PROCESS INDUSTRY PRACTICES

TECHNICAL REVISION
August 2021

Process Control

PIP PCCCV001
Control Valves Selection Criteria

PURPOSE AND USE OF PROCESS INDUSTRY PRACTICES

In an effort to minimize the cost of process industry facilities, this Practice has been prepared from the technical requirements in the existing standards of major industrial users, contractors, or standards organizations. By harmonizing these technical requirements into a single set of Practices, administrative, application, and engineering costs to both the purchaser and the manufacturer should be reduced. While this Practice is expected to incorporate the majority of requirements of most users, individual applications may involve requirements that will be appended to and take precedence over this Practice. Determinations concerning fitness for purpose and particular matters or application of the Practice to particular project or engineering situations should not be made solely on information contained in these materials. The use of trade names from time to time should not be viewed as an expression of preference but rather recognized as normal usage in the trade. Other brands having the same specifications are equally correct and may be substituted for those named. All Practices or guidelines are intended to be consistent with applicable laws and regulations including OSHA requirements. To the extent these Practices or guidelines should conflict with OSHA or other applicable laws or regulations, such laws or regulations must be followed. Consult an appropriate professional before applying or acting on any material contained in or suggested by the Practice.

This Practice is subject to revision at any time.

PUBLISHING HISTORY

October 1995	*Issued*	*December 2009*	*Complete Revision*	*August 2021*	*Technical Revision*
March 2003	*Complete Revision*	*March 2016*	*Complete Revision*		

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1. Scope

This Practice describes requirements for selection and sizing of pneumatically actuated control valves, including requirements for body, bonnet, trim, actuator, accessories, and noise considerations.

This Practice does not cover requirements for motor-operated valves, on-off valves, on-off valves intended for emergency isolation, or valves with hydraulic actuators. For these types of on-off valve applications see *PIP PCECV003,* Guidelines for Application of Remotely Actuated On-Off Valves.

2. References

Applicable parts of the following Practices, industry codes and standards, and government regulations shall be considered an integral part of this Practice. The edition in effect on the date of contract award shall be used, except as otherwise noted. Short titles are used herein where appropriate.

2.1 Process Industry Practices (PIP)

- PIP PCECV001 - *Guidelines for Application of Control Valves*
- PIP PCSCV001 - *Purchasing Requirements for Control Valves (includes Data Sheets)*
- PIP PCSIP001 - *Instrument Tubing Material Specification*

2.2 Industry Codes and Standards

- American Society for Mechanical Engineers (ASME)
  - *Boiler and Pressure Vessel Code, Section VIII, Division 1*
  - ASME B16.5 - *Pipe Flanges and Flanged Fittings*
  - ASME B31.3 - *Process Piping*
- American Society for Testing and Materials (ASTM)
  - A193 - *Standard Specification for Alloy-Steel and Stainless Steel Bolting for High Temperature or High Pressure Service and Other Special Purpose Applications*
  - A269 - *Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service*
- Fluid Controls Institute Inc. (FCI)
  - FCI 70-2 - *Control Valve Seat Leakage*
- The International Society of Automation (ISA)

  ISA 20 - *Specification Forms for Process Measurement and Control Instruments, Primary Elements and Control Valves*
  - ANSI/ISA 75.01.01 - *Flow Equations for Sizing Control Valves*
  - ANSI/ISA 75.05.01- *Control Valve Terminology*
  - ANSI/ISA 75.08.01 - *Face-to-Face Dimensions for Integral Flanged Globe-Style Control Valve Bodies (Classes 125, 150, 250, 300, and 600)*
  - ANSI/ISA 75.08.02 - *Face-to-Face Dimensions for Flanged and Flangeless Rotary Control Valves (Classes 150, 300, and 600 and PN 10, PN 16, PN 25, PN 40, PN 63 and PN 100)*