

**AMERICAN NATIONAL STANDARD**

**ANSI/ISA-75.08.03-2001 (R2007)**

**Face-to-Face Dimensions for Socket Weld-End  
and Screwed-End Globe-Style Control Valves  
(Classes 150, 300, 600, 900, 1500, and 2500)**

**Approved 23 February 2007**

ANSI/ISA-75.08.03-2001 (R2007)

Face-to-Face Dimensions for Socket Weld-End and Screwed-End Globe-Style Control Valves  
(Classes 150, 300, 600, 900, 1500, and 2500)

ISBN: 978-1-934394-03-8

Copyright © 2007 by ISA. All rights reserved. Not for resale. Printed in the United States of America.  
No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or  
by any means (electronic mechanical, photocopying, recording, or otherwise), without the prior written  
permission of the Publisher.

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

## Preface

This preface, as well as all footnotes and annexes, is included for information purposes and is not part of ANSI/ISA-75.08.03-2001 (R2007).

This document has been prepared as part of the service of ISA towards a goal of uniformity in the field of instrumentation. To be of real value, this document should not be static but should be subject to periodic review. Toward this end, the Society welcomes all comments and criticisms and asks that they be addressed to the Secretary, Standards and Practices Board; ISA; 67 Alexander Drive; P. O. Box 12277; Research Triangle Park, NC 27709; Telephone (919) 549-8411; Fax (919) 549-8288; E-mail: standards@isa.org.

The ISA Standards and Practices Department is aware of the growing need for attention to the metric system of units in general, and the International System of Units (SI) in particular, in the preparation of instrumentation standards. The Department is further aware of the benefits to USA users of ISA standards of incorporating suitable references to the SI (and the metric system) in their business and professional dealings with other countries. Toward this end, this Department will endeavor to introduce SI-acceptable metric units in all new and revised standards, recommended practices, and technical reports to the greatest extent possible. *Standard for Use of the International System of Units (SI): The Modern Metric System*, published by the American Society for Testing & Materials as IEEE/ASTM SI 10-97, and future revisions, will be the reference guide for definitions, symbols, abbreviations, and conversion factors.

It is the policy of ISA to encourage and welcome the participation of all concerned individuals and interests in the development of ISA standards, recommended practices, and technical reports. Participation in the ISA standards-making process by an individual in no way constitutes endorsement by the employer of that individual, of ISA, or of any of the standards, recommended practices, and technical reports that ISA develops.

**CAUTION — ISA ADHERES TO THE POLICY OF THE AMERICAN NATIONAL STANDARDS INSTITUTE WITH REGARD TO PATENTS. IF ISA IS INFORMED OF AN EXISTING PATENT THAT IS REQUIRED FOR USE OF THE DOCUMENT, IT WILL REQUIRE THE OWNER OF THE PATENT TO EITHER GRANT A ROYALTY-FREE LICENSE FOR USE OF THE PATENT BY USERS COMPLYING WITH THE DOCUMENT OR A LICENSE ON REASONABLE TERMS AND CONDITIONS THAT ARE FREE FROM UNFAIR DISCRIMINATION.**

**EVEN IF ISA IS UNAWARE OF ANY PATENT COVERING THIS DOCUMENT, THE USER IS CAUTIONED THAT IMPLEMENTATION OF THE DOCUMENT MAY REQUIRE USE OF TECHNIQUES, PROCESSES, OR MATERIALS COVERED BY PATENT RIGHTS. ISA TAKES NO POSITION ON THE EXISTENCE OR VALIDITY OF ANY PATENT RIGHTS THAT MAY BE INVOLVED IN IMPLEMENTING THE DOCUMENT. ISA IS NOT RESPONSIBLE FOR IDENTIFYING ALL PATENTS THAT MAY REQUIRE A LICENSE BEFORE IMPLEMENTATION OF THE DOCUMENT OR FOR INVESTIGATING THE VALIDITY OR SCOPE OF ANY PATENTS BROUGHT TO ITS ATTENTION. THE USER SHOULD CAREFULLY INVESTIGATE RELEVANT PATENTS BEFORE USING THE DOCUMENT FOR THE USER'S INTENDED APPLICATION.**

**HOWEVER, ISA ASKS THAT ANYONE REVIEWING THIS DOCUMENT WHO IS AWARE OF ANY PATENTS THAT MAY IMPACT IMPLEMENTATION OF THE DOCUMENT NOTIFY THE ISA STANDARDS AND PRACTICES DEPARTMENT OF THE PATENT AND ITS OWNER.**

**ADDITIONALLY, THE USE OF THIS DOCUMENT MAY INVOLVE HAZARDOUS MATERIALS, OPERATIONS OR EQUIPMENT. THE DOCUMENT CANNOT ANTICIPATE ALL POSSIBLE APPLICATIONS OR ADDRESS ALL POSSIBLE SAFETY ISSUES ASSOCIATED WITH USE IN HAZARDOUS CONDITIONS. THE USER OF THIS DOCUMENT MUST EXERCISE SOUND**

**PROFESSIONAL JUDGMENT CONCERNING ITS USE AND APPLICABILITY UNDER THE USER'S PARTICULAR CIRCUMSTANCES. THE USER MUST ALSO CONSIDER THE APPLICABILITY OF ANY GOVERNMENTAL REGULATORY LIMITATIONS AND ESTABLISHED SAFETY AND HEALTH PRACTICES BEFORE IMPLEMENTING THIS DOCUMENT.**

**THE USER OF THIS DOCUMENT SHOULD BE AWARE THAT THIS DOCUMENT MAY BE IMPACTED BY ELECTRONIC SECURITY ISSUES. THE COMMITTEE HAS NOT YET ADDRESSED THE POTENTIAL ISSUES IN THIS VERSION.**

The following people served as members of ISA Subcommittee SP75.08 and approved ANSI/ISA-75.08.03-2001:

<b>NAME</b>	<b>COMPANY</b>
W. Weidman, Managing Director	Parsons Energy & Chemicals Group
H. Baumann	H B Services Partners LLC
G. Borden	Consultant
R. Brodin	Fisher Controls International, Inc.
F. Cain	Flowserve Corp.
R. Chown	Otec Process Systems, Inc.
B. Hatton	DeZurik Division Unit
J. Reed	Norriseal
H. Sonderegger	Anvil International, Inc.

The following people served as members of ISA Committee SP75 and approved ANSI/ISA-75.08.03-2001:

<b>NAME</b>	<b>COMPANY</b>
W. Weidman, Managing Director	Parsons Energy & Chemicals Group
D. Buchanan, Chairman	Union Carbide Corp.
A. Abromaitis	Red Valve Co., Inc.
H. Backinger	Consultant
G. Barb	Consultant
H. Baumann	H B Services Partners LLC
J. Beall	Eastman Chemical Co.
W. Black	Cashco, Inc.
W. Blackwell	Industrial Valve
H. Boger	Masoneilan Dresser
G. Borden	Consultant
S. Boyle	Metso Automation USA, Inc.
R. Brodin	Fisher Controls International, Inc.
F. Cain	Flowserve Corp.
A. Engels	Praxair, Inc.
H. Fuller	Valvcon Corp.
J. George	Richards Industries
L. Griffith	Consultant
D. Grunenberg	Richards Industries
J. Jamison	Bantrel, Inc.
R. Jeanes	TXU Electric
J. Kersh	M W Kellogg Co.
C. Langford	Cullen G. Langford, Inc.
W. Lestan	Dresser Valve Division
A. Libke	DeZurik Valve Co.
R. Louviere	Services Unlimited

J. McCaskill	Power Chokes
A. McCauley	Chagrin Valley Controls, Inc.
R. McEver	Emerson Valve Automation
H. Miller	Control Components, Inc.
T. Molloy	CMES, Inc.
L. Ormanoski	Frick Co.
J. Ozol	Northern States Power
W. Rahmeyer	Utah State University
J. Reed	Norriseal
K. Schoonover	Con-Tek Valves, Inc.
A. Shea	DeZurik/Copes-Vulcan
E. Skovgaard	Leslie Controls, Inc.
H. Sonderegger	Anvil International, Inc.

ANSI/ISA-75.08.03-2001 was approved for publication by the ISA Standards and Practices Board on 04 April 2001.

<b>NAME</b>	<b>COMPANY</b>
M. Zielinski	Fisher-Rosemount Systems, Inc.
D. Bishop	Consultant
M. Cohen	Consultant
M. Coppler	Ametek, Inc.
B. Dumortier	Schneider Electric
W. Holland	Southern Company
E. Icyan	Advanced Control & Engineering Solutions
A. Iverson	Ivy Optiks
R. Jones	Dow Chemical Co.
V. Maggioli	Feltronics Corp.
T. McAviney	Merrick & Co.
A. McCauley, Jr.	Chagrin Valley Controls, Inc.
G. McFarland	Westinghouse Process Control Inc.
D. Rapley	Rapley Consulting Inc.
R. Reimer	Rockwell Automation
J. Rennie	Factory Mutual Research Corp.
H. Sasajima	Yamatake Corp.
I. Verhappen	Syncrude Canada Ltd.
R. Webb	Power Engineers
W. Weidman	Parsons Energy & Chemicals Group
J. Weiss	EPRI
M. Widmeyer	EG&G Defense Materials
R. Wiegler	CANUS Corp.
C. Williams	Eastman Kodak Co.
G. Wood	Graeme Wood Consulting

The following people served as members of ISA Subcommittee SP75.08 and reaffirmed ANSI/ISA-75.08.03-2001 (R2007):

<b>NAME</b>	<b>COMPANY</b>
W. Weidman, Chair	Worley Parsons
H. Baumann	Consultant
G. Borden	Consultant
F. Cain	Flowserve Corporation
R. Chown	Otec Process Systems Inc.
R. Duimstra	Fisher Controls International Inc.

V. Mezzano  
J. Reed  
J. Young

Fluor Corporation  
Consultant  
Dow Chemical Company

The following people served as members of ISA Committee SP75 and reaffirmed ANSI/ISA-75.08.03-2001 (R2007):

**NAME**

**COMPANY**

J. Young, Chair	Dow Chemical Company
W. Weidman, Managing Director	Worley Parsons
H. Backinger	Consultant
H. Baumann	Consultant
J. Beall	Emerson Process Management
W. Black	Curtiss-Wright Flow Control Corporation
H. Boger	Masoneilan Dresser
G. Borden	Consultant
S. Boyle	Metso Automation USA Inc.
J. Broyles	Enbridge Pipelines Inc.
F. Cain	Flowserve Corporation
W. Cohen	KBR
R. Duimstra	Fisher Controls International Inc.
J. Faramarzi	Control Components Inc.
J. George	Richards Industries
H. Hoffmann	Samson AG
J. Jamison	OPTI Canada Inc.
R. Jeanes	TXU Electric
C. Langford	Cullen G Langford Inc.
G. Liu	Syncrude Canada Ltd.
J. McCaskill	Power Chokes
A. McCauley	Chagrin Valley Controls Inc.
R. McEver	Consultant
V. Mezzano	Fluor Corporation
T. Molloy	CMES Inc.
L. Ormanoski	York Process Systems
J. Ozol	NMC Prairie Island Nuclear Plant
W. Rahmeyer	Utah State University
J. Reed	Consultant
E. Skovgaard	Control Valve Solutions

This standard was approved for reaffirmation by the ISA Standards and Practices Board on 7 February 2007:

**NAME**

**COMPANY**

T. McAvinew, Vice President	Jacobs Engineering Group
M. Coppler	Ametek Inc.
B. Dumortier	Schneider Electric
D. Dunn	Aramco Services Company
W. Holland	Consultant
E. Icyan	ACES Inc.
J. Jamison	Husky Energy Inc.
K. Lindner	Endress+Hauser Process Solutions AG
V. Maggioli	Feltronics Corporation
A. McCauley	Chagrin Valley Controls Inc.
G. McFarland	Emerson Process Mgmt Power & Water Solutions

R. Reimer  
N. Sands  
H. Sasajima  
T. Schnaare  
J. Tatera  
I. Verhappen  
R. Webb  
W. Weidman  
J. Weiss  
M. Widmeyer  
M. Zielinski

Rockwell Automation  
E I du Pont  
Yamatake Corporation  
Rosemount Inc.  
Tatera & Associates Inc.  
MTL Instrument Group  
Robert C Webb PE  
Worley Parsons  
Applied Control Solutions LLC  
Consultant  
Emerson Process Management

This is a preview of "ANSI/ISA 75.08.03-20...". [Click here to purchase the full version from the ANSI store.](#)

This page intentionally left blank.

## CONTENTS

1	Scope .....	11
2	Purpose.....	11
3	Definitions .....	11
4	Dimensional data .....	11
5	References.....	12
	Annex A (informative) — Dimensions for metrically sized valves.....	15

This is a preview of "ANSI/ISA 75.08.03-20...". [Click here to purchase the full version from the ANSI store.](#)

This page intentionally left blank.

## 1 Scope

This standard applies to socket weld-end globe-style control valves, sizes 1/2 inch (15 mm) through 4 inches (100 mm), and screwed-end globe-style control valves, sizes 1/2 inch (15 mm) through 2 1/2 inches (65 mm), having top, top and bottom, port, or cage guiding.

## 2 Purpose

2.1 The purpose of this standard is to aid users in their piping designs by providing Classes 150 through 2500 socket weld-end control valve dimensions and Classes 150 through 600 screwed-end control dimensions without giving special consideration to the equipment manufacturer to be used.

2.2 The short-long dimensions provided in Tables 1 and 2 clarify 2.1 by consolidating the diversity of existing manufacturers' lengths into two sets of dimensions for each size valve. Before using either the short or long dimensions, the piping designer should confirm with the selected valve manufacturer which dimension is correct for the valve(s) being supplied.

## 3 Definitions

For definitions of terms used in this standard, see ANSI/ISA-75.05.01-2000 (R2005), *Control Valve Terminology*.

## 4 Dimensional data

4.1 Face-to-face dimensions for socket weld-end globe-style control valves are listed in Table 1.

**Table 1 — Face-to-face dimensions for socket weld-end globe-style control valves**

Nominal Valve Size		PN 20, 50, & 100 (Classes 150, 300, & 600)				PN 150 & 250 (Classes 900 & 1500)				PN 420 (Class 2500)				Tolerance	
		Dimension "A"				Dimension "A"				Dimension "A"					
		mm		inches		mm		inches		mm		inches			
mm	inches	Short	Long	Short	Long	Short	Long	Short	Long	Short	Long	Short	Long	mm	inches
15	1/2	170	206	6.69	8.12	178	279	7.00	11.00	216	318	8.50	12.50	±6.4	±0.25
20	3/4	170	210	6.69	8.25	178	279	7.00	11.00	216	318	8.50	12.50	±6.4	±0.25
25	1	197	210	7.75	8.25	178	279	7.00	11.00	216	318	8.50	12.50	±6.4	±0.25
40	1-1/2	235	251	9.25	9.88	235	330	9.25	13.00	260	381	10.25	15.00	±6.4	±0.25
50	2	267	286	10.50	11.25	292	375	11.50	14.75	324	400	12.75	15.75	±6.4	±0.25
65	2-1/2	292	311	11.50	12.25	292		11.50		324		12.75		±6.4	±0.25
80	3	318	337	12.50	13.25	318	533	12.50	21.00	381	660	15.00	26.00	±6.4	±0.25
100	4	368	394	14.50	15.50	368	530	14.50	20.88	406	737	16.00	29.00	±6.4	±0.25