

TEST REPORT

Mixer/faucet mechanical testing

Basin and shower/bath mixers

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Samples received

11.02.2021

Batch no

EUF129-21001056

Additional information / order ref.

Tero Teisko

Contact at Eurofins

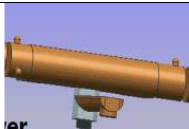
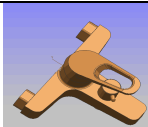
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Appendices

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Espoo 30.3.2021

Ville Matveinen
Expert

Product		Art	Bar-kode	Pcs
Basin Faucet Aqva Recta Chrome bide		AF012021	6430077531017	
Basin Faucet Aqva Curvam Chrome		AF012031	6430077531062	
Basin Faucet Aqva Curvam Chrome bide		AF012041	6430077531079	
Bath/ Shower Mixer Aqva Pluvio Spout Chrome		AF022031	6430077532083	
Bath/ Shower Mixer Flux Spout Chrome		AF022041	6430077532113	

General information, marking and identification

Sample name	Sample no.	Markings on body	Markings on lever	Markings on aerator	Markings, other
AF012021 Basin Faucet Aqva Recta Chrome bide 1	235-2021-00105601	-	Logo	JH	-
AF012041 Basin Faucet Aqva Curvam Chrome bide 1	235-2021-00105605	-	Logo	-	-
AF022031 Bath/ Shower Mixer Aqva Pluvio Spout Chro	235-2021-00105609	-	Stop	-	Hot/Cold
AF022041 Bath/ Shower Mixer Flux Spout Chrome 2	235-2021-00105611	-	Logo	JH	-

Sample name	Sample no	Dimension according to drawings	Intended use	Outlet	Secondary outlet(s)	Backflow prevention EN 1717
AF012021 Basin Faucet Aqva Recta Chrome bide 1	235-2021-00105601	No drawings	Basin	Fixed	Bide	Ok (25mm) non-return valve on hand shower
AF012041 Basin Faucet Aqva Curvam Chrome bide 1	235-2021-00105605	No drawings	Basin	fixed	Bidete hand shower	Ok (25mm) non-return valve on hand shower
AF022031 Bath/ Shower Mixer Aqva Pluvio Spout Chro	235-2021-00105609	No drawings	Shower	Swivel	-	Ok (25mm)
AF022041 Bath/ Shower Mixer Flux Spout Chrome 2	235-2021-00105611	No drawings	Shower	Fixed	-	Ok (25mm)



Logo marked to products:



The results are only valid for the tested sample(s).
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Leaktightness characteristic

EN ISO 817:8, EN ISO 1111:12, EN ISO 15091:4.6

Sample name	Sample no	Leak-tightness 16 bar valve closed, outlet open	Leak-tightness 4 bar valve open, outlet closed	Leaktightness 0,2 bar valve open, outlet closed	Leak-tightness 4 bar cross flow, valve closed	Secondary outlet Leaktightness 16 bar valve closed, outlet open	Secondary outlet Leaktightness 4 bar valve open, outlet closed	Secondary outlet 0,2 bar valve open, outlet closed
AF012021 Basin Faucet Aqva Recta Chrome bide 1	235-2021-00105601	Ok	Ok	Ok	Ok	Ok	-	Ok
AF012041 Basin Faucet Aqva Curvam Chrome bide 1	235-2021-00105605	Ok	Ok	Ok	Ok	Ok	-	Ok
AF022031 Bath/ Shower Mixer Aqva Pluvio Spout Chro	235-2021-00105609	Ok	Ok	Ok	Ok	Ok	-	Ok
AF022041 Bath/ Shower Mixer Flux Spout Chrome 2	235-2021-00105611	Ok	Ok	Ok	Ok	Ok	Ok	Ok

Pressure resistance

EN ISO 817:9, EN ISO 1111:14, EN ISO 15091:4.7

Sample name	Sample no	Pressure resistance	Pressure resistance	Leaktightness 0,2 bar valve open, outlet closed
		25 bar	Flow pressure 4 bar	Flow 0,4 l/s without aerator
AF012021 Basin Faucet Aqva Recta Chrome bide 1	235-2021-00105601	Ok	Ok	Ok
AF012041 Basin Faucet Aqva Curvam Chrome bide 1	235-2021-00105605	Ok	Ok	Ok
AF022031 Bath/ Shower Mixer Aqva Pluvio Spout Chro	235-2021-00105609	Ok	Ok	Ok
AF022041 Bath/ Shower Mixer Flux Spout Chrome 2	235-2021-00105611	Ok	Ok	Ok



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Hydraulic characteristic

EN ISO 817:10, EN ISO 1111:13, EN ISO 15091:5.3

Sample name	Sample no.	Flow resistance class	Flow rate cold [l/s]	Flow rate mixed 34-42/44 °C [l/s]	Flow rate hot [l/s]	Sensitivity movement from hot to cold [mm]	Sensitivity movement from cold to hot [mm]	Lever temperature °C
AF012021 Basin Faucet Aqva Recta Chrome bide	235-2021-00105601	original (spout)	0,08	0,08	0,08	> 10 mm	> 10 mm	<30
AF012041 Basin Faucet Aqva Curvam Chrome bide	235-2021-00105605	original (spout)	0,08	0,08	0,08	> 10 mm	> 10 mm	<30
AF022031 Bath/ Shower Mixer Aqva Pluvio Spout Chro	235-2021-00105609	original (spout)	0,17	0,17	0,17	> 10 mm	> 10 mm	<30
AF022041 Bath/ Shower Mixer Flux Spout Chrome	235-2021-00105611	original (spout)	0,16	0,18	0,16	> 10 mm	> 10 mm	<30

Mechanical strength

EN ISO 817:11, EN ISO 1111:15

Sample name	Sample no	Torque	Opening direction Result	Closing direction Result
AF022031 Bath/ Shower Mixer Aqva Pluvio Spout Chro	235-2021-00105609	6 Nm (operating mechanism)		
		3 Nm (temperature controller)	ok	ok

Mechanical endurance of the Diverter EN ISO 817:12.2

Sample name	Sample no	Start date	Finish date	Water temperature and flow rate	Torque / Nm	Number of cycles	Result
AF022031 Bath/ Shower Mixer Aqva Pluvio Spout Chro	235-2021-00105609	19.2.2021	21.2.2021	<30 °C / +65 ±2 °C 6 ±1 l/min	-	30 000	tight

Mechanical endurance of the Sviwel spout EN ISO 817:12.3

Sample name	Sample no	Start date	Finish date	Water temperature and flow rate	Torque / Nm	Number of cycles	Result
AF022031 Bath/ Shower Mixer Aqva Pluvio Spout Chro	235-2021-00105609	18.2.2021	19.2.2021	<30 °C 6 ±1 l/min	2 Nm	80 000	tight

Mechanical endurance of the Thermostatic on/off EN ISO 1111:16.5

Sample name	Sample no	Start date	Finish date	Number of cycles	Result
AF022031 Bath/ Shower Mixer Aqva Pluvio Spout Chro	235-2021-00105609	11.2.2021	18.2.2021	2000 000	tight

Acoustic characteristics

Test method: SFS EN ISO 3822-1:1999, ISO 3822-2:1995 and ISO 3822-4:1997.

Technical information

Test room: Volume: 51,6 m ³						
Reverberation time of the test room:						
Frequency (Hz)	125	250	500	1000	2000	4000
Reverberation time (s)	2.7	1.8	1.2	1.5	1.6	1.4
Test wall: concrete wall, thickness; 80 mm, mass per unit area; 200 kg/m², area; 10,3 m²						
Test procedure used in determination of appliance sound pressure level Lap:						
Parallel measurements in octave bands (SFS-EN ISO 3822-1, Item 8.2.2)						

Acoustic groups at flow pressure of 0,3 MPa (3 bar)

Group I	Group II	Not classified
Ds ≥ 30 dB(A)	Ds ≤ 20 dB(A)	Ds < 20 dB(A)
Lap ≤ 20 dB(A)	Lap ≤ 30 dB(A)	Lap > 30 dB(A)

AF012041 Basin Faucet Aqva Curvam Chrome bide	Temperature control position	100 kPa		300 kPa		500 kPa	
		q l/s	L _{ap} dB(A)	q l/s	L _{ap} dB(A)	q l/s	L _{ap} dB(A)
Original (spout)	Cold	0,05	<10	0,08	11	0,10	12
	Hot	0,05	<10	0,08	10	0,10	12
	Mixed			0,08	10	0,10	11

AF022031 Bath/ Shower Mixer Aqva Pluvio Spout	Temperature control position	100 kPa		300 kPa		500 kPa	
		q l/s	L _{ap} dB(A)	q l/s	L _{ap} dB(A)	q l/s	L _{ap} dB(A)
Original (spout)	Cold	0,10	12	0,18	21	0,22	24
	Hot	0,10	13	0,17	24	0,22	27
	Mixed			0,17	24	0,22	27

AF022041 Bath/ Shower Mixer Flux Spout	Temperature control posi- tion	Sample	100 kPa		300 kPa		500 kPa	
			q l/s	L _{ap} dB(A)	q l/s	L _{ap} dB(A)	q l/s	L _{ap} dB(A)
Original (spout)	Cold	1						
		2	0,11	20	0,19	29	0,24	34
		3	0,09	20	0,15	30	0,19	34
		Average						
	Hot	1						
		2	0,11	19	0,19	28	0,24	34
		3	0,09	19	0,15	28	0,19	32
		Average						
	Mixed	1						
		2			0,2	28	0,25	34
		3			0,15	30	0,2	34
		Average						

Result: Measured flow rate and noise level Lap at the pressures of 0,1 MPa, 0,3 MPa and 0,5 MPa are pre-sented in the following tables, summary of the results in the last table.

	0,3 MPa	0,5 Mpa	Acoustic group
	Lap max dB(A)	Lap max dB(A)	
AF012041 Basin Faucet Aqva Curvam Chrome bide	11	12	I
AF022031 Bath/ Shower Mixer Aqva Pluvio Spout	24	27	II
AF022041 Bath/ Shower Mixer Flux Spout	30	34	II

REFERENCES

SFS-EN ISO 817. Sanitary tapware - Mechanical mixing valves (PN 10) - General technical specifications. 2008.

4. Marking, 5. Materials, 6. Dimension, 8. Leaktightness characteristic, 9. Pressure resistance, 10. Hydraulic characteristic: flow rate and sensitivity, 11. Mechanical strength, 12. Mechanical endurance, 13. Backflow protection, 14. Acoustic characteristic

SFS-EN ISO 1111. Sanitary tapware - Thermostatic mixing valves (PN 10) - General technical specification. 2017.

7. Marking, 8. Materials, 9. Dimension, 10. Backflow protection, 12. Leaktightness, 13. Performance: flow rate, sensitivity, fidelity, temperature stability, 14. Pressure resistance, 15. Torsion resistance of operating controls, 16. Mechanical endurance, 17. Acoustic characteristic

SFS-EN ISO 15091. Sanitary tapware - Electronic opening and closing sanitary tapware. 2013. 4.2. Materials, 4.3. Functions, 4.4. Protection against polluting, 4.5. Electric characteristic, 4.6. Leaktightness, 4.7. Pressure resistance, 5.2. Dimension, 5.3. Hydraulic characteristic, 5.4. Water hammer, 5.5. Endurance, 5.6. Acoustic

1047/2017. The decree of Finnish Ministry of Environment for Water and Sanitary appliances. Dissolution of heavy metals: NKB 4. Product rules for sanitary taps for hot and cold water supply systems.

SFS EN ISO 3822-1:1999, ISO 3822-2:1995 and ISO 3822-4:1997. Acoustics. Laboratory tests on noise emission from appliances and equipment used in water supply installations.