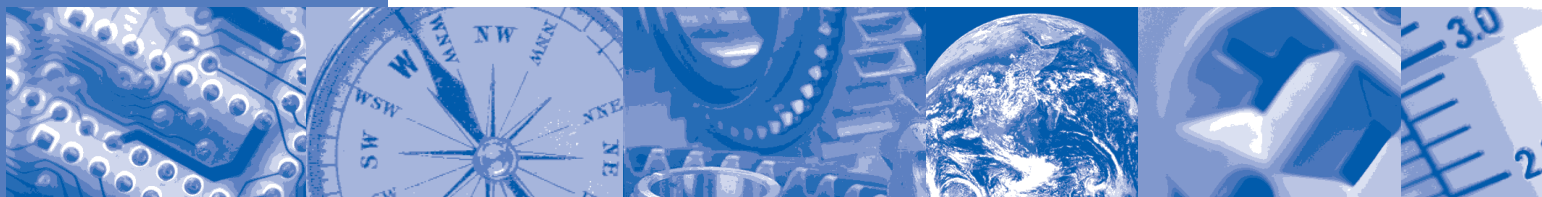


ANSI/ISA–S93.00.01–1999



Standard Method for the Evaluation of External Leakage of Manual and Automated On-Off Valves



Approved 15 January 2000

ANSI/ISA–S93.00.01–1999

Standard Method for the Evaluation of External Leakage of Manual and Automated On-Off Valves

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1 Scope

This Standard applies to the classification of valve design and provides the methods for the testing of valve stem(s) and body seal(s). This Standard is not intended for production testing and excludes control valves.

1.1 The results of the test methods shall classify valve designs to performance levels per the following selections:

- a) Test temperature
- b) Pressure rating
- c) Leakage (concentration, parts per million)
- d) Mechanical cycles (number of)
- e) Thermal cycles (number of)
- f) Adjustment(s) to seal(s) and/or number of adjustments

1.2 Test methods per this Standard shall apply only to valves with the following stem motion designs:

- a) Rotating and rising
- b) Rotating and non-rising
- c) Non-rotating and rising

1.3 The classification shall apply only to the stem(s) motion design of 1.2, which is tested.

1.4 The test results of a particular valve may be used to extend the classification to other valves per the following guidelines:

- a) To valves with identical stem(s) and body seal(s) material, geometry, and loading characteristics, when the stem(s) and body seal(s) diameters are within $\pm 25\%$ of the tested diameters
- b) To valves otherwise identical, meeting the criteria of 1.4a, which are applied below the tested temperature, down to ambient temperature
- c) To valves otherwise identical, meeting the criteria of 1.4.a, which are of a lower pressure rating

1.5 Valves intended for vacuum service are beyond the scope of this Standard.

2 Purpose

The purpose of this Standard is to establish a uniform process for assuring that manual and automated on-off valves are tested using uniform methods and will meet user needs in complying with volatile organic compounds (VOC) fugitive emissions requirements. The test method is not intended to be a pass-fail criteria.

3 Definitions

Definitions in this Standard apply to this Standard only.