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真伪查询

检 测 报 告

Test Report

报告编号 Report No.	LSV2024FB02418-2
样品名称 Sample Name	固定球阀 Trunnion Ball Valve
委托单位 Entrust Company	浙江福希流体控制有限公司 FX FLOW CONTROL BV
生产单位 Manufacturer	浙江福希流体控制有限公司 FX FLOW CONTROL BV
测试项目 Test Project	耐火试验 Fire Test

丽水市阀检测控技术有限公司

Lishui Valve Lab Technical Co., Ltd.

注　意　事　项

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Generally, the report takes responsibility only for samples tested.

7、中文与英文解释有差异的，以中文为准。
It is based on its Chinese edition when different interpretations exists between the report in Chinese and in English.

8、报告中以☆作为前缀表述的项目，均不在本实验室资质范围内，仅供参考。
The items expressed with ☆ as the prefix in the report are not within the scope of the laboratory qualification and are for reference only.

9、报告真伪二维码查询系统由“泵阀制造网”www.pv001.com 提供技术支持。
The QR code for report true of false query system is supported by www.pv001. com

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丽水市阀检测控技术有限公司
Lishui Valve Lab Technical Co., Ltd.

No.：LSV2024FB02418-2

委托编号 Entrust No.	LSV2024FB02418-2	样品名称 Sample Name	固定球阀 Trunnion Ball Valve
设计标准 Design STD.	API 6D	总装图号 Assembly Dwg. No.	Q47-4-150LB-1
规格型号 Specification	Q47F-150LB NPS 4	口径&压力 Size & Rating	NPS 4 150LB
阀体-阀盖材料 Body-bonnet Material	ASTM A105N	阀杆材料 Stem Material	ASTM A182 F316
关闭件材料 Closure Material	ASTM A182 F316	阀座密封材料 Seat Insert Material	RPTFE
炉（批）号 Heat (batch) No.	ZY2311	序列号 Serial No.	/
商标 Trademark	/	样品数量 Sample Quantity	1 Set
到样日期 Date Received	2024-10-28	样品状况 Sample Status	符合检测要求 Meet the testing requirements
样品编号 Sample No.	FB02418-2	测试周期 Test Period	2024-10-30 to 2024-11-01
检测地点 Test Site	阀门实验室 Valve lab		
委托单位地址 Entrust Company Address	浙江省温州市永嘉县桥下镇高端数字泵阀产业园 Upscale Digital Pump and Valve Industrial Park, Qiaoxia Town, Yongjia County, Wenzhou City, Zhejiang Province		
检测设备 Test Equipment	☑ LSVFJ-1000 阀门耐火试验系统 Valve fire-test system（FM-18） ☐ LSVFJ-2000 阀门耐火试验系统 Valve fire-test system（FM-35）		
测试方法 Test Method	API 607-2022 《转 4 分之 1 周阀门和非金属阀座阀门的耐火试验》 Fire Test for Quarter-turn Valves and Valves Equipped with Nonmetallic Seats		
测试项目 Test Project	耐火试验 Fire-type Test　低压试验 Low-pressure Test 低压操作试验 Low-pressure Operational Test　操作试验 Operational Test		
测试结论 Test Conclusion	测试结果符合标准 API 607-2022 要求 The test result meet the standard requirements of API 607-2022		
备注 Note	/		

检验检测专用章
Inspection and Testing Special Seal

签发日期
Issue Date:2024-11-01

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No.：LSV2024FB02418-2

一：测试结果 Test Result

测试项目 Test Project	标准要求 Standard Requirements		测试数据 Test Data	单位 Unit	判定 Conclusion
耐火试验 Fire-type Test	燃烧和冷却期间试验压力 Test Pressure During Burn and Cooldown	0.20±10%	0.20	MPa	合 格 Qualified
	燃烧周期 Burn Period	30^{+5}_{0}	30	min	
	燃烧期间通过阀座的泄漏率 Through-seat Leakage Rate During Burn Period	≤400	255	ml/min	
	冷却到 212℉（100℃）的时间 Time Required For Tested Valve Cool To 212℉（100℃）	≤10	7	min	
	燃烧和冷却期间的外部泄漏率 External Leakage Rate During Burn And Cooling-down Period	≤100	35	ml/min	
低压试验 Low-pressure Test	试验压力 Test Pressure	0.20	0.20	MPa	合 格 Qualified
	持续时间 Duration	5	5	min	
	通过阀座的泄漏率 Leakage Rate Through The Valve Seat	≤160	40	ml/min	
低压操作试验 Low-pressure Operational Test	试验压力 Test Pressure	0.20	0.20	MPa	合 格 Qualified
	持续时间 Duration	5	5	min	
	先全开再全闭后,通过阀座的泄漏率 Full Open and then full closed,through the seat leakage rate	≤160	85	ml/min	
操作试验 Operational Test	试验压力 Test Pressure	1.50	1.50	MPa	合 格 Qualified
	持续时间 Duration	5	5	min	
	外部泄漏率 External Leakage Rate	≤100	56	ml/min	
备注 Note	1) 试验介质 Test Fluid：水 Water; 2) 燃烧介质 The Fuel：液化石油气 LPG; 3) 所有试验压力允差为±10% All test pressure tolerances are ±10%				

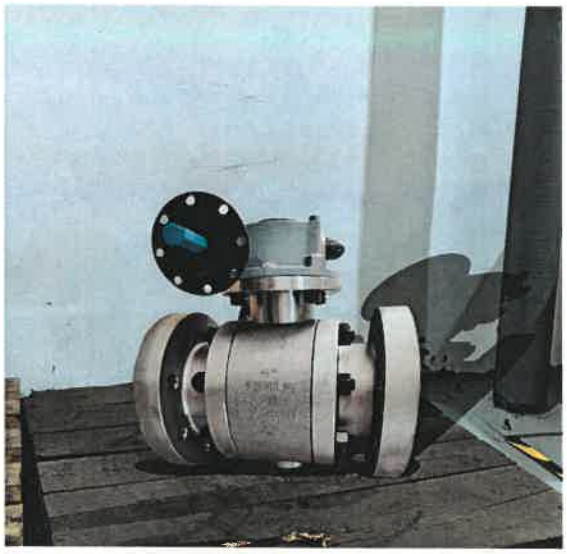
二：测试过程 Test Procedure

测试项目 Test Project	试验过程描述 Test Procedure Descriptions
耐火试验 Fire-type Test	（1）试验前准备 Pre-test 1) 将测试阀安装在试验装置上，使阀门的阀杆和阀孔处于水平位置。 Mount the test valve in the test apparatus so that the stem and bore of the valve are in a horizontal position. 2) 对于有两个或两个以上关闭件的阀门，上游关闭件应处于关闭位置，另一个关闭件应处于打开位置。 For valves with two or more closures, the upstream closure shall be in the closed position and the other closure shall be in the open position. 3) 根据 API 607 2022 标准要求选用 4 个热电偶和 2 个量热块数量并正确安放。 According to the requirements of API 607 2022 standard, select 4 thermocouples and 2 calorimetry blocks and place them correctly 4) 部分开启测试阀门，给测试系统上游管路及阀门内腔供水并排除管路中气体。当上游系统充满水后，关闭试验阀门，将测试系统下游放空，用水给系统加压，测试压力为最大允许工作压力的 1.4 倍，检查管路系统及测试阀门有无泄漏，无泄漏发生试验开始。 Partially open the test valve to supply water to the upstream line of the test system and the inner lumen of the valve and to remove gas from the line. When the upstream system is full of water, close the test valve and vent the test system downstream. Pressurize the system with waterto a test pressure of 1.4 times the maximum allowable working pressure, Check the piping system and test valve for no leakage, start the test. （2）试验过程 Test Procedure 5) 火焰热电偶在燃烧期开始 2min 时平均温度达到 830 ℃。 The average temperature of the flame environment thermocouples reaches 830 ℃ within two minutes from the start of the burn period. 6) 在随后的燃烧期内，火焰热电偶的平均温度保持 909 ～ 942 ℃之间。 For the remainder of the burn period, The average temperature of the flame thermocouple is maintai ned between 909 ℃ and 942 ℃. 7) 量热块的平均温度在燃烧期开始 15min 时达到 761 ℃，随后燃烧期内量热块无低于 560℃的温度出现，且燃烧期间量热块的平均温度有 18 min 保持在 727 ℃以上。 The average temperature of the calorimeter block reached 761 ℃ at the beginning of the combustion period 15 minutes, and no temperature lower than 560℃ appeared during the subsequent combustion period, and the average temperature of the calorimeter block remained above 727 ℃ for 18 minutes during the combustion period. 8) 燃烧和冷却期间，测试阀门进口端试验压力保持在 0.20 Mpa 之间。 During the burn and cooldown periods, the test pressure at the inlet of the valve is maintained at 0.20 Mpa, without instantaneous pressure drop. 9) 燃烧结束，用水强制冷却测试阀门，在 7 min 内测试阀门外表面冷却至 100℃以下。 Within five minutes of extinguishing the fire, force-cool the test valve with water so that itsexternal surface temperature remains below 100℃; the time for forced cooling 7 minutes.

低压试验 Low Pressure Test	测试阀门处于关闭状态，待冷却后，将阀门进口端试验压力减低或稳定压力至 0.20 MPa，保压5min，检查通过阀座的泄漏情况。 The test valve is closed, to be cooled, decrease or stabilize the pressure to the low test pressure at 0.20 MPa and measure the through-seat leakage over a five-minutes period.
低压操作试验 Low pressure operation test	完成低压静态泄漏试验后，关闭出口截止阀，保持压力至 0.20 MPa 操作测试阀至完全打开位置，然后至完全关闭位置，打开截止阀，并保持压力 5min，检查通过阀座的泄漏情况。 After completing the static leakage tests, close the shut-off valve, operate the test valve against the low test pressure at 0.20 MPa to the fully open position and then to the fully closed position. Open the shut-off valve. Allow the system to stabilize for a five-minute period, and once completed, record in the test report the through-seat leakage over a five-minute time period.
操作试验 Operational Test	将试验压力增加或稳定在 1.50 Mpa，关闭出口截止阀，并将测试阀门开启至全开位置，将压力稳定在高试验压力 1.50 MPa,保压 5min 检查测试阀门的外部泄漏率。 Increase or stabilize the test pressure at 1.50 MPa, close the shut-off valve and operate the test valve against the test pressure to the fully open position. Stabilize the pressure to the high test pressure of 1.50 MPa and measure the external leakage over a five-minute period.

三：测试样品外观图及内件信息 Profile Photograph And Interior Information Of Sample

样品照片 Sample Photos



内件信息 Interior Information

试验阀门 Test Valve

a) 公称通径 Nominal Size: NPS 4

b) 压力级 Rating: 150LB

c) 阀体-阀盖 Body-bonnet:

c-1 阀体 Body: ASTM A105N

c-2 阀盖 Bonnet: ASTM A105N

d) 阀体密封材料 Body Seal Material: SS316+Graphite

e) 关闭件 Closure: ASTM A182 F316

f) 阀座圈 Seat Ring: ASTM A182 F316

g) 阀座--关闭件密封 Seat to Closure Seal: RPTFE

h) 阀座圈--阀体密封 Seat Ring to Body Seal: VITON & Graphite

i) 阀杆 Stem: ASTM A182 F316

j) 填料 Packing: Graphite

k) 螺柱 Stud: ASTM A193 B7

l) 螺母 Nut: ASTM A194 2H

m) 耳轴 Trunnion: ASTM A105N

n) 弹簧 Spring: Inconel X-750

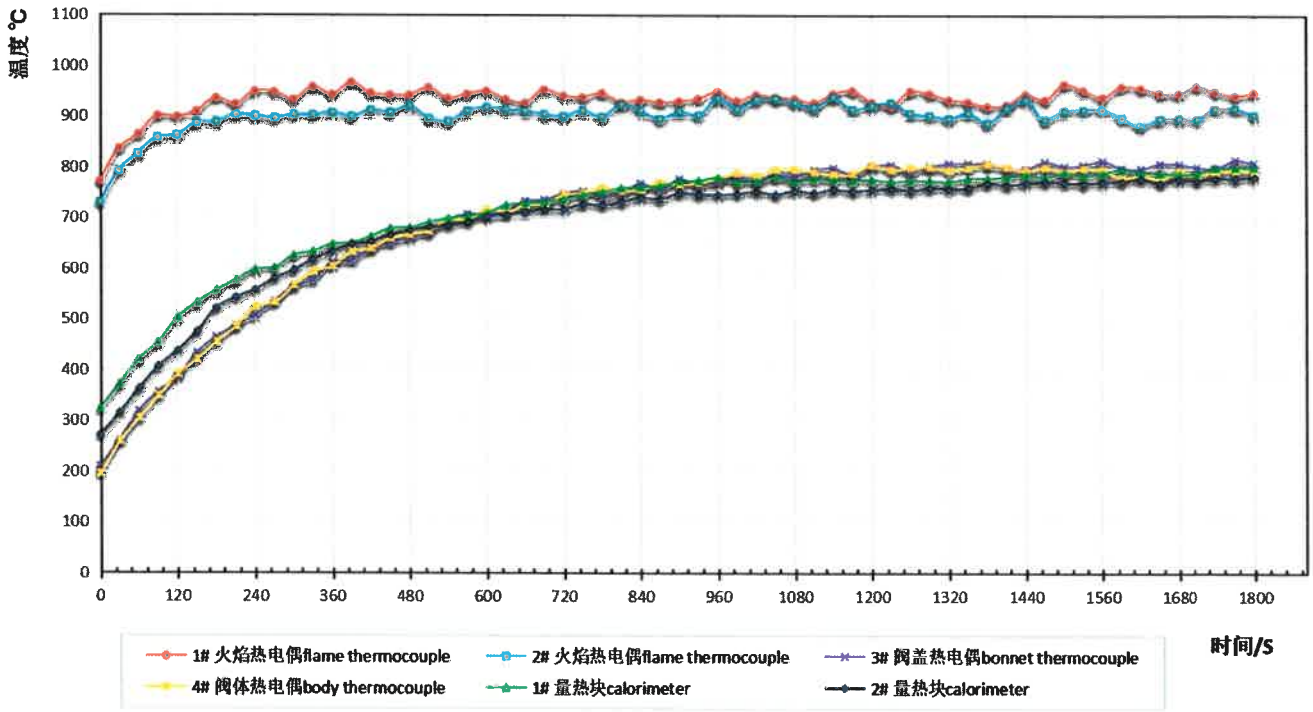
2) 结构类型 Structure Type: 三片固定、全通径 Three-piece Trunnion, Full Bore

3) 驱动方式 Drive Type: 手柄操作 Handle Operation

4) 总装图号 General Drawing No.: Q47-4-150LB-1

四：温度曲线图 Temperature Graphs

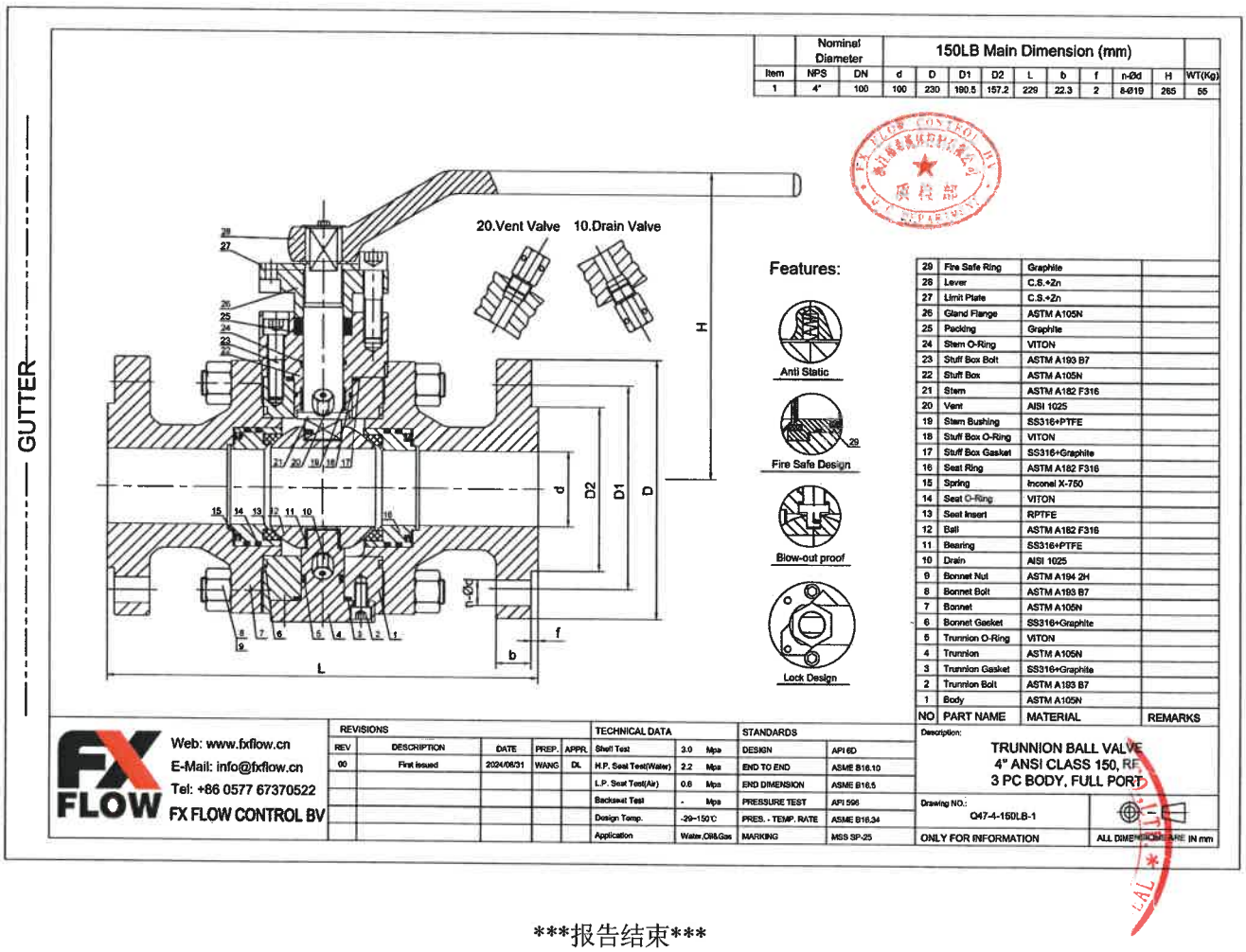
燃烧期间温度变化曲线
Temperature Change Curve During Combustion



备注 Note	1) 1# 2# 热电偶位于火焰 1# 2# flame thermocouple 2) 3# 热电偶位于阀盖 3# bonnet thermocouple 3) 4# 热电偶位于阀体 4# body thermocouple 4) 1# 2# 量热块位于火焰 1# 2# flame calorimeter cube

附件 Annex

总装图 General Assembly Drawing



报告结束

End of Report