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Hydraulic fluid power — Pressure switches — Mounting surfaces

Transmissions hydrauliques — Pressostats — Plans 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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 16873 was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 5, *Control products and components*.

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Introduction

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure circulating within an enclosed circuit. Pressure switches are important components in such systems. They enable actions to be carried out with predetermined pressure values.

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Hydraulic fluid power — Pressure switches — Mounting surfaces

1 Scope

This International Standard specifies the mounting surfaces for pressure switches and gives guidelines for the standardized arrangement of the connections for pressure switches and for the mounting of plates and hydraulic valves.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 1101:—¹⁾, *Geometrical Product Specifications (GPS) — Geometrical tolerancing — Tolerances of form, orientation, location and run-out*

ISO 1302:2002, *Geometrical Product Specifications (GPS) — Indication of surface texture in technical product documentation*

ISO 4287:1997, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters*

ISO 5598:1985, *Fluid power systems and components — Vocabulary*

ISO 5783:1995, *Hydraulic fluid power — Code for identification of valve mounting surfaces and cartridge valve cavities*

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in ISO 5598 apply.

4 Symbols

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

- a) P and L identify ports;
- b) F identifies threaded holes;
- c) G identifies locating pin holes.

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

1) To be published. (Revision of ISO 1101:1983)

5 Tolerances

5.1 The following values shall be applied to the mounting surface, i.e. that area within the dotted bold lines:

- surface roughness: $Ra \leq 0,8 \mu\text{m}$ (see ISO 4287 and ISO 1302);
- surface flatness: 0,01 mm over a distance of 100 mm (see ISO 1101);
- tolerance for diameter of locating pin hole: H12.

6 Dimensions

The mounting surface dimensions for pressure switches shall be selected from Figures 1 and 2, respectively mounting surface for pressure switches with P-port (code: 16873-01-01-0-02) and mounting surface for pressure switches with P- and L-port (code: 16873-01-02-0-02).

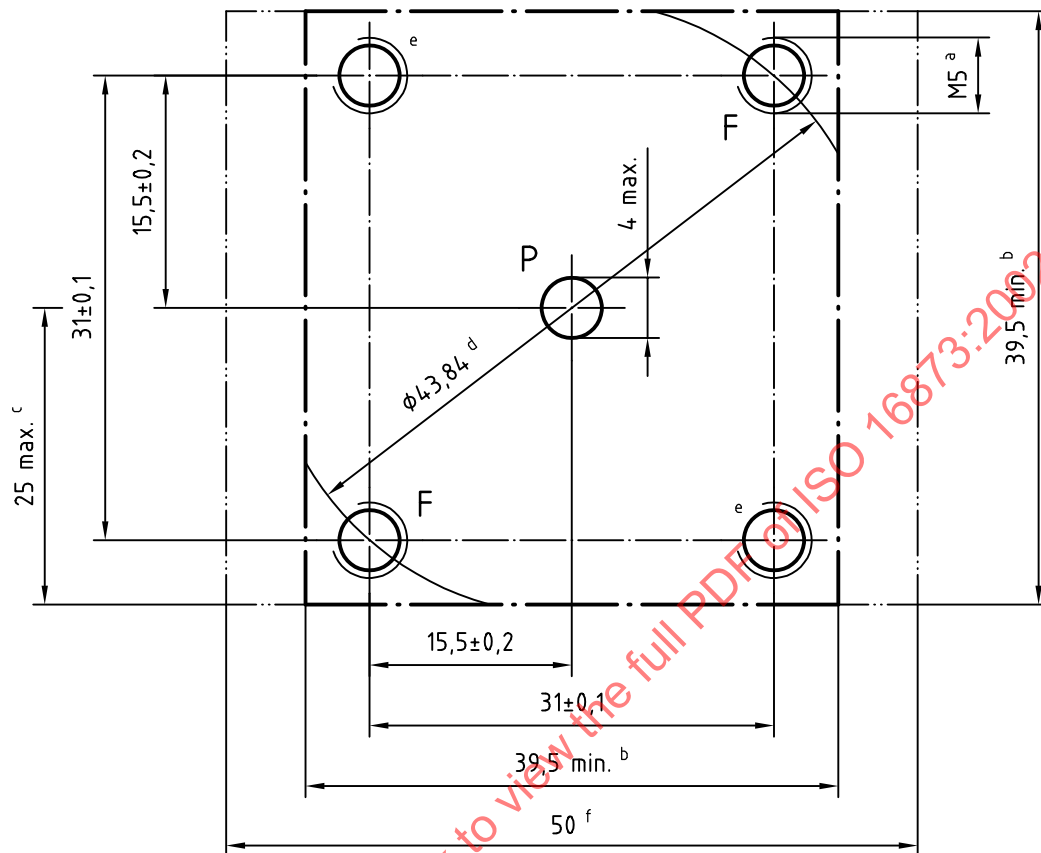
7 Identification statement (Reference to this International Standard)

It is strongly recommended to manufacturers who have chosen to conform to this International Standard that the following statement be used in test reports, catalogues and sales literature:

“Mounting surface dimensions of pressure switches conform to ISO 16873:2002, *Hydraulic fluid power — Pressure switches — Mounting surfaces*.”

Code: 16873-01-01-0-02

Dimensions in millimetres

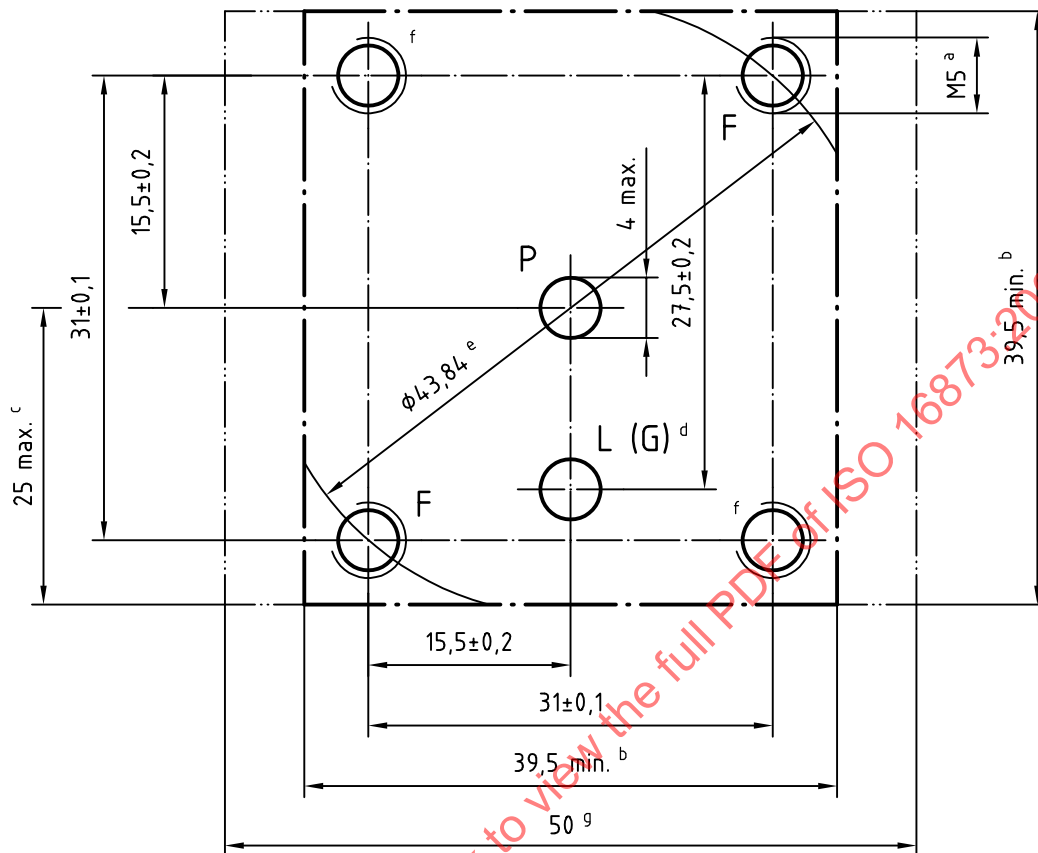


- a The minimum thread depth is 1,5 times the diameter of the thread, D . The recommended thread depth should be $2D + 6$ mm to ensure the interchangeability and to reduce the number of fastening thread lengths. The recommended thread length for ferruginous material is $1,25D$.
- b The dimensions which mark the region within the dotted bold lines are the minimum dimensions for the mounting surface. Along each axis the fastening bores have the same distance as the edges of the mounting surface.
- c Electrical connector and adjustment may exceed this dimension.
- d Reference dimensions.
- e Optional additional holes.
- f This dimension gives the minimum space required for a pressure switch 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.

Figure 1 — Mounting surface for pressure switches with a P-port

Code: 16873-01-02-0-02

Dimensions in millimetres



^a The minimum thread depth is 1,5 times the diameter of the thread, D . The recommended thread depth should be $2D + 6$ mm to ensure the interchangeability and to reduce the number of fastening thread lengths. The recommended thread length for ferruginous material is $1,25D$.

^b The dimensions which mark the region within the dotted bold lines are the minimum dimensions for the mounting surface. Along each axis the fastening bores have the same distance as the edges of the mounting surface.

^c Electrical connector and adjustment may exceed this dimension.

^d The hole for the L-port is also usable as the hole for the fixation pin (G).

^e Reference dimensions.

^f Optional additional holes.

^g This dimension gives the minimum space required for a pressure switch 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.

Figure 2 — Mounting surface for pressure switches with a P-port and an L-port