

**STANDARD INFORMATION**

**UL 1450:2010 Ed.4+R:21Aug2019**

**Standard Number:** UL 1450

**Standard Name:** Motor-Operated Air Compressors, Vacuum Pumps, and Painting Equipment

**Standard Edition and Issue Date:** 4<sup>th</sup> Edition dated May 5, 2010

**Date of Revision:** August 21, 2019

**Date of Previous Revision of Standard:** November 1, 2013

**EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS**

**Effective Date:** **August 21, 2021**

**IMPACT, OVERVIEW, AND ACTION REQUIRED**

**Impact Statement:** A review of all Listing Reports is necessary to determine which products comply with new/revise requirements and which products will require re-evaluation. **NOTE:** Effective immediately, this revised standard will be exclusively used for evaluation of new products unless the Applicant requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revise requirements.

**Overview of Changes:**

- Addition of requirements for Low Voltage Limited Energy Circuits
- Revisions to update Requirements for Controls
- Addition of Construction, Marking and Installation Instruction Requirements for Nitrogen Generators

Specific details of new/revise requirements are found in table below.

**If the applicable requirements noted in the table are not described in your report(s), these requirements will need to be confirmed as met and added to your report(s) such as markings, instructions, test results, etc. (as required).**

**Client Action:**

**Information** – To assist our Engineer with review of your Listing Reports, please submit technical information in response to the new/revise paragraphs noted in the attached or explain why these new/revise requirements do not apply to your product (s).

***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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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.***



## STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown <del>lined out</del> below.</i>
	Info	<b>CONSTRUCTION</b>
8	Info	<b>General</b>
		<b><i>New clause added;</i></b>
8.4		A nitrogen generator that is intended to remove oxygen from air within an enclosure, such as a control panel, a means shall be provided to prevent the creation of an enriched oxygen concentration within the enclosure such as the use of a ventilation fan or external discharge port.
9	Info	<b>Enclosure</b>
		<b><i>New clause added;</i></b>
9.4.1		Enclosures of components in a Class 2, Limited Power Source (LPS), or Low Voltage Limited Energy (LVLE) circuit shall have a flammability rating of HB minimum.
		The requirement in 9.6 will necessitate that a switch, a relay, a solenoid, or the like be individually and completely enclosed, except for terminals, unless it can be shown that malfunction of the component would not result in a risk of fire, or there are no openings in the bottom of the product enclosure. It will also necessitate the use of a barrier of nonflammable material:
9.7		a) Under a motor unless: 5) A vertically mounted motor is supplied with a metal screen on the end bell having a mesh with nominal openings not greater than 0.079 in (2 mm) between center lines and with wire diameters of not less than 0.018 in (0.45 mm) or if the motor complies with the <del>Hot Flaming Oil Test in the Standard for Information Technology Equipment – Safety – Part 1: General Requirements, UL-60950-1</del> <u>Flammability Tests For The Bottom Of A Fire Enclosure in the Standard for Safety For Audio/video, Information And Communication Technology Equipment – Part 1: Safety Requirements, UL 62368-1.</u>



CLAUSE	VERDICT	COMMENT
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13	Info	<b>Supply Connections</b>
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13.1	Info	<b>Cord-connected products</b>
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13.1.8		<p>An attached flexible cord provided with the product shall comply with one of the following, as applicable:</p> <p>a) Stationary equipment shall be provided with an attached flexible cord at least 6 ft (1.8 m) long including the attachment plug.</p> <p>b) <u>Movable, hand-held, hand-guided, and hand-supported equipment shall be provided with an attached flexible cord at least 6 ft (1.8 m) long or 18 in (457 mm) long or less including the attachment plug.</u></p> <p><del>b) Movable equipment shall be provided with an attached flexible cord at least 18 in (457 mm) long including the attachment plug.</del></p> <p><del>c) Hand-held, hand-guided, and hand-supported equipment shall be provided with an attached flexible cord at least 18 in (457 mm) long including the attachment plug.</del></p>
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27B		<p><b><i>New section added;</i></b></p> <p><b>Low Voltage Limited Energy Circuits</b></p>
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27B.1		<p>low voltage limited energy (LVLE) circuit is defined as a circuit involving a potential of not more than 42.4 volts peak or 60 V dc with the energy available to the circuit limited:</p> <p>a) By a fuse or nonadjustable manually reset circuit protective device that is rated or set at not more than the value specified in Table 27B.1; or</p> <p>b) So that the current, measured in amperes, is not more than 8 for potentials up to 42.4 V peak, and 150/V<sub>max</sub> for potentials from 30 to 60 V dc.</p>
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27B.2		<p>With reference to the current specified in 27B.1(b), the maximum current is to be measured under any condition of loading, including short circuit. The measurement is made using a resistor that is continuously readjusted during a 1-minute period to maintain maximum load current. This current shall not exceed the value indicated in 27B.1(b).</p>
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***New table added;***

**Rating for fuse or circuit protective device**

Table 27B.1	Open-circuit potential, V	Current rating, A
	0 – 21.2 (peak)	5
	21.3 – 42.4 (peak)	3.2
	Over 30 to 60 dc only	150/V <sub>max</sub> <sup>a</sup>
<sup>a</sup> V <sub>max</sub> is defined as the maximum potential, in volts, obtained under any condition of load or no load.		



CLAUSE	VERDICT	COMMENT
46	Info	<b>Temperature Test</b>
Table 46.1		<i>Table 46.1 has been modified. Added requirements for Class 180 (H) and Class 220 (R). See standard for details.</i>
65	Info	<b>Cautionary</b>
		<b><i>New clause added;</i></b>
65.15.1		A product constructed with a door to gain access to a tank drain assembly in accordance with Exception No. 2 of 36.1.8 shall be marked on the door panel with the word "CAUTION" and the following or equivalent: "Risk of Bursting – Open Door To Access Drain Assembly."
		<b><i>New clause added;</i></b>
65.22		A nitrogen generator shall be permanently marked with the word "WARNING" and the following or equivalent: "To reduce the risk of asphyxiation or fire, install the nitrogen generator in a well ventilated area, and/or provide for exhaust ventilation of the waste gas and O2 monitoring."
	Info	<b>INSTRUCTION MANUAL</b>
66	Info	<b>General</b>
		<b><i>New clause added;</i></b>
66.9		A product marked in accordance with 65.15.1 shall have the statement " CAUTION – Risk of Bursting – Open Door To Access Drain Assembly." or the equivalent appearing in the instruction manual.
67	Info	<b>Operating and Installation Instructions</b>
		<b><i>New clause added;</i></b>
67.10		<p>A nitrogen generator shall be provided with installation and maintenance instructions that includes the following items:</p> <ul style="list-style-type: none"> <li>a) Detailed instructions for properly installing the unit.</li> <li>b) If the air compressor is provided separately, detailed instructions for properly connecting the air compressor to the nitrogen generator unit.</li> <li>c) Detailed instructions for maintaining the unit including maintenance required to maintain the desired level of nitrogen within the system.</li> <li>d) Reference to the need for proper ventilation and installation in accordance with OSHA regulations to avoid an excessive concentration of oxygen in an area.</li> </ul>



CLAUSE	VERDICT	COMMENT
Supplement SA	Info	<b>HIGH-PRESSURE PAINT SPRAYING PRODUCTS</b>
SA6	Info	<b>Injection Test</b>

**Tape dimensions and properties (average values)**

	<b>Tape property</b>	<b>Tape No. 3<sup>a</sup></b>	<b>Tape No. 2<sup>b</sup></b>	<b>Tape No. 1<sup>c</sup></b>
Table SA6.1	<b>Thickness</b>	0.045 – 0.080 in (1.14 – 2.03 mm)	0.025 – 0.040 in (0.64 – 1.02 mm)	Total: 0.0045 (0.114 mm) Backing: 0.0025 – 0.0035 in (0.064 – 0.089 mm)
	<b>Density</b>	<del>25 – 27 lbs/ft<sup>3</sup></del> <del>(400 – 433 kg/m<sup>3</sup>)</del> 16 lbs/ft <sup>3</sup> (256 kg/m <sup>3</sup> )	<del>14 – 20 lbs/ft<sup>3</sup></del> <del>(224 – 321 kg/m<sup>3</sup>)</del> 14 lb/ft <sup>3</sup> (224 kg/m <sup>3</sup> )	-
<sup>a</sup> 3M Company Type 4516 or any other tape having the properties in Table SA6.1 meets the intent of the requirements. <sup>b</sup> TapeCase Ltd. Type VF 32, or Press-On Inc. Type VF 20103, or any other tape having the properties in Table SA6.1 meets the intent of the requirements. <sup>c</sup> Saint Gobain Company #2045-3 or any other tape having the properties in Table SA6.1 meets the intent of the requirements.				

SA10	Info	<b>Hose Tests</b>
SA10.12	info	<b>Pull force test</b>

SA10.12.3 After the conditioning described in SA10.12.2, the three conditioned hose assemblies and three as-received hose assemblies are to be subjected to this test. The coupling on each end of the samples is to be assembled with a corresponding companion part and tightened. Next, the coupling is to be placed in a tensile testing machine and connected so that both end fittings, fitting joints, and the hose of the coupling are all subjected to the pull force. With the testing machine adjusted for a rate of travel of ½ in/min (0.21 mm/s), the pull force is to be applied until a minimum pull force of:

a) 200 lb (890 N) for a hose with an inner diameter of 3/16 in (4.8 mm) or less; or  
 b) 400 lb (1780 N) for a hose with an inner diameter greater than 1/4 in (6.4 mm) ~~3/16 in (4.8 mm)~~

**CUSTOMERS PLEASE NOTE:** This Table and column “Verdict” can be used in determining how your current or future production is or will be in compliance with new/revised requirements.