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STANDARD

**IEC**  
**62339-1**

First edition  
2006-12

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**Modular component interfaces for surface-mount  
fluid distribution components –**

**Part 1:  
Elastomeric seals**



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## Modular component interfaces for surface-mount fluid distribution components –

### Part 1: Elastomeric seals

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MODULAR COMPONENT INTERFACES FOR SURFACE-MOUNT  
FLUID DISTRIBUTION COMPONENTS –**

**Part 1: Elastomeric seals**

FOREWORD

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International Standard IEC 62339-1 has been prepared by subcommittee 65D: Analysing equipment, of IEC technical committee 65: Industrial-process measurement and control.

This standard cancels and replaces IEC/PAS 62339-1 published in 2003. This first edition constitutes a technical revision.

The text of this standard is based on the following documents:

FDIS	Report on voting
65D/130/FDIS	65D/131/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

# MODULAR COMPONENT INTERFACES FOR SURFACE-MOUNT FLUID DISTRIBUTION COMPONENTS –

## Part 1: Elastomeric seals

### 1 Scope and object

This International Standard applies to all types of surface-mount fluid distribution components with elastomeric sealing devices used within process analyser and sample-handling systems. This includes components such as valves, filters, regulators, transducers, and controllers.

The scope of this standard is limited as follows.

- a) This standard addresses only surface-mount fluid distribution components and proper sealing methods. This standard is limited to sealing methods using elastomeric material for the seals.
- b) The designs of the actual system components and the flow substrate are not specified in this standard. Any indication of mounting direction or other indexing is left to the manufacturer as required for its equipment.
- c) Users shall be aware that, on the basis of the stream conditions of their processes, other technologies and components may be readily available.
- d) This standard does not address the effects of various stream conditions on the technical functionality of the component.
- e) This standard does not address maintenance concerns for the components.
- f) This standard does not refer to design issues pertaining to specific safety requirements. These issues should be referenced to other standards, organizations, and recommended guidelines.
- g) International, national, and local codes, regulations, and laws should be consulted to ensure that each component meets the user's regulatory requirements.

The object of this standard is to establish properties and physical dimensions that define the interface for surface-mount fluid distribution components with elastomeric sealing devices used within process analyser and sample-handling systems. The interface controls the dimensions and location of the sealing surfaces to allow change of just one element of the system without modification of the entire system. This is what makes the system modular from both a design and a maintenance standpoint.

### 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.

ANSI/ISA-76.00.02:2002, *Modular Component Interfaces for Surface-Mounted Fluid Distribution Components – Part 1: Elastomeric seals*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **modular interface**

boundary between an independently operable part of a flow system and the flow substrate to which it is connected

### 3.2

#### **surface finish**

final surface specifications of the substrate block, interface plate, sealing grooves, and seal devices

### 3.3

#### **surface mount**

arrangement of independent flow conditioning system modules upon a defined flow substrate

## 4 Ordering components with the modular interface

This standard may be used when specifying systems employing this modular component design. It conveys the concept of the modular system and provides "footprint" dimensions to permit interchangeability of components.

Purchase specifications for components in accordance with this standard shall include the standard number, date of issue, and references to the correct figure number.

## 5 Material requirements

### 5.1 Material certifications

Material certifications shall be obtained and shall include chemical analysis and mechanical properties. For materials ordered to specifications that do not include mechanical properties, the manufacturer shall specify minimum mechanical properties.

### 5.2 Bolt torque requirements

To ensure the performance of these systems, users are cautioned to adhere to bolt torque requirements as specified by the manufacturer.

## 6 Sealing surface requirements

### 6.1 Surface roughness

The sealing surface (flat surface of the bottom of the mounting flange) shall have a maximum surface roughness of 0,8 micrometers (32 micro-inches)  $R_{a \max}$  in the area required for sealing.

### 6.2 Surface condition

The sealing surface shall not have any radial scratches in the area required for sealing that are visible to non-magnified normal vision.

### 6.3 Area required for sealing

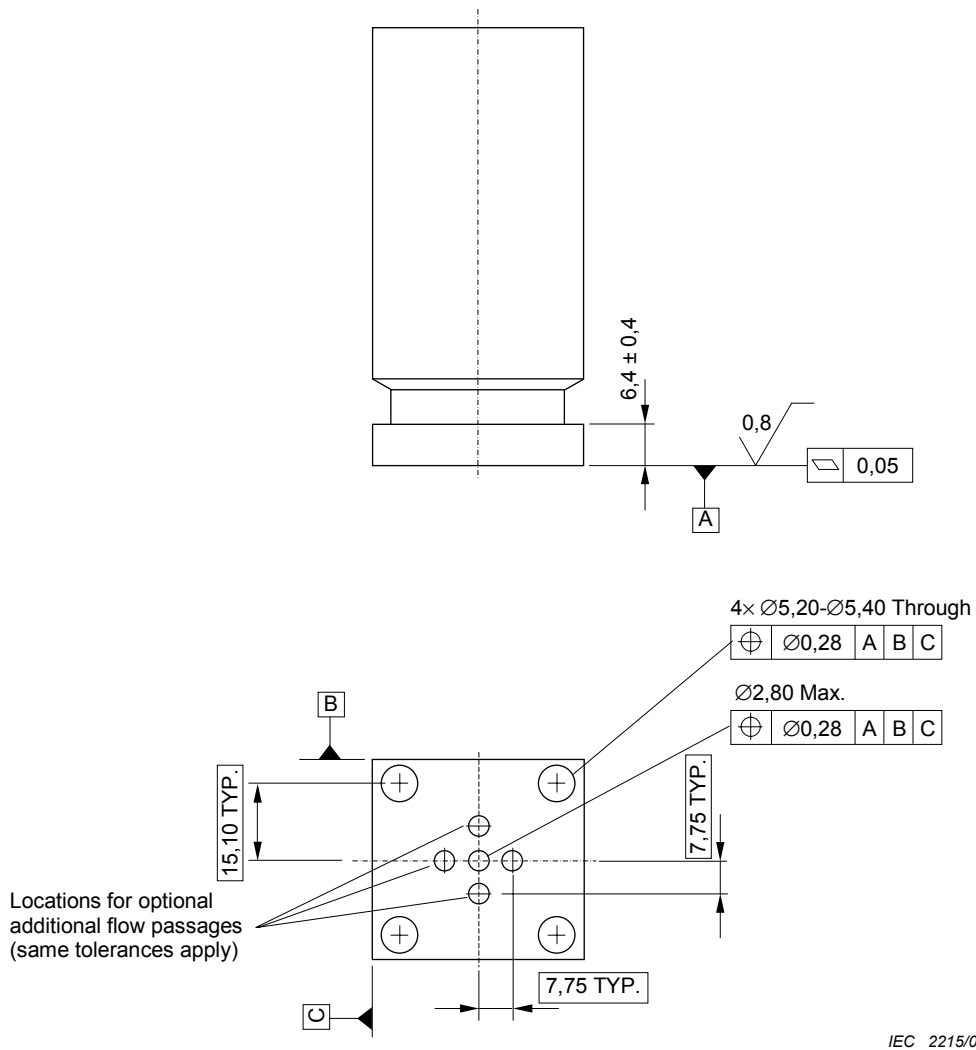
The area required for sealing shall be defined as a surface with a diameter of 8,0 mm, with its centre coincident with each required pressure connection.

## 7 Dimensional requirements

Surface-mount fluid distribution components designed to span multiple positions, regardless of function, shall be dimensioned to interface with

- (a) the 38,2 mm (1,5 inch) footprint, spaced on 38,9 mm (1,3 inch) centrelines, with flow and bolt locations positionally tolerated to the same numeric values as a single position component (see Figure 1, taken from ANSI/ISA-76.00.02:2002); or
- (b) the 57,2 mm (2,25 inch) footprint, spaced on 58,0 mm (2,28 inch) centrelines, with flow and bolt locations positionally tolerated to the same numeric values as a single position component (see Figure 2, taken from ANSI/ISA-76.00.02:2002).

All dimensions in mm



IEC 2215/06

Figure 1 – Standard block for surface-mounted distribution components



All dimensions in millimetres

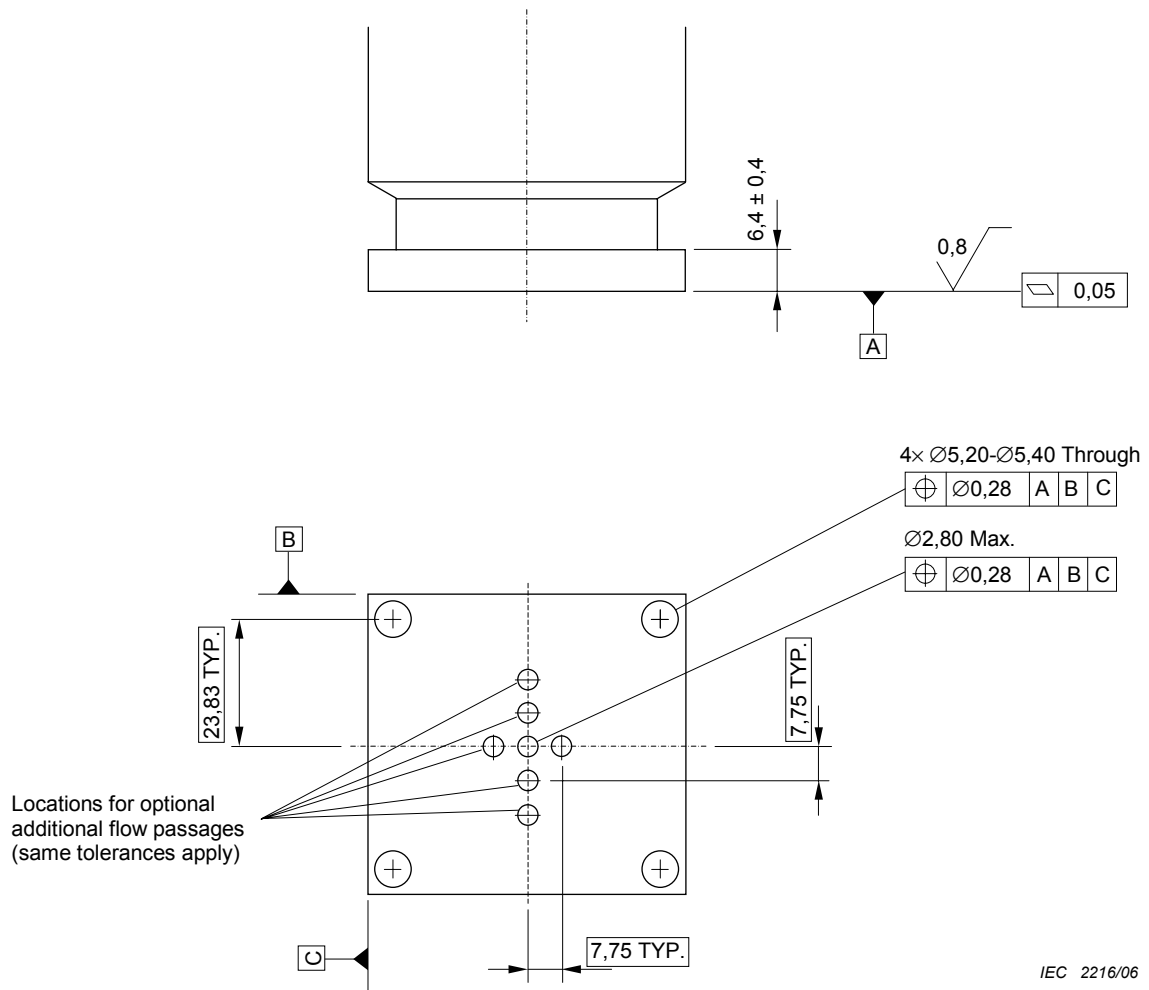


Figure 2 – Optional block for larger surface-mounted distribution components

## Bibliography

ISO 4288:1996, *Geometrical Products Specification (GPS) – Surface texture: Profile method – Rules and procedures for the assessment of surface texture*

ASME Y14.5M:1999, *Dimensioning and Tolerancing*

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