

Valves for Cryogenic Service, including Requirements for Body/Bonnet Extensions

Standard Practice
Developed and Approved by the
Manufacturers Standardization Society of the
Valve and Fittings Industry, Inc.
127 Park Street, NE
Vienna, Virginia 22180-4602
Phone: (703) 281-6613
Fax: (703) 281-6671
E-mail: standards@mss-hq.org



www.mss-hq.org

This MSS Standard Practice was developed under the consensus of the MSS Technical Committee 114 and the MSS Coordinating Committee. The content of this Standard Practice is the resulting efforts of competent and experienced volunteers to provide an effective, clear, and non-exclusive standard that will benefit the industry as a whole. This MSS Standard Practice describes minimal requirements and is intended as a basis for common practice by the manufacturer, the user, and the general public. The existence of an MSS Standard Practice does not in itself preclude the manufacture, sale, or use of products not conforming to the Standard Practice. Mandatory conformance to this Standard Practice is established only by reference in other documents such as a code, specification, sales contract, or public law, as applicable. MSS has no power, nor does it undertake, to enforce or certify compliance with this document. Any certification or other statement of compliance with the requirements of this Standard Practice shall not be attributable to MSS and is solely the responsibility of the certifier or maker of the statement.

“Unless indicated otherwise within this MSS Standard Practice, other standards documents referenced to herein are identified by the date of issue that was applicable to this Standard Practice at the date of approval of this MSS Standard Practice (see Annex B). This Standard Practice shall remain silent on the validity of those other standards of prior or subsequent dates of issue even though applicable provisions may not have changed.”

By publication of this Standard Practice, no position is taken with respect to the validity of any potential claim(s) or of any patent rights in connection therewith. MSS shall not be held responsible for identifying any patent rights. Users are expressly advised that determination of patent rights and the risk of infringement of such rights are entirely their responsibility.

In this Standard Practice, all text, notes, annexes, tables, figures, and references are construed to be essential to the understanding of the message of the standard, and are considered normative unless indicated as “supplemental”. All appendices, if included, that appear in this document are construed as “supplemental”. Note that supplemental information does not include mandatory requirements.

U.S. customary units in this Standard Practice are the standard; (SI) metric units are for reference only.

This document has been substantially revised from the previous 2010 edition. It is suggested that if the user is interested in knowing what changes have been made, that direct page by page comparison should be made of this document and that of the previous edition.

Non-toleranced dimensions in this Standard Practice are nominal and, unless otherwise specified, shall be considered “for reference only”.

Excerpts of this Standard Practice may be quoted with permission. Credit lines should read ‘Extracted from MSS SP-134-2012 with permission of the publisher, Manufacturers Standardization Society of the Valve and Fittings Industry’. Reproduction and/or electronic transmission or dissemination is prohibited under copyright convention unless written permission is granted by the Manufacturers Standardization Society of the Valve and Fittings Industry Inc. All rights reserved.

Originally Approved: February 2005

Originally Published: July 2006

Current Edition Approved: December 2011

Current Edition Published: May 2012

MSS is a registered trademark of Manufacturers Standardization Society of the Valve and Fittings Industry, Inc.

Copyright © 2012 by
Manufacturers Standardization Society
of the
Valve and Fittings Industry, Inc.
Printed in U.S.A.

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1 SCOPE	1
2 DEFINITIONS	1
3 CLASS/SIZE DESIGNATION	2
4 MATERIALS	2
5 DESIGN	2
6 GATE AND GLOBE VALVES	3
7 BALL & BUTTERFLY VALVES	4
8 EXTENSION LENGTH	4
9 FABRICATION	4
10 PRODUCTION PRESSURE TESTING	4
11 LOW TEMPERATURE CRYOGENIC TESTING	5

TABLE

1 Body/Bonnet Extension Length, U.S. Customary Units	6
2 Body/Bonnet Extension Length, SI Metric Units	6
A1 Allowable Seat Leakage Rates for Cryogenic Closure Tests	14
A2 Helium Test Pressures	14

FIGURE

1 Typical Outside Screw and Yoke Cryogenic Globe Valve	7
2 Typical Outside Screw and Yoke Cryogenic Gate Valve	8
3 Typical Cryogenic Ball Valve	9
4 Typical Cryogenic Butterfly Valve	10
A1 Typical Test Set-Up	14

ANNEX

A Low Temperature Cryogenic Testing	11
B Referenced Standards and Applicable Dates	15

APPENDIX

X1 Guidance for Stem Strength Calculations	16
--	----