



# Provisional Interim Certificate

Project: **Bettis RGS Q-Series Actuator Type Testing**

Client: **Emerson Process Management**

Office: **Houston**

Client's Order Number: **LRE-16-10592 Rev 1**

Date: **20 September 2016**

Order Status: **Part Complete**

Inspection Dates

First: **03 May 2016**

Final: **22 August 2016**

This certificate is issued to **Emerson Process Management to certify that the undersigned did at their request attended their works located at QTRCO, 13120 Theis Lane, Tomball TX 77375 on and between the above mentioned dates for the purpose of witness testing and inspection of the equipment as per the scope detailed below.**

#### Equipment Subject to Test:

- **Actuator:** Bettis RGS Q-Series quarter turn spring return valve actuator; Model: RGSQD214SR-S30, Part #: RGSQD214SR-S30-ST; Serial: #1A41-2A41-1A42-4A42; MOP: 10.34 barg (150 psig) Pneumatic
- **Spring:** Spring Part #: (2) R14S311-02 & (2) R14S311-01; Spring Serial: #1A41; #2A41; #1A42; #4A42

#### Reference Procedures:

- o **Shell**
  - A Guide on Endurance Testing of Pneumatic Actuators, Rev. H, March, 2016, by Frans Martens
  - Shell DEP 32.36.01.18-GEN. February 2016
- o **Emerson**
  - Emerson Test Procedures: Actuator: RGSQ201408-04 Rev H.2; Spring: RGSQ201405-04 Rev F.2.
  - Test Report: RGSQ201408-04 Rev H.2, 01-APR-2016

#### Scope of Inspection:

- Witnessed type testing of the listed equipment per above referenced documents.
- Conducted visual inspection on all critical parts prior and after each test.
- Verified actuator/spring performance compliance with the requirement foreseen prior and post endurance test per above referenced documents.
- Verified test set-up for compliance with test procedure requirements.
- Verified calibration records of equipment and instruments used for testing.
- Confirmed traceability of the test assembly components presented by the BOM provided.

#### Conclusion:

The test setup and test results of the equipment described above are in accordance with the testing procedure, product specification and customer requirement, except that the results of the spring loads before and after 500,000 cycle tests were not available at the time of completion of the actuator test. A new test for the same model as per the test procedure is to be prepared with a new spring, tested and to be witnessed and/or monitored by Lloyd's Register. Until completion of the actuator test with new spring, the current equipment is provisionally accepted and considered to meet the requirements of the above scope of work except the spring data.



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