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**Hydraulic fluid power —  
Compensated flow-control valves —  
Mounting surfaces**

*Transmissions hydrauliques — Régulateurs de débit — Plan de pose*

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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 6263 was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 5, *Control products and components*.

This third edition cancels and replaces the second edition (ISO 6263:1997), of which it constitutes a minor revision.

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## Introduction

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure with an enclosed circuit. Typical components found in such systems are hydraulic valves. The devices control flow direction, pressure, or flow rate of liquids in the enclosed circuit.

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# Hydraulic fluid power — Compensated flow-control valves — Mounting surfaces

## 1 Scope

This International Standard specifies the dimensions and other data relating to surfaces on which hydraulic compensated flow-control valves are mounted in order to ensure interchangeability.

It applies to mounting surfaces for hydraulic compensated flow-control valves which represent current practice; they are generally applicable to industrial equipment.

## 2 Normative references

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

ISO 1219-1, *Fluid power systems and components — Graphical symbols and circuit diagrams — Part 1: Graphical symbols for conventional use and data-processing applications*

ISO 3601-2:2008, *Fluid power systems — O-rings — Part 2: Housing dimensions for general applications*

ISO 4401, *Hydraulic fluid power — Four-port directional control valves — Mounting surfaces*

ISO 5598, *Fluid power systems and components — Vocabulary*

ISO 5783, *Hydraulic fluid power — Code for identification of valve mounting surfaces and cartridge valve cavities*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5598 and the graphical symbols given in ISO 1219-1 apply.

## 4 Symbols

4.1 For the purposes of this International Standard, the following symbols apply:

- a) A, B, L, P, T, and V designate ports;
- b) F<sub>1</sub>, F<sub>2</sub>, F<sub>3</sub>, and F<sub>4</sub> designate threaded holes for fixing screws;
- c) G, G<sub>1</sub>, and G<sub>2</sub> designate the location of pin holes;
- d) *D* designates the fixing screw diameter;
- e) *r*<sub>max</sub> designates mounting surface edge radius.

4.2 The graphical symbols used in Tables 2, 4, 6, 8, 10, 12, 14, and 16 are in accordance with ISO 1219-1.

4.3 The code system used in this International Standard is defined in ISO 5783.

## 5 Tolerances

5.1 The following requirements shall be applied to the mounting surface, i.e. that area within the chain thick lines:

surface roughness: see ISO 3601-2:2008, 5.1.4 and 5.2.3;

surface flatness: 0,01 mm over a distance of 100 mm (see ISO 3601-2:2008, 5.1.4);

tolerance for diameters of locating pin holes: H12.

5.2 With respect to the origin, the following tolerances shall be complied with along x and y axes:

pin holes:  $\pm 0,1$  mm;

screw holes:  $\pm 0,1$  mm;

port holes:  $\pm 0,2$  mm.

For other dimensions, see the figures.

## 6 Dimensions

6.1 Mounting surface dimensions for hydraulic compensated flow-control valves shall be selected from the figures and tables specified in 6.2 to 6.9.

6.2 Mounting surface dimensions for compensated flow-control valves with main ports of 4,5 mm maximum port diameter (code: 6263-02-01-\*-13) are given in Figure 1 and Table 1.

6.3 Mounting surface dimensions for compensated flow-control valves with main ports of 7,5 mm maximum port diameter (code: 6263-03-02-\*-13) are given in Figure 2 and Table 3.

6.4 Mounting surface dimensions for compensated flow-control valves with two main ports of 14,7 mm maximum port diameter (code: 6263-06-03-\*-13) are given in Figure 3 and Table 5.

6.5 Mounting surface dimensions for compensated flow-control valves with three main ports of 14,7 mm maximum port diameter (code: 6263-06-04-\*-13) are given in Figure 4 and Table 7.

6.6 Mounting surface dimensions for compensated flow-control valves with three main ports of 17,5 mm maximum port diameter (code: 6263-07-05-\*-13) are given in Figure 5 and Table 9.

6.7 Mounting surface dimensions for compensated flow-control valves with three main ports of 17,5 mm maximum port diameter (code: 6263-07-06-\*-13) are given in Figure 6 and Table 11.

6.8 Mounting surface dimensions for compensated flow-control valves with three main ports of 23,4 mm maximum port diameter (code: 6263-08-07-\*-13) are given in Figure 7 and Table 13.

6.9 Mounting surface dimensions for compensated flow-control valves with three main ports of 23,4 mm maximum port diameter (code: 6263-08-08-\*-13) are given in Figure 8 and Table 15.

## 7 Port marking

7.1 The port symbols for compensated flow-control valves shall be selected from the tables specified in 7.2 to 7.9.

7.2 Port symbols for compensated flow-control valves with main ports of 4,5 mm maximum port diameter (code: 6263-02-01-\*-13) are given in Table 2.

7.3 Port symbols for compensated flow-control valves with main ports of 7,5 mm maximum port diameter (code: 6263-03-02-\*-13) are given in Table 4.

7.4 Port symbols for compensated flow-control valves with two main ports of 14,7 mm maximum port diameter (code: 6263-06-03-\*-13) are given in Table 6.

7.5 Port symbols for compensated flow-control valves with three main ports of 14,7 mm maximum port diameter (code: 6263-06-04-\*-13) are given in Table 8.

7.6 Port symbols for compensated flow-control valves with two main ports of 17,5 mm maximum port diameter (code: 6263-07-05-\*-13) are given in Table 10.

7.7 Port symbols for compensated flow-control valves with three main ports of 17,5 mm maximum port diameter (code: 6263-07-06-\*-13) are given in Table 12.

7.8 Port symbols for compensated flow-control valves with two main ports of 23,4 mm maximum port diameter (code: 6263-08-07-\*-13) are given in Table 14.

7.9 Port symbols for compensated flow-control valves with three main ports of 23,4 mm maximum port diameter (code: 6263-08-08-\*-13) are given in Table 16.

## 8 Modular stack valves

For modular stack valves, the mounting surfaces and ports marking given in ISO 4401 shall be used.

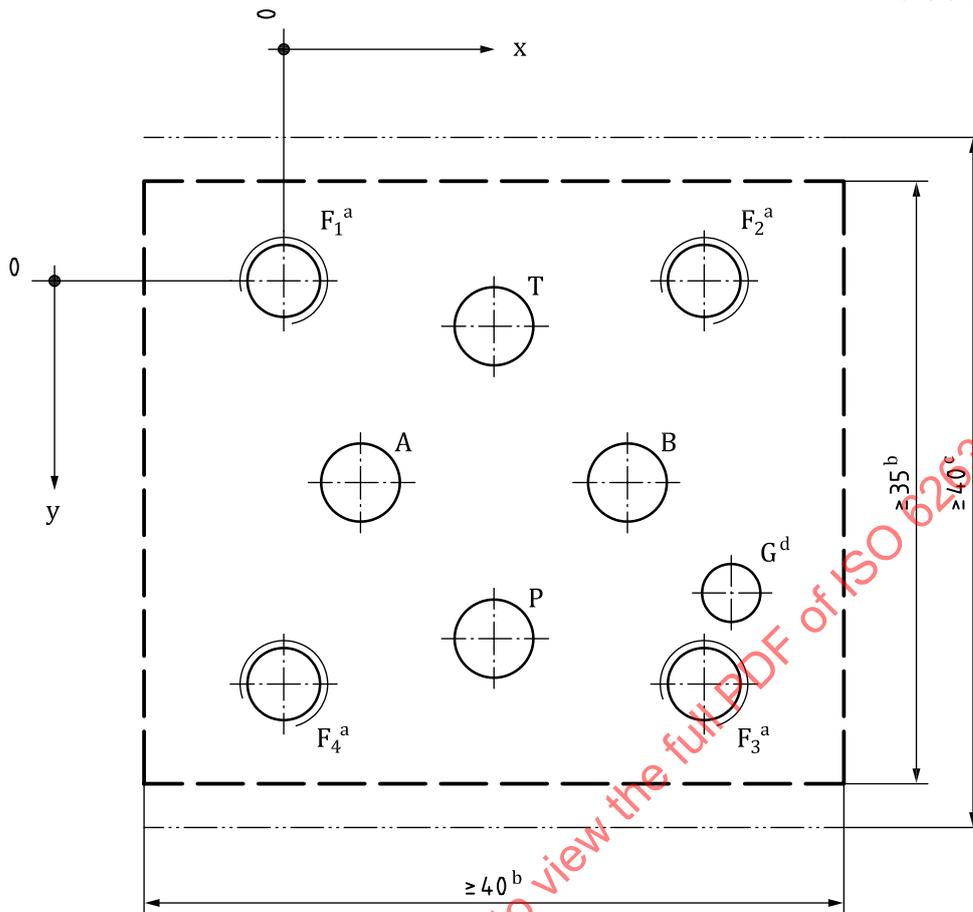
## 9 Working pressure

For indication of the maximum limit of the working pressure, see Note 1 in Figures 1, 2, 3, 4, 5, 6, 7, and 8.

## 10 Identification statement (Reference to this International Standard)

Use the following statement in test reports, catalogues, and sales literature when electing to comply with this International Standard:

“Mounting surface dimensions conform to ISO 6263:2013, *Hydraulic fluid power — Compensated flow-control valves — Mounting surfaces.*”



- a The minimum thread depth is 1,5 times the screw diameter,  $D$ . The recommended full thread depth is  $2D + 6$  mm to facilitate interchangeability of valves and to reduce the number of fixing screw lengths. The recommended engagement of fixing screw thread for ferrous mountings is  $1,25D$ .
- b The dimensions specifying the area within the chain thick lines are the minimum dimensions for the mounting surface. The corners of the rectangle may be radiused to a maximum radius,  $r_{max}$ , equal to the thread diameter of the fixing screws. Along each axis, the fixing holes are at equal distances to the mounting surface edges.
- c This dimension gives the minimum space required for a valve with this mounting surface. The dimension is also the minimum distance from centreline to centreline of two identical mounting surfaces placed on a manifold block.  
The valve manufacturer's attention is drawn to the fact that no part of the width of the complete valve assembly shall exceed this dimension.
- d Blind hole in the mounting surface to accommodate the locating pin on the valves. The minimum depth is 4 mm.

NOTE 1 The supplier shall stipulate the maximum working pressure for subplates and manifold blocks.

NOTE 2 See Table 2 for graphical symbols.

**Figure 1 — Mounting surface for compensated flow-control valves with main ports of 4,5 mm maximum port diameter (code: 6263-02-01-\*-13)**

**Table 1 — Dimensions**

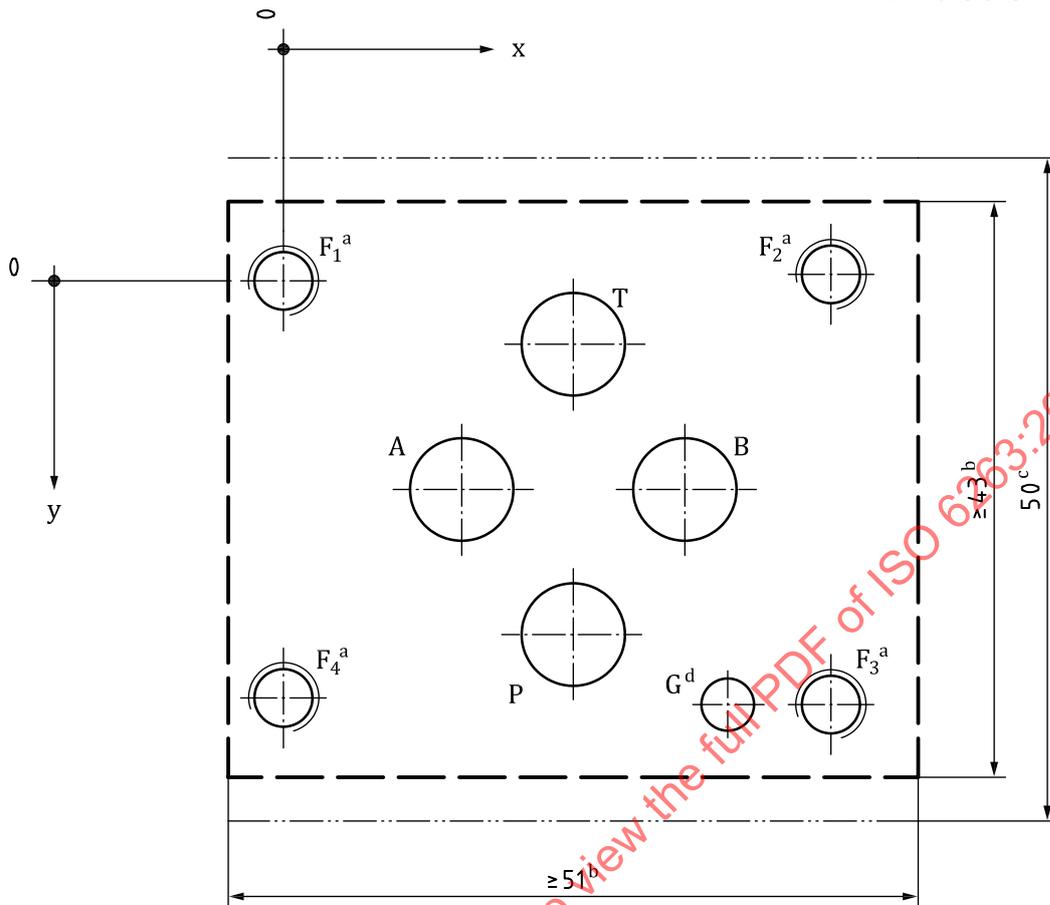
Dimensions in millimetres

Axis	P	A	T	B	G	F <sub>1</sub>	F <sub>2</sub>	F <sub>3</sub>	F <sub>4</sub>
	∅ 4,5 max.	∅ 4,5 max.	∅ 4,5 max.	∅ 4,5 max.	∅ 3,4 max.	M5	M5	M5	M5
x	12	4,3	12	19,7	25,5	0	24	24	0
y	20,25	11,25	2,25	11,25	17,75	0	-0,75	23,25	22,5

**Table 2 — Compensated flow-control valves with main ports of 4,5 maximum port diameter  
(code: 6263-02-01-\*-13)**

Option according to ISO 5783	0	1
Description	Internal drain	External drain
Compensated flow-control valve with two main ports		
Compensated flow-control valve with by-pass check valve with two main ports		
Compensated flow-control valve with three main ports		

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- a The minimum thread depth is 1,5 times the screw diameter,  $D$ . The recommended full thread depth is  $2D + 6$  mm to facilitate interchangeability of valves and to reduce the number of fixing screw lengths. The recommended engagement of fixing screw thread for ferrous mountings is  $1,25D$ .
- b The dimensions specifying the area within the chain thick lines are the minimum dimensions for the mounting surface. The corners of the rectangle may be radiused to a maximum radius,  $r_{max}$ , equal to the thread diameter of the fixing screws. Along each axis, the fixing holes are at equal distances to the mounting surface edges.
- c This dimension gives the minimum space required for a valve with this mounting surface. The dimension is also the minimum distance from centreline to centreline of two identical mounting surfaces placed on a manifold block.  
The valve manufacturer's attention is drawn to the fact that no part of the width of the complete valve assembly shall exceed this dimension.
- d Blind hole in the mounting surface to accommodate the locating pin on the valves. The minimum depth is 4 mm.

NOTE 1 The supplier shall stipulate the maximum working pressure for subplates and manifold blocks.

NOTE 2 See Table 4 for graphical symbols.

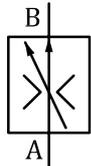
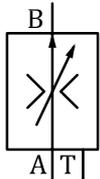
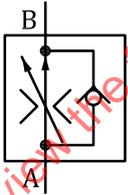
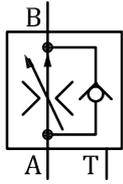
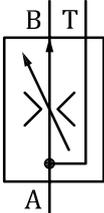
**Figure 2 — Mounting surface for compensated flow-control valves with main ports of 7,5 mm maximum port diameter (code: 6263-03-02-\*-13)**

**Table 3 — Dimensions**

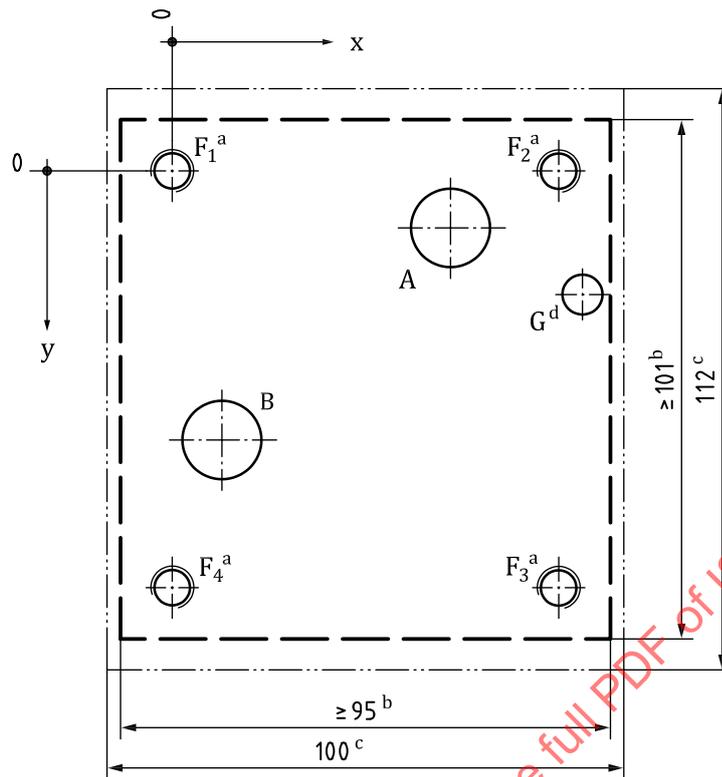
Dimensions in millimetres

Axis	P	A	T	B	G	F <sub>1</sub>	F <sub>2</sub>	F <sub>3</sub>	F <sub>4</sub>
	∅ 7,5 max.	∅ 7,5 max.	∅ 7,5 max.	∅ 7,5 max.	∅ 4	M5	M5	M5	M5
x	21,5	12,7	21,5	30,2	33	0	40,5	40,5	0
y	25,9	15,5	5,1	15,5	31,75	0	-0,75	31,75	31

**Table 4 — Compensated flow-control valves with main ports of 7,5 maximum port diameter  
(code: 6263-03-02-\*-13)**

Option according to ISO 5783	0	1
Description	Internal drain	External drain
Compensated flow-control valve with two main ports		
Compensated flow-control valve with by-pass check valve with two main ports		
Compensated flow-control valve with three main ports		

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- a The minimum thread depth is 1,5 times the screw diameter,  $D$ . The recommended full thread depth is  $2D + 6$  mm to facilitate interchangeability of valves and to reduce the number of fixing screw lengths. The recommended engagement of fixing screw thread for ferrous mountings is  $1,25D$ .
- b The dimensions specifying the area within the chain thick lines are the minimum dimensions for the mounting surface. The corners of the rectangle may be radiused to a maximum radius,  $r_{max}$ , equal to the thread diameter of the fixing screws. Along each axis, the fixing holes are at equal distances to the mounting surface edges.
- c This dimension gives the minimum space required for a valve with this mounting surface. The dimension is also the minimum distance from centreline to centreline of two identical mounting surfaces placed on a manifold block.  
The valve manufacturer's attention is drawn to the fact that no part of the width of the complete valve assembly shall exceed this dimension.
- d Blind hole in the mounting surface to accommodate the locating pin on the valves. The minimum depth is 4 mm.

NOTE 1 The supplier shall stipulate the maximum working pressure for subplates and manifold blocks.

NOTE 2 See Table 6 for graphical symbols.

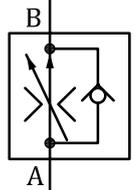
**Figure 3 — Mounting surface for compensated flow-control valves with two main ports of 14,7 mm maximum port diameter (code: 6263-06-03-\*-13)**

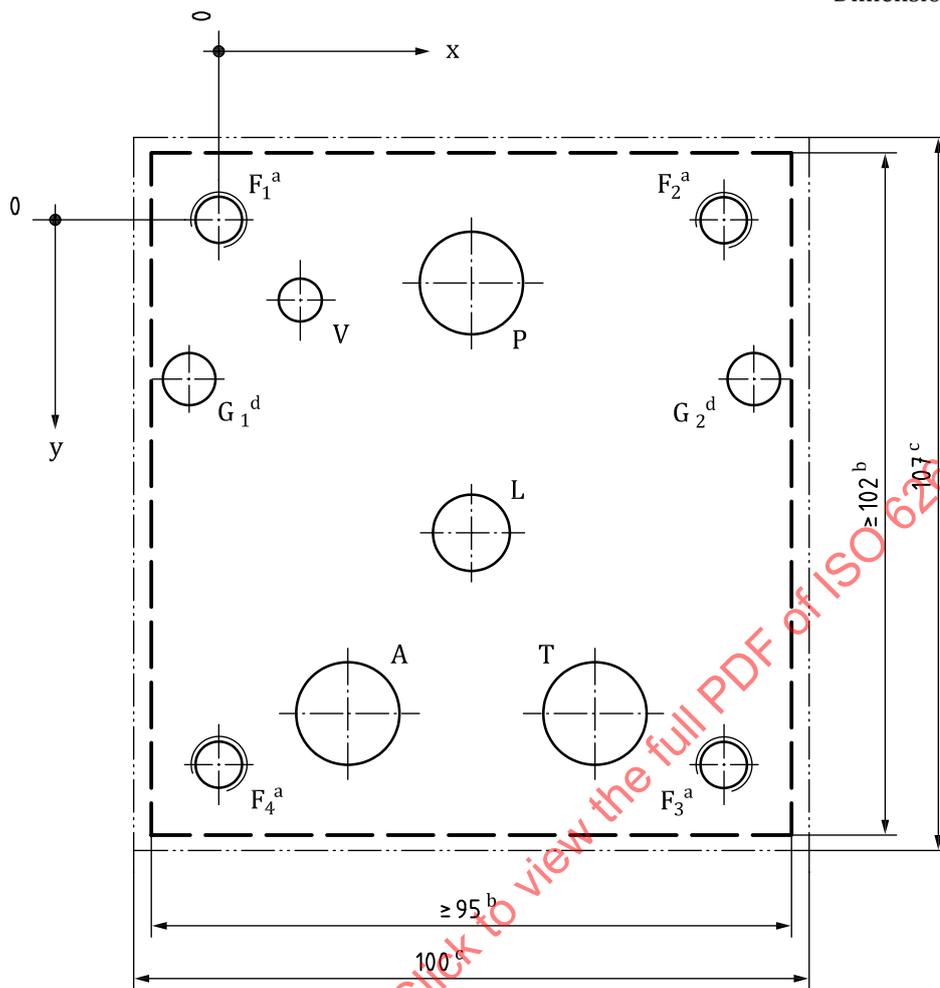
Table 5 — Dimensions

Dimensions in millimetres

Axis	A	B	G	F <sub>1</sub>	F <sub>2</sub>	F <sub>3</sub>	F <sub>4</sub>
	∅ 14,7 max.	∅ 14,7 max.	∅ 7,5	M8	M8	M8	M8
x	54	9,5	79,4	0	76,2	76,2	0
y	11,1	52,4	23,8	0	0	82,6	82,6

Table 6 — Compensated flow-control valves with two main ports of 14,7 maximum port diameter (code: 6263-06-03-\*-13)

Option according to ISO 5783	0
Description	Internal drain
Compensated flow-control valve with two main ports	
Compensated flow-control valve with by-pass check valve with two main ports	



- a The minimum thread depth is 1,5 times the screw diameter,  $D$ . The recommended full thread depth is  $2D + 6$  mm to facilitate interchangeability of valves and to reduce the number of fixing screw lengths. The recommended engagement of fixing screw thread for ferrous mountings is  $1,25D$ .
- b The dimensions specifying the area within the chain thick lines are the minimum dimensions for the mounting surface. The corners of the rectangle may be radiused to a maximum radius,  $r_{max}$ , equal to the thread diameter of the fixing screws. Along each axis, the fixing holes are at equal distances to the mounting surface edges.
- c This dimension gives the minimum space required for a valve with this mounting surface. The dimension is also the minimum distance from centreline to centreline of two identical mounting surfaces placed on a manifold block.  
The valve manufacturer's attention is drawn to the fact that no part of the width of the complete valve assembly shall exceed this dimension.
- d Blind hole in the mounting surface to accommodate the locating pin on the valves. The minimum depth is 4 mm.

NOTE 1 The supplier shall stipulate the maximum working pressure for subplates and manifold blocks.

NOTE 2 See Table 8 for graphical symbols.

**Figure 4 — Mounting surface for compensated flow-control valves with three main ports of 14,7 mm maximum port diameter (code: 6263-06-04-\*-13)**

**Table 7 — Dimensions**

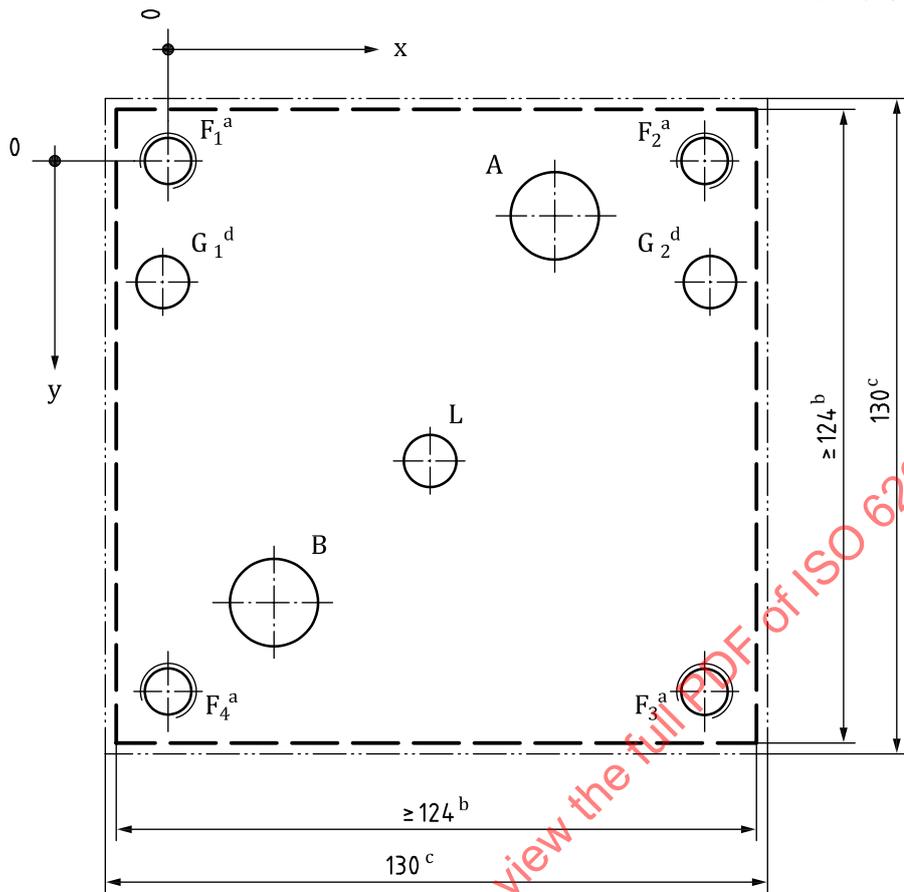
Dimensions in millimetres

Axis	P	A	T	L	V	G <sub>1</sub>	G <sub>2</sub>	F <sub>1</sub>	F <sub>2</sub>	F <sub>3</sub>	F <sub>4</sub>
	∅ 14,7 max.	∅ 14,7 max.	∅ 14,7 max.	∅ 11,1 max.	∅ 6,3 max.	∅ 7,5	∅ 7,5	M8	M8	M8	M8
x	38	19	57	38	11,8	-3,2	79,4	0	76,2	76,2	0
y	9,5	73,8	73,8	46,8	12	23,8	23,8	0	0	82,6	82,6

**Table 8 — Compensated flow-control valves with three main ports of 14,7 maximum port diameter (code: 6263-06-04-\*13)**

Option according to ISO 5783	0	1
Description	Internal drain	External drain
Compensated flow-control valve with three main ports — External pilot		
Compensated flow-control valve with three main ports — Internal pilot		

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- a The minimum thread depth is 1,5 times the screw diameter,  $D$ . The recommended full thread depth is  $2D + 6$  mm to facilitate interchangeability of valves and to reduce the number of fixing screw lengths. The recommended engagement of fixing screw thread for ferrous mountings is  $1,25D$ .
- b The dimensions specifying the area within the chain thick lines are the minimum dimensions for the mounting surface. The corners of the rectangle may be radiused to a maximum radius,  $r_{max}$ , equal to the thread diameter of the fixing screws. Along each axis, the fixing holes are at equal distances to the mounting surface edges.
- c This dimension gives the minimum space required for a valve with this mounting surface. The dimension is also the minimum distance from centreline to centreline of two identical mounting surfaces placed on a manifold block.  
The valve manufacturer's attention is drawn to the fact that no part of the width of the complete valve assembly shall exceed this dimension.
- d Blind hole in the mounting surface to accommodate the locating pin on the valves. The minimum depth is 4 mm.

NOTE 1 The supplier shall stipulate the maximum working pressure for subplates and manifold blocks.

NOTE 2 See Table 10 for graphical symbols.

**Figure 5 — Mounting surface for compensated flow-control valves with two main ports of 17,5 mm maximum port diameter (code: 6263-07-05-\*-13)**

Table 9 — Dimensions

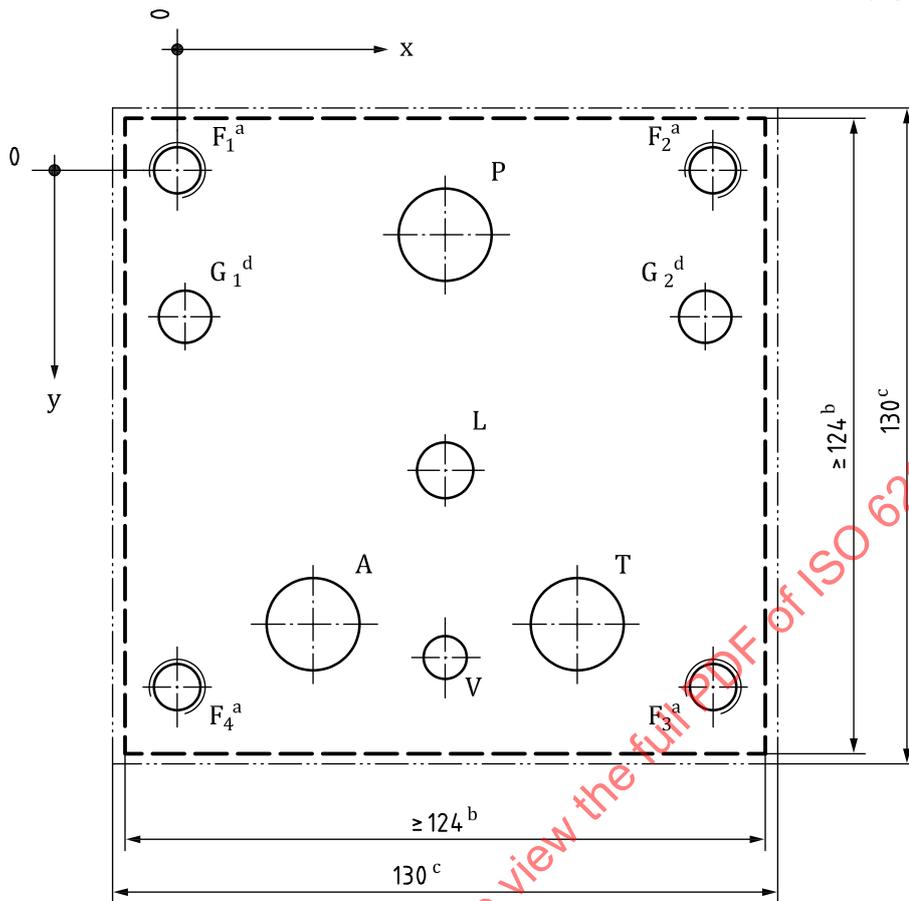
Dimensions in millimetres

Axis	A	B	L	G <sub>1</sub>	G <sub>2</sub>	F <sub>1</sub>	F <sub>2</sub>	F <sub>3</sub>	F <sub>4</sub>
	∅ 17,5 max.	∅ 17,5 max.	∅ 11,1 max.	∅ 10,4	∅ 10,4	M10	M10	M10	M10
x	75	20,6	50,8	-0,8	102,4	0	101,6	101,6	0
y	11,1	86,5	58,7	28,6	28,6	0	0	101,6	101,6

Table 10 — Compensated flow-control valves with two main ports of 17,5 maximum port diameter (code: 6263-07-05-\*-13)

Option according to ISO 5783	0	1
Description	Internal drain	External drain
Compensated flow-control valve with two main ports		
Compensated flow-control valve with by-pass check valve with two main ports		

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- a The minimum thread depth is 1,5 times the screw diameter,  $D$ . The recommended full thread depth is  $2D + 6$  mm to facilitate interchangeability of valves and to reduce the number of fixing screw lengths. The recommended engagement of fixing screw thread for ferrous mountings is  $1,25D$ .
- b The dimensions specifying the area within the chain thick lines are the minimum dimensions for the mounting surface. The corners of the rectangle may be radiused to a maximum radius,  $r_{max}$ , equal to the thread diameter of the fixing screws. Along each axis, the fixing holes are at equal distances to the mounting surface edges.
- d This dimension gives the minimum space required for a valve with this mounting surface. The dimension is also the minimum distance from centreline to centreline of two identical mounting surfaces placed on a manifold block.  
The valve manufacturer's attention is drawn to the fact that no part of the width of the complete valve assembly shall exceed this dimension.
- d Blind hole in the mounting surface to accommodate the locating pin on the valves. The minimum depth is 4 mm.

NOTE 1 The supplier shall stipulate the maximum working pressure for subplates and manifold blocks.

NOTE 2 See Table 2 for graphical symbols.

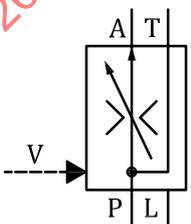
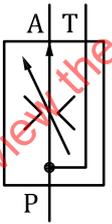
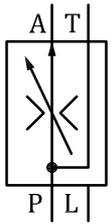
**Figure 6 — Mounting surface for compensated flow-control valves with threemain ports of 17,5 mm maximum port diameter (code: 6263-07-06-\*-13)**

Table 11 — Dimensions

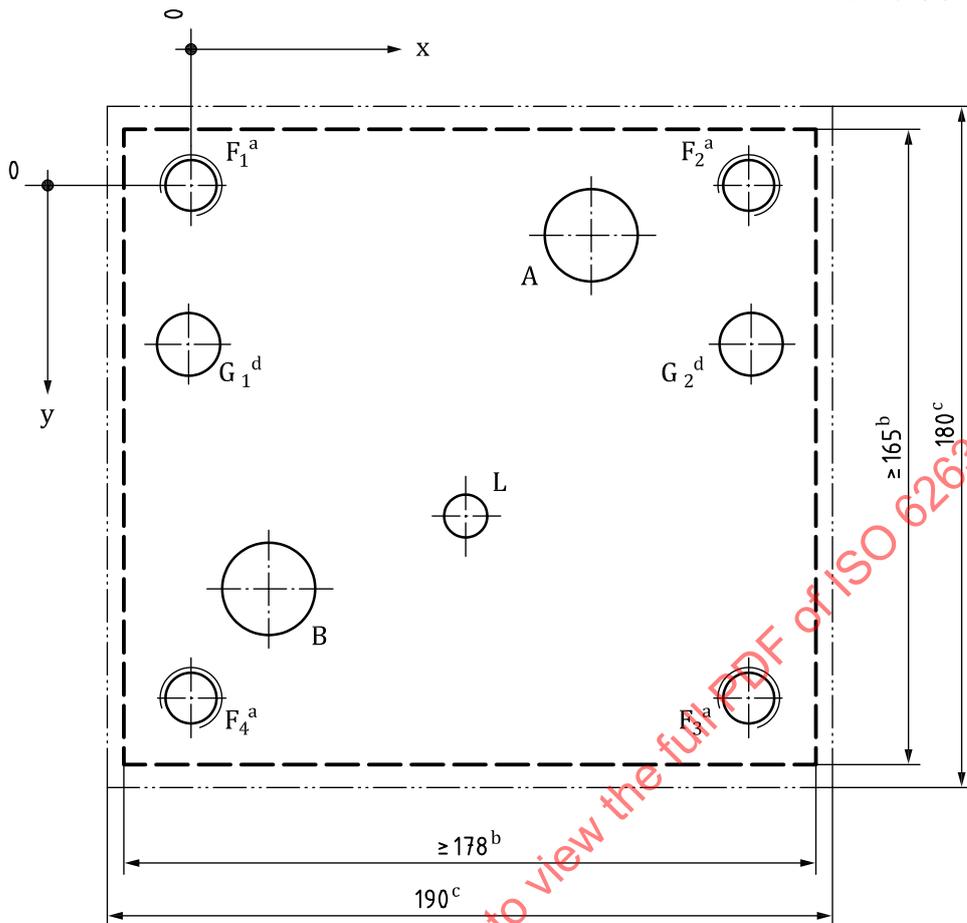
Dimensions in millimetres

Axis	P	A	T	L	V	G <sub>1</sub>	G <sub>2</sub>	F <sub>1</sub>	F <sub>2</sub>	F <sub>3</sub>	F <sub>4</sub>
		∅ 17,5 max.	∅ 17,5 max.	∅ 17,5 max.	∅ 11,1 max.	∅ 7,9 max.	∅ 10,4	∅ 10,4	M10	M10	M10
x	50,8	23,8	77,8	50,8	50,8	-0,8	102,4	0	101,6	101,6	0
y	12,7	88,9	88,9	58,7	95,3	28,6	28,6	0	0	101,6	101,6

Table 12 — Compensated flow-control valves with three main ports of 17,5 maximum port diameter (code: 6263-07-06-\*-13)

Option according to ISO 5783	0	1
Description	Internal drain	External drain
Compensated flow-control valve with three main ports — External pilot		
Compensated flow-control valve with three main ports — Internal pilot		

Dimensions in millimetres



- a The minimum thread depth is 1,5 times the screw diameter,  $D$ . The recommended full thread depth is  $2D + 6$  mm to facilitate interchangeability of valves and to reduce the number of fixing screw lengths. The recommended engagement of fixing screw thread for ferrous mountings is  $1,25D$ .
- b The dimensions specifying the area within the chain thick lines are the minimum dimensions for the mounting surface. The corners of the rectangle may be radiused to a maximum radius,  $r_{max}$ , equal to the thread diameter of the fixing screws. Along each axis, the fixing holes are at equal distances to the mounting surface edges.
- c This dimension gives the minimum space required for a valve with this mounting surface. The dimension is also the minimum distance from centreline to centreline of two identical mounting surfaces placed on a manifold block.  
The valve manufacturer's attention is drawn to the fact that no part of the width of the complete valve assembly shall exceed this dimension.
- d Blind hole in the mounting surface to accommodate the locating pin on the valves. The minimum depth is 4 mm.

NOTE 1 The supplier shall stipulate the maximum working pressure for subplates and manifold blocks.

NOTE 2 See Table 14 for graphical symbols.

**Figure 7 — Mounting surface for compensated flow-control valves with two main ports of 23,4 mm maximum port diameter (code: 6263-08-07-\*-13)**