

Guidelines for Manual Operation of Valves

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



www.mss-hq.org

This MSS Standard Practice was developed under the consensus of the MSS Technical Committee 306 and the MSS Coordinating Committee. The content of this Standard Practice is the result of the efforts of competent and concerned volunteers to provide an effective, clear, and non-exclusive specification that will benefit the industry as a whole. This MSS Standard Practice 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 is established only by reference in a code, specification, sales contract, or public law, as applicable.

Unless otherwise specifically noted in this MSS SP, any standard referred to herein is identified by the date of issue that was applicable to the referenced standard(s) at the date of issue of this MSS SP.

In this Standard Practice all notes, annexes, tables, and figures are construed to be essential to the understanding of the message of the standard, and are considered part of the text unless noted as "supplemental". All appendices appearing in this document are construed as "supplemental". Supplemental information does not include mandatory requirements.

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

Substantive changes in this 2009 edition are “flagged” by parallel bars as shown on the margins of this paragraph. The specific detail of the change may be determined by comparing the material flagged with that in the previous edition.

Any part of this Standard Practice may be quoted. Credit lines should read 'extracted from MSS SP-91, 2009 with permission of the publisher, the Manufacturers Standardization Society.' Reproduction prohibited under copyright convention unless written permission is granted by the Manufacturers Standardization Society of the Valve and Fittings Industry Inc.

Originally Approved 1980

Copyright ©, 1984 by
Manufacturers Standardization Society
of the
Valve and Fittings Industry, Inc.
Printed in U.S.A.

FOREWORD

The handwheels or handles provided with manually actuated valves are designed so that reasonable effort exerted by the operator(s) is sufficient to actuate. However, operability of manually controlled valves is dependent on many factors, such as fluid pressure and temperature, location of valve in relation to operators, desired speed of operation, physical capabilities of operators, ambient conditions, and frequency of operation. The purchaser, based upon anticipated on-site conditions, should therefore evaluate suitability of valves with manual actuators. This document was prepared to assist users in establishing actual requirements relative to valve operation. Most valves can be provided with actuators suitable for specific service conditions, regardless of severity, when conditions are defined.

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
0 PURPOSE.....	1
1 SCOPE.....	1
2 DEFINITIONS	1
3 OPERATOR’S ABILITY TO APPLY FORCE.....	2
4 MULTIPLYING FACTORS.....	2
5 ADDITIONAL CONSIDERATIONS.....	2
6 VALVE OPERATING CHARACTERISTIC CURVES	5

TABLE

1 Input Factor Multipliers.....	4
---------------------------------	---

FIGURE

1 Lever Type Manual Actuator	3
2 Handwheel Type Manual Actuator.....	3
3 T-Lever Type Manual Actuator.....	4
4 Globe-Sliding Stem, Flow under Disc.....	6
5 Globe-Sliding Stem, Flow over Disc.....	6
6 Globe-Threaded Stem, Flow under Disc	6
7 Globe-Threaded Stem, Flow over Disc	6
8 Diaphragm & Pinch Valves.....	7
9 Butterfly Valves.....	7
10 Ball & Plug Valves.....	7
11 Gate Valves, Rising or Non-Rising Stem.....	7