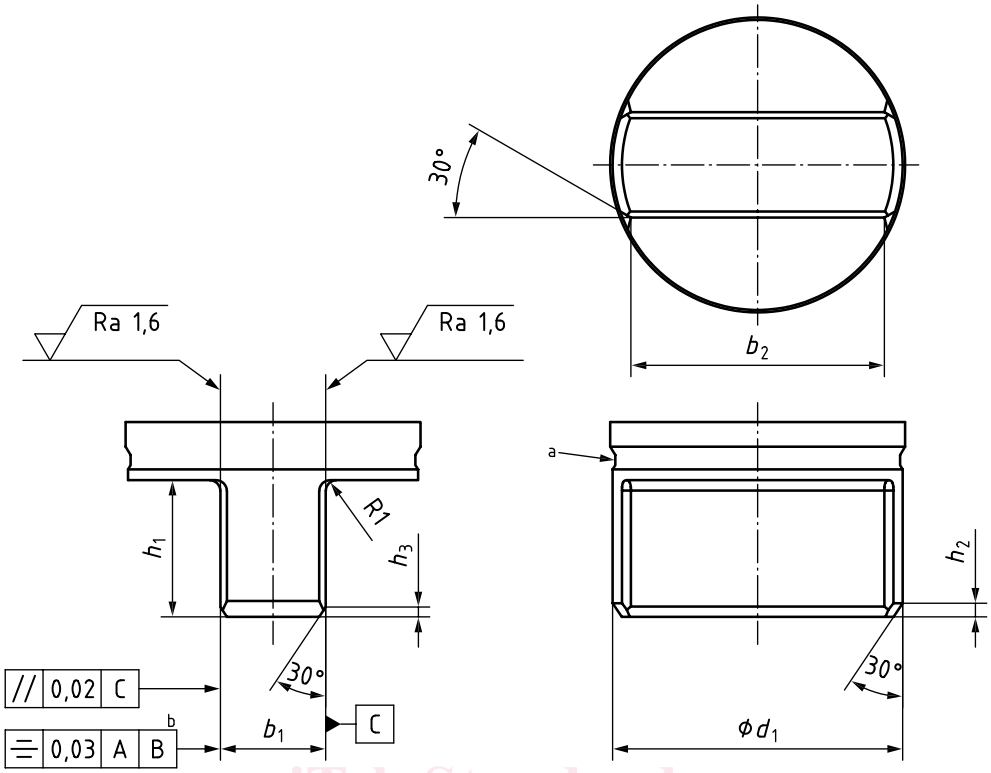
— IEC Electropedia: available at https://www.electropedia.org/

## 4 Couplings for polygonal taper shanks, dimensions

### 4.1 General

The dimensions of the coupling type A for driven tool holders with shanks of type F and A are specified in Figure 1. Details, not specified in Figure 1, shall be chosen appropriately.

## 4.2 Coupling for driven tool holders with polygonal taper shank




a Undercut according to the manufacturer's choice.

b The symmetry tolerance relates to the reference plane A and the reference polygon B from ISO 5686-1 (shanks).

NOTE See Table 1 for all symbols.



**Figure 1 — Coupling for driven tool holders with polygonal taper shank**



## 4.3 Dimensions

The dimensions of couplings for driven tool holders with polygonal taper shanks defined in this document shall be in accordance with Table 1.

**Table 1 — Coupling for driven tool holders with polygonal taper shank, Type A — Dimensions**

Dimensions in millimetres

| Nominal size | | 42 | 54 | 65 |
|---|---|---|---|---|
| $b_1$ | $^{0}_{-0,02}$ | 6 | 8 | 10 |
| $b_2$ | | 12,5 | 19,5 | 24 |
| $d_1$ | $g_6$ | 15 | 22,5 | 27,5 |
| $h_1$ | | 9 | 11,5 | 13 |
| $h_2$ | | 0,8 | 1,2 | 1,5 |
| $h_3$ | | 0,6 | 0,8 | 1 |