



Industrie Service

Attestation of TA-LUFT

Attestation No.:285045

Ref. report No. :285046

Manufacturer : Wuxi Coreline Valve Co., Ltd.

Postal address of manufacturer : No.210, Xinyuan Road, Ehu Industrial Park, Xishan District,

PC:214116, Wuxi City, Jiangsu Province, P. R. China

Tested Product Description:

Item	DN32R 2000psi Ball Valve
Valve size	DN32R
Pressure rating	2000psi(PN138)
Stem size	Φ11 mm
Body/bonnet material	ASTM A351 CF8M
Stem seal material	Viton O-Ring + PTFE+25%Carbon Fiber V-Packing
Valve assembly drawing no.	1312304407 Rev.0

Test Condition:

Testing principles are according to Technical Instructions on Air Quality Control-TA Luft-2021 and the key test conditions have been specified according to the following information:

Test Fluid	Helium
Test Temperature(°C)	Room Temperature
Test Pressure(bar):	138bar
No. of Switching Cycles	1500
Tightness Class L_s	≤10 ⁻⁴ mg/(s•m)

Hereby, It is certified that the tested valve of the above mentioned company have been tested and the test results are accepted according to above mentioned specification. Details could be taken from the associated report with the No.:285046

Shanghai, June 5, 2022
(Place, date)



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Inspection-No.: 285046

REPORT OF THIRD PARTY INSPECTION

Client: Wuxi Coreline Valve Co., Ltd.

No.210, Xinyuan Road, Ehu Industrial Park, Xishan District,

PC:214116, Wuxi City, Jiangsu Province, P. R. China

Contact Person: Ms. Hu Dan

Manufacturer: Wuxi Coreline Valve Co., Ltd.

No.210, Xinyuan Road, Ehu Industrial Park, Xishan District,

PC:214116, Wuxi City, Jiangsu Province, P. R. China

Inspection Place: Zhejiang Rock Mechanical Inspection and Testing Co., Ltd.

Contact Person: Ms. Hu Dan

Inspection Date: 2022-05-03~04

Inspector: Wang Zhilin

Quality System Status: Acceptable

Order Number: 7482393720



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The test results refer exclusively
to the units under test.

Inspection-No.: 285046

1. Witness relevant tests

Nature Of Inspection:

This is to report that we, TÜV SÜD Industrie Service GmbH Shanghai Office on 2022-05-03~04 at the request of Wuxi Coreline Valve Co., Ltd. conducted the following inspection:

1. Witness relevant tests

1.1 General Information

Wuxi Coreline Valve Co., Ltd. commissioned us to witness valve fugitive emission test according to TA-LUFT 2021, Sec. 5.2.6.4 to verify whether the test result can meet the specific leakage rate according to the German Clean Air Act ($L_B \leq 10^{-4} \text{ mg}/(\text{s}\cdot\text{m})$) and for the test valve the leakage is $\leq 1.95 \times 10^{-5} \text{ mbar}\cdot\text{l/s}$.

1.2 Tested Product Description:

The test samples have been chosen and the details of test samples can be seen in the following information. Details of the test sample can be seen in the annex.

Item	DN32R 2000psi Ball Valve
Valve size	DN32R
Pressure rating	2000psi(PN138)
Stem size	Φ11 mm
Body/bonnet material	ASTM A351 CF8M
Stem seal material	Viton O-Ring + PTFE+25%Carbon Fiber V-Packing
Valve assembly drawing no.	1312304407 Rev.0

1.3 Test Condition:

The test has been carried out according to ISO15848-1:2015+Amd.1:2017 and the requirements of the customer. The key test conditions have been specified according to the following information:

Test Fluid	Helium
Test Temperature(°C)	Room Temperature
Test Pressure(bar):	138bar
No. of Switching Cycles	1500

1.4 Visual and dimensional check of the test valve:

The test valve was chosen at random by the manufacturer in its workshop and submitted to the laboratory. The visual and dimensional check was performed according to drawing No. 1312304407 Rev.0 and results found satisfactory.

1.5 Preparation of the test valve

Before the fugitive emission test, the test valve was hydrostatic tested under 3000psi, the test showed no visible leakage or deformation. Then the valve was cleaned and dried.

1.6 Calibration of test instrument

The test instrument was turned on, warmed up according to the requirements of the equipment manufacturer and calibrated with the standard.

Inspection-No.: 285046

1.7 Fugitive emission test and measurement

The test valve was mounted on a test rig with the stem positioned vertical. And the fugitive emission test is carried out according to above mentioned requirements.

1.7.1 Preliminary tests at room temperature

The valve was pressurized with test fluid Helium to 138bar according to manufacturer's requirements in the partly opened position, the temperature is measured and recorded as room temperature. The test results are as follows and details can be seen in the annex:

Item	Required Value	Actual Value
Stem Leakage (mbar.l/s)	$\leq 1.95 \times 10^{-5}$	1.25×10^{-8}

The test results meet the requirements of TA-LUFT 2021, Sec. 5.2.6.4

1.7.2 Mechanical cycle test at the room temperature

A total of 1500 mechanical cycles was performed on the test valve while it was kept pressurized under a differential pressure of 138bar according to the manufacturer's requirements at room temperature. The pressure should be improved and kept at 138bar to measure the leakage, and then the leakage from the stem seal were measured with following results:

Item	Required Value	Actual Value
Stem leakage (mbar.l/s) after 50 cycles	$\leq 1.95 \times 10^{-5}$	1.26×10^{-7}
Stem leakage (mbar.l/s) after 100 cycles	$\leq 1.95 \times 10^{-5}$	4.56×10^{-7}
Stem leakage (mbar.l/s) after 150 cycles	$\leq 1.95 \times 10^{-5}$	9.47×10^{-8}
Stem leakage (mbar.l/s) after 200 cycles	$\leq 1.95 \times 10^{-5}$	8.89×10^{-8}
Stem leakage (mbar.l/s) after 205 cycles	$\leq 1.95 \times 10^{-5}$	5.13×10^{-8}
Stem leakage (mbar.l/s) after 1000 cycles	$\leq 1.95 \times 10^{-5}$	5.26×10^{-7}
Stem leakage (mbar.l/s) after 1500 cycles	$\leq 1.95 \times 10^{-5}$	2.07×10^{-7}

The test results meet the requirements of TA-LUFT 2021, Sec. 5.2.6.4

1.7.3 Post test examination

After all the above tests completed, the test valve was disassembled and all sealing components visually examined. It is found that no notable wear and any other significant observations. We, hereby declare that the inspector has checked test valve and witnessed the fugitive emission test on the tested valve. The test results are as mentioned in this report.

Annex:

Annex 1: Copy of Drawing No.: 1312304407 Rev.0;

Annex 2: Test Report of Fugitive Emission Test No. ROCKB202204005.

Inspected by: Wang Zhilin

Date of issue: June 5, 2022



Industrie Service

Attestation of TA-LUFT

Attestation No.:285041

Ref. report No. :285042

Manufacturer : Wuxi Coreline Valve Co., Ltd.

Postal address of manufacturer : No.210, Xinyuan Road, Ehu Industrial Park, Xishan District,
PC:214116, Wuxi City, Jiangsu Province, P. R. China

Tested Product Description:

Item	DN32R 2000psi Ball Valve
Valve size	DN32R
Pressure rating	2000psi(PN138)
Stem size	Φ9.8 mm
Body/bonnet material	ASTM A216 WCB
Stem seal material	Viton O-Ring + PTFE+25%Carbon Fiber V-Packing
Valve assembly drawing no.	1300304407 Rev.1

Test Condition:

Testing principles are according to Technical Instructions on Air Quality Control-TA Luft-2021 and the key test conditions have been specified according to the following information:

Test Fluid	Helium
Test Temperature(°C)	Room Temperature
Test Pressure(bar):	138bar
No. of Switching Cycles	1500
Tightness Class L _B	≤10 ⁻⁴ mg/(s·m)

Hereby, It is certified that the tested valve of the above mentioned company have been tested and the test results are accepted according to above mentioned specification. Details could be taken from the associated report with the No.:285042

Shanghai, June 5, 2022
(Place, date)

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Inspection-No.: 285042

REPORT OF THIRD PARTY INSPECTION

Client: Wuxi Coreline Valve Co., Ltd.

No.210, Xinyuan Road, Ehu Industrial Park, Xishan District,

PC:214116, Wuxi City, Jiangsu Province, P. R. China

Contact Person: Ms. Hu Dan

Manufacturer: Wuxi Coreline Valve Co., Ltd.

No.210, Xinyuan Road, Ehu Industrial Park, Xishan District,

PC:214116, Wuxi City, Jiangsu Province, P. R. China

Inspection Place: Zhejiang Rock Mechanical Inspection and Testing Co., Ltd.

Contact Person: Ms. Hu Dan

Inspection Date: 2022-03-29~30

Inspector: Wang Zhilin

Quality System Status: Acceptable

Order Number: 7482393720



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The test results refer exclusively
to the units under test.



Inspection-No.: 285042

1. Witness relevant tests

Nature Of Inspection:

This is to report that we, TÜV SÜD Industry Service GmbH Shanghai Office on 2022-03-29~30 at the request of Wuxi Coreline Valve Co., Ltd. conducted the following inspection:

1. Witness relevant tests

1.1 General Information

Wuxi Coreline Valve Co., Ltd. commissioned us to witness valve fugitive emission test according to TA-LUFT 2021, Sec. 5.2.6.4 to verify whether the test result can meet the specific leakage rate according to the German Clean Air Act ($L_B \leq 10^{-4}$ mg/(s·m)) and for the test valve the leakage is $\leq 1.74 \times 10^{-5}$ mbar.l/s.

1.2 Tested Product Description:

The test samples have been chosen and the details of test samples can be seen in the following information. Details of the test sample can be seen in the annex.

Item	DN32R 2000psi Ball Valve
Valve size	DN32R
Pressure rating	2000psi(PN138)
Stem size	Φ9.4 mm
Body/bonnet material	ASTM A216 WCB
Stem seal material	Viton O-Ring + PTFE+25%Carbon Fiber V-Packing
Valve assembly drawing no.	1300304407 Rev.1

1.3 Test Condition:

The test has been carried out according to ISO15848-1:2015+Amd.1:2017 and the requirements of the customer. The key test conditions have been specified according to the following information:

Test Fluid	Helium
Test Temperature(°C)	Room Temperature
Test Pressure(bar):	138bar
No. of Switching Cycles	1500

1.4 Visual and dimensional check of the test valve:

The test valve was chosen at random by the manufacturer in its workshop and submitted to the laboratory. The visual and dimensional check was performed according to drawing No. 1300304407 Rev.1 and results found satisfactory.

1.5 Preparation of the test valve

Before the fugitive emission test, the test valve was hydrostatic tested under 3000psi, the test showed no visible leakage or deformation. Then the valve was cleaned and dried.

1.6 Calibration of test instrument

The test instrument was turned on, warmed up according to the requirements of the equipment manufacturer and calibrated with the standard.

Inspection-No.: 285042

1.7 Fugitive emission test and measurement

The test valve was mounted on a test rig with the stem positioned vertical. And the fugitive emission test is carried out according to above mentioned requirements.

1.7.1 Preliminary tests at room temperature

The valve was pressurized with test fluid Helium to 138bar according to manufacturer's requirements in the partly opened position, the temperature is measured and recorded as room temperature. The test results are as follows and details can be seen in the annex:

Item	Required Value	Actual Value
Stem Leakage (mbar.l/s)	$\leq 1.74 \times 10^{-5}$	3.76×10^{-8}

The test results meet the requirements of TA-LUFT 2021, Sec. 5.2.6.4

1.7.2 Mechanical cycle test at the room temperature

A total of 1500 mechanical cycles was performed on the test valve while it was kept pressurized under a differential pressure of 138bar according to the manufacturer's requirements at room temperature. The pressure should be improved and kept at 138bar to measure the leakage, and then the leakage from the stem seal were measured with following results:

Item	Required Value	Actual Value
Stem leakage (mbar.l/s) after 50 cycles	$\leq 1.74 \times 10^{-5}$	2.45×10^{-8}
Stem leakage (mbar.l/s) after 100 cycles	$\leq 1.74 \times 10^{-5}$	4.88×10^{-8}
Stem leakage (mbar.l/s) after 150 cycles	$\leq 1.74 \times 10^{-5}$	9.94×10^{-8}
Stem leakage (mbar.l/s) after 200 cycles	$\leq 1.74 \times 10^{-5}$	1.44×10^{-7}
Stem leakage (mbar.l/s) after 205 cycles	$\leq 1.74 \times 10^{-5}$	1.69×10^{-7}
Stem leakage (mbar.l/s) after 1000 cycles	$\leq 1.74 \times 10^{-5}$	6.86×10^{-8}
Stem leakage (mbar.l/s) after 1500 cycles	$\leq 1.74 \times 10^{-5}$	1.48×10^{-7}

The test results meet the requirements of TA-LUFT 2021, Sec. 5.2.6.4

1.7.3 Post test examination

After all the above tests completed, the test valve was disassembled and all sealing components visually examined. It is found that no notable wear and any other significant observations.

We, hereby declare that the inspector has checked test valve and witnessed the fugitive emission test on the tested valve. The test results are as mentioned in this report.

Annex:

Annex 1: Copy of Drawing No.: 1300304407 Rev.1;

Annex 2: Test Report of Fugitive Emission Test No. ROCKB202203024-1.

Inspected by: Wang Zhilin

Date of issue: June 5, 2022

