

FACTBOOK HYGIENE

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Integrated hygiene solutions

VILLEROY & BOCH

Product solutions for the challenges
in high-traffic areas

TRIPLE THE HYGIENE:



DirectFlush



CeramicPlus



AntiBac

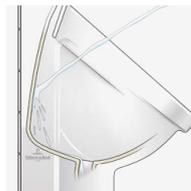
FURTHER HYGIENE FEATURES:



QuickRelease



ProDetect 2



Splash-reducing urinal

PROJECTS

The complete concept

Villeroy & Boch works with architects, planners and interior designers during and after the project – from the first draft to the final version. The modular PROJECTS system from Villeroy & Boch comprises collections and products for individual project requirements with clear segmentation in terms of pricing and subject matter.

The system offers:

- Diverse products for every project requirement
- A wide range of services
- State-of-the-art tools for efficient project design
- Newly defined standards for quality, design and innovation
- Quick and simple orientation due to a range of price and project segments

PRICE SEGMENTS:



Premium & Luxury

Collections for the most exacting requirements



Design & Lifestyle

Design variety for every project



System & Functionality

The modular concept for different projects



Entry level & broad product range

The attractive entry-level price segment for every project requirement

PROJECT SEGMENTS:



Hotels & gastronomy



Residential construction



Office & Commercial



Sport & Culture



Health & Healthcare



Public Sector & Education

THE CHALLENGE OF HYGIENE

In high-traffic areas

High-traffic areas present particular challenges in terms of installing sanitary facilities. Hospitals are a good example, where resistant pathogens can pose a very serious problem. Thousands of patients all over the world contract an infection in hospital every day, something that can considerably weaken or even kill the victims. Yet, the needs and requirements for sanitary facilities in other high-traffic areas, such as schools, hotels, other healthcare facilities and public buildings, are also markedly higher.

Effective prevention by avoiding infection

Maintaining hygiene and avoiding infection to ensure the safety of visitors and personnel in high-traffic areas must be given top priority. Villeroy & Boch offers integrated hygiene solutions designed especially for use in areas with stringent hygiene requirements and high levels of bacterial contamination that reduce the growth of bacteria by more than 99.9%.



INTEGRATED HYGIENE SOLUTIONS

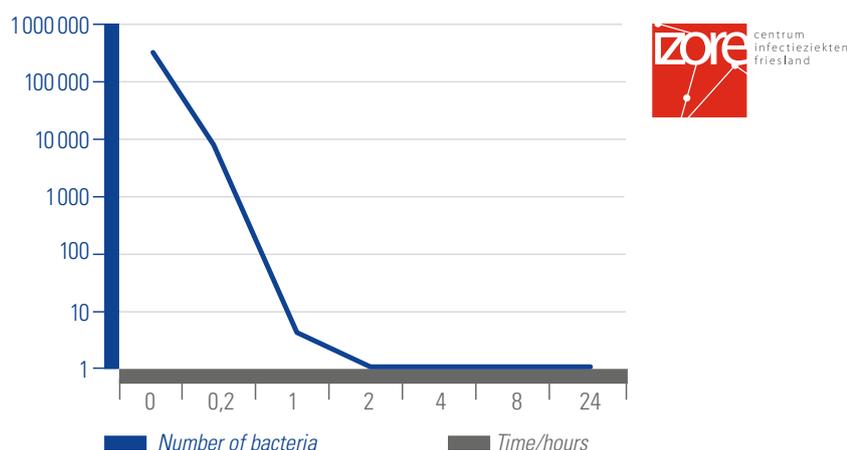
For the strict requirements in high-traffic areas

With its new **AntiBac** anti-bacterial surface technology, Villeroy&Boch is now able to offer the perfect hygiene solution – especially when used in combination with the rimless **DirectFlush** toilet and easy-to-clean **CeramicPlus** surface. Villeroy & Boch offers these integrated three-way hygiene solutions that almost entirely eliminate the growth of bacteria (3 log levels />99.9%) especially for use in areas with high levels of bacterial contamination.

The integrated hygiene solution in application tests

In simulation tests carried out by the IZORE “Centre for Infectious Diseases” Frisia, NL, AntiBac in combination with a DirectFlush toilet and the dirt-repellent CeramicPlus finish showed a reduction in bacteria of >99.9% – in just 2 hours!

Combined effect of AntiBac, DirectFlush and CeramicPlus in application test*



*Standard household cleaning and rinsing



DirectFlush
The rimless toilet generation



AntiBac
The antibacterial glaze



CeramicPlus
The dirt-repellent surface finish

DIRECTFLUSH

The new generation of rimless toilets



The new, rimless DirectFlush toilets feature the following properties:

HYGIENE AND EFFICIENCY

Thanks to the innovative water flow, the entire inner bowl is flushed completely without splashing.

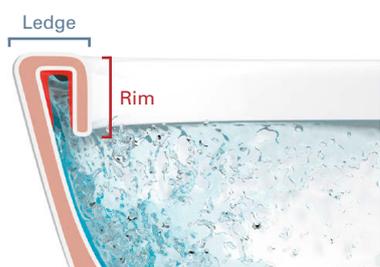
Hygienically clean and we can prove it! One of the leading European Hygiene Institutes, IZORE – the “Centre for Infectious Diseases”, Frisia in the Netherlands, attests that the rimless Villeroy & Boch DirectFlush toilet is practically germ-free after cleaning thanks to its optimised design.

The rimless design is simply easier and quicker to clean, which saves both time and money, making the DirectFlush toilet ideal for use in private households and commercial projects alike.

In combination with AntiBac and CeramicPlus, the easy-care and hygiene properties of the DirectFlush toilets can be optimised even further.

DESIGN

With more than 20 models, we offer DirectFlush toilets to match all the standard collections. DirectFlush is available for floor-standing or wall-mounted installation, as a compact or comfort version – so you are sure to find the model to suit your needs.



Conventional toilets
with rim | with ledge



"Rimless toilets"
without rim | without ledge



Rimless DirectFlush toilets
without rim | with ledge

The low water consumption with a flush of just 3/4.5l is standard for Villeroy & Boch and sufficient for flushing the entire bowl. This exceeds the requirements of the standard: standard EN 997 permits an unflushed area of 85mm below the upper edge for rimless toilets, yet DirectFlush flushes the entire inner bowl!



CERAMICPLUS

More cleanliness – greater efficiency



CeramicPlus is an innovative solution for clean and ceramic surfaces that are particularly easy to care for. Villeroy & Boch has succeeded in improving the properties of ceramics: a special process gives the CeramicPlus surface a permanent, high-quality finish. With one important advantage: on contact, drops of liquid form into beads which roll down the drain. The surface makes it very difficult for dirt and limescale to adhere so the water simply flows off, washing any residue away.

CeramicPlus ensures optimum hygiene and fresh cleanliness on every surface. The material is resistant to all the standard acidic and alkaline household chemicals as well as to medical and cosmetic products.

Optimum efficiency

Durable: tested during the course of a ten-year simulation to verify the material's durability, provided the care instructions are heeded.

Fast: CeramicPlus can be cleaned very quickly and easily using general-purpose cleaning agents.

You'll now only need approx.

- 10% of the previous cleaning time*
- 10% of the previous cleaning agent*
- 10% of the previous water consumption**

Maximum quality and ease of care

* When removing limescale compared with standard ceramics (study carried out by the wfk-Forschungsinstitut für Reinigungstechnologie)
** When removing marks made by dirty water when compared with standard ceramics

- Durable surfaces
- Hygienic and clean
- Extremely easy to care for and clean
- Resistant to household acids and alkalis
- High quality standards in the materials used

Optimum environmental protection

Approved: CeramicPlus has passed tests for health and environmental risks with flying colours.



Conventional ceramics



CeramicPlus finish



Safe: Tested and confirmed by the Institute for Medical Microbiology and Hygiene at the Medical University of Lübeck, the wfk-Forschungsinstitut für Reinigungstechnologie, as well as by the specialists for ceramic development at Villeroy & Boch AG.

ANTIBAC

Lasting protection against bacteria



AntiBac is the innovative hygiene solution for high-traffic public areas. The new glaze contains silver ions that have been proven to reduce the growth of bacteria on ceramic surfaces and toilet seats by more than 99.9%, meaning that the use of chemical cleaning agents can be reduced substantially. It goes without saying that AntiBac poses absolutely no health risks and affords reliable protection and safety for the entire service life of the product.

The advantages of AntiBac:

- Effective control of bacterial growth (>99.9%)*
- Integrated anti-bacterial effect
- Long-term protection thanks to silver ions in the glaze
- Safe for the environment and health: no nanoparticles



Award-winning performance

A jury of experts and readers of "Management&Krankenhaus", a magazine for decision-makers in German hospitals, nominated AntiBac for the international "Management&Krankenhaus Award", and Villeroy & Boch's antibacterial glaze took second place in the "Laboratory&Hygiene" category.

Independent test reports

Both the BAM (Federal Institute for Materials Research and Testing) in Berlin and the independent BOKEN Quality Evaluation Institute in Osaka, Japan have confirmed the antimicrobial effect of AntiBac.

*Anti-bacterial effect tested by the Federal Institute for Material Testing (BAM), Berlin and the independent BOKEN Quality Evaluation Institute. Tested and confirmed in accordance with JISZ 2801:2010



INTERVIEW

In conversation with Dr. Jan van Zeijl



HIGHEST HYGIENE DEMANDS FOR HOSPITAL BATHROOMS

Dr. Jan van Zeijl is a clinical microbiologist at the IZORE Centre for Infectious Diseases in Frisia. The Centre has been working with Villeroy & Boch for over ten years to perfect and test various toilet systems with the aim of continually improving the hygiene standards of toilets. The CeramicPlus surface finish combined with the rimless DirectFlush toilet and the AntiBac anti-bacterial coating were tested for the first time in a hospital-lab environment at IZORE. He talks about the role of toilet design from the perspective of a researcher and medical practitioner...

They work and perform research at the micro-biological IZORE Institute – the centre for infectious diseases in Frisia. What are your points of contact with the construction industry?

My main areas of interest are hygiene, infection control and public health. My relationship with the construction sector started after an epidemic of a highly resistant micro-organism in the Haematology and Oncology department of the Leeuwarden Medical Centre. We were able to prove the role of the toilets in this outbreak and we embarked on a lasting relationship with Villeroy & Boch.

What part did the toilets play?

Leukaemia patients are placed in isolation rooms subject to stringent hygiene conditions for chemotherapy treatment. To prevent bacterial sepsis, these patients are treated with antibiotics and checked twice weekly for any colonisation of the gut by pathogenic bacteria. In 2004 the highly resistant *Escherichia coli* bacterium was found in the gut of one patient without there being any good reason for the colonisation. Over the following months the same multi-resistant *E. coli* bacterium was identified in three further patients, one of whom died. After all other reasons had been ruled out, it was clear that the infection had to have been transmitted via the toilets, although these were cleaned in accordance with all hygiene stipulations. And that actually turned out to be the case: we discovered a biofilm in the hidden parts of the toilet.

To find a solution for this problem, we asked Villeroy & Boch whether they could develop a toilet that had no plastic parts whatsoever. We needed a toilet that was made completely of an easy-to-clean



ceramic glaze – including all non-visible parts. The result was the rimless DirectFlush model combined with the CeramicPlus surface finish that does not retain any residue. Today a number of these toilets are in use in our hospital. Villeroy & Boch contributed to solving the problem.

What would you advise architects and planners when designing sanitary facilities that need to meet the strictest hygiene standards? Are there any aspects that absolutely must be taken into account?

Villeroy & Boch is currently moving into the healthcare market. There is substantial demand around the world in terms of strict hygiene stipulations and infection control. Multi-resistant micro-organisms are a real threat for the world's healthcare systems. What we need in hospitals and other healthcare facilities is a safe environment for patients. That doesn't just apply to toilets, but also to patients' rooms, bathrooms and for example to all operating theatres. Once we have tested the efficacy of silver ions in further isolated tests – quite apart from their use as a toilet coating – we could fit out entire bathrooms with anti-bacterial tiles. For example, you can now get glass panes with an anti-bacterial coating. The need to provide a safe environment for patients demands smooth and rimless areas that are easy to clean. Similarly, the surfaces should be able to be cleaned with hydrogen peroxide, which is currently used as a disinfectant in hospitals. So we have very exacting demands when it comes to hospital construction.

Spotlight on the toilet: The rimless DirectFlush toilet from Villeroy & Boch satisfies the most stringent hygiene requirements thanks to its easily cleaned surface and almost complete and germ-free flushing of the inside of the bowl. It was developed in collaboration with Dutch microbiologist Dr. Jan van Zeijl (IZORE – Centre for Infectious Diseases) following the discovery that a serious infection in an intensive care unit for leukaemia patients could be traced back to a conventional toilet.

HYGIENE SOLUTIONS IN PRACTICE

UMCG: Maximum hygiene for an innovative hospital

The **University Medical Center Groningen**, or UMCG, has always played a leading role in the development of hospital architecture. The complex has a very long history dating back to the eighteenth century. Since then both the medical services and building structure have been continuously enhanced and expanded.

Healing Architecture

Medicine is changing from a purely prescription-based business to a services industry. This development has been pioneered by the Scandinavian countries and the Netherlands. Since the 1980s these countries have been studying “healing architecture”, which places greater emphasis on people’s needs. This approach claims that factors such as designing for natural daylight, protection from noise and environmental nuisance, materials and colours, floor plan and open access to nature can reduce anxiety and stress. The UMCG was the first hospital to acknowledge these new insights and undertook a comprehensive redesign of its building structures, resulting in a 20-year construction phase.

The most stringent demands where hygiene is concerned

In a building complex the size of a small town, even apparently minor interventions became a challenge – including the refurbishment of the toilet facilities. Since 2014 all the existing buildings have been fitted with Villeroy & Boch toilets to conform to the most exacting hygiene standards. Purist sanitary products from the Memento collection and the Architectura range are being deployed. The dirt-resistant CeramicPlus surface ensures that no residues can form on the ceramic surfaces. Products such as the rimless DirectFlush toilet meet the most exacting hygiene standards. With some 2,000 toilets in the complex and around 150 flushes per hour, controlled water consumption was a further consideration for an efficient refurbishment of the toilet facilities. The patients’ health, recuperation and wellbeing are central factors in healthcare buildings – and this can only be achieved by meeting the highest standards regarding cleanliness and hygiene in all private and public areas.



FURTHER HYGIENE FEATURES



Removable and easy-to-clean toilet seats

QUICK RELEASE

Easy, quick and hygienic.

Makes light work of bathroom cleaning: toilet seats fitted with Quick Release are child's play to remove and replace. Simply lift and remove the seat and then it's much easier and quicker to clean the entire toilet.





Urinal flush control via app PRODETECT 2

Flush control for urinals based on HF sensor technology

- Simple and convenient operation with the optional Bluetooth adapter and app (iOS 8 + android)
- Reliable user recognition thanks to CW with HF sensor (5,8GHz) technology
- Automatic pre-set flush after a longer period without use (when the hygiene flush mode is activated)
- Adjustable flush volume and optimum flushing performance allows for the best possible rinsing of the urinal
- Thanks to "plug and play", it is ready for use directly after installation

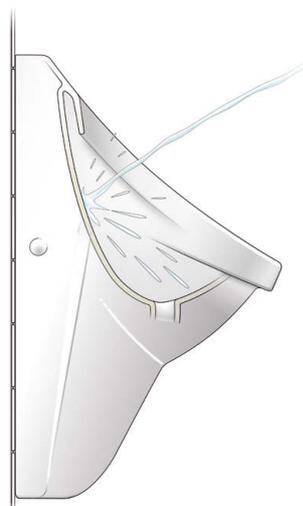


Total cleanliness SPLASH-REDUCING URINAL

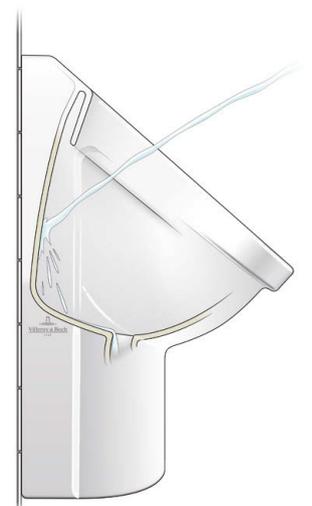
The specially sloping rear panel enables the urinal to guide splashes of urine into the bowl below – for the optimum hygiene, whether in the commercial sector or private bathrooms.

- As the urine is directed into the bowl, any points of contact with the urinal are less prone to soiling
- The user is protected against splashes of urine
- Much less cleaning is required around the urinal

Conventional urinal



Splash-reducing urinal



HYGIENE SOLUTIONS FOR ALL AREAS

AREA:



Hotels

- New guests every day
- Strict requirements in terms of comfort, design, convenience and hygiene (in particular in the bathrooms)
- Time- and cost-effective cleaning



Retirement Homes

- Overlapping resident and visitor areas
- Strict requirements in terms of hygiene for the elderly and sick



Sport & Culture

- Short-term, high-traffic use before and during intermissions at sporting events
- Large number of toilets and urinals
- Difficult cleaning conditions
- Intense and high-frequency use during functions and events



Hospital Settings

- Extremely stringent requirements in terms of hygiene
- In some areas, toilets are used by both patients and visitors
- Reduce the high risk of infection



Private sector

- Aesthetics, hygiene and costs
- Saving time when cleaning

DIVERSE HYGIENE SOLUTIONS FROM VILLEROY&BOCH



DIRECTFLUSH



ANTIBAC



CERAMICPLUS



QUICKRELEASE



PRODETECT 2



SPLASH-REDUCING URINAL



PRODUCT OVERVIEW

O.NOVO VITA

Wall-mounted washdown toilet, extended projection: 70 cm

rimless



Art.-Nr.: 4601R0

Wall-mounted washdown toilet, raised (+6 cm) projection: 59,5 cm

rimless



Art.-Nr.: 4695R0

Floor-standing washdown toilet for closecoupled WC-suite; raised (+6 cm) and extended projection: 70 cm

rimless



Art.-Nr.: 4620R0



PRODUCT OVERVIEW

O.NOVO

Wall-mounted washdown toilet, projection: 56 cm

rimless



Art.-Nr.: 5660R0

Floor-standing washdown toilet for close-coupled WC-suite, projection: 67 cm

rimless



Art.-Nr.: 5661R0



PRODUCT OVERVIEW

ARCHITECTURA

Wall-mounted washdown toilet, projection: 53 cm

rimless



Art.-Nr.: 5684R0

Wall-mounted washdown toilet, projection: 53 cm

rimless



Art.-Nr.: 5685R0

Wall-mounted washdown toilet compact, projection: 48 cm

rimless



Art.-Nr.: 4687R0



PRODUCT OVERVIEW

ARCHITECTURA

Wall-mounted washdown toilet XL, projection: 58 cm

rimless



Art.-Nr.: 4688R0

Wall-mounted washdown toilet, extended projection: 71 cm

rimless



Art.-Nr.: 567810



PRODUCT OVERVIEW

AVENTO

**Wall-mounted washdown toilet,
projection: 53 cm**

rimless



Art.-Nr.: 5656RS
Art.-Nr.: 5656HR

SUBWAY 2.0

**Wall-mounted washdown toilet,
projection: 56 cm**

rimless



Art.-Nr.: 5614R0

O.NOVO VITA

60 cm washbasin

Continuous groove (underside)
Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
4119 60	Yes	1 punched out
4119 61	No	1 punched out
4119 62	Yes	3 pre-punched
4119 63	No	3 pre-punched



80 cm washbasin

2 handles at the front
Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
4120 80	Yes	1 punched out
4120 81	No	1 punched out
4120 82	Yes	5 pre-punched
4120 83	No	5 pre-punched



56 cm washbasin

Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
4119 55	Yes	1 punched out
4119 56	No	1 punched out
4119 57	No	3 pre-punched
4119 58	Yes	3 pre-punched



56 cm washbasin

Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
4161 56	Yes	1 punched out
4161 57	No	1 punched out



36 cm washbasin

suitable for 1-hole tap fittings

Article number	Overflow	Tap hole
5360 36	Yes	pre-punched tap holes on sides
5360 37	No	pre-punched tap holes on sides
5360 38	Yes	1 punched out



41,5 cm washbasin (Side length)

suitable for 1-hole tap fittings,
with overflow



Art.-Nr.: 732740

PRODUCT OVERVIEW

O.NOVO

45 cm washbasin

Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
5360 45	Yes	1 punched out
5360 46	No	1 punched out
5360 47	Yes	without tap hole
5360 48	No	without tap hole



50 cm washbasin

Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
5360 50	Yes	1 punched out
5360 51	No	1 punched out
5360 52	Yes	without tap hole
5360 53	No	without tap hole



50 cm washbasin

suitable for 1-hole tap fittings

Article number	Overflow	Tap hole
5361 50	Yes	pre-punched tap holes on sides
5361 51	No	pre-punched tap holes on sides



PRODUCT OVERVIEW

O.NOVO

54 cm washbasin

Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
4160 55	Yes	1 punched out
4160 56	No	1 punched out



55 cm washbasin

Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
5160 55	Yes	1 punched out
5160 56	No	1 punched out
5160 57	Yes	without tap hole
5360 58	No	without tap hole



60 cm washbasin

Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
5160 60	Yes	1 punched out
5160 61	No	1 punched out
5160 62	Yes	without tap hole
5360 63	No	without tap hole



65 cm washbasin

Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
5160 65	Yes	1 punched out
5160 66	No	1 punched out
5160 67	Yes	without tap hole
5360 68	No	without tap hole



80 cm washbasin

Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
5160 80	Yes	1 punched out
5160 81	No	1 punched out



55 cm washbasin

Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
5166 55	Yes	1 punched out
5166 56	No	1 punched out
5166 57	Yes	without tap hole
5166 58	No	without tap hole





PRODUCT OVERVIEW

O.NOVO

60 cm washbasin

Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
5166 60	Yes	1 punched out
5166 61	No	1 punched out
5166 62	Yes	without tap hole
5166 63	No	without tap hole



60 cm washbasin

Groove at the sides (underside)
 Choice of 5 positions for tap hole
 Suitable for wheelchair users

Article number	Overflow	Tap hole
5178 60	Yes	1 tap hole punched through
5178 61	No	1 tap hole punched through
5178 62	Yes	5 pre-punched
5178 63	No	5 pre-punched



65 cm washbasin

Groove at the sides (underside)
 Choice of 5 positions for tap hole
 Suitable for wheelchair users

Article number	Overflow	Tap hole
5178 65	Yes	5 pre-punched
5178 66	No	5 pre-punched
5178 67	Yes	1 tap hole punched through
5178 68	No	1 tap hole punched through





PRODUCT OVERVIEW

ARCHITECTURA

45 cm washbasin

suitable for 1-hole tap fittings

Article number	Overflow	Tap hole
4373 45	Yes	1 punched out
4373 46	No	1 punched out



55 cm washbasin

Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
4190 55	Yes	1 punched out
4190 56	No	1 punched out



55 cm washbasin

Choice of 3 positions for tap hole,
with overflow



Art.-Nr.: 419355



PRODUCT OVERVIEW

ARCHITECTURA

55 cm washbasin

Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
4188 55	Yes	1 punched out
4188 56	No	1 punched out



60 cm washbasin

Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
4188 60	Yes	1 punched out
4188 61	No	1 punched out



65 cm washbasin

Choice of 3 positions for tap hole

Article number	Overflow	Tap hole
4188 65	Yes	1 punched out
4188 66	No	1 punched out





PRODUCT OVERVIEW

ARCHITECTURA

55 cm washbasin

Choice of 3 positions for tap hole,
without overflow, ground underside



Art.-Nr.: 41885L

60 cm washbasin

Choice of 3 positions for tap hole
without overflow, ground underside
Furniture programme LEGATO to match



Art.-Nr.: 41886L

65 cm washbasin

Choice of 3 positions for tap hole
without overflow, ground underside



Art.-Nr.: 4188KL

35,5 cm siphonic urinal

concealed inlet and outlet



Art.-Nr.: 558600

35,5 cm siphonic urinal

concealed inlet and outlet



Art.-Nr.: 558700

38,5 cm siphonic urinal

concealed inlet and outlet
splash-reducing



Art.-Nr.: 557300

PRODUCT OVERVIEW

ARCHITECTURA

38,5 cm siphonic urinal

concealed inlet and outlet
splash-reducing



Art.-Nr.: 557400

38,5 cm siphonic urinal

concealed inlet and outlet
splash-reducing, with ceramic strainer



Art.-Nr.: 557420

PRODUKTÜBERSICHT URINAL

SUBWAY

38,5 cm siphonic urinal

concealed inlet and outlet



Art.-Nr.: 751300

MORE UNDER:
[PRO.VILLEROY-BOCH.COM/PROJECTS](https://pro.villeroy-boch.com/projects)