
INTERNATIONAL STANDARD



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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Pneumatic fluid power — Five-port directional control valves — Mounting surfaces — Part I : General

*Transmissions pneumatiques — Distributeurs à cinq orifices — Plan de pose —
Partie I : Généralités*

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5599/1 was developed by Technical Committee ISO/TC 131, *Fluid power systems and components*, and was circulated to the member bodies in November 1977.

It has been approved by the member bodies of the following countries :

Australia	Germany, F.R.	Romania
Austria	Hungary	South Africa, Rep. of
Belgium	India	Spain
Brazil	Ireland	Sweden
Canada	Italy	Switzerland
Chile	Japan	Turkey
Czechoslovakia	Mexico	United Kingdom
Finland	Netherlands	U.S.A.
France	Poland	U.S.S.R.

No member body expressed disapproval of the document.



INTERNATIONAL STANDARD ISO 5599/1-1978 (E)/ERRATUM

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**Pneumatic fluid power — Five-port directional control valves — Mounting surfaces —
Part 1 : General**

ERRATUM

Pages 2, 3, 4 and 5

Tables 1, 2, 3, 4 : At the head of the last column, insert "mm²" under "Slot area".

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ISO 5599 will ultimately consist of three parts : part I, giving the general dimensions of the surfaces on which five-port directional control valves are mounted; part II, giving the dimensional tolerances, the port marking code and the mounting surface coding system; and part III, defining the electrical connector for mounting surfaces in which it is located.

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Pneumatic fluid power — Five-port directional control valves — Mounting surfaces — Part I : General

0 INTRODUCTION

In pneumatic fluid power systems, power is transmitted and controlled through gas under pressure circulating within a circuit.

The various devices for gas distribution and control can be either directly mounted on to the pipeline or mounted on sub-plates allowing quicker dismantling and promoting equipment interchangeability.

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the dimensions of the surfaces on which five-port pneumatic directional control valves are mounted in order to ensure interchangeability.

It applies to mounting surfaces for five-port pneumatic directional control valves for a working pressure of 16 bar maximum.

2 REFERENCES

ISO/R 129, *Engineering drawing — Dimensioning.*

ISO/R 468, *Surface roughness.*

ISO/R 1101/I, *Tolerances of form and of position — Part I : Generalities, symbols, indications on drawings.*

ISO 1302, *Technical drawings — Method of indicating surface texture on drawings.*

3 DEFINITIONS

An International Standard giving definitions of terms used is in preparation.

4 SURFACE TOLERANCES

The following values apply to the mounting surface, i.e. to that area within the continuous line.

Surface roughness : N7 (1,6 μm) (see ISO/R 468 and ISO 1302)

Surface flatness : 0,1 mm over a distance of 100 mm



(see ISO/R 1101/I)

5 DIMENSIONS

Select mounting surface dimensions for pneumatic directional control valves with five service ports from the following tables and figures :

5.1 Mounting surface without opening for electrical connector, sizes¹⁾ 1, 2, 3 : see figure 1, table 1.

5.2 Mounting surface with opening for electrical connector, sizes¹⁾ 1, 2, 3 : see figure 2, table 2.

5.3 Mounting surface without opening for electrical connector, sizes¹⁾ 4, 5, 6 : see figure 3, table 3.

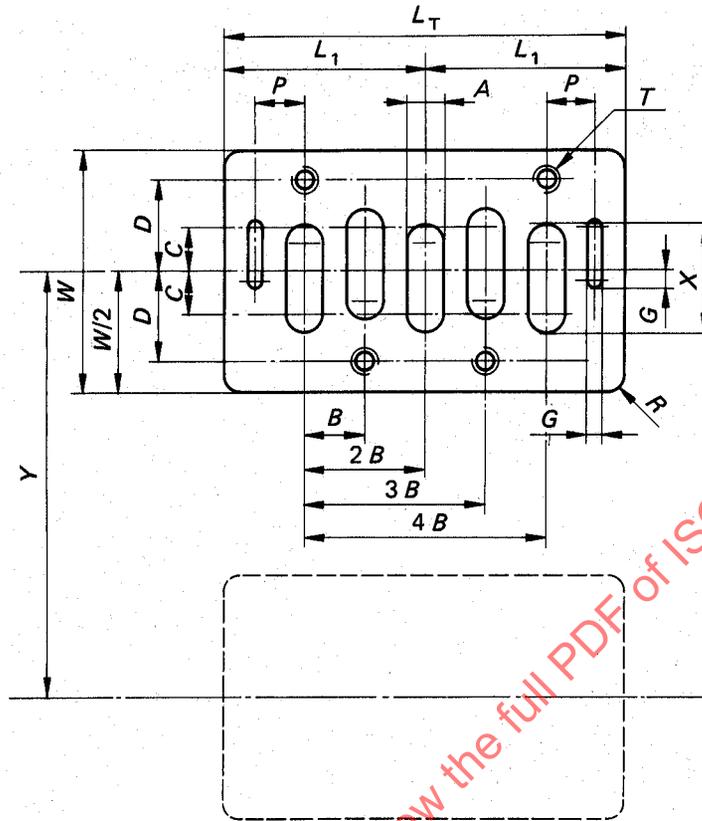
5.4 Mounting surface with opening for electrical connector, sizes¹⁾ 4, 5, 6 : see figure 4, table 4.

6 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 5599/I, *Pneumatic fluid power — Five-port directional control valves — Mounting surfaces — Part I : General.*”

1) The size coding system is provisional and may be reviewed.



The mounting surface shall not include any holes other than those shown on the figure.

A plane Y wide and $4 L_1$ min. long, centred on and including the mounting surface, shall be free from any intrusion above the plane of the interface.

FIGURE 1 – Mounting surface without opening for electrical connector – Sizes 1, 2, 3

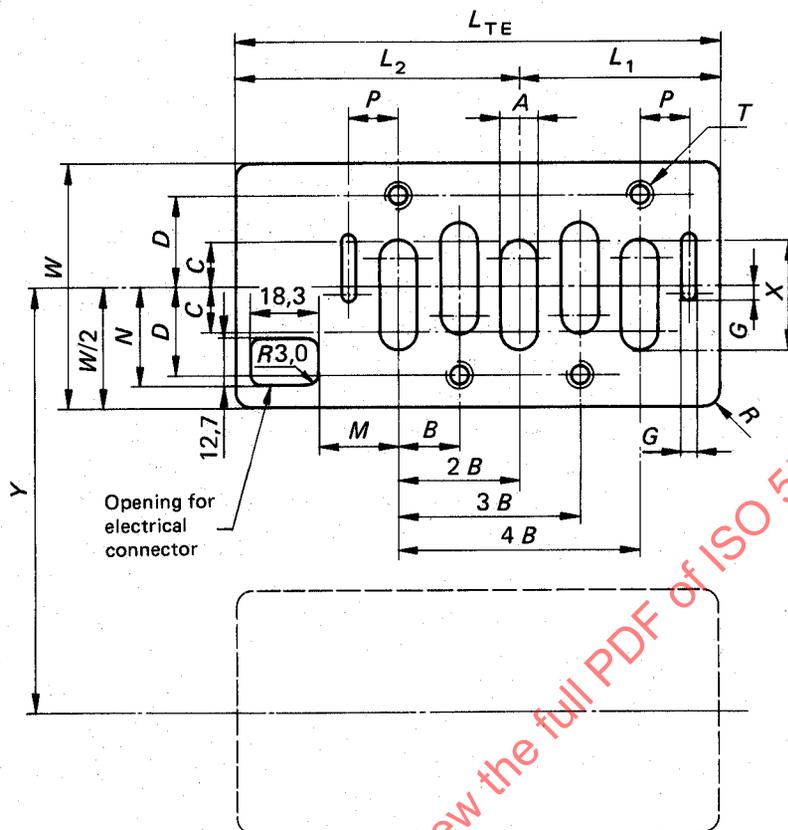
TABLE 1 – Dimensions

Values in millimetres

Size	A	B	C	D	G ¹⁾	L ₁ min.	L _T min.	P	R max.	T ²⁾	W min.	X	Y ³⁾	Slot area mm ²
1	4,5	9	9	14	3	32,5	65	8,5	2,5	M5 × 0,8	38	16,5	43	70
2	7	12	10	19	3	40,5	81	10	3	M6 × 1,0	50	22	56	143
3	10	16	11,5	24	4	53,0	106	13	4	M8 × 1,25	64	29	71	269

- 1) The minimum depth of slots of width G is equal to G .
- 2) The minimum thread depth is twice the bolt diameter (T).
- 3) Y represents the minimum distance between the axes of successive mounting surfaces on a multiple block.

Dimensions in millimetres



The mounting surface shall not include any holes other than those shown on the figure.

A plane Y wide and $4 L_2$ min. long, centred on and including the mounting surface, shall be free from any intrusion above the plane of the interface except for the electrical connector when it is to be used.

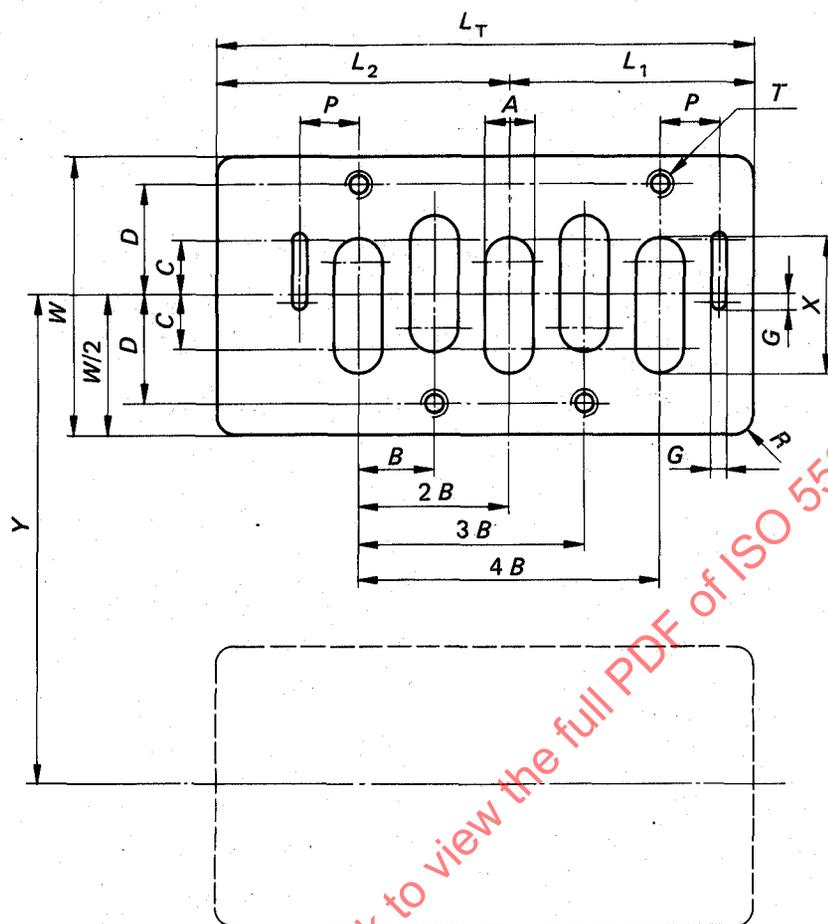
FIGURE 2 – Mounting surface with opening for electrical connector – Sizes 1, 2, 3

TABLE 2 – Dimensions

Values in millimetres

Size	A	B	C	D	$G^{1)}$	L_1 min.	L_2 min.	L_{TE} min.	M	N	P	R max.	$T^{2)}$	W min.	X	$Y^{3)}$	Slot area mm ²
1	4,5	9	9	14	3	32,5	54,5	87	14,5	14	8,5	2,5	M5 × 0,8	38	16,5	43	70
2	7	12	10	19	3	40,5	62,5	103	16,5	19	10	3	M6 × 1,0	50	22	56	143
3	10	16	11,5	24	4	53,0	75,0	128	21	26	13	4	M8 × 1,25	64	29	71	269

- 1) The minimum depth of slots of width G is equal to G .
- 2) The minimum thread depth is twice the bolt diameter (T).
- 3) Y represents the minimum distance between the axes of successive mounting surfaces on a multiple block.



The mounting surface shall not include any holes other than those shown on the figure.

A plane Y wide and $4 L_2$ min. long, centred on and including the mounting surface, shall be free from any intrusion above the plane of the interface.

FIGURE 3 — Mounting surface without opening for electrical connector — Sizes 4, 5, 6

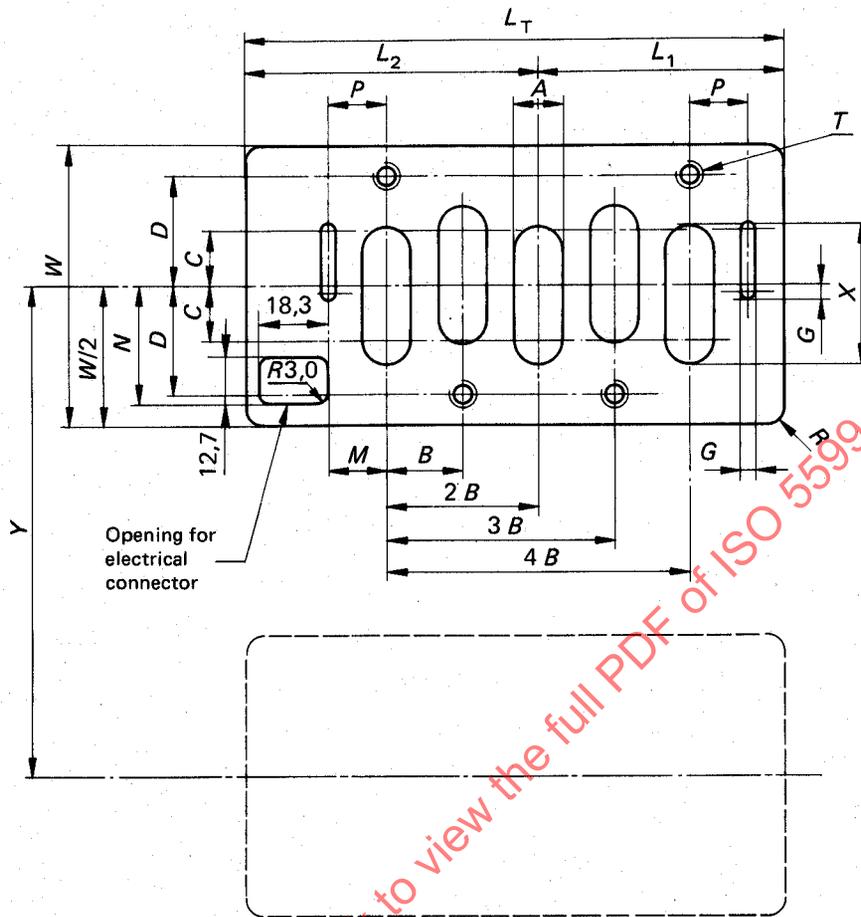
TABLE 3 — Dimensions

Values in millimetres

Size	A	B	C	D	G ¹⁾	L ₁ min.	L ₂ min.	L _T min.	P	R max.	T ²⁾	W min.	X	Y ³⁾	Slot area mm ²
4	13	20	14,5	29	4	64,5	77,5	142	15,5	4	M 8 × 1,25	74	36,5	82	438
5	17	25	18	34	5	79,5	91,5	171	19	5	M10 × 1,5	88	42	97	652
6	20	30	22	44	5	95	105	200	22,5	5	M10 × 1,5	108	50,5	119	924

- 1) The minimum depth of slots of width G is equal to G.
- 2) The minimum thread depth is twice the bolt diameter (T).
- 3) Y represents the minimum distance between the axes of successive mounting surfaces on a multiple block.

Dimensions in millimetres



The mounting surface shall not include any holes other than those shown on the figure.

A plane Y wide and $4 L_2$ min. long, centred on and including the mounting surface, shall be free from any intrusion above the plane of the interface except for the electrical connector when it is to be used.

FIGURE 4 – Mounting surface with opening for electrical connector – Sizes 4, 5, 6

TABLE 4 – Dimensions

Values in millimetres

Size	A	B	C	D	G ¹⁾	L ₁ min.	L ₂ min.	L _T min.	M	N	P	R max.	T ²⁾	W min.	X	Y ³⁾	Slot area mm ²
4	13	20	14,5	29	4	64,5	77,5	142	15,5	31	15,5	4	M 8 × 1,25	74	36,5	82	438
5	17	25	18	34	5	79,5	91,5	171	19	38	19	5	M10 × 1,5	88	42	97	652
6	20	30	22	44	5	95	105	200	22,5	48	22,5	5	M10 × 1,5	108	50,5	119	924

1) The minimum depth of slots of width G is equal to G.

2) The minimum thread depth is twice the bolt diameter (T).

3) Y represents the minimum distance between the axes of successive mounting surfaces on a multiple block.