

STANDARD INFORMATION

Standard: UL 407

Standard ID: Manifolds for Compressed Gases [ANSI/CAN/UL/ULC 407:2022 Ed.8]

Previous Standard ID: Manifolds for Compressed Gases [UL 407:2004 Ed.7+R:13Dec2017]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **December 14, 2024**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard. Reports not updated to this version by the effective date above will be withdrawn.

Overview of Changes: merges relevant content from ULC/ORD-C407 with ANSI/UL 407 to create a single, joint standard applicable in both the USA and Canada. Specific details of new/revise requirements are found in table below.

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



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CLAUSE	VERDICT	COMMENT
		<p>Additions to existing requirements are <u>underlined</u> and deletions are shown lined-out below.</p>
1	Info	<p>Scope</p> <p><i>New clause added;</i></p> <p>Manifolds covered by this Standard are intended to be installed and used in accordance with the applicable Codes and Regulations as determined by the Authority Having Jurisdiction (AHJ), such as, but not limited to:</p> <p>a) In the United States:</p> <ol style="list-style-type: none">1) For manifolds other than for nonflammable medical gas, the Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes, NFPA 51;2) For LP-Gas manifolds, the Liquefied Petroleum Gas Code, NFPA 58;3) For nonflammable medical gas manifolds, the Standard for Healthcare Facilities, NFPA 99. <p>b) In Canada:</p> <ol style="list-style-type: none">1) The Natural gas and propane storage and installation code, CSA B149 Series; and2) Provincial or other Regulations.
	Info	<p>CONSTRUCTION</p>
4	Info	<p>General</p> <p>Manifolds designed for acetylene, fuel gases other than acetylene, and those designed for nonflammable medical gases, shall be provided with a back-flow check valve between each cylinder and the header, coupler block, or coupler tee <u>to prevent the loss of gas from a bank of connected cylinders if for any reason the pressure-relief device of an individual cylinder should activate and open or a lead is severed.</u> This check valve shall be located in the cylinder lead connecting fitting on the header or coupler block, or in the manifold end of the lead. Where portable manifolds are provided with coupler tees, the check valve shall be located in that portion of the tee connected to the shutoff valve of the cylinder.</p> <p><i>New clause added;</i></p> <p>A decomposition flash arrester designed for use with high-pressure acetylene shall be installed between each cylinder and the manifold and shall comply with the requirements in the following standards as applicable:</p> <p>a) For CE Code-based installations, ISO 5175-1; and</p> <p>b) For NEC-based installations, UL 1357.</p>
4.5		
4.13		



CLAUSE	VERDICT	COMMENT
		<i>New clause added;</i>
4.14		Metal parts in contact with oxygen shall be stainless steel or nonferrous metal. Aluminum or aluminum alloys shall not be used for parts in contact with oxygen or oxygen enriched gases, where the percentage of oxygen exceeds 21 % by volume, on manifolds intended to reduce a pressure greater than 435 psig (3000 kPa) to the use pressure.
		<i>New clause added;</i>
4.18		Manifolds for nonflammable medical gases service shall be of the stationary multiple header type designed for connection of two primary supply cylinders and secondary supply cylinders.
		<i>New clause added;</i>
4.19		Manifolds for nonflammable medical gases shall have a manually operated shutoff valve installed on the high-pressure side of each compressed-gas regulator.
		<i>New sections added;</i>
Sections 5-33		5 Nonflammable Medical Gases Change-Over Device and Operating Alarm Control 6 Nonflammable Medical Gases Lead Couplings 7 Gauges 8 LP-Gas Hose 9 Positive Shutoff Valves 10 LP-Gas Regulators 11 Regulators 12 Quick Connect Coupling 13 Station Inlets and Outlets 14 Medical Hose Assemblies 15 Control Panels 16 Hydrogen Material 17 Hydrostatic Strength Test 18 LP-Gas Quick Connect Coupling Endurance Test 19 Pull Force Test 20 Start-to-Discharge Test 21 Moist Ammonia-Air Stress Cracking Test 22 Volume Change/Weight Loss of Rubber Parts 23 LP-Gas Compatibility Tests 24 Accelerated Aging of Rubber Parts 25 Accelerated Aging Test of Polymeric Parts 26 Low Temperature Test 27 Hydrogen Low Temperature Test 28 Embrittlement Test MANUFACTURING AND PRODUCTION TESTS 29 General



CLAUSE	VERDICT	COMMENT
		30 Manifolds for Acetylene
		31 Manifolds for Oxygen
		32 Marking
		33 Installation and Operating Instructions
		See standard for details.
