

# SVENSK STANDARD

## SS-ISO 15519-1:2013

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### **Schemaregler för processindustrin – Del 1: Allmänna regler (ISO 15519-1:2010, IDT)**

### **Specification for diagrams for process industry – Part 1: General rules (ISO 15519-1:2010, IDT)**

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Den internationella standarden ISO 15519-1:2010 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av ISO 15519-1:2010.

The International Standard ISO 15519-1:2010 has the status of a Swedish Standard. This document contains the official version of ISO 15519-1:2010.

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Denna standard är framtagen av kommittén för Tekniska produktspecifikationer (TPS), SIS/TK 507.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på [www.sis.se](http://www.sis.se) - där hittar du mer information.



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 15519-1 was prepared by Technical Committee ISO/TC 10, *Technical product documentation*, Subcommittee SC 10, *Process plant documentation and tpd-symbols*.

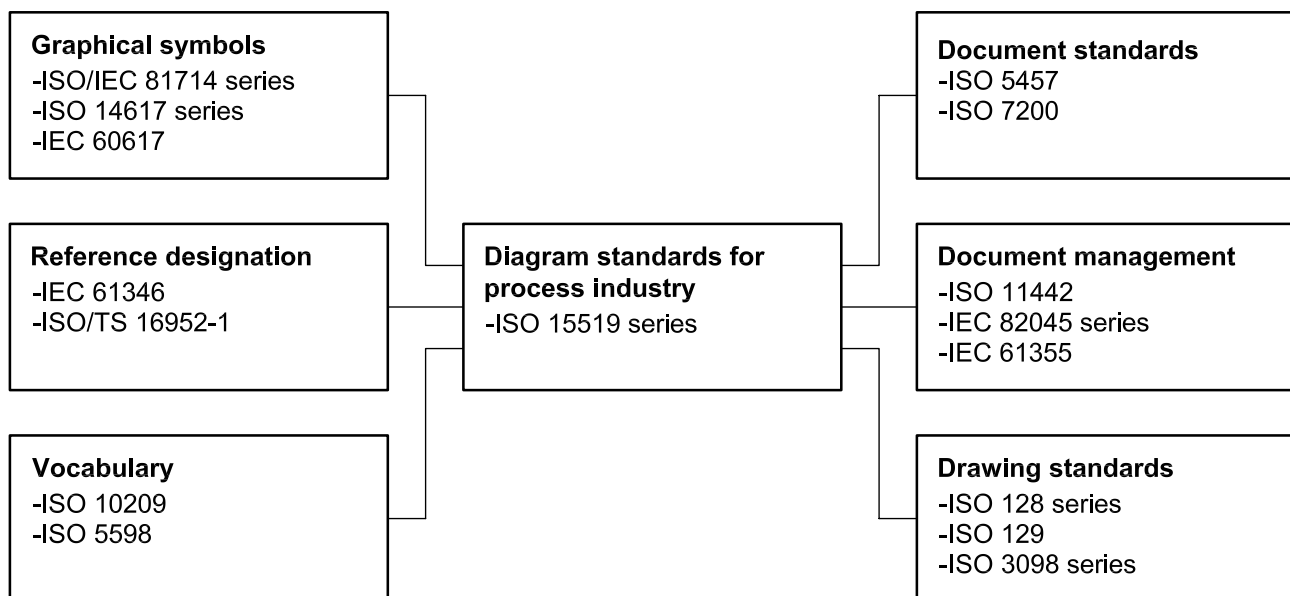
ISO 15519 consists of the following parts, under the general title *Specification for diagrams for process industry*:

— *Part 1: General rules*

## Introduction

This part of ISO 15519 deals with preparation of diagrams and associated documents and data for process industry.

Together with rules for the preparation of diagrams and associated documents and data, this part of ISO 15519 includes rules and recommendations for the application of associated standards in diagrams, for example graphical symbols and reference designation. The following diagram gives an overview of interrelations between these standards.



### Graphical symbols

In this part of ISO 15519 references are made to symbols and rules in the ISO 14617 series by using registration numbers. Three types of registration number are used in ISO 14617:

- 101 registration number for a symbol;
- R101 registration number for an application rule;
- X101 registration number for an application example.

When reference is made to ISO 14617, the description is in italics, e.g. “Symbol 255: *Circular motion*”.

Cross-references to referred symbols, rules and examples in the ISO 14617 series can be found in the registration number index in ISO 14617-1.

### Collective application standards

Technical committees, requiring a field specific standard, are allowed, in co-operation with ISO/TC 10, to develop their own collective application standard for preparation of diagrams in accordance with the rules given in this part of ISO 15519. Application standards should not be contradictory with respect to this source standard.

### Figures

Figures in this part of ISO 15519 are only examples for illustration of a given rule.



# Specification for diagrams for process industry —

## Part 1: General rules

### 1 Scope

This part of ISO 15519 provides general rules and guidelines for the preparation and presentation of information in diagrams for process industry.

### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 128-20 *Technical drawings — General principles of presentation — Part 20: Basic conventions for lines*

ISO 128-21, *Technical drawings — General principles of presentation — Part 21: Preparation of lines by CAD systems*

ISO 128-22, *Technical drawings — General principles of presentation — Part 22: Basic conventions and applications for leader lines and reference lines*

ISO 3098-0, *Technical product documentation — Lettering — Part 0: General requirements*

ISO 3098-5, *Technical product documentation — Lettering — Part 5: CAD lettering of the Latin alphabet, numerals and marks*

ISO 5457, *Technical product documentation — Sizes and layout of drawing sheets*

ISO 6428, *Technical drawings — Requirements for microcopying*

ISO 7200, *Technical product documentation — Data fields in title blocks and document headers*

ISO 14617 (all parts), *Graphical symbols for diagrams*

ISO/TS 16952-1, *Technical product documentation — Reference designation system — Part 1: General application rules*

ISO 80000 (all parts), *Quantities and units*

ISO 81714-1:1999, *Design of graphical symbols for use in the technical documentation of products — Part 1: Basic rules*

IEC 81714-2, *Design of graphical symbols for use in the technical documentation of products — Part 2: Specification for graphical symbols in a computer sensible form, including graphical symbols for a reference library, and requirements for their interchange*

IEC 60617DB<sup>1)</sup> *Graphical symbols for diagrams*

IEC 61355-1, *Classification and designation of documents for plants, systems and equipment — Part 1: Rules and classification tables*

IEC 61666, *Industrial systems, installations and equipment and industrial products — Identification of terminals within a system*

IEC 81346-1:2009, *Industrial systems, installations and equipment and industrial products — Structuring principles and reference designations — Part 1: Basic rules*

IEC 82045-2, *Document management — Part 2: Metadata elements and information reference model*

### **3 Terms and definitions**

For the purposes of this document, the following terms and definitions apply.

#### **3.1 Basic terms**

##### **3.1.1 document**

fixed and structured amount of information intended for human perception which can be managed and interchanged as a unit between users and systems

NOTE 1 The term document is not restricted to its meaning in a legal sense.

NOTE 2 A document can be designated in accordance with the type of information and the form of presentation, for example overview diagram, connection table, function chart.

NOTE 3 Adapted from ISO/IEC 8613-1:1994, definition 3.58.

##### **3.1.2 document type**

document defined with respect to its specific content of information and form of presentation

EXAMPLE Overview diagram, parts lists, etc.

NOTE Adapted from IEC 62023:2000, definition 3.2.2.

##### **3.1.3 documentation**

continuous and systematic compilation and processing of recorded information for the purpose of storage, classifying, retrieval, utilization or transmission

[ISO 5127:2001, definition 1.2.01]

##### **3.1.4 process**

sequence of chemical, physical or biological operations for the conversion, transport or storage of material or energy

[ISO 10628:1997, definition 3.1]

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1) DB = Database. (12-month subscription to online database comprising parts 2 to 13 of IEC 60617.)

### 3.1.5

#### **process plant**

facilities and structures necessary for performing a process

[ISO 10628:1997, definition 3.6]

### 3.1.6

#### **graphical symbol**

visually perceptible figure used to transmit information independently of language

[ISO 81714-1:1999, definition 3.1]

## 3.2 Document types

### 3.2.1

#### **drawing**

technical information, given on an information carrier, graphically presented in accordance with agreed rules and usually to scale

[ISO 10209-1:1992, definition 2.11]

### 3.2.2

#### **diagram**

technical document showing the functions of the objects composing a system and their interrelations using graphical symbols

### 3.2.3

#### **overview diagram**

diagram providing a comprehensive view of an object with low degree of detailing

[IEC 61082-1:2006, definition 3.4.1]

### 3.2.4

#### **network map**

overview diagram showing a network on a map

EXAMPLE Networks for district heating, district cooling, natural gas including generating stations and sub-stations.

### 3.2.5

#### **block diagram**

overview diagram predominantly using block symbols

EXAMPLE Rectangular symbols.

### 3.2.6

#### **process flow diagram**

diagram illustrating the configuration of a process system or process plant by means of graphical symbols

### 3.2.7

#### **function diagram**

diagram providing information about the functional behaviour of a system

NOTE Adapted from IEC 61082-1:2006, definition 3.4.2.

### 3.2.8

#### **circuit diagram**

diagram providing information about the circuitry of an object(s)

[IEC 61082-1:2006, definition 3.4.3]