

Project: **Fugitive Emission Testing**

Client: **Metso Automation Oy**
Vantaa, Finland

Office: **Helsinki**

Client's Order Number: -

Date: **09 January 2013**

Order Status: **Complete**

Inspection Dates

First: **11 October 2012**

Final: **24 October 2012**

This certificate is issued to **Metso Automation Oy, Helsinki, Finland**, to certify that the undersigned surveyors did at their request attend their works in Helsinki on the above dates for the purpose of witnessing fugitive emission test of a Neles D1F-series ball valve.

Type: D1FC04AR1C103
Rating: ASME 600
Size: 04"
Materials: As stated by manufacturer. See the test report.

The test valve was presented by the manufacturer. The test was conducted in accordance with the ISO 15848-1 (First edition 2006-01-15) standard.

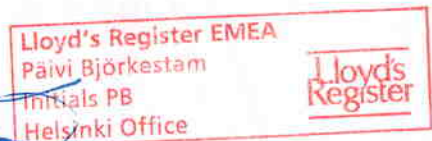
Leakage measurements were witnessed as indicated in the enclosure 5 of the test report. The valve behaviour between the measurements and witness points was verified from the data collected by Metso Automation as well as from the test report. Throughout the test the valve performed satisfactorily and met the requirements set in ISO 15848-1 (First edition 2006-01-15) standard as follows:

Endurance class: CO1 (500 mechanical cycles)
Temperature class: from 38°C to -196°C (Temperature test at -196°C)
Tightness class: AH

Visual examination after the test confirmed that design was in accordance with the manufacturer's drawing and parts list. Metso Automation Test Report dated 17.12.12 was reviewed, stamped and signed.

This test qualifies also D1FC isolating valves as follows:

- Sizes between 2" ... 16" / DN50...DN400
- Pressure ratings ASME class 600 / PN100
- Valves with live loaded graphite stem packing



Päivi Björkestam for Mikko Vartiainen, Carl Eric Schalin and self
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