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International Standard



6433

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

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## Technical drawings — Item references

*Dessins techniques — Repères des éléments*

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UDC 744.4

Ref. No. ISO 6433-1981 (E)

Descriptors : drawings, graphic methods, generalities.

## 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 6433 was developed by Technical Committee ISO/TC 10, *Technical drawings*, and was circulated to the member bodies in June 1980.

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

Australia	France	Poland
Austria	Germany, F. R.	Romania
Belgium	India	South Africa, Rep. of
Brazil	Ireland	Spain
Canada	Italy	Sweden
China	Japan	Switzerland
Czechoslovakia	Korea, Rep. of	United Kingdom
Denmark	Korea, Dem. P. Rep. of	USA
Egypt, Arab Rep. of	Netherlands	USSR
Finland	Norway	

No member body expressed disapproval of the document.

## Technical drawings — Item references

### 1 Scope and field of application

This International Standard gives general rules for the application and presentation of item references on technical drawings.

In the context of this International Standard the purpose of item references is restricted to the identification of component parts of assemblies and/or the identification of individual items detailed on the same drawing.

### 2 References

ISO 128, *Technical drawings — General principles of presentation*.<sup>1)</sup>

ISO 3098/1, *Technical drawings — Lettering — Part 1: Currently used characters*.

ISO 7573, *Technical drawings — Item list*.<sup>2)</sup>

### 3 General requirements

**3.1** It is recommended that item references be assigned in sequential order to each component part shown in an assembly and/or each detailed item on the drawing.

Identical parts shown in the same assembly shall have the same item reference.

Each complete sub-assembly incorporated in the main assembly shown on the drawing can be identified by a single item reference.

NOTE — If the drawing concerns one part only, it is not necessary to assign an item reference, the drawing number being already an adequate means of identifying the part concerned.

**3.2** All item references shall be shown in an item list (see ISO 7573) giving the appropriate information on the items concerned.

### 4 Presentation

**4.1** Item references should generally be composed of arabic numerals only. They may, however, be augmented by capital letters when necessary.

The design, dimensions and spacing of the characters shall comply with ISO 3098/1.

**4.2** All item references on the same drawing shall be of the same type and height of lettering. They must be clearly distinguishable from all other indications. This can be achieved for example by :

- a) using characters of a larger height, for example twice the height as used for dimensioning and similar indications;
- b) encircling the characters of each item reference (see figure 3); in that case, the circles shall have the same diameter and be drawn with continuous thin lines (type B of ISO 128);
- c) combining methods a) and b).

**4.3** Item references shall be placed outside the general outlines of the items concerned.

Each item reference should be connected to its associated item by a leader line (see figures 1, 2 and 3), the termination of which shall comply with ISO 128.

The leader line may be omitted if the relation between the item reference and its associated item is evident.

Leader lines shall not intersect. They should be kept as short as practicable and generally they should be drawn at an angle to the item reference. In the case of encircled item references, the leader line shall be directed towards the centre of the circle.

1) At present at the stage of draft. (Revision of ISO/R 128-1959.)

2) At present at the stage of draft.

## ISO 6433-1981 (E)

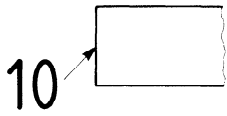


Figure 1

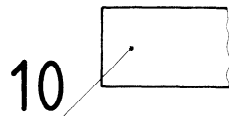


Figure 2

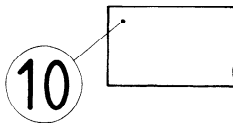


Figure 3

4.4 For the sake of clarity and legibility of the drawing, item references should be arranged preferably in vertical columns and/or horizontal rows (see figure 4).

4.5 Item references of related items may be shown against the same leader line (see figure 4, items, 8, 9, 10 and 11).

4.6 Item references of identical items need only be shown once, provided that there is no risk of ambiguity.

4.7 A distinct sequence for numbering should be adopted :

- according to the possible order of assembly;
- according to the importance of the component parts (sub-assemblies, major parts, minor parts, etc.).
- according to any other logical sequence.

## 5 Example

An example of the application of item references for an assembly is given in figure 4.

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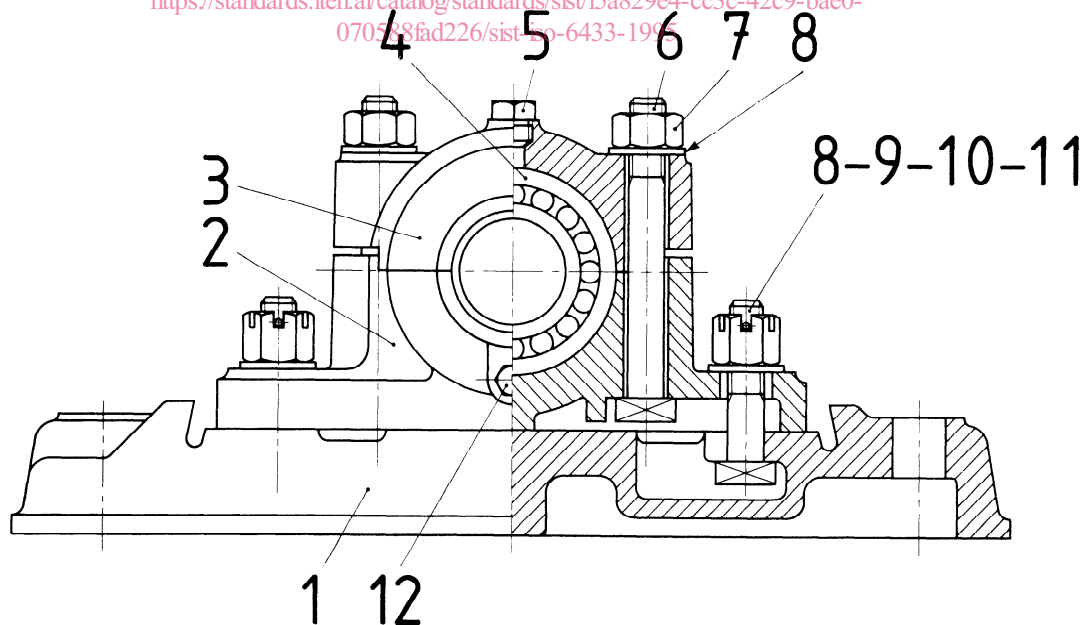


Figure 4