

SEETRU On-line lift assist valve testing method

Certificate Number: RPS 0140064/001

Office: Coventry

Date: 4th December 2001

This certificate is issued to Seetru Limited, to certify that the undersigned Surveyor did attend at their works at Hanover Place, Bristol, for the purpose of witnessing the tests detailed below: -

The operation of the SEETRU lift assist valve testing equipment was witnessed. The equipment measures pressure safety valve set pressure by applying a known force external to the valve spindle.

The tests were carried out in accordance with SEETRU test procedure SES 001 rev. 0-dated 11/11/2001. The equipment was demonstrated on 3 pressure safety valves. The valves were tested in the cold (i.e. with no line pressure) and Hot (with line pressure) conditions.

Valve seat areas were obtained from manufacturers supplied data.

As the test progressed graphs of pressure and lift against time and lift against load were produced. The set pressure was read from these graphs.

Valves tested:

1. Leser Valve type 44124814 - Identification no. 96.9520.13/1. Nominal Set Pressure 4.5 barg
2. Leser Valve type 44124533- Identification no. 96.90123.1. Nominal Set Pressure 15.7 barg
3. Leser Valve type 45826123- Identification no. 96.65477.9. Nominal Set Pressure 69 barg

Results:

The results obtained during the tests were compared to set pressures obtained by carrying out a bench pneumatic "pop" test, with an appropriately calibrated gauge.

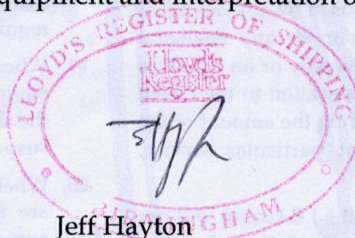
Valve	Pneumatic Test	SEETRU TEST COLD	SEETRU TEST HOT.	Nominal
1	4.55 barg	4.62 barg	Not tested	4.6 barg
2	15.6 barg	15.88 barg	Not tested	15.7 barg
3	69.5 barg	69.1 barg	69.1 barg	69 barg.

Conclusion:

As a result of the tests and review of the testing procedure and operator training programme, it is concluded that the SEETRU lift assist safety valve testing method is acceptable for the purpose of measuring the set pressure of pressure safety valves, for Industrial applications under the survey of or witnessed by Lloyd's Register Surveyors, when carried out in accordance with SEETRU Ltd. test procedure SES001 rev 0 dated 11/11/2001.

Note:

As with all lift assist valve-testing methods the procedure and properly trained operators are essential to the safe application of the test. SEETRU Ltd procedures and training programme includes for two levels of operator, Test Assistant and Test Engineer. The Test Assistant is trained to set up the equipment and the Test Engineer is trained in the operation of test equipment and interpretation of results.



Jeff Hayton

Senior Surveyor to Lloyd's Register of Shipping
Statutory Services, Industry Operations