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**INTERNATIONAL STANDARD**



**4207**

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## **Counterbores with Morse taper shanks and detachable pilots**

*Outils à lamer à queue cône Morse et pilote amovible*

**First edition – 1977-02-01**

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[ISO 4207:1977](#)

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**UDC 621.914.22**

**Ref. No. ISO 4207-1977 (E)**

**Descriptors :** tools, cutting tools, power-operated tools, counterboring cutters, Morse taper shanks, tool pilots, specifications, dimensions.

Price based on 1 page

**FOREWORD**

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 4207 was developed by Technical Committee ISO/TC 29, *Small tools*, and was circulated to the member bodies in February 1976.

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It has been approved by the member bodies of the following countries :

- |           |                       |                |
|-----------|-----------------------|----------------|
| Australia | Italy                 | Spain          |
| Austria   | Japan                 | Sweden         |
| Belgium   | Korea, Rep. of        | Switzerland    |
| Brazil    | Mexico                | Turkey         |
| Bulgaria  | Netherlands           | United Kingdom |
| Germany   | Poland                | U.S.S.R.       |
| Hungary   | Romania               |                |
| Israel    | South Africa, Rep. of |                |

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The member body of the following country expressed disapproval of the document on technical grounds :

U.S.A.

# Counterbores with Morse taper shanks and detachable pilots

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the dimensions of counterbores with Morse taper shanks and detachable pilots for general use.

The illustration is diagrammatic only and is not intended to indicate details of design.

## 2 REFERENCES

ISO 296, *Machine tools – Self-holding tapers for tool shanks.*

ISO 4204, *Countersinks, 90°, with Morse taper shanks and detachable pilots.*

ISO 4208, *Detachables pilots for use with counterbores and 90° countersinks.*

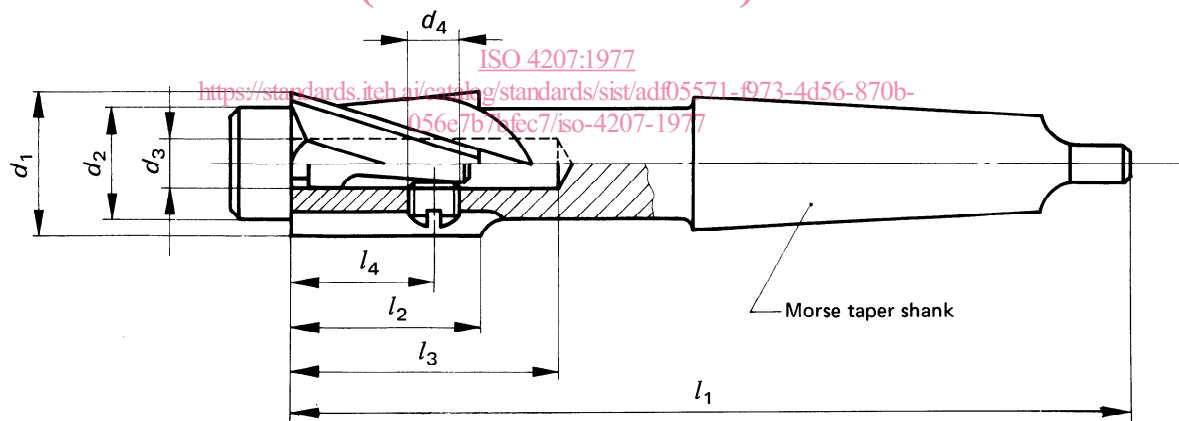
## 3 DIMENSIONS

The dimensions for the counterbores, Morse taper shanks and detachable pilots are given in the table. It specifies dimensions in metric units only, these being regarded as the only recommended dimensions in the future.

## 4 TOLERANCES

The tolerances relating to the counterbores, Morse taper shanks and detachable pilots are as follows :

- cutting diameter  $d_1$  : z9
- pilot diameter  $d_2$  : e8
- pilot hole diameter  $d_3$  : H8
- Morse taper : according to ISO 296



Dimensions in millimetres

| Cutting diameter<br>$d_1$ (z9) |      | Pilot diameter<br>$d_2$ (e8) |      | $d_3$<br>H8 | Set<br>screw<br>$d_4$ | $l_1$ | $l_2$ | $l_3$ | $l_4$ | Morse<br>taper<br>No. |
|--------------------------------|------|------------------------------|------|-------------|-----------------------|-------|-------|-------|-------|-----------------------|
| over                           | to   | over                         | to   |             |                       |       |       |       |       |                       |
| 12,5                           | 16   | 5                            | 14   | 4           | M 3                   | 132   | 22    | 30    | 16    | 2                     |
| 16                             | 20   | 6,3                          | 18   | 5           | M 4                   | 140   | 25    | 38    | 19    |                       |
| 20                             | 25   | 8                            | 22,4 | 6           | M 5                   | 150   | 30    | 46    | 23    |                       |
| 25                             | 31,5 | 10                           | 28   | 8           | M 6                   | 180   | 35    | 54    | 27    | 3                     |
| 31,5                           | 40   | 12,5                         | 35,5 | 10          | M 8                   | 190   | 40    | 64    | 32    |                       |
| 40                             | 50   | 16                           | 45   | 12          | M 8                   | 236   | 50    | 76    | 42    | 4                     |
| 50                             | 63   | 20                           | 56   | 16          | M10                   | 250   | 63    | 88    | 53    |                       |

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