This MSS Standard Practice was developed under the consensus of the MSS Technical Committee 409 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 A). 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, unless SI (metric) units are the only units indicated.

Non-toleranced dimensions in this Standard Practice are nominal unless otherwise specified.

Excerpts of this Standard Practice may be quoted with permission. Credit lines should read ‘Extracted from MSS SP-151-2016 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: August 2016
Originally Published: November 2016

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

Copyright ©, 2016 by
Manufacturers Standardization Society
of the
Valve and Fittings Industry, Inc.
Printed in U.S.A.
FOREWORD

This first edition of Standard Practice for Pressure Testing of Knife Gate Valves was approved and published in 2016. It was developed for the purpose of providing a uniform means of testing knife gate valves commonly used in the "full open" and "full closed" type of service for isolation. This Standard Practice is not intended for use with control valves. Refer to ISA 75.19.01 and FCI 70-2 for Control Valves.

There are five distinct types of knife gate valves; all derived from the original patent in the 1950s. Each type offers a different performance and ability. There are two main groups: A) Cold Working Pressure (CWP) rated valves that do not adhere to ASME B16.34, and B) B16.34 Class 150, 300 and 600. In addition, there are two main Categories: C) Resilient Seated and D) Metal Seated.

Modern advances in knife gate design have and will present additional types in the future; including designs which are ready for use now, such as Double Block and Bleed. It is the owner’s or specifier’s responsibility to be aware of the differences.
## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>SECTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 SCOPE</td>
<td>1</td>
</tr>
<tr>
<td>2 DEFINITIONS</td>
<td>1</td>
</tr>
<tr>
<td>3 GENERAL REQUIREMENTS</td>
<td>2</td>
</tr>
<tr>
<td>4 SHELL LEAKAGE TESTS</td>
<td>2</td>
</tr>
<tr>
<td>5 SEAT AND CLOSURE MEMBER TESTS</td>
<td>3</td>
</tr>
</tbody>
</table>

### TABLE

<table>
<thead>
<tr>
<th>TABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Shell Leakage Test Duration</td>
</tr>
<tr>
<td>2 Alternate Gas Test</td>
</tr>
<tr>
<td>3 Seat and Closure Member Test Duration</td>
</tr>
<tr>
<td>4 Units of Leakage per NPS/DN for Metal Seated Knife Gates</td>
</tr>
</tbody>
</table>

### ANNEX

<table>
<thead>
<tr>
<th>ANNEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Referenced Standards and Applicable Dates</td>
</tr>
</tbody>
</table>
MSS Standard Practices (SPs) related to or referenced in this publication:

ANSI/MSS SP-81  Stainless-Steel or Stainless-Steel-Lined, Bonnetless, Knife Gate Valves with Flanged Ends
ANSI/MSS SP-96  Guidelines on Terminology for Valves and Fittings
ANSI/MSS SP-135  High Pressure Knife Gate Valves
MSS SP-146  High Pressure, Lug- and Wafer-Type, Iron and Ductile Iron Knife Gate Valves
MSS SP-148  Low Pressure Flanged or Lugged Carbon Steel and Iron or Ductile Iron, Cast or Fabricated, Bonnetless, Knife Gate Valves without Liners

American National Standards Published by MSS, an ANSI-accredited Standards Developer:

ANSI/MSS SP-25  Standard Marking System for Valves, Fittings, Flanges, and Unions
ANSI/MSS SP-44  Steel Pipeline Flanges
ANSI/MSS SP-58  Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation
ANSI/MSS SP-96  Guidelines on Terminology for Valves and Fittings
ANSI/MSS SP-114  Corrosion Resistant Pipe Fittings Threaded and Socket Welding Class 150 and 1000
ANSI/MSS SP-134  Valves for Cryogenic Service, including Requirements for Body/Bonnet Extensions
ANSI/MSS SP-135  High Pressure Knife Gate Valves
ANSI/MSS SP-138  Quality Standard Practice for Oxygen Cleaning of Valves and Fittings
ANSI/MSS SP-144  Pressure Seal Bonnet Valves

Do not violate copyright laws

All Standard Practices are officially available only from MSS and through our authorized distributors:

About MSS

The Manufacturers Standardization Society (MSS) of the Valve and Fittings Industry is a non-profit technical association organized for development and improvement of industry, national and international codes and standards for Valves, Valve Actuators, Valve Modifications, Pipe Fittings, Flanges, Pipe Hangers and Supports, and Associated Seals. Since its establishment in 1924, MSS has been dedicated to developing standards for national and global applications, in cooperation with other standardizing bodies and regulatory authorities.

For more information on membership and eligibility requirements, visit:  http://msshq.org/Store/Membership.cfm

Manufacturers Standardization Society of the Valve and Fittings Industry, Inc.
127 Park Street, NE, Vienna, VA 22180-4620 • Phone (703) 281-6613 • Fax (703) 281-6671

“The Technical Voice of the Industry”

MSS SP-151-2016