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 WYLE JOB NO.: T56477
 CLIENT P.O. NO.: 03-12388
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**TEST REPORT
 ENVIRONMENTAL TESTING
 OF A
 CBB 525-SR80 ACTUATOR
 FOR
 EMERSON PROCESS MANAGEMENT
 WYLE REPORT NO. T56477-01**

**Emerson Process Management
 18703 GH Circle
 P.O. Box 508
 Waller, TX 77484**

STATE OF ALABAMA }
 COUNTY OF MADISON }

David R. Bailey, Department Manager, being duly sworn, deposes and says: The information contained in this report is the result of complete and carefully conducted testing and is to the best of his knowledge true and correct in all respects.

David Bailey

SUBSCRIBED and sworn to before me this 20th day of Feb., 2009

Patricia Phillips
 Notary Public in and for the State of Alabama at Large

My Commission expires Jan 6, 2013

SEAL

Wyle shall have no liability for damages of any kind to person or property, including special or consequential damages, resulting from Wyle's providing the services covered by this report.

TEST BY: Arisa Waddle 2/19/2009
 Arisa Waddle, Project Engineer Date

APPROVED BY: Anthony Murks 02/19/09
 Anthony Murks, Engineering Supervisor Date

WYLE Q.A.: Raul Terceno 2/19/09
 Raul Terceno, Quality Assurance Manager Date

(pap)



Cert No. 845.02

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1.0 INTRODUCTION

1.1 Scope

This report documents the test procedures followed and the results obtained during Environmental Testing performed on one Actuator for Emerson Process Management, Waller, Texas. The Actuator was received at Wyle Laboratories on January 13, 2009, and was subjected to an inspection upon receipt. The receiving inspection revealed the Actuator was in good condition. Testing was performed at Wyle Laboratories' Huntsville, Alabama, Test Facility from February 9 through 13, 2008.

1.2 References

- Emerson Process Management Purchase Order No. 03-12388
- Wyle Laboratories' Quotation No. 542/047480/DB
- Wyle Laboratories' Quality Assurance Program Manual, Revision 2
- IEC 60529, Edition 2.1, dated 2001-02, Classification IP67M
- ANSI/NCSL Z540-1, "Calibration Laboratories and Measuring and Test Equipment, General Requirements"
- ISO 10012-1, "Quality Assurance Requirements for Measuring Equipment"
- MIL-STD-45662A, "Calibration System Requirements"

1.3 Test Specimen Description

The item submitted for testing and shown in the photographs in Attachment A is an Actuator, identified with Model No. CBB 525-SR80 and Serial No. T208026-2. The Actuator measured approximately 28.5 inches x 7.5 inches x 9 inches.

1.4 Summary

The Actuator was subjected to Environmental Testing in accordance with IEC 60529, Classification IP67M, Paragraphs 13.4 and 14.2.7. The test program included Dust Tight and Water Penetration – Immersion Tests. The Actuator was functionally operated by Wyle Laboratories' personnel under the direction of Emerson Process Management. No anomalies were noted. The Actuator was returned to Emerson Process Management for post-test inspection and evaluation.

The test results contained herein apply only to the Actuator identified in this report.

2.0 TEST PROCEDURES AND RESULTS

2.1 Dust Tight Test

The Actuator was subjected to Dust Tight Testing in accordance with IEC 60529, Classification IP67M, Paragraph 13.4, Edition 2.1, dated 2001-2002. Prior to testing, the Actuator was connected to the functional test equipment and was verified to be operating normally. Dust Tightness Testing began on February 9, 2009.

The Actuator was placed inside an enclosed test chamber that measured 6 feet long x 2 feet wide x 3 feet high (36 cubic feet). The talcum powder concentration was 2 kg per cubic meter of the chamber volume (measuring 4.5 pounds). The talcum powder was held in suspension by the use of periodical air agitation. Air tubes blew air at bottom of the chamber to agitate the settling talcum powder every 10 minutes throughout the test. Each agitation phase lasted three minutes. A vacuum pump was used to extract air from the inlet area of the piston to maintain a maximum decompression rate of 8 inches of water column (0.20 mbar) throughout testing. The total duration of the test was 8 hours.

Upon completion, Wyle Laboratories' personnel performed a visual inspection to verify that no damage, deformation or major pressure drop under vacuum occurred as a result of the imposed environment. No anomalies were noted.

Photographs of the Actuator and test setup are presented in Attachment A. The Instrumentation Equipment Sheet for the test setup is presented in Attachment B.

2.2 Water Penetration – Immersion Test

The Actuator was subjected to Water Penetration – Immersion Testing in accordance with IEC 60529, Classification IP67M, Paragraph 14.2.7, Edition 2.1, dated 2001-2002. Prior to testing, the Actuator was connected to the functional test equipment and was verified to be operating normally. Water Penetration Testing began on February 13, 2008.

The Actuator was suspended from a crane and above a pool of water measuring approximately 8 ft. wide by 12 ft. long by 12 ft. deep. The Actuator was then lowered into the water until the lowest point of the Actuator was one meter below the water surface. While holding the Actuator at the depth previously described, the Actuator was functionally operated from Closed to Open and back to Closed at a rate of one cycle every two minutes. A total of 15 cycles were performed during the 30-minute exposure. After 30 minutes, the Actuator was removed from the tank and two additional functional cycles were performed. No anomalies were noted.

2.0 TEST PROCEDURES AND RESULTS (Continued)

2.2 Water Penetration – Immersion Test (Continued)

Upon test completion, Wyle Laboratories' personnel performed a visual inspection to verify that no damage, deformation or water intrusion occurred as a result of the imposed environment. No anomalies were noted.

Photographs of the Actuator and test setup are presented in Attachment A. The Instrumentation Equipment Sheet for the test setup is presented in Attachment B.

3.0 TEST EQUIPMENT AND INSTRUMENTATION

All instrumentation, measuring, and test equipment used in the performance of this test program were calibrated in accordance with Wyle Laboratories' Quality Assurance Program, which complies with the requirements of ANSI/NCSL Z540-1, ISO 10012-1, and Military Specification MIL-STD-45662A. Standards used in performing all calibrations are traceable to the National Institute of Standards and Technology (NIST) by report number and date. When no national standards exist, the standards are traceable to international standards or the basis for calibration is otherwise documented.

4.0 QUALITY ASSURANCE PROGRAM

All work performed on this test program was completed in accordance with Wyle Laboratories' Quality Assurance Program.

The Wyle Laboratories, Huntsville Facility, Quality Management System is registered in compliance with the ISO-9001:2000 International Quality Standard. Registration has been completed by Quality Management Institute (QMI), a Division of Canadian Standards Association (CSA).

Wyle Laboratories is accredited (Certificate No. 845.02) by the American Association for Laboratory Accreditation (A2LA), and the results shown in this test report have been determined in accordance with Wyle's scope of accreditation unless otherwise stated in the report.

ATTACHMENT A
PHOTOGRAPHS



Photograph No. 1
Dust Tightness Test Chamber



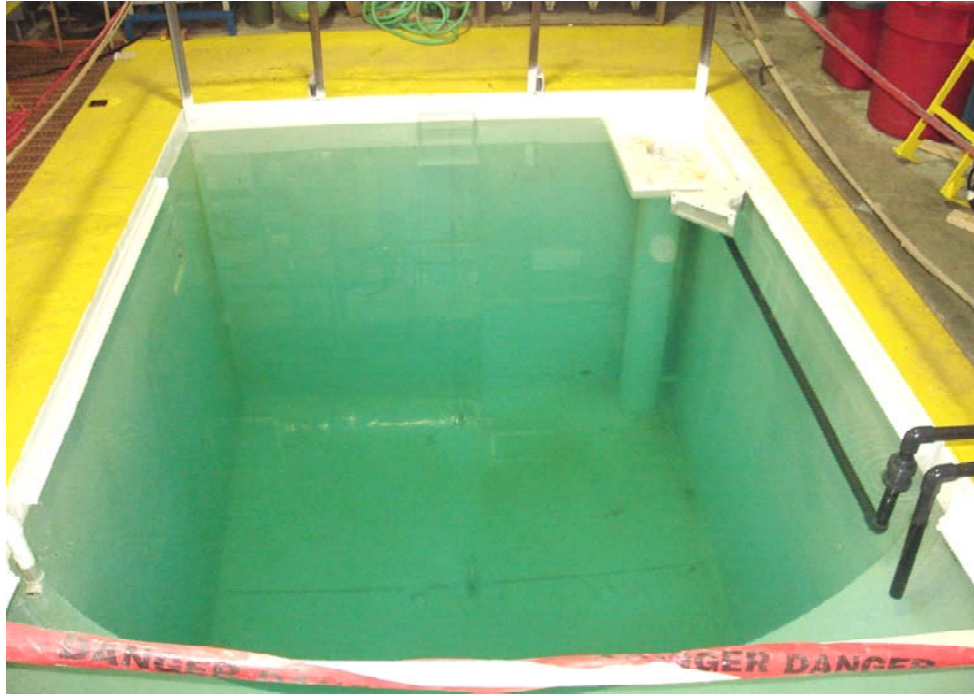
Photograph No. 2
Dust Tightness Test Set-up



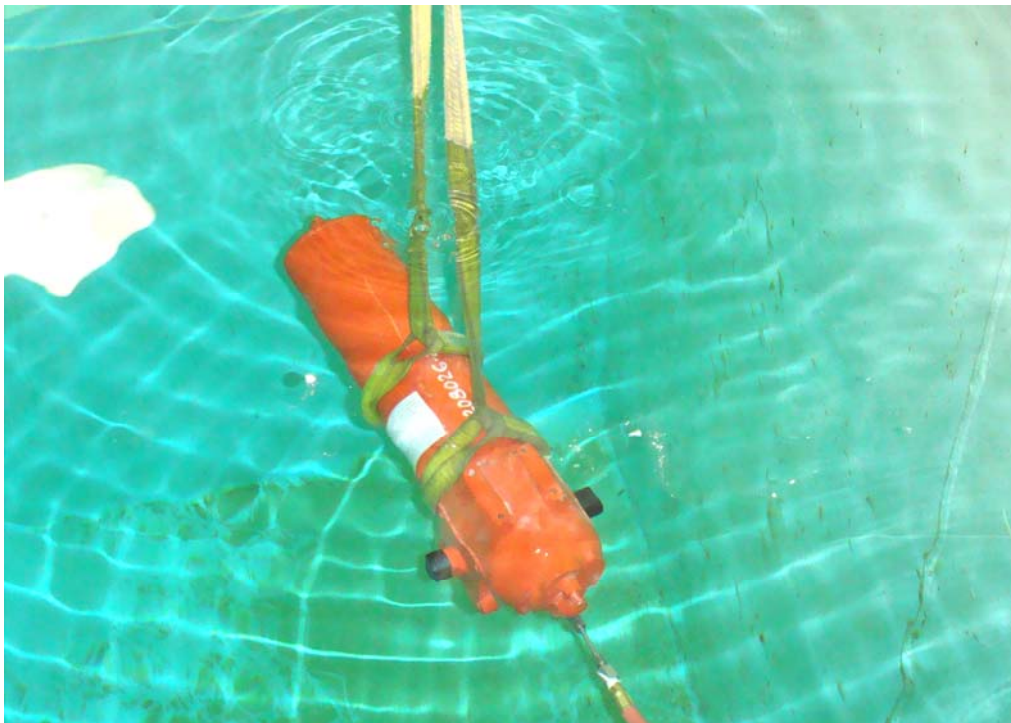
Photograph No. 3
View of Vacuum Gauge during Dust Testing



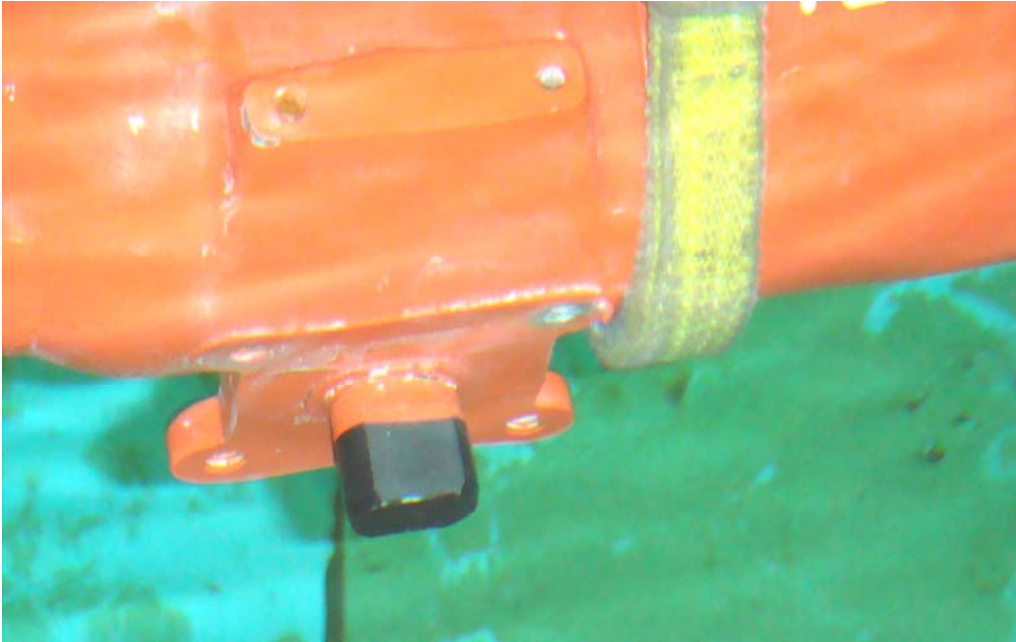
Photograph No. 4
View of Vacuum Pump for Dust Testing



Photograph No. 5
Water Penetration – Immersion Test



Photograph No. 6
Water Penetration – Immersion Test



Photograph No. 7
Water Penetration – Immersion Test



Photograph No. 8
Water Penetration – Immersion Test

ATTACHMENT B
INSTRUMENTATION EQUIPMENT SHEETS



INSTRUMENTATION EQUIPMENT SHEET

DATE: 2/6/2009 JOB NUMBER: T56477 TYPE OF TEST: SETTLING DUST
TECHNICIAN: M.CAPPS CUSTOMER: EMERSON TEST AREA: SITE C/DUST PUFF

No.	Description	Manufacturer	Model	Serial #	WYLE #	RANGE	ACCURACY	Cal Date	Cal Due
1	MAGNEHELIC	DWYER INSTRUM	MAGNEHELIC	NSN	114691 #	0-50H2o	±4%FS	12/9/2008	3/9/2009
2	SCALE	HEATH CO	4040	0036125155	116391 #	400LBS	±2LB	2/27/2008	2/27/2009
3	STOP WATCH	EXTECH	365528	114718	114718 #	10HR	.5SEC	1/28/2009	7/28/2009

This is to certify that the above instruments were calibrated using state-of-the-art techniques with standards whose calibration is traceable to the National Institute of Standards and Technology.

INSTRUMENTATION:

M.C. CAPPS
2-6-09

CHECKED & RECEIVED BY:

Aria Waddle 2/9/08

Q.A.:

W. Kelly 2/9/08

WH-1029A,REV,APR'99

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INSTRUMENTATION EQUIPMENT SHEET

DATE: 2/13/2009 JOB NUMBER: T56477 TYPE OF TEST: IMMERSION
TECHNICIAN: T HARDMAN CUSTOMER: EMERSON PROCESS TEST AREA: PACKAGING LAB

No.	Description	Manufacturer	Model	Serial #	WYLE #	RANGE	ACCURACY	Cal Date	Cal Due
1	STOP WATCH	EXTECH	365510	NSN	04953	MFG	±3 SEC PER D/	1/26/2009	1/26/2010
2	TAPE MEASURER	LUFKIN	HV1048CME	NSN	02243	26/8m	MFG	11/21/2008	11/21/2009

This is to certify that the above instruments were calibrated using state-of-the-art techniques with standards whose calibration is traceable to the National Institute of Standards and Technology.

INSTRUMENTATION: Yang Hsieh 2-13-09

CHECKED & RECEIVED BY: Arian Waddle 2/13/09

WH-1029A,REV,APR'99

Q.A.: [Signature] 2/13/09

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