

国家石油装备产品质量监督检验中心（山东）

National Quality Supervision and Inspection Center of Petroleum Equipment and Products(shandong)

检 验 报 告

Test Report

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样品名称 Sample	Manual gate valve		检验类别 Test Kind	Commission inspection
型号规格 Model, Type	1 13/16×10000PSI FLS LU PR2		样品等级 Grade	Qualified
委托单位 Entrusted Enterprise			商标 Brand	/
委托单位地址 Address of Enterprise			送样地点 Sampling Location	Quality dept.
样品制造商 Sample Manufacturer			送样人员 Client Representative	
样本基数 Batch Quantity	/		送样日期 Receipt Date	2019-10-23
样品数量 Sample Quantity	1 台		生产日期 Producing Date	2019-09
样品特性和状态 Sample Description	No abnormal appearance of the sample		样品编号 Batch No.	W1905073-2019
检验环境 Environmental for Test	温度 19~26℃；湿度/%；气压/hPa；		检验日期 Test Date	2019-10-23~2019-10-31
检验依据 Test Standard	产品标准	API Spec 6A-2018		
	检验方法标准	API Spec 6A-2018		
检验要求 Test Item	PR2 Performance qualification test			
检验结论 Test Conclusion	The sample is inspected this time and the items tested are qualified.			
备注 Note	1. Specification level: PSL3, material level: EE; 2. This report contains a cover ; 3. The "/" symbol indicates that this item has no content.			

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S/N	Testing item	Technical requirements	Test results	deter minat ion	Note
1	Force or torque measurement	The valve is closed, the test pressure is raised to the rated working pressure of 69.0 MPa, the valve is opened, and the opening torque of the valve is measured. The opening torque should be no more than 400N · m, and there should be no jamming	The valve is closed, the test pressure is raised to 71.9MPa, the valve is opened, the opening torque is 177N · m, and there is no jamming.	Quali fied	/
2	Dynamic test at room temperature	The test medium ($\leq 1\%$ test pressure) is filled at the downstream end of the valve, the upstream end is pressurized to the rated working pressure of 69.0 MPa, and the full pressure difference is opened. After fully open at $\geq 50\%$ test pressure, the valve is kept in the above steps. Under pressure, it should be completely closed. After closing, the downstream end is relieved to $\leq 1\%$ of the test pressure, and the above steps are repeated 160 times. The opening and turning torques at the beginning and end of the cycle are measured and recorded.	Successfully completed 160 dynamic cycle pressure tests. First opening torque: 176N · m; turning torque: (134 ~ 223) N · m. Last opening torque: 169 N · m.	Quali fied	Test data sheet can be found on pages 07~12

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S/N	Testing item	Technical requirements	Test results	deter minat ion	Note
3	Dynamic test at the highest rated temperature	At (121 ~ 132) ° C, using gas as test medium, the downstream end of the valve is filled with test medium ($\leq 1\%$ test pressure), the upstream end is pressurized to the rated working pressure of 69.0MPa, and the whole pressure difference is opened, at $\geq 50\%$ After the test pressure is fully opened, the valve should be completely closed under the pressure defined by the above steps. After the shutdown, the downstream end is relieved to $\leq 1\%$ of the test pressure, and the above steps are repeated 20 times. The opening and turning torques at the beginning and end of the cycle are measured and recorded.	At 122.5~125.8 ° C, 20 dynamic cycle pressure tests were successfully completed: First opening torque: 213 N·m: Rotational torque: (208 ~ 232) N·m: Last opening torque: 232 N·m	Quali fied	The test curve can be found on pages 13~16.
4	Body pressure test at maximum rated temperature	At (121 ~ 132) ° C, the gate valve is in a partially open position, the rated working pressure is 69.0MPa, and the pressure is maintained for 1 hour without releasing the pressure.	Under the conditions of 123.1 to 126.0 ° C and 71.2 MPa, the pressure was maintained for 1 hour, and the pressure drop was 0.2 MPa.	Quali fied	Test curve see page 17

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S/N	Testing item	Technical requirements	Test results	deter minat ion	Note
		The pressure change observed on the pressure measuring device during the holding pressure should be less than 3.45 MPa.			
5	Seat pressure test at the highest rated temperature	At (121 ~ 132) ° C, at the end of the valve body pressure test, the gate valve is closed, the rated working pressure is maintained at the upstream end of the valve plate at 69.0 MPa, the downstream end releases the pressure, and the pressure is relieved after holding for 1 hour. The pressure change observed on the pressure measuring device during the holding pressure should be less than 3.45 MPa.	Under the conditions of 125.4~125.9 ° C and 70.3 MPa, the pressure was maintained for 1 hour, and the pressure drop was 0.1 MPa.	Quali fied	Test curve see page 18
6	Seat low pressure test at maximum rated temperature	At (121 ~ 132) ° C, the valve is subjected to a pressure difference of 5% to 10% of the rated pressure, the pressure is applied to the upstream end of the shutter, and the pressure is released at the	Under the conditions of 122.8~123.1 ° C and 4.4 MPa, the pressure was maintained for 1 hour, and the pressure drop was 0.0 MPa.	Quali fied	Test curve see page 19

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S/N	Testing item	Technical requirements	Test results	deter minat ion	Note
		<p>downstream end, and the pressure is maintained for 1 hour.</p> <p>The pressure change observed on the pressure measuring device during holding pressure should be less than 5%.</p>			
7	Dynamic test at the lowest rated temperature	<p>At (-46 ~ -57) ° C, the gas is used as the test medium, the downstream end of the valve is filled with the test medium ($\leq 1\%$ test pressure), the upstream end is pressurized to the rated working pressure of 69.0MPa, and the whole pressure difference is opened, at \geq After fully opening at 50% test pressure, the valve should be completely closed under the pressure defined by the above steps. After closing, the downstream end is relieved to $\leq 1\%$ of the test pressure, and the above cycle is repeated 20 times.</p> <p>The opening and turning torques at the beginning and end of the cycle are measured and recorded.</p>	<p>Completed 20 dynamic cycle pressure tests at -48.6 to -47.5 ° C:</p> <p>First opening torque: 278N·m:</p> <p>Rotational torque: (205 ~ 278) N·m:</p> <p>Last opening torque: 209 N·m</p>	Qualified	The test curve can be found on pages 20~23.

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S/N	Testing item	Technical requirements	Test results	deter minat ion	Note
8	Body pressure test at the lowest rated temperature	At (-46 ~ -57) ° C, the gate valve is in the partially open position, the rated working pressure is 69.0MPa, and the pressure is maintained for 1 hour without releasing the pressure. The pressure change observed on the pressure measuring device during the holding pressure should be less than 3.45 MPa.	Under the conditions of -48.3 to -47.9 ° C and 71.1 MPa, the pressure was maintained for 1 hour, and the pressure drop was 0.6 MPa.	Quali fied	Test curve see page 24
9	Seat pressure test at the lowest rated temperature	At (-46 ~ -57) ° C, at the end of the valve body pressure test, the gate valve is closed, the rated working pressure is maintained at the upstream end of the valve plate at 69.0 MPa, the downstream end releases the pressure, and the pressure is released after 1 hour of holding pressure. The pressure change observed on the pressure measuring device during the holding pressure should be less than 3.45 MPa.	Under the conditions of -48.2 ° C and 70.3 MPa, the pressure was maintained for 1 hour, and the pressure drop was 0.2 MPa.	Quali fied	Test curve see page 25

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S/N	Testing item	Technical requirements	Test results	deter minat ion	Note
10	Seat low pressure test at the lowest rated temperature	<p>At (-46 ~ -57) ° C, the valve is subjected to a pressure difference of 5% to 10% of the rated pressure, the pressure is applied to the upstream end of the shutter, and the pressure is released at the downstream end, and the pressure is maintained for 1 hour.</p> <p>The pressure change observed on the pressure measuring device during holding pressure should be less than 5%.</p>	<p>Under the conditions of -48.9 ° C and 3.8 MPa, the pressure was maintained for 1 hour, and the pressure drop was 0.0 MPa.</p>	Qualified	Test curve see page 26
11	Body pressure / temperature cycle test	<p>Warming up to room temperature, the gate valve is partially opened: the test pressure is 69.0 MPa at room temperature, and the pressure is maintained at 50% to 100% of the test pressure during the rise to the highest temperature (121-132) ° C; at least the test pressure is 69.0 MPa. Press for 1 hour:</p> <p>The pressure change observed on the pressure measuring device during the holding pressure</p>	<p>The temperature was raised to room temperature, the gate valve was half opened, the test pressure was applied to 71.4 MPa, and the pressure was maintained at 128.1 ° C (42.1 to 49.0) MPa. Under the test pressure of 72.9 MPa, the pressure was maintained for 1 hour, and the pressure drop was 0.4 MPa.</p>	Qualified	Test curve see page 27

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S/N	Testing item	Technical requirements	Test results	deter minat ion	Note
		should be less than 3.45 MPa.			
		When the test pressure is maintained at 50% to 100% of 69.0 MPa, the temperature is lowered to the lowest temperature at (-46 to -57) ° C, and the pressure is kept at the test pressure of 69.0 MPa for at least 1 hour; when the temperature is raised to room temperature, the test pressure is maintained at 69.0 MPa. 50%-100%, pressure relief. The pressure change observed on the pressure measuring device during the holding pressure should be less than 3.45 MPa.	Under the test pressure (35.1 ~ 68.8) MPa, the temperature was lowered to -48.5 ° C, 72.7 MPa, the pressure was maintained for 1 hour, and the pressure drop was 0.5 MPa. The temperature was raised to room temperature, and the pressure was maintained at (53.5 to 54.2) MPa, and the pressure was released.	Quali fied	Test curve see page 27
		Raise to the highest temperature at (121 ~ 132) ° C, apply the test pressure 69.0MPa, at least 1 hour, and then relieve pressure; The pressure change observed on the pressure measuring device during the holding pressure should be less than 3.45	It was raised to 123.3 ° C, and under the condition of 70.5 MPa, the pressure was maintained for 1 hour, and the pressure drop was -1.7 MPa.	Quali fied	Test curve see page 38

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S/N	Testing item	Technical requirements	Test results	deter minat ion	Note
		MPa.			
		<p>The temperature was lowered to a minimum temperature of (-46 to -57) ° C; a test pressure of 69.0 MPa was applied, and the pressure was maintained for at least 1 hour, and then the pressure was released, and then the temperature was raised to room temperature.</p> <p>The pressure change observed on the pressure measuring device during the holding pressure should be less than 3.45 MPa.</p>	<p>The temperature was lowered to -48.4 ° C, and under the condition of 69.9 MPa, the pressure was maintained for 1 hour, and the pressure drop was 0.5 MPa.</p>	Qualified	Test curve see page 29
12	Valve body pressure test at room temperature	<p>For air pressure test, the gate valve should be completely sunk in the water and partially opened. It is kept at the rated working pressure of 69.0 MPa for 1 hour, and the pressure is not released after the test.</p>	<p>Under the pressure of 71.5 MPa, the pressure was kept for 1 hour, and there was no visible bubble in the pool, and the pressure drop was 0.4 MPa.</p>	Qualified	Test curve see page 30

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S/N	Testing item	Technical requirements	Test results	deter minat ion	Note
		There should be no visible continuous bubbles during the dwell period. The pressure change observed on the pressure measuring device should be less than 3.45 MPa.			
13	Seat packing test at room temperature	At the end of the valve body pressure holding test, the valve is closed, the downstream end is released, and the upstream end maintains the rated working pressure of 69.0 MPa. The pressure is released after not less than 15 minutes. There should be no visible continuous bubbles during the dwell period. The pressure change observed on the pressure measuring device should be less than 3.45 MPa.	Under the pressure of 70.3MPa, the pressure is kept for 60min, there is no visible bubble in the pool, and the pressure drop is 0.2MPa.	Quali fied	Test curve see page 31
14	Valve body low pressure test at room temperature	The shutter should be partially opened, and kept at a rated working pressure of 5% to 10% for 1 hour, and the pressure is released after the pressure keeping period. There should be no visible continuous bubbles during	Under the pressure of 4.5 MPa, the pressure was kept for 1 hour, there was no visible bubble in the pool, and the pressure drop was 0.1 MPa.	Quali fied	See page 32 for disintegration photos

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S/N	Testing item	Technical requirements	Test results	deter minat ion	Note
		the dwell period. The pressure change observed on the pressure measuring device should be less than 5%.			
15	Seat low pressure test at room temperature	Apply a differential pressure of 5% to 10% of the rated working pressure (the two-way valve should be in each direction) and release the pressure after holding for 1 hour. There should be no visible continuous bubbles during the dwell period. The pressure change observed on the pressure measuring device should be less than 5%.	Left end: Under the pressure of 3.9 MPa, the pressure was kept for 1 hour, and there was no visible bubble in the pool, and the pressure drop was 0.1 MPa. Right end: Under the pressure of 3.7 MPa, the pressure was kept for 1 hour, and there was no visible bubble in the pool, and the pressure drop was 0.1 MPa.	Quali fied	Test curve see page 33,34
16	Final force or torque measurement	The valve is closed, the test pressure is raised to the rated working pressure of 69.0 MPa, the valve is opened, and the opening torque of the valve is measured. The opening torque should be no more than 400N •m and there should be no jamming.	The valve is closed, the test pressure rises to 71.9MPa, the valve is opened, the opening torque is 204N • m, and there is no jamming.	Quali fied	/
17	Post test	The tested prototype should be disassembled and tested. All related items should be	Tested prototype and inspection. Does not	Quali fied	/

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S/N	Testing item	Technical requirements	Test results	deter minat ion	Note
		photographed. Defects that do not meet any performance requirements should not be included.	contain defects that do not meet any performance requirements.		

Valve room temperature on/off cycle Dynamic test data sheet					
Name	Manual gate valve	Description	1 13/16×10000PSI FLS LU PR2		
Number of switches	Pre-opening pressure MPa	Pressure after full opening MPa	Pressure after full opening MPa	Maximum torque during opening process (N·m)	Maximum torque during shutdown (N·m)
第 1 次	70.8	38.9	38.9	176	63
第 2 次	70.7	39.5	38.7	203	71
第 3 次	70.9	38.9	38.9	176	66
第 4 次	70.9	39.9	39.9	139	72
第 5 次	71.0	39.5	38.1	193	59
第 6 次	70.7	38.9	38.9	158	60
第 7 次	70.7	39.9	38.7	164	63
第 8 次	71.0	38.9	38.9	165	81
第 9 次	70.7	39.5	38.9	163	88
第 10 次	70.7	38.9	38.9	187	84
第 11 次	70.7	39.9	38.9	158	79
第 12 次	70.8	38.9	39.9	153	76
第 13 次	70.7	38.9	38.1	181	79
第 14 次	70.9	39.5	38.9	189	76
第 15 次	70.7	38.9	38.7	203	90
第 16 次	70.7	39.9	38.9	176	97
第 17 次	70.8	38.9	39.9	139	39
第 18 次	70.7	38.9	38.1	193	92
第 19 次	70.9	39.4	39.9	207	95
第 20 次	71.0	38.9	38.9	212	63
第 21 次	70.7	39.5	38.9	187	68
第 22 次	70.7	38.9	38.7	175	94

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第 23 次	70.8	38.9	38.9	180	92
第 24 次	70.7	39.5	38.9	183	92
第 25 次	70.7	38.9	38.7	188	95
第 26 次	70.7	39.9	38.9	221	63
第 27 次	70.8	38.9	39.9	179	86
第 28 次	70.7	38.9	38.1	155	67
第 29 次	70.9	39.4	39.9	148	69
第 30 次	70.9	38.9	38.9	164	63
Valve room temperature on/off cycle Dynamic test data sheet					
Name	Manual gate valve	Description	1 13/16×10000PSI FLS LU PR2		
Number of switches	Pre-opening pressure MPaMPa	Full-opening pressure MPaMPa	Full-opening pressure MPaMPa	Maximum torque during opening process (N·m)	Maximum torque during shutdown (N·m)
第 31 次	70.9	38.9	38.9	164	63
第 32 次	70.7	39.5	38.9	168	71
第 33 次	70.7	38.9	38.7	150	66
第 34 次	70.8	39.9	38.9	155	72
第 35 次	70.7	38.9	39.9	155	59
第 36 次	70.9	38.9	38.1	158	60
第 37 次	70.9	39.4	38.7	164	63
第 38 次	71.0	38.9	38.9	165	81
第 39 次	70.7	39.5	38.9	163	88
第 40 次	70.7	38.9	38.7	187	84
第 41 次	70.8	39.9	38.9	158	79
第 42 次	70.7	38.9	39.9	153	76
第 43 次	70.9	38.9	38.1	181	79
第 44 次	70.7	39.5	38.9	189	76
第 45 次	70.7	38.9	38.7	203	90
第 46 次	70.8	39.9	38.9	176	97
第 47 次	70.7	38.9	39.9	139	39
第 48 次	70.9	38.9	38.1	193	92
第 49 次	70.9	39.4	39.9	207	95
第 50 次	71.0	38.9	38.9	212	63
第 51 次	70.7	39.5	38.9	187	68

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第 52 次	70.7	38.9	38.7	175	94
第 53 次	70.8	39.9	38.9	180	92
第 54 次	70.7	39.5	38.9	183	92
第 55 次	70.7	38.9	38.7	188	95
第 56 次	70.8	39.9	38.9	221	63
第 57 次	70.7	38.9	39.9	179	86
第 58 次	70.9	38.9	38.1	155	67
第 59 次	70.9	39.4	39.9	148	69
第 60 次	70.8	39.9	39.4	166	56
Valve room temperature on/off cycle Dynamic test data sheet					
Name	Manual gate valve	Description	1 13/16×10000PSI FLS LU PR2		
Number of switches	Pre-opening pressure MPaMPa	Full-opening pressure MPaMPa	Full-opening pressure MPaMPa	Maximum torque during opening process (N·m)	Maximum torque during shutdown (N·m)
第 61 次	71.0	38.9	38.9	163	71
第 62 次	70.8	39.9	39.4	166	56
第 63 次	70.7	39.5	38.9	169	92
第 64 次	70.7	38.9	38.7	156	95
第 65 次	70.7	39.5	38.9	147	63
第 66 次	70.7	38.9	38.7	144	64
第 67 次	70.8	39.9	38.9	165	73
第 68 次	70.7	38.9	39.9	134	60
第 69 次	70.7	39.5	38.9	155	59
第 70 次	70.7	38.9	38.7	158	60
第 71 次	70.8	39.9	38.9	164	63
第 72 次	70.7	39.5	38.9	168	71
第 73 次	70.7	38.9	38.7	150	66
第 74 次	70.8	39.9	38.9	155	72
第 75 次	70.7	38.9	39.9	155	59
第 76 次	69.9	38.9	38.1	158	60
第 77 次	70.7	38.9	38.7	164	63
第 78 次	70.8	39.9	38.9	168	71
第 79 次	70.7	38.9	39.9	150	66
第 80 次	69.9	38.9	38.1	155	72

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第 81 次	69.9	39.4	39.9	155	59
第 82 次	70.0	38.9	38.9	158	60
第 83 次	70.7	38.9	38.7	164	63
第 84 次	70.8	39.9	38.9	168	71
第 85 次	70.7	38.9	38.7	150	66
第 86 次	70.8	39.9	38.9	155	60
第 87 次	70.7	38.9	39.9	162	59
第 88 次	69.9	38.9	38.1	159	60
第 89 次	70.9	39.4	39.9	167	63
第 90 次	70.8	38.9	38.8	158	61
Valve room temperature on/off cycle Dynamic test data sheet					
Name	Manual gate valve	Description	1 13/16×10000PSI FLS LU PR2		
Number of switches	Pre-opening pressure MPaMPa	Full-opening pressure MPaMPa	Full-opening pressure MPaMPa	Maximum torque during opening process (N·m)	Maximum torque during shutdown (N·m)
第 91 次	70.0	38.9	38.9	155	71
第 92 次	70.7	39.5	38.9	149	58
第 93 次	70.7	38.9	38.7	153	53
第 94 次	70.7	38.9	38.7	134	60
第 95 次	70.8	39.9	38.9	158	59
第 96 次	70.7	38.9	38.7	155	60
第 97 次	70.7	38.9	38.7	158	63
第 38 次	70.8	39.9	38.9	164	71
第 39 次	70.7	39.5	38.9	168	71
第 100 次	70.7	38.9	38.7	150	66
第 101 次	70.8	39.9	38.9	155	72
第 102 次	70.7	38.9	39.9	148	57
第 103 次	70.8	39.9	38.9	153	53
第 104 次	70.8	39.9	38.9	155	71
第 105 次	70.7	39.5	38.9	164	56
第 106 次	70.7	38.9	38.7	164	55
第 107 次	70.8	39.9	38.9	155	59
第 108 次	70.7	38.9	39.9	158	60
第 109 次	69.9	38.9	38.1	164	63

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第 110 次	70.7	39.5	38.9	168	71
第 111 次	70.7	38.9	38.7	150	66
第 112 次	70.8	39.9	38.9	155	72
第 113 次	70.7	38.9	39.9	155	56
第 114 次	69.9	38.9	38.1	155	59
第 115 次	70.7	38.9	38.7	158	60
第 116 次	70.8	39.9	38.9	164	63
第 117 次	70.8	39.9	38.9	168	71
第 118 次	70.7	39.5	38.9	150	66
第 119 次	70.7	38.9	38.7	155	72
第 120 次	70.9	38.8	38.6	157	70
Valve room temperature on/off cycle Dynamic test data sheet					
Name	Manual gate valve	Description	1 13/16×10000PSI FLS LU PR2		
Number of switches	Pre-opening pressure MPaMPa	Full-opening pressure MPaMPa	Full-opening pressure MPaMPa	Maximum torque during opening process (N·m)	Maximum torque during shutdown (N·m)
第 121 次	70.8	39.9	38.9	147	53
第 122 次	70.7	38.9	39.9	144	66
第 123 次	69.9	38.9	38.1	149	51
第 124 次	70.7	38.9	38.7	154	55
第 125 次	70.8	39.9	38.9	148	71
第 126 次	70.7	39.5	38.9	145	66
第 127 次	70.7	38.9	38.7	136	72
第 128 次	70.8	39.9	38.9	155	59
第 129 次	70.7	38.9	39.9	155	60
第 130 次	70.8	39.9	38.9	158	63
第 131 次	70.8	39.9	38.9	164	63
第 132 次	70.7	39.5	38.9	168	71
第 133 次	70.7	38.9	38.7	150	66
第 134 次	70.8	39.9	38.9	155	72
第 135 次	70.7	38.9	39.9	158	60
第 136 次	69.9	38.9	38.1	164	63
第 137 次	70.8	39.9	38.9	168	71
第 138 次	70.7	38.9	39.9	150	66

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第 139 次	70.8	39.9	38.9	155	72
第 140 次	70.8	39.9	38.9	155	59
第 141 次	70.7	39.5	38.9	158	60
第 142 次	70.7	38.9	39.9	164	63
第 143 次	70.8	39.9	38.9	168	71
第 144 次	70.8	39.9	38.9	150	66
第 145 次	70.7	39.5	38.9	155	72
第 146 次	70.7	38.9	39.9	155	59
第 147 次	70.8	39.9	38.9	158	60
第 148 次	70.8	39.9	38.9	164	63
第 149 次	70.7	39.5	38.9	168	71
第 150 次	70.8	39.8	38.9	168	53
Valve room temperature on/off cycle Dynamic test data sheet					
Name	Manual gate valve	Description	1 13/16×10000PSI FLS LU PR2		
Number of switches	Pre-opening pressure MPaMPa	Full-opening pressure MPaMPa	Full-opening pressure MPaMPa	Maximum torque during opening process (N·m)	Maximum torque during shutdown (N·m)
第 151 次	70.7	38.9	38.7	150	66
第 152 次	70.8	39.9	38.9	155	72
第 153 次	70.7	38.9	39.9	149	56
第 154 次	69.9	38.9	38.1	166	59
第 155 次	70.8	39.9	38.9	163	52
第 156 次	70.7	39.5	38.9	148	69
第 157 次	70.7	38.9	38.7	155	68
第 158 次	70.8	39.9	38.9	143	52
第 159 次	70.7	38.9	39.9	155	58
第 160 次	70.8	39.9	38.9	143	52
第 161 次	70.8	39.9	38.9	169	52

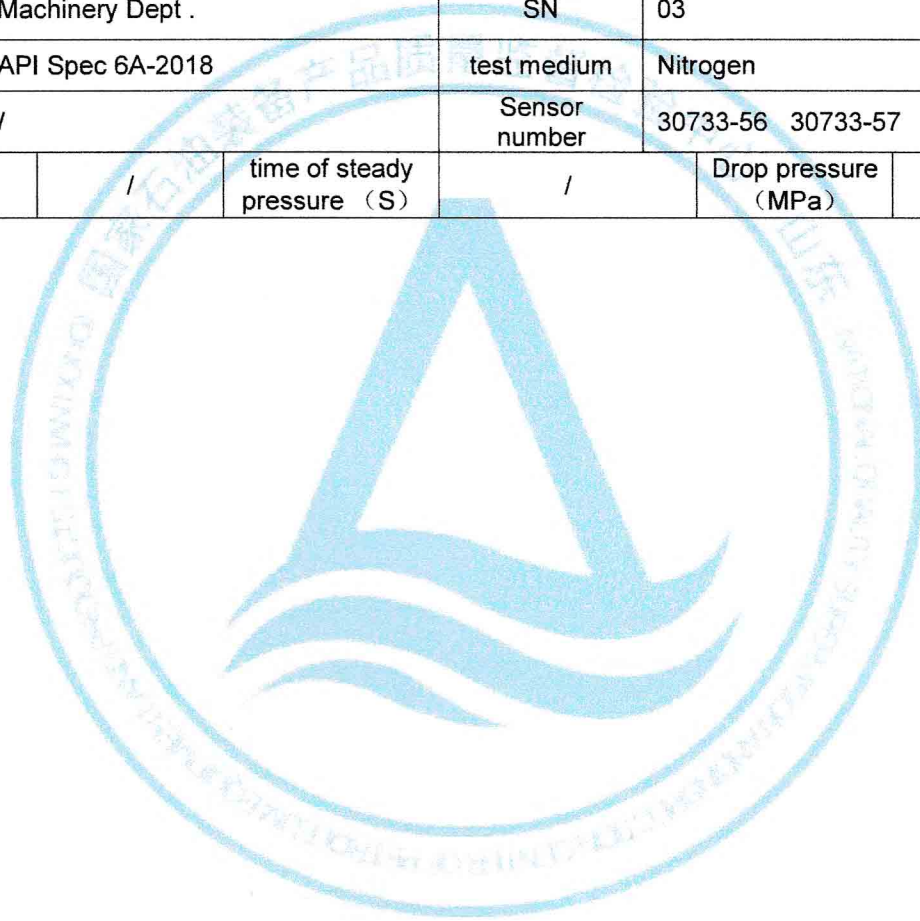
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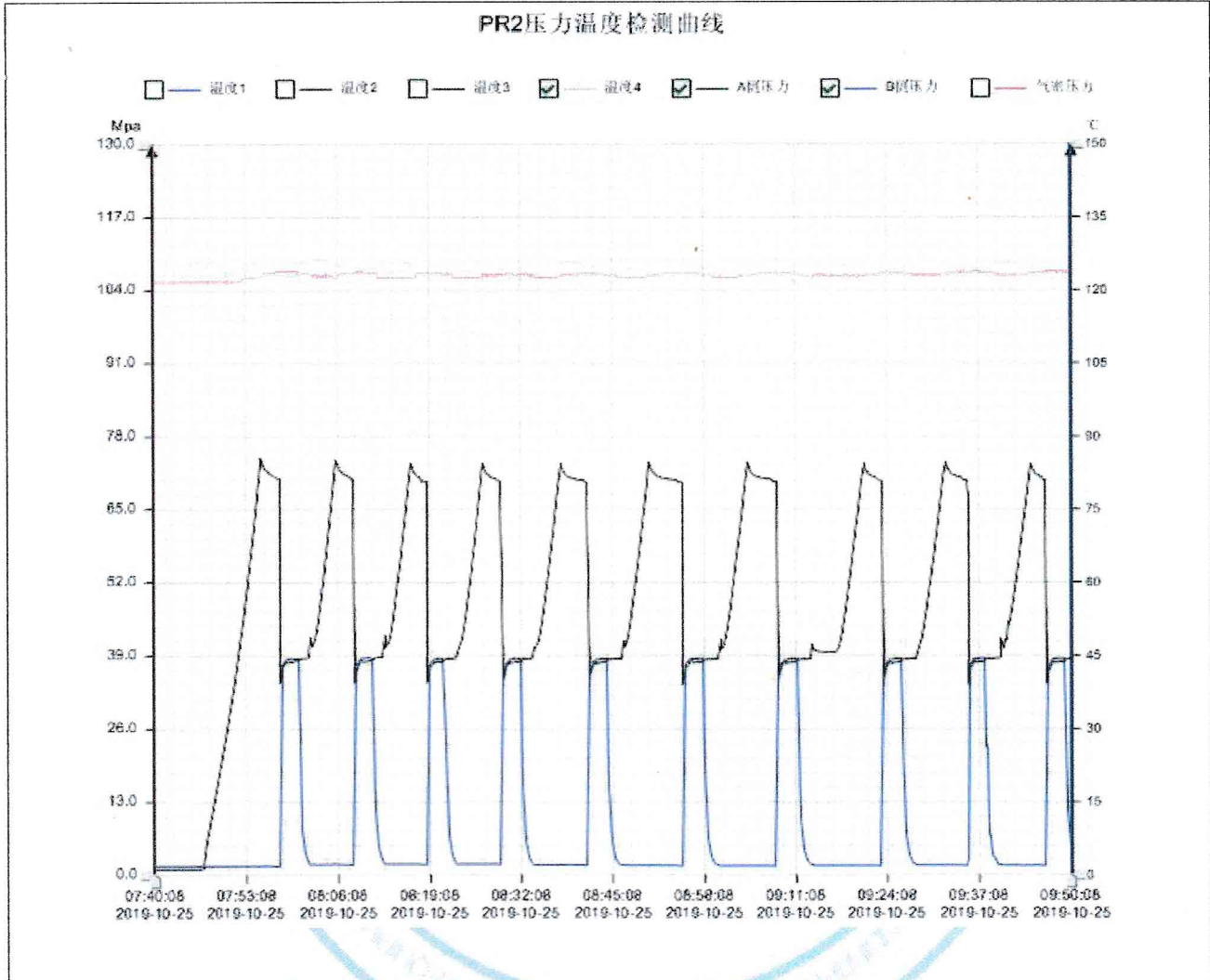
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Name	Manual gate valve	description	No abnormal appearance of the sample		
Company					
Test dept	Dynamic test at the highest rated temperature	test time	2019年 10月 25日		
executive department	Machinery Dept .	SN	03		
Standard	API Spec 6A-2018	test medium	Nitrogen		
S/N pressure gauge	/	Sensor number	30733-56 30733-57		
Test pressure (MPa)	/	time of steady pressure (S)	/	Drop pressure (MPa)	/



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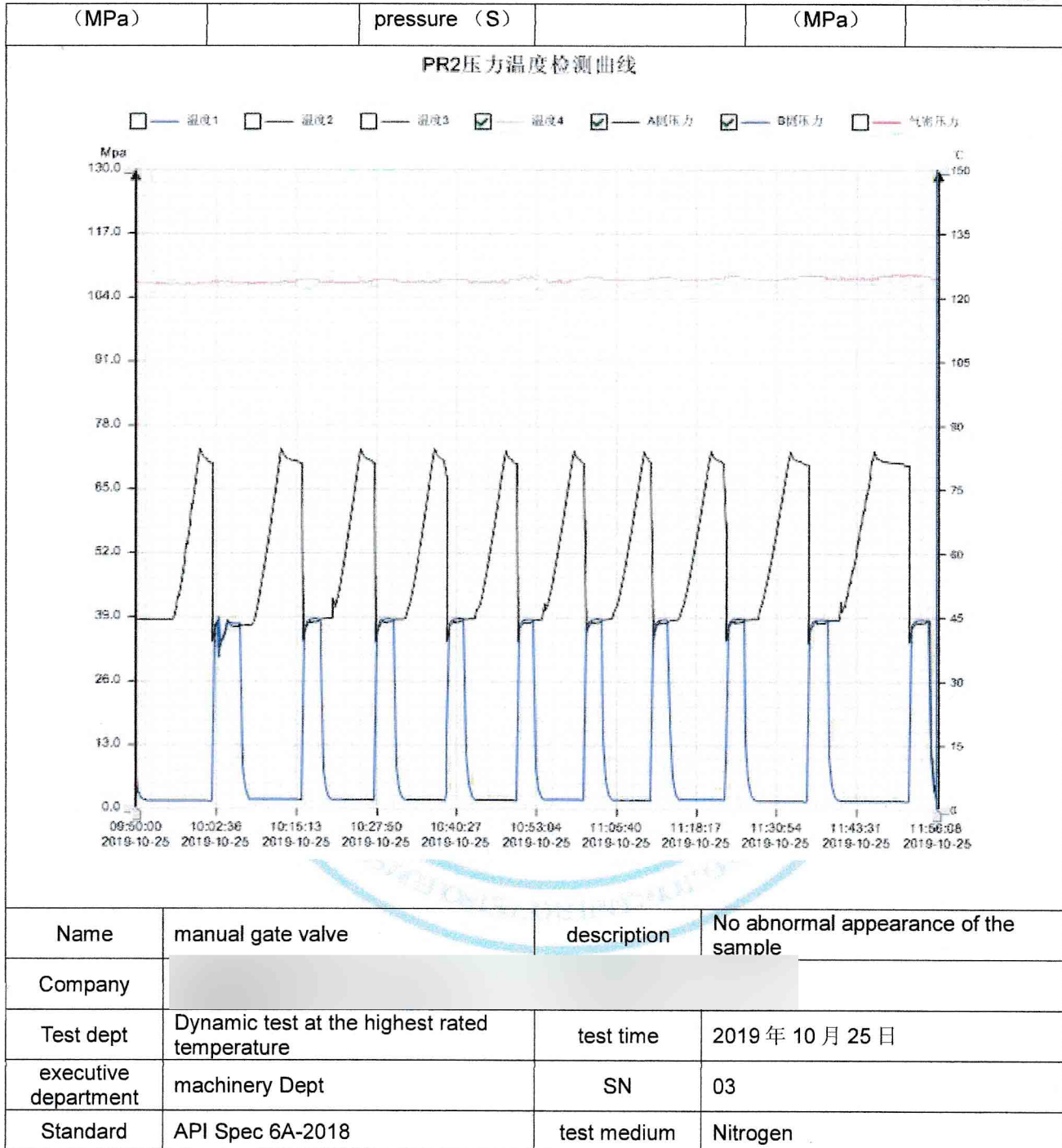
Name	manual gate valve	description	No abnormal appearance of the sample		
Company					
Test dept	Dynamic test at the highest rated temperature	test time	2019年10月25日		
executive department	machinery Dept	SN	03		
Standard	API Spec 6A-2018	test medium	Nitrogen		
S/N pressure gauge	/	Sensor number	30733-56 30733-57		
test prssure	/	time of steady	/	Pressure drop	/

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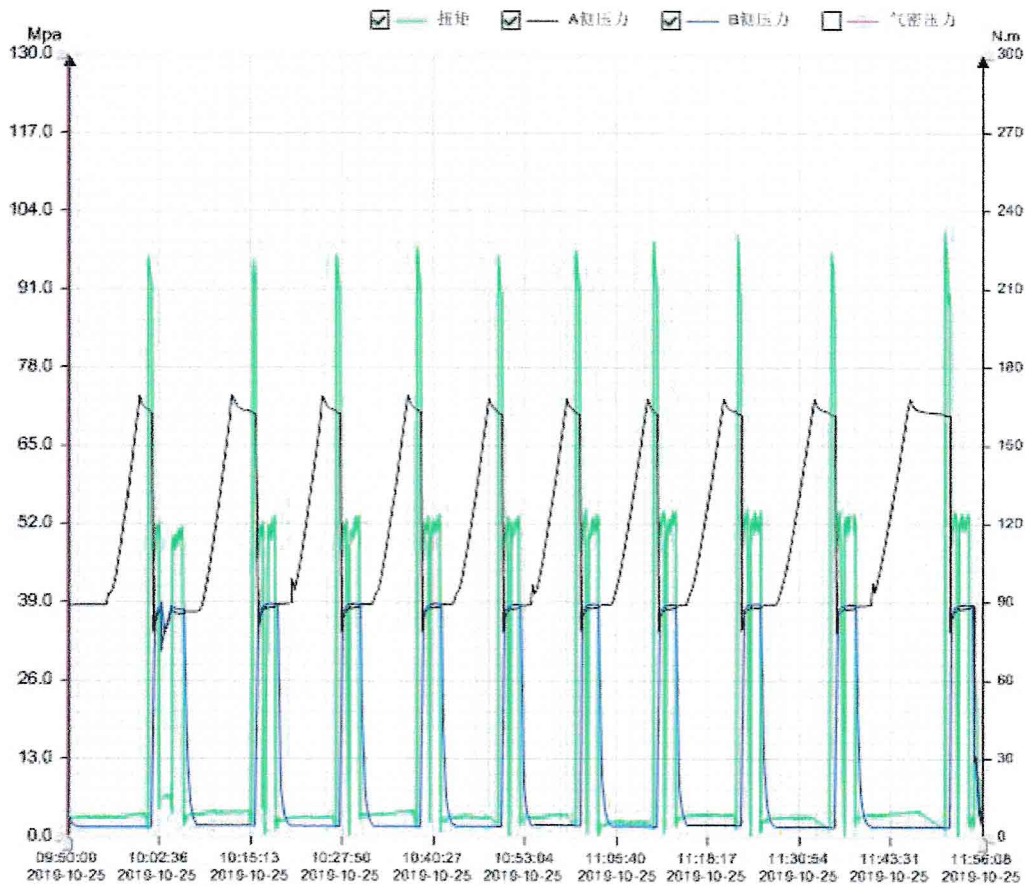
S/N pressure gauge	/	Sensor number	30733-56 30733-57
test prssure (MPa)	/	time of steady pressure (S)	/
Pressure drop (MPa)			
/			
PR2压力扭矩检测曲线			
Name	manual gate valve	description	No abnormal appearance of the sample
Company			
Test dept	Dynamic test at the highest rated temperature	test time	2019年10月25日
executive	machinery Dept	SN	03

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department					
Standard	API Spec 6A-2018		test medium	Nitrogen	
S/N pressure gauge	/		Sensor number	30733-56 30733-57	
test prssure (MPa)	/	time of steady pressure (S)	/	Pressure drop (MPa)	/

PR2压力扭矩检测曲线



Name	manual gate valve	description	No abnormal appearance of the sample
Company			

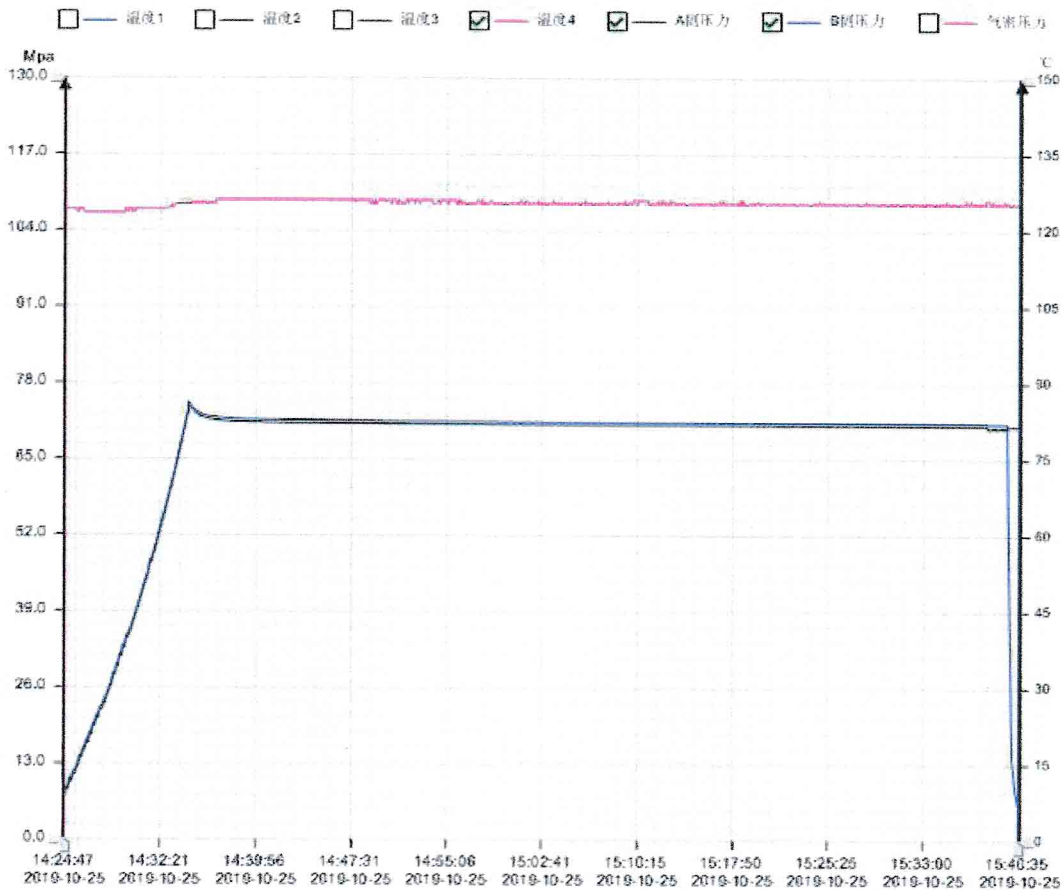
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Test dept	Body pressure test at maximum rated temperature		test time	2019年10月25日	
executive department	machinery Dept		SN	04	
Standard	API Spec 6A-2018		test medium	Nitrogen	
S/N pressure gauge	/		Sensor number	30733-56 30733-57	
test prssure (MPa)	71.2	time of steady pressure (S)	3600	Pressure drop (MPa)	0.2

PR2压力温度检测曲线



Name	manual gate valve	description	No abnormal appearance of the sample
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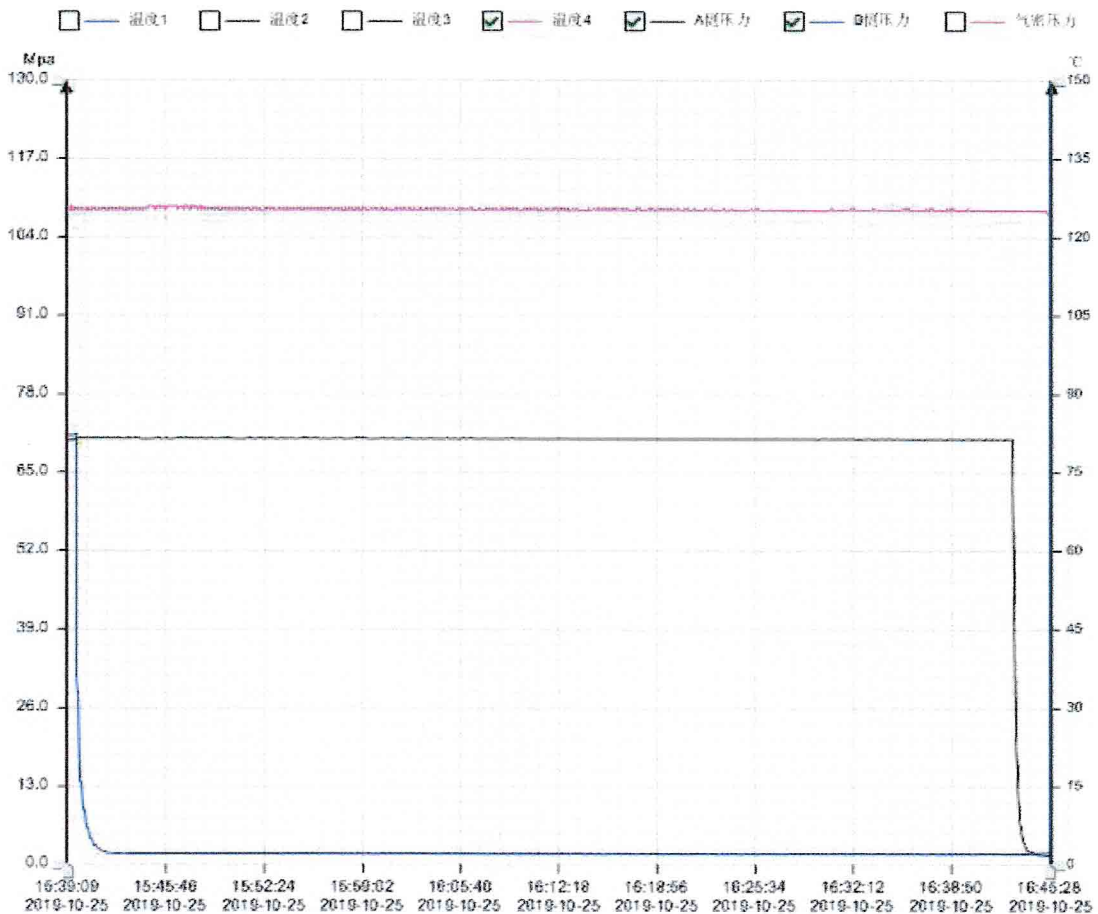
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Company					
Test dept	Seat pressure test at the highest rated temperature		test time	2019年10月25日	
executive department	machinery Dept		SN	05	
Standard	API Spec 6A-2018		test medium	Nitrogen	
S/N pressure gauge	/		Sensor number	30733-56 30733-57	
test psrre (MPa)	70.3	time of steady pressure (S)	3600	Pressure drop (MPa)	0.1

PR2压力温度检测曲线



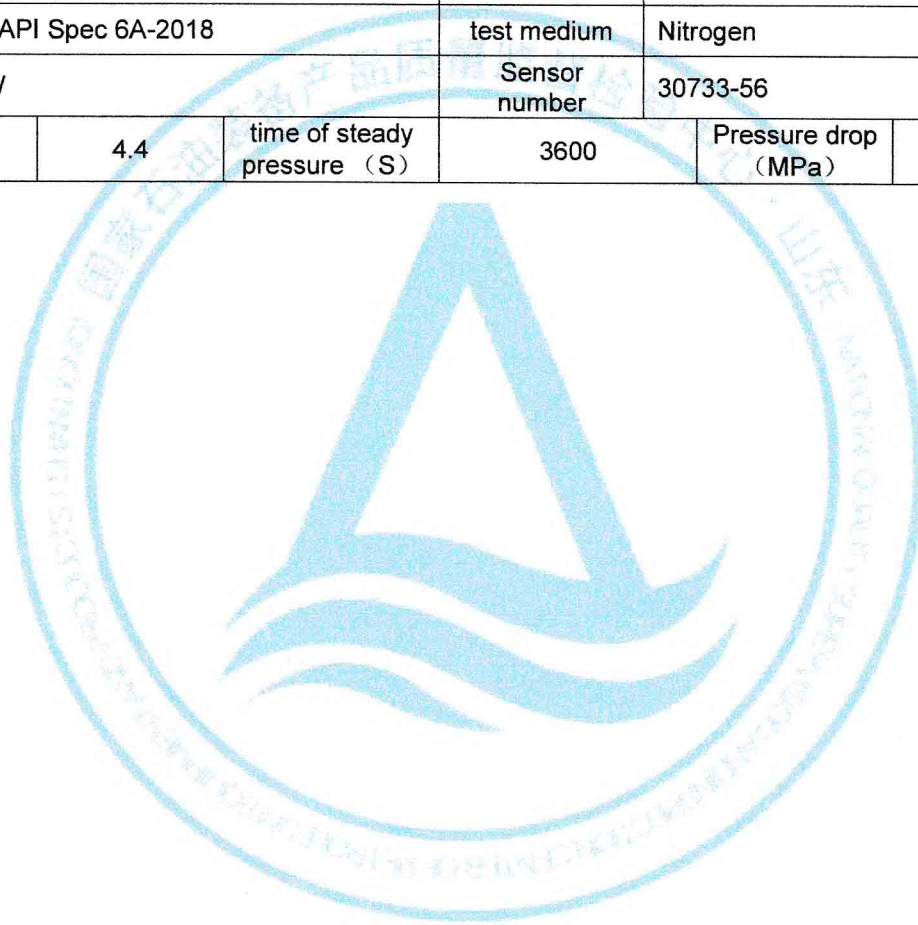
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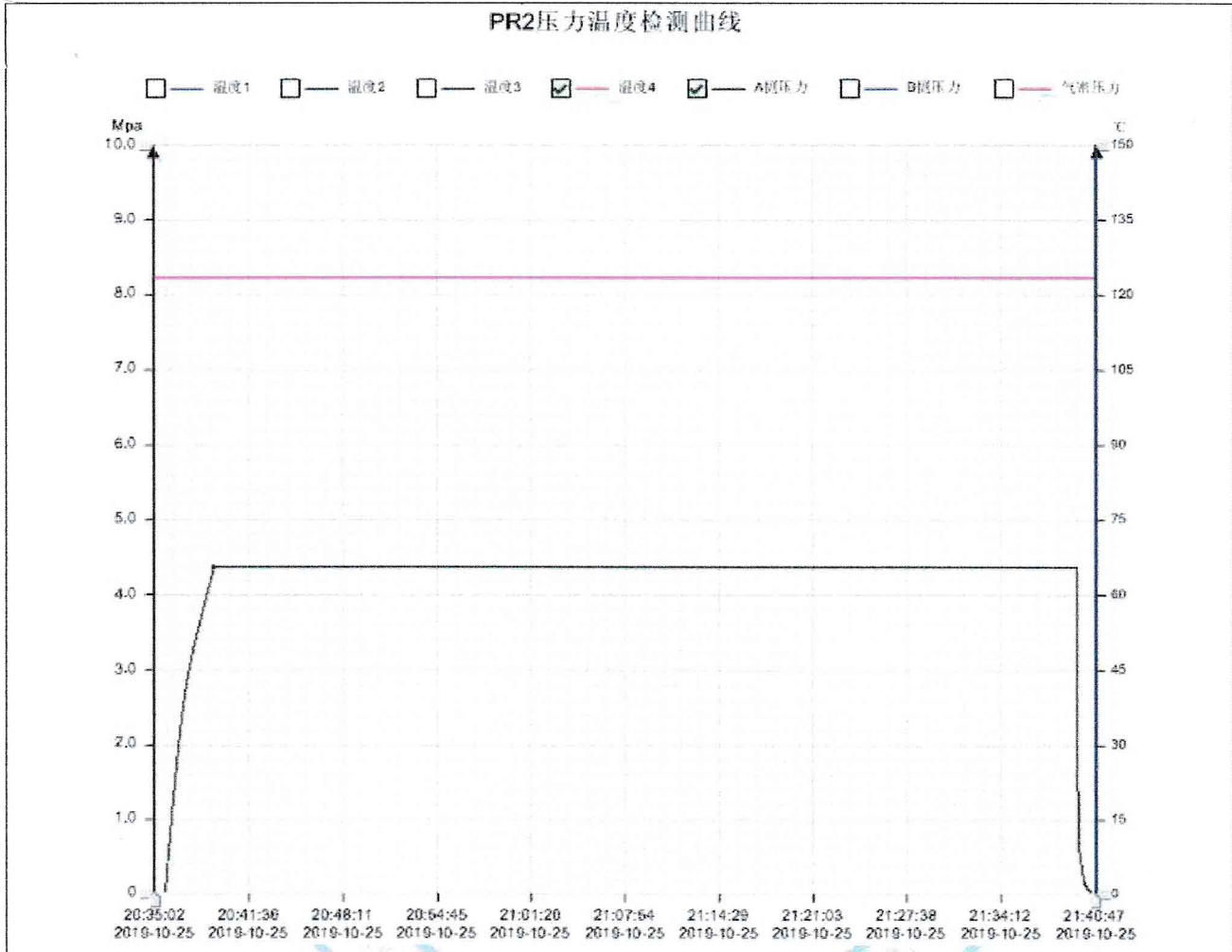
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Name	manual gate valve		description	No abnormal appearance of the sample	
Company					
Test dept	Seat low pressure test at maximum rated temperature		test time	2019年10月25日	
executive department	machinery Dept		SN	06	
Standard	API Spec 6A-2018		test medium	Nitrogen	
S/N pressure gauge	/		Sensor number	30733-56	
test prssure (MPa)	4.4	time of steady pressure (S)	3600	Pressure drop (MPa)	0.0



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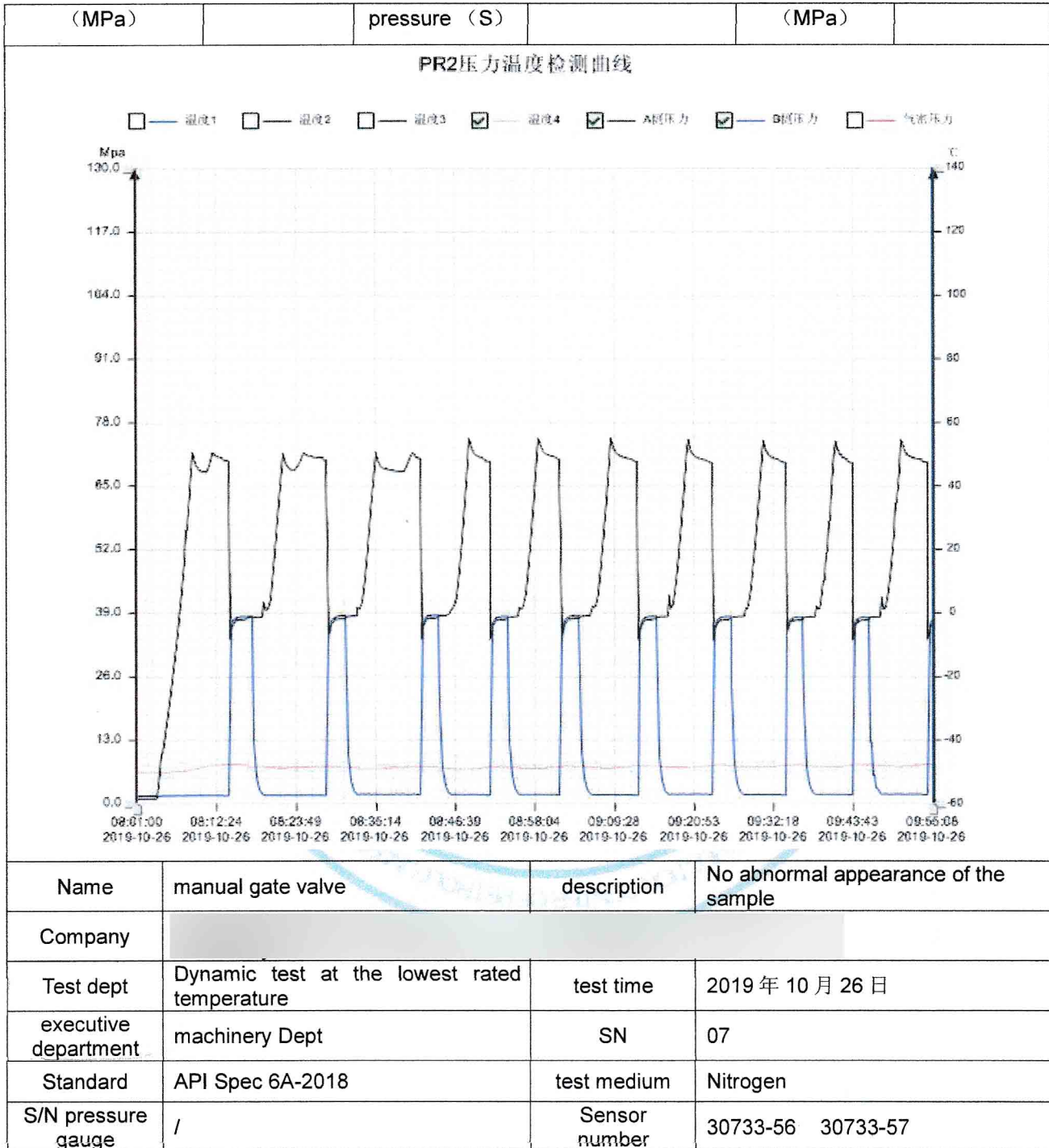
Name	manual gate valve	description	No abnormal appearance of the sample		
Company					
Test dept	Dynamic test at the lowest rated temperature	test time	2019年 10月 26日		
executive department	machinery Dept	SN	07		
Standard	API Spec 6A-2018	test medium	Nitrogen		
S/N pressure gauge	/	Sensor number	30733-56 30733-57		
test prssure	/	time of steady	/	Pressure drop	/

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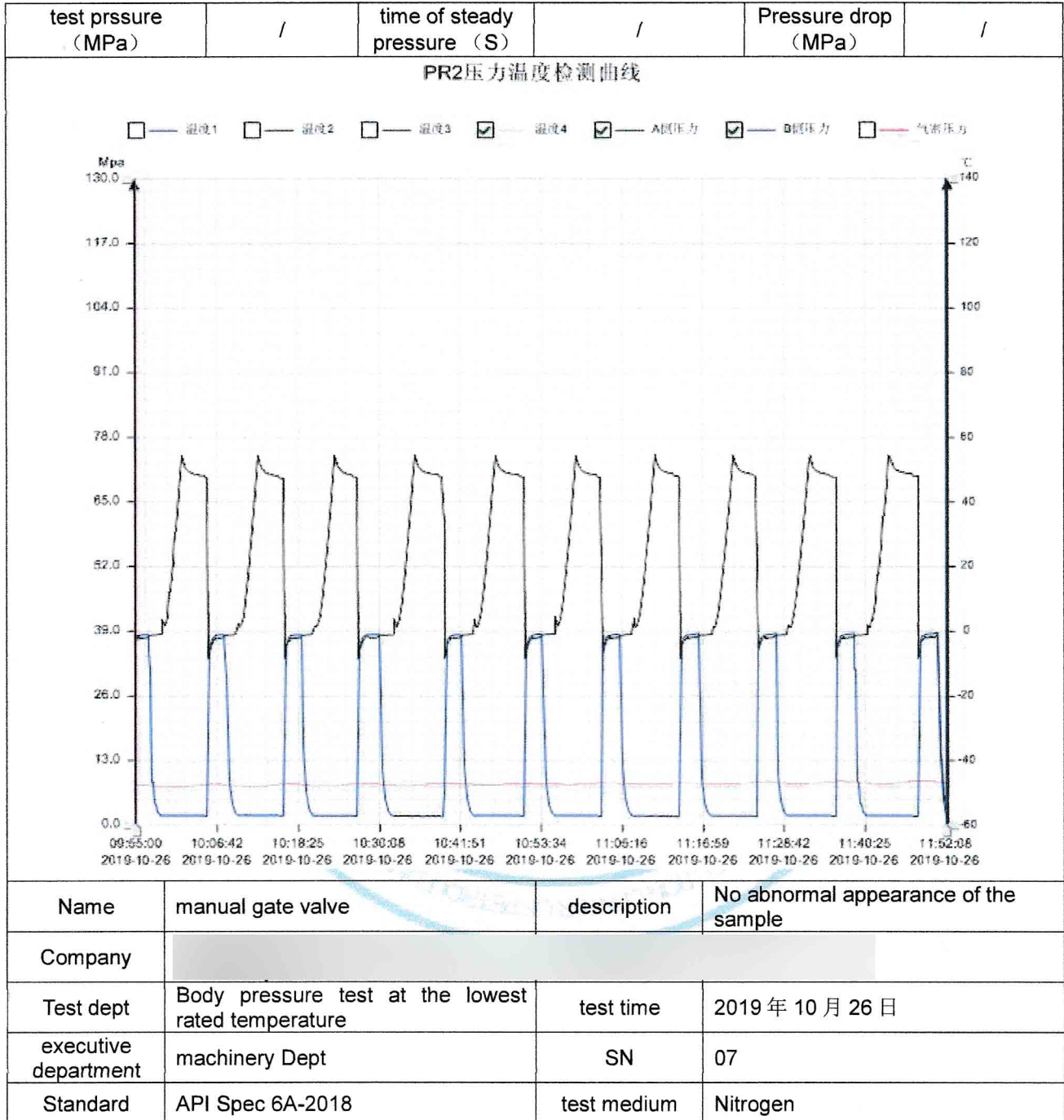
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S/N pressure gauge	/	Sensor number	30733-56 30733-57
test prssure (MPa)	/	time of steady pressure (S)	/
PR2压力扭矩检测曲线			
Name	manual gate valve	description	No abnormal appearance of the sample
Company			
Test dept	Body pressure test at the lowest rated temperature	test time	2019年10月26日
executive department	machinery Dept	SN	07

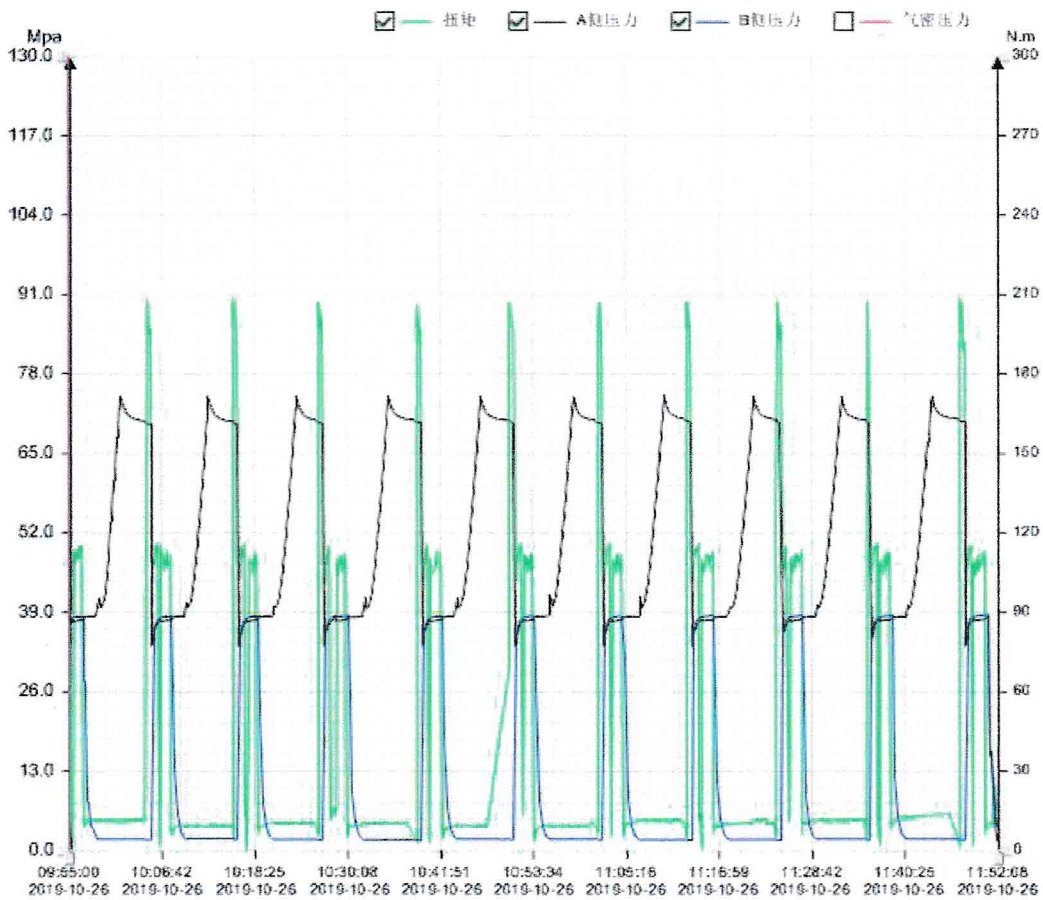
国家石油装备产品质量监督检验中心（山东）
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Standard	API Spec 6A-2018	test medium	Nitrogen
S/N pressure gauge	/	Sensor number	30733-56 30733-57
test prssure (MPa)	/	time of steady pressure (S)	/
		Pressure drop (MPa)	/

PR2压力扭矩检测曲线



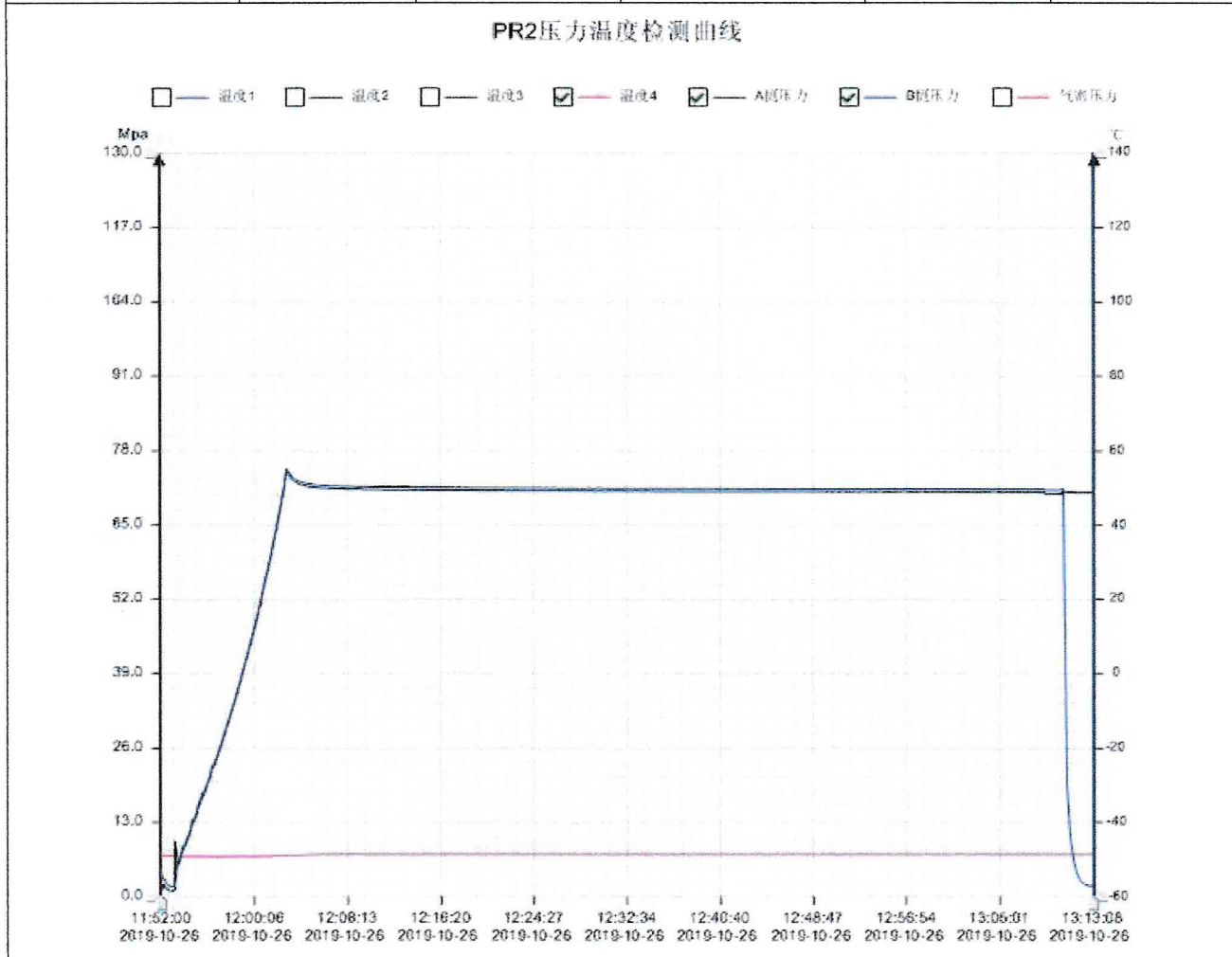
Name	manual gate valve	description	No abnormal appearance of the sample
Company			
Test dept	Body pressure test at the lowest rated temperature	test time	2019年10月26日

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executive department	machinery Dept		SN	08	
Standard	API Spec 6A-2018		test medium	Nitrogen	
S/N pressure gauge	/		Sensor number	30733-56 30733-57	
test prssure (MPa)	71.1	time of steady pressure (S)	3600	Pressure drop (MPa)	0.6



Name	manual gate valve	description	No abnormal appearance of the sample
Company			

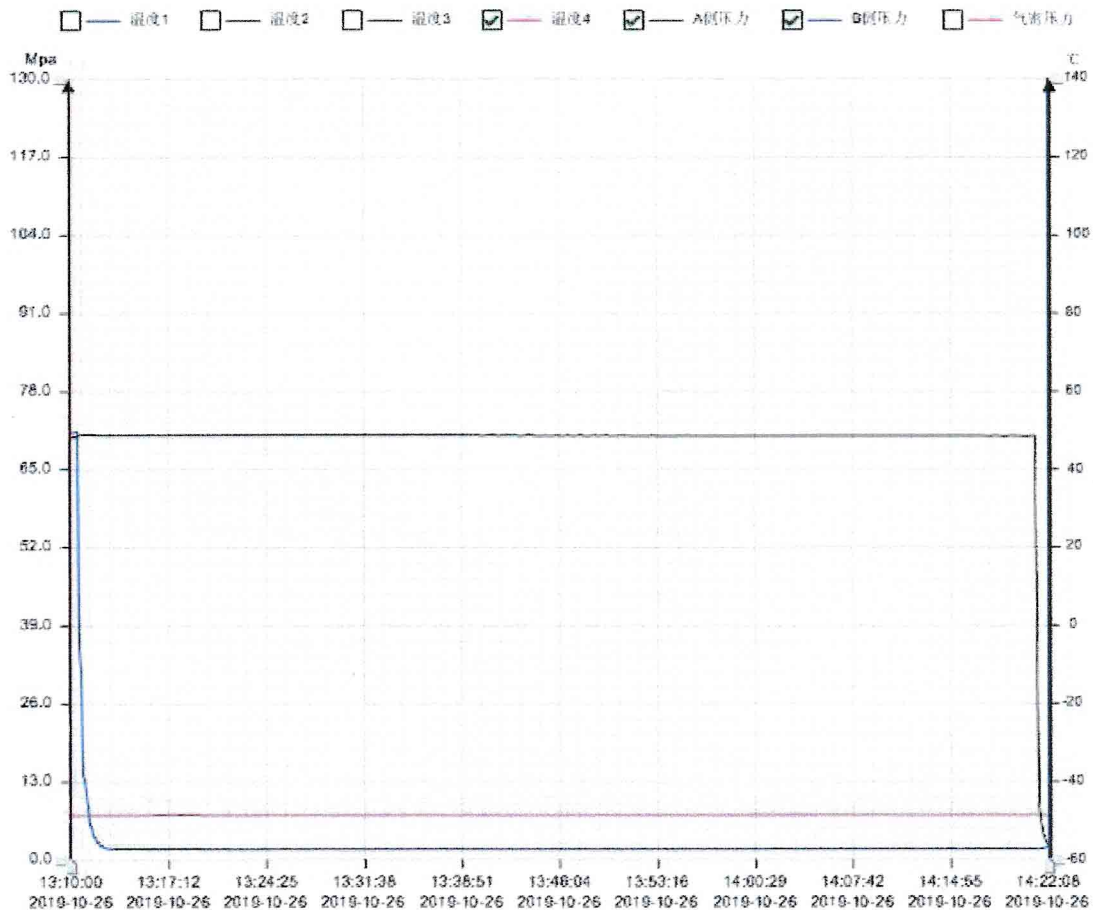
国家石油装备产品质量监督检验中心（山东）
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Test dept	Seat pressure test at the lowest rated temperature		test time	2019 年 10 月 26 日	
executive department	machinery Dept		SN	09	
Standard	API Spec 6A-2018		test medium	Nitrogen	
S/N pressure gauge	/		Sensor number	30733-56 30733-57	
test prssure (MPa)	70.3	time of steady pressure (S)	3600	Pressure drop (MPa)	0.2

PR2压力温度检测曲线



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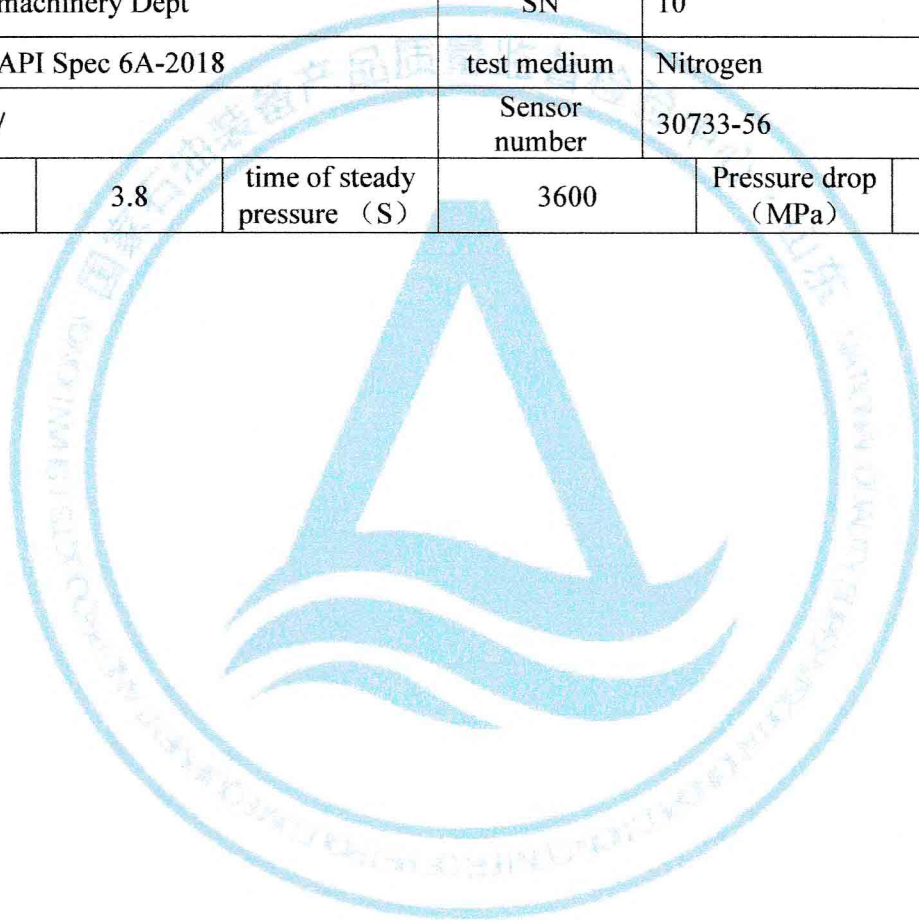
National Quality Supervision and Inspection Center of Petroleum Equipment and Products(shandong)

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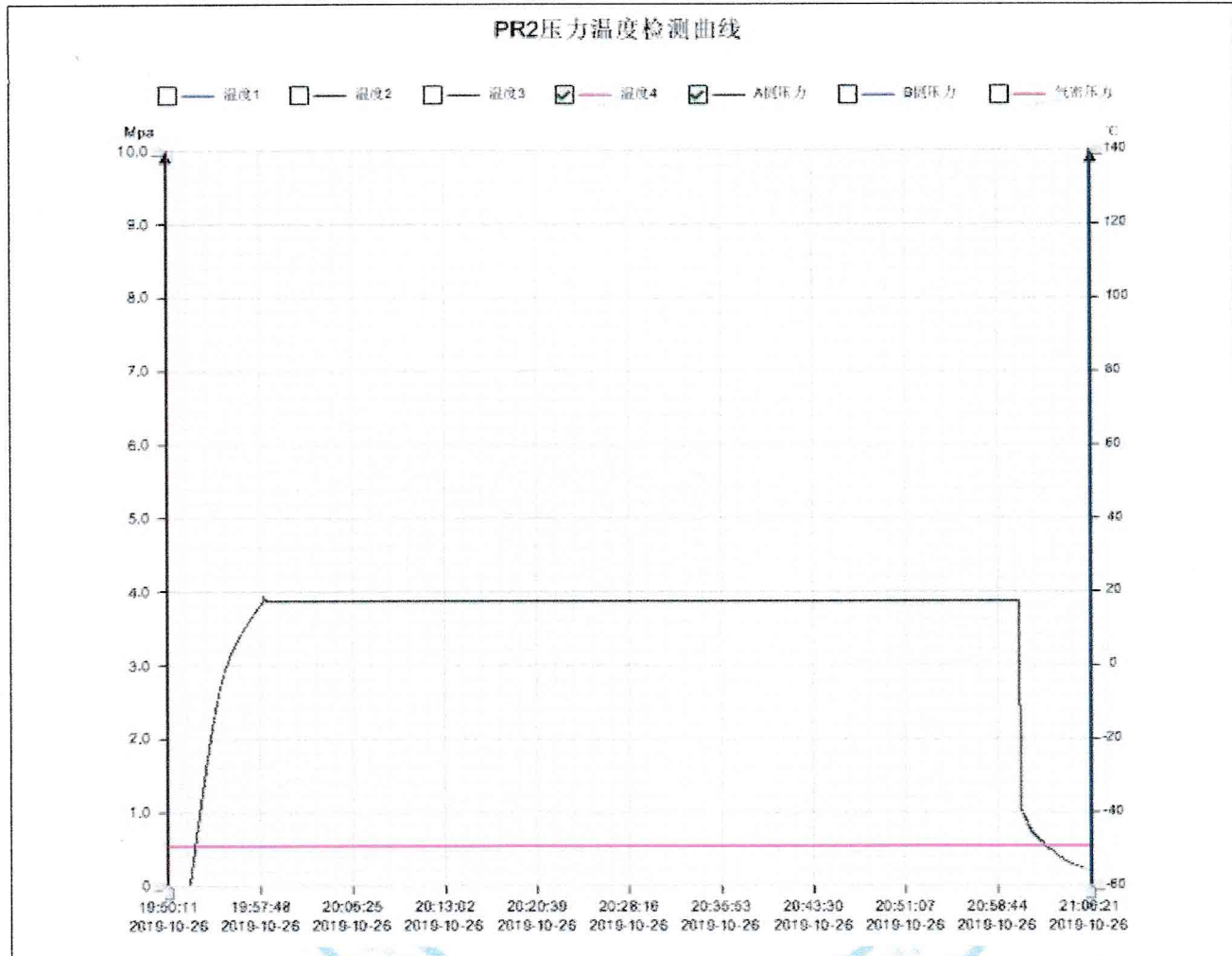
Name	manual gate valve		description	No abnormal appearance of the sample	
Company					
Test dept	Seat low pressure test at the lowest rated temperature		test time	2019年10月26日	
executive department	machinery Dept		SN	10	
Standard	API Spec 6A-2018		test medium	Nitrogen	
S/N pressure gauge	/		Sensor number	30733-56	
test prssure (MPa)	3.8	time of steady pressure (S)	3600	Pressure drop (MPa)	0.0



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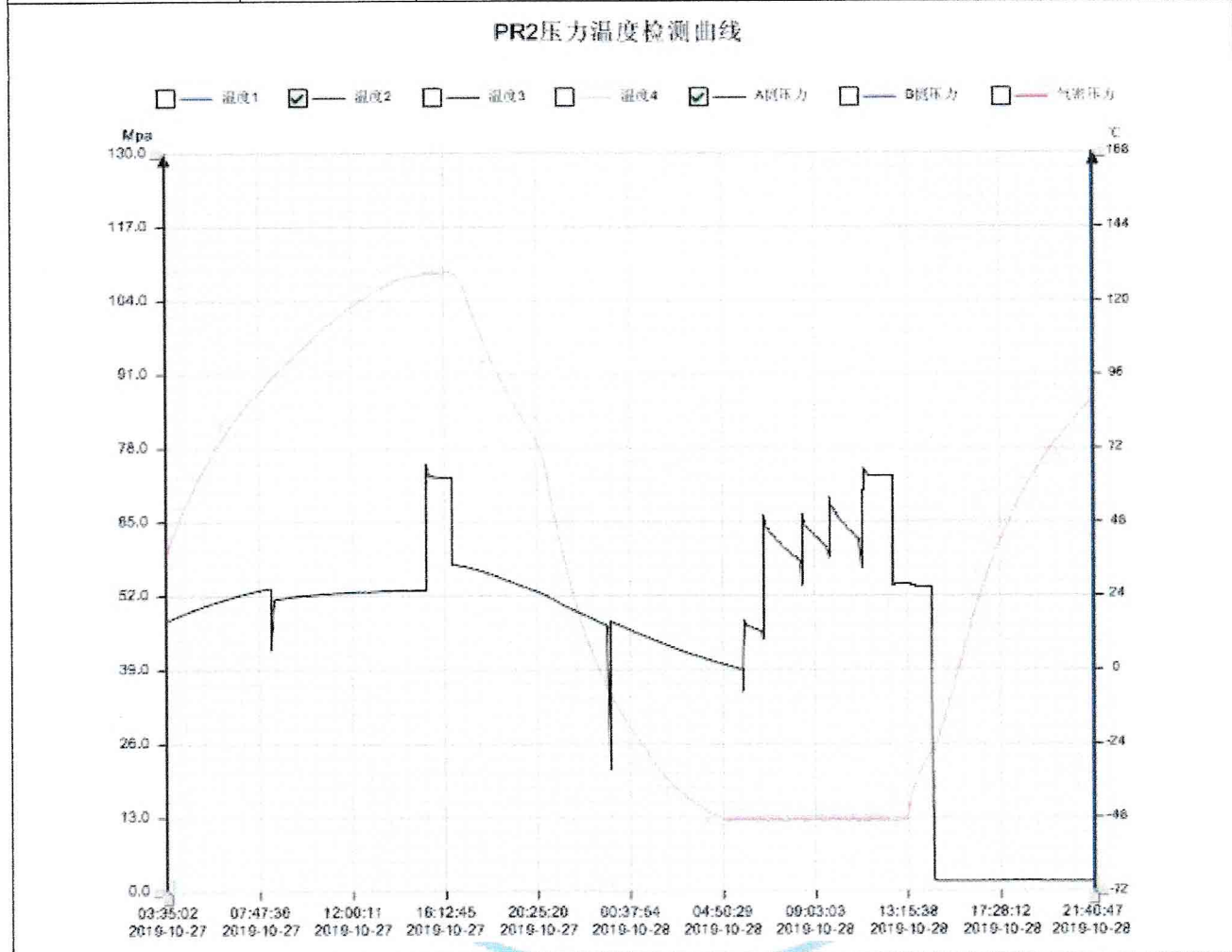
Name	manual gate valve	description	No abnormal appearance of the sample
Company			
Test dept	Body pressure / temperature cycle test	test time	2019年10月27日~2019年10月28日
executive department	machinery Dept	SN	11
Standard	API Spec 6A-2018	test medium	Nitrogen
S/N pressure	/	Sensor	30733-56 30733-57

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gauge		number	
test prssure (MPa)	/	time of steady pressure (S)	/
Pressure drop (MPa)	/		



Name	manual gate valve	description	No abnormal appearance of the sample
Company			
Test dept	Body pressure / temperature cycle test	test time	2019年10月29日
executive department	machinery Dept	SN	11

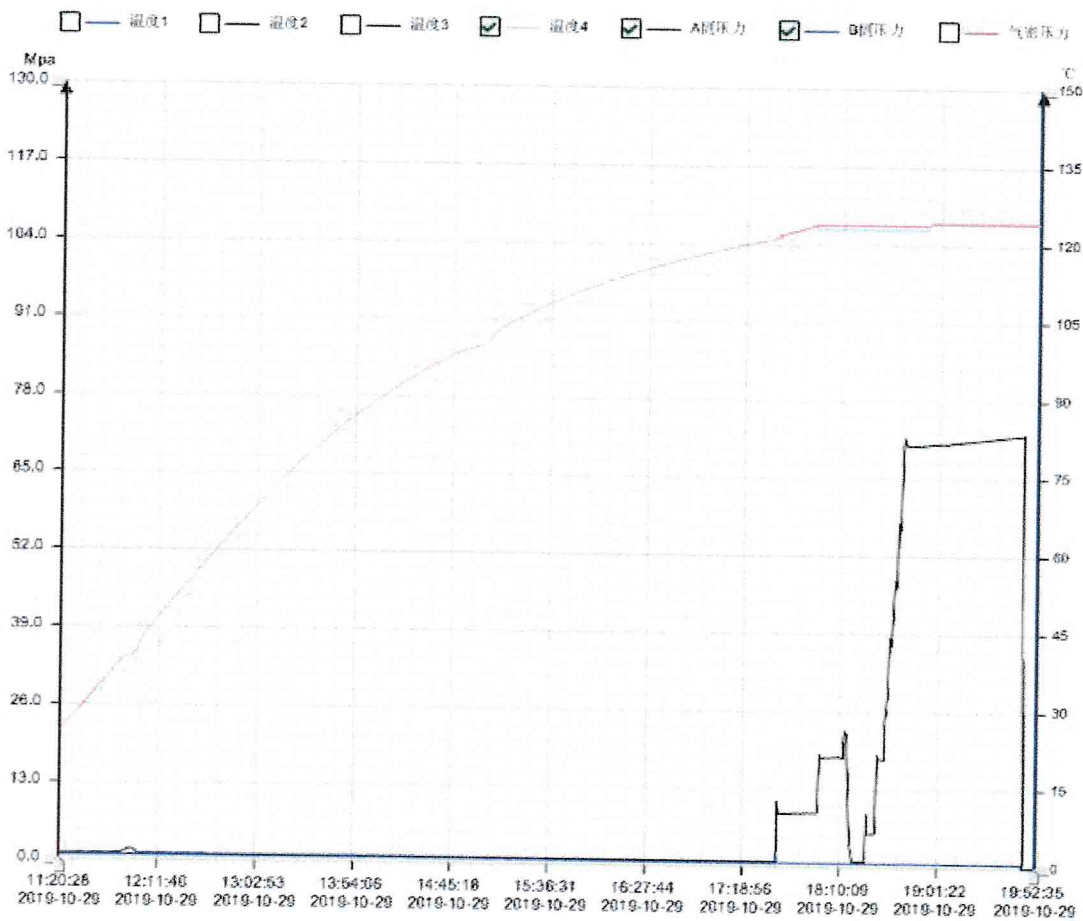
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Standard	API Spec 6A-2018		test medium	Nitrogen	
S/N pressure gauge	/		Sensor number	30733-56	
test prssure (MPa)	70.5	time of steady pressure (S)	3600	Pressure drop (MPa)	-1.7

PR2压力温度检测曲线



Name	manual gate valve	description	No abnormal appearance of the sample
Company	[REDACTED]		
Test dept	Body pressure / temperature cycle test	test time	2019年10月30日

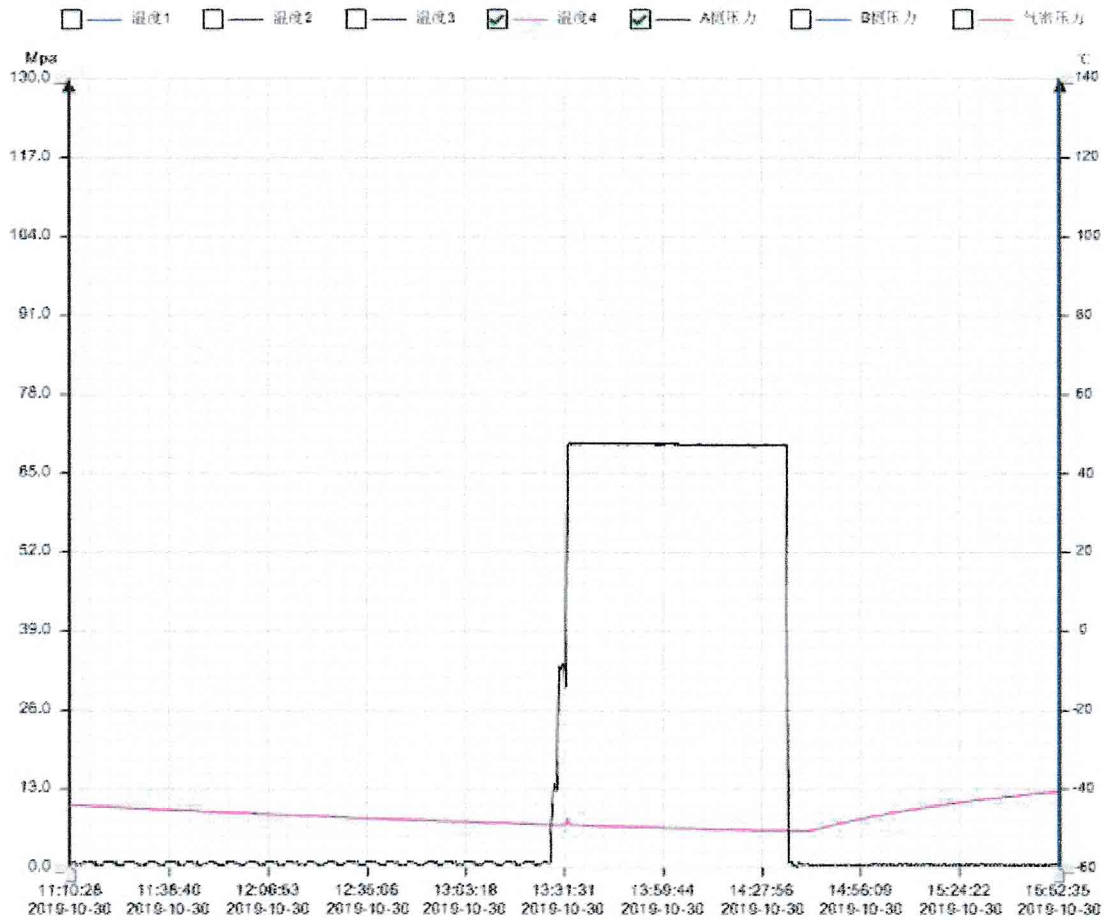
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executive department	machinery Dept		SN	11	
Standard	API Spec 6A-2018		test medium	Nitrogen	
S/N pressure gauge	/		Sensor number	30733-56	
test prssure (MPa)	69.9	time of steady pressure (S)	3600	Pressure drop (MPa)	0.5

PR2压力温度检测曲线



Name	manual gate valve	description	No abnormal appearance of the sample
Company			

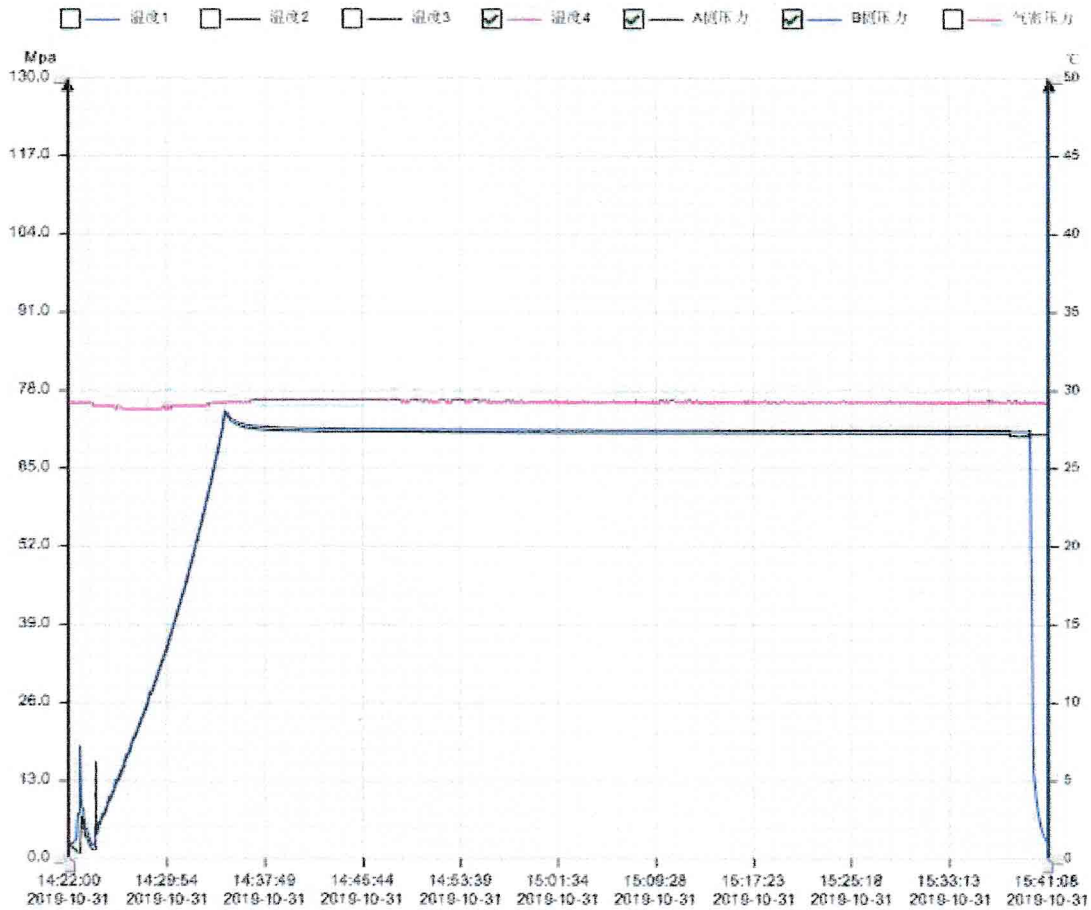
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Test dept	Valve body pressure test at room temperature		test time	2019年10月31日	
executive department	machinery Dept		SN	12	
Standard	API Spec 6A-2018		test medium	Nitrogen	
S/N pressure gauge	/		Sensor number	30733-56 30733-57	
test prssure (MPa)	71.5	time of steady pressure (S)	3600	Pressure drop (MPa)	0.4

PR2压力温度检测曲线



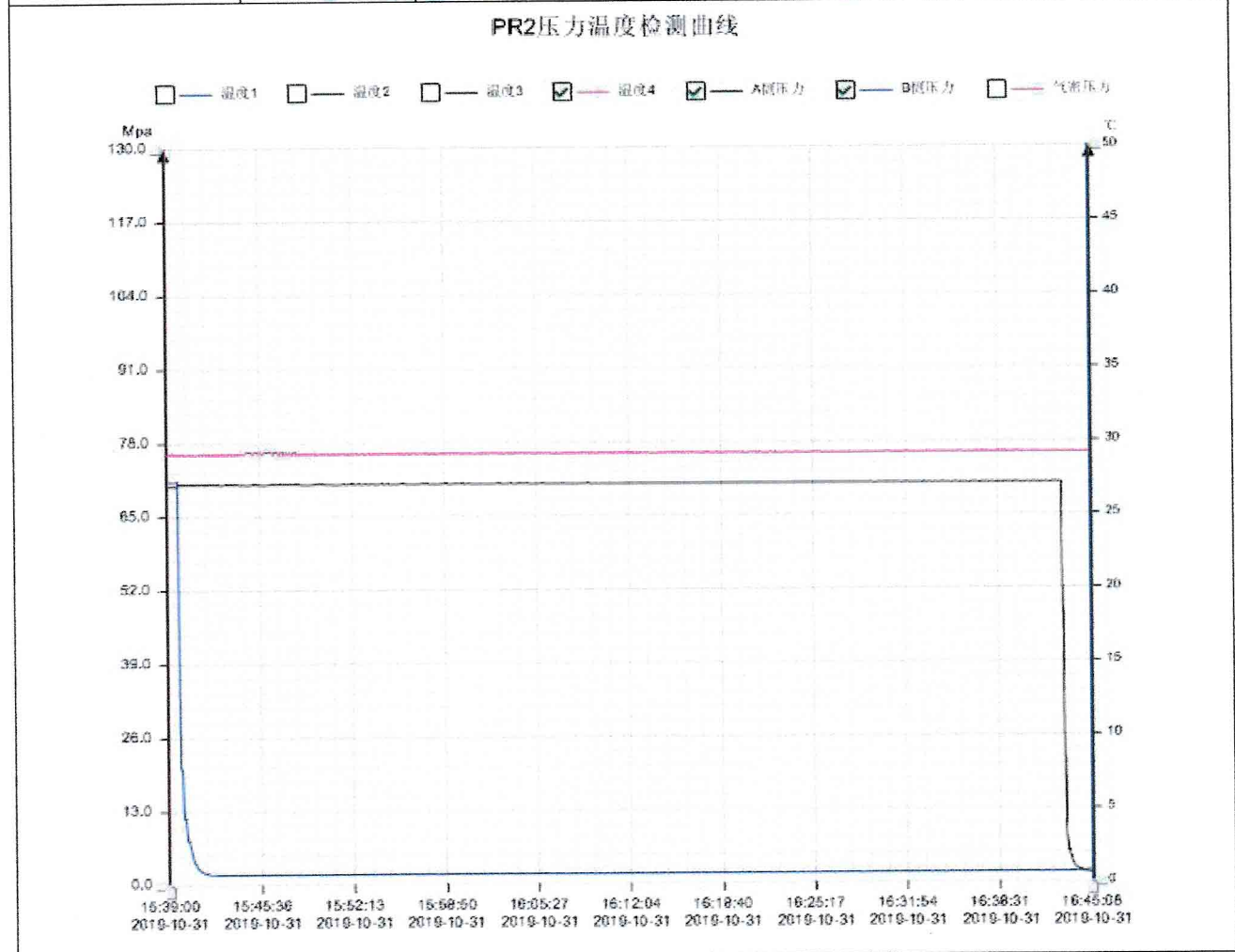
Name	manual gate valve	description	No abnormal appearance of the sample
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Company					
Test dept	Seat packing test at room temperature		test time	2019年10月31日	
executive department	machinery Dept		SN	13	
Standard	API Spec 6A-2018		test medium	Nitrogen	
S/N pressure gauge	/		Sensor number	30733-56 30733-57	
test prssure (MPa)	70.3	time of steady pressure (S)	3600	Pressure drop (MPa)	0.2



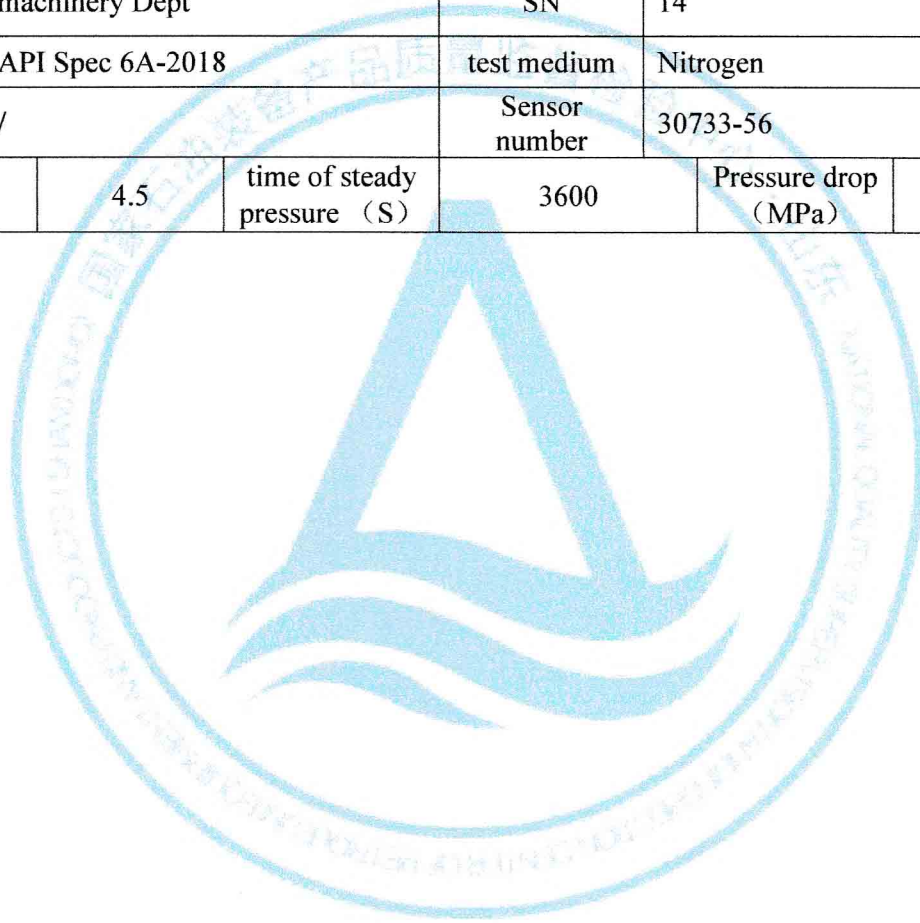
国家石油装备产品质量监督检验中心（山东）

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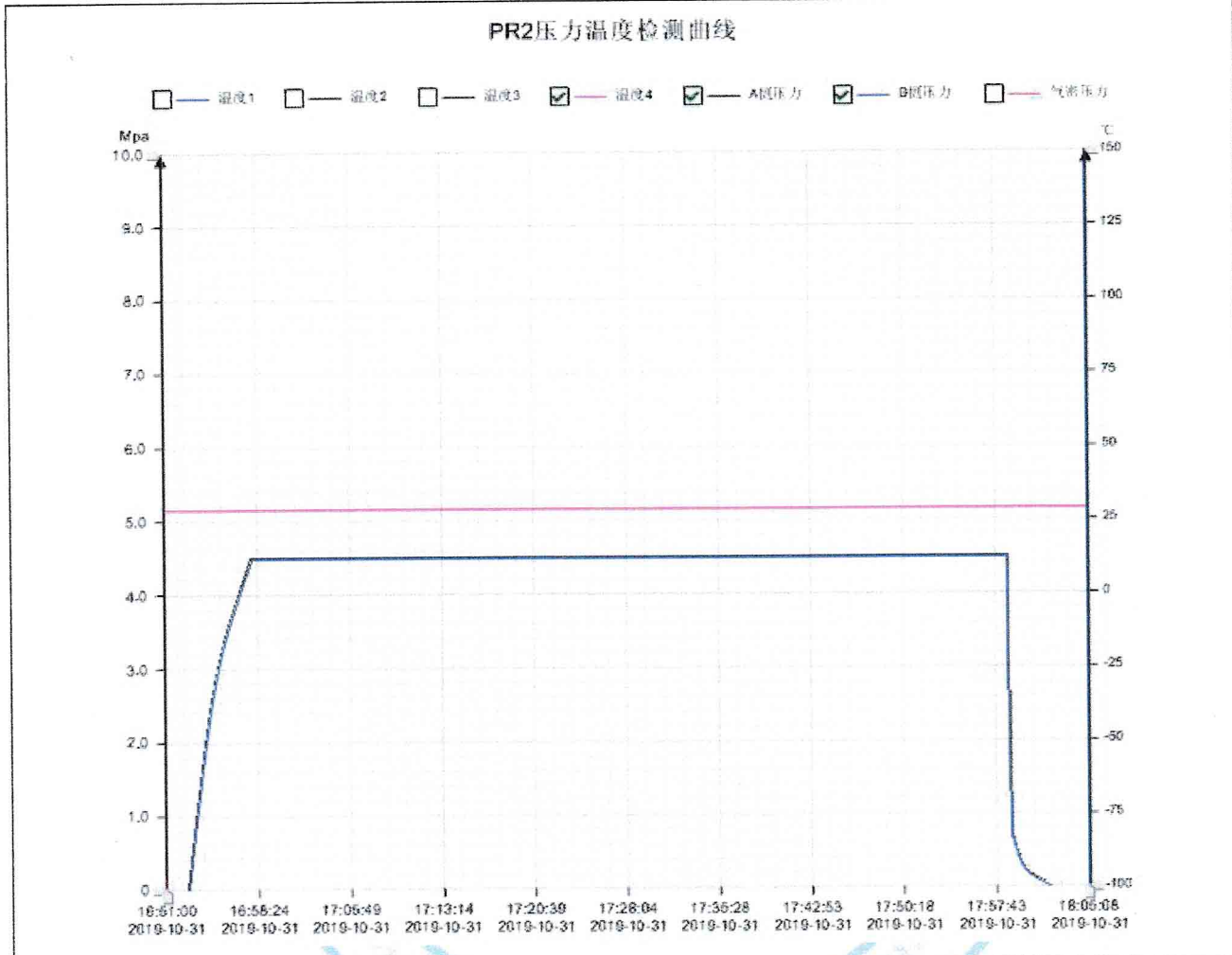
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Name	manual gate valve		description	No abnormal appearance of the sample	
Company					
Test dept	Valve body low pressure test at room temperature		test time	2019年10月31日	
executive department	machinery Dept		SN	14	
Standard	API Spec 6A-2018		test medium	Nitrogen	
S/N pressure gauge	/		Sensor number	30733-56	
test prssure (MPa)	4.5	time of steady pressure (S)	3600	Pressure drop (MPa)	0.1



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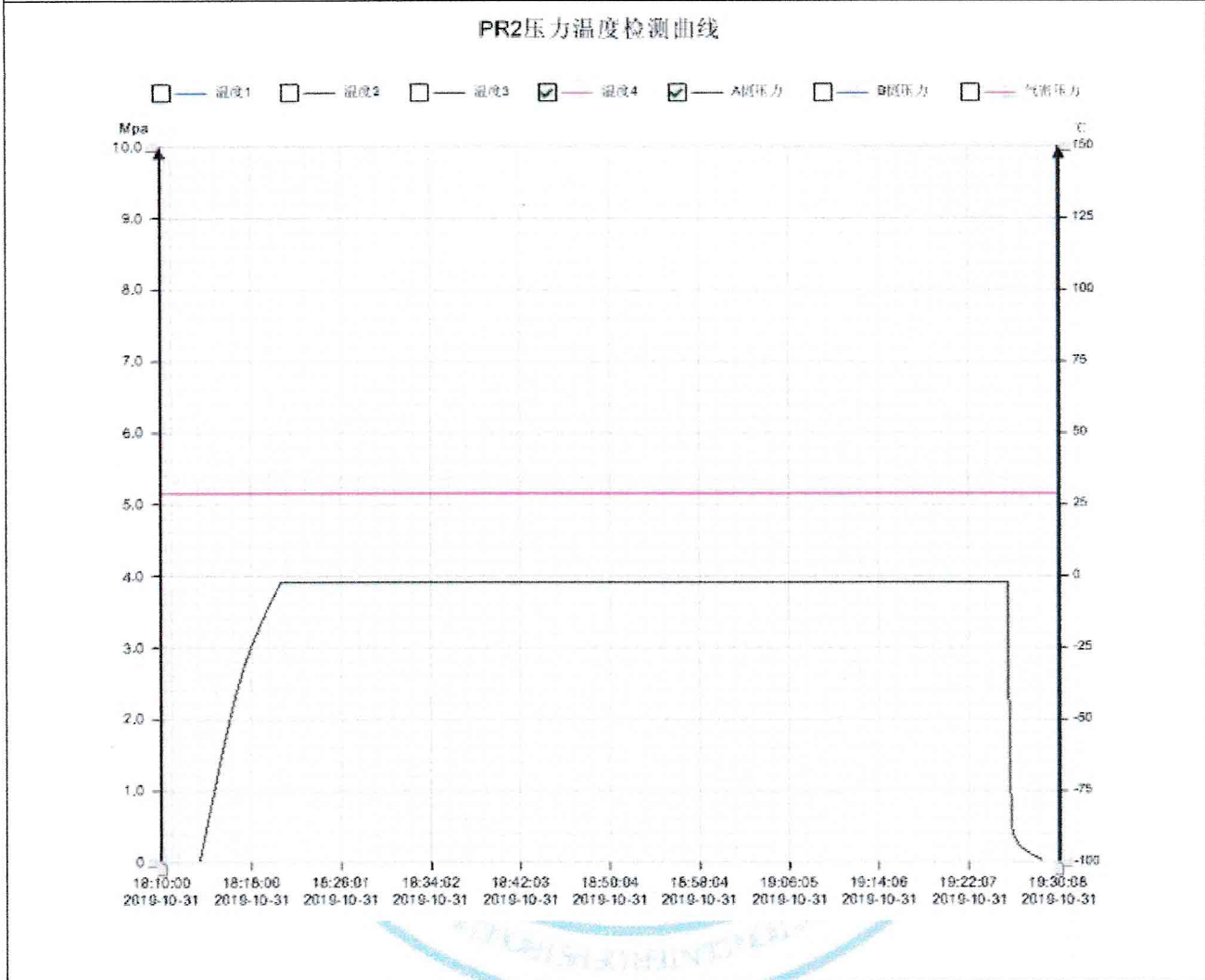
Name	manual gate valve	description	No abnormal appearance of the sample
Company			
Test dept	Seat low pressure test A side at room temperature	test time	2019年10月31日
executive department	machinery Dept	SN	15
Standard	API Spec 6A-2018	test medium	Nitrogen
S/N pressure gauge	/	Sensor number	30733-56

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test prssure (MPa)	3.9	time of steady pressure (S)	3600	Pressure drop (MPa)	0.1
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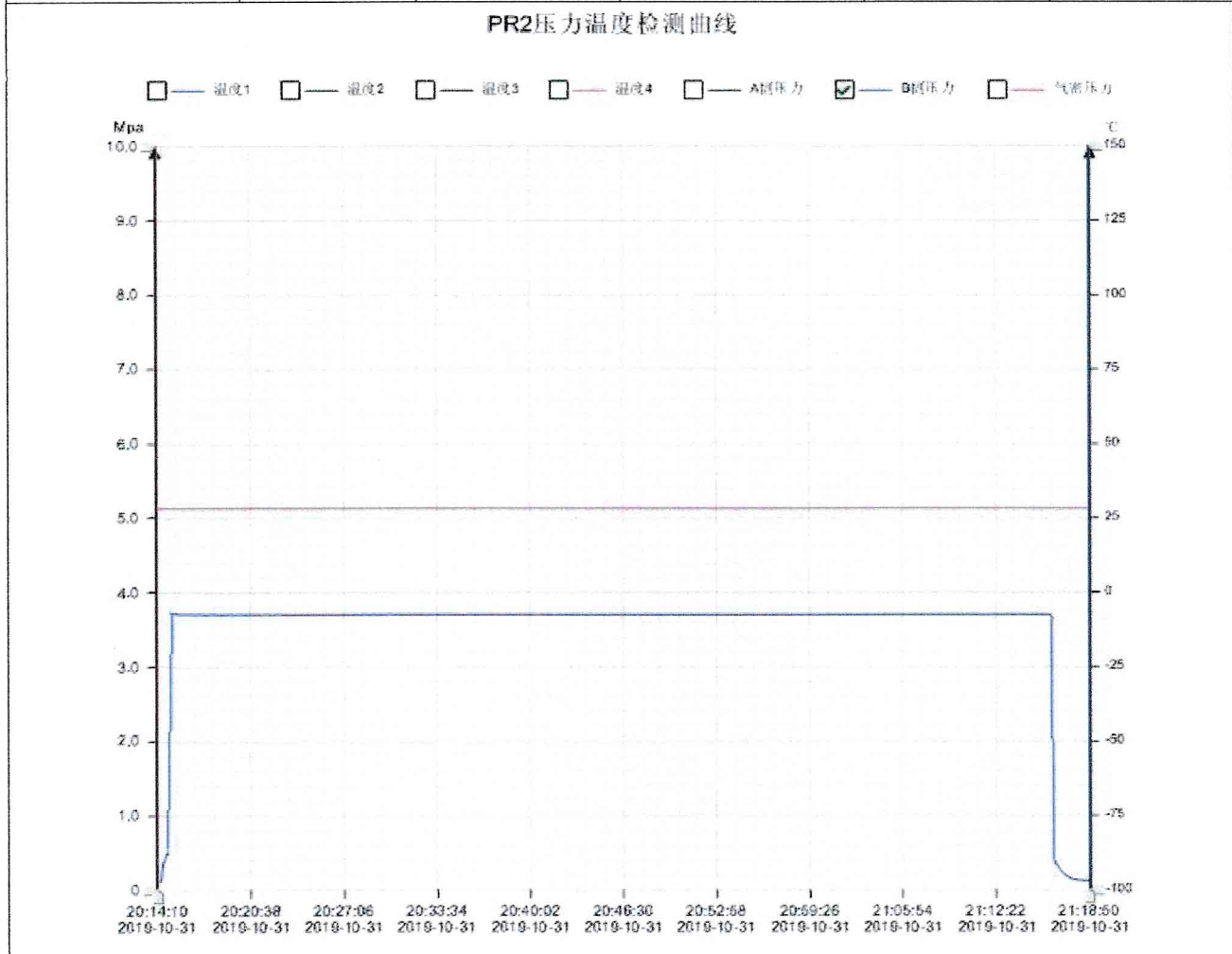
Name	manual gate valve	description	No abnormal appearance of the sample
Company			
Test dept	Seat low pressure test B side at room temperature	test time	2019年10月31日
executive department	machinery Dept	SN	15

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National Quality Supervision and Inspection Center of Petroleum Equipment and Products(shandong)

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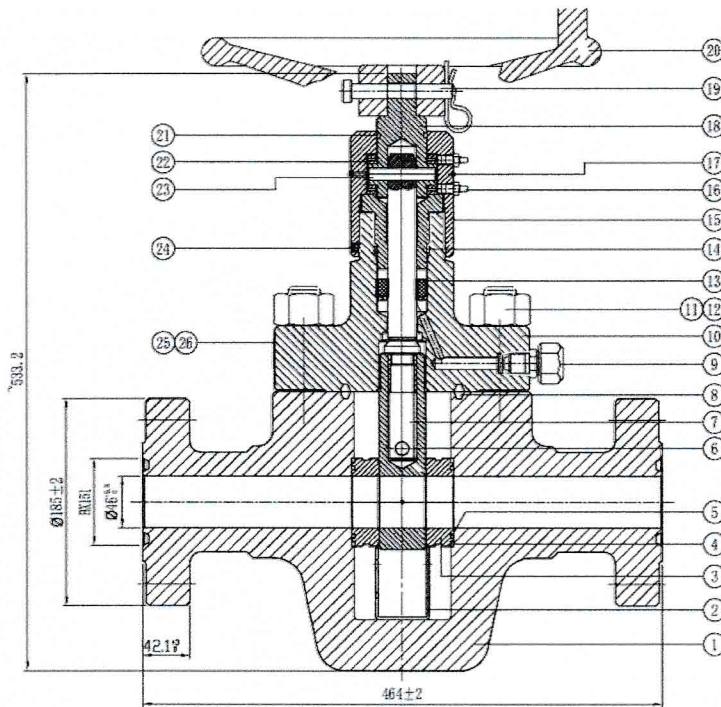
Standard	API Spec 6A-2018		test medium	Nitrogen	
S/N pressure gauge	/		Sensor number	30733-57	
test prssure (MPa)	3.7	time of steady pressure (S)	3600	Pressure drop (MPa)	0.1



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schematic drawing and BOM sheet



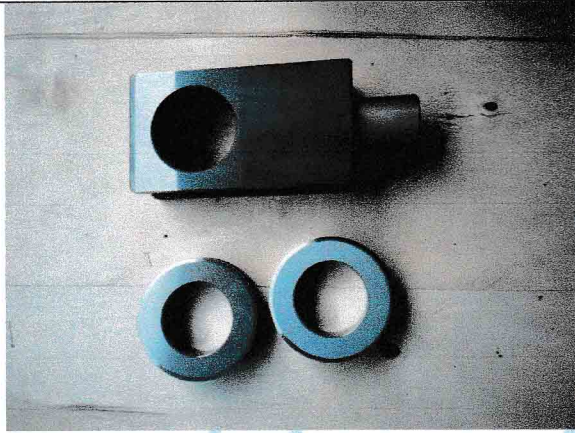
26	T827-1986	RIVET	4	T3		
25	0002T	NAMEPLATE	1	304		
24	B18.3-2003	SET SCREW 5/16"-18UNC-0.3	1			
23	00021	PIN	1	410		
22	-2840/TRD-2840	BEARING	2	ASSY (Ø63.1*Ø44.7*8.2)		
21	T3452.1-2005	O RING 37.5*3.55	1	NBR		
20	0013T	HAND WHEEL 14.0°	1	ASSY		
19	00018	PIN	1	ASSY		
18	00017	STEM ADAPTER	1	1045		
17	T3452.1-2005	O RING 87.5*3.55	1	NBR		
16	T1152-89	GREASE CUP 1/8NPT	2	ASSY		
15	00015	BEARING CAP	1	4130		
14	00016	PACKING GLAND	1	4130		
13	00014	PACKING	1	ASSY		
12	0001T	STUD 1.125"-8UN*5.00"	8	4140		
11	I B18.2.2	NUT 1.125"-8UN	8	1045		
10	00013	BONNET	1	4130		
9	00011	INJECTION VALVE 1/2NPT	1	ASSY		
8	00010	GASKET RING	1	316		
7	04018	STEM	1	PH17-4		
6	04017	GATE	1	410+TC		
5	01627	SEAT RING	2	ASSY		
4	01626	SEAT RING	2	ASSY		
3	04016	SEAT	2	410+TC		
2	04015	MOUNTING PLATE	1	410		
1	04014	VALVE BODY	1	4130		

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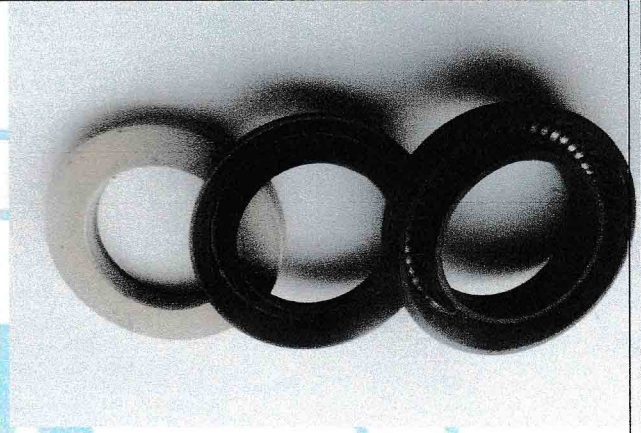
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Dismantling inspection and photos

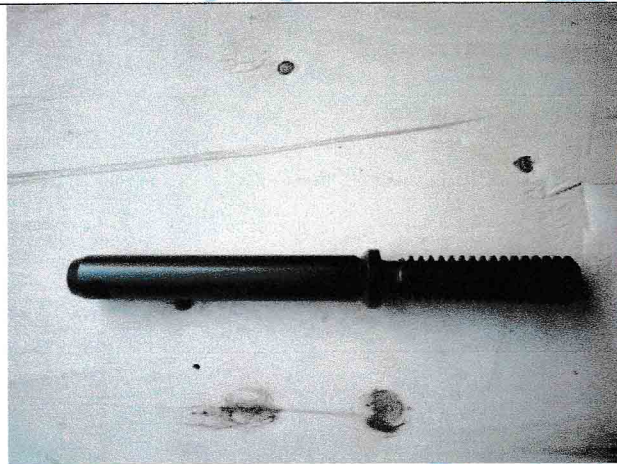
1、 Valve plate, seat disintegration



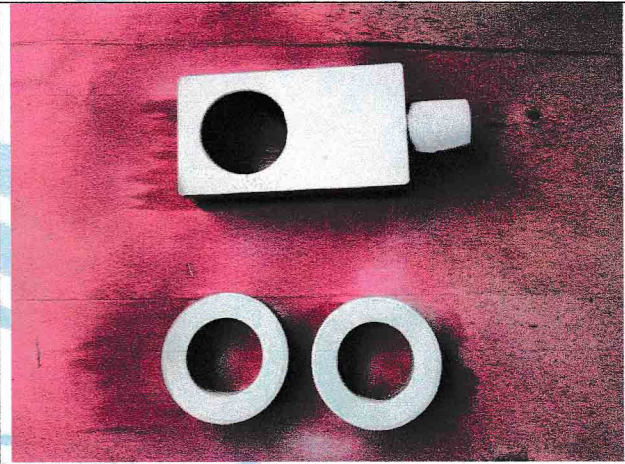
2、 stem seal ring



3、 stem



4、Valve plate, seat penetration inspection



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Main equipment used

Equipment name	Measuring instrument name	S/N	Verification/calibration is valid until	Usage
井控设备 30733	Pressure Transmitters	30733-59	2020-06-13	Dynamic test at room temperature.
	Pressure Transmitters	30733-60	2020-06-13	Dynamic test at room temperature.。
	Pressure Transmitters	30733-56	2020-06-13	Dynamic test at the highest rated temperature; body pressure test at the highest rated temperature; Seat pressure test at the highest rated temperature; Seat low pressure test at maximum rated temperature; dynamic test at lowest rated temperature; body pressure test at lowest rated temperature; seat pressure test at lowest rated temperature; seat low pressure test at lowest rated temperature; Pressure/temperature cycle test; valve body pressure test at room temperature; Seat packing test at room temperature; low pressure test of valve body at room temperature; low pressure test of seat at room temperature.
	Pressure Transmitters	30733-57	2020-06-13	Dynamic test at the highest rated temperature; dynamic test at the lowest rated temperature; seat low pressure test at room temperature.
	Industrial platinum resistance	30733-69	2020-01-06	Dynamic test at the highest rated temperature; body pressure test at the highest rated temperature; Seat pressure test at the highest rated temperature; Seat low pressure test at maximum rated temperature; body pressure/temperature cycle test.
				Dynamic test at the lowest rated temperature; body pressure test at the lowest rated temperature; seat pressure test at the lowest rated temperature; seat low

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				pressure test at the lowest rated temperature; valve body pressure/temperature cycle test.
	Torque sensor	30733-53	2020-01-06	Measurement of force or torque; dynamic test at room temperature; dynamic test at final room temperature.
	Torque sensor	30733-70	2020-01-06	Dynamic test at the highest rated temperature; dynamic test at the lowest rated temperature.

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