

Tool shanks with 7/24 taper for automatic tool changers —

Part 4: Specification for functional dimensions of front faces of spindle holders for machine centres

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Machine, Engineers and Hand Tools Standards Policy Committee (MTE/-) to Technical Committee MTE/6, upon which the following bodies were represented:

- British Engineers Cutting Tools Association
- Gauge and Tool Makers' Association
- Coopted members

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National foreword

This Part of BS 6607 has been prepared under the direction of the Machine, Engineers and Hand Tools Standards Policy Committee. It is identical with ISO 9524:1993 *Machine tools — Front faces of spindle holders for machining centres — Functional dimensions*, published by the International Organization for Standardization (ISO).

Cross-references

International Standard	Corresponding British Standard
ISO 7-1:1982	BS 21:1985 <i>Specification for pipe threads for tubes and fittings where pressure-tight joints are made on the threads (Metric dimensions)</i> (Technically equivalent)
ISO 7388-1:1983	BS 6607 <i>Tool shanks with 7/24 taper for automatic tool changers</i> Part 1:1985 <i>Specification for shank nos. 40, 45 and 50</i> (Identical)

The Technical Committee has reviewed the provisions of ISO 7388-1:1983 Add. 1:1984, to which normative reference is made in the text, and has decided that they are acceptable for use in conjunction with this standard.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This International Standard specifies the functional connecting dimensions of the front faces of spindle holders for machining centres and of their various machining and measuring accessories to ensure that interchangeability, fixing by means of automatic tool changing devices and correct machine operation of these accessories is possible.

The main accessories are

- a) electrically operated accessories;
- b) coolant feed accessories, and
- c) mechanical indexing accessories, i.e.
 - 1) angle heads,
 - 2) drilling-tapping heads,
 - 3) speed-increasing gears, etc.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard 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 7-1:1982, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Designation, dimensions and tolerances.*

ISO 7388-1:1983, *Tool shanks with 7/24 taper for automatic tool changers — Part 1: Shanks Nos. 40, 45 and 50 — Dimensions.*

ISO 7388-1:1983/Add.1:1984, *Addendum 1: Conicity tolerances.*

3 Main accessories

3.1 General

To enable use of these accessories in automatic operating systems, they shall be mounted on shanks complying with ISO 7388-1 and ISO 7388-1/Add.1.

The indexing angle of the connecting arm of the accessory shall be adjustable.

3.2 Electrically operated accessories (see Figure 1)

When the accessory is located by means of an automatic changer, the transmitter arm projecting over the sensor is in line with the receiver module. The receiver module is inserted in the connector block which is located on the spindle holder.

The dimensions are given in Table 1.

The functional connecting dimensions are the centre distance S and the distance C_1 between the face of the transmitter module and the gauge plane of the shank.

3.3 Coolant feed accessories (see Figure 2)

When the accessory is located by means of an automatic changer, its end is inserted in the corresponding hole or slot in the connector block which is located on the spindle holder.

The dimensions are given in Figure 2 and Table 1.

The initial position of the end of the accessory shall not overlap the top face of the flange and the travel of the end shall be sufficient to ensure good connection with the receiver of the connector block.

The functional connecting dimensions are the centre distance S , the distance C_2 between the face of the end and the end the gauge plane, and the diameter ($18 \begin{smallmatrix} -0,032 \\ -0,050 \end{smallmatrix}$ mm) of the end.