INTERNATIONAL STANDARD

**ISO 16873**

Second edition
2011-11-01

# Hydraulic fluid power — Pressure switches — Mounting surfaces

*Transmissions hydrauliques — Pressostats — Plans de pose*



Reference number
ISO 16873:2011(E)

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Published in Switzerland

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

This second edition cancels and replaces the first edition (ISO 16873:2002), which has been technically revised. It also incorporates the Amendment ISO 16873:2002/Amd 1:2005.

The surface roughness is updated in Clause 5 according to ISO 3601-2. The modification in ISO 16873:2002/Amd.1:2005 concerning the figure footnotes is also incorporated.

# 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.

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

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 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.

## 5 Tolerances

The following requirements shall be applied to the mounting surface, i.e. the area within the chain thick lines in Figures 1 and 2:

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

— surface flatness: see ISO 3601-2:2008, 5.1.4;

— tolerance for diameters of locating pin holes: 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: ISO 16873-01-01-0-11).

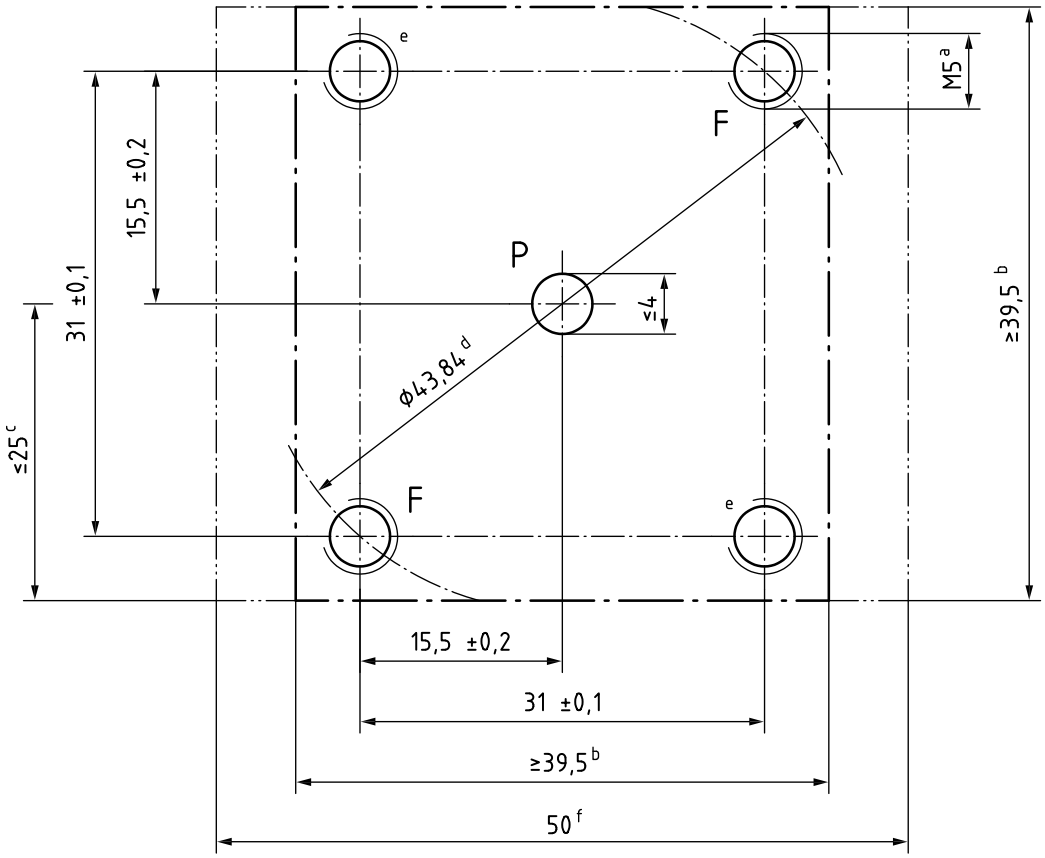
— Mounting surface for pressure switches with P- and L-port (code: ISO 16873-01-02-0-11).

## 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 16873:2011, *Hydraulic fluid power — Pressure switches — Mounting surfaces*".

Dimensions in millimetres




a The minimum thread depth is 1,5 bolt diameters, $D$. The recommended full thread depth shall be $2D + 6$ mm to aid interchangeability of pressure switches and to reduce the number of fixing bolt lengths. The recommended engagement of fixing bolt thread for ferrous mountings is 1,25$D$.

b The dimensions which mark the region within the dashed line 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.

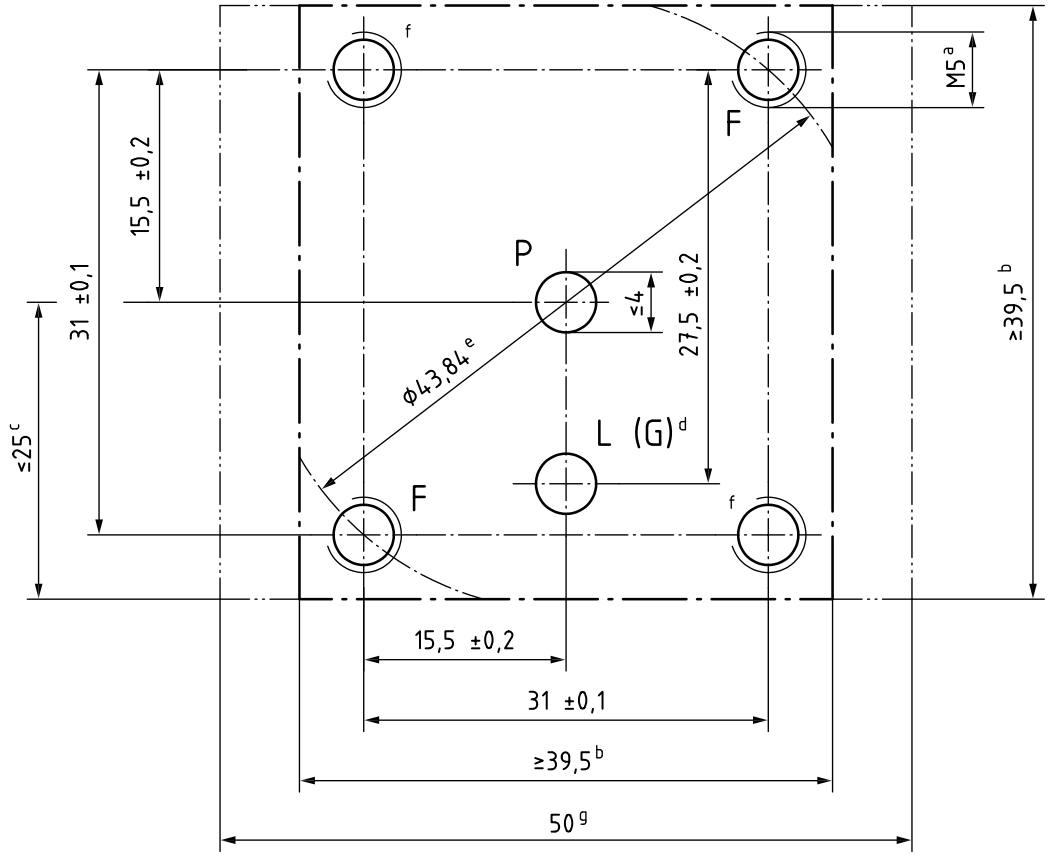
d Reference dimensions.

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: ISO 16873-01-01-0-11)**

Dimensions in millimetres




[a] The minimum thread depth is 1,5 bolt diameters, $D$. The recommended full thread depth shall be $2D + 6$ mm to aid interchangeability of pressure switches and to reduce the number of fixing bolt lengths. The recommended engagement of fixing bolt thread for ferrous mountings is $1{,}25D$.

[b] The dimensions which mark the region within the dashed 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 L-port shall have the same diameter as the P-port. The position of the L-port may be used instead for a locating pin hole; the hole diameter is then 4 mm, and its minimum depth is 4 mm.

[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 L-port (Code: ISO 16873-01-02-0-11)**

# Bibliography

[1] ISO 129-1, *Technical drawings — Indication of dimensions and tolerances — Part 1: General principles*

[2] ISO 286-1, *Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes — Part 1: Basis of tolerances, deviations and fits*

[3] ISO 965-1, *ISO general-purpose metric screw threads — Tolerances — Part 1: Principles and basic data*

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

[5] ISO 1302, *Geometrical Product Specifications (GPS) — Indication of suface texture in technical product documentation*

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

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

**ICS 23.100.50**

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