

TEST REPORT

Mixer/faucet mechanical testing, part 1

Finnarctic Aqva kitchen and basin mixers

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Customer:
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Test lab:
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Contact person:

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Samples received

30.09.2020

Batch no

EUFI29-20005009

Additional information / order ref.

Contact at Eurofins

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Appendices

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Espoo 6.4.2021

Ville Matveinen
Manager, Building Installations

The customer delivered following samples on 26.11.2020 and 4.1.2021.

Kitchen faucets

Product	Picture	Art	BAR-Kode	Pcs
Kitchen Faucet Aqva Recta Chrome pk		AF011011	6430077530003	3
Kitchen Faucet Aqva Recta Chrome		AF011021	6430077530010	3
Kitchen Faucet Aqva Curvam Chrome pk		AF011031	6430077530065	3
Kitchen Faucet Aqva Curvam Chrome		AF011041	6430077530072	3
Kitchen Faucet Flux Curvam Chrome pk		AF011051	6430077530126	3
Kitchen Faucet Flux Curvam Chrome		AF011061	6430077530133	3
Kitchen Faucet Flux Recta Chrome pk		AF011071	6430077530188	3
Kitchen Faucet Flux Recta Chrome		AF011081	6430077530195	3

Basin faucets

Product	Picture	Art	BAR-Kode	Pcs
Basin Faucet Aqva Curvam Chrome		AF012031	6430077531062	3
Basin Faucet Aqva Curvam Chrome bide		AF012041	6430077531079	3

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.

General information, marking and identification

Sample name	Sample no.	Markings on body	Markings on lever	Markings on aerator	Markings, other
pk AF011011 Kitchen Faucet Aqva Recta Chrome	235-2020-00500902	-	Logo	JH	On/Off
pk AF011051 Kitchen Faucet Flux Curvam Chrome	235-2020-00500905	-	Logo	-	ON/OFF
AF011031 1	235-2020-00500911	ON/OFF	Logo	-	-
AF011061 1	235-2020-00500917	-	Logo	-	-
AF012031 1	235-2020-00500920	-	Logo + cold-hot	-	-

Sample name	Sample no	Dimension according to drawings	Intended use	Outlet	Secondary outlet(s)	Backflow prevention EN 1717
pk AF011011 Kitchen Faucet Aqva Recta Chrome	235-2020-00500902	-	Kitchen	Swivel	dishwasher	Ok (25mm air gap)
pk AF011051 Kitchen Faucet Flux Curvam Chrome	235-2020-00500905	No drawings	Kitchen	Swivel	Dishwasher valve	Ok (25mm air gap)
AF012041 Basin Faucet Aqva Curvam Chrome bide	235-2020-00500908	No drawings	Basin	Fixed	Bidette hand shower	Ok (25mm air gap) + non-return valve on hand shower
AF011031 1	235-2020-00500911	No drawings	Kitchen	Swivel	Dishwasher	Ok (25mm air gap)
AF011061 1	235-2020-00500917	no drawings	kitchen	swivel	-	Ok (25mm air gap)
AF012031 1	235-2020-00500920	No drawings	Basin	Fixed	-	Ok (25mm air gap)



Logo marked to products:



Picture 1. Cartridge of pk AF011051 Chrome Kitchen Faucet Flux Curvam Chrome



Picture 2. pk AF011011 Kitchen Faucet Aqva Recta

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
pk AF011011 Kitchen Faucet Aqva Recta Chrome	235-2020-00500902	Ok	Ok	Ok	Ok	Ok	-	Ok
pk AF011051 Kitchen Faucet Flux Curvam Chrome	235-2020-00500905	Ok	Ok	Ok	Ok	Ok	-	OK
AF012041 Basin Faucet Aqva Curvam Chrome bide	235-2020-00500908	Ok	Ok	Ok	Ok	Ok	-	OK
AF011031 1	235-2020-00500911	Ok	Ok	Ok	Ok	Ok	Ok	Ok
AF011061 1	235-2020-00500917	Ok	Ok	Ok	Ok	-	-	-
AF012031 1	235-2020-00500920	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
pk AF011011 Kitchen Faucet Aqva Recta Chrome	235-2020-00500902	Ok	Ok	Ok
pk AF011051 Kitchen Faucet Flux Curvam Chrome	235-2020-00500905	Ok	Ok	Ok
AF012041 Basin Faucet Aqva Curvam Chrome bide	235-2020-00500908	Ok	Ok	Ok
AF011031 1	235-2020-00500911	Ok	Ok	Ok
AF011061 1	235-2020-00500917	Ok	Ok	Ok
AF012031 1	235-2020-00500920	Ok	Ok	Ok

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
pk AF011011 Kitchen Faucet Aqva Recta Chrome	235-2020-00500902	A	0.143	0.191	0.173	19	14	<30
pk AF011051 Kitchen Faucet Flux Curvam Chrome	235-2020-00500905	A	0.147	0.185	0.169	4 (11 degree)	5	<30
AF012031 1	235-2020-00500920	Original	0.090	0.1	0.096	7	6	<30

Mechanical strength

EN ISO 817:11, EN ISO 1111:15

Sample name	Sample no	Torque	Opening direction Result	Closing direction Result
pk AF011011 Kitchen Faucet Aqva Recta Chrome	235-2020-00500902	6 Nm (operating mechanism)	ok, no deformation	ok, no deformation

Mechanical endurance

Mechanical endurance of the Control device EN ISO 817:12.1

Sample name	Sample no	Start date	Finish date	Water temperature and flow rate	Torque / Nm	Number of cycles	Result
pk AF011011 Kitchen Faucet Aqva Recta Chrome	235-2020-00500902	18.1.2021	1.2.2021	<30 °C / +65 ±2 °C 6 ±1 l/min	<3 Nm	70 000	tight, no leakage
pk AF011051 Kitchen Faucet Flux Curvam Chrome	235-2020-00500905	1.2.2021	14.2.2021	<30 °C / +65 ±2 °C 6 ±1 l/min	<3 Nm	70 000	tight, no leakage

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
pk AF011011 Kitchen Faucet Aqua Recta Chrome	235-2020-00500902	13.1.2021	15.1.2021	<30 °C 6 ±1 l/min	2 Nm	80 000	tight, no leakage
pk AF011051 Kitchen Faucet Flux Curvam Chrome	235-2020-00500905	18.1.2021	20.1.2021	<30 °C 6 ±1 l/min	2 Nm	80 000	tight, no leakage

Mechanical endurance of the Washing machine valve

Sample name	Sample no.	Start date	Finish date	Water temperature and flow rate	Torque / Nm	Number of cycles	Result
pk AF011011 Kitchen Faucet Aqua Recta Chrome	235-2020-00500902	17.3.2021	18.3.2021	<30 °C	-	10 000	tight, no leakage

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)

	Temperature control position	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)
pk AF011011 Kitchen Faucet Aqva Recta Chrome	Cold	1	0,10	<10	0,18	14	0,23	19
		2	0,10	<10	0,17	13	0,23	18
		3	0,10	<10	0,18	13	0,23	17
		Average				13		
	Hot	1	0,11	<10	0,18	14	0,24	18
		2	0,10	<10	0,17	13	0,22	18
		3	0,10	<10	0,18	12	0,23	16
		Average				13		
	Mixed	1			0,23	18	0,3	22
		2			0,21	17	0,27	21
		3			0,22	17	0,29	22
		Average				17		

	Temperature control position	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)
pk AF011051 Kitchen Faucet Flux Curvam Chrome	Cold	1	0,10	<10	0,17	14	0,23	18
		2	0,10	<10	0,17	15	0,23	19
		3	0,10	<10	0,17	16	0,22	19
		Average				15		
	Hot	1	0,10	<10	0,17	13	0,23	17
		2	0,10	<10	0,18	14	0,23	18
		3	0,10	<10	0,17	14	0,22	18
		Average				14		
	Mixed	1			0,22	16	0,28	20
		2			0,21	17	0,27	21
		3			0,21	17	0,27	20
		Average				17		

Kitchen Faucet Aqva Curvam Chrome pk AF011031	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	0,06	<10	0,10	<10	0,13	11
	Hot	0,06	<10	0,10	<10	0,13	12
	Mixed			0,10	<10	0,13	12

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)	
AF011011 Kitchen Faucet Aqva Recta Chrome	18	22	I
AF011051 Kitchen Faucet Flux Curvam Chrome	17	21	I
AF011031 Kitchen Faucet Aqva Curvam Chrome pk	<10	12	I