

AS 1101, Part 5—1984

Australian Standard[®]

**Graphical symbols for general
engineering**

**Part 5: Piping, ducting and
mechanical services for buildings**

This Australian standard was prepared by Committee MS/32, Technical Drawing. It was approved on behalf of the Council of the Standards Association of Australia on 6 December 1983 and published on 1 March 1984.

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Association of Consulting Engineers Australia
Australian Chamber of Commerce
Australian Gas Association
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PREFACE

This standard was prepared by the Association's Committee on Technical Drawing as part of AS 1101, which is intended to provide a comprehensive standard on symbols used in various fields of engineering.

The symbols specified in this standard are applicable to the following uses:

- (a) Piping and mechanical services drawings.
- (b) Piping and instrument schematic diagrams.
- (c) Schematic process flow diagrams.

An appendix gives typical examples of the use of the symbols in such diagrams and drawings.

It is intended that the general use of the symbols given in this standard will rectify the existing situation where there is a very large variation in symbols used. In fact, the preparation of this standard was largely initiated by concern expressed by many sectors of the industry and Regulatory Authorities.

In compiling the symbols, the committee considered the following documents:

ISO/DIS 4067/1	Building and Civil Engineering Drawings—Installations—Part 1: Symbols for Plumbing, Heating, Ventilation and Ducting
ASHRAE	Handbook of Fundamentals
BS 1553	Specification for Graphical Symbols for General Engineering Part 1—Piping Systems and Plant

Additionally, in the absence of existing established symbols for most of the building services in Table 2.11, and in an attempt to avoid the use of abbreviations, the committee had to create new symbols.

Due acknowledgment is also made to the Association of Hydraulic Services Consultants, Australia, for their initial working document.

The list of symbols specified is not (and perhaps cannot be) exhaustive. However, it is believed that all commonly used symbols have been included.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

GRAPHICAL SYMBOLS FOR GENERAL ENGINEERING

PART 5—PIPING, DUCTING AND MECHANICAL SERVICES FOR BUILDINGS

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard establishes the graphical symbols for elements of piping, ducting and mechanical services for buildings and defines the principles of their use.

NOTES:

1. The use of these symbols does not preclude the use of other symbols commonly used for pipework in other fields.
2. Where brevity and conservation of space are necessary, abbreviations in accordance with AS 1100.101 may be used.

1.2 REFERENCED DOCUMENT. The following standard is referred to in this standard:

AS 1100 Technical Drawing
Part 101—General Principles.

1.3 DEFINITIONS. For the purpose of this standard, the following definition applies:

Symbol—a combination of lines, letters and abbreviations which identifies the basic purpose and method of operation of the component represented.

1.4 SYMBOLS. The symbols show connections, flowpaths and the functions of the component represented. They do not include construction or values such as pressure, flowrate or other component settings.

The symbols do not necessarily indicate the physical location of parts, or the position of control elements on actual components.

With certain obvious exceptions, symbols may be rotated or reversed without altering their meaning.

The relative sizes of the symbols shown in this standard should be preserved except where it is necessary to enlarge a symbol to give it prominence in a diagram or to provide adequate space within or around it, to show symbols for associated components, or for coding. At all times, however, the sizes and relative proportions of the symbols should be maintained so that each symbol is unique and immediately recognizable. In certain instances, such as in detailed drawings, symbols may be drawn to scale.

SECTION 2. SYMBOLS

Symbols on drawings and specifications should be in accordance with those described in Tables 2.1 to 2.11.

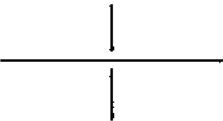
NOTE: Where examples of symbols in the table involve two or more symbols, the symbol for the particular component intended to be depicted is drawn in thicker line.

The thickness of line, spacing of lines, height and spacing of characters used in the formation of symbols shall comply with the requirements of AS 1100.101, and in particular with Section 3—Lines, and Section 4—Letters, Numerals and Symbols.

Symbols other than those shown herein either should comply with the appropriate Australian standard or their meaning should be given on the drawing or on a document referenced on the drawing or specification.

Symbols for proposed services should be depicted using lines not less than twice the thickness of the lines used for symbols for existing services.

TABLE 2.1
PIPING AND PIPING ACCESSORIES

Ref. No	Symbol	Meaning
5211		Pipe, general symbol
5212		Pipe, concealed at section
5213		Crossing pipe, not connected
5214	 OR 	Crossing pipe, connected
5215	 OR 	Tee
5216		Flexible pipe/ Hose