



Member of the FM Global Group

Approval Standard for Straightway Hose Valve

Class Number 1522

August 1970

Foreword

The FM Approvals certification mark is intended to verify that the products and services described will meet FM Approvals' stated conditions of performance, safety and quality useful to the ends of property conservation. The purpose of Approval Standards is to present the criteria for FM Approval of various types of products and services, as guidance for FM Approvals personnel, manufacturers, users and authorities having jurisdiction.

Products submitted for certification by FM Approvals shall demonstrate that they meet the intent of the Approval Standard, and that quality control in manufacturing shall ensure a consistently uniform and reliable product. Approval Standards strive to be performance-oriented. They are intended to facilitate technological development.

For examining equipment, materials and services, Approval Standards:

- a) must be useful to the ends of property conservation by preventing, limiting or not causing damage under the conditions stated by the Approval listing; and
- b) must be readily identifiable.

Continuance of Approval and listing depends on compliance with the Approval Agreement, satisfactory performance in the field, on successful re-examinations of equipment, materials, and services as appropriate, and on periodic follow-up audits of the manufacturing facility.

FM Approvals LLC reserves the right in its sole judgment to change or revise its standards, criteria, methods, or procedures.

TABLE OF CONTENTS

SCOPE	1
REQUIREMENTS	1
Materials	1
Sizes	1
Rated Working Pressure	1
Waterway	2
End Connections	2
Attachment of Bolted Hydrant Valves	2
Stem Seal	2
Operating Handle	2
Hose Caps	2
TESTS	3
Valve Body	3
Valve Stem Seal	3
Valve Stem Strength	3
Factory Test	3
MARKINGS	3

SCOPE

Straightway hose valves are used to control individual hose lines from hydrants, fire pumps and standpipes. They should be highly reliable and durable.

FM Approval is based on examination and test of production samples, inspection of the manufacturing and/or quality control facilities, and satisfactory use experience. Particularly considered are functional suitability, adequacy of design and workmanship, uniformity and dependability of production, effectiveness of quality control, and assurance of service and of replacement parts.

Minimum physical requirements given below are guides. Mere conformity does not assure approval, since other considerations may control. Nor is fixed conformity necessary; devices having different characteristics may be considered and approved, if shown to be essentially equivalent or superior in performance.

REQUIREMENTS

Materials

Valves with threaded inlets for pipes or hose thread shall be of corrosion-resistant materials, except for the handle.

Bolted hydrant valves shall have seat rings, gates, stem, and hose nipple or threaded outlet of corrosion-resistant materials. Body, bonnet, and handle may be of other materials suitable for the intended use.

Sizes

The following shall be recognized as standard sizes for their respective application:

Fire pumps and hydrants - 2 in.
Standpipes - 1, 1¼, 1½, 2, and 2½ in.

Rated Working Pressure

Valves shall have a rated working pressure of 175 psig minimum.

Waterway

The waterway shall be equal to or greater than the nominal pipe size.

End Connections

End connections should be of the following types:

Inlet Connection:

- Flanged for bolting
- Female national standard pipe thread
- Swivel hose threads

Outlet connection shall have male hose threads.

Hose threads where provided shall conform with the recognized national standard or with threads already existing where the valve is to be used.

Attachment of Bolted Hydrant Valves

Bolted type hydrant valves shall be designed for attachment to the hydrant barrel by two $\frac{3}{4}$ in. cap screws spaced horizontally $5\frac{5}{8}$ in. on centers.

Stem Seal

Valves shall have a seal where the operating stem passes through the body to prevent water from escaping to atmosphere. The seal shall not prevent free turning of the stem.

Operating Handle

Valves having a rotating stem that moves a gate to open and close the waterway shall have an operating handle that is essentially round. The direction to open shall be counterclockwise. The handle shall have the word "OPEN" and a directional arrow cast upon it.

Hose Caps

Hose valves intended for use on hydrants or pump headers shall be provided with a cap for the protection of the outlet thread when not in use.

The cap shall be of suitable material and (a) be provided with a gasket set in a groove, (b) have an operating nut of the same shape and size as the hydrant operating nut, and (c) be suitably fastened to the hydrant.

TESTS

Valve Body

To determine design adequacy, valve bodies will be hydrostatically tested to 700 psig for five minutes. There shall be no failure as the result of this test.

Valve Stem Seal

To evaluate adequacy of the seal, sample valves will be subjected to their rated pressure for five minutes. The test will be made with the valve in a partially open position and the stem will be turned several times during the test. There shall be no leakage past the stem seal.

The stem seal assembly will be subjected to an ambient air temperature of 120°F for 72 hours after which the valve will again be subjected to rated working pressure for five minutes. There shall be no leakage past the stem seal.

Valve Stem Strength

With the valve in closed position, the valve stem will be subjected to the torque listed below. There shall be no failure of parts and the valve shall operate freely after the test.

<i>Valve Size (in.)</i>	<i>Torque (ft lb)</i>
1	40
1¼	50
1½	60
2	75
2½	100

Factory Test

All valves shall be tested before leaving the factory to 350 psig water pressure for seat leakage and body strength. There shall be no noticeable leakage.

MARKINGS

Valves shall be plainly marked with the name or trade mark of the manufacturer, model number, size in inches, year of manufacture, and rated working pressure.