

TEST REPORT

Report Number: 345-02001

Report Issued: April 18, 2002

Client: Vac-Alert™ of Florida **IT & S Project No:** 10124
PO Box 1309
Jupiter FL 33468-1309
Contact: Mr. George S. Pellington

Source of Samples: The samples were provided by client. The samples were in good condition.

Date of Testing: April 10, 2002

Sample Description: Safety Vacuum Release System unit for swimming pools.

Trade name: Vac-Alert™. Model VA-2000
The unit tested has serial number #000860

The Safety Vacuum Release System (SVRS) is a self-monitoring, non-electrical safety unit that has milliseconds response time that quickly releases the high vacuum conditions from pump by allowing air to the system when an increase in vacuum pressure happens because of main drain blockage or body entrapment.

The Vac-Alert™ Safety Vacuum Release System consisted of:

1. PVC main body with a spring loaded piston, adjustment screw, vent opening and a lockout/release mechanism
2. A vacuum gauge (0-30 Hg vacuum)
3. A PVC tank surge suppressor
4. A check valve assembly with PVC body

Refer to manufacturer's brochure and installation instructions for more detailed information.

Conclusion: The "Vac-Alert™" Safety Vacuum Release System unit Model VA-2000 from Vac-Alert™ COMPLIED with sections 6.3, 6.9, 7, 9 and 10.2.2 of IAPMO IGC 160-2002a, entitled "Interim Guide Criteria for Safety Vacuum Release System (SVRS) Devices for Swimming Pool Suction Fittings and Drains".

By our signatures below, we certify that all the testing and sample preparation for this report was performed under continuous, direct supervision of IAPMO Testing and Services, LLC.

Tested by:

Krisna Adilukito P.E., Manager Testing

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Scope of Testing: The purpose of the testing was to determine whether the Safety Vacuum Release System unit Model VA-2000 met sections 6.3, 6.9, 7, 9 and 10.2.2 of IAPMO IGC 160-2002a titled “Interim Guide Criteria for Safety Vacuum Release System (SVRS) Devices for Swimming Pool Suction Fittings and Drains”.

Primary Standards: IAPMO IGC 160-2002a titled “Interim Guide Criteria for Safety Vacuum Release System (SVRS) Devices for Swimming Pool Suction Fittings and Drains”.

Section Tested: IAPMO IGC 160-2002a

- 6.3 The Capability of Turning Off
- 6.9 Operation in Dry State
- 7. Dimensions and Tolerances for End Connections
- 8. Installation Instructions
- 10.2.2 Submerged Suction Test

Test Results: All tests and evaluations were conducted per the written procedures in the specific standards.

IAPMO IGC 160-2002a

6.3 The Capability of Turning Off-COMPLIED

The SVRS Device, through the addition of an accessory equipment (“Vac-Alert Pump System Security Guard, Model VA-2000C) was capable of turning off the circulation system, and providing alarm annunciation and remote notification that a high vacuum occurrence has occurred.

6.9 Operation in Dry State-COMPLIED

The SVRS Device Internal vacuum release mechanism operated in a dry state.

7. Dimensions and Tolerances for End Connections-COMPLIED

7.1 The SVRS device was provided with 1 ½ inch diameter schedule 40 socket PVC and connection that conformed to table 1 of ASTM D 2466.

Note: Table 2 of ASTM D2466 was not applicable to the fitting provided.

9. Installation Instructions-COMPLIED

9.1 Installation Instructions, use and maintenance instructions, proper calibration and adjustment instructions, and proper testing procedures were provided with each unit. The manufacturer provided complete installation and maintenance instructions for the installation of the system.

9.2 Installation Instructions provided with the unit contained the required statements by the standard.

10.2.2 Submerged Suction Procedure-COMPLIED

The test utilizing a self-priming ½ HP circulating pump with the pump elevation at three (3) feet below the static water level in the test tank by blocking the drain utilizing the test actuator and recording vacuum response versus time as described in 10.2 was already conducted by Underwriter’s Laboratory, Inc. under report dated January 24, 2002 (UL file NC4513, project 01NK51901).

The tests were repeated, utilizing a self-priming 3 HP circulation pump.

The test set up as described in figure 1 of the standard using Hayward Super II, model SP 3025X30AZ, with AO Smith motor, 3 HP, 230 volt, 14.4 Amp. The water flow was adjusted to 60 gpm. The piping used was 2-inch diameter and an 8-

inch diameter suction fitting manufactured by Pentair Pool AMP-25-1683 was utilized for the test.

A mechanical test actuator supported a blocking element that lowered the blocking element to the top of the suction fitting.

Findings: for 3 HP pump three feet below static water level

SVRS Distance to pump suction in feet	Flow (gpm)	Time to release (seconds)
200	61.3	4.16
175	61	3.79
150	60.2	3.07
125	60.7	2.85
100	61.3	2.5
75	60.4	1.9
50	61.5	1.3
25	61.3	0.65

Requirement: The vacuum level did decay to a level below 4.5 inches Hg within 3 seconds at distances less than or equal to 100 ft. The vacuum level did decay to a level below 4.5 inches Hg within 4.5 seconds at distances greater than 100 ft and less than or equal to 200 ft.