


TEST REPORT

EN 817

Sanitary tapware – Mechanical mixers (PN 10) – General technical specifications

Report Reference No.....: 180424199GZU-001

Tested by (name and signature): Felix Li
Project Engineer



Approved by (name and signature): Bink Xu
Senior Project Engineer



Date of original issue.....: July 25, 2018

Date of revised issue.....: -----

Contents.....: Total test report 23 pages including:
Report text: 16 pages
Appendix A for product photos: 4 pages
Appendix B for Dimensional characteristics: 1 page
Appendix C for Determination of flow rate: 1 page
Appendix D for revision page: 1 page

Testing Laboratory name: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Address: Room 4103 & 4203, No. 63, Punan Road, Huangpu District, Guangzhou, Guangdong Province, China

Testing location: Same as above

Applicant's name.....: KAIPING HIMARK SANITARY WARE CO., LTD.

Address: NO. 6 SHUI KOU JINSHAN ROAD SHUI KOU TOWN KAIPING, GUANGDONG CHINA

Test specification:

Standard.....: EN 817: 2008 (E)

Non-standard test method.....: N/A

Test Report Form No.....: TTRF_EN 817_b

TTRF Originator: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Master TTRF: Dated 2018-5-25

Test item description: Basin faucet and Kitchen Sink Faucet

Trade Mark: —

Model and/or type reference.....: See “General product information” on page 2

Manufacturer: KAIPING HIMARK SANITARY WARE CO., LTD.

Rating(s): See “General product information” on page 2

Summary of testing:

The submitted samples were tested in accordance with the standard method EN 817: 2008 (E) except clause 3.2, 4.1, 5.1 and 14.3, for details result refer to page 7 to page 23.

Possible test case verdicts:

- Test case does not apply to the test object: N/A
- Test object does meet the requirement: P (Pass)
- Test object does not meet the requirement: F (Fail)

Testing:

Date of receipt of test item: May 9, 2018

Date (s) of performance of tests: May 9, 2018 to July 4, 2018

General remarks:

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"(See remark #)" refers to a remark appended to the report.

"(See Appendix #)" refers to an appendix appended to the report.

Throughout this report a comma (point) is used as the decimal separator.

When determining the test result, measurement uncertainty has been considered.

The clause which indicated with * is the subcontract test item.

General product information:

Item No.	Model No.	Product Description	Coatings	Cartridge	Remark
1	1101100A/ 1101100	Single lever basin faucet	chrome	WH 40D/ SEDAL 40D	Covered Model
2	1101139A/ 1101129	Single lever basin faucet	black painting	WH 40D/ SEDAL 40D	Covered Model
3	1101131A/ 1101131	Single lever basin faucet	gold	WH 40D/ SEDAL 40D	Covered Model
4	1102100A/ 1102100	Single lever basin faucet	chrome	WH 40D/ SEDAL 40D	Covered Model
5	1102139A/ 1102139	Single lever basin faucet	black painting	WH 40D/ SEDAL 40D	Covered Model
6	1102131A/ 1102131	Single lever basin faucet	gold	WH 40D/ SEDAL 40D	Covered Model
7	1101300A	Single lever basin faucet	chrome	WH 40D/ SEDAL 40D	Covered Model
8	1101300	Single lever basin faucet	chrome	WH 40D/ SEDAL 40D	Tested Model
9	1101339/ 1101306	Single lever basin faucet	black painting	WH 40D/ SEDAL 40D	Covered Model
10	1101331/ 1101307	Single lever basin faucet	gold	WH 40D/ SEDAL 40D	Covered Model
11	1102300	Single lever basin faucet	chrome	WH 40D/ SEDAL 40D	Covered Model
12	1102300A	Single lever basin faucet	chrome	WH 40D/ SEDAL 40D	Covered Model
13	1101200A/ 1101200	Single lever basin faucet	chrome	WH 40D/ SEDAL 40D	Covered Model

14	1101231A/ 5090311	Single lever basin faucet	gold	WH 40D/ SEDAL 40D	Covered Model
15	1101239A/ 1101239	Single lever basin faucet	black painting	WH 40D/ SEDAL 40D	Covered Model
16	1101200/ 1101200A	Single lever basin faucet	chrome	WH 40D/ SEDAL 40D	Covered Model
17	1102200	Single lever basin faucet	chrome	WH 40D/ SEDAL 40D	Covered Model
18	1102200A	Single lever basin faucet	chrome	WH 40D/ SEDAL 40D	Covered Model
19	1102231A/ 5090312	Single lever basin faucet	gold	WH 40D/ SEDAL 40D	Covered Model
20	1114500/ /1114501	Single lever basin faucet	chrome/ brushed nickel	WH 35/ /SEDAL 35	Covered Model
21	1114539	Single lever basin faucet	black painting	WH 35/ /SEDAL 35	Covered Model
22	1114534/ 1114545	Single lever basin faucet	white painting + Chrome	WH 35/ /SEDAL 35	Covered Model
23	1114538/ 1114513	Single lever basin faucet	white painting	WH 35/ /SEDAL 35	Covered Model
24	1114531/ 1114507	Single lever basin faucet	gold	WH 35/ /SEDAL 35	Covered Model
25	1115600/ 5090315	Single lever basin faucet	chrome/ brushed nickel	WH 35H/ SEDAL 35H	Covered Model
26	1115639/ 1115606	Single lever basin faucet	black painting	WH 35H/ SEDAL 35H	Covered Model
27	1115613	Single lever basin faucet	white painting	WH 35H/ SEDAL 35H	Covered Model
28	1115638	Single lever basin faucet	white painting	WH 35H/ SEDAL 35H	Covered Model
29	1115631/ 1115607	Single lever basin faucet	gold	WH 35H/ SEDAL 35H	Covered Model
30	1117400	Single lever basin faucet	chrome	WH 35H/ SEDAL 35H	Covered Model
31	1117434/ 1117445	Single lever basin faucet	chrome+ white paint	WH 35H/ SEDAL 35H	Covered Model
32	1117413/ 1117438	Single lever basin faucet	white paint	WH 35H/ SEDAL 35H	Covered Model
33	1117401	Single lever basin faucet	Brushed nickel	WH 35H/ SEDAL 35H	Covered Model
34	1117406/ 1117439	Single lever basin faucet	black painting	WH 35H/ SEDAL 35H	Covered Model
35	1118400	Single lever basin faucet	chrome	WH 35H/ SEDAL 35H	Tested Model
36	1118401	Single lever basin faucet	Brushed nickel	WH 35H/ SEDAL 35H	Covered Model
37	1118434/ 1118445	Single lever basin faucet	chrome + white paint	WH 35H/ SEDAL 35H	Covered Model
38	1118413/ 1118438	Single lever basin faucet	white painting	WH 35H/ SEDAL 35H	Covered Model
39	1141800/ 5090309	Single lever basin faucet	chrome	WH 35H/ SEDAL 35H	Tested Model
40	1142800/ 5090310	Single lever basin faucet	chrome	WH 35H/ SEDAL 35H	Covered Model
41	1115900/ 1117100	Single lever basin faucet	chrome	WH 35H/ SEDAL 35H	Covered Model

42	1115901	Single lever basin faucet	brushed nickel	WH 35H/ SEDAL 35H	Covered Model
43	1115934/ 1115945	Single lever basin faucet	chrome + white paint	WH 35H/ SEDAL 35H	Covered Model
44	1115913/ 1115938	Single lever basin faucet	white painting	WH 35H/ SEDAL 35H	Covered Model
45	1115935	Single lever basin faucet	gold+white paint	WH 35H/ SEDAL 35H	Covered Model
46	1116900	Single lever basin faucet	chrome	WH 35H/ SEDAL 35H	Covered Model
47	1116901	Single lever basin faucet	brushed nickel	WH 35H/ SEDAL 35H	Covered Model
48	1116938/ 1116913	Single lever basin faucet	white painting	WH 35H/ SEDAL 35H	Covered Model
49	1143300/ 1143301	Single lever basin faucet	chrome/ brushed nickel	WH 35H/ SEDAL 35H	Covered Model
50	1143339	Single lever basin faucet	black painting	WH 35H/ SEDAL 35H	Covered Model
51	1143313	Single lever basin faucet	white painting	WH 35H/ SEDAL 35H	Covered Model
52	1143306	Single lever basin faucet	black painting	WH 35H/ SEDAL 35H	Covered Model
53	1143338	Single lever basin faucet	white painting	WH 35H/ SEDAL 35H	Covered Model
54	1144300	Single lever basin faucet	chrome	WH 35H/ SEDAL 35H	Covered Model
55	1144339/ 1143306	Single lever basin faucet	black painting	WH 35H/ SEDAL 35H	Covered Model
56	1144313	Single lever basin faucet	white painting	WH 35H/ SEDAL 35H	Covered Model
57	1144338	Single lever basin faucet	white painting	WH 35H/ SEDAL 35H	Covered Model
58	1115800	Single lever basin faucet	chrome	WH 35H/ SEDAL 35H	Covered Model
59	1115801	Single lever basin faucet	brushed nickel	WH 35H/ SEDAL 35H	Covered Model
60	1115816	Single lever basin faucet	rose gold	WH 35H/ SEDAL 35H	Covered Model
61	1115831/ 1115807	Single lever basin faucet	Gold	WH 35H/ SEDAL 35H	Covered Model
62	1115815	Single lever basin faucet	ORB	WH 35H/ SEDAL 35H	Covered Model
63	1115813/ 1115838	Single lever basin faucet	white painting	WH 35H/ SEDAL 35H	Covered Model
64	1115300/ 5090301	Single lever basin faucet	chrome/ brushed nickel	WH 35 /SEDAL 35	Covered Model
65	1115334	Single lever basin faucet	white painting with chrome	WH 35 /SEDAL 35	Covered Model
66	1115345/ 5090302	Single lever basin faucet	white painting with chrome	WH 35 /SEDAL 35	Covered Model
67	1115338/ 1115813	Single lever basin faucet	white painting	WH 35 /SEDAL 35	Covered Model
68	1115340/ 5090303	Single lever basin faucet	black painting with chrome	WH 35 /SEDAL 35	Covered Model
69	1115339/ 1115306	Single lever basin faucet	black painting	WH 35 /SEDAL 35	Covered Model
70	1116300/ 5090304	Single lever basin faucet	chrome/ brushed nickel	WH 35 /SEDAL 35	Covered Model

71	1116345/ 5090305	Single lever basin faucet	white painting with chrome	WH 35 /SEDAL 35	Covered Model
72	1116334	Single lever basin faucet	white painting with chrome	WH 35 /SEDAL 35	Covered Model
73	1116340/ 5090306	Single lever basin faucet	black painting with chrome	WH 35 /SEDAL 35	Covered Model
74	1116338/ 1116313	Single lever basin faucet	white painting	WH 35 /SEDAL 35	Covered Model
75	1116339/ 1116306	Single lever basin faucet	black painting	WH 35 /SEDAL 35	Covered Model
76	1113400/ 1113401	Single lever basin faucet	chrome/ brushed nickel	WH 35 /SEDAL 35	Covered Model
77	1114400/ 1114401	Single lever basin faucet	chrome/ brushed nickel	WH 35 /SEDAL 35	Covered Model
78	1115400/ 5090307	Single lever basin faucet	chrome/ brushed nickel	WH 35D/ SEDAL 35D	Covered Model
79	1115431/ 1115407	Single lever basin faucet	Gold	WH 35D/ SEDAL 35D	Covered Model
80	1115434	Single lever basin faucet	white painting with chrome	WH 35D/ SEDAL 35D	Covered Model
81	1115445	Single lever basin faucet	white painting with chrome	WH 35D/ SEDAL 35D	Covered Model
82	1116500	Single lever basin faucet	chrome	WH 35D/ SEDAL 35D	Covered Model
83	1116531/ 1116503	Single lever basin faucet	Gold/ Bronze	WH 35D/ SEDAL 35D	Covered Model
84	1115700/ 1115703	Single lever basin faucet	Chrome/ Bronze	WH 35D/ SEDAL 35D	Covered Model
85	1115716	Single lever basin faucet	rose gold	WH 35D/ SEDAL 35D	Covered Model
86	1115731	Single lever basin faucet	Gold	WH 35D/ SEDAL 35D	Covered Model
87	1117600/ 1117601	Single lever basin faucet	chrome/ brushed nickel	WH 35D/ SEDAL 35D	Covered Model
88	1117613/ 1117638	Single lever basin faucet	white painting	WH 35D/ SEDAL 35D	Covered Model
89	1117607/ 1117631	Single lever basin faucet	Gold	WH 35D/ SEDAL 35D	Covered Model
90	1117603	Single lever basin faucet	Bronze	WH 35D/ SEDAL 35D	Covered Model
91	1117616	Single lever basin faucet	rose gold	WH 35D/ SEDAL 35D	Covered Model
92	1118600/ 1118601	Single lever basin faucet	chrome/ brushed nickel	WH 35D/ SEDAL 35D	Tested Model
93	1118613/ 1118638	Single lever basin faucet	white painting	WH 35D/ SEDAL 35D	Covered Model
94	1118607/ 1118631	Single lever basin faucet	Gold	WH 35D/ SEDAL 35D	Covered Model
95	1118603	Single lever basin faucet	Bronze	WH 35D/ SEDAL 35D	Covered Model
96	1118616	Single lever basin faucet	rose gold	WH 35D/ SEDAL 35D	Covered Model
97	1808100	Single lever kitchen sink faucet	chrome	WH 35H/ SEDAL 35H	Tested Model
98	1808101	Single lever kitchen sink faucet	brushed nickel	WH 35H/ SEDAL 35H	Covered Model

99	1808106/ 1808139	Single lever kitchen sink faucet	black painting	WH 35H/ SEDAL 35H	Covered Model
100	1808107/ 1808131	Single lever kitchen sink faucet	Gold Color	WH 35H/ SEDAL 35H	Covered Model
101	1808113/ 1808138	Single lever kitchen sink faucet	white painting	WH 35H/ SEDAL 35H	Covered Model
102	1808134/ 1808145	Single lever kitchen sink faucet	white painting with chrome	WH 35H/ SEDAL 35H	Covered Model
103	1808135	Single lever kitchen sink faucet	white painting with gold color	WH 35H/ SEDAL 35H	Covered Model
104	1808600	Single lever kitchen sink faucet	chrome	WH 35D/ SEDAL 35D	Covered Model
105	1808601	Single lever kitchen sink faucet	brushed nickel	WH 35D/ SEDAL 35D	Covered Model
106	1808606/ 1808639	Single lever kitchen sink faucet	black painting	WH 35D/ SEDAL 35D	Covered Model
107	1808406/ 1808439	Single lever kitchen sink faucet	black painting	WH 35D/ SEDAL 35D	Covered Model
108	1808400/ 1808401	Single lever kitchen sink faucet	chrome/ brushed nickel	WH 35D/ SEDAL 35D	Covered Model
109	1808418	Single lever kitchen sink faucet	white Marble	WH 35D/ SEDAL 35D	Covered Model
110	1800100A/ 1800101A	Single lever kitchen sink faucet	chrome/ brushed nickel	WH 35D/ SEDAL 35D	Tested Model
111	1801700A/ 1801701A	Single lever kitchen sink faucet	chrome/ brushed nickel	WH 35D/ SEDAL 35D	Covered Model
112	1808500/ 1808501	Single lever kitchen sink faucet	chrome/ brushed nickel	WH 35D/ SEDAL 35D	Covered Model
113	1840100/ 1840101	Single lever kitchen sink faucet	chrome/ brushed nickel	WH 35D/ SEDAL 35D	Tested Model
114	1840118	Single lever kitchen sink faucet	white Marble	WH 35D/ SEDAL 35D	Covered Model
115	1840106/ 1840139	Single lever kitchen sink faucet	black painting	WH 35D/ SEDAL 35D	Covered Model
116	1808900/ 1808901	Single lever kitchen sink faucet	chrome/ brushed nickel	WH 35D/ SEDAL 35D	Covered Model
117	1808906/ 1808939	Single lever kitchen sink faucet	black painting	WH 35D/ SEDAL 35D	Covered Model
118	1808918	Single lever kitchen sink faucet	white Marble	WH 35D/ SEDAL 35D	Covered Model
119	1840000/ 1840001	Single lever kitchen sink faucet	chrome/ brushed nickel	WH 35D/ SEDAL 35D	Covered Model

Note:

1. All samples were tested with flexible hose together.
2. These samples with three model Flexible hose that was model TUCAI TAQ-DN6 PEX M10*1, DJ M10*1 and Neoperl M10*1*3/8.

EN 817															
Clause	Requirement - Test	Result - Remark	Verdict												
3.2	Designation														
	- type of valve; - intended use; - mounting method; - diverter; - type of outlet; - its acoustic group and classification; - water saving properties; - flow rate class - reference to this standard (EN 817):	See below table.	—												
	<table><tr><th>Model No.</th><th>Product Description</th></tr><tr><td>1101300</td><td rowspan="5">Mechanical mixing valve, used for Basin, mounting on horizontal surface, single hole visible body, without diverter, fixed outlet, without flow rate class, EN 817.</td></tr><tr><td>1114500 /1114501</td></tr><tr><td>1118400</td></tr><tr><td>1141800/ 5090309</td></tr><tr><td>1118600/ 1118601</td></tr><tr><td>1808100</td><td rowspan="3">Mechanical mixing valve, used for kitchen sink, mounting on horizontal surface, single hole visible body, without diverter, moveable outlet, without flow rate class, EN 817.</td></tr><tr><td>1800100A/ 1800101A</td></tr><tr><td>1840100/ 1840101</td></tr></table>	Model No.		Product Description	1101300	Mechanical mixing valve, used for Basin, mounting on horizontal surface, single hole visible body, without diverter, fixed outlet, without flow rate class, EN 817.	1114500 /1114501	1118400	1141800/ 5090309	1118600/ 1118601	1808100	Mechanical mixing valve, used for kitchen sink, mounting on horizontal surface, single hole visible body, without diverter, moveable outlet, without flow rate class, EN 817.	1800100A/ 1800101A	1840100/ 1840101	
	Model No.	Product Description													
	1101300	Mechanical mixing valve, used for Basin, mounting on horizontal surface, single hole visible body, without diverter, fixed outlet, without flow rate class, EN 817.													
	1114500 /1114501														
	1118400														
	1141800/ 5090309														
	1118600/ 1118601														
	1808100	Mechanical mixing valve, used for kitchen sink, mounting on horizontal surface, single hole visible body, without diverter, moveable outlet, without flow rate class, EN 817.													
	1800100A/ 1800101A														
1840100/ 1840101															
Marking — Identifications															
4.1	Marking Mechanical mixing valves shall be marked permanently and legibly on the body or handle with the mark or name of the manufacturer, the acoustic group and flow rate class.....:	Not check	—												
4.2	Identification The control devices for mechanical mixing valves shall be identified: - for cold water, by the colour blue or word/letter; - for hot water, by the colour red or word/letter.	Complied	P												
5	Material														
5.1	Chemical and hygienic characteristics All materials in contact with water for human consumption shall present no health risk up to 90°C They shall not cause any change of the drinking water in terms of quality, appearance, smell or taste. Pressurized parts shall withstand the limits of use 0, 05Mpa~1,0Mpa.	Shall be complied with related national laws, regulations and administrative provisions of member states.	—												

EN 817					
Clause	Requirement - Test		Result - Remark	Verdict	
5.2	Exposed surface conditions Visible chromium plated surface and Ni-Cr coatings shall comply with the requirements of EN 248..... :		Complied	P	
6	Dimensional characteristics				
6.1	General remarks concerning the drawing The design and construction of components without defined dimensions permits various design solutions to be adopted by the manufacturer. Special cases are covered in 6.5.....:		Complied	P	
6.2	Inlet dimensions		Refer to Appendix B	P	
	Dimensions (mm)	Requirement (mm)			
	Shank, union, captive nut				
	A	G1/2 B			
	A2	9min			
	A3	15min			
	Connecting centres				
	G	150±1			2-hole wall mounted
	G1	140 to 160			
	Inlet connections				
	N1	12,3+0,2			Type A
	N2	5min			
	N1	15,2±0,05			Type B
	N2	13min			
	N1	14,7+0,3			Type C
	N2	6,4min			
	N1	19,9±0,3			Type C
	N2	6,4min			
	T	Plain end Ø10 or 12 or 15 or G1/2 or 3/8 male or female			
	U	350min			

EN 817					
Clause	Requirement - Test		Result - Remark	Verdict	
6.3	Outlet dimension		Refer to Appendix B	P	
	Dimensions (mm)	Requirement (mm)			
	E	25min			Dimension from lowest point of the outlet orifice including any flow rate regulator o flow straightener to the mounting surface.
	D1	90min			Dimension from the centre of outlet orifice including any flow rate regulator or flow straightener.
	D3	115min			
	A	G1/2B			In accordance with EN ISO 228-1
	A4	7,5min			
	A5	9,5min			Useful thread length Free length of connection
6.4	Mounting dimensions		Refer to Appendix B	P	
	Dimensions (mm)	Requirement (mm)			
	Shank dimension				
	H1	24max			
	H2	29max			
	H3	33,5max			
	Base or flange				
	J1	42min			
	J2	45min			
	J3	50max			
	V	32max			
	V1	35max			
	L	Allows taps and outlets to be fitted on to supports of thickness between 1 and 18 mm			

EN 817			
Clause	Requirement - Test	Result - Remark	Verdict
6.5	<p>Special cases</p> <p>Special mechanical mixing valves intended for special applications.</p> <ul style="list-style-type: none"> - all other requirements of this standard are satisfied; - secure fixing to mounting surface is provided with all fixing holes covered; - thread connection to the supply pipes comply with EN ISO 228-1; - the air gap $E \geq 25\text{mm}$, or a backflow prevention device is necessary in accordance with EN 1717; - the D1 dimension is coordinated with the sanitary appliance; - the manufacturer's literature, indicates clearly that this mixing valve is a special case. 		N/A
6.6	<p>Flexible hoses for shower outlets</p> <p>Requirements for flexible hoses for shower outlets shall be as specified in EN 1113:</p>		N/A
6.7	<p>Shower outlets</p> <p>Requirements for shower outlets shall be as specified in EN 1112.:</p>		N/A
7	<p>Sequence of testing</p> <p>The samples shall be subjected to the test sequence as shown in table of EN 817.....:</p>	Followed	P
8	Leaktightness characteristics		
8.3	<p>Leaktightness of the obturator and the mixing valve upstream of the obturator in the closed position.</p> <p>With outlet orifice open and obturator closed, apply both inlets a water pressure of $1,6 \pm 0,02$ Mpa and maintain it for $60 \pm 5\text{s}$, during this period, move the temperature control device over its full operating range. There shall be no leakage or seepage for the duration of the test.....:</p>	No leakage or seepage	P

EN 817			
Clause	Requirement - Test	Result - Remark	Verdict
8.4	<p>Leaktightness of the mixing valve downstream of the obturator with the obturator open</p> <p>With outlet orifice artificially closed, and the obturator open; apply to the inlet a water pressure of $0,4 \pm 0,02$ Mpa for 60 ± 5s for the full temperature operating range.</p> <p>Repeat the test with a water pressure of $0,02 \pm 0,005$ Mpa for 60 ± 5s</p>	No leakage or seepage	P
8.5	<p>Leak tightness of manual diverters</p> <p>1. Put the diverter in the flow-to-bath mode, with the tap outlet artificially closed and the shower outlet open. Apply a static water pressure of $0,4 \pm 0,02$ Mpa for 60 ± 5s. Check the leakage at the outlet to shower.</p> <p>2. Put the diverter in the flow-to-shower mode, with the shower outlet artificially closed and the tap outlet open. Apply a static water pressure of $0,4 \pm 0,02$ Mpa for 60 ± 5s. Check for leakage at the outlet to bath.</p> <p>There shall be no leakage at the outlet points indicated.....:</p>		N/A
8.6	<p>Leak tightness of diverters with automatic return</p> <p>1. Put the diverter in the flow-to- bath mode and apply a dynamic water pressure of $0,4 \pm 0,02$MPa for 60 ± 5s. Check for leakage at the outlet to shower.</p> <p>2. Put the diverter in the flow-to-shower mode. Check for leakage at the outlet to bath.</p> <p>3. With the diverter still in the shower position, reduce the dynamic pressure to a value of $0,05 \pm 0,005$MPa and maintain it for 60 ± 5s, check the diverter position and check for leakage at the outlet to bath. Close the mixing valve obturator; check the diverter position. 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 $\geq 0,05 \pm 0,002$ MPa; the diverter shall return to the bath position when the obturator is closed.</p> <p>4. R-open the mixing valve obturator, re-apply a dynamic pressure of $0,05 \pm 0,002$ MPa and maintain it for 60 ± 5s; there shall be no leakage at the outlet to shower</p>		N/A

EN 817			
Clause	Requirement - Test	Result - Remark	Verdict
8.7	<p>Leaktightness of the obturator: cross flow between hot water and cold water</p> <p>1. With outlet orifice open and obturator closed, apply one inlet a water pressure of $0,4 \pm 0,02$ Mpa for 60 ± 5s for the full temperature operating range.</p> <p>2. Repeat the test, reversing the water supply connection to the other inlet.</p> <p>There shall be no leakage or seepage at the outlet or at the end of the unconnected inlet for the duration of the test.....:</p>	No leakage or seepage or at the end of the unconnected inlet for the duration of the test.	P
9	Pressure resistance characteristics-mechanical performance under pressure		
9.4	<p>Testing the mechanical performance upstream of the obturator - obturator(s) in the closed position.</p> <p>With outlet orifice open and obturator closed, apply both inlets a static water pressure of $2,5 \pm 0,05$ Mpa for 60 ± 5s. There shall be no leakage or seepage for the duration of the test.....:</p>	There was no leakage or seepage for the duration of the test.	P
9.5	<p>Mechanical behaviour downstream of the obturator - obturator(s) in the open position</p> <p>For mixing mechanical mixing valves without and with flow rate regulator, and for the outlet orifice open and obturator open, apply a flow water pressure of $0,4 \pm 0,02$ Mpa for 60 ± 5s. There shall be no leakage or seepage for the duration of the test</p>	There was no leakage or seepage for the duration of the test.	P
10	Hydraulic characteristics		

EN 817			
Clause	Requirement - Test	Result - Remark	Verdict
10.6	<p>Determination of flow rate</p> <p>The flow rate measured at a dynamic pressure of 0,3Mpa, with the flow rate control fully open. For various temperatures measure the flow rates of mixed water (at least the five indicated):</p> <ul style="list-style-type: none"> • full cold position • 34°C • 38°C • 44°C • full hot position <p>shall be at least equal to:</p> <ul style="list-style-type: none"> - 4,0 to 9,0 l/min, for water saving basins, bidets, sinks for the five specified temperature); - 12,0 l/min for without water saving basins, bidets, sinks, and shower; - for baths (the flow rate between 34°C and 42°C is greater than or equal to 20l/min and that at the full cold water position and full hot water position the flow rate is not less than 19l/min). <p>For pull out shower spray or spray attachments or flexible supply hoses a minimum flow rate of 9,0 L/min shall apply.:</p>	See appendix C	P









EN 817						
Clause	Requirement - Test	Result - Remark		Verdict		
10.7	Sensitivity The minimum linear movement of the temperature control device within the reference range Tm -4°C to Tm +4°C is at least equal to 10 mm for sinks and 12 mm for baths, wash-basins, bidets, showers (this value is recorded at the end of the lever).....:	Model No.	Cartridge Type	Linear movement (mm)	P	
		1101300	WH 40D	18.35		
			Sedal 40D	19.12		
		1114500/ 1114501	WH35D	19.44		
		1118400	WH 35H	19.67		
			Sedal 35H	19.20		
		1141800/ 5090309	WH 35H	19.67		
			Sedal 35H	19.20		
		1118600/ 1118601	WH 35D	19.44		
			Sedal 35D	19.28		
		1808100	WH 35H	19.67		
			Sedal 35H	19.20		
		1800100A/ 1800101A	WH 35D	19.44		
Sedal 35D	19.28					
1840100/ 1840101	WH 35D	19.44				
	Sedal 35D	19.28				
11	Mechanical strength characteristics- torsion test for operating mechanism 1. Gradually apply over (4+2)s a torque of 6±0,2 N·m for 5min to the operating mechanism in the open direction; full close the obturator ,apply over (4+2)s a torque of 6±0,2 N·m for 5min to the operating mechanism in the closing direction; Follow the test: - there shall be no deformation or other deterioration which impairs the function of the mixing valve - the mixing valve shall satisfy the requirement for leaktighness (8.3).....:	After the test, there was no deformation or other deterioration which impairs the function of the mixing valve and satisfy the requirement for leaktighness (8.3).		P		
12	Mechanical endurance characteristics					









EN 817				
Clause	Requirement - Test		Result - Remark	Verdict
12.1	Mechanical endurance of control device		During the test, no component fracture, sticking or leakage occurred. After test they were still meet the leak tightness requirements of 8.3, 8.4 and 8.7.	P
	Number of cycles	70 000		
	Operating speed	90°/1,5±0,2 s		
	Dynamic pressure	0,3±0,05 Mpa		
	Static pressure	0,4±0,05 Mpa		
	Hot water temperature	65±2°C		
	Cold water temperature	≤30°C		
	PH value	8±1		
	Hardness (measured as)	50 mg/l as CaCO ₃		
	During the test, no component fracture, sticking or leakage shall occur. Verify that at the beginning of each week for 4h interruption and after 70 000 cycles of opening and closing, that the leak tightness requirements of 8.3, 8.4 and 8.7 are still satisfy.....:			
12.2	Mechanical endurance of diverters			N/A
	Conditions	Field of application		
	Pressure of : Cold and hot water	0,4±0,05 Mpa		
	Cold water	≤30°C		
	Hot water	65±2°C		
	Timing of supply: Cold or hot water	15±1min		
	Time of flow: To bath or to shower outlet	5±0,5s		
	Flow rate to bath and to shower outlet	6±1l/min		
	Operation rate For manual diverter	15±1min ⁻¹		
	Backflow prevention	See clause 13		
	Number of cycles	30 000		
	Throughout the test, there shall be no leaks, deformations, fracture, etc. After 30 000 cycles, leak tightness shall be verified in accordance with the specifications of 8.5 or 8.6.....:			









EN 817																						
Clause	Requirement - Test	Result - Remark		Verdict																		
12.3	<p>Endurance of the swivel nozzles</p> <p>With the mixing valve closed, adjust the water pressure on the two supply circuit to a value to 0,4±0,05Mpa. Adjust the flow rate to 6 l/min, by partially obstructing the nozzle outlet. Subject the swivel nozzle to an endurance test of 80 000 cycle, each cycle comprising a reciprocating movement through an arc of 120° and the speed at a rate of (15 0/-1) backwards and forwards motions per minute. During the test, there shall be no deformation, fracture of the swivel nozzle or the device connecting it to the body or any leakage of the assembly. After 80 000 cycles, no deformation or fracture of the swivel spout, leak tightness shall be verified in accordance with the specifications of 8.4:</p>	During the test, no leaks, deformations or fracture. After test they were still meet the leak tightness requirements of 8.5 and 8.6.		P																		
13	<p>Backflow protection</p> <p>Backflow protection shall be provided using appropriate devices referenced in EN 1717.</p>	<table><tr><th>Model No.</th><th>Air gap (mm)</th></tr><tr><td>1101300</td><td>98.90</td></tr><tr><td>1114500/ 1114501</td><td>104.00</td></tr><tr><td>1118400</td><td>154.22</td></tr><tr><td>1141800/ 5090309</td><td>104.00</td></tr><tr><td>1118600/ 1118601</td><td>128.00</td></tr><tr><td>1808100</td><td>282.52</td></tr><tr><td>1800100A/ 1800101A</td><td>224.31</td></tr><tr><td>1840100/ 1840101</td><td>324.00</td></tr></table>		Model No.	Air gap (mm)	1101300	98.90	1114500/ 1114501	104.00	1118400	154.22	1141800/ 5090309	104.00	1118600/ 1118601	128.00	1808100	282.52	1800100A/ 1800101A	224.31	1840100/ 1840101	324.00	P
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1800100A/ 1800101A	224.31																					
1840100/ 1840101	324.00																					
14	Acoustic characteristics																					
14.3	<p>Requirement</p> <p>The test is carried out in accordance with ISO 3822 Part 1&2. Depending on the values of Lap obtained at 0.3Mpa, a mixer is classified in the following acoustic groups.....:</p> <table><tr><th>Group</th><th>Lap dB(A)</th></tr><tr><td>I</td><td>Lap ≤ 20</td></tr><tr><td>II</td><td>20< Lap ≤ 30</td></tr><tr><td>U (unclassified)</td><td>Lap > 30</td></tr></table>	Group	Lap dB(A)	I	Lap ≤ 20	II	20< Lap ≤ 30	U (unclassified)	Lap > 30	Not check		—										
Group	Lap dB(A)																					
I	Lap ≤ 20																					
II	20< Lap ≤ 30																					
U (unclassified)	Lap > 30																					









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Appendix A Product photos

	
1101300 (WH 40D)	1101300 (Sedal 40D)
	
1118400 (WH 35H)	1118400 (Sedal 35H)
	
1141800/5090309 (WH 35H)	1141800/5090309 (Sedal 35H)
	
1118600/1118601 (WH 35D)	1118600/1118601 (Sedal 35D)

	
1808100 (WH 35H)	1808100 (Sedal 35H)
	
1800100A/1800101A (WH 35D)	1800100A/1800101A (Sedal 35D)
	
1840100/1840101 (WH 35D)	1840100/1840101 (Sedal 35D)
	
1114500/1114501	Matte White

	
Black painting	Bronze
	
Gold	Marble
	
White painting	Gold + White paint
	
Light PVD Gold	Gold

	
ORB	Rose Gold
	
White painting with Chrome	Black
	
Brushed Nickel	DJ M10*1
	
Neoperl M10*1*3/8	TUCAI TAQ-DN6 PEX M10*1

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Appendix B
Dimensional characteristics

Dimensions (mm)	1101300	1114500/ 1114501	1118400	1141800/ 5090309	1118600/ 1118601	1808100	1800100A/ 1800101A	1840100/ 1840101
6.2 Inlet dimension								
T	G 1/2 female	G 1/2 female	G 1/2 female	G 1/2 female	G 1/2 female	G 1/2 female	G 1/2 female	G 1/2 female
U	505	450	533	560	381	464	501	430
6.3 Outlet dimension								
E	95.16	104.00	233.19	104.00	64.00	282.52	224.31	324.00
D1	98.90	133.00	154.22	135.02	128.00	212.00	178.00	182.00
6.4 Mounting dimensions								
H3	23.81	23.92	22.40	23.98	24.48	23.89	23.49	24.52
J2	58.73	45.00	50.00	48.06	70.00	54.94	49.79	59.50
J3	45.20	45.20	45.10	45.02	45.40	45.37	45.38	45.54
V	29.36	22.50	25.00	24.03	35.00	27.47	24.90	29.75
L	44.10	44.90	46.70	44.68	44.62	42.06	44.56	45.16

Appendix C
Determination of flow rate

Model No.	Flow rate, (L/min)				
	Full cold position	34°C	38°C	44°C	Full hot position
1101300	9.02	14.36	14.60	14.26	12.02
1114500/ 1114501	12.77	14.81	15.08	15.19	12.28
1118400	13.63	16.24	16.65	16.80	13.19
1141800/ 5090309	12.07	13.44	13.84	13.89	12.68
1118600/ 1118601	11.11	15.93	15.91	15.83	14.53
1808100	13.41	16.62	16.93	16.05	13.88
1800100A/ 1800101A	12.88	15.80	15.79	15.86	13.63
1840100/ 1840101	11.12	13.11	13.23	13.24	11.66

NOTE: These test samples tested with flexible supply hoses.

Appendix D
Revision page

Revision No.	Date	Changes	Author	Reviewer
0	July 25, 2018	First issue	Felix Li	Bink Xu

*****End of this report*****