



# Aquavital GmbH

**TEST REPORT NO.: J230103001-1**



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| Test standard:   | Issue Date:           | Mar 09, 2023     |
| EN 817: 2008   | Revised Date:         | N/A              |
| Sanitary tapware – Mechanical mixers valves (PN 10) – General technical specifications | Total Pages:          | 16               |
|  | Document Control No.: | TRF EN 817: 2008 |

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| Trade Mark .....                       | —  |
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| <b>Test item description</b> .....     | Shower mixer, Basin mixer and Kitchen faucet   |
| Date of receipt of test item .....     | Jan 03, 2023   |
| Date (s) of performance of tests ..... | Jan 03, 2023 – Mar 09, 2023  |
| Tested by (name and signature) .....   | Martin Xu   |
| Approved by (name and signature) ..... | Washington Xie   |
| Report contents .....                  | Total test report 16 pages including:<br>Cover page: 1 page<br>Report text: 12 pages<br>Appendix A for tested product photos: 2 pages<br>Appendix B for revision page: 1 page  |
| <b>General remarks:</b>                | The tested samples were delivered by the client and were in good condition when received.<br>This test report is only applicable for the tested sample.<br>This test report should not be reproduced except in full, without written approval of the laboratory.   |
| <b>Possible test case verdicts:</b>    | - test case does not apply to the test object: N/A<br>- test object does meet the requirement: P (Pass)<br>- test object does not meet the requirement: F (Fail)<br>- When required a statement of conformity by taking into account the measurement uncertainty, one of the following standards was used:<br><input type="checkbox"/> ISO/IEC Guide 98-4: 2012 <input type="checkbox"/> JCGM 106: 2012 <input type="checkbox"/> ILAC-G8-03/09: 2009/2019 <input type="checkbox"/> Procedure 1 of IEC Guide 115: 2021<br><input type="checkbox"/> CNAS-GL015: 2018 <input type="checkbox"/> RB/T 197: 2015<br>- When required a statement of conformity but the measurement uncertainty was not required to check, the following standards was used:<br><input checked="" type="checkbox"/> Procedure 2 of IEC Guide 115: 2021 |
| <b>Summary of testing:</b>             | The submitted samples were tested and found to <b>COMPLY WITH</b> applicable requirements of EN 817: 2008.   |

**General product information:**

| No. | Model No.    | Product description                              |
|-----|--------------|--|
| 1   | RW-SL-LS-40  | Kitchen Faucet with Pull Down Sprayer            |
| 2   | RW-SL-DH-40  | Kitchen Faucet with Pull Down Sprayer            |
| 3   | RW-SL-DG     | Basin Mixer Tap                                  |
| 4   | RW-SL-DH     | Basin Mixer Tap                                  |
| 5   | RW-DGTJ-3-12 | In-Wall Mounted Shower System with Bathtub Spout |
| 6   | RW-DHTJ-3-12 | In-Wall Mounted Shower System with Bathtub Spout |
| 7   | RW-DGTJ-10   | In-Wall Mounted Shower System                    |
| 8   | RW-DGTJ-12   | In-Wall Mounted Shower System                    |
| 9   | RW-DGTJ-16W  | In-Wall Mounted Shower System                    |
| 10  | RW-DH-10W    | In-Wall Mounted Shower System                    |
| 11  | RW-DH-12W    | In-Wall Mounted Shower System                    |
| 12  | RW-DH-16W    | In-Wall Mounted Shower System                    |
| 13  | RW-LSTJ-10W  | In-Wall Mounted Shower System                    |
| 14  | RW-LSTJ-12W  | In-Wall Mounted Shower System                    |
| 15  | RW-LSTJ-16W  | In-Wall Mounted Shower System                    |
| 16  | RW-LSJTJ-10  | In-Wall Mounted Shower System                    |
| 17  | RW-LSJTJ-12  | In-Wall Mounted Shower System                    |
| 18  | RW-LSJTJ-16  | In-Wall Mounted Shower System                    |

After evaluated, models RW-SL-DH-40, RW-SL-DG, RW-DGTJ-3-12, RW-DGTJ-10, RW-DGTJ-12 and RW-DGTJ-16W had been selected as representative models for testing as above model list.

| EN 817   |  |   |           |           |        |             |        |             |           |        |          |                  |              |        |   |
|--|--|---|-----------|-----------|--------|-------------|--------|-------------|-----------|--------|----------|------------------|--------------|--------|---|
| Clause   | Requirement - Test   | Result - Remark   | Verdict   |           |        |             |        |             |           |        |          |                  |              |        |   |
| 5  | Materials  |   |           |           |        |             |        |             |           |        |          |                  |              |        |   |
| 5.2  | Exposed surface conditions<br>Visible chromium plated surfaces and Ni-Cr coatings shall comply with the requirements of EN 248.  | Complied.<br>There are four coatings(Black, Brushed Gold, Chrome and Brushed Nickel) and after 200h neutral saline spray test, there was no defect.   | P         |           |        |             |        |             |           |        |          |                  |              |        |   |
| 6  | Dimensional characteristics  |   |           |           |        |             |        |             |           |        |          |                  |              |        |   |
| 6.1  | General remarks<br>The design and construction of components without defined dimensions permits various design solutions to be adopted by the manufacturer.<br>Special cases are covered in 6.5.   | Complied  | P         |           |        |             |        |             |           |        |          |                  |              |        |   |
| 6.2  | Inlet dimensions<br>Inlet dimensions shall be as specified in Table 3, Figure 2, Figure 3 and Figure 4.  | <table border="1"> <thead> <tr> <th>Model No.</th> <th>T</th> <th>U(mm)</th> </tr> </thead> <tbody> <tr> <td>RW-SL-DH-40</td> <td>G1/2</td> <td>550</td> </tr> <tr> <td>RW-SL-DG</td> <td>G1/2</td> <td>N/A</td> </tr> <tr> <td>RW-DGTJ-3-1<br/>2</td> <td>G1/2</td> <td>N/A</td> </tr> </tbody> </table>   | Model No. | T         | U(mm)  | RW-SL-DH-40 | G1/2   | 550         | RW-SL-DG  | G1/2   | N/A      | RW-DGTJ-3-1<br>2 | G1/2         | N/A    | P |
| Model No.  | T  | U(mm)   |           |           |        |             |        |             |           |        |          |                  |              |        |   |
| RW-SL-DH-40  | G1/2   | 550   |           |           |        |             |        |             |           |        |          |                  |              |        |   |
| RW-SL-DG   | G1/2   | N/A   |           |           |        |             |        |             |           |        |          |                  |              |        |   |
| RW-DGTJ-3-1<br>2   | G1/2   | N/A   |           |           |        |             |        |             |           |        |          |                  |              |        |   |
| 6.3  | Outlet dimensions<br>Outlet dimensions shall be as specified in Table 4, Figure 5, Figure 6 and Figure 7.<br>When nozzle outlets are used with flow rate regulators conforming with 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. | <table border="1"> <thead> <tr> <th>Model No.</th> <th>E(mm)</th> <th>D1(mm)</th> </tr> </thead> <tbody> <tr> <td>RW-SL-DH-40</td> <td>215.34</td> <td>203.11</td> </tr> </tbody> </table><br><table border="1"> <thead> <tr> <th>Model No.</th> <th>D3(mm)</th> </tr> </thead> <tbody> <tr> <td>RW-SL-DG</td> <td>195.61</td> </tr> <tr> <td>RW-DGTJ-3-12</td> <td>163.69</td> </tr> </tbody> </table> | Model No. | E(mm)     | D1(mm) | RW-SL-DH-40 | 215.34 | 203.11      | Model No. | D3(mm) | RW-SL-DG | 195.61           | RW-DGTJ-3-12 | 163.69 | P |
| Model No.  | E(mm)  | D1(mm)  |           |           |        |             |        |             |           |        |          |                  |              |        |   |
| RW-SL-DH-40  | 215.34   | 203.11  |           |           |        |             |        |             |           |        |          |                  |              |        |   |
| Model No.  | D3(mm)   |   |           |           |        |             |        |             |           |        |          |                  |              |        |   |
| RW-SL-DG   | 195.61   |   |           |           |        |             |        |             |           |        |          |                  |              |        |   |
| RW-DGTJ-3-12   | 163.69   |   |           |           |        |             |        |             |           |        |          |                  |              |        |   |
| 6.4  | Mounting dimensions<br>Mounting dimensions shall be as specified in Table 5, Figure 8 and Figure 9.  | Tested result as below.   | P         |           |        |             |        |             |           |        |          |                  |              |        |   |
| <table border="1"> <thead> <tr> <th>Model No.</th> <th>H3</th> <th>J2</th> <th>V</th> </tr> </thead> <tbody> <tr> <td>RW-SL-DH-40</td> <td>28.59</td> <td>56.42</td> <td>28.21</td> </tr> </tbody> </table> Unit: mm |  |   |           | Model No. | H3     | J2          | V      | RW-SL-DH-40 | 28.59     | 56.42  | 28.21    |                  |              |        |   |
| Model No.  | H3   | J2  | V         |           |        |             |        |             |           |        |          |                  |              |        |   |
| RW-SL-DH-40  | 28.59  | 56.42   | 28.21     |           |        |             |        |             |           |        |          |                  |              |        |   |
| 6.6  | Flexible hoses for shower outlets<br>Requirements for flexible hoses for shower outlet shall be as specified in EN 1113.   | Shower hose model No.<br>RW-DG1.8m304GZ, please refer to test report J230103001-4.  | P         |           |        |             |        |             |           |        |          |                  |              |        |   |
| 6.7  | Shower outlets<br>Requirements for shower outlets shall be as specified in EN 1112.  | Shower head model No.<br>RW-DGDP-10, RW-DGDP-12 and RW-DGDP-16, please refer to test report J230103001-3.<br>Shower handset model No.<br>RW-SCC-011, please refer to test report J230103001-3.  | P         |           |        |             |        |             |           |        |          |                  |              |        |   |

| EN 817 |   |   |         |
|--------|---|---|---------|
| Clause | Requirement - Test  | Result - Remark   | Verdict |
| 8      | Leaktightness characteristics   |   |         |
| 8.3    | <p>Leaktightness of the obturator and of the mixing valve upstream of the obturator with the obturator in the closed position</p> <p>Procedure</p> <p>a) Connect the mixing valve to the test circuit;</p> <p>b) with the outlet orifice open, and the obturator closed;</p> <p>c) apply to the inlet of the mixing valve a water pressure of <math>(1.6 \pm 0.05)</math> MPa [<math>(16.0 \pm 0.5)</math> bar] and maintain it for <math>(60 \pm 5)</math> s; during this period, move the temperature control device over its full operating range.</p> <p>Requirements</p> <ul style="list-style-type: none"> <li>— Verification of leaktightness upstream of the obturator:</li> <li>— throughout the duration of the test there shall be no leakage or seepage through the walls;</li> <li>— Verification of leaktightness of the obturator:</li> <li>— throughout the duration of the test there shall be no leakage of the obturator, i.e. at the outlet.</li> </ul> | There was no leakage or seepage for the duration of the test. | P       |
| 8.4    | <p>Leaktightness of the mixing valve downstream of the obturator with the obturator open</p> <p>Procedure</p> <p>a) Connect the mixing valve to the test circuit;</p> <p>b) with the outlet orifice(s) artificially closed, and the obturator open;</p> <p>c) apply to the inlet of the mixing valve a water pressure of <math>(0.4 \pm 0.02)</math> MPa [<math>(4.0 \pm 0.2)</math> bar] and maintain it for <math>(60 \pm 5)</math> s; during this period, move the temperature control device over its full operating range;</p> <p>d) reduce gradually the pressure to <math>(0.02 \pm 0.002)</math> MPa [<math>(0.2 \pm 0.02)</math> bar] and maintain it for <math>(60 \pm 5)</math> s.</p> <p>Requirement</p> <p>Throughout the duration of the test there shall be no leakage, or seepage through the walls.</p>  | There was no leakage or seepage for the duration of the test. | P       |

| EN 817 |  |  |         |
|--------|--|--|---------|
| Clause | Requirement - Test   | Result - Remark  | Verdict |
| 8.5    | <p>Leaktightness of manually operated diverter</p> <p>Procedure: flow to bath</p> <p>a) Connect the mixing valve, in its normal position of use, to the test circuit;</p> <p>b) put the diverter in the flow-to-bath mode, the outlet to bath being artificially closed and the outlet to shower open;</p> <p>c) apply a static water pressure of <math>(0.4 \pm 0.02)</math> MPa [<math>(4.0 \pm 0.2)</math> bar] and maintain it for <math>(60 \pm 5)</math> s;</p> <p>d) gradually reduce the pressure to <math>(0.02 \pm 0.002)</math> MPa [<math>(0.2 \pm 0.02)</math> bar] and maintain it for <math>(60 \pm 5)</math> s;</p> <p>e) check for leakage at the outlet to shower.</p> <p>Requirement: flow to bath</p> <p>There shall be no leakage at the outlet to shower.</p> <p>Procedure: flow to shower</p> <p>a) Put the diverter in the flow-to-shower mode, the outlet to shower being artificially closed and the outlet to bath open;</p> <p>b) apply a static water pressure of <math>(0.4 \pm 0.02)</math> MPa [<math>(4.0 \pm 0.2)</math> bar] and maintain it for <math>(60 \pm 5)</math> s;</p> <p>c) gradually reduce the pressure to <math>(0.02 \pm 0.002)</math> MPa [<math>(0.2 \pm 0.02)</math> bar] and maintain it for <math>(60 \pm 5)</math> s;</p> <p>d) check for leakage at the outlet to bath.</p> <p>Requirement: flow to shower</p> <p>There shall be no leakage at the outlet to bath.</p> | <p>For model RW-DGTJ-3-12</p> <p>There was no leakage at another outlet.</p> <p>Other models had no manually diverter.</p> | P       |
| 8.7    | <p>Leaktightness of the obturator: cross flow between hot water and cold water</p> <p>Procedure</p> <p>a) Connect one inlet of the mixing valve to the test circuit;</p> <p>b) with the outlet orifice open and the obturator closed, apply a water pressure of <math>(0.4 \pm 0.02)</math> MPa [<math>(4.0 \pm 0.2)</math> bar] to the mixing valve and maintain it for <math>(60 \pm 5)</math> s; in this period, move the temperature control device over its full operating range;</p> <p>c) repeat the test, reversing the water supply connection to the other inlet.</p> <p>Requirement</p> <p>Throughout the duration of the test, there shall be no leakage or seepage at the outlet or at the end of the unconnected inlet.</p>  | <p>No leakage or seepage at the outlet or at the end of the unconnected inlet for the duration of the test.</p>            | P       |
| 9      | Pressure resistance characteristics - mechanical performance under pressure  |  |         |

| EN 817 |   |  |         |
|--------|---|--|---------|
| Clause | Requirement - Test  | Result - Remark  | Verdict |
| 9.4    | <p>Mechanical behavior upstream of the obturator - obturator in the closed position</p> <p>Procedure</p> <p>a) Connect the mixing valve to the test circuit;</p> <p>b) with the obturator closed;</p> <p>c) apply at the mechanical mixing valve inlet a static water pressure of <math>(2.5 \pm 0.05)</math> MPa [<math>(25.0 \pm 0.5)</math> bar] and maintain it for <math>(60 \pm 5)</math> s;</p> <p>d) check whether there is permanent deformation in any part of the mixing valve upstream of the obturator.</p> <p>Requirement</p> <p>Throughout the duration of the test, there shall be no permanent deformation of any part of the mixing valve.</p>  | After tested, there was no permanent deformation of any part of the tap. | P       |
| 9.5    | <p>Mechanical behaviour downstream of the obturator - obturator in the open position</p> <p>Procedure</p> <p>a) Connect the mixing valve as supplied to the test circuit;</p> <p>b) open the mixing valve obturator fully;</p> <p>c) for mixing valves with a flow rate regulator fitted, apply at the mixing valve inlet a dynamic water pressure of <math>(0.4 \pm 0.02)</math> MPa [<math>(4.0 \pm 0.2)</math> bar] and maintain it for <math>(60 \pm 5)</math> s;</p> <p>d) for mechanical mixing valves without flow rate regulator, apply at the inlets, for <math>(60 \pm 5)</math> s, the water pressure needed to give a flow rate <math>(0.4 \pm 0.04)</math> l/s through the mixing valve;</p> <p>e) for mixing valves with removable flow rate regulator, the test is carried out both with and without this regulator;</p> <p>f) check whether there is permanent deformation in any part of the mixing valve downstream of the obturator.</p> <p>Requirement</p> <p>There shall be no permanent deformation in any part of the mechanical mixing valve.</p> | After tested, there was no permanent deformation of any part of the tap. | P       |
| 10     | Hydraulic characteristics   |  |         |

| EN 817                   |   |                      |       |       |          |
|--------------------------|---|----------------------|-------|-------|----------|
| Clause                   | Requirement - Test  | Result - Remark      |       |       | Verdict  |
| 10.6                     | <p>Determination of flow rate</p> <p>Procedure</p> <p>Open the flow rate control fully and operate the temperature control device for the full extent of its range at a pressure of (0.3+0.02) MPa [(3+0.2) bar]. Record the flow rate for at least the five temperatures specified below:</p> <ul style="list-style-type: none"> <li>— full cold position</li> <li>— 34°C</li> <li>— 38°C</li> <li>— 44°C</li> <li>— full hot position</li> </ul> <p>Requirements</p> <p>The flow rate measured at (0.3+0.02) MPa [(3+0.2) bar] shall, depending on the type of appliance for which the mixing valve is intended, be as specified in Table 10.</p> | Refer to table below |       |       | P        |
| Model no.                | Flow rate (L/min) at position which provided mixed water temperature of   |                      |       |       |          |
|                          | Full cold   | 34°C                 | 38°C  | 44°C  | Full hot |
| RW-SL-DH-40<br>(Aerator) | 5.22  | 5.74                 | 5.79  | 5.74  | 5.21     |
| RW-SL-DH-40<br>(Spray)   | 4.91  | 5.21                 | 5.23  | 5.08  | 4.93     |
| RW-SL-DG                 | 21.53   | 21.91                | 21.97 | 21.99 | 21.66    |
| RW-DGTJ-3-12<br>(Bath)   | 21.85   | 22.48                | 22.51 | 22.48 | 22.13    |



| EN 817       |  |  |           |             |             |         |          |         |              |         |            |         |   |
|--------------|--|--|-----------|-------------|-------------|---------|----------|---------|--------------|---------|------------|---------|---|
| Clause       | Requirement - Test   | Result - Remark  | Verdict   |             |             |         |          |         |              |         |            |         |   |
| 10.7         | <p>Determination of sensitivity</p> <p>Procedure</p> <p>Connect the hydraulic resistance corresponding to the flow rate class marking – see EN ISO 3822-4 to the outlet (for example: for marking A, class A resistance will be used during testing).</p> <p>Operate the temperature control device at a rate of approximately 0.5° angular/s or 0.8 mm/s with a supply pressure of (0.3+0.02) MPa [(3+0.2) bar] and measure the mixed water temperature as a function of the movement of the temperature control device with the flow rate control being fully open.</p> <p>Take the measurement at the end of the control device. When the temperature control device reaches the end of its movement, return the device to its starting position.</p> <p>If there is any doubt about curve, repeat the test manually, with the appliance mounted in its normal installation position and compare the results. The most favourable result is used.</p> <p>Evaluation of results</p> <p>On the basis of the measurements carried out in 10.7.3, plot the curves of mean mixed water temperature (T) as a function of the movement G of the temperature control device.</p> <p>From the curves obtained in this way, determine the two values of ranges G1 and G2 for the mixed water temperature zone between Tm -4 °C and Tm +4 °C (see 0)</p> <p>Verify that the smaller of these two values G1 and G2 complies with the requirements of 10.7.5.</p> <p>Requirements</p> <p>The sensitivity measured shall, depending on the type of appliance for which the mixing valve is intended, be as specified in Table 11.</p> | <p>Tested result as below:</p> <table border="1"> <thead> <tr> <th>Model No.</th> <th>Sensitivity</th> </tr> </thead> <tbody> <tr> <td>RW-SL-DH-40</td> <td>17.63mm</td> </tr> <tr> <td>RW-SL-DG</td> <td>17.51mm</td> </tr> <tr> <td>RW-DGTJ-3-12</td> <td>18.06mm</td> </tr> <tr> <td>RW-DGTJ-10</td> <td>18.63mm</td> </tr> </tbody> </table> | Model No. | Sensitivity | RW-SL-DH-40 | 17.63mm | RW-SL-DG | 17.51mm | RW-DGTJ-3-12 | 18.06mm | RW-DGTJ-10 | 18.63mm | P |
| Model No.    | Sensitivity  |  |           |             |             |         |          |         |              |         |            |         |   |
| RW-SL-DH-40  | 17.63mm  |  |           |             |             |         |          |         |              |         |            |         |   |
| RW-SL-DG     | 17.51mm  |  |           |             |             |         |          |         |              |         |            |         |   |
| RW-DGTJ-3-12 | 18.06mm  |  |           |             |             |         |          |         |              |         |            |         |   |
| RW-DGTJ-10   | 18.63mm  |  |           |             |             |         |          |         |              |         |            |         |   |

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| Clause | Requirement - Test   | Result - Remark   | Verdict |
| 11     | <p>Mechanical strength characteristics- torsion test for operating mechanism</p> <p>Procedure</p> <p>a) Fully open the obturator;</p> <p>b) gradually apply over (4+2) s a torque of (6±0.2) Nm to the operating mechanism in the opening direction;</p> <p>c) maintain this torque for (300+15) s;</p> <p>d) fully close obturator;</p> <p>e) gradually apply over (4+2) s a torque of (6±0.2) Nm to the operating mechanism in the closing direction;</p> <p>f) maintain this torque for (300+15) s.</p> <p>Requirement</p> <p>Following the test:</p> <ul style="list-style-type: none"> <li>— there shall be no deformation or other deterioration which impairs the function of the mixing valve;</li> <li>— the mixing valve shall satisfy the requirement for leaktightness (8.3).</li> </ul> | <p>After tested, there was no deformation or other deterioration which impairs the function of the mixing valve and the mixing valve still satisfied the requirement for leaktightness (8.3).</p> | P       |
| 12     | Mechanical endurance characteristics   |   |         |

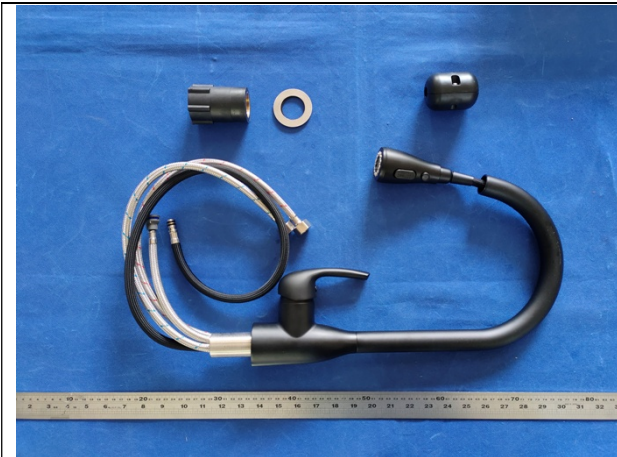
| EN 817 |  |   |         |
|--------|--|---|---------|
| Clause | Requirement - Test   | Result - Remark   | Verdict |
| 12.1   | <p>Mechanical endurance of control device</p> <p>Procedure</p> <p>a) Install the mixing valve in its normal position of use on the machine and connect it to both the cold water supply circuit and the hot water supply circuit.</p> <p>b) Set the maximum force transmitted by the machine to open and closed the flow control to a moment M of 3 Nm max. and to move the temperature control to a moment M1 of 3 Nm max. The machine shall stop if this torsional resistance value is reached on the mechanism (see Figures 14, 15 and 16).</p> <p>c) With the mixing valve closed, set the hot water and cold water static pressures at the values given in 0.</p> <p>d) Eccentric forces, which may cause abnormal wear on the mixing valve, originating from horizontal or vertical movements of the machine, shall be eliminated.</p> <p>e) Subject the mixing valve to 70000 cycles of opening and closing, each cycle comprising opening and closing movements as described below and illustrated in 0 and 0:</p> <p>Requirements</p> <p>During the test, no component fracture, sticking or leakage shall occur.</p> <p>The operating torque for flow rate adjustment and temperature adjustment shall not exceed 3 Nm during the test.</p> <p>Verify that, after 70000 cycles, the leaktightness requirements of 8.3, 8.4 and 8.7 are still satisfied.</p> <p>During the test, record any incidents: failure of leaktightness – leakage in the assembly – fracture of components – stoppage of machine due to control difficulties – etc.</p> | <p>After 70000 cycles test, there was no component fracture, sticking or leakage.</p> <p>The operating torque for flow rate adjustment and temperature adjustment did not exceed 3 Nm.</p> <p>Leaktightness requirements of 8.3, 8.4 and 8.7 are still satisfy.</p> | P       |

| EN 817 |   |   |         |
|--------|---|---|---------|
| Clause | Requirement - Test  | Result - Remark   | Verdict |
| 12.2   | <p>Mechanical endurance of diverters</p> <p>Procedure</p> <p>For manual diverter:</p> <ol style="list-style-type: none"> <li>Install the tap, as supplied, onto the test rig and connect both inlets to both supply circuits;</li> <li>connect the drive device to the diverter operating member by means of a flexible component;</li> <li>adjust the static water pressure of both hot and cold circuits: <ol style="list-style-type: none"> <li>for taps for supply systems of Type 1 to <math>(0,4 \pm 0,05)</math> MPa [<math>(4 \pm 0,5)</math> bar];</li> <li>for taps for supply systems of Type 2 to <math>(0,02 \pm 0,002)</math> MPa [<math>(0,2 \pm 0,02)</math> bar];</li> </ol> </li> <li>in the flow-to-bath and flow-to-shower mode, adjust the flow rate to <math>(6 \pm 1)</math> l/min by restricting the outlet.</li> <li>subject the diverter to a test of 30 000 cycles, each comprising a return movement between the extreme positions; throughout the test, supply the tap alternately at both inlets with cold water for <math>(15 \pm 1)</math> min then hot water for <math>(15 \pm 1)</math> min.</li> </ol> <p>For diverter with automatic return</p> <ol style="list-style-type: none"> <li>install a mixing valve, as supplied, on the test rig and connect both inlets to both supply circuits;</li> <li>connect the drive device to the diverter operating member by means of a flexible component;</li> <li>adjust the static water pressure of both hot and cold circuits to <math>(0,4 \pm 0,05)</math> MPa [<math>(4 \pm 0,5)</math> bar];</li> <li>in the flow-to-bath and flow-to-shower mode, adjust the flow rate to <math>(6 \pm 1)</math> l/min by restricting the outlet.</li> <li>subject the diverter to a test of 30 000 cycles, one cycle being defined as follows: <ol style="list-style-type: none"> <li>with the diverter in the "flow to bath" position, allow water to flow through the spout for <math>(5 \pm 0,5)</math> s;</li> <li>move the diverter to the shower position;</li> <li>allow water to flow through the shower outlet for <math>(5 \pm 0,5)</math> s;</li> <li>use the quick-acting valve to cut off the supply to the mixing valve, allowing the diverter to return to the "flow to bath" position, and then reopen the supply.</li> </ol> </li> </ol> <p>Throughout the test, supply the mixing valve alternately at both inlets with cold water for <math>(15 \pm 1)</math> min and then hot water for <math>(15 \pm 1)</math> min.</p> <p>Requirement</p> <p>Throughout the test, there shall be no incidents of leaks, failure of diverter to reset, blockage, etc.</p> <p>On completion of 30000 cycles, the assembly shall be leaktight when tested according to 8.5 for manual diverters or 8.6 for diverter with automatic return.</p> | <p>The diverter of the models RW-DGTJ-3-12, RW-DGTJ-10, RW-DGTJ-12 and RW-DGTJ-16W is same.</p> <p>After 30000 cycles test, there was no component fracture, sticking or leakage.</p> | P       |

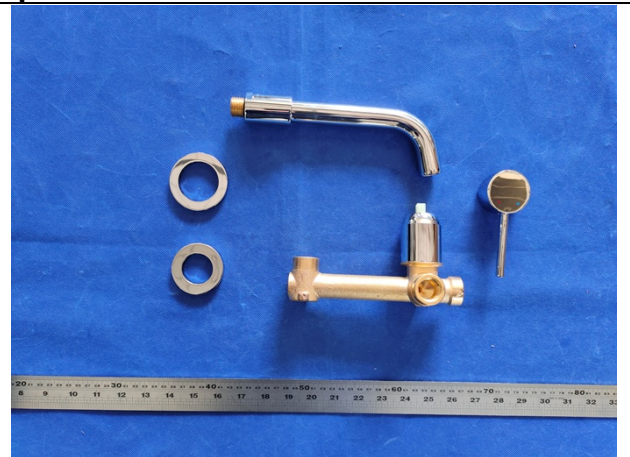
| EN 817 |   |   |         |
|--------|---|---|---------|
| Clause | Requirement - Test  | Result - Remark   | Verdict |
| 12.3   | <p>Mechanical endurance of swivel spouts</p> <p>Procedure</p> <p>a) Mount the mixing valve on the machine and connect the inlet(s) to the supply circuit;</p> <p>b) with the mixing valve closed, adjust the static water pressure to <math>(0,4 \pm 0,05)</math> MPa [<math>(4 \pm 0,5)</math> bar];</p> <p>c) open the mixing valve fully and adjust the flow rate to <math>(6 \pm 1)</math> l/min by restricting the nozzle outlet;</p> <p>d) subject the spout to a test of 80 000 cycles, each cycle comprising a movement of the spout through an arc of <math>120^\circ</math> in both directions or, if there is a stop, over 90% of the available travel.</p> <p>Requirements</p> <p>During the test there shall be:</p> <ul style="list-style-type: none"> <li>— no deformation or fracture of the swivel spout;</li> <li>— no deformation or fracture of the device connecting the spout to the body;</li> <li>— no leakage of the assembly.</li> </ul> <p>At the end of the test, the spout shall be leaktight under the conditions given in 8.4.</p> | <p>During and after 80 000 cycles, there was no deformation or fracture of the swivel spout and the device connecting the spout to the body. Leaktightness requirements of 8.4 was still satisfied.</p> | P       |
| 13     | <p>Backflow protection</p> <p>Backflow protection shall be provided using appropriate devices referenced in EN 1717.</p>  | Complied.   | P       |
| 14     | <p>Acoustic characteristics</p> <p>Expression of results</p> <p>The results of the measurements taken in accordance with EN ISO 3822-1 are expressed by the noise emission of the tapware Lap in dB(A).</p> <p>Determination of acoustic group</p> <p>The acoustic group is determined by the value of Lap obtained at a flow pressure of 0,3 MPa (3 bar). The mixing valve is classified in acoustic group I, II or U as shown in Table 15.</p>  |   | N/A     |

\*\*\*\*\*End of this page\*\*\*\*\*

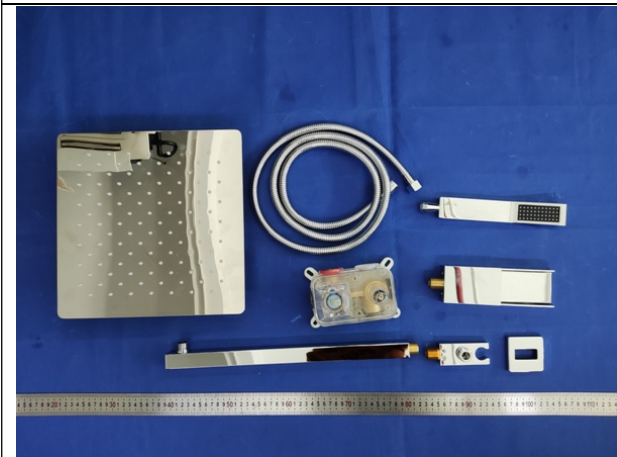
### Appendix A Product photo



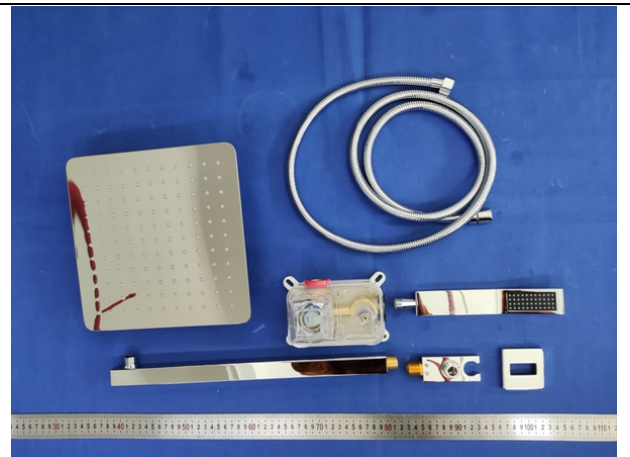
RW-SL-DH-40



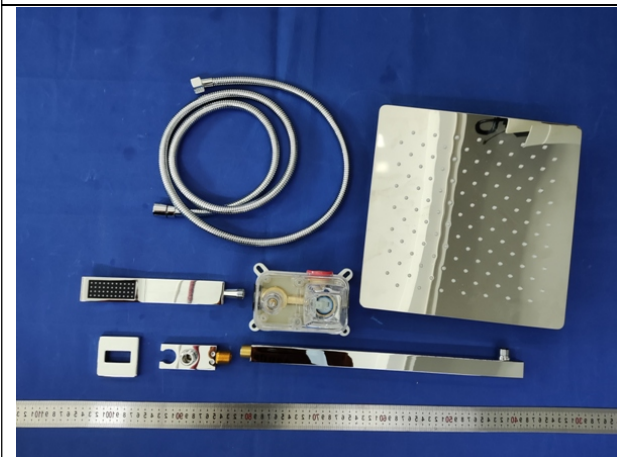
RW-SL-DG



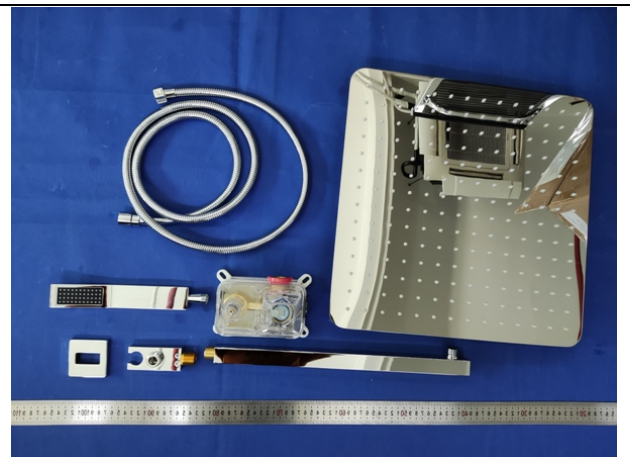
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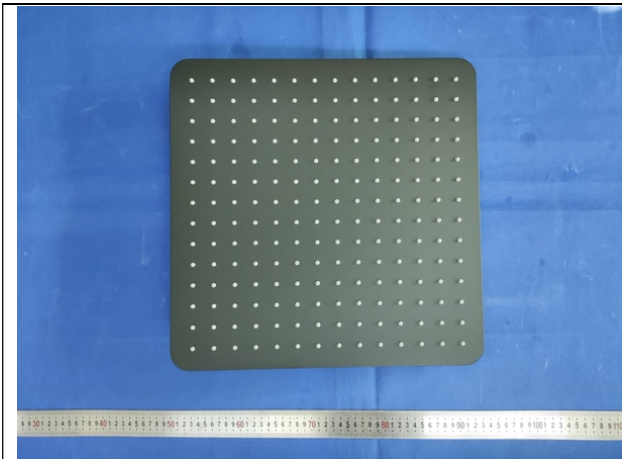
RW-DGTJ-10



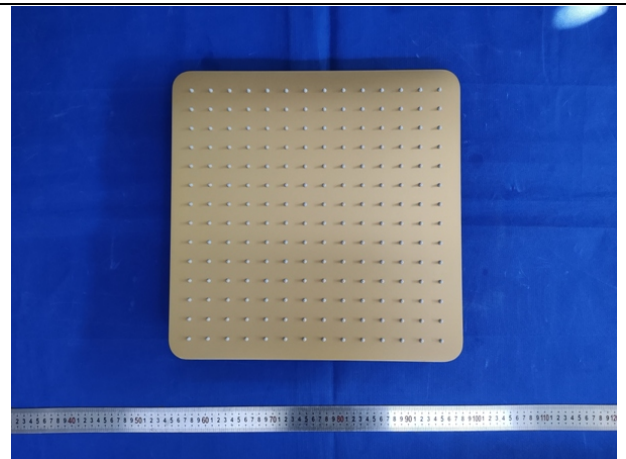
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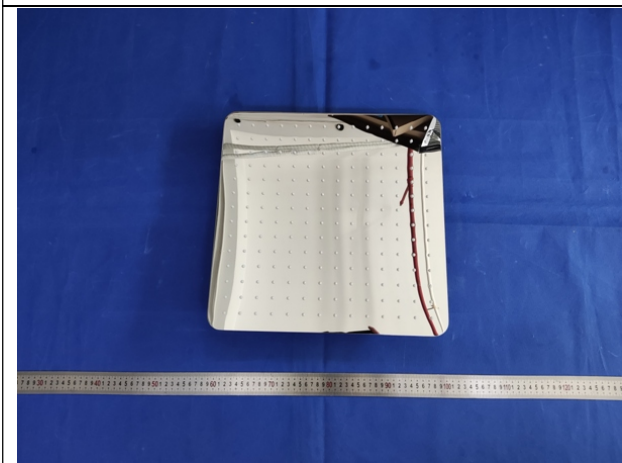
RW-DGTJ-16W



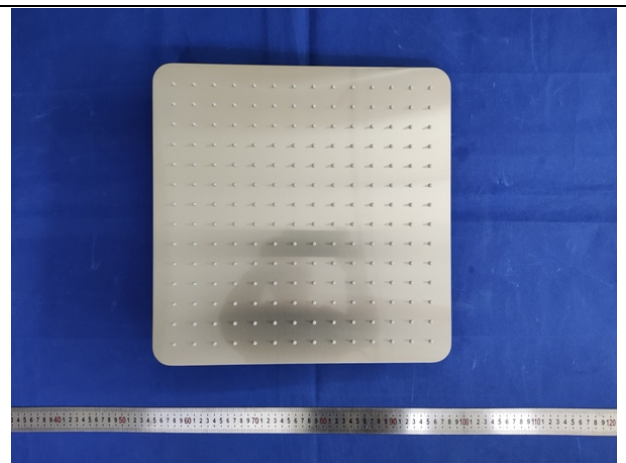
Black



Brushed Gold



Chrome



Brushed Nickel

\*\*\*\*\*End of this page\*\*\*\*\*

**Appendix B  
Revision Page**

| <b>Revision No.</b> | <b>Date</b>  | <b>Changes</b> | <b>Author</b> | <b>Reviewer</b> |
|---------------------|--------------|----------------|---------------|-----------------|
| 0                   | Mar 09, 2023 | First issue    | Martin Xu     | Washington Xie  |

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