Test Report

No.: SHHL1604018603PL Date: APR. 19, 2016

SHANGHAI LANSHENG LIGHT INDUSTRIAL PRODUCTS IMP. & EXP. CORP. LTD
FLOOR 7-11, NO.1230 ZHONG SHAN (NORTH 1) ROAD, SHANGHAI 200437, CHINA

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

Sample Description	: FAUCET
SGS Ref. No.	: NBHL1602001259SD
Style/ Item No.	: MY8220,MY2101,MY5104,MY9884,MY5103
Manufacturer	: WENZHOU KINGSDOM SANITARY WARE CO.,LTD
Client Reference Information	: MY8221,MY1107,MY1004,MY6009,MY1581-50, MY9508-71,MY1110,MY-S88
Sample Receiving Date	: APR. 12, 2016
Testing Period	: APR. 12, 2016 TO APR. 19, 2016
Test Performed	: SELECTED TEST(S) AS REQUESTED BY APPLICANT
Test Requested	: 1. DIMENSIONAL CHARACTERISTICS (ACCORDING TO EN 817:2008 CLAUSE 6) 2. LEAKTIGHTNESS CHARACTERISTICS (ACCORDING TO EN 817:2008 CLAUSE 8) 3. PRESSURE RESISTANCE CHARACTERISTICS (ACCORDING TO EN 817:2008 CLAUSE 9) 4. MECHANICAL STRENGTH CHARACTERISTICS (ACCORDING TO EN 817:2008 CLAUSE 11)
Test Result(s)	: FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S)
Conclusion	: THE SUBMITTED SAMPLE MET THE TEST REQUIREMENT.

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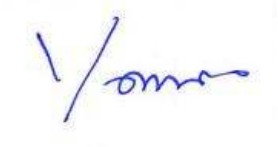
Signed for and on behalf of
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.



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Test Conducted:

1. Dimensional characteristics (According to EN 817:2008 Clause 6)

2. Leaktightness Characteristics (According to EN 817:2008 Clause 8)

3. Pressure resistance characteristics (According to EN 817:2008 Clause 9)

4. Mechanical Strength Characteristics (According to EN 817:2008 Clause 11)

	Style No.	Sample Size
Test sample	MY8220	1 piece
Referenced sample	MY2101	1 piece
	MY5104	1 piece
	MY9884	1 piece
	MY5103	1 piece

Test Property	Test Principle / Requirements	Result	Rating
6 Dimensional characteristics			
6.1 General remarks	The design and construction of components without defined dimensions permit various design solutions to be adopted by the manufacturer. Special cases are covered in 6.5.	See Below	/
6.2 Inlet dimensions	Inlet dimensions shall be as specified in Table 3.	/	N/A
6.3 Outlet dimensions	Outlet dimensions shall be as specified in Table 4. When nozzle outlets are used with flow rate regulators conforming to EN 246, the manufacturing tolerances chosen for the connecting threads of the outlets shall be compatible with those of the connecting threads of the flow rate regulators in order to ensure interchangeability.	See Result 1	Pass
6.4 Mounting dimensions	Mounting dimensions shall be as specified in Table 5.	See Result 1	Pass

Test Property	Test Principle / Requirements	Result	Rating
6.5 Special cases	Mechanical mixing valves intended for special applications, e.g. for installation on sanitary appliances not conforming with European Standards, or where dimensional interchangeability is not a requirement can incorporate dimensional deviations provided that: - all other requirements of this standard are satisfied; - secure fixing to the mounting surface is provided with all fixing holes covered; - thread connections to the supply pipes comply with EN ISO 228-1; - the air gap dimension E≥25 mm or a backflow prevention device is provided in accordance with EN1717. - the D_1 dimension is coordinated with the sanitary appliance. The manufacturer's literature including the installation instructions supplied with the tapware shall indicate clearly that the tapware is for special application.	/	N/A
6.6 Flexible hoses for shower outlets	Requirements for flexible hoses for shower outlets shall be as specified in EN 1113.	/	N/A
6.7 Shower Outlets	Requirements for shower outlets shall be as specified in EN 1112.	/	N/A
8 Leaktightness Characteristics			
8.3 Leaktightness of the obturator and of the mixing valve upstream of the obturator with the obturator in the closed position	Apply to the inlet of the mixing valve a water pressure of (1,6 ± 0,05) MPa [(16,0 ± 0,5) bar] and maintain it for (60 ± 5) s.; during this period, move the temperature control device over its full operating range. Requirments: Verification of leaktightness upstream of the obturator – There shall be no leakage or seepage through the walls throughout the duration of the test. Verification of leaktightness of the obturator – There shall be no leakage of the obturator throughout the duration of the test.	No leakage or seepage	Pass

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Test Property	Test Principle / Requirements	Result	Rating
8.4 Leaktightness of the mixing valve downstream of the obturator with the obturator open	With the outlet orifice(s) artificially closed, and the obturator open; Apply to the inlet of the mixing valve a water pressure of (0,4±0,02) MPa [(4,0±0,2) bar] and maintain it for (60±5) s; during this period, move the temperature control device over its full operating range; Reduce gradually the pressure to (0, 02±0,002) MPa [(0,2±0,02) bar] and maintain it for (60±5) s. Requirements: Throughout the duration of the test there shall be no leakage, or seepage through the walls.	No leakage or seepage	Pass
8.5 Leaktightness of manually operated diverter:	- Flow to bath Apply a static water pressure of (0,4±0,02) MPa [(4,0±0,2) bar] and maintain it for (60±5) s; Gradually reduce the pressure to (0,02± 0,002) MPa [(0,2±0,02) bar] and maintain it for (60±5) s; There shall be no leakage at the outlet to shower.	No diverter	N/A
	-Flow to shower Apply a static water pressure of (0,4±0,02) MPa [(4,0±0,2) bar] and maintain it for (60 ± 5) s; Gradually reduce the pressure to (0,02±0,002) MPa [(0,2±0,02) bar] and maintain it for (60±5) s; There shall be no leakage at the outlet to bath.	No diverter	N/A
8.6 Leaktightness and operation of diverter with automatic return:	- Flow to bath Put the diverter in the flow-to-bath mode with the outlets to bath and shower open; Apply a dynamic pressure of (0,4±0,02) MPa [(4,0±0,2) bar] and maintain it for (60±5) s; There shall be no leakage at the outlet to shower.	No diverter	N/A
	-Flow to shower Put the diverter in the flow-to-shower mode with the outlets to bath and shower open; Apply a dynamic pressure of (0,4±0,02) MPa [(4,0±0,2) bar] and maintain it for (60±5) s; Check for leakage at the outlet to bath; Gradually reduce the pressure to (0,05±0,002) MPa [(0,5±0,02) bar] and maintain it for (60±5) s; There shall be no leakage at the outlet to bath whilst the diverter remains in the flow to shower position; The diverter shall not return to the flow to bath position at any pressure ≥ 0.05±0.002 MPa; The diverter shall return to the flow to bath position when the obturator is closed.	No diverter	N/A

Test Property	Test Principle / Requirements	Result	Rating
	Continuation procedure: flow to bath Re-open the mixing valve obturator; Re-apply a dynamic pressure of (0,05±0,002) MPa [(0,5±0,02) bar] and maintain it for (60±5) s. Requirement There shall be no leakage at the outlet to shower.	No diverter	N/A
8.7 Leaktightness of the obturator: cross flow between hot water and cold water	With the outlet orifice open and the obturator closed, apply a water pressure of (0,4±0,02) MPa [(4±0,2) bar] to the mixing valve and maintain it for (60±5) s; in this period, move the temperature control device over its full operating range; Repeat the test, reversing the water supply connection to the other inlet. Throughout the duration of the test, there shall be no leakage or seepage at the outlet or at the end of the unconnected inlet.	No leakage or seepage	Pass
9 Pressure resistance characteristics			
9.4 Mechanical behaviour upstream of the obturator – obturator in the closed position	With the obturator closed; Apply at the mechanical mixing valve inlet a static water pressure of (2,5±0,05) MPa [(25,0±0,5) bar] and maintain it for (60±5) s; Throughout the duration of the test, there shall be no permanent deformation of any part of the mixing valve.	No permanent deformation	Pass
9.5 Mechanical behaviour downstream of the obturator – obturator in the open position	Open the mixing valve obturator fully; For mixing valves with a flow rate regulator fitted, apply at the mixing valve inlet a dynamic water pressure of (0,4±0,02) MPa [(4,0±0,2) bar] and maintain it for (60±5) s; For mechanical mixing valves without flow rate regulator, apply at the inlets, for (60±5) s, the water pressure needed to give a flow rate of (0,4±0,04) l/s through the mixing valve; For mixing valves with removable flow rate regulator, the test is carried out both with and without this regulator There shall be no permanent deformation in any part of the mechanical mixing valve.	No permanent deformation	Pass

Test Property	Test Principle / Requirements	Result	Rating
11 Mechanical Strength Characteristics	There shall be no deformation or other deterioration which impairs the function of the mixing valve. The mixing valve shall satisfy the requirement for leaktightness.	No deformation or other deterioration Leaktightness was satisfied after test	Pass

Remark:

1. N/A= Not applicable

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Result 1 Dimensions Test

a) Outlet dimensions

Dimensions	Measures (mm)	Comments	Result (mm)
E	25 min (Outlet orifice - Lowest point - All mixing valves and outlets)	Dimension from lowest point of the outlet orifice including any flow rate regulator or flow straightener to the mounting surface. Regulations exist in some EU Member States that set dimensions greater than those indicated in this European Standard.	65
D 1	90 min (Horizontal mounted mechanical mixing valve)	Dimension from the centre of outlet orifice including any flow rate regulator or flow straightener.	100
D 3	115 min (Wall mounted mechanical mixing valve separate spout		/
A	G ½ B (Remote outlet)	In accordance with EN ISO 228-1 Useful thread length Free length of connection	/
A 4	7.5 min (Shower outlet)		/
A 5	9.5 min (Shower outlet)		/

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c) Mounting Dimensions

Dimensions	Measures (mm)	Comments	Result (mm)
H 1	24 max (Two hole mechanical mixing valve size ½)	Adjustable centres	/
H 2	29 max (Side spray)	Adjustable centres	/
H 3	33.5 max (Single hole)	/	27.2
J 1	42 min (Side Spray)	Dimension of base or flange	/
J 2	45 min (Bath, bath/shower, basin, bidet, sink)		53
J 3	50 max (Single and multi hole mechanical mixing valve)	Diameter of clamping washer	48
V	32 max (Basin, bidet, sink	Flange projection to rear	26
V 1	35 max (Bath – two hole mechanical mixing valve	/	/
L	Dimension which allows taps and outlets to be fitted on to supports of thickness between 1 mm and 18 mm.	Minimum range of supports, which allows the installation of the mixing valves.	0~30

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Sample Photo:

Test sample (MY8220)

Referenced sample (MY2101)

Referenced sample (MY5104)

Referenced sample (MY9884)

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Referenced sample (MY5103)

SGS authenticate the photo on original report only

End of Report

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