



**Summary of Substantive Changes
between the updates dated May 31, 2013 and March 18, 2014 of
UL 1081, “Swimming Pool Pumps, Filters, and Chlorinators”
(6th edition, dated January 29, 2008)**

Presented to the IAPMO Standards Review Committee on May 5, 2013

General: The changes to this standard apply to permanently connected equipment only and might have an impact on currently listed products. The major changes are:

- Added requirements for single-conduit termination (see Section 10.1.4)
- Added requirements rigid, metal conduit on plastic enclosures (see Section 10.1.7)
- Added requirements for drainage and locking of terminal compartments (see Section 10.2)
- Added marking requirements for units meeting the new exceptions in Section 10.1.7 (see Section 50.1)

Section 10, Power Supply Connections – Units Intended for Permanent Installation:

Section 10.1, General: Added requirements for the conduit connection employed on permanently connected pumps, the conduit hub for units intended for installation outdoors, an exception for the conduit hubs with a single conduit termination, and rigid metal conduit on plastic field wiring enclosures as follows:

10.1.3.1 There shall be a flat surface surrounding a knockout or conduit opening. The flat surface shall have an area that permits assembly of a length of standard rigid metallic conduit to the appliance. The diameter of the opening shall accommodate conduit of the trade size for which the opening is intended and either the flat surface and opening shall have a minimum diameter, or the throat shall have a diameter, in accordance with Table 10.1.

10.1.4 A permanently-connected unit intended for installation outdoors shall: ~~shall have a provision for threaded connection of rigid metal conduit unless:~~

~~a) The hole for the connection to the conduit is located wholly below the lowest uninsulated live part within the enclosure and~~

~~b) The location prevents drainage into the conduit.~~

a) Have an integral conduit hub or the equivalent for a watertight connection, or

b) Be shipped with a separate hub intended to be installed in the field that complies with 10.1.9.

Exception No. 1: When the conduit connection opening is wholly below the lowest terminal lug or other live part intended for use within the enclosure, a threaded conduit hub or the equivalent is not required.

Exception No. 2: Provision for a conduit hub or fitting is not required to be provided when information is provided in accordance with 50.1.28.

10.1.6 A conduit hub in an enclosure shall...

Exception: Units terminating a single conduit of 3/4 maximum trade size need only be subjected to a tightening torque of 200 pound-inches (22 N•m).



10.1.7 A polymeric enclosure intended for connection to a rigid metallic conduit system shall comply with the Polymeric Enclosures – Rigid Metallic Conduit Connection Test specified in the Standard for Enclosures for Electrical Equipment, Non-Environmental Consideration, UL 50.

Exception No. 1: Units marked in accordance with 50.1.26 are only required to be subjected to the Torque Test of UL 50.

Exception No. 2: Units intended for a field installed hub and marked in accordance with 50.1.27 are not required to be subjected to the Torque Test of UL 50.

10.1.8 A knockout or hole for connection of a field wiring system to a field wiring compartment shall accommodate conduit of the trade size shown in Table 10.4.

10.1.9 A conduit hub shipped with a pump in accordance with 10.1.4(b) shall be suitable for wet locations and comply with the requirements in the Standard for Conduit, Tubing, and Cable Fittings, UL 514B.

Section 10.2, Terminal compartments for supply connection: Added requirements; to incorporate wiring compartments that do not contain a motor; and, to include provisions for drainage and locking as follows:

10.2.6 A wiring compartment intended for housing wire-to-wire field connections shall have minimum dimensions and usable volumes in accordance with Table ~~10.1~~ 10.3.

10.2.7 A terminal compartment that encloses rigidly-mounted wiring terminals for field-connection to a power supply circuit shall provide room for spacings in accordance with Table 18.2, usable volume not less than that specified in Table ~~10.2~~ 10.4, and bending space not less than that specified in Table 10.5.

10.2.8 In lieu of the volume specified in Table 10.3, a trial installation may be made to determine that ample room is provided for the distribution of wires and cables required for the proper wiring of the equipment. However, wire-bending space shall be provided in accordance with 10.2.10.

10.2.9 To determine whether the equipment complies with 10.2.8, it is to be wired as it would be in service, and in so doing, a reasonable amount of slack is to be left in each conductor. No more than average care is to be exercised in stowing this slack into the wiring compartment. The wiring shall not bear against sharp projections or edges that may damage the insulation.

10.2.10 The depth of the compartment in the vicinity of any opening at which supply conductors may enter shall be such that the required space for wire bending and manipulation will remain between any wire connector, wiring lug, conduit knockout, or conduit hole and any wall of the wiring compartment that would result in the wire bending, as specified in Table 10.5.

10.2.11 The terminal compartment shall have provision for drainage.

10.2.12 When a door is provided necessary to maintain the environmental integrity, it shall have provisions for locking or require the use of a tool to gain access.



Section 50.1, General: Added marking requirements for; units meeting the new exceptions in Section 10.1.7; and, units intended for outdoor use that are not provided with hubs as follows:

50.1.26 Units intended to meet Exception No. 1 of 10.1.7 shall be marked where visible after installation and in the Installation Instructions to indicate they are for use only with flexible wiring systems. The letters of the marking shall be not less than 1/16 inch (1.6 mm) high.

50.1.27 Units intended to meet Exception No. 2 of 10.1.7 shall be marked inside the terminal compartment where visible after installation and in the Installation Instructions to indicate the hub shall be connected to the conduit before the hub is connected to the enclosure. The letters of the marking shall be not less than 1/16 inch (1.6 mm) high.

50.1.28 When conduit hubs are not provided on a unit intended for outdoor use, the terminal compartment shall be provided with a marking visible after installation indicating hubs suitable for wet locations that comply with the requirements in the Standard for Conduit, Tubing, and Cable Fittings, UL 514B, are to be used. The letters of the marking shall be not less than 1/16 inch (1.6 mm) high

Added New Tables:

Table 10.1, Dimensions associated with openings for conduit:

Table 10.2, Trade size of conduit in inches

Table 10.3, Minimum volume of field wiring compartments

Table 10.5, Wire bending space

Removed Table:

~~*Table 10.1, Terminal compartment for motors 11 inches (279 mm) or less in diameter*~~