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Industrial valves — Part-turn actuator attachments

Robinetterie industrielle — Raccordement des actionneurs à fraction de tour

Reference number
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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 153, *Valves*.

This second edition cancels and replaces the first edition (ISO 5211:2001), which has been technically revised with the following changes:

a) introduction of new flange sizes;

b) introduction of improved flat head;

c) introduction of involute spline;

d) introduction of bi-square;

e) adjustment of Clause 6 on designation;

f) positions of 180° keys on the driven component.

Introduction

The purpose of this document is to establish certain basic requirements for the attachment of part-turn actuators, in order to define the interface between actuator and valve.

This document has, in general, to be considered in conjunction with the specific requirements which may be agreed between the parties concerned.

Industrial valves — Part-turn actuator attachments

1 Scope

This document specifies requirements for the attachment of part-turn actuators, with or without gearboxes, to industrial valves.

The attachment of part-turn actuators to control valves in accordance with the requirements of this document is subject to an agreement between the supplier and the purchaser.

This document specifies:

— flange dimensions necessary for the attachment of part-turn actuators to industrial valves [see Figures 1 a) and 1 c)] or to intermediate supports [see Figures 1 b) and 1 d)];

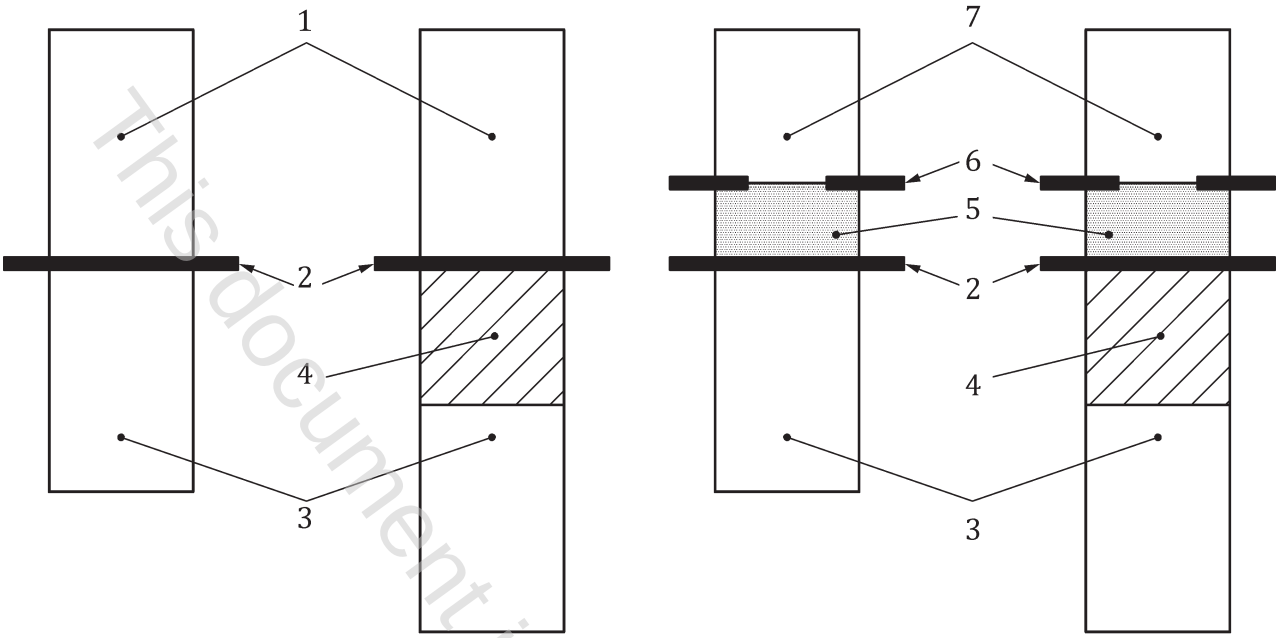
— driving component dimensions of part-turn actuators necessary to attach them to the driven components;

— reference values for torques for interfaces and for couplings having the dimensions specified in this document.

The attachment of the intermediate support to the valve is out of the scope of this document.

NOTE 1 In this document, the term “valve” may also be understood to include “valve with an intermediate support” [see Figure 1 b)].

NOTE 2 When a combination of a multi-turn actuator and separate part-turn gearbox is coupled to form a part-turn actuator, the multi-turn attachment to the gearbox is in accordance with ISO 5210:2017, Figures 1 c) and 1 d). A combination of a multi-turn actuator with integral part-turn gearbox supplied as a part-turn actuator is in accordance with Figures 1a) and 1b).



a) Direct interface **b) Intermediate support interface** **c) Direct interface (when combination of a multi-turn actuator and a gearbox)** **d) Intermediate support interface (when combination of a multi-turn actuator and a gearbox)**

Key

1 part-turn actuator
2 interface (see ISO 5211)
3 valve
4 intermediate support
5 gearbox
6 interface (see ISO 5210)
7 multi-turn actuator

Figure 1 — Interface between part-turn actuator and valve

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 273, *Fasteners — Clearance holes for bolts and screws*

ISO 4156-1, *Straight cylindrical involute splines — Metric module, side fit — Part 1: Generalities*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp