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Industrial valves — Part-turn valve actuation

Robinetterie industrielle — Actionnement des appareils de robinetterie à fraction de tour

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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.

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).

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For an explanation of 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 www.iso.org/iso/foreword.html.

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

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 provide increased reliability and safety in automated on-off valve operation by defining and standardizing valve torque nomenclature used in actuator selection. The content is derived from Reference [15].

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Industrial valves — Part-turn valve actuation

1 Scope

This document applies to part-turn actuated valve assemblies comprising valve (e.g. ball valve, butterfly valve, and plug valve), actuator and, when required, a mounting kit supplied as a package.

It defines the design considerations necessary for automating valves, the responsibilities for the information required and tasks to be completed, to ensure suitable actuator and mounting kit sizing, selection and assembly on the valve.

It applies to pneumatic, hydraulic, electro-hydraulic and electric actuators. An actuator coupled to a gearbox, as defined in ISO 5211, is included in the scope of this document. Lever or manual gearbox operated valves are excluded.

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 5211:2017, *Industrial valves — Part-turn actuator attachments*

ISO 12944-2, *Paints and varnishes — Corrosion protection of steel structures by protective paint systems — Part 2: Classification of environments*

ISO 22153:2020, *Electric actuators for industrial valves — General requirements*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

MSS SP-101:2014, *Part-Turn Valve Actuator Attachment — FA Flange and Driving Component — Dimensions and Performance Characteristics*

ASME B18.2.8, *Clearance Holes for Bolts, Screws, and Studs*

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 may be electrical, pneumatic, hydraulic, etc., or any combination of these. Movement is limited by travel or torque.

[SOURCE: ISO 5211:2017, 3.1]

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