International Standard

ISO 5210

Industrial valves — Multi-turn actuator attachments

Robinetterie industrielle — Raccordement des actionneurs multitours

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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 document 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).

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This document was prepared by Technical Committee ISO/TC 153, *Valves*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 69, *Industrial valves*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 5210:2023), which has been technically revised.

The main changes are as follows:

— Figure 2 and Table 2 were updated for through bolting;

— output drive group B were clarified and updated;

— editorial changes were made.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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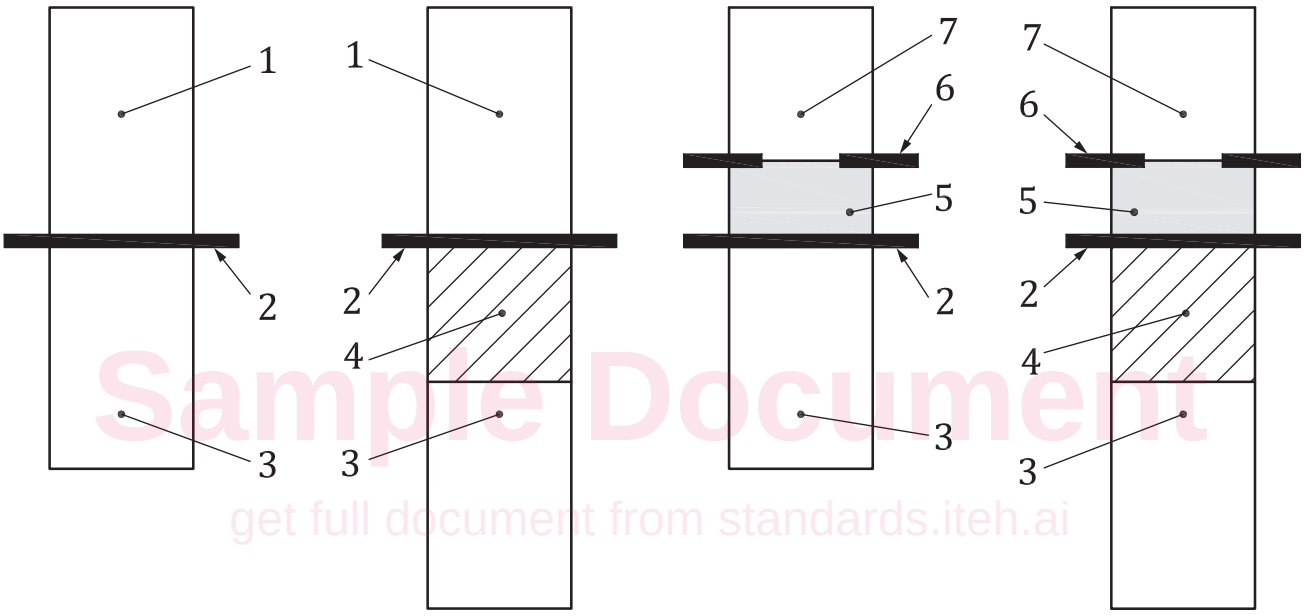
Introduction

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

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

NOTE 1 In this document, the term “valve” can 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 multi-turn/linear gearbox is coupled to form an actuator, the multi-turn attachment to the gearbox is in accordance with this document [see Figures 1 c) and 1 d)]. A combination of a multi-turn actuator with integral multi-turn/linear gearbox supplied as an actuator is in accordance with Figures 1 a) and 1 b).



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

Key

1 multi-turn/linear actuator
2 interface (see this document)
3 valve
4 intermediate support
5 gearbox
6 interface (see this document)
7 multi-turn actuator

Figure 1 — Interface between multi-turn/linear actuator and valve

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Industrial valves — Multi-turn actuator attachments

1 Scope

This document specifies the requirements for the attachment of multi-turn actuators to valves.

Throughout this document, “actuator” can be understood as “actuator” or “combination of actuator with gearbox” providing a multi-turn or linear output.

This document specifies:

— flange dimensions necessary for the attachment of actuators to industrial valves [see Figure 1 a)] or to intermediate supports [see Figure 1 b)];

— those driving component dimensions of actuators which are necessary to attach them to the driven components;

— reference values for torque and thrust for flanges having the dimensions specified in this document.

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*

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3 Terms and definitions

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

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

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

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

3.1
actuator
device designed for attachment to a general-purpose industrial valve in order to provide for the operation of the valve

Note 1 to entry: The device is designed to operate using motive energy which can be electrical, pneumatic, hydraulic, manual, etc., or a combination of these. Movement is limited by travel, *torque* (3.4) or *thrust* (3.5) or combination of both.

3.2
multi-turn actuator
actuator (3.1) which transmits *torque* (3.4) to the valve for at least one revolution and may be capable of withstanding *thrust* (3.5)

Note 1 to entry: An actuator can be a combination of a multi-turn actuator and multi-turn gearbox.

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