
**Diagrams for the chemical and
petrochemical industry —**

**Part 2:
Graphical symbols**

*Schémas de procédé pour l'industrie chimique et pétrochimique —
Partie 2: Symboles graphiques*



Reference number
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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 10628-2 was prepared by Technical Committee ISO/TC 10, *Technical product documentation*, Subcommittee SC 10, *Process plant documentation*.

This first edition of ISO 10628-2, along with ISO 10628-1 (under preparation), cancels and replaces ISO 10628:1997, which has been technically revised.

ISO 10628 consists of the following parts, under the general title *Diagrams for the chemical and petrochemical industry*:

— *Part 2: Graphical symbols*

The following part is under preparation:

— *Part 1: Specification of diagrams*

Diagrams for the chemical and petrochemical industry —

Part 2: Graphical symbols

1 Scope

This part of ISO 10628 defines graphical symbols for the preparation of diagrams for the chemical and petrochemical industry. It is a collective application standard of the ISO 14617 series.

This part of ISO 10628 does not apply to graphical symbols for electrotechnical diagrams; for these, see IEC 60617.

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 10209, *Technical product documentation — Vocabulary — Terms relating to technical drawings, product definition and related documentation*

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

ISO 15519-1, *Specification for diagrams for process industry — Part 1: General rules*

ISO 81714 (all parts), *Design of graphical symbols for use in the technical documentation of products*

IEC 81714 (all parts), *Design of graphical symbols for use in the technical documentation of products*

3 Terms and definitions

For the purposes of this document, the definitions given in the ISO 14617 series and ISO 10209 apply.

4 Structure of graphical symbols

The graphical symbols are grouped according to functional and/or design features. See Table 1.

Table 1 — Subject groups

Group number	Subject group
1	Vessels and tanks
2	Columns with internals
3	Heat exchangers
4	Steam generators, furnaces, recooling device
5	Cooling tower
6	Filters, liquid filters, gas filters
7	Screening devices, sieves and rakes
8	Separators
9	Centrifuges
10	Drier

Table 1 (continued)

Group number	Subject group
11	Crushing/Grinding machines
12	Mixers/Kneaders
13	Shaping machines – processing in vertical direction
14	Shaping machines – processing in horizontal direction
15	Liquid pumps
16	Compressors, vacuum pumps
17	Blowers, fans
18	Lifting, conveying and transport equipment
19	Proportioners, feeders and distribution facilities
20	Engines
21	Valves
22	Check valves
23	Valves and fittings with safety function
24	Fittings
25	Graphical symbols for piping
26	Apparatus elements
27	Internals
28	Agitators, stirrers
29	Internal characteristics and built-in-components

5 Graphical symbols

Graphical symbols for diagrams used in chemical and petrochemical industry are presented in Table 2, which is divided into four columns, as follows:

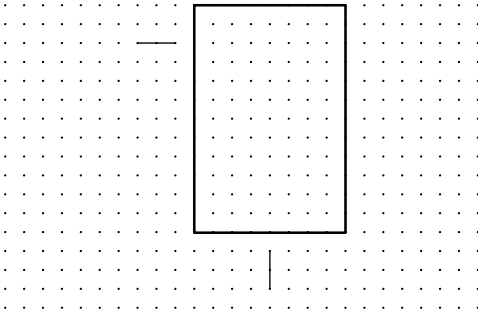
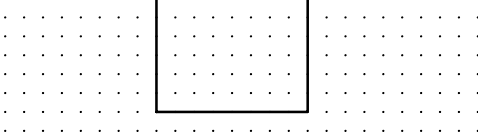
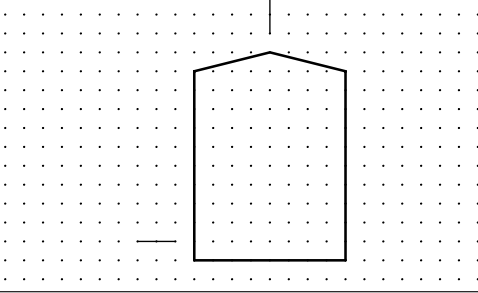
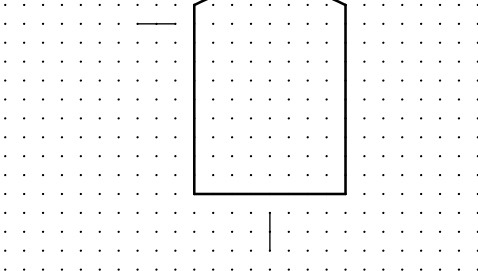
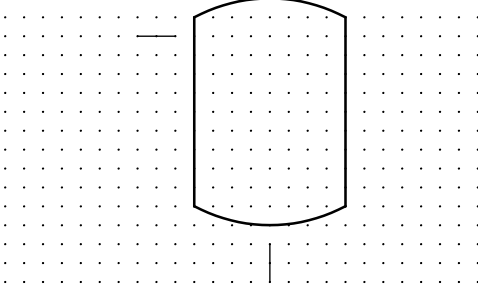
1	Item no.	Consecutive numbering within each subject group according to Table 1
2	Reg. no.	Registration numbers structured as follows: <div> <div>nnn</div> <div>Registration number for ISO 14617 graphical symbols.</div> </div> <div> <div>Cnnnn</div> <div>Preliminary registration number for a new graphical symbol, which will be implemented in ISO 14617. The preliminary registration number will be replaced with the final ISO 14617 registration number at first periodical review of ISO 10628-2.</div> </div> <div> <div>X2nnn</div> <div>Registration number for ISO 14617 symbol examples.</div> </div> <div> <div>X8nnn</div> <div>Registration number for ISO 10628-2 symbol examples.</div> </div>
3	Graphical symbol	Graphical symbols shown with a 2,5 mm dotted grid behind. Preferred locations of connections at graphical symbols are indicated by “—”. This is not a part of the graphical symbol.
4	Description	The preferred descriptors for the graphical symbol.

Rules for modification of proportions and orientation of graphical symbols are given in ISO 81714 and IEC 81714.

If a graphical symbol is not accessible in ISO 10628-2, then ISO 14617 should be consulted for the needed graphical symbol.

If the needed graphical symbol is not available in ISO 14617, then the symbol shall be created by combining ISO 14617 symbols of basic nature with symbols given supplementary information according to rules given in ISO 14617, ISO 81714 and IEC 81714.

Table 2 — Graphical symbols for diagrams

Item no.	Reg. no.	Graphical symbol	Description
1		VESSELS AND TANKS	
1.1	301		Tank, vessel
1.2	2061		Container, tank, cistern
1.3	X2063		Tank with conical roof and flat bottom
1.4	X8200		Tank with dished roof
1.5	2062		Tank, vessel with dished ends