

JAPANESE
INDUSTRIAL
STANDARD

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JIS B 0011-2 : 1998
(ISO 6412-2 : 1989)

**Technical drawings—Simplified
representation of pipelines—
Part 2 : Isometric representation**

ICS 01.100.01; 23.040.01

Descriptors : pipelines, pipework systems, technical drawing, projection (drawing), drawings

Reference number : JIS B 0011-2 : 1998 (E)

B 0011-2 : 1998 (ISO 6412-2 : 1989)

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS Z 8205** : 1995 is revised and replaced with **JIS B 0011-1** : 1998, **JIS B 0011-2** : 1998 and **JIS B 0011-3** : 1998.

JIS B 0011 consists of the following parts, under the general title *Technical drawings—Simplified representation of pipelines*:

Part 1 : *General rules and orthogonal representation*

Part 2 : *Isometric representation*

Part 3 : *Terminal features of ventilation and drainage systems*

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Technical drawings— Simplified representation of pipelines— Part 2: Isometric representation

Introduction This part of **JIS B 0011** has been prepared based on the first edition issued in 1989 of **ISO 6412-2**, *Technical drawings—Simplified representation of pipelines—Part 2: Isometric projection* without changing the technical contents.

The matters underlined with a dotted line in this part is not included in the original International Standard.

For drawings for tender, manufacturing drawings and setting drawings in pipe-line construction as well as in machine construction and the construction industry, isometric projection has been introduced to a great extent, since it reduces drawing work and it makes the presentation clearer.

For the purpose of this part of **JIS B 0011**, all dimensions and tolerances on the drawings has been stencilled in upright lettering. It should be understood that these indications can be freehand writing or inclined (italic) lettering without altering the meaning of the indications.

For the presentation of lettering (proportions and dimensions), see **JIS 0011-1**.

1 Scope This part of **JIS B 0011** specifies supplementary rules, in addition to the general rules given in **JIS B 0011-1**, applicable to isometric representation. Isometric representation shall be used where the essential features are to be shown clearly in three dimensions.

2 Normative references The following standards contain provisions which, through reference in this text, constitute provisions of this part of **JIS B 0011**. For these normative references, the most recent editions (including amendment) shall apply.

JIS Z 8312 *Technical drawings—General principles of presentation—Basic convention for lines*

Remarks: The provisions cited from **ISO 128**: 1982, *Technical drawings—General principles of presentation* is equivalent to the relevant provisions in this standard.

JIS Z 8317 *Technical drawings—Dimensioning*

Remarks: The provisions cited from **ISO 129**: 1985, *Technical drawings—Dimensioning—General principles, definitions, methods of execution and special indications* and **ISO 5261**: 1981, *Technical drawings for structural metal work* is equivalent to the relevant provisions in this standard.

JIS B 0011-1 *Technical drawings—Simplified representation of pipelines—Part 1: General rules and orthogonal representation*

Remarks: This standard is identical to **ISO 6412-1**: 1989, *Technical drawings—Simplified representation of pipelines—Part 1: General rules and orthogonal representation*.

3 Definitions For the purposes of this part of **JIS B 0011**, the definitions given in **JIS B 0011-1** apply.

4 Coordinates As far as it is necessary to use Cartesian coordinates, for instance for calculations or numerical control of machine tools, the coordinate axes shall comply with Fig. 1.

In all cases, the coordinates of individual pipes or pipe assemblies should comply with those adopted for the complete installation and shall be indicated on the drawing or in an associated document.

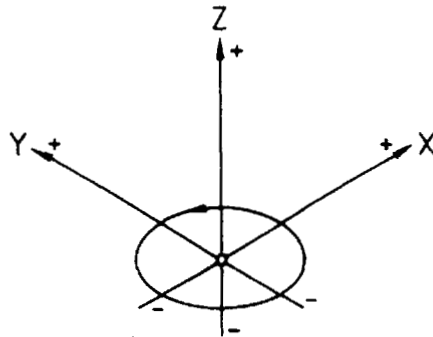


Fig. 1

5 Line conventions See **JIS B 0011-1**.

6 Deviations from the direction of coordinate axes

6.1 General Pipes, or parts of pipes, running parallel to the coordinate axes, shall be drawn parallel to the relevant axis without any further indication. Deviations from the directions of the coordinate axes should be indicated by means of auxiliary hatched projection plans as shown in Fig. 2.

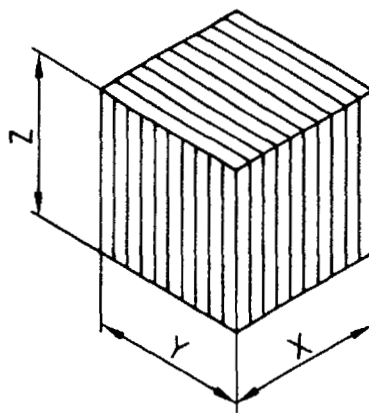


Fig. 2

6.2 Pipes in a vertical plane Pipes, or parts of pipes, situated in a vertical plane, shall be indicated by showing their projections on a horizontal plane [see Fig. 3 a)].

6.3 Pipes in a horizontal plane Pipes, or parts of pipes, situated in a horizontal plane, shall be indicated by showing their projections on a vertical plane [see Fig. 3 b)].

6.4 Pipes not parallel to any coordinate plane Pipes, or parts of pipes, not running parallel to any coordinate plane, shall be indicated by showing both their projections on a horizontal and on a vertical plane [see Fig. 3 c)].

6.5 Auxiliary projection planes It is recommended that the right angles of the triangles limiting the auxiliary projection plane be indicated.

Auxiliary projection planes may be emphasized by hatchings, parallel to the X- or Y-axis for horizontal auxiliary planes, and vertical for all other auxiliary planes.

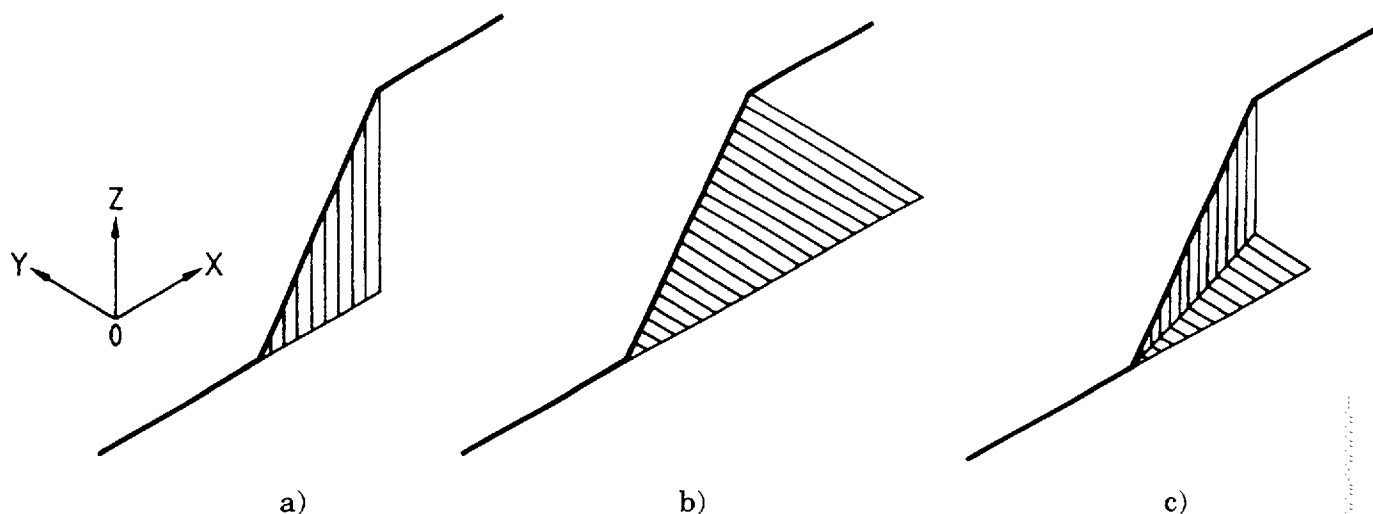


Fig. 3

If such hatching is not convenient it may be omitted, but in that case the rectangle (see Fig. 4) or the rectangular prism (see Fig. 5), of which a diagonal coincides with the pipe, should be shown, using continuous thin lines (type B, **JIS Z 8312**).

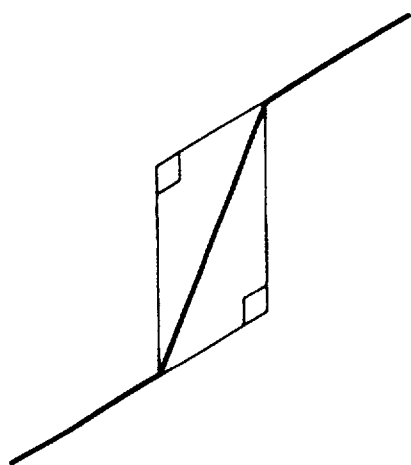


Fig. 4

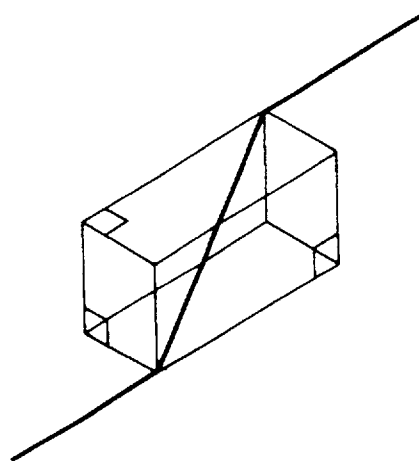


Fig. 5

7 Dimensioning and special rules

7.1 General Drawings shall be dimensioned in accordance with **JIS Z 8317**. There are, however, special rules for isometric projection for pipelines which are specified in 7.2 to 7.7.