

Test Certificate

Certificate No.: 1611-075-218 A22-1

Page 1 of 1

We hereby certify that the item in the following was witnessed by our Inspector.

Manufacturer: LISHUI OUYI VALVE CO., LTD.

Address: #799-1 Jinniu Street, Bihu Industrial Zone Lishui, Zhejiang People's Republic of China

Place of test: Wenzhou City, Zhejiang Province, China Date of test: June 27th, 2016

Description: Gate Valve

Valve type	2" ANSI 150 GATE VALVE
Drawing No.	OY20160601

Scope of Inspection and Testing:

- 1) Witness the fire test in accordance with API STD 6FA 3rd Edition, 1999, REAFFIRMED 2011

Result(s) of Inspection and Testing:

Fire test was carried out in accordance with API STD 6FA 3rd Edition, 1999, REAFFIRMED 2011 at the presence of DNV GL inspector and all requirements of specification were met.

Qualification of other valve size and pressure ratings:

Conform to

Valves with the same type, size: 2"; 2 1/2"; 3" and 4".
Pressure Ratings: Class 150LB; Class 300LB.

Associated Documents:

1. ANNEX to Test Certificate;
2. Valve Fire Tested by Wenzhou Yongjia Quality and Technology Supervision Bureau Inspection Institute.

Stamping

Place and date
Shanghai, China, 2016-6-27,



Andy Chen

Inspection Senior Engineer to DNV-GL
(Suzhou Office Leader)

ANNEX TO VALVE FIRE TEST CERTIFICATE

Certificate No. : 1611-075-218 A22-2

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Client/Manufacturer: LISHUI OUYI VALVE CO., LTD.
#799-1 Jinniu Street, Bihu Industrial Zone Lishui, Zhejiang People's
Republic of China

Fire test Specification: API STD 6FA 3rd Edition, 1999, REAFFIRMED 2011

Date of Test: 2016-6-27

Particulars of Valve: 2" ANSI 150

Size & Class:	2" ANSI 150
Type:	GATE VALVE
Fig No:	OY20160601
Drawing No.	OY20160601

Valve Materials:

Body:	ASTM A216 WCB
Stem:	ASTM A182 F6a
Disc	ASTM A216 WCB+13Cr
Seats:	ASTM A105+ 13Cr
Gasket:	SS304+Graphite

Result:

The valve fire test complies with the standard requirement.

Stamping

Andy Chen
Inspection Senior Engineer to DNV.GL
(Suzhou Office Leader)



Place /Date: 2016-6-27

ANNEX TO VALVE FIRE TEST CERTIFICATE

Certificate No. : 1611-075-218 A22-3

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Valve Inspection & Testing

The fire-tested valve has passed all the requirements of production pressure test to API STD 6FA 3rd Edition, 1999, REAFFIRMED 2011

Associated Documentation:

1. Test Pressure during burn and Cool down: 1.5 Mpa
2. Temperature recorded 2 minutes after beginning and the remaining time throughout duration of test, with individual records for each thermocouple:

Colorimeter No.	Location placed	Temperature record	Remark
Thermocouple 1#	Bottom of body	2 minutes after beginning: 815.5°C Balance duration time: 808°C-858°C	Satisfactory
Thermocouple 2#	Flank of body	2 minutes after beginning: 820.5°C Balance duration time: 810°C-860°C	Satisfactory
Calorimeter cube 1#	Stem	Above 650°C 14.5 minutes	Satisfactory
Calorimeter cube 2#	Bottom of body	Above 650°C 15 minutes	Satisfactory

3. Through-seat Leakage during Burn: 45 ml/min
4. External Leakage during Burn and cool down: 15 ml/min
5. Time required for valve to cool to 100 deg C: 5 min
6. Through-seat Leakage (low pressure test): 8 ml/min
7. Valve was operated to fully open position Yes
8. External leakage in open position 5 ml/min
9. Valve is bi-directional and passed in both directions: Yes

Results: The tested valve Complies with international standards as mentioned in this certificate.

Stamping

Andy Chen
 Inspection Senior Engineer to DNV.GL
 (Suzhou Office Leader)



Place /Date: 2016-6-27

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Manufacturer: LISHUI OUYI VALVE CO., LTD.

Address: #799-1 Jinniu Street, Bihu Industrial Zone Lishui, Zhejiang People's Republic of China

Place of test: Wenzhou City, Zhejiang Province, China Date of test: June 28th, 2016

Description: Gate Valve

Valve type	8" ANSI 600 GATE VALVE
Drawing No.	OY20160602

Scope of Inspection and Testing:

- 1) Witness the fire test in accordance with API STD 6FA 3rd Edition, 1999, REAFFIRMED 2011

Result(s) of Inspection and Testing:

Fire test was carried out in accordance with API STD 6FA 3rd Edition, 1999, REAFFIRMED 2011 at the presence of DNV GL inspector and all requirements of specification were met.

Qualification of other valve size and pressure ratings:

Conform to

Valves with the same type, size: 8"; 10"; 12"; 14"; and 16".

Pressure Ratings: Class 600LB; Class 900LB.

Associated Documents:

1. ANNEX to Test Certificate;
2. Valve Fire Tested by Wenzhou Yongjia Quality and Technology Supervision Bureau Inspection Institute.

Stamping

Place and date
Shanghai, China, 2016-6-28,



Andy Chen

Inspection Senior Engineer to DNV.GL
(Suzhou Office Leader)

ANNEX TO VALVE FIRE TEST CERTIFICATE

Certificate No. : 1611-075-218 A23-2

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Client/Manufacturer: LISHUI OUYI VALVE CO., LTD.
 #799-1 Jinniu Street, Bihu Industrial Zone Lishui, Zhejiang People's
 Republic of China

Fire test Specification: API STD 6FA 3rd Edition, 1999, REAFFIRMED 2011

Date of Test: 2016-6-28

Particulars of Valve: 8" ANSI 600

Size & Class:	8" ANSI 600
Type:	GATE VALVE
Fig No:	OY20160602
Drawing No.	OY20160602

Valve Materials:

Body:	ASTM A216 WCB
Stem:	ASTM A182 F6a
Disc:	ASTM A216 WCB+13Cr
Seats:	ASTM A105 +13Cr
Gasket:	SS304+Graphite

Result:

The valve fire test complies with the standard requirement.

Stamping

Andy Chen

Inspection Senior Engineer to DNV.GL
 (Suzhou Office Leader)



Place /Date: 2016-6-28