



High Pressure Knife Gate Valves

Standard Practice
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This MSS Standard Practice was originally developed under the consensus of the MSS Technical Committee 114 (*Steel Valves*) and the MSS Coordinating Committee. In 2012, responsibility for this Standard Practice, and the current revision, was transferred to the new MSS Technical Committee 409 (*Knife Gate Valves*); with the MSS Coordinating Committee continuing to provide final review and approval. Future development and maintenance of this Standard Practice will be conducted by the new MSS Technical Committee 409. In addition, this Standard Practice was approved by an MSS Consensus Committee and ANSI as an American National Standard. The content of this Standard Practice is the resulting efforts of knowledgeable and experienced industry 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 industry at large. It is the responsibility of the user of this Standard Practice to establish appropriate safety and health practices and determine the applicability of regulatory requirements prior to use. 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.

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The U.S. customary units and SI (metric) units included within this Standard Practice are regarded separately as the standard; each should be used independently of the other and may not be technically equivalent. Combining or converting values or tolerances between the two systems may result in non-conformance with this Standard Practice.

This Standard Practice has been substantially revised from the previous 2016 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-tolerance dimensions in this Standard Practice are nominal unless otherwise specified.

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FOREWORD

This MSS Standard Practice, SP-135, is widely used in multiple valve and piping industries and is aligned with the Class-rated design, testing and material requirements of ASME B16.34, and the Class rated pressure, temperature, and dimensional requirements of ASME B16.5 and ASME B16.47. MSS SP-135 is the principal ASME Class rated knife gate valve standard and it is widely accepted as the principal Knife Gate Valve standard for industry users that include: paper, chemical, petro-chemical, hydroelectric power, mining and mineral processing, and fossil fuel power valve and fittings systems.

MSS Standard Practice SP-135 was originally published in 2006 as SP-135-2006, *High Pressure Steel Knife Gate Valves* for the purpose of addressing an industry need for a knife gate valve standard that involved high pressure and a Class rated design.

The revised 2010 edition of SP-135 revised the title slightly and expanded the valve NPS (DN) coverage; including two (2) sets of Face-to-Face dimensions (Short and Long Pattern). The original one (1) set of Face-to-Face dimensions included in the introductory 2006 edition of SP-135 was retained and rearranged in the tables of the revised 2010 edition of SP-135 as follows:

<u>CLASS 150:</u>		<u>CLASS 300:</u>	
NPS ≤ 24 (DN ≤ 600)	Long Pattern	All NPS (All DN)	Long Pattern
NPS > 24 (DN > 600)	Short Pattern		

The 2016 edition of MSS SP-135, in addition to various editorial and formatting updates, included: (1) revisions to tables and numbering; (2) an additional Section 5.2.2 marking option; (3) inclusion of NPS 2 (DN 50) through NPS 36 (DN 900) Class 600 valve dimensions in revised scope, body text, and new Tables 3/3M; (4) editorial clarification of several table headings and notes; and (5) updating of the organizations and references in Annex A. This edition was also approved by an MSS Consensus Committee and ANSI as an American National Standard.

This 2021 edition of MSS SP-135, in addition to various editorial and formatting updates, included: (1) Additional Section 7.5.2; (2) Addition of ASME B16.34 Appendix VI, Tables VI-1 and VI-2; (3) Added the testing requirements of MSS SP-151 to Section 10; and (4) Updating of the organizations and references in Annex A. This edition was also approved by an MSS Consensus Committee and ANSI as an American National Standard.

PREFACE

Technical Committee Membership

The MSS Technical Committee 409, *Knife Gate Valves*, has primary responsibility for this Standard Practice and included the following members at the time of approval:

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<https://msshq.org/page/ActiveStandards>

MSS Standard Practices (SPs) related to or referenced in this publication:

ANSI/MSS SP-25	<i>Standard Marking System for Valves, Fittings, Flanges, and Unions</i>
ANSI/MSS SP-96	<i>Terminology for Valves, Fittings, and Their Related Components</i>
MSS SP-151	<i>Pressure Testing of Knife Gate Valves</i>

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

ANSI/MSS SP-25	<i>Standard Marking System for Valves, Fittings, Flanges, and Unions</i>
ANSI/MSS SP-44	<i>Steel Pipeline Flanges</i>
ANSI/MSS SP-55	<i>Quality Standard for Steel Castings for Valves, Flanges, Fittings, and Other Piping Components – Visual Method for Evaluation of Surface Irregularities</i>
ANSI/MSS SP-58	<i>Pipe Hangers and Supports – Materials, Design, Manufacture, Selection, Application, and Installation</i>
ANSI/MSS SP-96	<i>Terminology for Valves, Fittings, and Their Related Components</i>
ANSI/MSS SP-114	<i>Corrosion Resistant Pipe Fittings Threaded and Socket Welding Class 150 and 1000</i>
ANSI/MSS SP-122	<i>Plastic Industrial Ball Valves</i>
ANSI/MSS SP-134	<i>Valves for Cryogenic Service, including Requirements for Body/Bonnet Extensions</i>
ANSI/MSS SP-135	<i>High Pressure Knife Gate Valves</i>
ANSI/MSS SP-138	<i>Quality Standard Practice for Oxygen Cleaning of Valves and Fittings</i>
ANSI/MSS SP-144	<i>Pressure Seal Bonnet Valves</i>

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MSS is an American National Standards Institute (ANSI)-accredited standards developer.

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