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**Control Valve Capacity  
Test Procedures**

Approved 21 April 2009

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Control Valve Capacity Test Procedures

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ISA  
67 Alexander Drive  
P.O. Box 12277  
Research Triangle Park, North Carolina 27709

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E. Skovgaard, Chairman	Control Valve Solutions
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H. Baumann	H B Services Partners LLC
H. W. Boger	Masoneilan Dresser
G. Borden	Consultant
J. Broyles	Enbridge Pipelines Inc.
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T. George	Richards Industries
A. Glenn	Flowserve Corporation
G. Holloway	Rawson & Company Inc.
H. Maxwell	Bechtel Power Corporation
V. Mezzano	Fluor Corporation
M. Riveland	Fisher Controls International Inc.
J. Young	The Dow Chemical Company

The following people served as members of ISA Committee ISA75 at the time of this revision:

<b>NAME</b>	<b>COMPANY</b>
J. Young, Chairman	The Dow Chemical Company
W. Weidman, Managing Director	Worley Parsons
H. Baumann	H B Services Partners LLC
J. Beall	Emerson Process Management
M. Bober	Copes-Vulcan
H. Boger	Masoneilan Dresser
G. Borden	Consultant
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J. Broyles	Enbridge Pipelines Inc.
F. Cain	Flowserve Corporation
W. Cohen	KBR
R. Duimstra	Fisher Controls International Inc.
J. Faramarzi	Control Components Inc.
T. George	Richards Industries
H. Hoffmann	Samson AG

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A. Libke  
G. Liu  
H. Maxwell  
G. McAdoo  
J. McCaskill  
A. McCauley  
R. McEver  
V. Mezzano  
H. Miller  
T. Molloy  
L. Ormanoski  
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## 1 Scope

This test standard utilizes the mathematical equations outlined in ANSI/ISA-75.01.01 (IEC 60534-2-1 Mod)-2007, Flow Equations for Sizing Control Valves, in providing a test procedure for obtaining the following:

- a) Valve flow coefficient,  $C$  ( $C_v$ ,  $K_v$ )
- b) Liquid pressure recovery factors,  $F_L$  and  $F_{LP}$
- c) Reynolds Number factor,  $F_R$
- d) Liquid critical pressure ratio factor,  $F_F$
- e) Piping geometry factor,  $F_P$
- f) Pressure drop ratio factor,  $x_T$  and  $x_{TP}$
- g) Valve style modifier,  $F_d$

This standard is intended for industrial process control valves used in flow control of Newtonian fluids. See 4.2 for more information regarding specific valve styles.

## 2 Purpose

The purpose of this standard is to support ANSI/ISA-75.01.01 (IEC 60534-2-1 Mod)-2007, Flow Equations for Sizing Control Valves, and ANSI/ISA-75.11.01-1985 (R2002), Inherent Flow Characteristic and Rangeability of Control Valves, by providing procedures for testing control valve capacity and related flow coefficients for both compressible and incompressible Newtonian fluids. This standard also provides a procedure to evaluate the major data to calculate the coefficients.