Lloyd's Register

Project: **Fugitive Emission Testing**

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

Office: **HELSINKI**

Client's Order Number: **-**

Date: **21 March 2013**

Order Status: **Complete**

Inspection Dates

First: **07 January 2013**

Final: **01 February 2013**

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 T5FB-series ball valve.**

Type:	T5FB04AAA03G1
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:	CC-1 (20000 mechanical cycles)
Temperature class:	from -29°C to +400°C (Temperature test at +400°C)
Tightness class:	BH

Visual examination after the test confirmed that design was in accordance with the manufacturer's drawing and parts list.
Metso Automation Test Report dated 18.06.12 was reviewed, stamped and signed.

This test qualifies also T5 isolating valves as follows:
- Sizes between 1H"-16" / DN40...DN400
- Pressure ratings ASME class 600 / PN100
- Valves with live loaded graphite stem packing

Lloyd's Register EMEA
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Carl Eric Schalin for Jukka Hujanen and self
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