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INTERNATIONAL ASSOCIATION OF PLUMBING
AND MECHANICAL OFFICIALS

**IAPMO GUIDE CRITERIA
FOR
FLOW REGULATING DEVICE
IAPMO IGC 271- 2009**

1 PURPOSE

- 1.1** The purpose of this standard is to establish an acceptable standard for flow regulating device for use in a cold water systems outside of a building. This device is to be installed on the main cold water line entering a building. Its purpose is to serve as a guide for producers, distributors, architects, engineers, contractors, installers, inspectors and users; to promote understanding regarding materials, manufacture, and installation; and to provide a means for identifying the flow regulating device that comply with this standard.
- 1.2** The provisions of this standard are not intended to prevent the use of any alternate material or method of construction, provided any such alternate meets the intent and requirements of this document and changes are amended to this standard.

2. SCOPE

- 2.1** This standard covers materials, testing, dimensional, and performance requirements for a flow regulating device in sizes 1/2 through 1 (device size equates to nominal pipe size in inches).

3. REFERENCED STANDARDS

- 3.1** All standards referenced herein shall be the current edition of that standard.

ANSI/ISA S75.02	Control Device Capacity Test Procedures
ASME B1.20.1	Pipe Threads, General Purpose (Inch)
ASSE 1011	Hose Connection Vacuum Breakers
ASTM A 959	Specifying Harmonized Standard Grade Compositions for Wrought Stainless Steels
ASTM D 1784	Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
ASTM D 4066	Classification System for Nylon Injection and Extrusion Materials (PA)
NSF/ANSI 61	Drinking Water System Components – Health Effects

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4. GENERAL REQUIREMENTS

- 4.1 Materials.** The device bodies and components shall be made from brass, PVC, Nylon or other corrosion resistant materials complying with the following material requirements:
 - 4.1.1 PVC.** Virgin PVC plastic compound used to make device bodies or components shall meet or exceed the requirements of Class 12454 or 14333 as defined in ASTM D 1784.
 - 4.1.2 Nylon.** The polyamide compounds used to make device bodies or components shall meet the requirements for Group 3, Class 2, and Grade 3, or Group 4, Class 2 and Grade 3 as prescribed in ASTM D 4066.
 - 4.1.3 Copper Alloys.** Copper alloys used to make device bodies or components for shall contained minimum 58% copper content.
 - 4.1.4 Stainless Steel.** Stainless steel alloys used to make device bodies or components in contact with potable water shall meet or exceed the requirements of ASTM A 959 Alloy S30400, S30403, S31600, or S31603.
- 4.2 Seals.** O-ring seals and gaskets shall be of such design and quality to assure leak-proof joints and be capable of providing satisfactory field service. O-ring and gasketed joints shall provide for external leak tightness up to the minimum burst pressure of the devices.
 - 4.2.1 Sealing.** Devices shall be designed for bi-directional, drip tight sealing capability at any pressure up to the full rated working pressure of the device.
- 4.3 Pipe Threads.** Pipe threads shall conform to ASME B1.20.1.
- 4.4 Material Toxicity.** All materials that will contact potable water shall comply with NSF/ANSI 61.

5. TESTING REQUIREMENTS

- 5.1 Burst Strength Test.** Devices shall withstand an internal hydrostatic pressure of 1.5 times the rated working pressure of the device at $73^{\circ}\text{F} \pm 3.6^{\circ}\text{F}$. The device shall be filled with water completely and all air flushed from inside the device. The pressure shall be applied to the inlet with the outlet blocked and the device open.
 - 5.1.1 Performance Requirement.** Any permanent distortion, cracking, or failure of the pressure envelope shall be deemed as a failure to meet this requirement.
- 5.2 Pressure Loss Test**
 - 5.2.1** Install the device as shown in figure for the Hydrostatic Pressure