

IAPMO PS 101-~~1997~~2019

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# Suction Relief Valves



# ***IAPMO Standard***

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# IAPMO PS 101-~~1997~~2019

## Suction Relief Valves

### 1 ~~Purpose~~Scope

#### 1.1 Scope

~~The purpose of~~ This Standard ~~is to establish an acceptable minimum standard for the manufacture of the~~covers suction relief valves. ~~Its purpose is to serve as a guide for manufacturers, architects, engineers, contractors, plumbers, inspectors and users; to promote an understanding regarding materials and installation; and to provide for identifying suction relief valves conforming to this Standard.~~ and specifies requirements for materials, physical characteristics, performance testing, and markings.

#### 1.2 Alternative Materials

The ~~provisions~~requirements of this Standard ~~is~~are not intended to prevent the use of any ~~alternate~~alternative materials or methods of construction, provided ~~any~~ such ~~alternate alternatives~~ meets the intent and requirements of this Standard.

#### 1.3 Terminology

In this Standard,

- (a) "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy to comply with the Standard;
- (b) "should" is used to express a recommendation, but not a requirement;
- (c) "may" is used to express an option or something permissible within the scope of the Standard; and
- (d) "can" is used to express a possibility or a capability.

Notes accompanying sections of the Standard do not specify requirements or alternative requirements; their purpose is to separate explanatory or informative material from the text. Notes to tables and figures are considered part of the table or figure and can be written as requirements.

#### 1.4 Units of Measurement

SI units are the primary units of record in global commerce. In this Standard, the inch/pound units are shown in parentheses. The values stated in each measurement system are equivalent in application, but each unit system is to be used independently. All references to gallons are to U.S. gallons.

#### 1.5 Amendments

Proposals for amendments to this Standard will be processed in accordance with the standards-writing procedures of IAPMO.

## ~~2~~ **Scope**

~~2.1~~ This Standard covers the physical, performance and testing requirements for vacuum, seal, proper spring tension and other specific properties of construction and finish together with methods of marking and identification.

## **2 Reference Publications**

This Standard refers to the following publications and, where such reference is made, it shall be to the current edition of those publications, including all amendments published thereto.

ANSI/APSP 16                      Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs

## **3 Definitions and Abbreviations**

This section is reserved for later use.

## **3.4 General Requirements**

### ~~3.1~~**4.1 Materials**

~~4.1.1~~ The suction valve body shall meet the material requirements of ~~ASME/ANSI A112.19.8M~~ ANSI/APSP 16.

~~3.3~~~~4.1.2~~ All internal components shall be corrosion resistant.

### ~~3.2~~**4.2 Craftsmanship**

Suction relief valves covered by this standard shall follow the following requirements:

- (a) The valve body and cap shall be a smooth finish, free of any flaws, voids or interior sharp edges.
- (b) The inside of the valve body shall be smooth with no voids or cracks.
- (c) All edges of the cap and plunger shall be free of excessive material.
- (d) The cap shall be firmly attached.

~~3.3~~ ~~All internal components shall be corrosion resistant.~~

### ~~3.4~~**4.3 Elastomeric Seals**

If used, elastomeric seals shall be of Buna/Nitrile material or equal.

~~3.5~~ ~~Detailed installation instruction shall be provided with the valve.~~

~~3.6~~ ~~Installation instruction shall specify that the air inlet of the suction relief valve shall not be located within the interior of the wall of the fixture or in a location subject to flooding.~~

## 45 Testing Requirements

### 4.15.1 Test Specimen

Five valves shall be selected at random and tested as follows in the order listed and all shall pass.

### 4.35.2 Test Apparatus

Each valve shall be tested for two (2) functions. The following items are required to perform the test: vacuum pump (minimum 508 mm (20 inches) Hg.), vacuum gauge (508 to 2540 mm (20 to 100 inches) H2O scale), and vacuum gauge (0 to 762 mm (0 to 30 in) Hg. inches scale).

### 4.25.3 Cycle Testing

~~The integrity of the spring/O-ring seal.~~ The cycle test shall be conducted as follows:

(a) ~~tested for~~ Conduct 50,000 cycles at 635 mm (25 inches) of Hg., cycled at five (5) second intervals to test the integrity of the spring/O ring seal;

### ~~4.3~~ Each valve shall be tested for two (2) functions. The following items are required to perform the test: vacuum pump (minimum 20 inches Hg.), vacuum gauge (20 to 100 inches H2O scale), and vacuum gauge (0 to 30 Hg. inches scale).

(b) ~~Testing for Spring Tension.~~ The valve shall be subjected to vacuum equal to the manufacturer's indicated design value;

(a) ~~(c)~~ A gauge reading vacuum on the H2O scale is to be placed on top of the valve. No vacuum shall be present; and

(b) ~~(d) Valve Opening Point.~~ The vacuum level shall be raised 50.8 mm (2 in) Hg (691 mm (27.2 in) H2O) above the indicated design value. The gauge shall read between the indicated design value and 50.8 mm (2 in) Hg (691 mm (27.2 in) H2O) above the indicated design value immediately. ~~Failure to open immediately constitutes failure.~~

## 5.4 Performance Requirements

The valve shall open immediately when the vacuum gauge reads above the indicated design value.

## 56 Markings and ~~Identification~~ Accompanying Literature

### 5.16.1 Markings

Valves complying with this standard shall be permanently marked with the following:

- Manufacturer's name or trademark;
- Model number; and
- Pressure differential value in psi at which the valve will open.

### ~~3.56.2~~ Installation Instructions

Detailed installation instruction shall be provided with the valve specifying at least:

### ~~3.6~~ Installation instruction shall specify that the air inlet of the suction relief valve shall not be located within the interior of the wall of the fixture or in a location subject to flooding.