Technical Construction File

No. TCZJ23101151384 **Date:** 2023/10/17

The following sample(s) was/were submitted and identified by the client as:

Sample Description	GATE VALVE
Style/Item No.	1/2”, 3/4”, 1”, 1-1/4”, 1-1/2”, 2”2-1/2”, 3”, 4”
Applicant	YUHUAN OUJIA VALVE CO., LTD. Putian, Chumen, Yuhuan, Zhejiang, China
Manufacturer	YUHUAN OUJIA VALVE CO., LTD. Putian, Chumen, Yuhuan, Zhejiang, China
Sample Receiving Date	October 07,2023
Reviewing Period	October 07,2023 to October 17,2023
Reviewing Performed	SELECTED TEST(S) AS REQUESTED BY APPLICANT
Review Requested-	EN 1074-1:2000
Review Result(s)	FOR FUTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S)
Conclusion	THE SUBMITTED SAMPLE MET THE TEST REQUIREMENT

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Possible test case verdicts :	
Review case does not apply to the test object . :	N(.A.)
Review object does meet the requirement …… :	P(ass)
Review object does not meet the requirement….:	F(ail)

Reported by :

Tony Guo / Project Engineer

Name and Title

Approved by :

Kevin Shi / Manger

Name and Title

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Test Conducted:

Valves for water supply — Fitness for purpose requirements and appropriate verification tests —Part 1: General requirements

EN 1074-1 : 2000			
Clause	**Requirement + Test**	**Result – Remark**	**Verdict**
4	**Design requirements**		
4.1	**Materials**		
4.1.1	**Components and coating materials**		
	Components and coating materials shall be selected from those conforming to the relevant standards, if any; they shall also conform to 4.9, 4.10 and 4.11, alone or in combination with coating materials.		P
4.1.2	**Elastomers**		
	Elastomers shall comply with EN 681-1 and also, with the requirements of clause 4.9.		P
4.2	**DN**		
	DNs shall be selected from those given in EN 805, with an upper limit of DN 2000. The manufacturer shall indicate whether the DNs are from the DN/ID series or from the DN/OD series.		P
4.3	**Pressures**		
	Valves intended for water systems come under the PN designation and shall be designed in such a way that their characteristic pressures PFA, PMA and PEA, conform to table 1 for the corresponding PN (see also 4.4).		P

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EN 1074-1 : 2000			
Clause	**Requirement + Test**	**Result – Remark**	**Verdict**
	Table 1 - Pressures PN | PFA [a] bar | PMA [a] bar | PEA [b] bar 6 | 6 | 8 | 12 10 | 10 | 12 | 17 16 | 16 | 20 | 25 25 | 25 | 30 | 35 [a] PFA and PMA apply to valves in all positions from fully closed to fully open. [b] PEA only applies to valves not in the closed position.		
4.4	**Temperatures**		
	Valves shall be designed for service temperatures from 0 °C (excluding frost) to 40 °C and for storage temperatures between –20 °C and 70 °C. For valves made from materials with temperature-dependent mechanical behaviour, the pressures PFA, PMA and PEA shall be established at 20 °C and, if applicable, a derating factor (temperature/pressure table) for higher temperatures shall be given by the product standards and/or the manufacturer.		P
4.5	**Design of the shell and obturator**		
	Valves shall be designed so as to ensure a safety factor against short term and long term shell and obturator rupture, taking account of PFA, PMA and PEA given in 4.3. This requirement shall not preclude any of the performance requirements under clause 5.		P
4.6	**End types and interchangeability**		
	Valves can be designed with various types of end connections adapted to specific pipe systems; the connections shall fulfil the standardized requirements of the relevant pipe systems. In order to ensure interchangeability of flanged valves, their face-to-face or centre-to-face dimensions shall be in accordance with EN 558-1 and their flanges with prEN 1092-1:1997, EN 1092-2, prEN 1092-3:1994 or prEN 1092-4:1995		P

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<table>
<tr><th colspan="4">EN 1074-1 : 2000</th></tr>
<tr><th>Clause</th><th>Requirement + Test</th><th>Result – Remark</th><th>Verdict</th></tr>
<tr><td></td><td>(depending on the flange material). In the case of steel valves with welding ends, the end-to-end and centre-to-end dimensions shall be in accordance with EN 12982 and the welding ends dimensions to EN 12627.</td><td></td><td></td></tr>
<tr><td>4.7</td><td colspan="2">Operating direction</td><td></td></tr>
<tr><td></td><td>For valves with an operating mechanism, the preferred direction of closure is clockwise. Valves, other than service connection valves with DN smaller than DN 50, designed for anti-clockwise closure, shall be marked to indicate the closing direction.</td><td></td><td>P</td></tr>
<tr><td>4.8</td><td colspan="2">Maximum water velocity</td><td></td></tr>
<tr><td></td><td>Valves shall be designed for water flow velocities which can reach the values given in table 2 in steady flow conditions.
Table 2 - Maximum water velocity<table><tr><td>PFA
bar</td><td>Flow velocity
m/s</td></tr><tr><td>6
10</td><td>2,5
3</td></tr><tr><td>16
25</td><td>4
5</td></tr></table></td><td></td><td>P</td></tr>
<tr><td>4.9</td><td colspan="2">All materials, including lubricants, in contact with water intended for human consumption</td><td>N/A</td></tr>
<tr><td>4.10</td><td colspan="2">Internal corrosion and ageing resistance</td><td></td></tr>
<tr><td></td><td>Under the usage conditions defined in this standard, all internal surfaces which are in continuous contact with the water in the pipeline shall be resistant to corrosion and ageing by the selection of materials or shall be protected by</td><td></td><td>P</td></tr>
</table>

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EN 1074-1 : 2000			
Clause	**Requirement + Test**	**Result – Remark**	**Verdict**
	appropriate means.		
4.11	**External corrosion and ageing resistance**		
	Under the usage conditions defined in this standard, all external surfaces of the valve (including bolts) which are in continuous contact with the surrounding soil, water or atmosphere shall be resistant to corrosion and ageing by the selection of materials, or shall be protected by appropriate means.		P
5	**Performance requirements**		
5.1	**Mechanical strength**		
5.1.1	**Resistance to internal pressure of the shell and of all pressure containing components**		
	The valves shall withstand without damage, an internal pressure equal to the higher of the two values: PEA or 1,5 x PFA. When, in order to verify this requirement, a valve in its delivery state is tested in accordance with the test method given in annex A, there shall be no visually detectable external leakage and no other sign of defect.		P
5.1.2	**Resistance of the obturator to differential pressure**		N/A
5.1.3	**Resistance of the valves to bending**		N/A
5.1.4	**Resistance of valves to operating loads**		N/A
5.2	**Leak-tightness**		
5.2.1	**Leak-tightness of the shell and of all pressure containing components**		
5.2.1.1	**Leak-tightness to internal pressure**		
	The valves shall be leak-tight under an internal water pressure equal to the higher of the two		P

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EN 1074-1 : 2000			
Clause	**Requirement + Test**	**Result – Remark**	**Verdict**
	values: PEA or 1,5 x PFA. When, in order to verify this requirement, a valve in its delivery state is subjected to a water pressure test in accordance with 5.1.1, or to an air pressure test at 6 bar according to prEN 12266-1:1999, there shall be no visually detectable leakage.		
5.2.1.2	**Leak-tightness to external pressure**		
	Valves shall be leak-tight to ingress of air, water or any foreign matter. When, in order to verify this requirement, a valve in its delivery state is tested in accordance with the test method given in annex D, any variation of pressure during the test shall not exceed 0,02 bar.	**0.008 bar**	P
5.2.2	**Seat tightness**		
5.2.2.1	**Seat tightness at high differential pressure**		
	The seat of valves in the fully closed position shall be leak-tight within a defined leakage rate, selected from rates A to F of prEN 12266-1:1999 in accordance with the other parts of this standard; the required leakage rate shall be given in the manufacturer's technical data. When, in order to verify this requirement, a valve in its delivery state is subjected to a test in accordance with A.4 of prEN 12266-1:1999 under a differential pressure equal to 1,1 x PFA for water, or 6 bar for air, the measured leakage rate shall not exceed the defined leakage rate.		P
5.2.2.2	**Seat tightness at low differential pressure**		
	Requirement shall be in accordance with 5.2.2.1; test according to 5.2.2.1 but under a differential water pressure of 0,5 bar.		P

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EN 1074-1 : 2000			
Clause	**Requirement + Test**	**Result – Remark**	**Verdict**
5.2.3	**Maximum operating torque (MOT) for operation and leak-tightness**		N/A
5.3	**Hydraulic or airflow characteristics**		
	The hydraulic or airflow characteristics of the valves shall be given in the manufacturer's catalogues and shall be in accordance with the other parts of this standard.		P
5.4	**Resistance to disinfection products**		N/T
5.5	**Endurance**		N/A

* * * End of Report * * *

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Type of equipment: GATE VALVE;
Model: 1/2”, 3/4”, 1”, 1-1/4”, 1-1/2”, 2” 2-1/2”, 3”, 4”

Details of:

View:

[X] general

[ ] front

[ ] rear

[ ] right

[ ] left

[ ] top

[ ] bottom

- End of Annex I -