# GB

ICS 23.060.40; 25.040.40

N 16

NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

# GB/T 17213.18-2015 / IEC 60534-9:2007

# Industrial-process control valves - Part 9: Test procedure for response measurements from step inputs



**Issued on: December 10, 2015** **Implemented on: July 1, 2016**

**Issued by: General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China;**

**Standardization Administration of the People's Republic of China.**

# Table of Contents

# Foreword

GB/T 17213 consists of the following parts, under the general title Industrial-process control valves:

- Part 1: Control valve terminology and general considerations (GB/T 17213.1);
- Part 2-1: Flow capacity - Sizing equations for fluid flow under installed conditions (GB/T 17213.2);
- Part 2-3: Flow capacity - Test procedures (GB/T 17213.9);
- Part 2-4: Flow capacity - Section Four: Inherent flow characteristics and rangeability (GB/T 17213.10);
- Part 2-5: Flow capacity - Sizing equations for fluid flow through multistage control valves with interstage recovery (GB/T 17213.17);
- Part 3-1: Dimensions - Face-to-face dimensions for flanged, two-way, globe-type, straight pattern and centre-to-face dimensions for flanged, two-way, globe-type, angle pattern control valves (GB/T 17213.3);
- Part 3-2: Dimensions - Face-to-face dimensions for rotary control valves except butterfly valves (GB/T 17213.11);
- Part 3-3: Dimensions - End-to-end dimensions for buttweld, two-way, globe-type, straight pattern control valves (GB/T 17213.12);
- Part 4: Inspection and routine testing (GB/T 17213.4);
- Part 5: Marking (GB/T 17213.5);
- Part 6-1: Mounting details for attachment of positioners to control valves - Section 1: Positioner mounting on linear actuators (GB/T 17213.6);
- Part 6-2: Mounting details for attachment of positioners to control valves - Positioner mounting on rotary actuators (GB/T 17213.13);
- Part 7: Control valve data sheet (GB/T 17213.7);
- Part 8-1: Noise considerations - Laboratory measurement of noise generated by aerodynamic flow through control valves (GB/T 17213.8);
- Part 8-2: Noise considerations - Laboratory measurement of noise generated by hydrodynamic flow through control valves (GB/T 17213.14);
- Part 8-3: Noise considerations - Control valve aerodynamic noise prediction

# Industrial-process control valves – Part 9: Test procedure for response measurements from step inputs

## 1 Scope

This Part of GB/T 17213 defines the testing and reporting of the step response of control valves that are used in throttling closed-loop control applications. A control valve consists of the complete, ready-to-use assembly of the control valve body, the actuator, and any required accessories. The most probable accessory is a valve positioner.

NOTE: For background, refer to technical report ANSI/ISA-TR75.25.02 [6][1)].

The object of this Part is to define how to test, measure, and report control valve response characteristics in an open-loop environment. This information can be used for process control applications to determine how well and how fast the control valve responds to the control valve input signal.

This Part does not define the acceptable control valve performance for process control nor does it restrict the selection of control valves for any application. If this standard is used for evaluation or acceptance testing, the parties may agree to documented variations from these requirements.

The information using the defined test methods is specifically applicable to closed-loop feedback control but may have some application to open-loop control applications. This Part does not address valves used in on-off control service.

Tests specified in this Part may not be sufficient to measure the performance required for all applications. Not all control valve applications will require this testing.

## 2 Normative references

The following 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.

[1)] Figures in square brackets refer to the Bibliography.

**This is an excerpt of the PDF (Some pages are marked off intentionally)**



**------ The End ------**