



Diagrams for the chemical and petrochemical industry —

Part 2: Graphical symbols

Schémas de procédé pour l'industrie chimique et pétrochimique —

Partie 2: Symboles graphiques

ICS 01.080.30; 71.020; 75.020

ISO/CEN PARALLEL PROCESSING

This draft has been developed within the International Organization for Standardization (ISO), and processed under the **ISO-lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five-month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

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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 and tpd-symbols*.

This edition of ISO 10628-1 and ISO 10628-2 replace the first edition of ISO 10628:1997 of which has been technically revised.

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

Part 1: Specification of diagrams

Part 2: Graphical symbols

Diagrams for the chemical and petrochemical industry —

Part 2: Graphical symbols

1 Scope

This International Standard defines graphical symbols for the preparation of flow diagrams for process plants.

This part of ISO 10628 is a collective application standard of the ISO 14617 series.

These diagrams represent the configuration and function of process plants and form integral parts of the complete technical documentation necessary for planning, mechanical engineering, erecting, managing, commissioning, operating, maintaining and decommissioning of a plant.

This International Standard does not apply to electrotechnical diagrams, see IEC 61617.

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 ab-c:199x, *General title of series of parts — Part c: Title of part*

ISO xyz (all parts), *General title of the series of parts*

3 Terms and definitions

For the purposes of this International Standard, the definitions given in ISO 14617, ISO 10628-1 and ISO 10209-1.

4 Structure of graphical symbols

The graphical symbols are grouped according to functional and/or design features. The first symbols are symbols of basic nature followed by application examples (see Table 1).

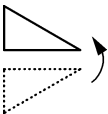
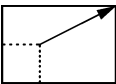
The registration numbers refer to ISO 14617.

The graphical symbols for modifications are given in Table 2.

Table 1

Clause	Group
5	Vessels and tanks
6	Columns with internals
7	Heat exchangers
8	Steam generators, furnaces, recooling device
9	Nuclear power plant
10	Cooling tower
11	Filters, liquid filters, gas filters
12	Screening devices, sieves and rakes
13	Separators
14	Centrifuges
15	Drier
16	Crushing/Grinding machines
17	Mixers/Kneaders
18	Shaping machines – processing in vertical direction
19	Shaping machines – processing in horizontal direction
20	Liquid pumps
21	Compressors, vacuum pumps
22	Blowers, fans
23	Lifting, conveying and transport equipment
24	Scales
25	Proportioners, feeders and distribution facilities
26	Engines
27	Valves
28	Check valve
29	Valves and Fittings with safety function
30	Fittings
31	Other graphical symbols for piping
32	Pipe work for power plant
50	Heating/cooling devices
51	Apparatus elements
52	Internals
53	Agitators, stirrers
54	Specifications
55	Measuring and control technology
56	Miscellaneous

Table 2 — Graphical symbols for modifications

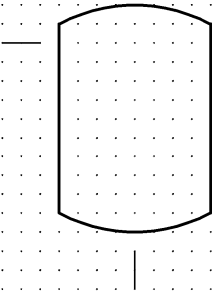
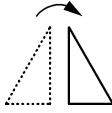
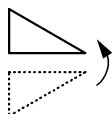
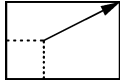
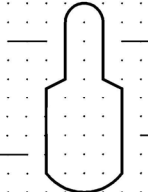
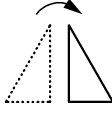
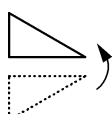
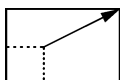
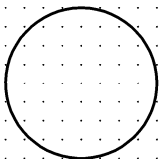
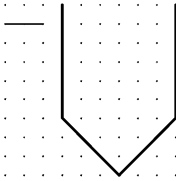
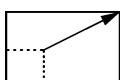
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	horizontally mirroring
	vertically mirroring
	1:1 scaleable
	free scaleable
	conditioning permitted

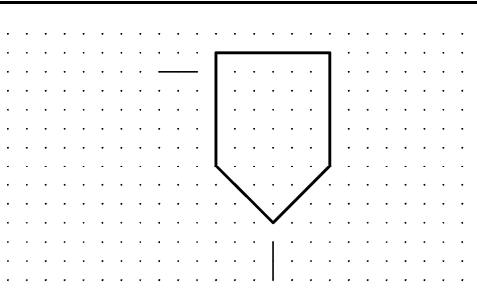
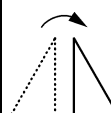
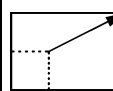
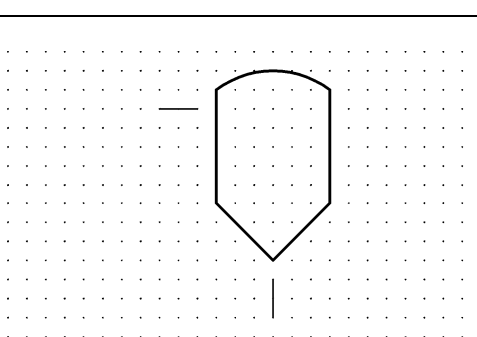
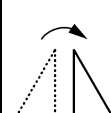
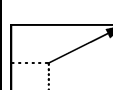
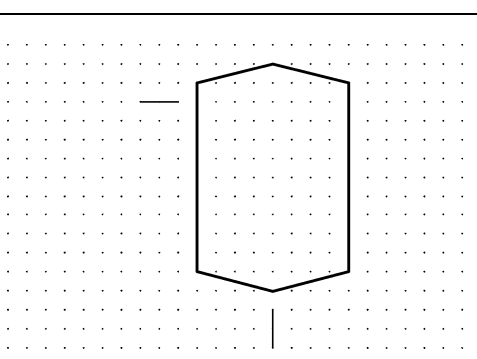
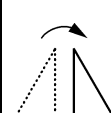
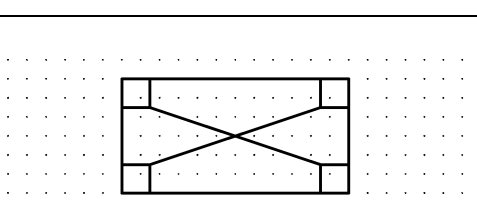
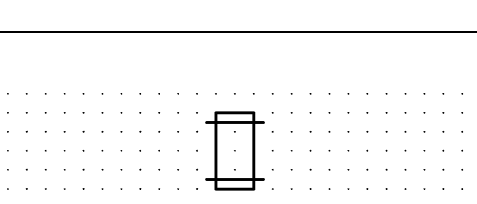
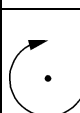
5 Graphical symbols for diagrams used in chemical and petrochemical industry

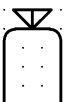
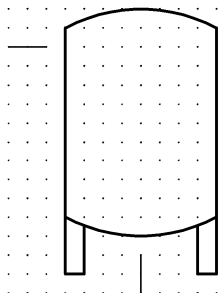
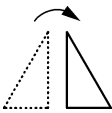
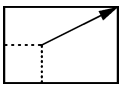
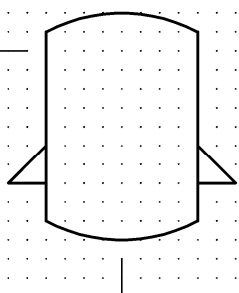
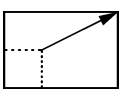
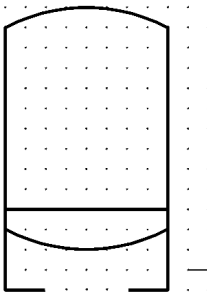
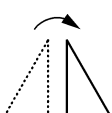
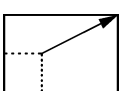
Graphical symbols for equipment, machinery and piping are collected in Table 3.

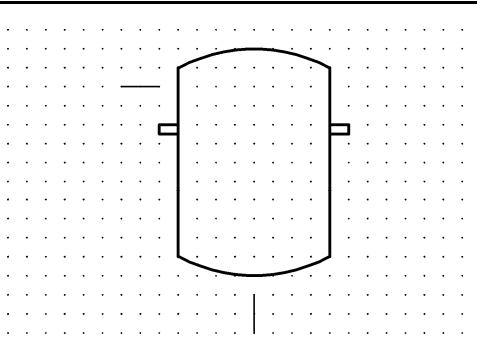
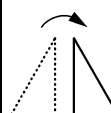
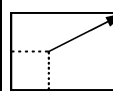
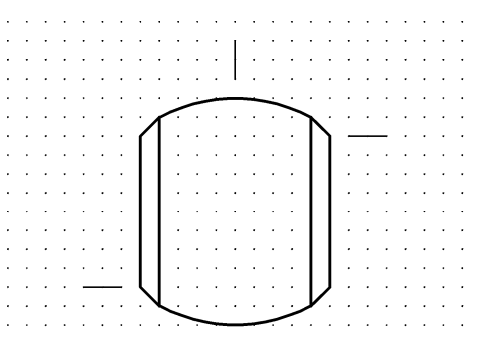
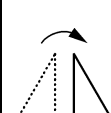
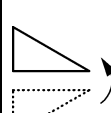
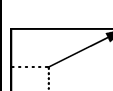
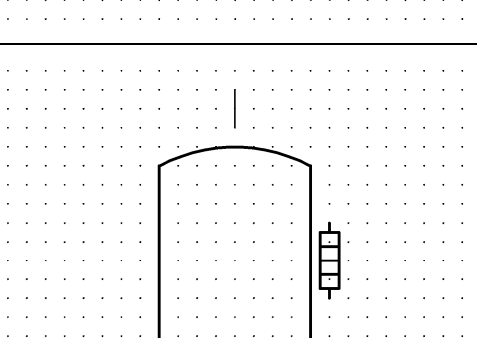
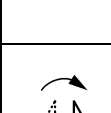
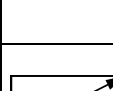
Table 3 — Graphical symbols, classification, designation and coding

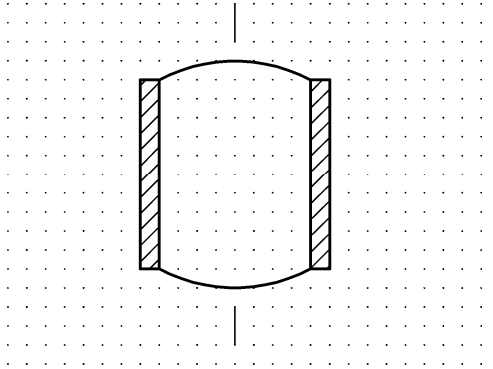
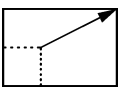
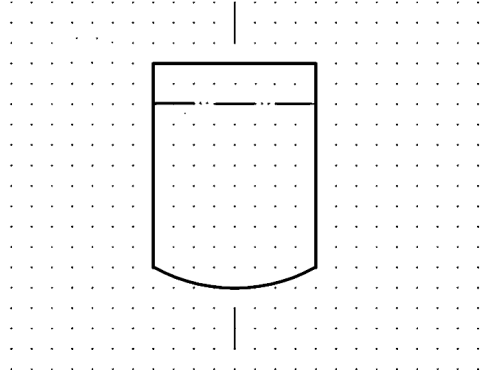
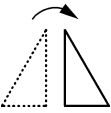
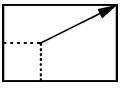
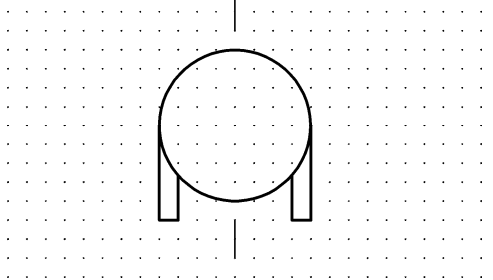
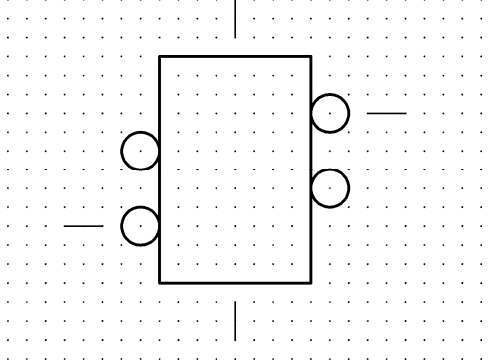
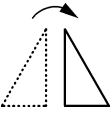
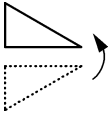
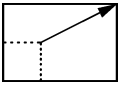
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5	Vessels and Tanks						
5.1	301		Tank, Vessel				
5.2	2061		Container, tank, cistern for atmospheric pressure				
5.3	X 2063		tank, vessel with conical roof and flat bottom				
5.4	X8200		tank, vessel with dished roof and flat bottom				

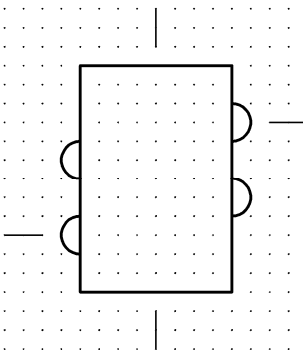
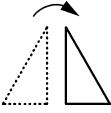
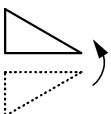
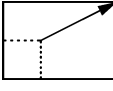
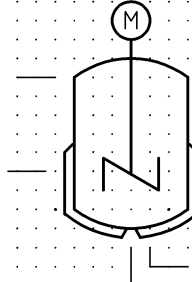
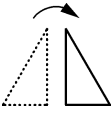
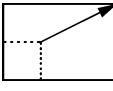
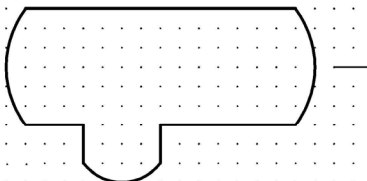
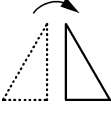
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
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5.5	2062		tank, vessel with dished ends		 		
5.6	X8201		Vessel with two different diameters		 		
5.7	2063		Spherical vessel				
5.8	2064		Open vessel with conical bottom, bunker				

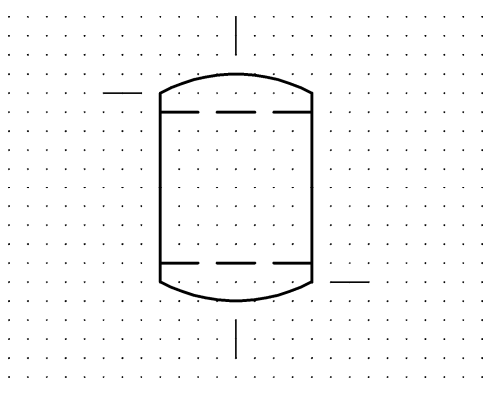
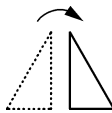
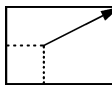
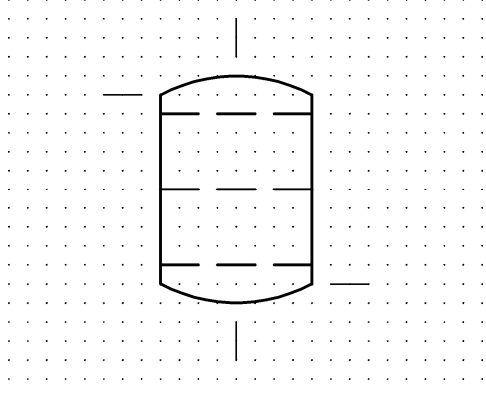
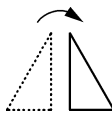
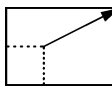
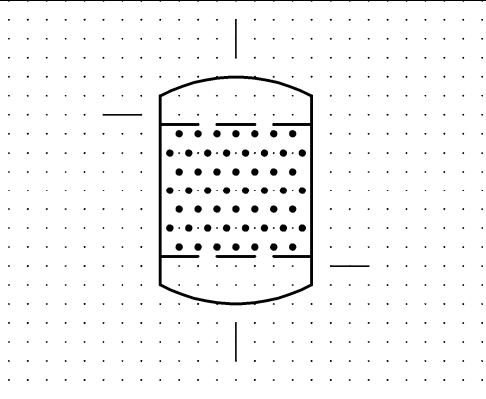
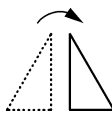
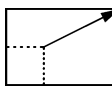
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
5.9	X2062		Vessel with flat roof and conical bottom, bunker				
5.10	X8008		Vessel with dished roof and conical bottom				
5.11	X8009		Vessel with conical roof and bottom				
5.12	C0001		Container for solids, liquids, gases				
5.13	2067		Barrel, drum				

Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
5.14	C0002		Gas cylinder				
5.15	2068		Bag				
5.16	X8002		Vessel with dished ends and supporting legs				
5.17	X8003		Vessel with dished ends and brackets				
5.18	X8004		Vessel with dished ends and supporting skirt				

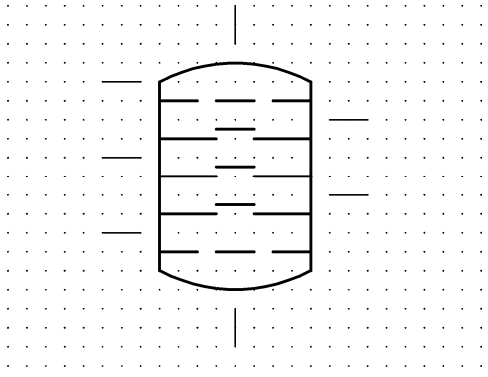
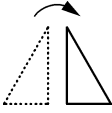
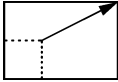
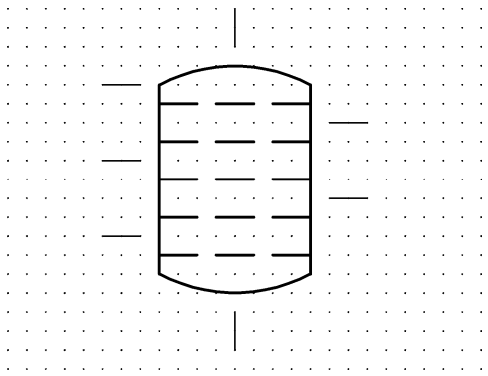
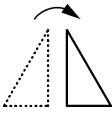
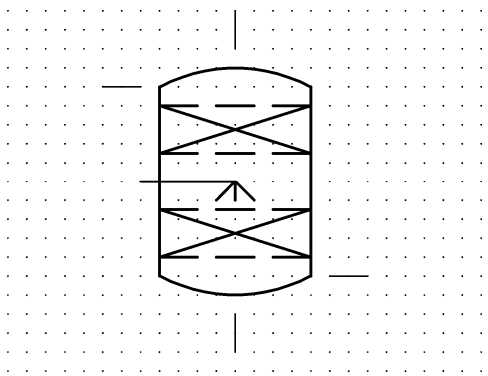
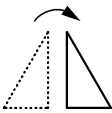
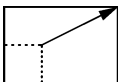
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
5.19	X8005		Vessel with dished ends and support ring				
5.20	X2069		Vessel with dished ends and heating/cooling jacket		 		
5.21	X2070		Vessel with dished ends and electrical heating				

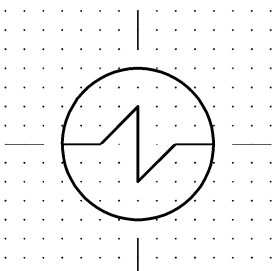
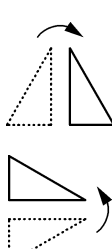
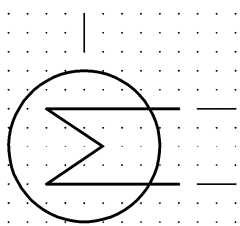
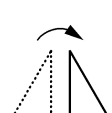
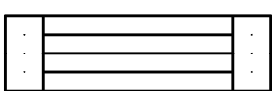
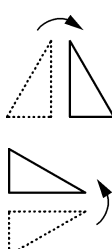
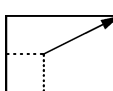
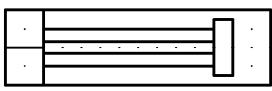
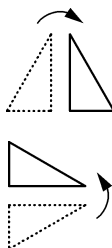
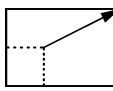
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
5.22	X8098		Vessel with dished ends and thermal insulation				
5.23	X8007		Vessel with dished bottom and liquid surface				
5.24	X8010		Spherical vessel on legs				
5.25	X8000		Vessel with full-tube heating-, cooling coil		 		

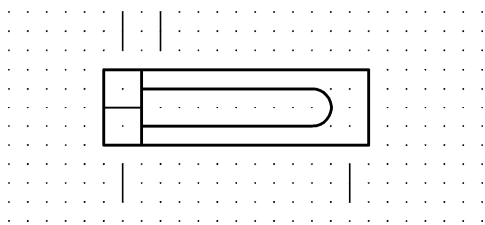
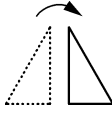
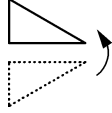
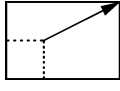
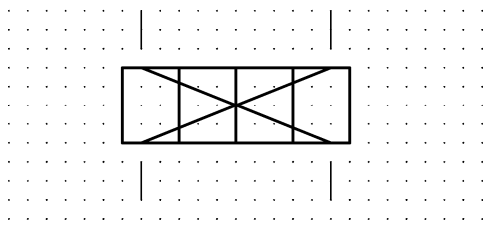
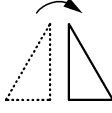
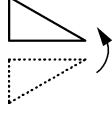
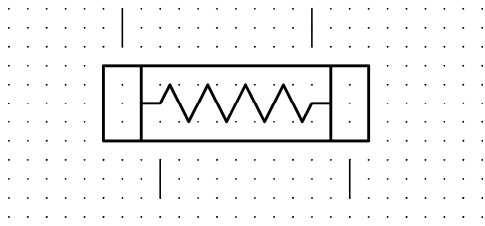
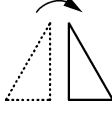
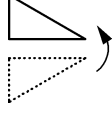
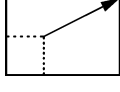
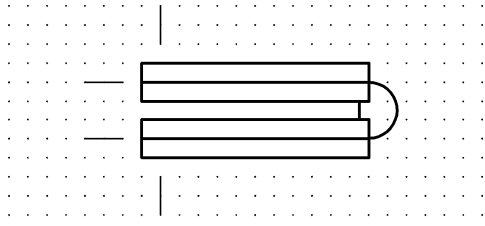
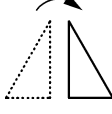
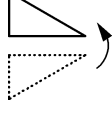
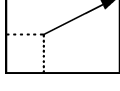
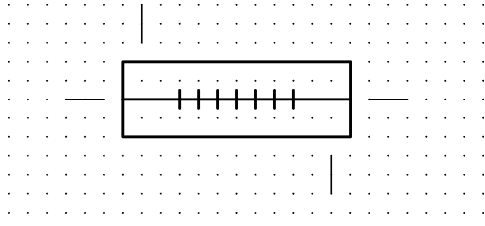
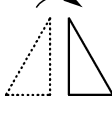
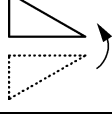
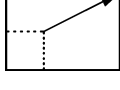
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
5.26	X8001		Vessel with semi-tube heating/cooling coil		 		
5.27	X8006		Jacketed vessel with dished ends and agitator driven by electric				
5.28	X8202		Pressure vessel with pit				
5.29	2065		open bulk storage				

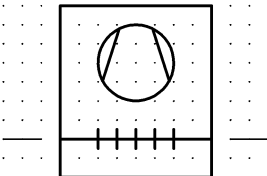
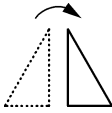
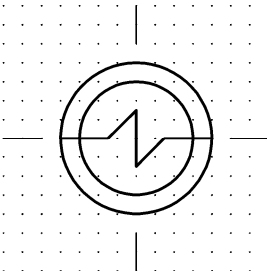
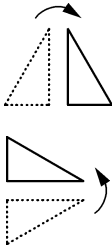
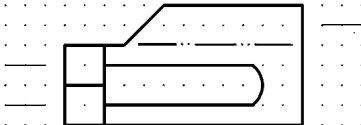
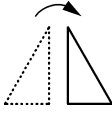
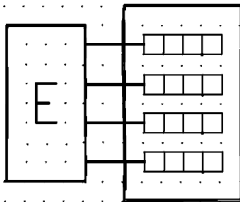
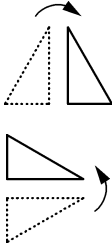
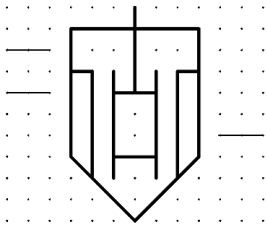
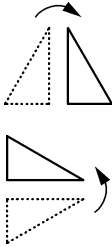
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
6	Columns with internals						
6.1	X8100		Column (general)				
6.2	X8101		Tray column (general)				
6.3	X8014		Column with fluidized bed				

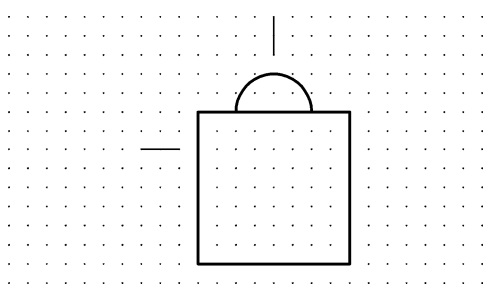
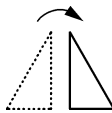
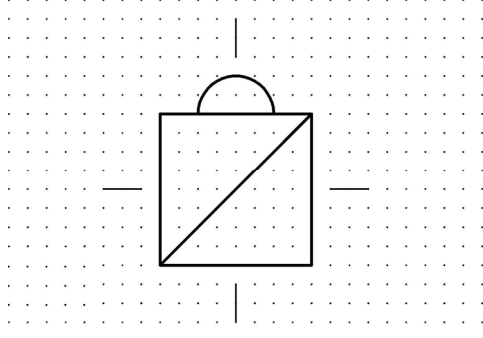
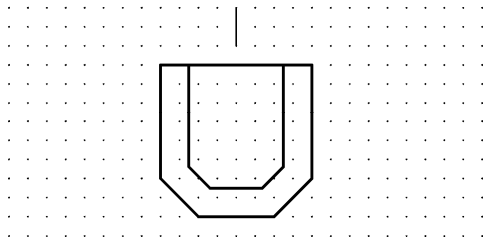
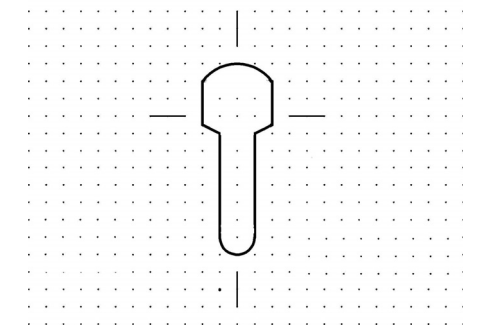
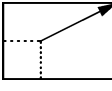
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
6.4	X8015		Column with fixed bed				
6.5	X2626		column with staggered baffles trays				
6.6	X8011		column with bubble cap trays				

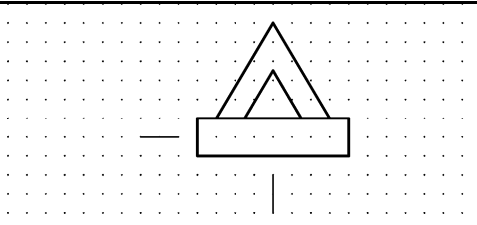
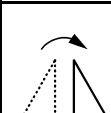
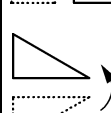
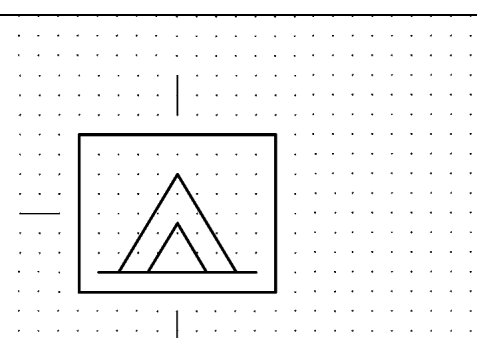
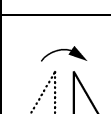
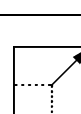
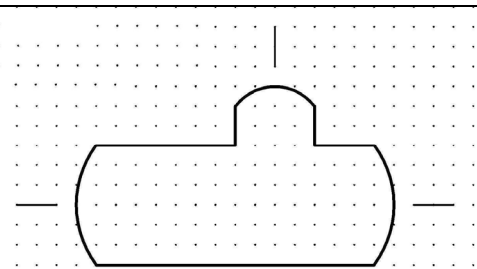
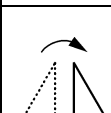
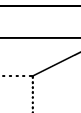
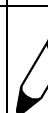
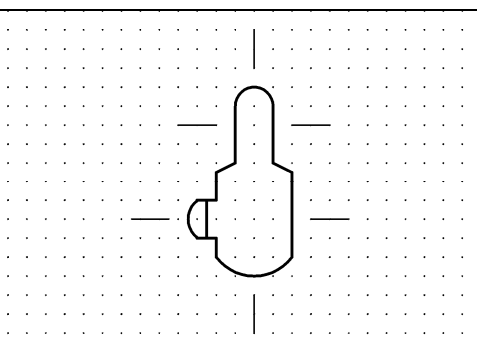
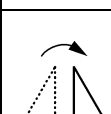
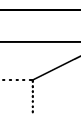
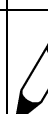
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
6.7	X8012		column with valve trays				
6.8	X8013		Column with two fixed bed sections and intermediate spray nozzle				
6.9	X8016		Column with two fixed bed sections and intermediate spray nozzle				

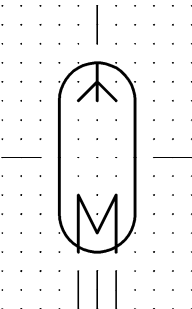
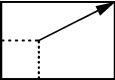
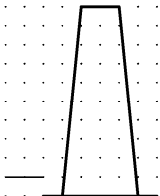
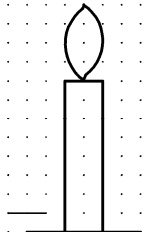
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
7	Heat exchangers						
7.1	X2501		Heat exchanger (general), condenser				
7.2	X8017		Heat exchanger (M-shape)				
7.3	2511		Heat exchanger with straight tubes (fixed-tube plates)				
7.4	2512		Heat exchanger of floating type				

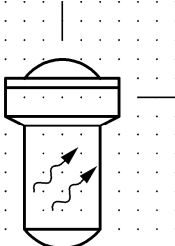
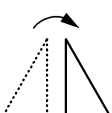
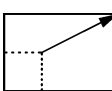
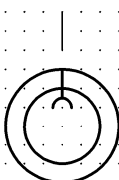
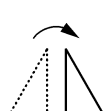
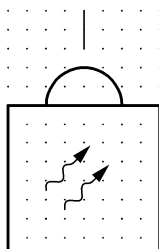
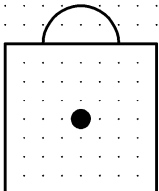
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
7.5	2513		Heat exchanger with U-shaped tubes		 		
7.6	2516		Heat exchanger of plate type		 		
7.7	2514		Heat exchanger with coil-shaped tubes		 		
7.8	2515		Heat exchanger of double-pipe type		 		
7.9	X8018		Heat exchanger with finned tube		 		

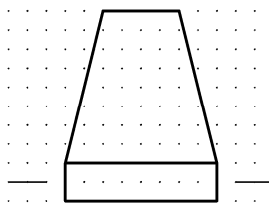
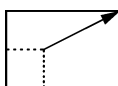
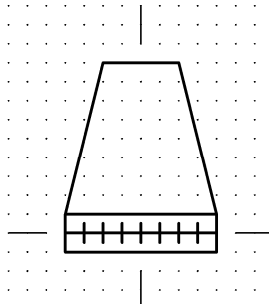
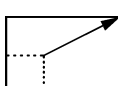
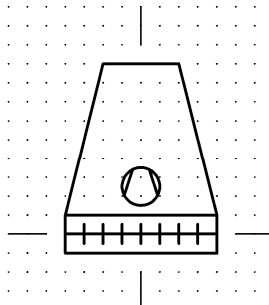
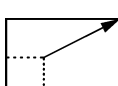
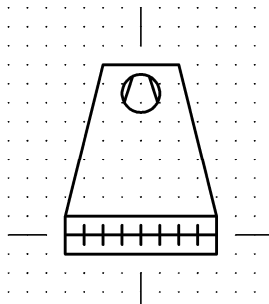
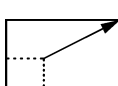
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
7.10	X2505		Heat exchanger with finned tube and fan				
7.11	C0005		Heat exchanger of spiral type				
7.12	X8131		evaporator, heat exchanger type				
7.14	X8132		Electric heater				
7.15X	X8133		Thin-film evaporator				

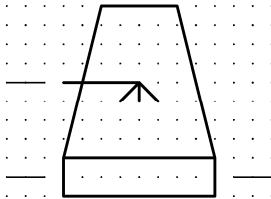
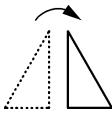
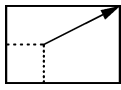
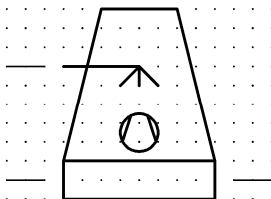
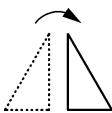
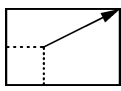
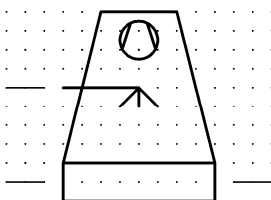
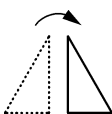
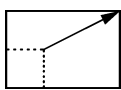
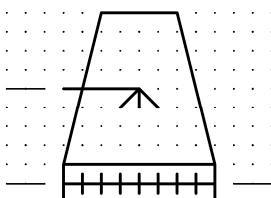
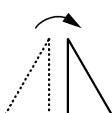
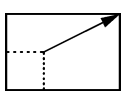
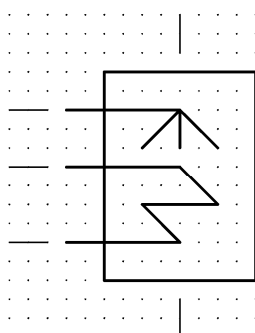
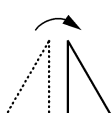
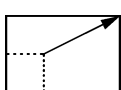
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
8	Steam generators, furnaces, recooling device						
8.1	2532		Steam boiler (with dome)				
8.2	X8103		steam generator with hot liquid as generating media				
8.3	2533		Furnace				
8.4	X8102		Steam generator				

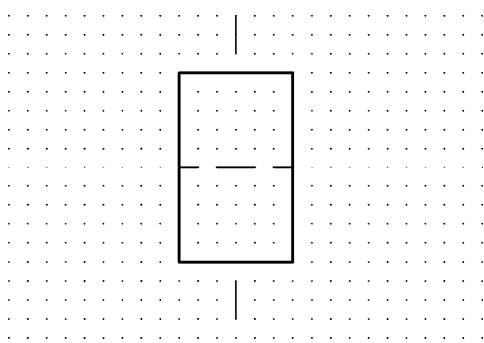
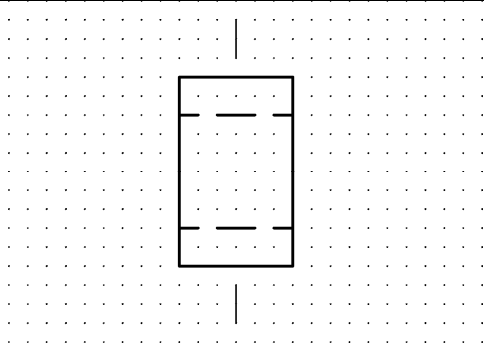
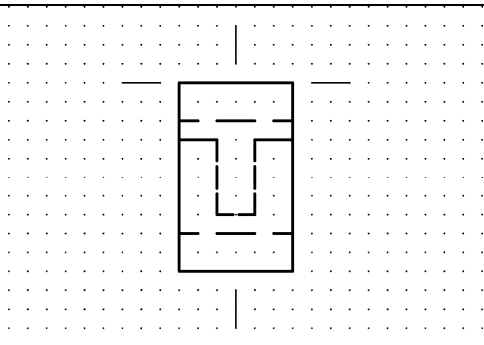
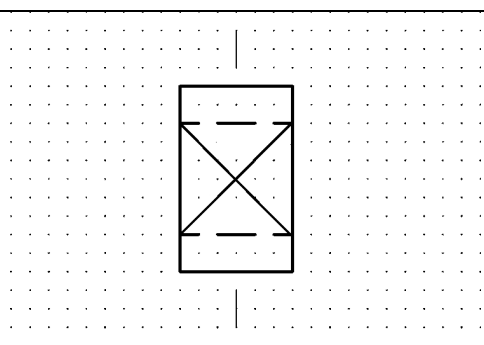
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
8.5	X8107		Firing system, burner (general)		 		
8.6	X8106		Combustion chamber				
8.7	X8108		Pressure vessel with steam dom				
8.8	X8104		Deaerator				

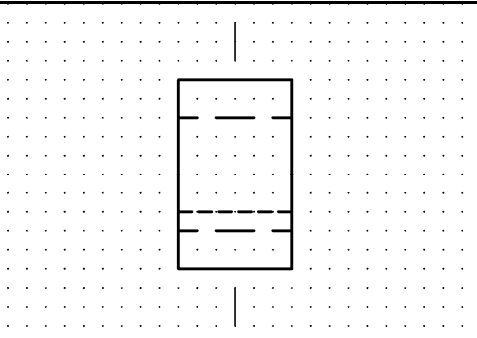
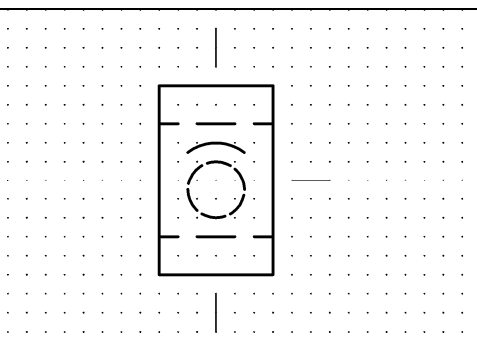
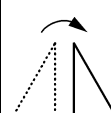
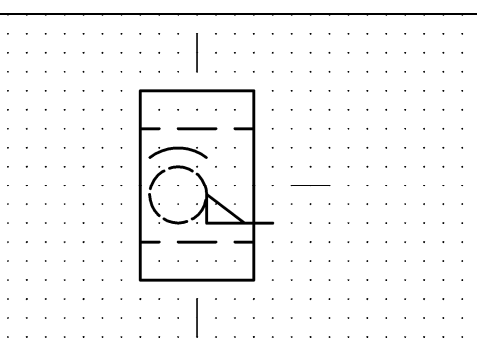
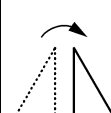
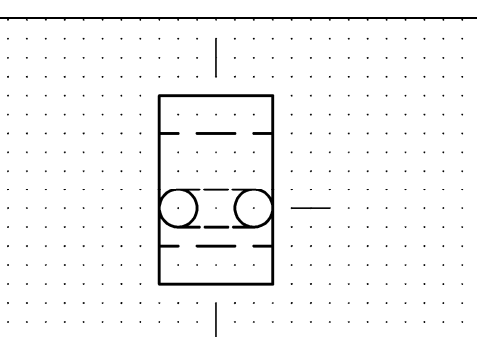
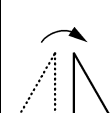
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
8.9	X8105		Pressurizer				
8.10	2041		Stack, chimney				
8.11	2591		Gas flare				

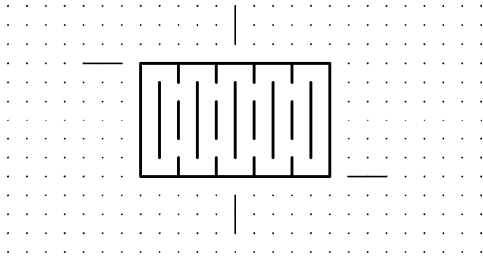
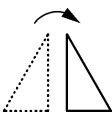
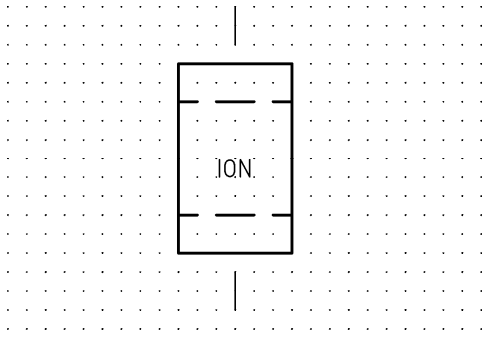
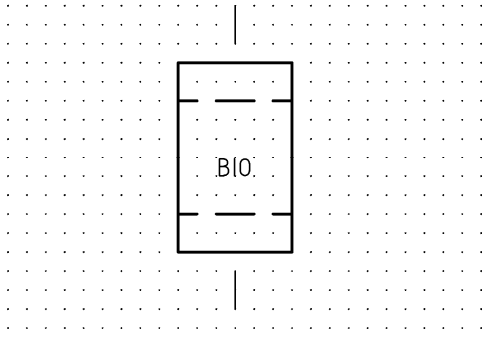
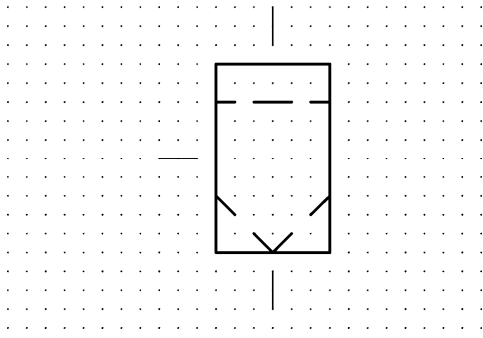
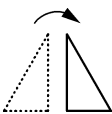
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
9	Nuclear power plant						
9.1	C0036		Nuclear reactor				
9.2	C0037		Reactor pressure vessel				
9.3	C0038		Pressurised water reactor				
9.4	C0039		Boiling water reactor				

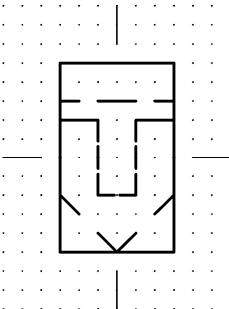
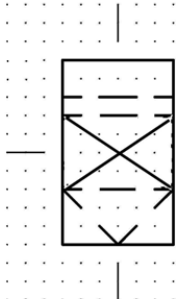
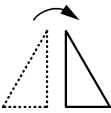
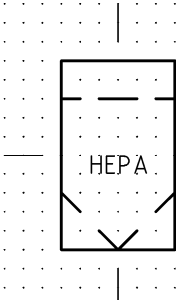
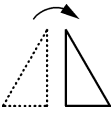
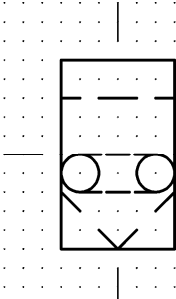
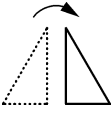
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
10	Cooling tower						
10.1	C0036		Cooling tower (general)				
10.2	X8109		Dry cooling tower, natural draft				
10.3	X8110		Dry cooling tower with forced draft				
10.4	X8111		Dry cooling tower, induced draft				

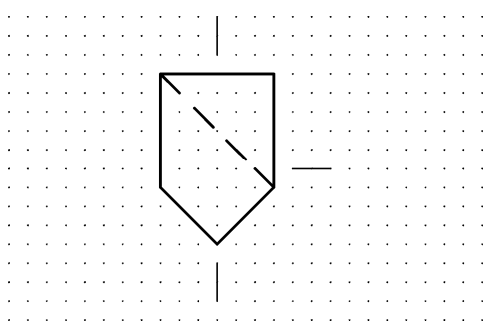
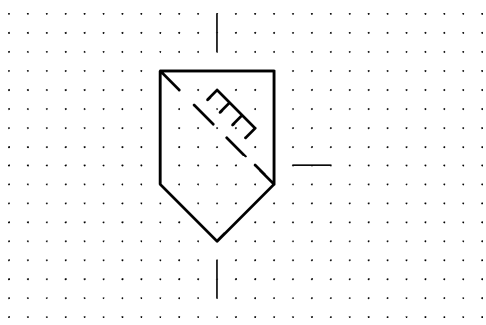
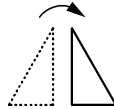
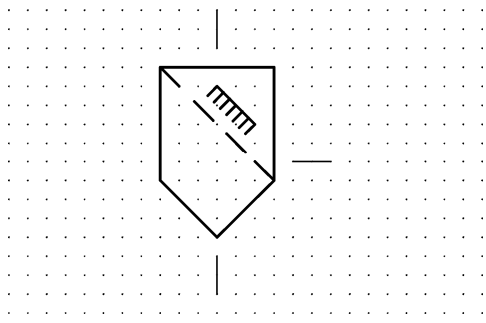
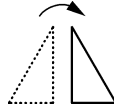
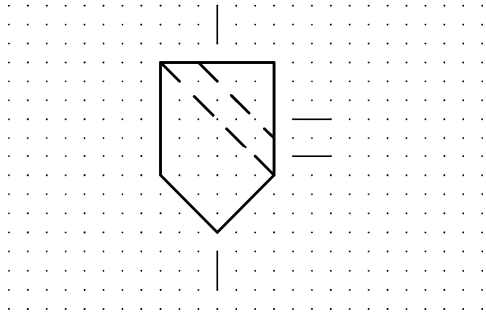
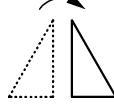
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
10.5	X8112		Wet cooling tower, natural draft				
10.6	X8113		Wet cooling tower, forced draft				
10.7	X8114		Wet cooling tower, induced draft				
10.8	X8115		Wet-dry cooling tower, natural draft				
10.9	X2504		Spray cooler				

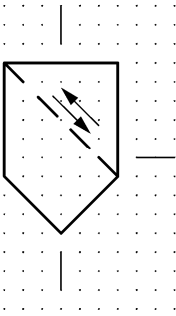
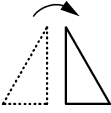
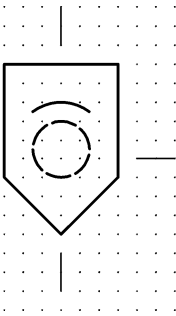
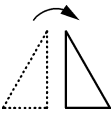
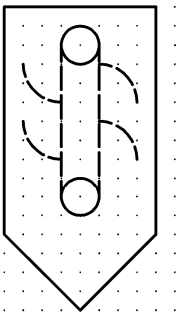
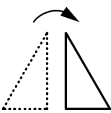
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
11	Filters, liquid filters, gas filters						
11.1	2601		Filter device, fluid filter (general)				
11.2	X8116		Liquid filter (general)				
11.3	X8117		Bag filter, candle filter, cartridge filter for liquids				
11.4	X8118		Bed filter of fixed type (general)				

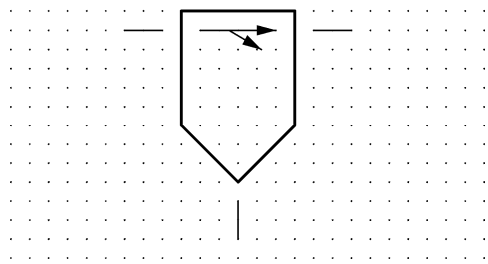
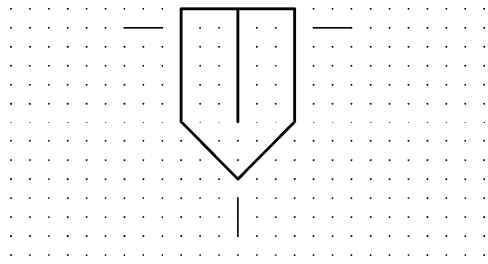
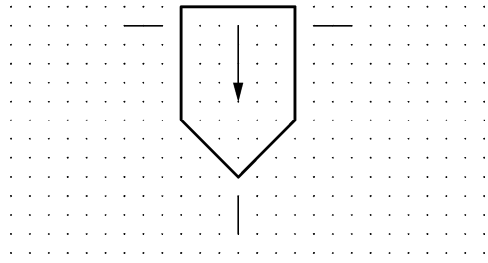
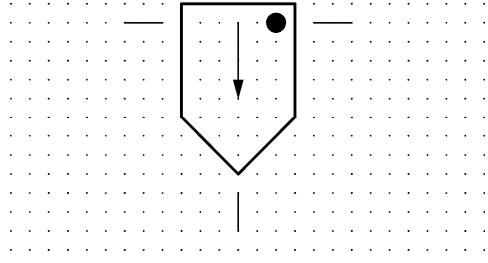
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
11.5	X8019		Suction filter				
11.6	X8119		Rotary drum filter, rotary disk filter				
11.7	X8120		Rotary drum filter, rotary disk filter with scraper				
11.8	X8121		Belt filter, roll filter				

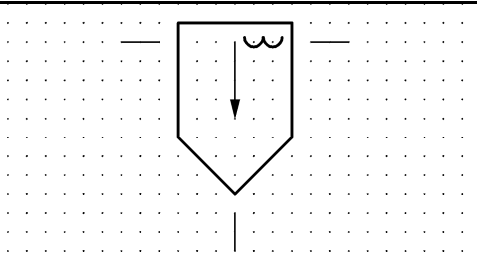
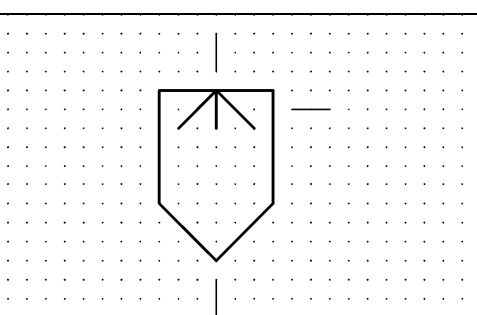
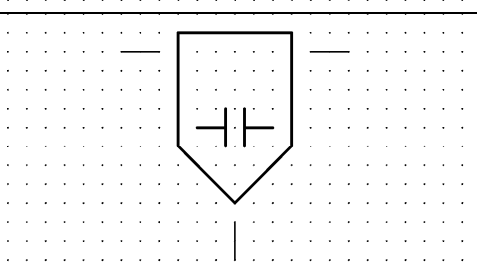
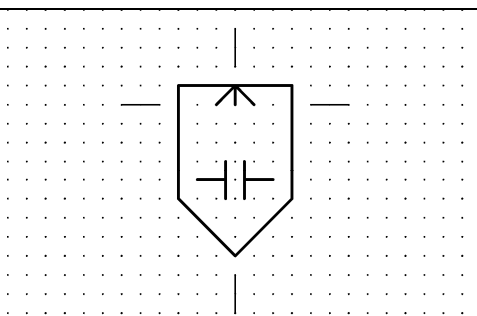
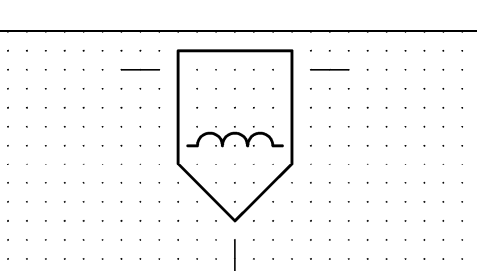
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
11.9	X2611		Filter press, press filter				
11.10	X8020		Ion exchanger filter				
11.11	X8021		Biological filter (active mass filter)				
11.12	X8122		Gas filter, air filter (general)				

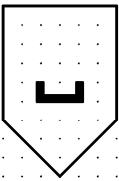
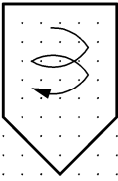
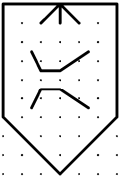
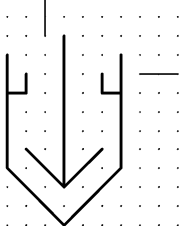
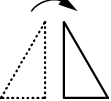
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
11.13	X8022		Bag filter, candle filter, cartridge filter for gases				
11.14	X8023		Bed filter of fixed type for gases				
11.15	X8024		High-efficiency submicron particulate air filter (HEPA)				
11.16	X8025		Belt filter, roll filter for gases				

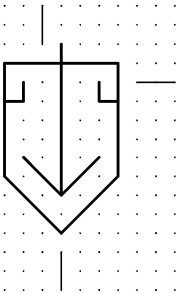
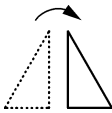
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
12	Filters, liquid filters, gas filters						
12.1	X8123		Screening device, sieve, strainer				
12.2	X8026		Coarse rake screen				
12.3	X8027		Fine rake screen				
12.4	X8028		Screening device with two screens				

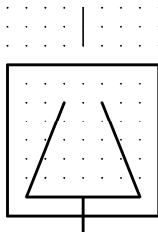
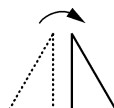
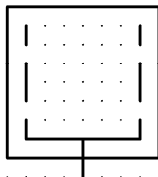
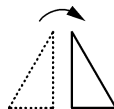
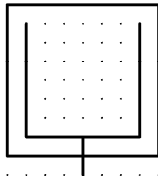
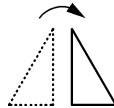
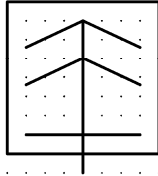
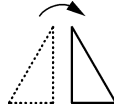
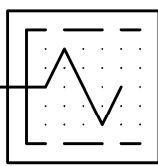
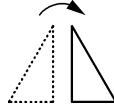
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
12.5	X2605		Vibrating screen, sieve or strainer				
12.6	X8029		Screen with rotating drum				
12.7	X8030		Screen with basket reel				

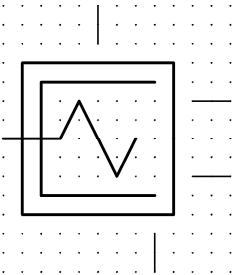
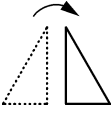
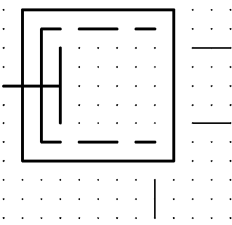
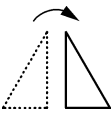
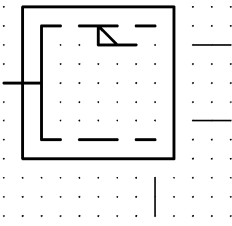
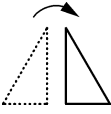
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
13	Separators						
13.1	X2601		Separator / Sifter (general)				
13.2	X2616		Impact separator				
13.3	X8031		Gravity separator, settling chamber				
13.4	X8032		Dry separator (general)				

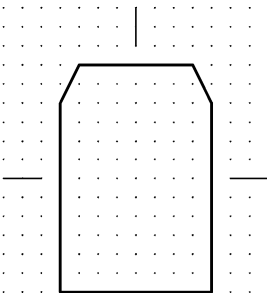
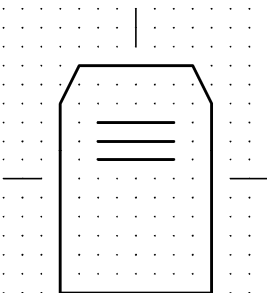
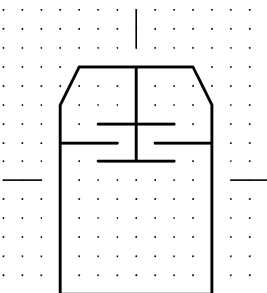
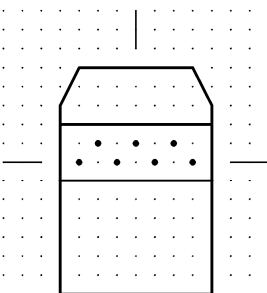
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
13.5	X8124		Wet separator, wet scrubber (general)				
13.6	X2621		Spray scrubber with conical bottom				
13.7	X8125		separator, precipitator electrostatic pipe				
13.8	X8033		precipitator wet, electrostatic pipe				
13.9	X8126		Electromagnetic separator				

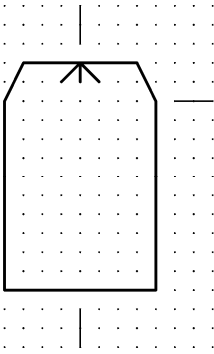
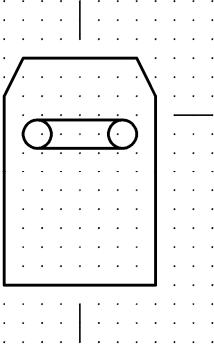
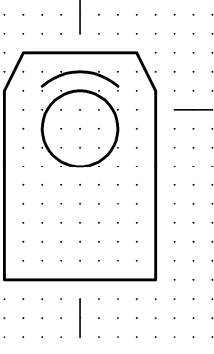
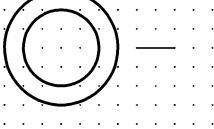
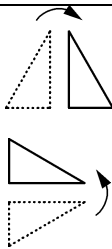
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
13.10	X8127		Permanent magnet separator				
13.11	X2618		separator, cyclone type				
13.12	X8034		separator, scrubber venturi type				
13.13	X8128		Solidifier for waste water treatment plant (open type)				

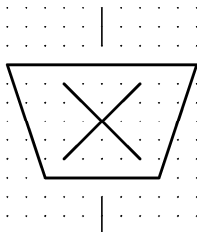
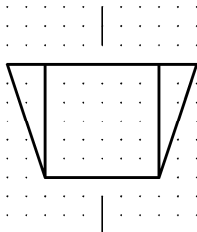
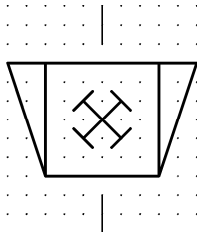
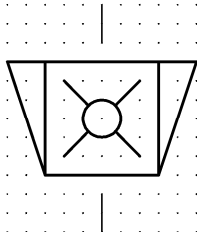
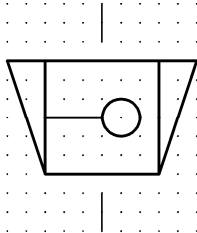
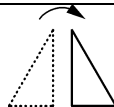
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				rotate	mirror	scale	modify
13.14	X8129		Solidifier (closed type)				

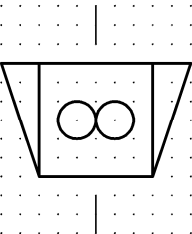
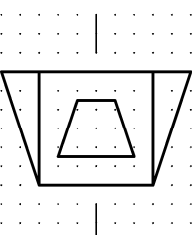
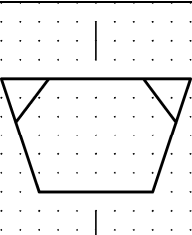
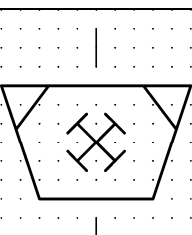
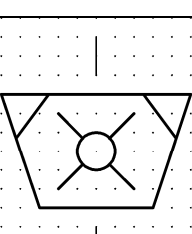
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
14	Centrifuges						
14.1	X2619		Centrifuge (general)				
14.2	X2614		Centrifuge with perforated shell				
14.3	X8035		Centrifuge with solid shell				
14.4	X8036		centrifuge, separator disc-type				
14.5	X8037		centrifuge, screw-type with perforated shell				

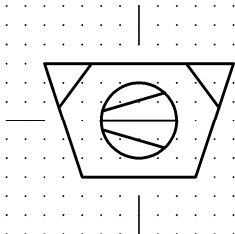
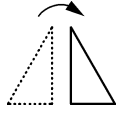
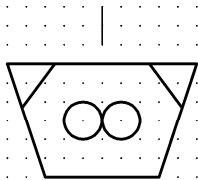
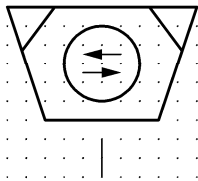
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
14.6	X2620		decanter, centrifuge, screw type with solid shell				
14.7	X8038		centrifuge, pusher type				
14.8	X8039		Centrifuge, skimmer type				

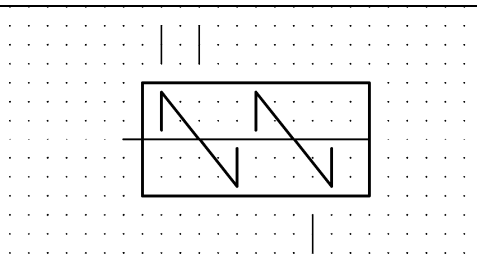
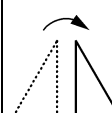
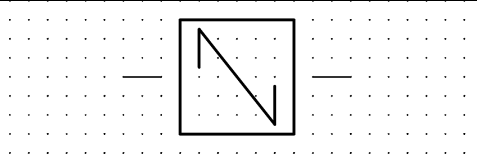
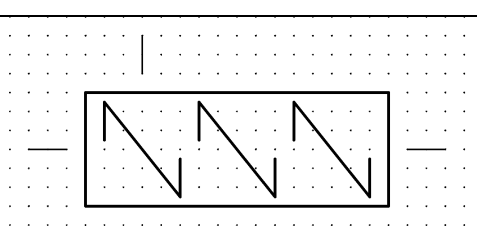
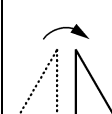
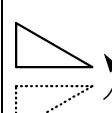
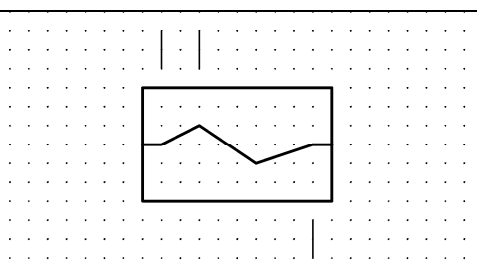
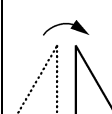
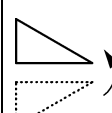
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
15	Drier						
15.1	C0046		Drier (general)				
15.2	C0047		Drying oven, drying chamber, shelf drier				
15.3	X8040		Disc drier, moving shelf drier, turbo drier				
15.4	X8041		Fluidized bed drier				

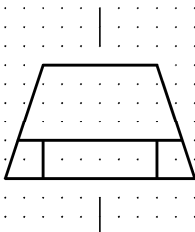
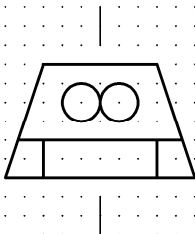
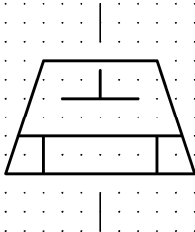
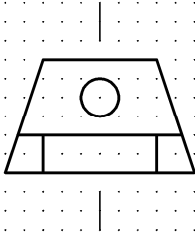
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
15.5	X8042		Spray drier				
15.6	X8043		Belt drier, Roller- conveyor type drier				
15.7	X8044		Rotary drum drier, rotary drier, tumbling drier				
15.8	C0016		Heat consumer				

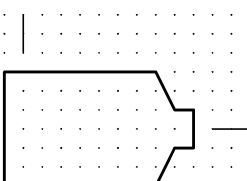
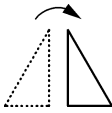
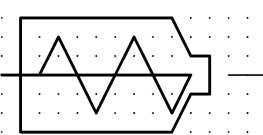
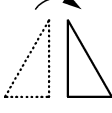
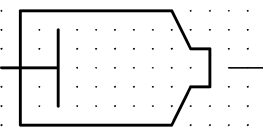
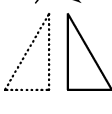
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
16	Crushing / Grinding machines						
16.1	C0048		Crushing / Grinding machine (general)				
16.2	C0049		Crusher (general)				
16.3	X8045		Crusher, hammer type				
16.4	X8046		Crusher, impact type				
16.5	X8047		Crusher, jaw type				

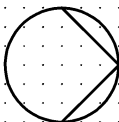
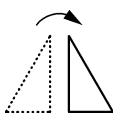
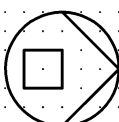
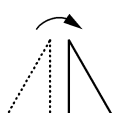
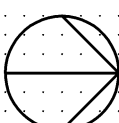
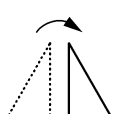
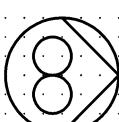
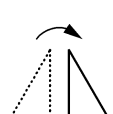
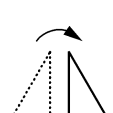
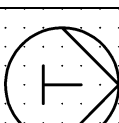
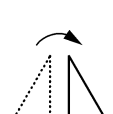
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
16.6	X8048		Crusher, roller type				
16.7	X8049		Crusher, cone type				
16.8	C0050		Mill, pulverizer (general)				
16.9	X8050		Mill, pulverizer hammer type				
16.10	X8051		Imill, impact type				

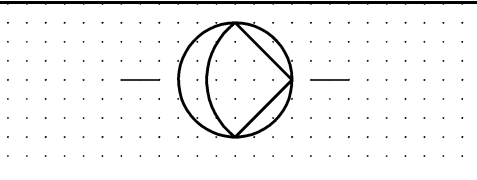
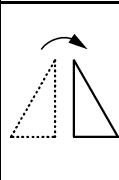
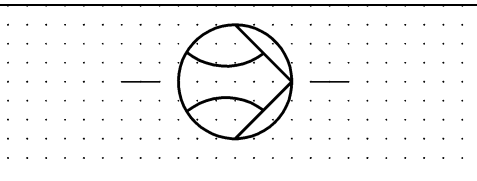
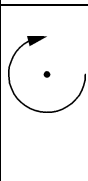
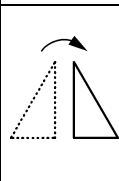
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
16.11	X8052		Mill, jet type				
16.12	X8053		Mill, roller type				
16.13	X8054		Mill, vibration type				

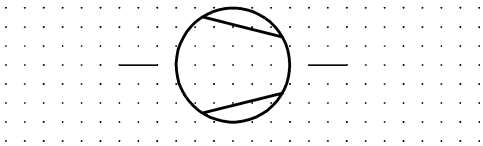
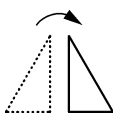
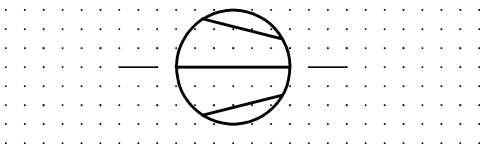
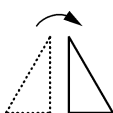
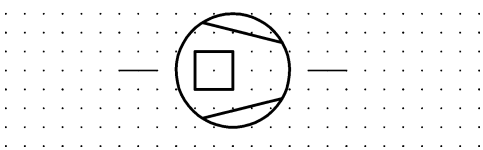
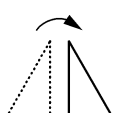
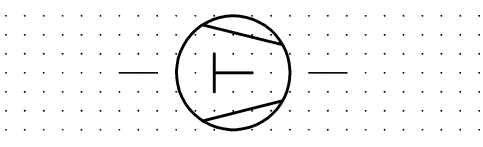
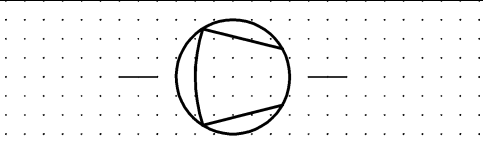
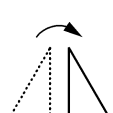
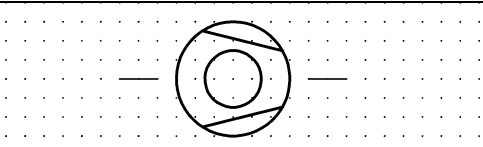
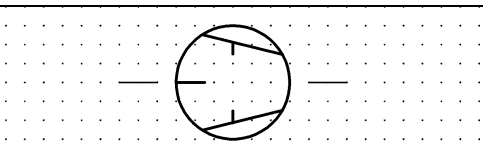
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
17	Mixers / Kneaders						
17.1	X2672		Mixer, dynamic type (general)				
17.2	X2673		Mixer, static type (general)				
17.3	X8184		Mixing path		 		
17.4	X8134		Kneader		 		

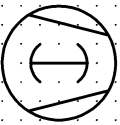
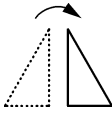
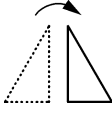
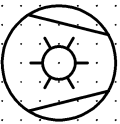
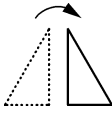
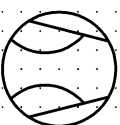
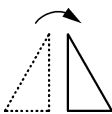
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
18	Shaping machines - processing in vertical direction						
18.1	C0052		Shaping machine, vertically open type				
18.2	X8055		Press, roller type				
18.3	X8056		Press, piston type				
18.4	X8057		Pelletizing disc				

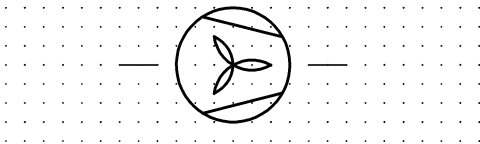
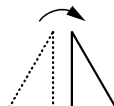
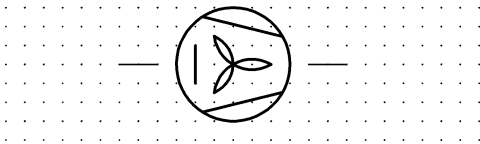
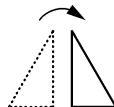
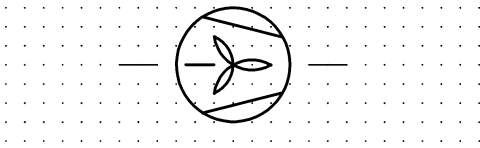
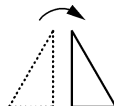
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
19	Shaping machines - processing in horizontal direction						
19.1	C0053		Horizontally operating shaping machine (general)				
19.2	X8058		Extruder, screw type				
19.3	X8059		Extruder				

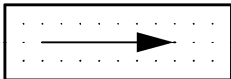
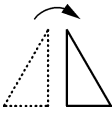
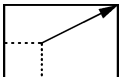
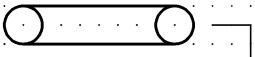
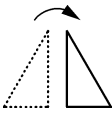
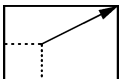
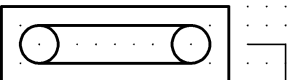
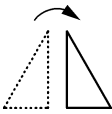
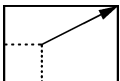
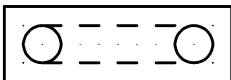
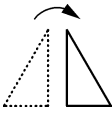
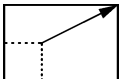
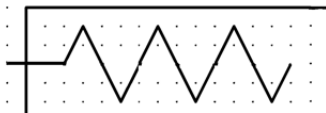
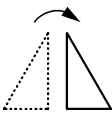
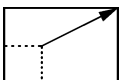
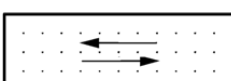
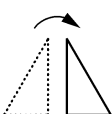
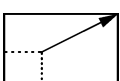
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
20	Liquid pumps						
20.1	2301		Pump, liquid type (general)				
20.2	X8135		pimp, positive displacement type				
20.3	2322		Pump, centrifugal type				
20.4	C0054		Pump, gear type				
20.5	C0055		Pump, screw type				
20.6	C0056		Pump, helical rotor type				
20.7	C0057		Pump, reciprocating type				

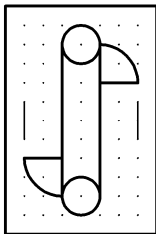
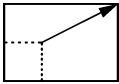
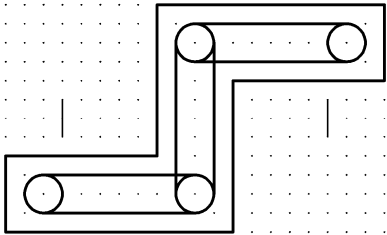
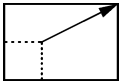
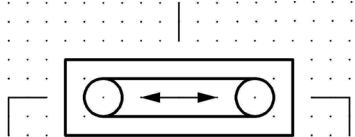
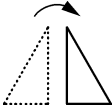
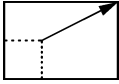
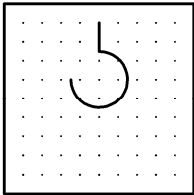
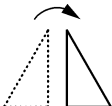
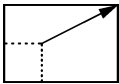
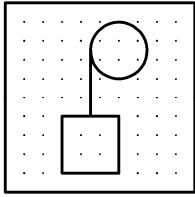
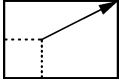
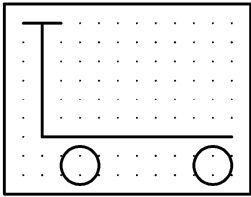
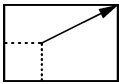
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
20.8	C0058		Pump, diaphragm type				
20.9	C0059		Jet pump, liquid type				

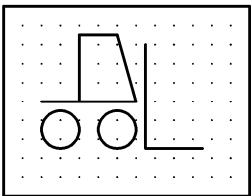
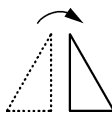
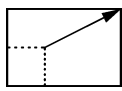
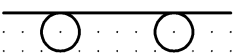
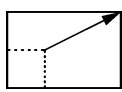
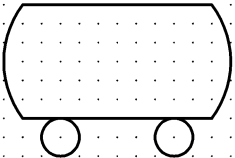
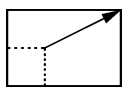
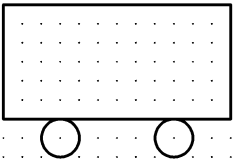
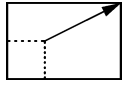
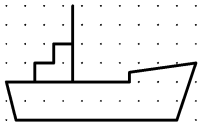
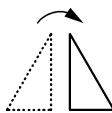
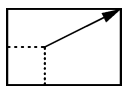
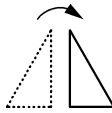
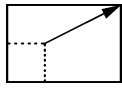
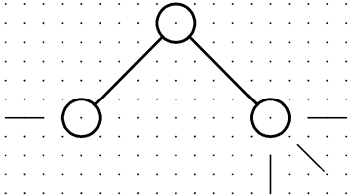
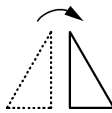
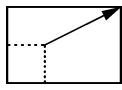
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
21	Compressors, vacuum pumps						
21.1	2302		Compressor, vacuum pump (general)				
21.2	X8179		Compressor, centrifugal type				
21.3	X8180		Compressor, open displacement type				
21.4	C0060		Compressor, vacuum pump, reciprocating type				
21.5	C0061		Compressor, vakuum pump, reciprocating diaphragm type				
21.6	C0062		Compressor, vacuum pump, turbo type				
21.7	C0063		Compressor, vacuum pump, roller vine type, compressor,				

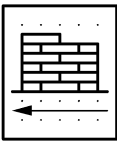
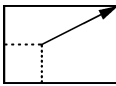
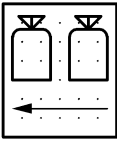
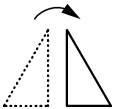
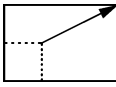
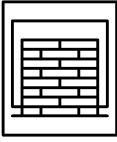
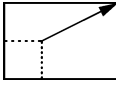
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
21.8	C0064		Compressor rotary type, vacuum pump, rotary piston type				
21.9	C0065		Compressor, screw type				
21.10	C0066		Compressor, vacuum pump liquid ring type				
21.11	C0067		Compressor, ejector type, vacuum pump jet type				

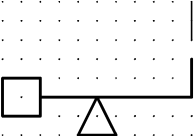
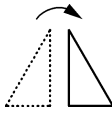
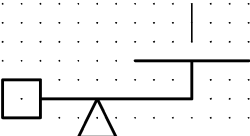
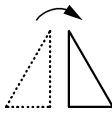
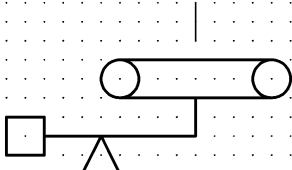
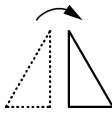
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
22	Blowers, fans						
22.1	C0068		Blower, fan (general)				
22.2	C0069		Blower, fan, radial type				
22.3	C0070		Blower, fan, axial type				

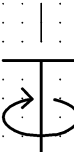
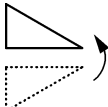
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
23	Lifting, conveying and transport equipment						
23.1	X8060		Conveyor				
23.2	X8061		Conveyor, belt type				
23.3	X8061A		bolt, conveyor type in box				
23.4	X8062		Conveyor, chain type				
23.5	X8063		Conveyor, screw type, gneral				
23.6	X8064		Conveyor, vibrating type, conveyor vibrating type, tubular,				

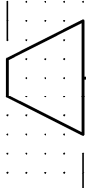
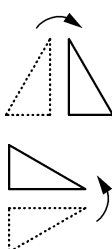
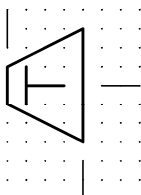
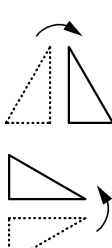
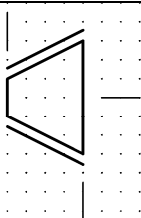
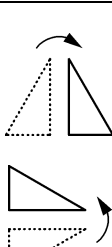
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
23.7	X8065		Elevator, bucket type				
23.8	X8066		Elevator, bucket type Z-form				
23.9	X8175		Conveyer, bolt type bidirectional				
23.10	3841		Crane				
23.11	3842		lift				
23.12	C0094		Forklift, manually operated				

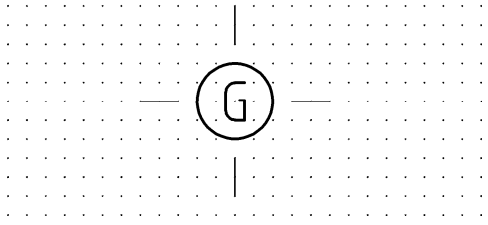
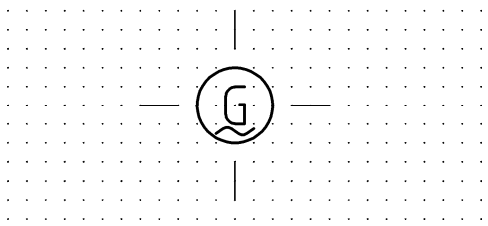
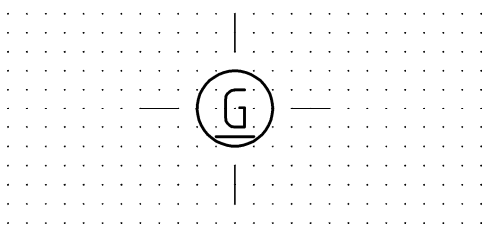
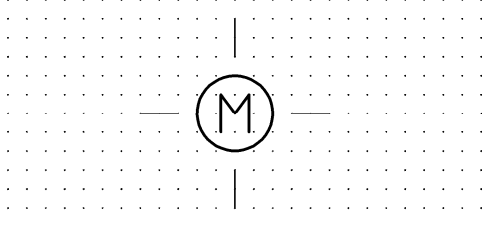
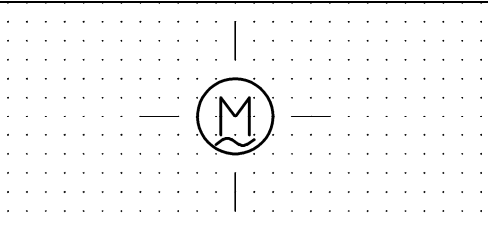
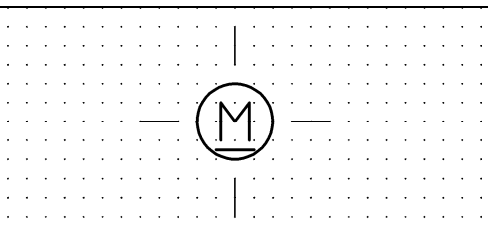
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
23.13	3862		Fork lift truck				
23.14	3871		Industrial truck, general				
23.15	3874		Tank car, tank wagon				
23.16	3872		Box truck				
23.17	3881		Ship				
23.18	X8142		Roller conveyor				
23.19	X8143		Loading arm				

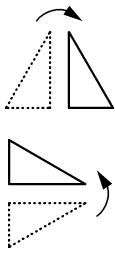
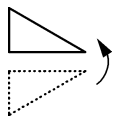
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
23.20	X8145		Palletizier, Depalletizer				
23.21	X8146		Filling machine, back type				
23.22	X8144		Protective palette covering				

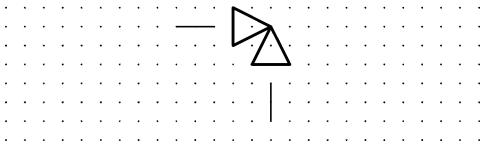
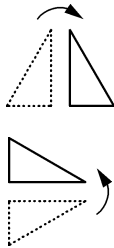
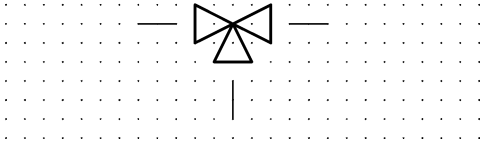
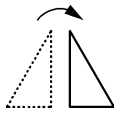
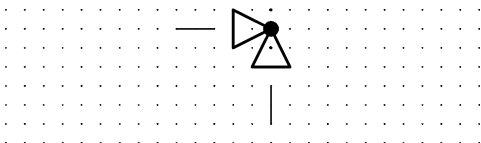
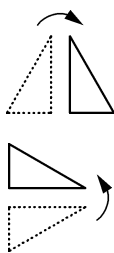
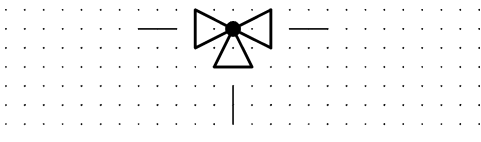
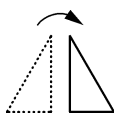
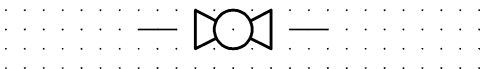
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
24	Scales						
24.1	C0071		Scale, general				
24.2	C0072		weighing platform, floor scale, weighbridge				
24.3	C0073		Scale, belt type				

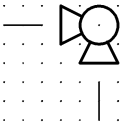
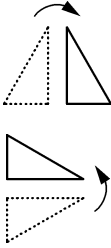
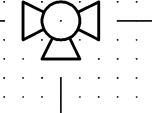
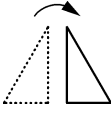
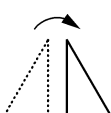
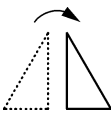
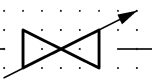
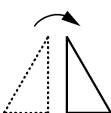
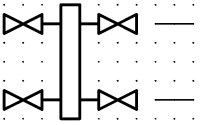
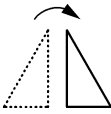
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
25	Proportioners, feeders and distribution facilities						
25.1	C2056		Proportional feeder, general				
25.2	X8067		Proportional feeder, rotary valve type				
25.3	C0074		Rotary table				
25.4	C0035		Proportional feeder, metering type				
25.5	2037		Spray nozzle				

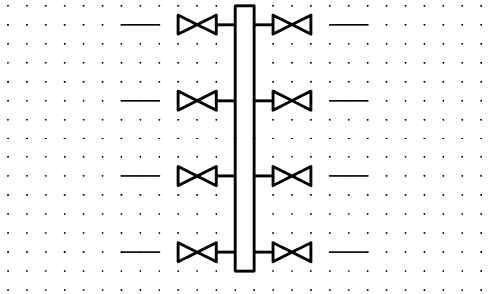
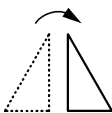
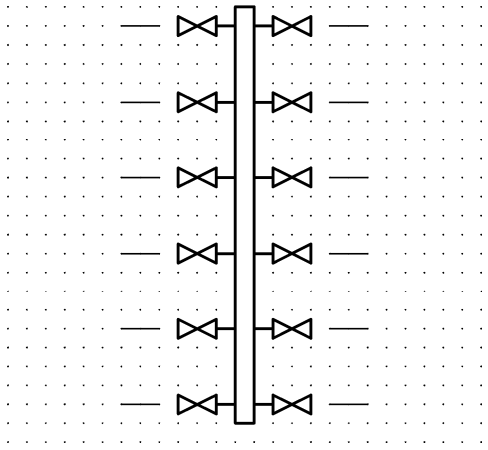
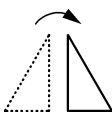
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
26	Engines						
26.1	2571		Drive				
26.2	X8081		Drive				
26.3	X8082		Drive				
26.4	C0077		Clutch				
26.5	C0078		Gear				

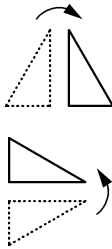
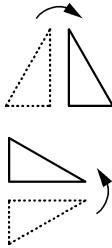
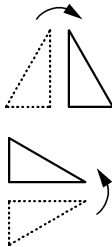
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
26.6	C0079		Generator, general				
26.7	C0080		Generator, AC				
26.8	C0081		Generator, DC				
26.9	C0082		Electric motor, general				
26.10	C0083		Electric motor, AC				
26.11	C0084		Electric motor, DC				

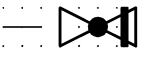
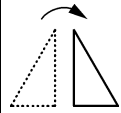
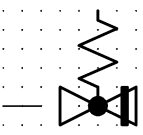
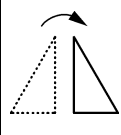
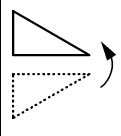
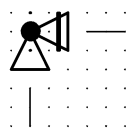
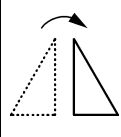
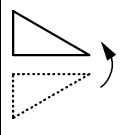
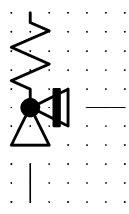
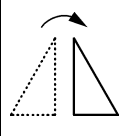
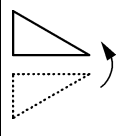
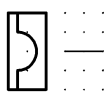
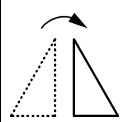
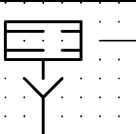
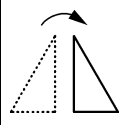
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
26.12	C0033		Bearing				
26.13	C0026		Guide blade pitch adjustment device				
26.14	C0027		Impeller blade pitch adjustment device				

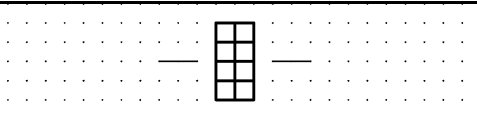
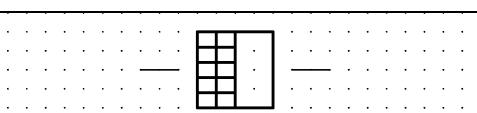
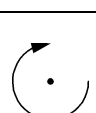
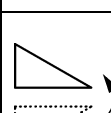
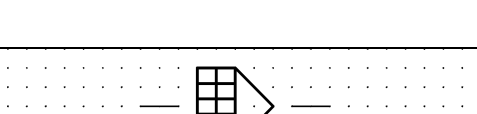
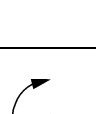
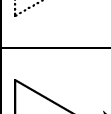
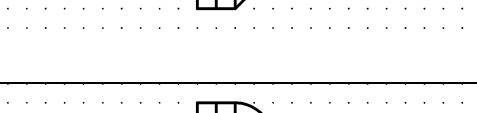
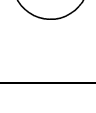
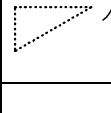
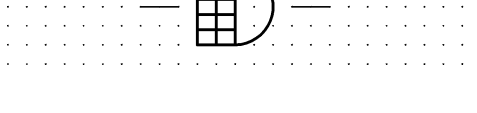
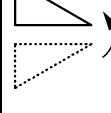
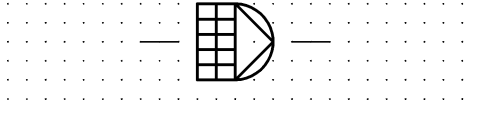
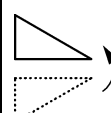
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
27	Valve						
27.1	2101		Valve, general				
27.2	2102		Valve, angle type general				
27.3	2103		Valve, three way type general				
27.4	X8068		Valve, globe type				
27.5	X8069		Valve, angle globe type				
27.6	X8070		Valve, three way globe type				
27.7	X8071		Valve, ball type				

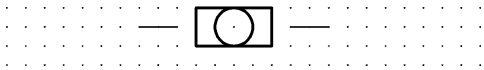
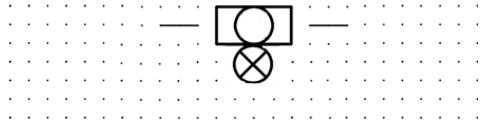
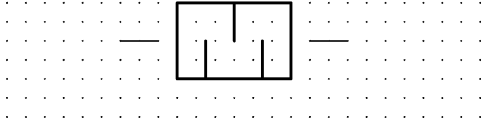
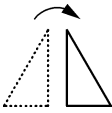
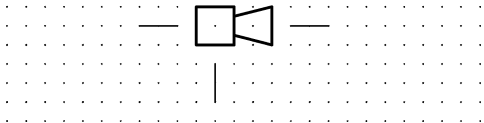
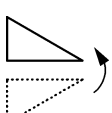
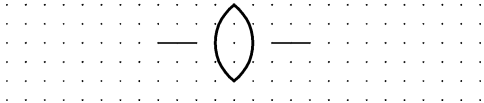
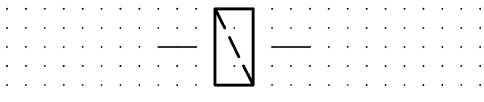
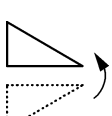
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
27.8	X8072		Valve, angle ball type				
27.9	X8073		Valve, three way ball type				
27.10	X8074		Valve, gate type				
27.11	X8075		Valve, butterfly type				
27.12	X8076		Valve, needle type				
27.13	C0011		Shut-off valve with bypass				
27.14	C0086		Valve, control type, continuously operated				
27.15	X8147		4-fold distributor				

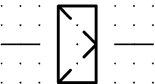
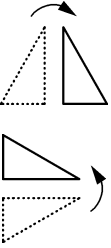
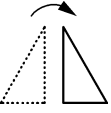
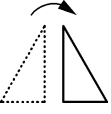
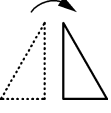
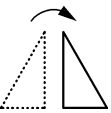
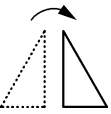
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
27.16	X8148		8-fold distributor				
27.17	X8149		12-fold distributor				

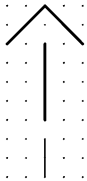
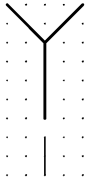
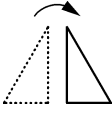
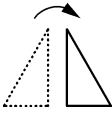
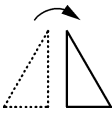
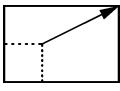
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
28	Check valve						
28.1	X8077		Check valve, general				
28.2	X2113		Check valve, globe type				
28.3	X8078		Swing check valve				

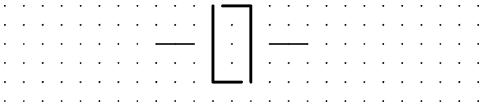
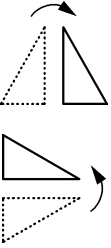
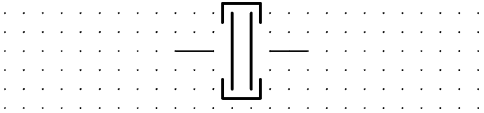
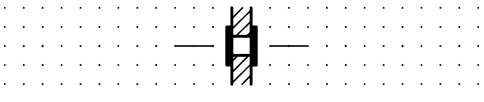
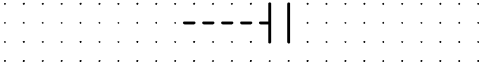
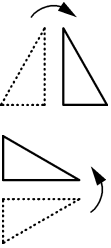
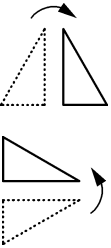
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
29	Valves and Fittings with safety function						
29.1	2112		safety valve, globe type general				
29.2	X2124		safety valve, spring		 		
29.3	X8079		safety valve, corner		 		
29.4	X2125		safety valve, corner, spring		 		
29.5	X8080		Rupture disk				
29.6	C0013		Pipe disconnector, back flow preventer for potable water systems				

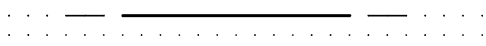
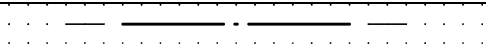
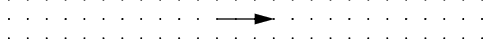
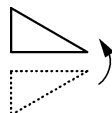
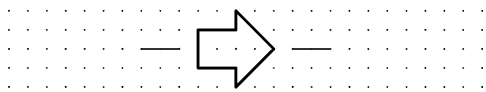
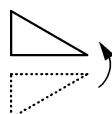
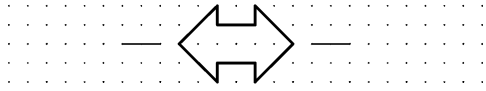
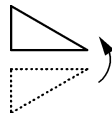
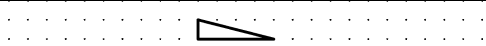
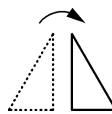
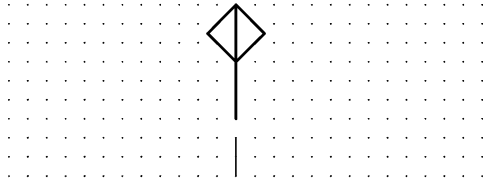
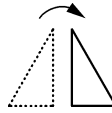
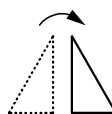
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
29.7	2036		Flame arrestor				
29.8	C0087		Flame arrestor explosion- proof				
29.9	C0088		Flame arrestor detonation- proof				
29.10	C0091		Flame arrestor fire-resistant				
29.11	C0089		Fire-resistant and detonation proof flame arrestor out to atm.				
29.12	C0090		Breather valve				

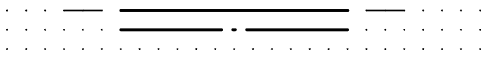
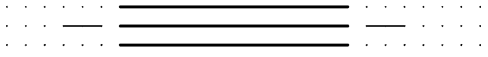
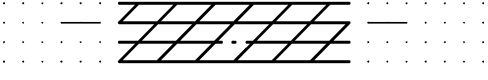
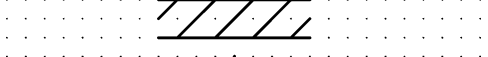
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
30	Fittings						
30.1	2034		viewing glass				
30.2	C0092		Inspection window				
30.3	2033		Silencer				
30.4	C0093		Mixing nozzle, Injector		 		
30.5	533		Compensator				
30.6	C0095		Strainer		 		

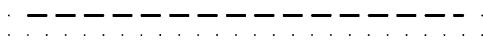
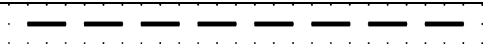
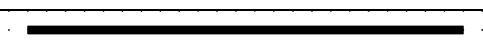
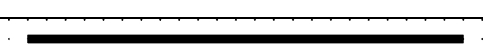
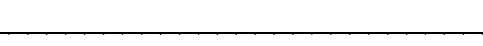
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
30.7	X8150		Cone typ strainer				
30.8	C0096		Orifice plate				
30.9	C0097		Blind disk				
30.10	C0098		open disk				
30.11	C0099		Interchangeable disk (Blind disk)				
30.12	X8145		Interchangeable disk (open disk in function)				

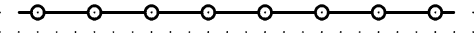
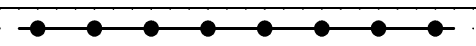
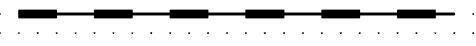
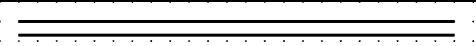
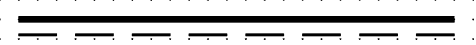
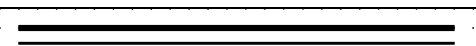
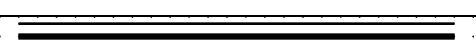
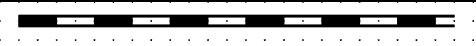
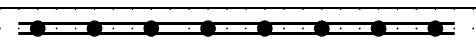
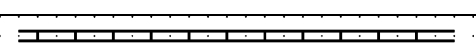
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
30.13	2039		Outlet to the Atmosphere for steam/gas				
30.14	2040		Funnel				
30.15	2181		Self-operating release valve				
30.16	511		Flanged connection, general				
30.17	516		Reducer, general				
30.18	X411		Hose				

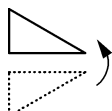
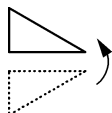
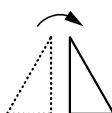
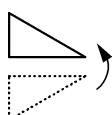
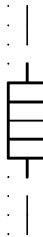
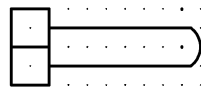
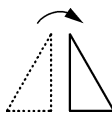
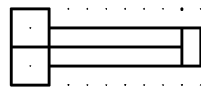
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
30.19	C0100		Coupling, general				
30.20	513		Clamped flange coupling				
30.21	C0108		Breakthrough				
30.25	X8151		Flanged dummy cover				
30.26	X8126		Single flange				
30.27	X8153		Dummy cover				

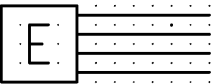
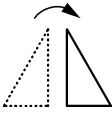
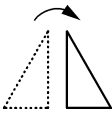
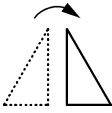
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
31	Other graphical symbols for piping						
31.1	X8155		pipeline				
31.2	X8156		Bypass				
31.3	241		Flowmotion in direction of arrow				
31.4	C0103		Arrow for inlet or outlet of essential substance				
31.5	X8158		Arrow for inlet or outlet of essential substance				
31.6	3061		Slope				
31.7	C0105		Limit general				
31.8	2038		Siphon				

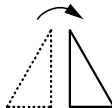
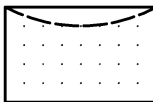
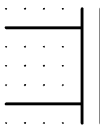
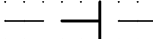
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
31.9	C0106		Piping heated or cooled				
31.10	X409		Piping with jacked or conduit				
31.11	X8174		Piping, heated or cooled and insulated				
31.12	X8157		Piping insulated				

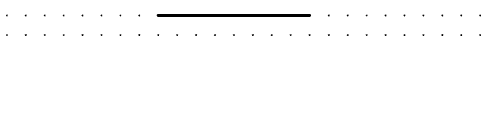
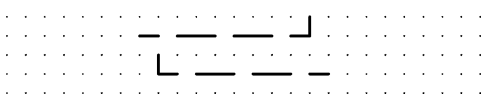
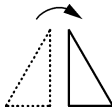
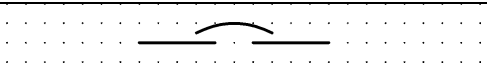
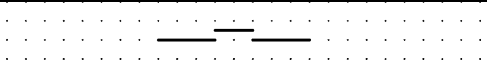
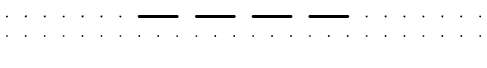
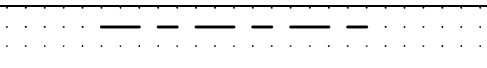
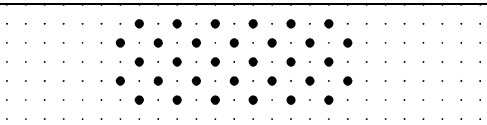
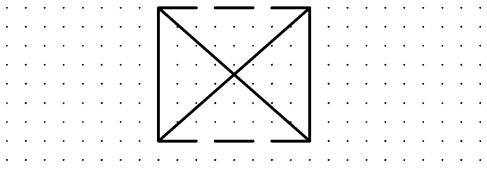
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
32	Pipeline for power plant						
32.1	C0109		Path of contact				
32.2	C0110		Pipeline from adjacent systems				
32.3	C0111		Pipeline				
32.4	C0112		Pressure pipeline				
32.5	C0113		Tank pipeline				
32.6	C0114		Control pipeline				
32.7	C0115		Leakage oil pipeline				
32.8	C0116		Vapour				
32.9	C0017		Oily vapour				
32.10	C0118		Water (main pipeline)				

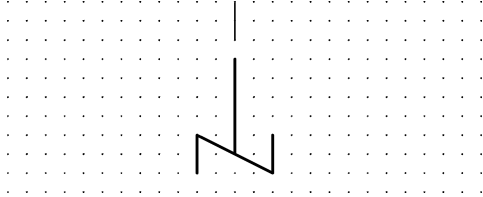
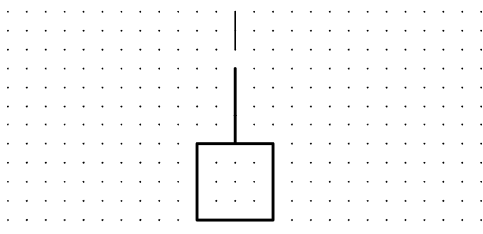
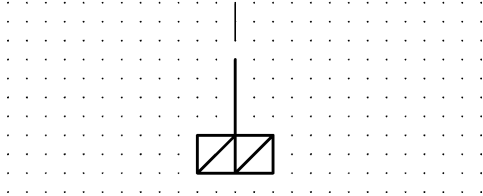
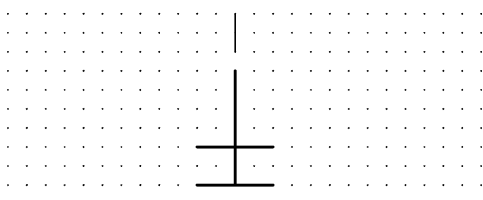
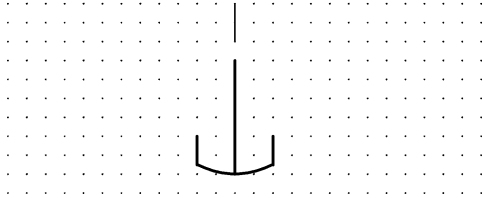
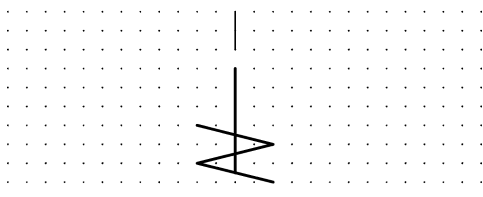
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
32.11	C0119		Oily water				
32.12	C0120		Raw water				
32.13	C0121		Sludge liquor, waste water				
32.14	C0122		Solvents, chemicals				
32.15	C0123		Oil (e.g. heating oil, control oil, lubricating oil)				
32.16	C0124		Air				
32.17	C0125		Combustible gases				
32.18	C0126		Non- combustible gases				
32.19	C0127		Solid fuels				
32.20	C0128		Combustible wastes				
32.21	C0129		Other substances				

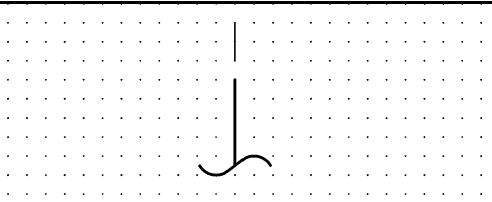
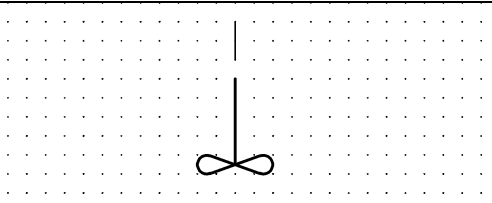
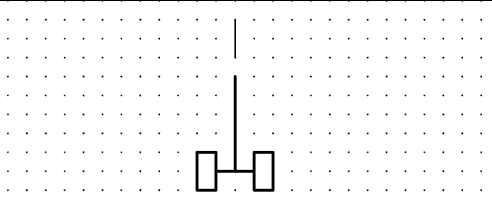
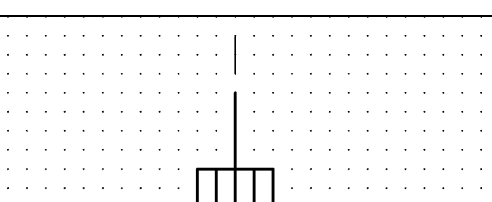
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
50	Heating / cooling devices						
50.1	C2000		Full-tube coil				
50.2	C2001		Semi-tube coil				
50.3	C2003		Heating / cooling jacket				
50.4	C2045		Thermal insulation		 		
50.5	C2004		(External) electrical heating				
50.6	X8136		Bank of U-tubes, U-tube bundle				
50.7	X8137		Floating head bundle				

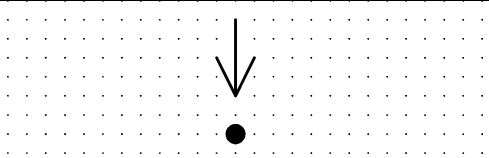
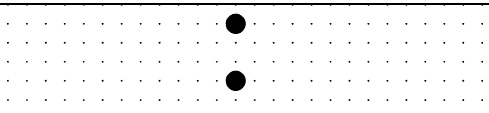
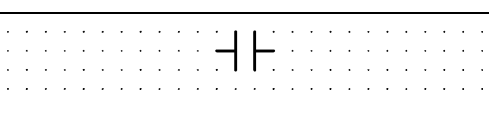
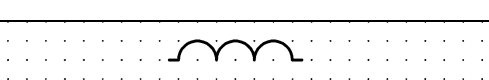
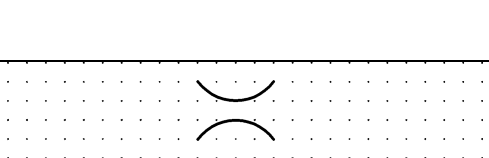
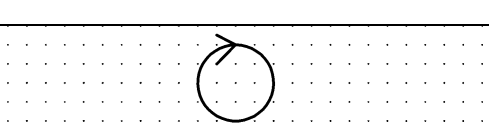
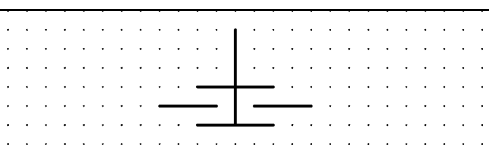
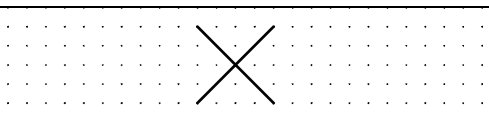
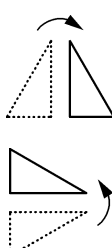
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
50.8	X8138		Electric heater, stab-in bundle				
50.9	X8139		Internal plate heat exchanger				
50.10	X8140		Internal tube bundle heat exchanger				

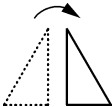
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
51	Apparatus elements						
51.1	C2005		Leg, supporting leg				
51.2	C2006		Supporting lug				
51.3	C2007		Support skirt				
51.4	C2008		Support ring				
51.5	C0033		Bearing				
51.6	X8159		Manhole				
51.7	X8160		Socket, connection				

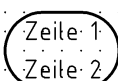
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
52	Internals						
52.1	C2044		Tray (general)				
52.2	C2009		Tray with baffle				
52.3	C2010		Bubble-cap tray				
52.4	C2011		Valve tray				
52.5	2602		Sieve tray, screen or sieve element				
52.6	C2047		Filter element				
52.7	2604		Fluidized bed				
52.8	X8141		packing				

Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
53	Agitators, stirrers						
53.1	2672		Agitator (general), stirrer (general)				
53.2	C2019		Flate-blade paddle agitator				
53.3	C2020		Gat paddle agitator				
53.4	C2021		Cross-beam agitator				
53.5	C2022		Anchor agitator				
53.6	C2023		Helical agitator				

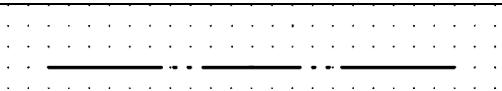
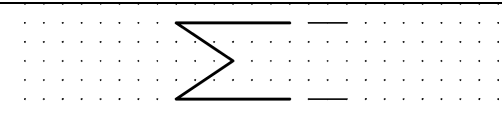
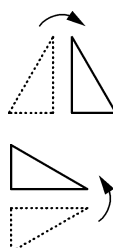
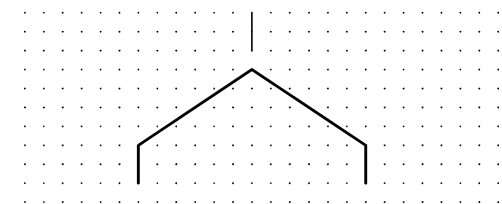
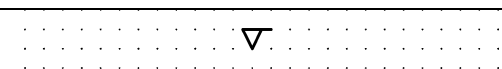
Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
53.7	C2024		Impeller agitator				
53.8	C2025		Propeller agitator				
53.9	C2026		Disc agitator				
53.10	C2027		Turbine agitator				

Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
54	Specifications						
54.1	C2028		Gravitational or settling type				
54.2	C2029		Dry type				
54.3	C2030		Electrostatic type				
54.4	C2031		Electromagnetic type				
54.5	C2032		Venturi type				
54.6	2621		Cyclonic type				
54.7	C2033		Disc type				
54.8	C0240		Crushing				

Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
54.9	C2034		Hammer type				
54.10	C2035		Impact type				
54.11	C2036		Jaw type				
54.12	C2037		Roller type				
54.13	C2038		Cone type				
54.14	X8176		Jet type				
54.15	3831		vibration type				

Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
55	measurement and control technology						
55.1	1041		Measuring and control position, circular				
55.2	C2050		Measuring and control position, circular; control panel/room				
55.3	C2051		Measuring and control position, circular; central control panel/room				
55.4	C2052		Measuring and control position, circular; external instrument				
55.5	R1043		Measuring and control position, oval				
55.6	C2053		Measuring and control position, oval; control panel/room				
55.7	C2054		Measuring and control position, oval; central control panel/room				

Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
55.8	C2055		Measuring and control position, oval; external instrument				

Clause	ISO 14617 Reg.-No.	Graphic	Description	Modifications			
				rotate	mirror	scale	modify
56	Miscellaneous						
56.1	C2040		Measuring and control position, circular				
56.3	C2041		M-shape				
56.6	C2043		Hood, general				
56.7	C0104		Level reference		