





EPD[®]

Environmental Product Declaration

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:

Touchless washbasin faucet

from

Oras Group

Programme: Programme operator: EPD registration number: Publication date: Valid until:

The International EPD®	System, <u>www.environdec.com</u>
EPD International AB	
S-P-06394	
2022-06-29	
2027-06-29	

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com





General information

Programme information							
Programme	The International EPD® System						
Address	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden						
Website	www.environdec.com						
E-mail	info@environdec.com						

Accountabilities for PCR, LCA and independent, third-party verification								
Product Category Rules (PCR)	 CEN standard EN 15804 serves as the Core Product Category Rules (PCR) Product Category Rules (PCR): Construction products, 2019:14, version 1.11, UN CPC 42911 - Sinks, washbasins, baths and other sanitary ware and parts thereof, of iron, steel, copper or aluminium. PCR review was conducted by: The Technical Committee of the International EPD® System. Chair of the PCR review: Claudia A. Peña. The review panel may be contacted via info@environdec.com. 							
Life Cycle Assessment (LCA)	LCA accountability: Aleksi Laurila, Environmental consultant. Organization: Ecobio Oy.							
Third-party verification	 Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☑ EPD verification by individual verifier Third-party verifier: Hannu Karppi, Ramboll Finland Oy ℳ ℳ ℳ Approved by: The International EPD* System 							
Procedure for follow-up of data during	EPD validity involves third party verifier:							

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.





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Company information							
Owner of the EPD	Oras Group						
Contact	Phone: +358 2 83 161 Email: info@orasgroup.com www.orasgroup.com						
Description of the organisation	Oras Group is a significant European provider of sanitary fittings: the market leader in the Nordics and a leading company in Continental Europe. The company's mission is to create the smartest water experiences for everyone and its vision is to become the Perfect Flow Company. The Group has two strong brands, Oras and Hansa. Oras Group is owned by Oras Invest, a family company, and an industrial owner. The domicile of Oras Ltd, the parent company of the Group, is located in Rauma, Finland, and the Group has three manufacturing sites: Kralovice (Czech Republic), Olesno (Poland) and Rauma (Finland). The Group operates with its own staff in 17 markets. Oras Group's net sales were 233.5 million euros in 2021 and at the end of the period the company employed 1255 people.						
Product-related or management system- related certifications	Designation according to standard EN 15091						
Management system related certifications	ISO 9001:2015 ISO14001:2015 ISO 45001: 2018 ISO 50001:2018						
Name and location of production sites	Oras Group Rauma production site Isometsäntie 2, FI 26101 Rauma, Finland						

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Product name	Touchless washbasin faucet						
Product identification	Touchless faucet for wash basin, horizontal mounted, single hole, according to EN 15091						
Product description	Oras Group products are manufactured in our own European factories by focusing into sustainable energy sources, highly efficient processes and minimized material usage and waste. Faucets include built-in features for water flow and temperature limitation to ensure sustainable product life cycle with efficient use of energy.						
UN CPC code	42911 - Sinks, washbasins, baths and other sanitary ware and parts thereof, of iron, steel, copper or aluminium						
Geographical scope	Europe						







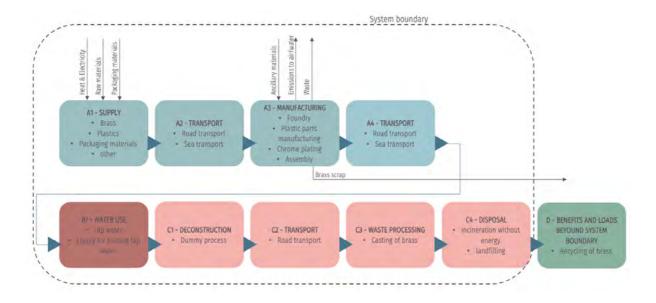
LCA information

Functional unit / declared unit	1 kg of Touchless washbasin faucet
Reference service life	The reference service life for electronic washbasin faucet is 16 years. The technical service life for electronic washbasin faucet is 25 years.
Time representativeness	The data was collected covering production year 2020, which is considered to represent average production year for electronic washbasin faucets. The material declarations used as a basis for modelling the raw material supply are compiled in 2022.
Databases and LCA software	Ecoinvent 3.8 and SimaPro (Version 9.3.0.3).
Description of system boundaries	Cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3 + C + D and additional modules). The additional modules are A4 and B7.





System diagram



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LCA practitioner	Ecobio Oy, www.ecobio.fi							
Allocation	Co-product allocation was applied for the brass scrap that is produced from the foundry process. Economic co-product allocation was applied based on the hierarchy presented for co-product allocation on the EN 15804:2012+A2:2019.							
Electricity used in module A3	 The electricity used in module A3 accounts for more than 30 % of the total energy consumption in modules A1-A3. Therefore, the used energy sources for electricity production and climate change impact of the electricity mix are stated. At Rauma production site the electricity is 100 % based on hydropower. GWP-GHG impact of the used electricity mix is 5,4 g CO₂-eq/kWh. 							
Information about scenarios and additional technical information	The scenario for operational water use is described on chapter "Additional Information".							



Modules declared

Geographical scope, share of specific data (in GWP-GHG indicator) and data variation:

	Pro	oduct sta	age		ruction s stage	Use stage					End of life stage				Resource recovery stage		
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B 2	B 3	B 4	B 5	B6	B 7	С1	С2	С3	С4	D
Modules declared	х	х	х	х	MND	MND	MND	MND	MND	MND	MND	Х	х	х	х	х	х
Geography	EU27	EU27	EU27	EU27	-	-	-	-	-	-	-	EU27	EU27	EU27	EU27	EU27	EU27
Specific data used	> 90 %				-	-	-	-	-	-	-	-	-	-	-	-	
Variation – products	< 10 %					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites		Only or	ne product	tion site		-	-	-	-	-	-	-	-	-	-	-	-





Modules explained

LCA Modules	
A1 Raw material supply	C1 De-construction
This module contains the supply of raw materials including brass, stainless steel, plastics, rubbers and other materials in smaller quantities.	This module is assumed to not cause environmental impacts as the de-construction of faucet product can be done with manual labour and does not require external energy sources.
A2 Transportation	C2 Transport
This module contains the transportation of raw materials and prefabricated components from suppliers to Oras Group's production facilities. Average transportation route covering all the relevant raw materials was developed as there is wide range of possible supply locations even for single raw materials and components. Transportation takes place by road and sea.	This module contains the transportation of product for waste processing to nearest waste processing facility. Transportation is done by road and the distance is assumed to be 50 km.
A3 Manufacturing	C3 Waste processing
This module contains the relevant production processes for electronic washbasin faucets. The most relevant processes are casting in foundry, production of plastic parts and chrome-plating of brass and plastic parts. Treatment of waste and wastewater are also included. The used electricity mix for manufacturing stage is stated on chapter "LCA Information".	This module contains the waste processing related to material recycling of brass. It is assumed that 90 % of the brass is headed for material recycling process, which includes casting of brass into brass ingots.
A4 Transport	C4 Disposal
This module contains the transportation of the final product to warehouses from where further distribution takes place. The scenario does not included transportation to construction site.	This module contains final disposal of materials that are not headed for material or energy recovery. Stainless steel, plastic components, rubber components, packaging materials of the final product and 10 % of brass are assumed to be headed for incineration without energy recovery. Other components in smaller quantities are assumed to be headed to landfill.
B7 Operational water use	D Benefits and loads beyond system boundary
This module contains the production, heating and wastewater treatment of tap water related to the use of electronic washbasin faucet. The scenario for operational water use is described more precisely on chapter "Additional Information".	This module contains the benefits related to material recycling of brass. Brass is recycled through casting process, and it is assumed to substitute virgin brass production from the market





Content information

Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%				
Acrylonitrile butadiene styrene	0,0019	0 %	0 %				
Aluminium oxide	0,0019	0 %	0 %				
Brass	0,8390	0 %	0 %				
Chromium	0,0001	0 %	0 %				
Cobalt, Gold, Iron, Mangan, Palladium, Phosphorus, Silicon, Silver, Tin, Zinc	< 0,0001	0 %	0 %				
Copper	0,0024	0 %	0 %				
Ethylene propylene diene monomer	0,0042	0 %	0 %				
Fused silica	< 0,0001	0 %	0 %				
Neodymium Iron Boron	0,0002	0 %	0 %				
Nickel	0,0002	0 %	0 %				
Other	0,0303	0 %	0 %				
Polycarbonate	0,0005	0 %	0 %				
Polyoxymethylene	0,0181	0 %	0 %				
Polypropylene	0,0028	0 %	0 %				
Polyphenylsulfone	0,0012	0 %	0 %				
Polysulfone	0,0035	0 %	0 %				
Polyvinyl chloride	0,0047	0 %	0 %				
Silicone	0,0002	0 %	0 %				
Softpex	0,0293	0 %	0 %				
Stainless steel	0,0582	0 %	0 %				
Thermoplastic elastomer	0,0014	0 %	0 %				
Thermoplastic polyurethane	0,0019	0 %	0 %				
TOTAL	1,0000	0 %	0 %				
Packaging materials	Weight, kg	Weight-% (versus the produ	ct)				
Corrugated board	0,0838	8,38 %					
Fibre based covering, paper fibre	0,0286	2,86 %					
Linear low-density polyethylene	0,0018	0,18 %					
Polyamide	0,0009	0,09 %					
Paper	0,0200	2,00 %					
Sharp tear	0,0001	0,01 %					
TOTAL	0,1353	13,53 %					

The electronic washbasin faucets do not contain substances which exceed the limits for registration with the European Chemicals Agency regarding the "Candidate List of Substances of Very High Concern for authorization".



Environmental Information

Potential environmental impact – mandatory indicators according to EN 15804

	Results per 1 kg of Electronic washbasin faucet												
Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	B7	C1	C2	С3	С4	D	
GWP-fossil	kg CO2 eq.	5,45E+00	2,48E-01	2,93E-01	5,99E+00	2,19E-01	4,30E+02	0,00E+00	1,07E-02	1,26E-02	1,66E-01	-4,37E+00	
GWP- biogenic	kg CO2 eq.	6,86E-02	5,15E-04	3,78E-02	1,07E-01	4,26E-04	1,30E+02	0,00E+00	3,35E-05	1,66E-03	2,14E-01	-4,93E-02	
GWP- luluc	kg CO2 eq.	1,11E-02	1,16E-04	8,39E-04	1,21E-02	1,03E-04	4,16E-01	0,00E+00	5,04E-06	3,99E-06	7,05E-06	-9,67E-03	
GWP- total	kg CO2 eq.	5,53E+00	2,48E-01	3,32E-01	6,11E+00	2,20E-01	5,61E+02	0,00E+00	1,08E-02	1,43E-02	3,81E-01	-4,43E+00	
ODP	kg CFC 11 eq.	3,09E-07	5,53E-08	2,72E-08	3,92E-07	4,87E-08	4,40E-05	0,00E+00	2,41E-09	1,54E-09	2,43E-09	-2,47E-07	
AP	mol H+ eq.	3,55E-01	2,56E-03	1,02E-03	3,59E-01	2,74E-03	2,10E+00	0,00E+00	4,26E-05	2,96E-05	1,23E-04	-3,17E-01	
EP- freshwater	kg PO43- eq.	2,82E-02	1,44E-05	1,26E-04	2,83E-02	1,19E-05	2,75E-01	0,00E+00	8,05E-07	2,47E-06	2,84E-06	-2,53E-02	
EP- freshwater	kg P eq.	1,04E-02	5,31E-06	4,67E-05	1,05E-02	4,41E-06	1,02E-01	0,00E+00	2,98E-07	9,15E-07	1,05E-06	-9,36E-03	
EP- marine	kg N eq.	1,86E-02	6,74E-04	3,77E-04	1,96E-02	7,17E-04	2,77E+00	0,00E+00	1,24E-05	8,36E-06	6,79E-05	-1,63E-02	
EP- terrestrial	mol N eq.	2,53E-01	7,44E-03	3,01E-03	2,64E-01	7,94E-03	4,49E+00	0,00E+00	1,35E-04	9,79E-05	5,80E-04	-2,24E-01	
РОСР	kg NMVOC eq.	6,31E-02	1,82E-03	6,75E-04	6,56E-02	1,94E-03	9,37E-01	0,00E+00	3,36E-05	2,31E-05	1,32E-04	-5,56E-02	
ADP- minerals& metals*	kg Sb eq.	8,78E-03	7,44E-07	1,08E-06	8,78E-03	6,18E-07	1,91E-03	0,00E+00	4,88E-08	5,69E-08	5,55E-08	-7,89E-03	
ADP- fossil*	MJ	7,01E+01	3,61E+00	2,63E+00	7,64E+01	3,17E+00	6,64E+03	0,00E+00	1,60E-01	1,98E-01	9,66E-02	-5,44E+01	
WDP	m3	6,68E+00	9,62E-03	7,06E-02	6,76E+00	7,95E-03	4,89E+02	0,00E+00	5,13E-04	9,37E-04	2,66E-03	-5,47E+00	

Acronyms

GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADPminerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.





Potential environmental impact - additional mandatory and voluntary indicators

	Results per 1 kg of Electronic washbasin faucet											
Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	B7	C1	C2	С3	С4	D
GWP-GHG1	kg CO2 eq.	5,36E+00	2,46E-01	3,00E-01	5,91E+00	2,18E-01	4,25E+02	0,00E+00	1,06E-02	1,24E-02	1,69E-01	- 4,30E+00

Use of resources

	Results per 1 kg of Electronic washbasin faucet											
Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	B7	C1	C2	С3	С4	D
PERE	MJ	1,68E+01	4,52E-02	5,65E+00	2,25E+01	3,82E-02	1,25E+03	0,00E+00	2,70E-03	5,24E-02	6,36E-03	-1,43E+01
PERM	MJ	0	0	0	0	0	0	0	0	0	0	0
PERT	MJ	1,68E+01	4,52E-02	5,65E+00	2,25E+01	3,82E-02	1,25E+03	0,00E+00	2,70E-03	5,24E-02	6,36E-03	-1,43E+01
PENRE	MJ	8,64E+01	3,63E+00	2,87E+00	9,29E+01	3,18E+00	7,65E+03	0,00E+00	1,62E-01	2,19E-01	1,13E-01	-6,86E+01
PENRM	MJ.	0	0	0	0	0	0	0	0	0	0	0
PENRT	MJ	8,64E+01	3,63E+00	2,87E+00	9,29E+01	3,18E+00	7,65E+03	0,00E+00	1,62E-01	2,19E-01	1,13E-01	-6,86E+01
SM	kg	0	0	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0	0
FW	m3	1,56E-01	3,38E-04	2,10E-02	1,78E-01	2,83E-04	1,32E+01	0,00E+00	1,90E-05	1,80E-04	1,87E-04	-1,28E-01

Acronyms

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PERT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

¹ The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.



Waste production and output flows

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Waste production

	Results per 1 kg of Electronic washbasin faucet											
Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	B7	C1	C2	С3	С4	D
Hazardous waste disposed	kg	2,17E-02	8,25E-06	7,06E-05	2,17E-02	6,86E-06	2,46E-02	0,00E+00	4,29E-07	2,52E-07	2,64E-07	-2,22E-03
Non- hazardous waste disposed	kg	2,21E+00	1,51E-01	6,60E-02	2,43E+00	1,22E-01	8,64E+01	0,00E+00	6,78E-03	1,63E-02	9,38E-03	-1,71E+00
Radioactive waste disposed	kg	2,35E-04	2,45E-05	9,17E-06	2,68E-04	2,16E-05	2,96E-02	0,00E+00	1,07E-06	8,58E-07	3,87E-07	-2,01E-04

Output flows

	Results per 1 kg of Electronic washbasin faucet											
Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	B7	C1	C2	С3	C4	D
Components for re-use	kg	0	0	0	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	0,02	0,02	0	0	0	0	0,77	0	0
Materials for energy recovery	kg	0	0	0	0	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0	0	0	0

Information on biogenic carbon content

Results per 1 kg of Electronic washbasin faucet					
Unit	QUANTITY				
kg C	0,0000				
kg C	0,0662				
	Unit kg C				

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂.



Additional information

The scenario for module B7 "Operational water use" is based on Unified Water Label (UWL), which is a product label developed by European bathroom industry to demonstrate water and energy efficiency of bathroom products. The technical criteria of UWL correlates with existing European and National standards while establishing harmonised calculation criteria for bathroom products. The following parameters were applied when developing the scenario related to operational water use.

Parameter	Amount	Unit
Reference flow	б	l/min
Use cycles per day	7	use cycles/day
Length of use cycle	1	min
Use cycles per year	365	days
Cold water temperature	15	0 C
Hot water temperature	38	0 C
Heat coefficient of water	4,18	kJ/kgK
Density of water	0,981	kg/l
Length of the use stage	16	years

The annual water consumption according to the parameters stated above is 15 330 l. However, according to the UWL methodology the annual water consumption can be divided by two for electronic washbasin faucets. This means that the annual water consumption is 7 665 l. It is assumed that 40 % of the water consumption for electronic washbasin faucet is hot water. This means that 3 066 l of water is heated annually. 80,32 kWh of energy is consumed annually for the heating of water. The scenario for operational water use covers 16 years which is the reference service life of electronic washbasin faucets. The energy profile for heating of water is based on Eurostat statistics describing disaggregated final energy consumption in households used for water heating in year 2018. The geographical coverage of the data is Europe (EU27). The following values were applied when modelling the energy profile for heating of domestic water.

Source of energy	Amount	Unit
Solid fossil fuels and peat	1,21	%
Natural gas	32,89	%
Liquefied natural gas	2,48	%
Oil and petroleum products	9,15	%
Other kerosene	0,42	%
Gas oil and diesel oil	6,25	%
Renewables and biofuels	10,54	%
Solar thermal	4,03	%
Ambient heat (heat pumps)	1,06	%
Primary solid biofuels	5,34	%
Biogases	0,09	%
Electricity	16,23	%
District heat	10,31	%
Total	100,00	%



Operational water use scenario

The scenario for operational water use covers the water and energy consumption related to use of electronic washbasin faucet by one person for 16 years according to the calculation parameters described in UWL methodology. The scenario presented in this EPD is an estimation of the potential environmental impacts related to the use stage of faucet product and the scenario aims to emphasize the significance of the use stage in relation to the products life cycle. In reality, the environmental impacts arising from the use stage of the product are very dependent on behavior of the user, nominal flow of the faucet product and energy sources used for heating of domestic water.

Differences versus previous versions

1.7.2024 Included product list.

References

Disaggregated final energy consumption in households – Energy use – Water heating. Eurostat. 2022. Ecobio LCA report – Faucet products. Oras Group. 2022. General Programme Instructions of the International EPD® System. Version 3.01. MEErP Preparatory Study on Taps and Showers. European Comission. 2014. PCR 2019:14. Construction products. Version 1.11. Taps & showers technical criteria. Unified Water Label. 2020.







Included products

6172	Washbasin faucet
6120FZ	Washbasin faucet
93602009	Washbasin faucet
9360FZ	Washbasin faucet
93631129	Washbasin faucet, low pressure
93602219	Washbasin faucet
92602009	Washbasin faucet
9270FZ	Washbasin faucet
64442219	Washbasin faucet
6150FZ	Washbasin faucet
92512219	Washbasin faucet
92031129	Washbasin faucet, low pressure
1714FZ	Washbasin faucet
9362FZ	Washbasin faucet
64162009	Washbasin faucet
9382BFZ	Washbasin faucet
6150F	Washbasin faucet
6120FTZ	Washbasin faucet
9280BFZ	Washbasin faucet
3017F	High washbasin faucet
92631129	Washbasin faucet, low pressure
4824FTZ	Washbasin faucet
92702219	Washbasin faucet
93702009	Washbasin faucet
6331FZ	Washbasin faucet
6333FZ	Washbasin faucet
51932211	Washbasin faucet
51932201	Washbasin faucet
1714F	Washbasin faucet
6151FZ	Washbasin faucet
9260FZ	Washbasin faucet
6151FZ-104	Washbasin faucet
92602219	Washbasin faucet
6151FZ-105	Washbasin faucet
64162219	Washbasin faucet
6150FZ-104	Washbasin faucet
5550F	Washbasin faucet
05672029	Washbasin faucet
9370FZ	Washbasin faucet
92702009	Washbasin faucet
93702219	Washbasin faucet
92731129	Washbasin faucet, low pressure
64442229	Washbasin faucet
6334FTZ	Washbasin faucet
571622790004	Washbasin faucet
6153FZ	Washbasin faucet
4814FZ-105	Washbasin faucet
5523F	High washbasin faucet
571622790005	Washbasin faucet
9262FZ	Washbasin faucet
05672019	Washbasin faucet
9380BFZ	Washbasin faucet
6330FZ	Washbasin faucet
6332FZ	Washbasin faucet
6335FTZ	Washbasin faucet
57162279	Washbasin faucet
57122279	Washbasin faucet
6250FZ	Washbasin faucet

4814FZ-104	Wash
92512009	Wash
6150FZ-105	Wash
9282BFZ	Wash
6150FZ-102	Wash
5521F	Wash
4816FZ	Wash
4826FTZ	Wash
4816FZ-105	Wash
4816FZ-104	Wash
9267FZ	Wash

Washbasin faucet Washbasin faucet Washbasin faucet Washbasin faucet Washbasin faucet Washbasin faucet, 9/12 V, Bluetooth Washbasin faucet, 3 V, Bluetooth

EPD[®]