

CERTIFICATE

Certificate of Conformity with Technical Requirements In: API STD 607 Eighth Edition, Oct 2022 Fire Test for Soft-seated Valves



Industrie Service

Certificate No.: 298957

Name of Applicant / Manufacturer: Antiwear(Suzhou) Industrial Intelligent Technology Co., Ltd
Postal address: No. 988, Yuexiu Road, Economic Development, Wujiang District, Suzhou
Jiangsu Province, P. R. China

We hereby certify that the fire test on below valves have been conducted at the above mentioned manufacturer and witnessed by TÜV Engineer according to requirements of API STD 607 Eighth Edition, Oct 2022. The testing results of valves meet the requirements of API STD 607 Eighth Edition, Oct 2022.

1. Description of Tested Valve :

Type of Test Valve	8"-1500LB
Description of Test Valve	Ball Valve
Valve Size (NPS)	8"
Pressure Rating (ANSI Class)	1500LB
Mass of Test Valve (Kgs.)	1359
Valve Body Material	CF3M
Drawing No	SSBBJ-8S15F-LT-F-D
Test report	2023(JX)GSYZB01150

2. Qualified Range of Valves:

Type of Valve	Ball Valve
Description of Valve	Ball Valve
Qualified Pressure Ratings (Class) (according to API 607 Table 4)	Class 1500; 2500
Qualified Sizes (NPS) (according to API 607 Table 2, 3)	8 and larger
Mass of Qualified Valves (kgs) with Different Ends (according to API 607 Para.7.1, e)	Greater than the tested valve or not less than 75% of the test valves
Qualified Valve Material (according to API 607 Para.7.2)	Austenitic Steel
Remark: The technical data of tested valves see back of this certificate appendix.	

This certificate is issued according to API STD 607 Eighth Edition, Oct 2022, based upon the result of testing report on above mentioned test valve. The additional valve qualification shall be limited to similar valves of same basic design (including calculation method) and construction as the test valve and of the same nonmetallic materials with respect to the seat-to-closure member seal, seat-to-body seal, stem seal, and body joint and seal according to API STD 607 Eighth Edition, Oct 2022.

Beijing/ Sep 06th, 2023

(Place, date)

TUV SUD Certification and Testing (China) Co., Ltd Beijing Branch
M Building, No. 7 Wangjing Zhonghuan Nanlu, Chaoyang District,
Beijing, 100102, P. R. China

TUV SUD Certification and Testing (China)
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Appendix:

Certificate No.: 298957

Name of Applicant / Manufacturer: Antiwear(Suzhou) Industrial Intelligent Technology Co., Ltd

Postal address: No. 988, Yuexiu Road, Economic Development, Wujiang District, Suzhou
Jiangsu Province, P. R. China

Test Lab: National Quality Inspection & Analysis for Petroleum Equipment and Products (Shandong)

Technical Data of Test Valves

1. Description of Test Valves:

Type of Test Valves	8"-1500LB
Description of Valve	Ball Valve
Pressure Class, LB	Class 1500
Valve Size, NPS	8"
Flanged end	ASME B16.10
Design and manufacture	API 6/DBS 6364/MSEC SPE77/200
Mass of Test Valve (Kgs)	1359
Drawing no.	SSBBJ-8S15F-LT-F-D
Tested valve no.	W2304672-2023

2. Details of Valves:

8"-1500LB	
Part Name	Material
Body	A351 CF3M
Ball	A182 F316
Bearing	316+Cu+PTFE
Screw	A320 B8-2
Stud	A320 B8-2
Stem	A182 FXM-19
Bonnet	A351 CF3M
Packing Gasket	A276 316
Plug	A276 316
Gland	A351 CF3M
Lip Seal	Egiloy+M111
Nut	A194 8
Gasket	316+Graphite
Seat Retainer	A182 F316
Seat Inset	PCTFE
Spring	Inconel x750

Beijing/Sep 06th, 2023

(Place, date)

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中国认可
国际互认
检测
TESTING
CNAS L4501



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检 验 报 告

Test Report

No. 2023 (JX) GSYZB01150

产品名称: 球阀

Product description: Ball valve

型号规格: 8" -1500LB

Model, Type

委托单位: 苏州安特威工业智能科技股份有限公司

Entrusted Enterprise: Antiwear (Suzhou) Industrial Intelligent Technology Co., Ltd.

受检单位: /

Supervised Enterprise

生产单位: 苏州安特威工业智能科技股份有限公司

Supervised Enterprise: Antiwear (Suzhou) Industrial Intelligent Technology Co., Ltd.

检验类别: 委托检验

Test Kind: Commissioned inspection

东营市工业产品检验与计量检定中心

Dongying Industrial Product Inspection & Metrology Verification Center

国家石油装备产品质量检验检测中心 (山东)

National Quality Inspection & Analysis Center for Petroleum Equipment and Products (Shandong)

东营市工业产品检验与计量检定中心

Dongying Industrial Product Inspection & Metrology Verification Center

国家石油装备产品质量检验检测中心（山东）

National Quality Inspection & Analysis Center for Petroleum Equipment and Products (Shandong)

检 验 报 告

Test Report

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样品名称 Sample	球阀 Ball valve	检验类别 Test Kind	委托检验 Commissioned inspection
型号规格 Model, Type	8" -1500LB	样品等级 Grade	合格品 Qualified product
委托单位 Entrusted Enterprise	苏州安特威工业智能科技股份有限公司 Antiwear (Suzhou) Industrial Intelligent Technology Co., Ltd.	商标 Brand	/
委托单位地址 Address of Enterprise	苏州吴江区汾湖经济开发区越秀路 988 号 No.988, Yuexiu Road, Fenhu Economic Development	送样地点 Sampling Location	质管科 QAD
样品制造商 Sample Manufacturer	苏州安特威工业智能科技股份有限公司 Antiwear (Suzhou) Industrial Intelligent Technology Co., Ltd.	送样人员 Client Representative	张玉卓
样本基数 Batch Quantity	/	送样日期 Receipt Date	2023-08-18
样品数量 Sample Quantity	1 台 1pcs	生产日期 Producing Date	2023-07
样品特性和状态 Sample Description	样品外观无异常 Sample appearance without exception	样品编号 Batch No.	W2304672-2023
检验环境 Environmental for Test	温度 22~27℃; Temperature 22~27℃;	检验日期 Test Date	2023-08-25
判定依据 Judgment Basis	API STD 607-2022		
检验依据 Test Standard	API STD 607-2022		
检验要求 Test Item	阀门耐火试验。 Fire Test for Valves.		
检验结论 Test Conclusion	该样品本次检验，所检项目合格。 The inspection for the sample, the inspection of the project qualified.		
备注 Note	1、本报告含封面及封二；2、“/”符号表示此项无内容。 1.The report contains the cover and cover two; 2.The symbol “/” indicates that there is no content.		

批准：张晓明

审核：

王艳成

编制：

高琪琪

Approved By: 2023-08-25

Verified By: 2023-08-25

Prepared By: 2023-08-25

东营市工业产品检验与计量检定中心
Dongying Industrial Product Inspection & Metrology Verification Center

国家石油装备产品质量检验检测中心（山东）
National Quality Inspection & Analysis Center for Petroleum Equipment and Products (Shandong)

检 验 报 告（续页）
Test Report

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序号 No	检测项目 Test items	技术要求 The technical requirement	检验结果 Test result	单项判定 Single decision
1	阀门耐火试验 Fire Test for Valves	/	/	符合 Meet the requirements
1.1	耐火试验 Fire-type Test	燃烧和冷却时间阀门进口端压力（Upstream Test Pressure of Valve during Burn and Cooling-down Periods）:18.62MPa	18.62MPa	符合 Meet the requirements
		燃烧周期（Burn Period）:30~35min	30min	符合 Meet the requirements
		燃烧期间通过阀座的泄漏率（Through-seat Leakage rate during Burn Period）:≤3200mL/min	52mL/min	符合 Meet the requirements
		冷却到 100℃ 的时间（Time Required for Tested Valve Cool to 100℃）:≤10min	5min	符合 Meet the requirements
		燃烧和冷却期间的外部泄漏率（External Leakage Rate during Burn and Cooling-down Period）:≤800mL/min	10mL/min	符合 Meet the requirements
1.2	操作试验 （Operational Test）	阀门应能够在高试验压差下，从关闭位置离座，阀门可开至原开启位置。 The valve shall be capable of being unseated from the closed position against high test pressure differential.The valve shall be moved to the open position one time.	阀门能够在高试验压差下，从关闭位置离座，阀门可开至原开启位置。 The valve can be capable of being unseated from the closed position against high test pressure differential.The valve can be moved to the open position one time.	符合 Meet the requirements

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National Quality Inspection & Analysis Center for Petroleum Equipment and Products（Shandong）

检 验 报 告（续页）
Test Report

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序号 No	检测项目 Test items	技术要求 The technical requirement	检验结果 Test result	单项判定 Single decision
		试验压力（Test Pressure）:18.62MPa	18.62MPa	符合 Meet the requirements
		持续时间（Holding Time）:5min	5min	符合 Meet the requirements
		外部泄漏率（External Leakage Rate）： ≤200mL/min	14mL/min	符合 Meet the requirements

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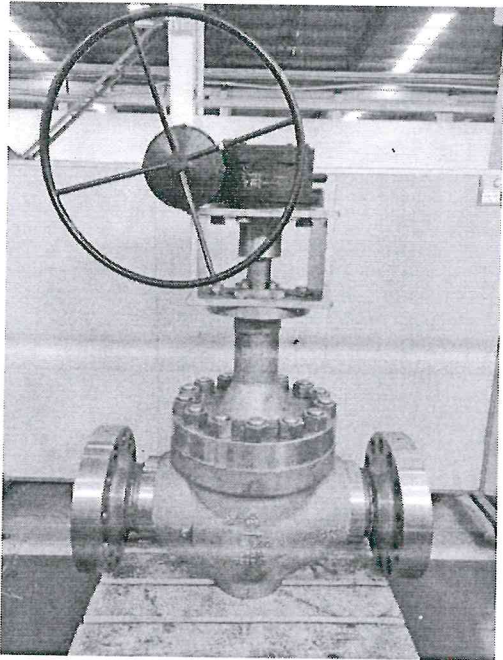
国家石油装备产品质量检验检测中心（山东）
National Quality Inspection & Analysis Center for Petroleum Equipment and Products (Shandong)

检 验 报 告（续页）
Test Report

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附录 A 阀门信息表
Annex A Valve Information Sheet

阀门描述 Valve Description	球阀 Ball valve	阀门口径 Valve Diameter	8"
压力等级 Class	1500LB	阀体 Body	A351 CF3M
阀盖 Bonnet	A351 CF3M	球体 Ball	A182 F316
阀杆 Stem	A182 FXM-19	阀座 Seat	PCTFE



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检 验 报 告 (续页)

Test Report

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附录 B 试验操作情况说明

Annex B Description of test operation

一、火烧试验 Fire test :

1、热电偶和测温块 Thermocouple and calorimeters position

阀门处于关闭状态且水平安装, 阀杆处于水平位置, 在阀门外共布置了 2 个测量火焰区域温度的热电偶、3 个测温块, 按照标准要求正确安装。

Mount the test valve horizontality and in closed status, and valve stem also in horizontality position, around the test two are three flame thermocouples and three calorimeter cubes, and located in the correct position as standard requirement.

2、热电偶温度 Thermocouple temperature

点火后, 阀门下侧和阀杆处的火焰热电偶温度在 2 分钟升至 789°C ; 在火烧剩余期间, 火焰热电偶的平均温度保持在 $800^{\circ}\text{C}\sim 970^{\circ}\text{C}$; 在火烧剩余期间, 火焰热电偶的最低温度未出现低于 700°C 的情况。

The temperature of flam thermocouple under the test valve reached 789°C within 2 min from ignition; during the remainder of the burn period, the temperature of flame thermocouple under the valve maintain between 800°C and 970°C , the min temperature of flame thermocouple cannot less than 700°C .

3、测温块温度 Calorimeters temperature

点火后, 阀门下侧和阀杆处测温块的温度在 15 分钟升至 727°C 。

The temperature of calorimeter cubes under the test valve and stem area reach 727°C at 15min from ignition.

4、试验期间水压力 Test pressure during the test process.

阀门进水端试验压力保持在 18.62MPa 。

Water pressure at valve inlet is maintained at 18.62Mpa . No momentary pressure losses.

5、喷淋冷却 Cool-down

火烧结束后, 打开喷淋, 记录温度块温度降至 100°C 以下所用的时间为 5 分钟。

Force-cool the test valve with spray water so that its external surface temperature remains below 100°C , the time for cooling is 5 min.

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检 验 报 告（续页）

Test Report

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附录 B 试验操作情况说明（续页）

Annex B Description of test operation (Continuation page)

二、操作试验 Operation test

在 18.62MPa 压差下开启试验阀门，阀门达到部分开启状态，排空管道和试验阀门体腔内的空气和水蒸气，在保持试验阀和管道内压力 18.62MPa，保持 5 分钟后，检测试验阀门的外部泄漏量。

Operation the test valve under the pressure 18.62Mpa, The valve opens to a partially open position, vent the piping and test valve body cavity to remove air or steam, maintain pressure in the pipes and test pressure at 18.62Mpa, measure the valve external leakage for 5min.

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