

SANITARY TAPWARE

Technical document

077-01E

Complementary specifications on the
concept of variants for sanitary tapware

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MODIFICATION HISTORY

Revision no.	Date	Modifications
18	01/06/2017	Update to the document layout and reference Substantial modification: Chapter 8 added.
01	02/04/2019	Update to the document layout and reference. Technical Document No. 1 divided into 6 technical documents No. 01A to 01F
02	24/11/2022	Modification of the family title "jet regulators" by "Aerators (with or without integrated flow regulators)" and deletion of the family "flow regulator". Deletion of standards publication year.

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1. CONCEPT OF VARIANTS FOR SANITARY TAPWARE

1.1 Purpose

The purpose of this document is to define the concept of variants for sanitary tapware to determine a tap model that is representative of a set of taps of the same family.

1.2 Field of application

This document applies to all sanitary tapware subject to the following standards:

- NF EN 200: *Sanitary tapware. General technical specifications for single taps and mixer taps (nominal size ½) PN 10 – Minimum flow pressure 0.05 MPa (0.5 bar).*
- NF EN 816: *Sanitary tapware. Automatic shut-off valves PN 10.*
- NF EN 817: *Sanitary tapware. Mechanical mixers (PN 10) – General technical specifications.*
- NF EN 1111: *Sanitary tapware. Thermostatic mixing valves (PN 10) – General technical specifications.*
- NF EN 12541: *Sanitary tapware. Pressure flushing valves and automatic closing urinal valves PN 10.*
- NF EN 15091: *Sanitary tapware. Electronic opening and closing sanitary tapware.*
- NF EN 1112: *Shower outlets for (PN 10) sanitary tapware.*
- NF EN 1113: *Shower hoses for (PN 10) sanitary tapware.*
- NF EN 16145: *Extractable handsprays for sink and washbasin mixer taps.*
- NF EN 16146: *Extractable handspray hoses for sanitary tapware for type 1 and type 2 water supply systems.*
- NF EN 274: *Sanitary tapware. Waste fittings for basins, bidets and baths. General technical specifications.*
- NF EN 246: *Sanitary tapware. General specifications for aerators (with or without integrated flow regulators).*

1.3 Operating principle

Holders with a certified tap model may apply for an extension to other taps of the same family observing the acceptance criteria defined below by filing a technical file with the person responsible for the application. The technical file shall consist of a part containing a “description of the tap” and a part containing “finished product test results”. It shall serve as supporting documentation for verifications during the holder’s audit.

The “description of the tap” part consists of a drawing, the nomenclature and the Attestation of Sanitary Conformity.

The “finished product test results” part consists of sheets on its dimensions and hydraulic and acoustic performances.

This technical file shall serve as supporting documentation for verifications during the holder’s audit.

1.4 Technical criteria for variant acceptance

The holder must have internal testing facilities or a subcontract with a laboratory to perform the hydraulic and acoustic performance tests required to prepare the performance part of the technical file.

Tap composition must be consistent with the following tables according to the types of products (mixers or single taps, mechanical mixers, thermostatic mixers, showers and handsprays, hoses, drains and aerators).

Mixers or single taps

Variants of single-hole washbasin or bidet mixers (fixed spout)

Product composition		Materials	Dimensional	Particularities
1A	Valve head	Identical materials	Identical diameter	type: NF or ECAU or EChAU
1B	Ceramic head			Same opening angle
2	Body	Identical materials	Internal machining identical between the hose connection and the head seat	different design
3	Supply hose	Identical materials	Identical internal diameter	NF or QB
			Identical connections	
			Different length	
4	Aerator		Different size	Identical flow class
			Different shape	NF
5	Ball joint for bidet	Identical materials		
6	Brace	Identical materials		

Variants of single-hole washbasin, bidet or sink mixers (swivel spout)

Product composition		Materials	Dimensional	Particularities
1A	Valve head	Identical materials	Identical diameter	type: NF or ECAU or EChAU
1B	Ceramic head			Same opening angle
2	Body	Identical materials	Internal machining identical between the hose connection and the head seat	different design
3A	Spout	Identical materials		
3B	Spout rotation joint	Identical materials	Identical dimension	
4	Supply hose	Identical materials	Identical internal diameter	NF or QB
			Identical connections	
			Different length	
5	Aerator		Different size	Identical flow class
			Different shape	NF
6	Brace	Identical materials		

Variants of single-hole sink mixer with extractable handspray or spout

Product composition		Materials	Dimensional	Particularities
1A	Valve head	Identical materials	Identical diameter	type: NF or ECAU or EChAU
1B	Ceramic head			Same opening angle
2	Body	Identical materials	Internal machining identical between the hose connection and the head seat	different design
3A	Sink handspray or spout	Identical materials	Identical dimension	NF
3B	Extractable hose	Identical materials	Identical dimension	NF
4	Supply hose	Identical materials	Identical internal diameter	NF or QB
			Identical connections	
			Different length	
5	Backflow prevention valve	Identical materials	Identical diameter	NF
6	Brace	Identical materials		

Variants of shower mixers with a 150 mm centre-to-centre distance

Product composition		Materials	Dimensional	Particularities
1A	Valve head	Identical materials	Identical diameter	type: NF or ECAU or EChAU
1B	Ceramic head			Same opening angle
2	Body	Identical materials	Identical machining for the head seat	different design
3A	Connection fittings	Identical materials	Identical internal shapes	
			Identical connections	
3B	Acous. connection fittings	Identical materials	Identical shock absorber	
4	Outlet connection	Identical materials	Identical dimension	
5	Backflow prevention valve	Identical materials	Identical diameter	NF
6	Brace	Identical materials		

Variants of bath shower mixers with a 150 mm centre-to-centre distance

Product composition		Materials	Dimensional	Particularities
1A	Valve head	Identical materials	Identical diameter	type: NF or ECAU or EChAU
1B	Ceramic head			Same opening angle
2	Body	Identical materials	Identical machining for the head seat	different design
3A	Connection fittings	Identical materials	Identical internal shapes	
			Identical connections	
3B	Acous. connection fittings	Identical materials	Identical shock absorber	
4A	Diverter	Identical materials	Identical dimension	Identical type (automatic, etc.)
4B	Outlet connection	Identical materials	Different size	Identical flow class
5	Backflow prevention valve	Identical materials	Identical diameter	NF
6A	Aerator		Different size	Identical flow class
				NF
6B	Tap aerator	Identical materials	Different shape	
7	Brace	Identical materials		

Variants of sink mixers with a 150 mm centre-to-centre distance

Product composition		Materials	Dimensional	Particularities
1A	Valve head	Identical materials	Identical diameter	type: NF or ECAU or EChAU
1B	Ceramic head			Same opening angle
2	Body	Identical materials	Identical machining for the head seat	different design
3A	Connection fittings	Identical materials	Identical internal shapes	
			Identical connections	
3B	Acous. connection fittings	Identical materials	Identical shock absorber	
4	Spout connection	Identical materials	Identical dimension	
5	"Swivel spout" set	Identical materials	Identical diameter	NF
6	Brace	Identical materials		

Mechanical mixers

Variants of single-hole washbasin or bidet mechanical mixers

Product composition	Materials	Dimensional	Particularities
1A Cartridge	Identical materials	Identical diameter	High or low
			type: NF or C2 or Ch2
1B Cartridge nut	Identical materials		
2A Body	Identical materials	Internal machining identical between the hose connection and the cartridge holder	Identical cartridge position
			different design
2B Water lock	Identical materials	Identical dimension	
3 Supply hose	Identical materials	Identical internal diameter	NF or QB
		Identical connections	
		Different length	
4 Aerator		Different size	Identical flow class
		Different shape	NF
5 Ball joint for bidet	Identical materials		
6 Control	Identical materials	Length greater than the representative length	

Variants of single-hole sink mechanical mixer without extractable handspray or spout

Product composition	Materials	Dimensional	Particularities
1A Cartridge	Identical materials	Identical diameter	High or low
			type: NF or C2
1B Cartridge nut	Identical materials		
2A Body	Identical materials	Internal machining identical between the hose connection and the cartridge holder	Identical cartridge position
			different design
2B Water lock	Identical materials	Identical dimension	
3A Spout	Identical materials		
3B Spout rotation joint	Identical materials	Identical dimension	
4 Supply hose	Identical materials	Identical internal diameter	NF or QB
		Identical connections	
		Different length	
5 Aerator		Different size	Identical flow class
		Different shape	NF
6 Control	Identical materials	Length greater than the representative length	

Variants of single-hole sink mechanical mixer with extractable handspray or spout

Product composition	Materials	Dimensional	Particularities
1A Cartridge	Identical materials	Identical diameter	High or low
			type: NF or C2
1B Cartridge nut	Identical materials		
2A Body	Identical materials	Internal machining identical between the hose connection and the cartridge holder	Identical cartridge position
			different design
2B Water lock	Identical materials	Identical dimension	
3A Sink handspray or spout	Identical materials	Identical dimension	NF
3B Extractable hose	Identical materials	Identical dimension	NF
4 Supply hose	Identical materials	Identical internal diameter	NF or QB
		Identical connections	
		Different length	
5 Backflow prevention valve	Identical materials	Identical diameter	NF
6 Control	Identical materials	Length greater than the representative length	

Variants of shower mechanical mixers with a 150 mm centre-to-centre distance

Product composition	Materials	Dimensional	Particularities
1A Cartridge	Identical materials	Identical diameter	High or low type: NF or C2
1B Cartridge nut	Identical materials		
2A Body	Identical materials	Internal machining identical between the cartridge "seats" and holder	Identical cartridge position different design
2B Water lock	Identical materials	Identical dimension	
3A Connection fittings	Identical materials	Identical internal shapes Identical connections	
3B Acous. connection fittings	Identical materials	Identical shock absorber	
4 Outlet connection	Identical materials	Identical dimension	
5 Backflow prevention valve	Identical materials	Identical diameter	NF
6 Control	Identical materials	Length greater than the representative length	

Variants of bath shower mechanical mixers with a 150 mm centre-to-centre distance

Product composition	Materials	Dimensional	Particularities
1A Cartridge	Identical materials	Identical diameter	High or low type: NF or C2
1B Cartridge nut	Identical materials		
2A Body	Identical materials	Internal machining identical between the cartridge "seats" and holder	Identical cartridge position different design
2B Water lock	Identical materials	Identical dimension	
3A Connection fittings	Identical materials	Identical internal shapes Identical connections	
3B Acous. connection fittings	Identical materials	Identical shock absorber	
4A Diverter	Identical materials	Identical dimension	Identical type (automatic, etc.)
4B Outlet connection	Identical materials	Different size	Identical flow class
5 Backflow prevention valve	Identical materials	Identical diameter	NF
6A Aerator		Different size	Identical flow class NF
6B Tap aerator	Identical materials	Different shape	
7 Control	Identical materials	Length greater than the representative length	

Variants of sink mechanical mixers with a 150 mm centre-to-centre distance

Product composition	Materials	Dimensional	Particularities
1A Cartridge	Identical materials	Identical diameter	High or low type: NF or C2
1B Cartridge nut	Identical materials		
2A Body	Identical materials	Internal machining identical between the cartridge "seats" and holder	Identical cartridge position different design
2B Water lock	Identical materials	Identical dimension	
3A Connection fittings	Identical materials	Identical internal shapes Identical connections	
3B Acous. connection fittings	Identical materials	Identical shock absorber	
4 Spout connection	Identical materials	Identical dimension	
5 "Swivel spout" set	Identical materials	Identical diameter	NF
6 Control	Identical materials	Length greater than the representative length	

Thermostatic mixers

Variants of shower thermostatic mixers with a 150 mm centre-to-centre distance

Product composition	Materials	Dimensional	Particularities
1A Valve head	Identical materials	Identical diameter	type: NF or EAU
1B Ceramic head			Same opening angle
2 Body	Identical materials		different design
3A Connection fittings	Identical materials	Identical internal shapes	
		Identical connections	
3B Acous. connection fittings	Identical materials	Identical shock absorber	
4 Outlet connection	Identical materials	Identical dimension	
5A Thermostatic cartridge	Identical materials	Identical diameter	type: NF
5B Thermostatic cartridge	Identical materials	Identical diameter	type: C3
6 Brace	Identical materials		

Variants of bath shower thermostatic mixers with a 150 mm centre-to-centre distance

Product composition	Materials	Dimensional	Particularities
1A Valve head	Identical materials	Identical diameter	type: NF or EAU
1B Ceramic head			Same opening angle
2 Body	Identical materials		different design
3A Connection fittings	Identical materials	Identical internal shapes	
		Identical connections	
3B Acous. connection fittings	Identical materials	Identical shock absorber	
4A Diverter	Identical materials	Identical dimension	Identical type (automatic, etc.)
4B Outlet connection	Identical materials	Different size	Identical flow class
5A Thermostatic cartridge	Identical materials	Identical diameter	type: NF
5B Thermostatic cartridge	Identical materials	Identical diameter	type: C3
6A Aerator		Different size	Identical flow class
			NF
6B Tap aerator	Identical materials	Different shape	
7 Brace	Identical materials		

Showers and handsprays

Product composition	Materials	Dimensional	Particularities
1 Body	Identical materials		different design
2 Shower mechanism	Identical materials		type: by number of jets
3 Connection fittings	Identical materials		

Flexible hoses

Product composition	Materials	Dimensional	Particularities
1 Inner tube	Identical materials	Identical diameter	
2 End connection technical solution			Overmoulded or assembled
3 Outer tube	Identical materials		
4 Connection fittings	Identical materials	Identical diameter	

Drains

Product composition	Materials	Dimensional	Particularities
1 Trap	Identical materials	Identical internal shapes	
2 Plugs	Identical materials	Identical internal shapes	Same DN
3 Tubing	Identical materials	Identical internal shapes	Same DN
4 Drain device	Identical materials	Identical internal shapes	Same DN

Aerators

Product composition	Materials	Dimensional	Particularities
1 Single-piece	Identical materials	Identical diameter	Same flow rate class
2 Cartridge	Identical materials	Identical diameter	Same flow rate class

1.5 Product variant presentation table

The holder must complete a table containing the representative tapware and other tapware referred to as variants.

The table defining the taps must be presented in accordance with the following tables according to the product types:

- Example for single mixers or taps
- Example for mechanical mixers
- Example for thermostatic mixers

Single-hole single mixers or taps

	NF single-hole																		
CST B code	Item numbe r	Model Series	Body (Materia l)	Obturator (model- manufacture r-number)	Supply hose (diameter- manufacture r-number)	Spout (material- manufacture r-number)	Diverter (model- manufacture r-number)	Aerator (flow class- manufacture r-number)	Backflow prevention valve (manufacture r-number)	Outlet flow No. 1 (L/min)				Outlet flow No. 2 (L/min)				La p	ACS numbe r
										Col d	34 °	44 °	Hot	Col d	34 °	44 °	Hot		
	Representative model																		

Mixers with a 150 mm centre-to-centre distance

	150 mm centre-to-centre distance NF																		
CST B code	Item numbe r	Model Series	Body (Material l)	Obturator (model- manufacture r-number)	Eccentric (manufactur er-number)	Spout (material- manufacture r-number)	Diverter (model- manufacture r-number)	Aerator (flow class- manufacture r-number)	Backflow prevention valve (manufactur er-number)	Outlet flow No. 1 (L/min)				Outlet flow No. 2 (L/min)				La p	ACS numbe r
										Col d	34 °	44 °	Hot	Col d	34 °	44 °	Hot		
	Representative model																		

Single-hole mechanical mixers

	Single-hole NF (Other table for C2-Ch2) or (Other table for C3-Ch3)																		
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CSTB code	Item number	Model Series	Body (Material)	Cartridge (model-manufacturer-number)	Handle radius	Water lock (material-number)	Supply hose (diameter-manufacturer-number)	Spout (material-manufacturer-number)	Diverter (model-manufacturer-number)	Aerator (flow class-manufacturer-number)	Backflow prevention valve (manufacturer-number)	Outlet flow No. 1 (L/min)				Outlet flow No. 2 (L/min)				Lap	ACS number
												Cold	34°	44°	Hot	Cold	34°	44°	Hot		
Representative model																					

Mechanical mixers with a 150 mm centre-to-centre distance

	150 mm centre-to-centre distance NF (Other table for C2-Ch2)																		
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CSTB code	Item number	Model Series	Body (Material)	Cartridge (model- manufacture r-number)	Handle radius	Water lock (material - number)	Eccentric (manufacturer -number)	Spout (material- manufacture r-number)	Diverter (model- manufacture r-number)	Aerator (flow class- manufacture r-number)	Backflow prevention valve (manufacture r-number)	Outlet flow No. 1 (L/min)				Outlet flow No. 2 (L/min)				La p	ACS numbe r	
												Cold	34°	44°	Hot	Cold	34°	44°	Hot			
Representative model																						

Thermostatic mixers with a 150 mm centre-to-centre distance

	150 mm centre-to-centre distance NF (Other table for C2-Ch2) or (Other table for C3-Ch3)																		
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CSTB code	Item number	Model Series	Body (Material)	Cartridge (model- manufacture r-number)	Handle radius	Water lock (material- number)	Obturator (model- manufacture r-number)	Eccentric (manufactur er-number)	Spout (material- manufac turer- number)	Diverter (model- manufac turer- number)	Aerator (flow class- manufac turer- number)	Backflow prevention valve (manufactur er-number)	Outlet flow No. 1 (L/min)		Outlet flow No. 2 (L/min)		Lap	ACS numbe r	
													34°	44°	34°	44°			
	Representative model																		

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