



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

October 28, 2019

Joseph L. Lacek II, P.E.
Sherwood Valve
100 Business Center Dr.
Suite 400
Pittsburgh, PA 15205

Reference No. 19-0093

Dear Mr. Lacek:

This letter is in response to your June 21, 2019, letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to cylinder valves in § 173.301(a)(11). You seek clarification of the statement that cylinder valves manufactured on or after November 7, 2019, must conform to the requirements in CGA V-9, "Compressed Gas Association Standard for Compressed Cylinder Valves," Seventh Edition, 2012. You note that while CGA V-9 lists a series of tests that valves must pass, there is no mention of self-closing valves (C10 or pin style valves). You state that the International Organization for Standardization (ISO) 17879 has testing that self-closing valves must pass that is similar to the test specified in CGA V-9. Therefore, you ask if conformance with CGA V-9 as specified in § 173.301(a)(11) is required for a self-closing valve.

The answer is no. The intent of § 173.301(a)(11) is to ensure that all applicable cylinder valve types conform to requirements in CGA V-9. It was not PHMSA's intent to prevent the use of other types of valves that may not be covered in CGA V-9, such as self-closing valves used in paintball cylinders. Since self-closing valves are not covered in CGA V-9, the requirements in CGA V-9 do not apply to self-closing valves. It is recommended, but not required, that self-closing valves be designed and tested to applicable safety standards, such as ISO 17879.

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,

T. Glenn Foster
Chief, Regulatory Review and Reinvention Branch
Standards and Rulemaking Division



Andrews
§ 173.301
19-0093

Sherwood Valve's Position on HM-219A changes to 49 CFR 173.301 Paragraphs (a)(11)

The Department of Transportation has released HM-219A that outlines the changes to 49 CFR Parts 171, 172, 173, 176, 178 and 180. Upon review by Sherwood, there have been some questions that came up pertaining to the changes made to part 173 which pertain to the addition of paragraph (a)(11). Sherwood Valve is a manufacturer of cylinder valves, and has been active in the industry for over 40 years. Sherwood Valve is a member of the Compressed Gas Association (CGA) and participates in the development and maintenance of the standards, specifications, and technical bulletins developed and distributed by CGA.

The questions that come up are in relation to the wording of 49 CFR 173.301 (a)(11).. "Cylinder valves manufactured on or after November 7, 2019 used on cylinders to transport compressed gases must conform to the requirements in CGA V-9..." Sherwood Valve is reading this that any valve installed on cylinder that are not already exempted due to liquefied petroleum gas (LPG), must meet CGA V-9.

According to 49 CFR 171.7 the referenced revision of CGA V-9 is the 2012 edition. Upon review of this standard there is no mention of valves that are considered self-closing (C10 or pin style valves) valves within section 5 of CGA V-9. These types of valves are basically a check type valve that incorporate an internal poppet that seals against the inside of the valve body via a seal energized by the cylinder pressure and a spring. These valves are operated by depressing the poppet to allow the cylinder contents to be utilized. An example of this type of valve would be found in the paint ball industry.

Within the CGA V-9 2012 there are type tests that the valves that meet this standard must be able to pass. They are as follows: Proof Pressure, Burst Pressure, Flow, Excessive Torque, Leak Tightness, Endurance, High Temperature, Low Temperature, Visual Examination, and Flame Impingement. Some of these tests a self-closing type valve would be able to pass, but some of them are impossible to complete on this type of valve. The Excessive torque test described in section 7.1.4 of CGA V-9 is for valves that require a turning motion to open and close the valve. Self-closing valves do not require a turning motion to operate the valve. Another test it would not be able to meet as written would be the endurance test as described in section 7.1.6 of CGA V-9. This test describes how to run 2000 open and closing cycles on a valve that requires a certain torque to shut off. Again, since self-closing valves do not require a turning motion to close off it cannot meet this test. It is because of not meeting these tests that self-closing valves by design cannot conform to CGA V-9.

CGA does not have a specification specifically written for self-closing valves. However, the International Organization for Standardization (ISO) does. ISO 17879 is specifically written for a self-closing valves. ISO 17879 has type tests that valves must pass in order to be in compliance with the standard that are very similar to CGA V-9's tests: Hydraulic bust pressure, Internal/External Leak tightness, Endurance, and Visual examination. The tests in ISO 17879 are not only similar to CGA V-9's but would also provide the same amount of safety to those involved with handling and using cylinders with self-closing valves designed to ISO 17879.

It is Sherwood Valve's position that if a self-closing valve conforms to ISO 17879 it provides the same benefit as a valve needing rotation to operate that conforms to CGA V-9. Therefore a self-closing valve that conforms to ISO 17879 would not have to meet CGA V-9 and would still be able to be used on cylinders.

Joseph L Lacey II, P.E.

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