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Australian Standard[®]

**Graphic Symbols for general
engineering**

**Part 1: Hydraulic and pneumatic
systems**

[ISO title: Fluid power systems and components—Graphic symbols
and circuit diagrams, Part 1: Graphic symbols]

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Australian Institute of Petroleum
Bureau of Steel Manufacturers of Australia
Department of Defence
Department of Mineral Resources, New South Wales
Fluid Power Society of Victoria
Metal Trades Industry Association of Australia
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PREFACE

This Standard was prepared by the Standards Australia Committee on fluid power systems to supersede AS 1101.1—1982, *Graphic symbols for general engineering, Part 1: Hydraulic and pneumatic systems*. It is identical with and has been reproduced from ISO 1219—1:1991, *Fluid power systems and components — Graphic symbols and circuit diagrams, Part 1: Graphic symbols*.

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<i>References to International Standards</i>		<i>Australian Standard</i>	
ISO		AS	
128	Technical drawings — General principles of presentation	1100	Technical drawing
		1100.101	Part 101: General principles
		1100.201	Part 201: Mechanical drawings
5598	Fluid power systems and components — Vocabulary	4061	Fluid power systems and components — Vocabulary

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Introduction

In fluid power systems, power is transmitted and controlled through a fluid (liquid or gas) under pressure within a circuit.

Graphic symbols are an aid to functional identification in diagrams for fluid power systems. They can also be used on hardware for the same purpose.

The symbols contained in this part of ISO 1219 are preferred symbols, but their use does not preclude the use of other symbols commonly used for pipework in other technical fields.

Graphic symbols for general engineering

Part 1: Hydraulic and pneumatic systems

1 Scope

This part of ISO 1219 establishes principles for the use of symbols and specifies basic symbols and rules for devising functional symbols. It also includes examples of functional symbols.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 1219. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 1219 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 128 : 1982, *Technical drawings — General principles of presentation*.

ISO 3511-1 : 1977, *Process measurement control functions and instrumentation — Symbolic representation — Part 1: Basic requirements*.

ISO 5598 : 1985, *Fluid power systems and components — Vocabulary*.

3 Definitions

For the purposes of this part of ISO 1219, the definitions given in ISO 5598 apply.

4 Identification statement (Reference to this part of ISO 1219)

Use the following statement in test reports, catalogues and sales literature when electing to comply with this part of ISO 1219:

“Graphic symbols are in accordance with ISO 1219-1, *Fluid power systems and components — Graphic symbols and circuit diagrams — Part 1: Graphic symbols*.”

5 General

5.1 General introduction

The symbols for fluid power components shall be constructed from the basic symbols and functional elements contained in this part of ISO 1219. Rules designed to enable users to devise complete or composite functional symbols are given for each clause. These rules permit two or more users working independently on a common specification to produce the same final symbol. A number of complete functional symbols of common components are given as examples.

5.2 General rules

5.2.1 Symbols represent functions, methods of operation and external connections.

5.2.2 Symbols are not intended to show the actual construction of a component.

5.2.3 Basic symbols and functional elements shall be combined in accordance with the rules given in this part of ISO 1219 when constructing symbols for more complex functions.

5.2.4 If a symbol is not part of a diagram, it shall be drawn to show the normal at-rest or neutral function.

NOTE — The rules applicable to diagrams are given in ISO 1219-2.

5.2.5 Symbols show the presence of external ports in the subject component but need not represent the actual locations of these ports.

5.2.6 Ports are indicated by the junction of flowlines with basic symbols or enclosure outlines.

5.2.7 External ports are indicated by the junction of flowlines and a component enclosure symbol, where used.



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