



Swimming Pool Solutions

Designer pools, Luxury SPAs, Aquaparks







Designer pools, Luxury SPAs, Aquaparks

WATER MANAGEMENT

12

Conveyance
Interception
Dosing

CAREFREE SOLUTIONS

16

Automation
Control

AROUND THE POOL

22

Drainage
Showers
Toilets

WELLNESS AND ENVIRONMENT

28

Ventilation and Radiant Systems
Heat and Water Recovery

Our identity

In a rapidly changing world, with a growing population and a changing climate, **water** is one of our planet's most precious resources, one that we must use with greater awareness and sustainability.

As a global leader in the industry that connects people with water and energy, Aliaxis is ready to take on this challenge and to help in shaping a better tomorrow.

We offer water and energy management systems all over the world, and it is the specific knowledge and experience of our people in the field that makes all the difference to our customers, with whom we work closely to deliver reliable performance, today and tomorrow.

Our brands have been providing innovative solutions for over 60 years and represent our history and know-how in the field of Construction, Infrastructure and Industry.

Aliaxis Italia develops personalised solutions and supports customers, from ideation to project execution, working together to define the ideal solution that can meet their needs and objectives.

A dense network of distributors, structured to guarantee not only the availability of products but also direct support and advice, is one of the many advantages that Aliaxis Italia delivers to its customers.



www.fipnet.com





From Proposal to Construction

Aliaxis is a leader in the management and conveyance of fluids.

Aliaxis Italy has a specialist team catering for designers, contractors, and contractors to offer:

- Consulting
- Solutions
- Technology

CONSULENZA

We listen to the needs of designers, contractors and companies to find the most suitable solution. We work closely our partners from proposal to construction, providing the design, technical and regulatory support to achieve the desired result.

Each project is unique, because all circumstances differ: the land with its hydro-geological characteristics, regional and local regulations.

If you have an ongoing project and would like advice, please contact:

ability@aliaxis.com

ADVANTAGES

Aliaxis technology means:

- Being able to choose a complete system
- Assistance at the design stage
- Compliance with regulations
- High-performance materials
- Easy and fast installation
- Saving in installation times

Our team of technicians works closely with designers and companies from the **Proposal** to the **Construction phase**.

We build our service around our partner's needs.

Treatment and management of **water** within **buildings**.

- Water recycling.
- **Acoustic** comfort.
- **Air** quality.
- **Energy** saving.

We adapt our products and services to the needs of professionals and general contractors.





TECHNOLOGY

We provide solutions complying with current regulations and on-site assistance during installation. Rely on an expert to be sure of a job done properly: planning the correct installation and choosing the most suitable solution saves installation time and guarantees the work of the company and designer.

For Conveyance, Interception, Dosing, Automation and Control product lines, please contact:

• **Industry Sales Technical Support**
technical.fip@alixaxis.com

For Drainage, Shower and Toilet, Ventilation and Radiant Systems, Water and Heat Recovery product lines please contact:

• **Building Sales Technical Support**
infotecnico.redi@alixaxis.com

Focus on

UNI 10637

Changes to the law and regulations governing swimming pools, from their construction to their usage and operation, have helped to diversify the range of components on offer to make pools for public use safer and more comfortable.

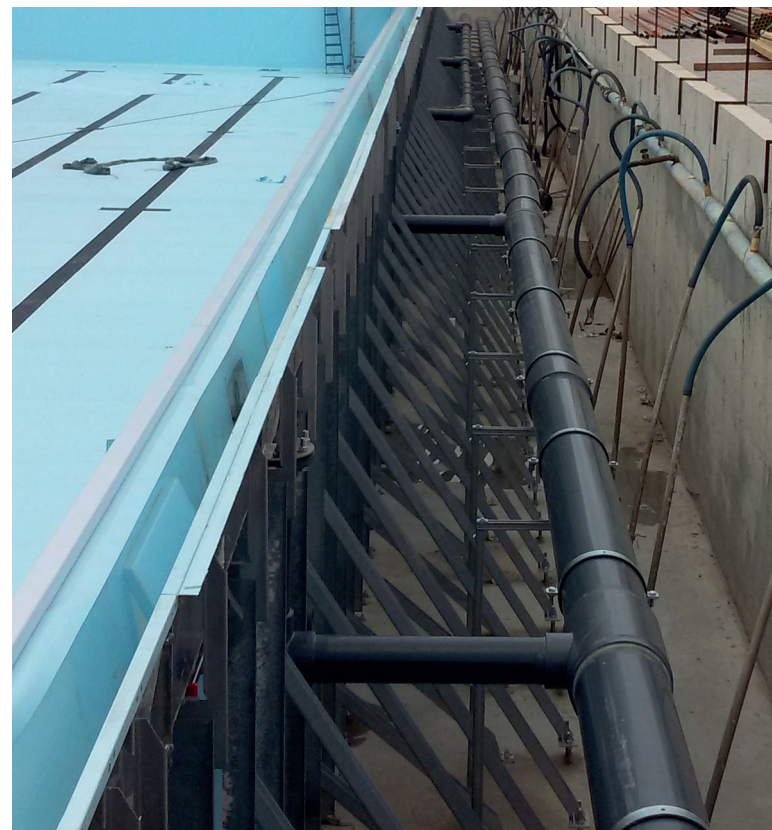
The huge popularity of water parks throughout the country, farm holiday centres and swimming pools installed in wellness centres and fitness rooms are further confirmation **of the need for facilities that guarantee safety and comfort to users.**

The **UNI 10637** standard, initiated in 1997 and subsequently revised and supplemented, sets out **guidelines for the design of filtration, circulation and recirculation systems in swimming pools in general.**

The latest 2016 revision of this national standard harmonises it with the latest European standards, **UNI EN 16582** and **UNI EN 16713**, differentiating their application between private and public pools.

UNI 10637:2016, used as a model for nearly all regions that now have a specific law for swimming pools, applies only to **"public" swimming pools (type A and B)** while for **"domestic" pools (type D)** the two European standards mentioned above apply, each divided into three parts.

For this reason, **when designing a swimming pool facility** for both public and private use, **it is essential to follow the requirements of these standards to ensure high standards of efficiency and safety.**





A photograph of a swimming pool at dusk. The pool is in the foreground, with a stone wall on the left. The water is calm, reflecting the sky and the surrounding landscape. In the background, there is a large body of water, likely a lake, and distant mountains under a clear, deep blue sky. The overall mood is serene and peaceful.

Swimming Pools and Wellness

"If there is magic on this planet, it is contained in water."
(Loren Eiseley)

Correct water management is key to transforming a quick morning workout in the pool or a day at the wellness centre into an invigorating holistic experience.

Aesthetics and energy efficiency are fundamental elements to distinguish a modern swimming pool.

The **pleasing aesthetics of carefully-designed details** helps to integrate technical services into the relaxing setting of a SPA or the scenic panorama of a swimming pool with a view over the hills.

Energy efficiency must be guaranteed by technological solutions aimed at safeguarding environmental resources, creating sustainable installations that totally respect the well-being of the people using them.

The **accurate monitoring** of chemical dosages and the optimisation of fluidynamics help to achieve results with minimal environmental impact.

Designer pools, Luxury SPAs, Aquaparks



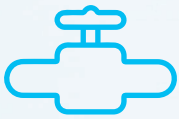
Conveyance

Pipes and connections for the safe and long-lasting recirculation of pool water



Automation

Actuated valves for automated system hydraulics management



Interception

Ball and butterfly valves for efficient fluid handling



Control

Instrumentation for accurate and continuous monitoring of the key parameters



Dosage

Diaphragm and ball control valves for precise and efficient flow rate setting





Drainage

Systems to drain water from paved surfaces



Ventilation and Radiant Systems

Room ventilation and radiant heating and cooling systems



Showers and toilets

Partitionable cisterns and plates, designer drains for showers



Heat and Water Recovery

Solutions for heat recovery and grey water recovery





CONVEYANCE



PVC-U and PVC-C systems

for conveying water in the recirculation process of the pool system

Application

Swimming pool water

Safe and effective water conveyance is essential for smooth pool operation. In accordance with UNI 10637:2016, a correct recirculation system must be designed to ensure effective homogenisation of the pool water and requires that pipes in type A and B pools (public pools) should be sized to achieve pressure drops of <40 mm/m for intake sections and <70mm/m for outlet sections.

These specifications can also be applied to type C and D pools (therapeutic and private pools) to ensure high water quality and hygiene.

With a PVC-U piping and connection system it is possible to ensure the correct management of chlorinated water at room temperature.

Spa waters

High temperatures and high concentrations of mineral salts require a solution that can guarantee high system efficiency while maintaining the beneficial properties of the thermal waters.

With a PVC-C piping and connection system it is possible to ensure the correct management of any high-temperature spa water.



maintenance free



low energy consumption



easy installation

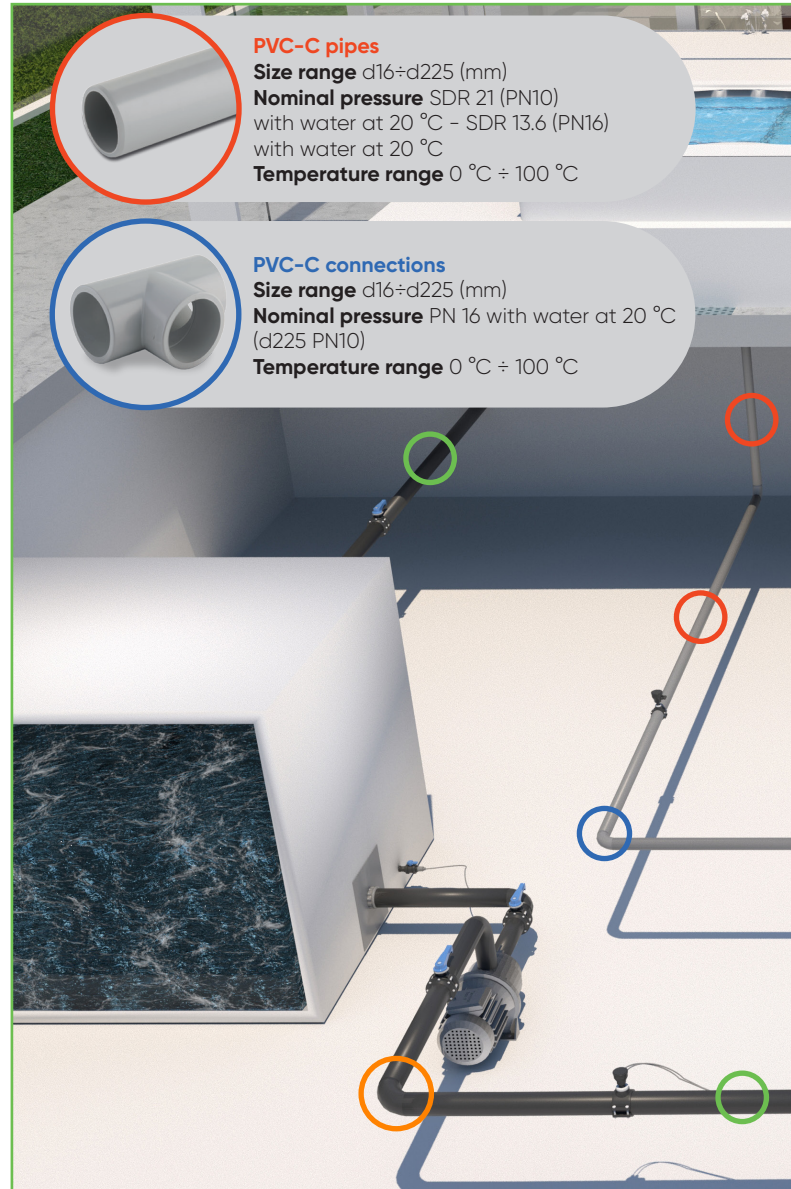


anti-legionella

Advantages

Maintenance-free

The inertness to corrosion offered by FIP brand polyvinyl systems enables water flows to be managed safely and without maintenance schedules.



PVC-C pipes

Size range d16÷d225 (mm)
Nominal pressure SDR 21 (PN10) with water at 20 °C - SDR 13.6 (PN16) with water at 20 °C
Temperature range 0 °C ÷ 100 °C

PVC-C connections

Size range d16÷d225 (mm)
Nominal pressure PN 16 with water at 20 °C (d225 PN10)
Temperature range 0 °C ÷ 100 °C

High energy efficiency

The high surface finishing of the PVC-U and PVC-C pipes combined with the optimised fluidynamics of the connection elements minimises pressure losses and favours low energy consumption.



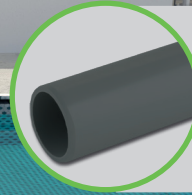
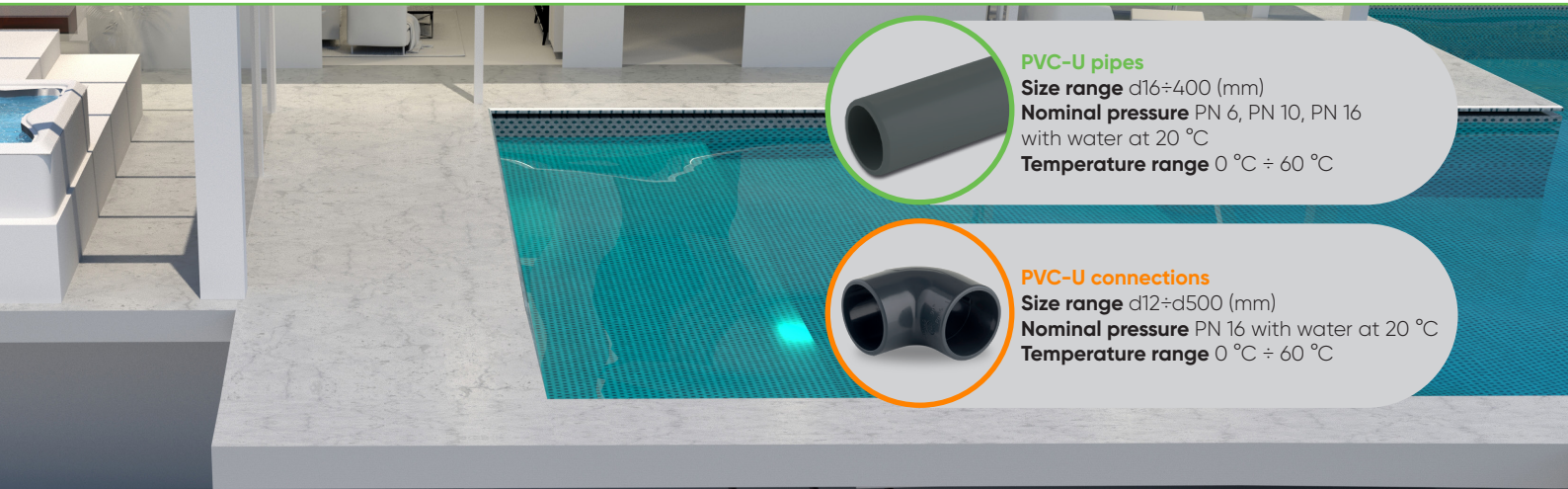
Low costs



Hygiene

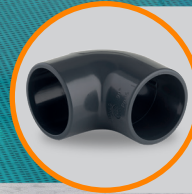


Sustainability



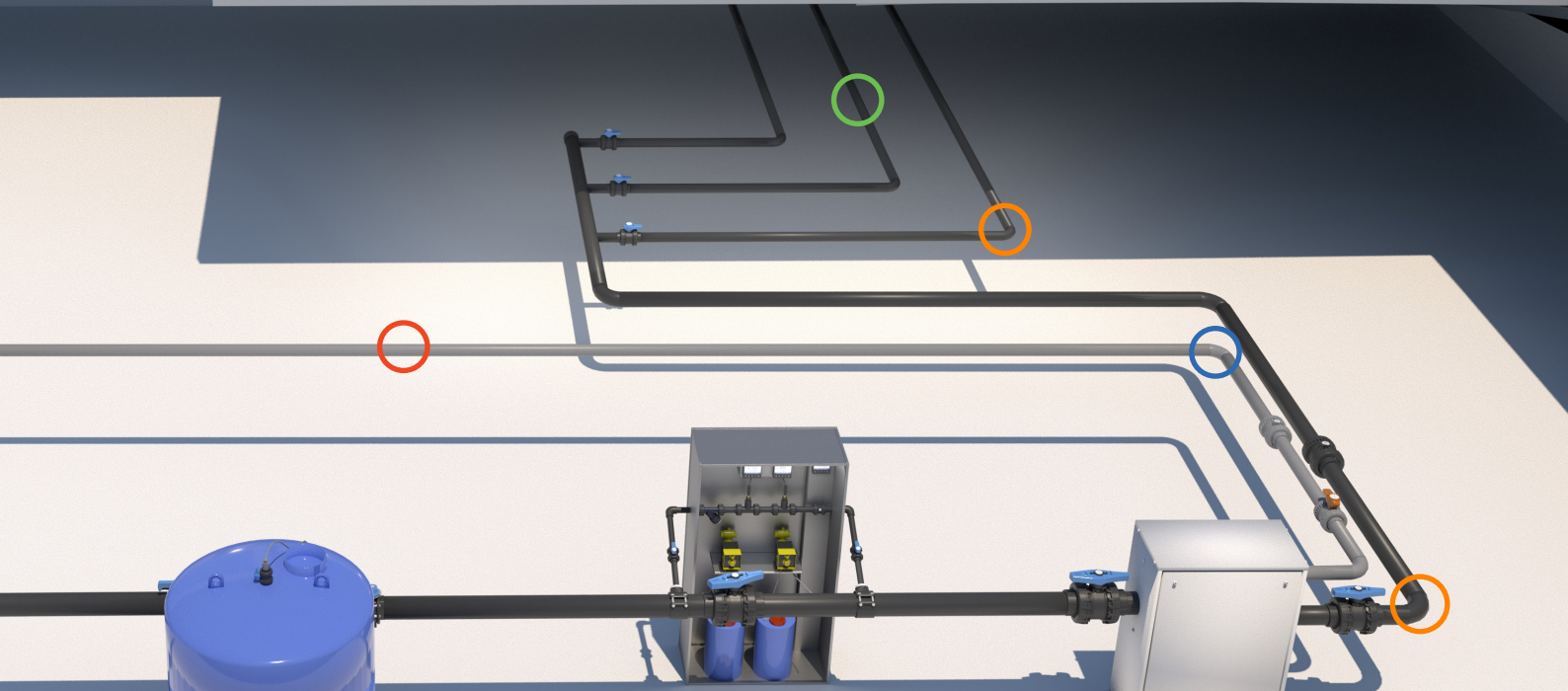
PVC-U pipes

Size range d16÷400 (mm)
Nominal pressure PN 6, PN 10, PN 16 with water at 20 °C
Temperature range 0 °C ÷ 60 °C



PVC-U connections

Size range d12÷d500 (mm)
Nominal pressure PN 16 with water at 20 °C
Temperature range 0 °C ÷ 60 °C



Ease of installation

The convenience of chemical welding offers a unique advantage in installation since it does not require specific, expensive and heavy tools for assembly.

High chemical resistance

Polyvinyl chlorides offer remarkable chlorine stability and a barrier to the proliferation of legionella bacteria.

Certificates:

Quality standards:

ISO 9001, ISO 14001

Approvals and Quality Marks

ABS, ACS, BSI, Bureau Veritas, CSTB, IIP UNI, KIWA, UKR-SEPRO, WRAS, RMRS, DNV-GL, NIZP, EAC, LR, KR

INTERCEPTION



PVC-U and PVC-C valves

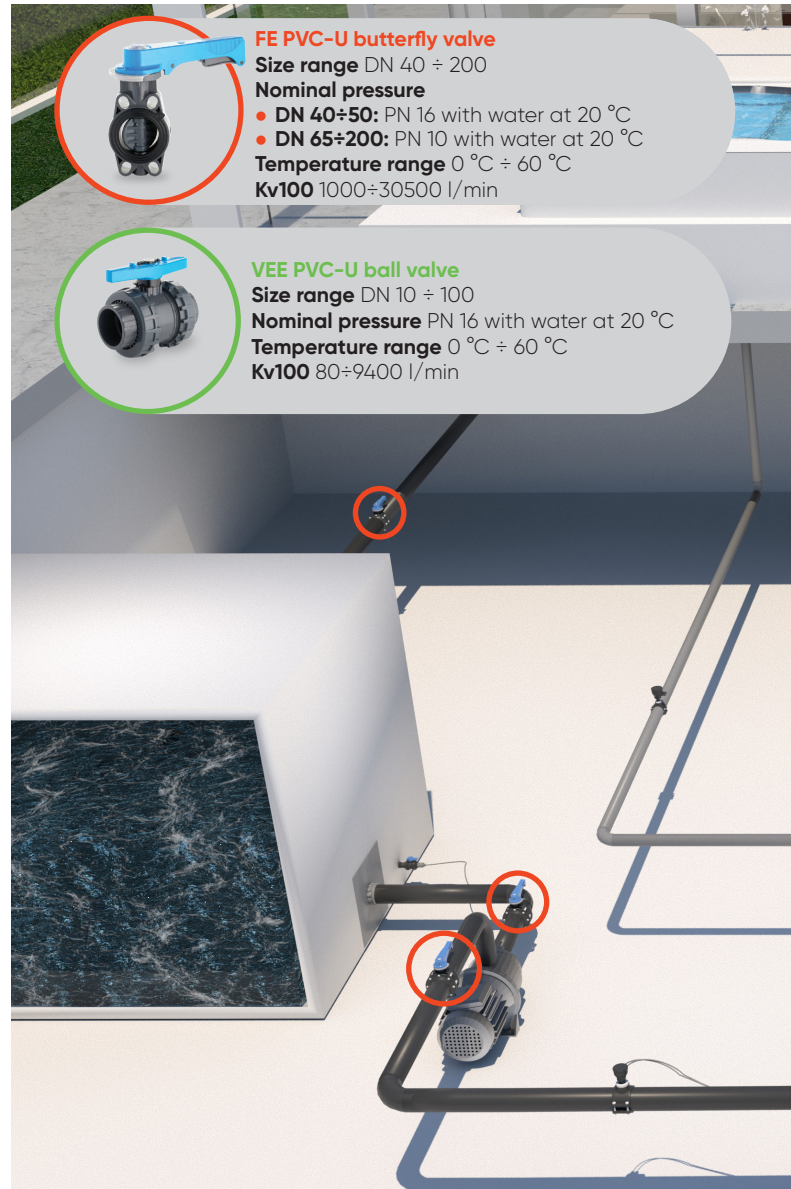
for intercepting water in the recirculation process of the pool system

Application

Interception

During normal pool operation it may be necessary to block or partialise the water flow in the recirculation circuit.

To do this effectively and immediately, FIP offers ideal solutions with butterfly valves, ball valves and non-return valves from the patented Easyfit series.



Pre-filtration phase

In the pre-filtration phase the water may contain suspended solids, so the ideal solution is the FE Easyfit butterfly valve series.

Post-filtration phase

For clean water flow, the VEE Easyfit ball valve series is the most versatile and quickest solution to install.

Spa water post-filtration phase

For spa water flow, where the characteristics of the application require greater resistance to high temperatures, the VXE Easyfit PVC-C series ball valve is available.

Auxiliary functions

To counteract reverse flow or the risk of unintentional emptying of pipes, the SSE Easyfit non-return valve series, available in both PVC-U and PVC-C, is the optimum solution.

Advantages

Make your installation unique.

The Easyfit labelling system allows valves to be personalised with company trademarks, serial or identification codes or service data such as the function of the valve within the system or the fluid conveyed; specific information for after-sales service to customers can also be included, for example the contact details of the installer or the date and place of installation.



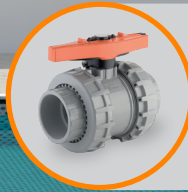
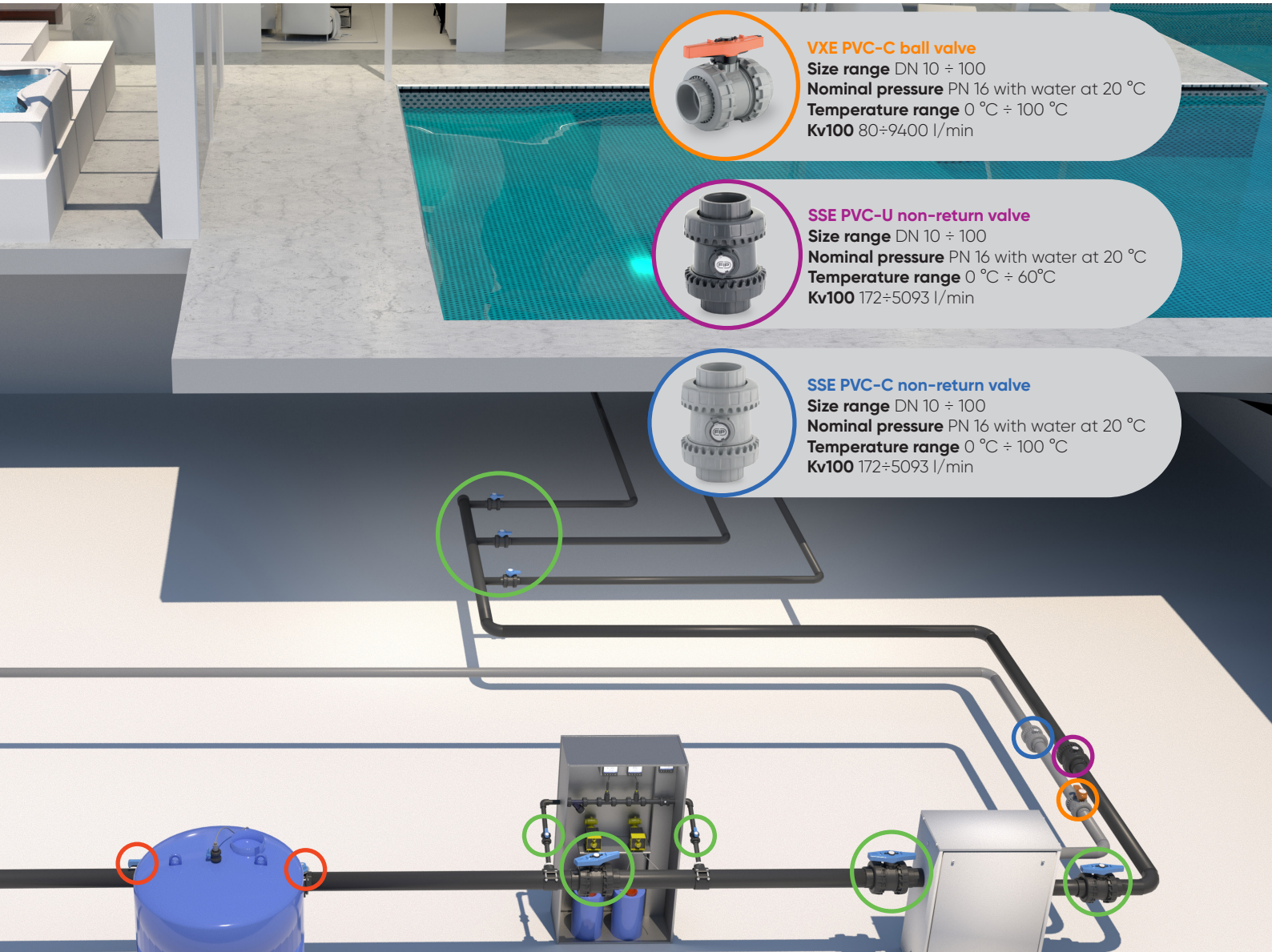
Expertise



Safety



Recognisability



VXE PVC-C ball valve

Size range DN 10 ÷ 100

Nominal pressure PN 16 with water at 20 °C

Temperature range 0 °C ÷ 100 °C

Kv100 80÷9400 l/min



SSE PVC-U non-return valve

Size range DN 10 ÷ 100

Nominal pressure PN 16 with water at 20 °C

Temperature range 0 °C ÷ 60 °C

Kv100 172÷5093 l/min



SSE PVC-C non-return valve

Size range DN 10 ÷ 100

Nominal pressure PN 16 with water at 20 °C

Temperature range 0 °C ÷ 100 °C

Kv100 172÷5093 l/min

Certificates:

Quick and easy with All-in-One valves

Thanks to the multifunctional ergonomic handles of the Easyfit line, installation is safe and quick even in tight spaces, inspection of the valve body and adjustment of the seals can be carried out without the use of tools, and rapid operations and graduated adjustments can be made.

Quality standards:

ISO 9001, ISO 14001

Approvals and Quality Marks

ABS, ACS, Bureau Veritas, EAC, NSF, DNV-GL, TA-LUFT, UKR-SEPRO, WRAS, RMRS, NIZP LR, KR



AUTOMATION



Electrically actuated valves

for the automation of water management in the recirculation process of the swimming pool system

Application

Flow interception activities can be optimised by actuating the valves installed on the recirculation circuit.

With system automation, physical intervention is no longer necessary and it is possible to plan any operation at any time of the day or year.

This implementation, combined with the use of monitoring instrumentation, makes it possible to combine actions with specific parameters and to remotely control the management of the entire system.

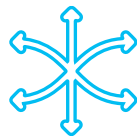
Electric actuation is the most commonly used solution, but pneumatically actuated solutions are also available for larger installations or for specific requirements, and are particularly appreciated in filter backwashing systems due to their operational speed.



reliability



operability



versatility



control



VXE/CE PVC-U electrically operated ball valve

Size range DN 65 ÷ 100

Nominal pressure PN 6 with water at 20 °C

Temperature range 0 °C ÷ 60 °C

Actuator power 15 W

Process time 11÷13 s

VXE/CE PVC-U electrically operated ball valve

Size range DN 65 ÷ 100

Nominal pressure PN 6 with water at 20 °C

Temperature range 0 °C ÷ 100 °C

Actuator power 15 W

Process time 11÷13 s

Advantages

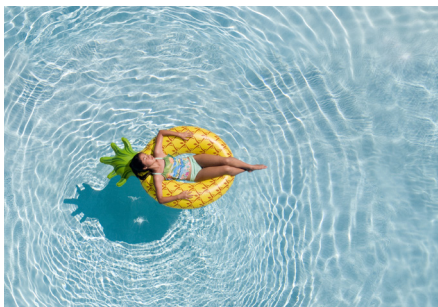
Carefree solutions

FIP actuated valves comply with the regulations currently in force and are calibrated and tested one by one, in accordance with the company's principles and know-how, to guarantee the maximum reliability and quality at all times.

A wide range of accessories enables the ideal solution

to be found for managing all operations in complete safety.

Multiple options for supply voltage, switching times, intrinsic protection classes and the possibility to request special versions mean that any specific system management requirements can be catered for.



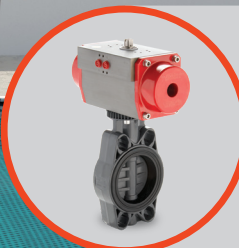
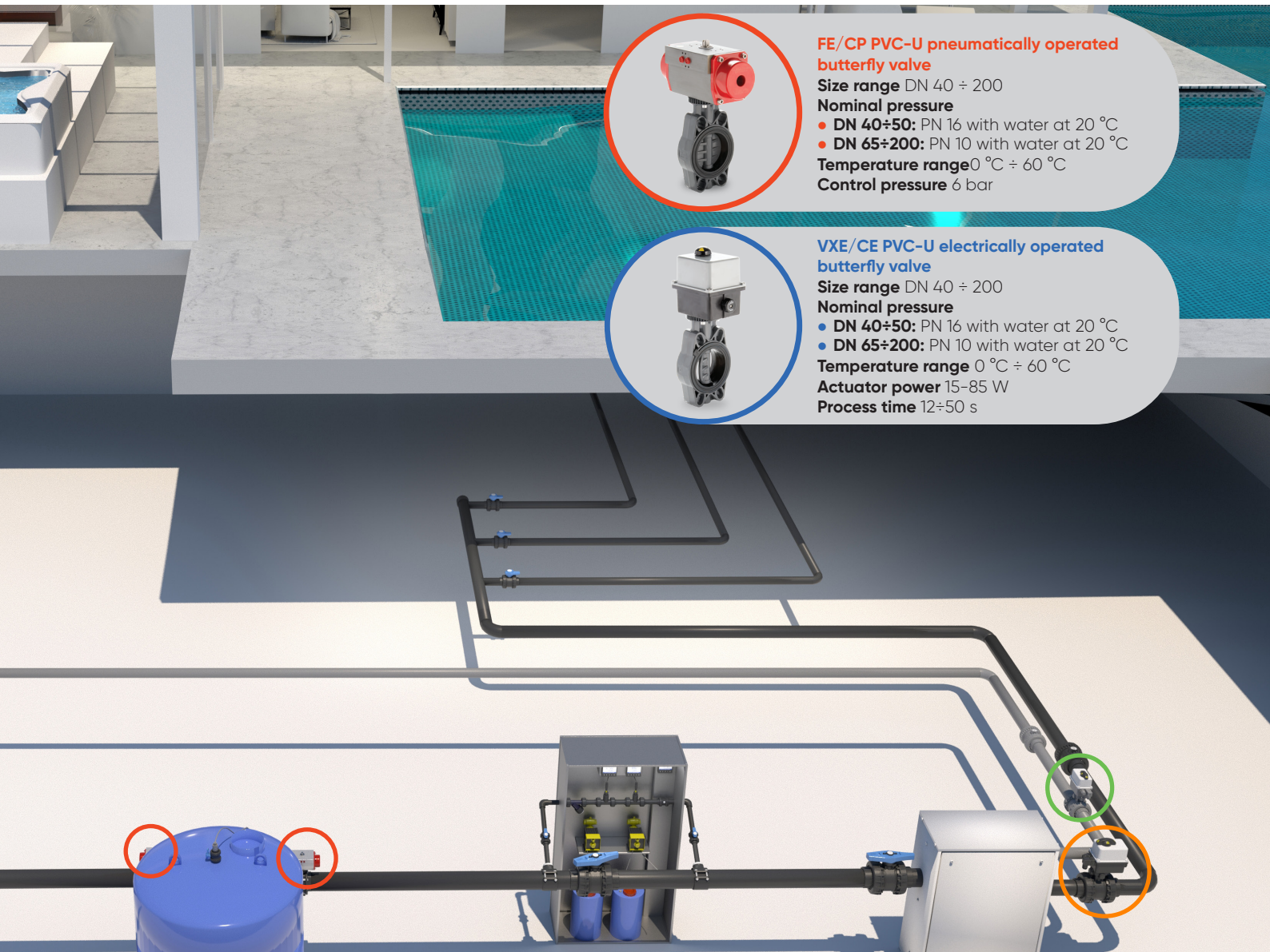
Peace



Safety

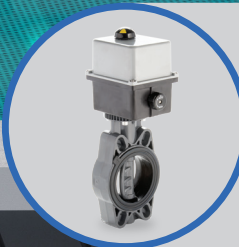


Reliability



FE/CP PVC-U pneumatically operated butterfly valve

- Size range DN 40 ÷ 200
- Nominal pressure
 - DN 40÷50: PN 16 with water at 20 °C
 - DN 65÷200: PN 10 with water at 20 °C
- Temperature range 0 °C ÷ 60 °C
- Control pressure 6 bar



VXE/CE PVC-U electrically operated butterfly valve

- Size range DN 40 ÷ 200
- Nominal pressure
 - DN 40÷50: PN 16 with water at 20 °C
 - DN 65÷200: PN 10 with water at 20 °C
- Temperature range 0 °C ÷ 60 °C
- Actuator power 15–85 W
- Process time 12÷50 s



Butterfly actuated valves

Electric and pneumatic actuation is available for both butterfly valves and ball valves.

Certificates:

Quality standards:

ISO 9001, ISO 14001

Approvals and Quality Marks

ACS, DIBT, EAC, NSF, TA-LUFT, UKR-SEPRO, WRAS, DVGW, NIZP



DOSAGE



Control instruments

for the control of water chlorination in the pool system recirculation process

Application

Swimming pool water contains both pathogenic and non-pathogenic micro-organisms that pose a risk to human health, and therefore requires balanced chemical treatment to minimise microbiological risk. The UNI 10637:2016 standard lays down specific requirements for measuring and regulating disinfection treatments for classes A, B and C (installations for public use), while UNI EN 10713 sets out the requirements for class D (installations for private use). Disinfection treatment is carried out by dosing substances that are regulated on a regional basis.

Disinfection treatments

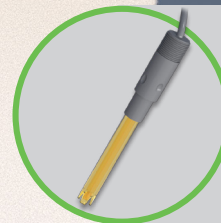
Equipment designed for measuring and regulating the pH level (type A, B, C range 4.5-8.5pH; type D range 6.8-7.6pH) must have an output signal to control the dosing systems; for type A pools in particular proportional regulation is preferred. The M9.00 series FIP monitors, combined with the 200 series pH electrodes, are the ideal solution to meet these requirements.

Equipment for measuring RedOx potential can be used in type D pools to monitor the evolution of organic pollution in the pool water and to control dosing equipment for disinfectants (RedOx >650mV). M9.00 series FIP monitors combined with 200 series ORP sensors provide an optimal compromise between simplicity and reliability. For classes A, B and C, however, it is necessary to adopt reading systems for free chlorine values (range Cl₂ 0,6-5mg/l). The CLF6 series sensors, which can be combined with pH measuring instruments in the event of significant variations, fully comply with this requirement. For the most modern plants using Chlorine Dioxide for chlorination, also with in situ production systems, Aliaxis also offers the CLD6 series of amperometric sensors designed for the direct measurement of this parameter.



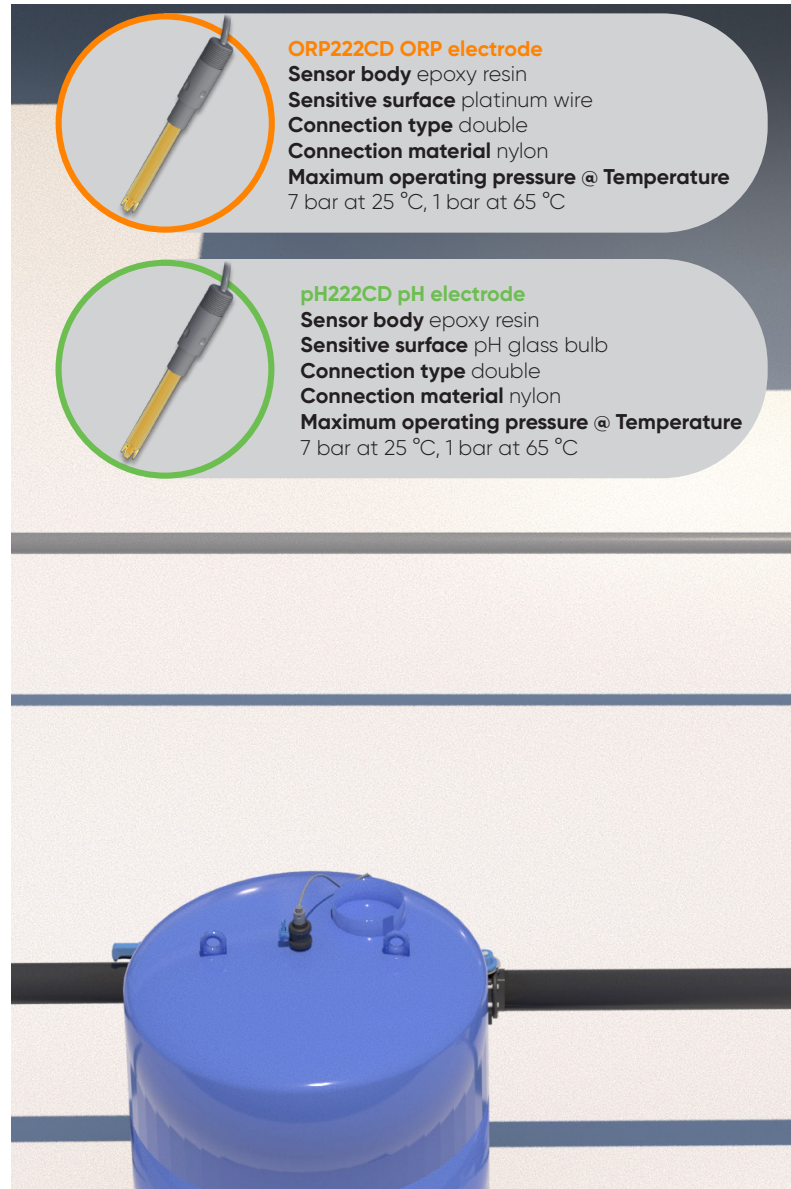
ORP222CD ORP electrode

Sensor body epoxy resin
Sensitive surface platinum wire
Connection type double
Connection material nylon
Maximum operating pressure @ Temperature
7 bar at 25 °C, 1 bar at 65 °C



pH222CD pH electrode

Sensor body epoxy resin
Sensitive surface pH glass bulb
Connection type double
Connection material nylon
Maximum operating pressure @ Temperature
7 bar at 25 °C, 1 bar at 65 °C

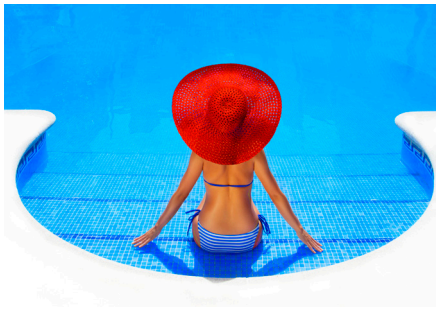


Advantages

Tailor-made for each installation

A complete and versatile range for every level and size of installation.

Equipment that can be integrated with external devices for dosing management in accordance with UNI. Biparametric monitors to combine chemical measurement with flow measurement.



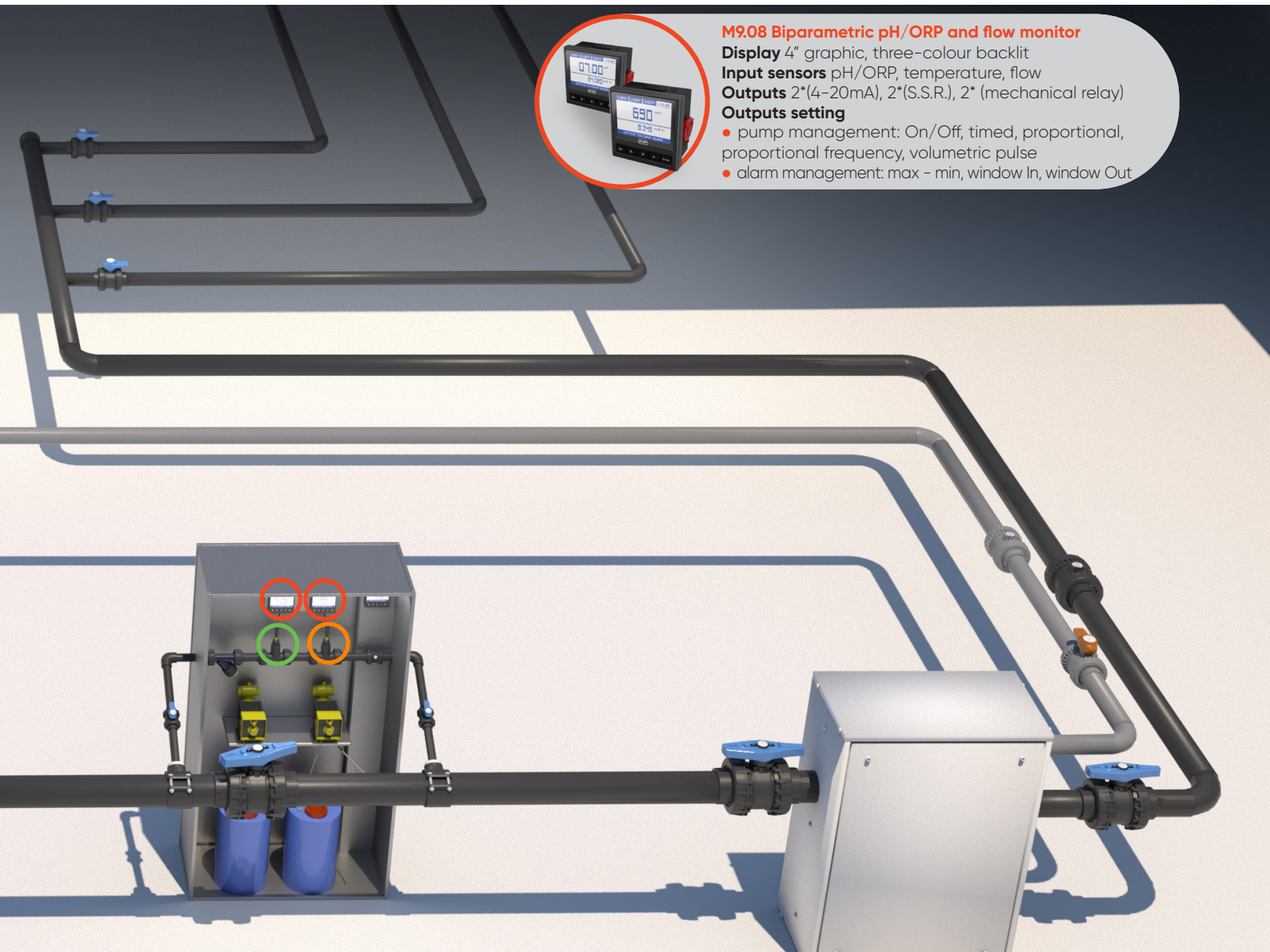
Prestige



Sustainability



Wellbeing



M9.08 Biparametric pH/ORP and flow monitor

Display 4" graphic, three-colour backlit

Input sensors pH/ORP, temperature, flow

Outputs 2*(4-20mA), 2*(S.S.R.), 2* (mechanical relay)

Outputs setting

- pump management: On/Off, timed, proportional, proportional frequency, volumetric pulse
- alarm management: max - min, window In, window Out



Chlorine sensors

CLF6 for measurement of free Chlorine
 CLD6 for the measurement of chlorine dioxide

Certificates:

Quality standards:

ISO 9001, ISO 14001

Approvals and Quality Marks

CE, EAC, RoHS



CONTROL



Measuring instrumentation

for monitoring and controlling water in the recirculation process of the pool system

Application

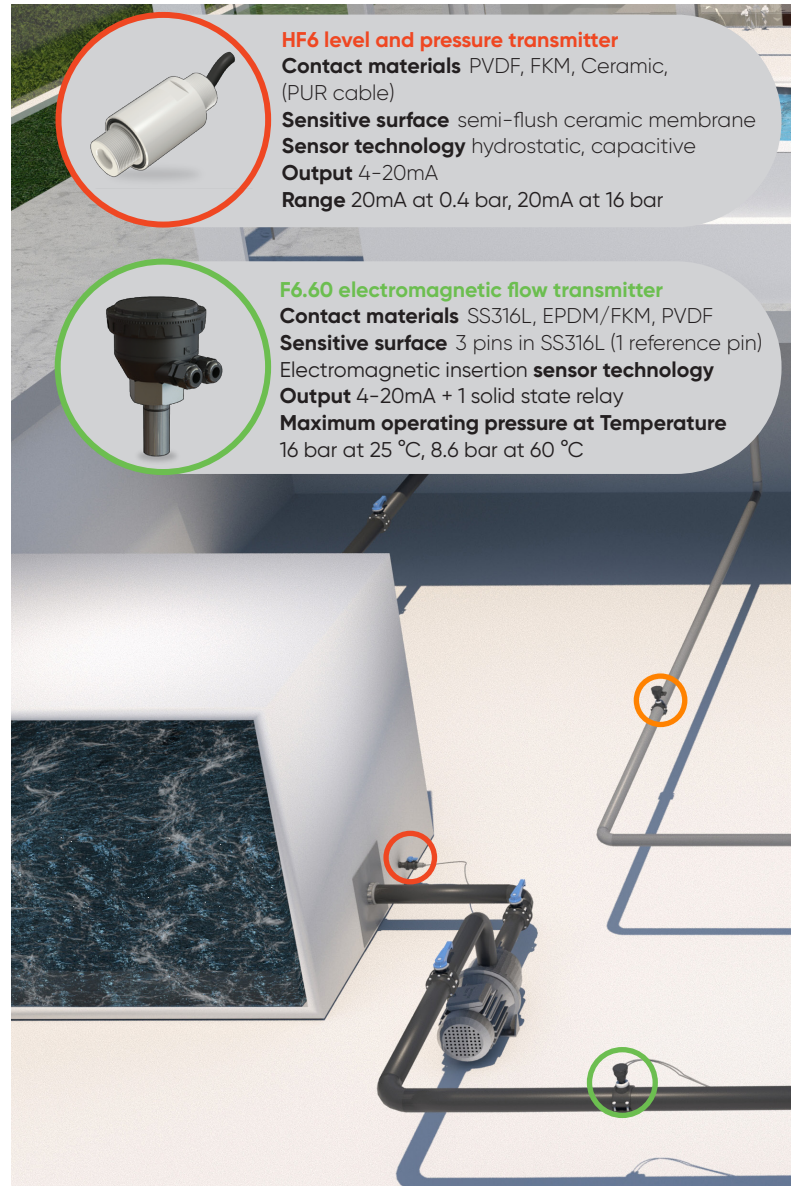
Correct management of the water system that underlies the swimming pool installation involves the monitoring of volumes. In the case of volumes conveyed in pipes, the flow rate is monitored; in the case of volumes stored in the balancing pool, the level is measured.

Flow monitoring

The recirculation system must be designed to ensure an effective homogenisation of the pool water, for this reason UNI 10637:2016 prescribes a water speed in the pipe of <1.7m/s in input and <2.5 m/s in output; while UNI EN 10713-2 prescribes a speed of <3m/s for type D pools. In the section of the installation before the filtration phase, it is recommended to use a flow meter based on series F6.60 electromagnetic technology. In the part of the installation downstream of the filtration phase, it is possible to install a rotor sensor equipped with the new F3.00.W series Bluetooth wireless technology; this can be combined with a M9.00 series monitor equipped with the practical Help on Board, a guided system calibration and self-diagnostic procedure.

Level monitoring

The conventional volume of the balancing pool must be sufficient to contain the displaced volume and any wave motion generated by the maximum number of bathers, the volume generated by the backwashing of at least one filter, and the volume necessary to maintain correct aspiration and to avoid operation while dry. The balancing pool must be refilled before the minimum level is reached in order to avoid the pumps going into standby, so that the importance of accurately monitoring the water volume is clear. To monitor the volume inside the balancing pool a HF6 series hydrostatic level sensor may be used in combination with the M9.10 series monitors. The same transmitter can also be installed on the sand filter to check its level of efficiency and to plan backwashing operations.



HF6 level and pressure transmitter

Contact materials PVDF, FKM, Ceramic, (PUR cable)

Sensitive surface semi-flush ceramic membrane

Sensor technology hydrostatic, capacitive

Output 4-20mA

Range 20mA at 0.4 bar, 20mA at 16 bar

F6.60 electromagnetic flow transmitter

Contact materials SS316L, EPDM/FKM, PVDF

Sensitive surface 3 pins in SS316L (1 reference pin)

Electromagnetic insertion **sensor technology**

Output 4-20mA + 1 solid state relay

Maximum operating pressure at Temperature

16 bar at 25 °C, 8.6 bar at 60 °C

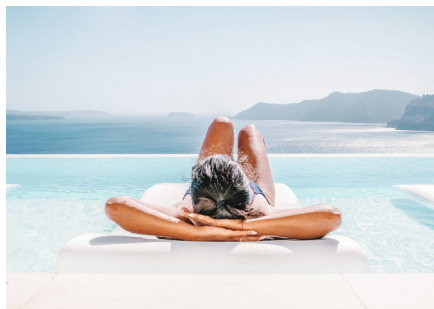
Advantages

User-friendly solutions

Insertion sensors are quickly installed by drilling a simple hole in the pipe, while the pressure and level sensors have a number of installation options that make installation equally quick and convenient.



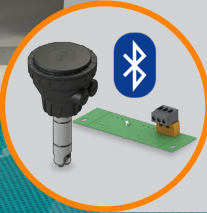
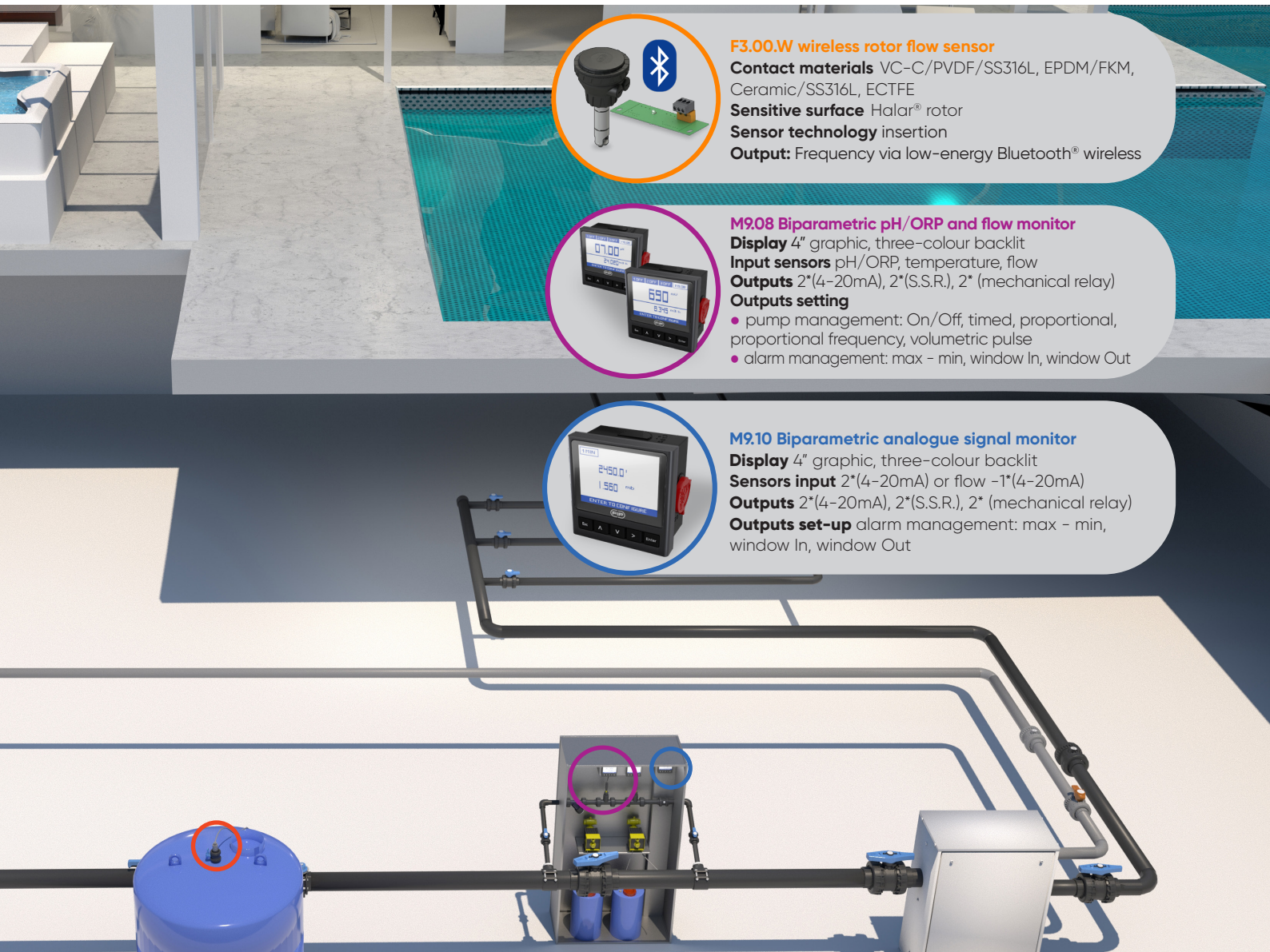
User-friendly



Relaxation



Quality



F3.00.W wireless rotor flow sensor

Contact materials VC-C/PVDF/SS316L, EPDM/FKM, Ceramic/SS316L, ECTFE

Sensitive surface Halar® rotor

Sensor technology insertion

Output: Frequency via low-energy Bluetooth® wireless



M9.08 Biparametric pH/ORP and flow monitor

Display 4" graphic, three-colour backlit

Input sensors pH/ORP, temperature, flow

Outputs 2*(4-20mA), 2*(S.S.R.), 2* (mechanical relay)

Outputs setting

- pump management: On/Off, timed, proportional, proportional frequency, volumetric pulse
- alarm management: max - min, window In, window Out



M9.10 Biparametric analogue signal monitor

Display 4" graphic, three-colour backlit

Sensors input 2*(4-20mA) or flow -1*(4-20mA)

Outputs 2*(4-20mA), 2*(S.S.R.), 2* (mechanical relay)

Outputs set-up alarm management: max - min, window In, window Out

Certificates:

The use of Bluetooth wireless technology also makes it easy to connect the sensors to the monitors.

FIP branded instrumentation also features an intuitive and error-proof interface with a practical on-board help function, guided settings procedures and system self-diagnostics.

Quality standards:

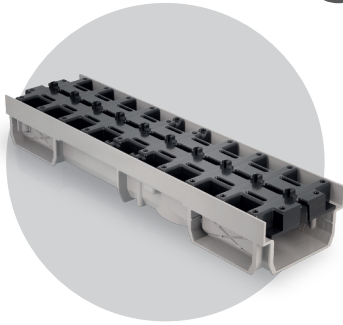
ISO 9001, ISO 14001

Approvals and Quality Marks

CE, EAC, RoHS



DRAINAGE



Invisible pedestrian grille for linear water drainage from paved surfaces

Application

When in use water can collect in puddles around the pool, which can be dangerous for people enjoying a day's bathing barefoot. It is therefore advisable to install a drainage system to collect and channel water under the paved surface around the pool.

REDI's invisible grille provides a patented, aesthetically unobtrusive solution that does not compromise the harmony of the design. The ability to freely create inspection areas makes it an excellent solution also from the functional point of view.

Advantages

Invisible

The invisible grid is designed to be fully integrated within the flooring material, remaining completely out of sight.



barefoot



invisible



aesthetics



patented

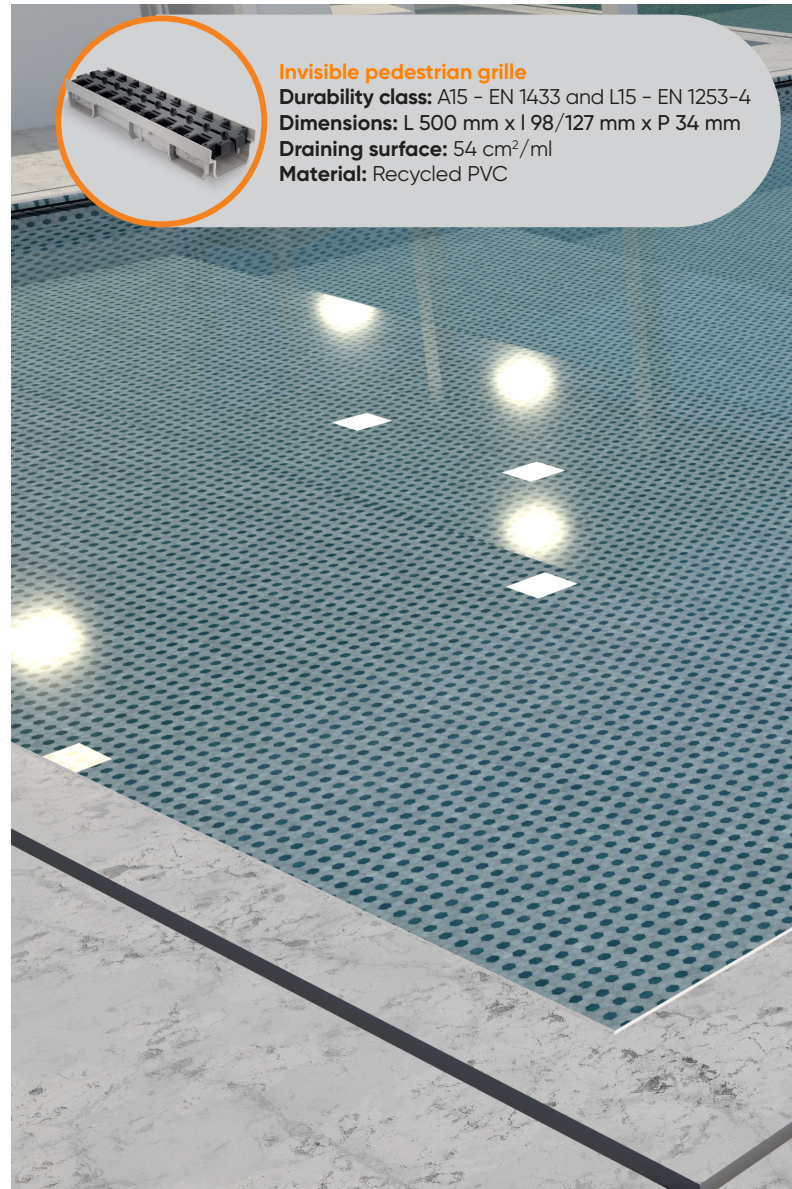
Easy to install

The grille is suitable for any floor thickness. No cutting or adjustment is necessary.

Tiles or paving tiles are laid directly on the grille.

Safe for bare feet

The 8 mm slot is fully compatible with bare feet. An ideal solution for swimming pools and terraces.



Invisible pedestrian grille

Durability class: A15 - EN 1433 and L15 - EN 1253-4

Dimensions: L 500 mm x l 98/127 mm x P 34 mm

Draining surface: 54 cm²/ml

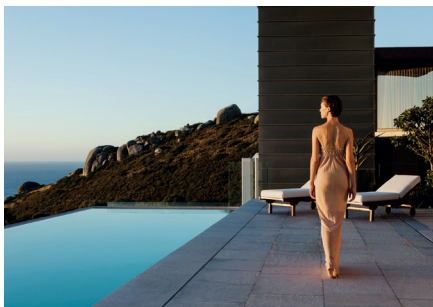
Material: Recycled PVC

easy and discreet inspection

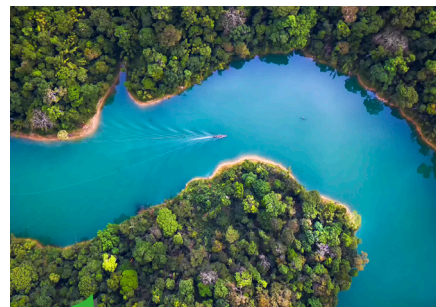




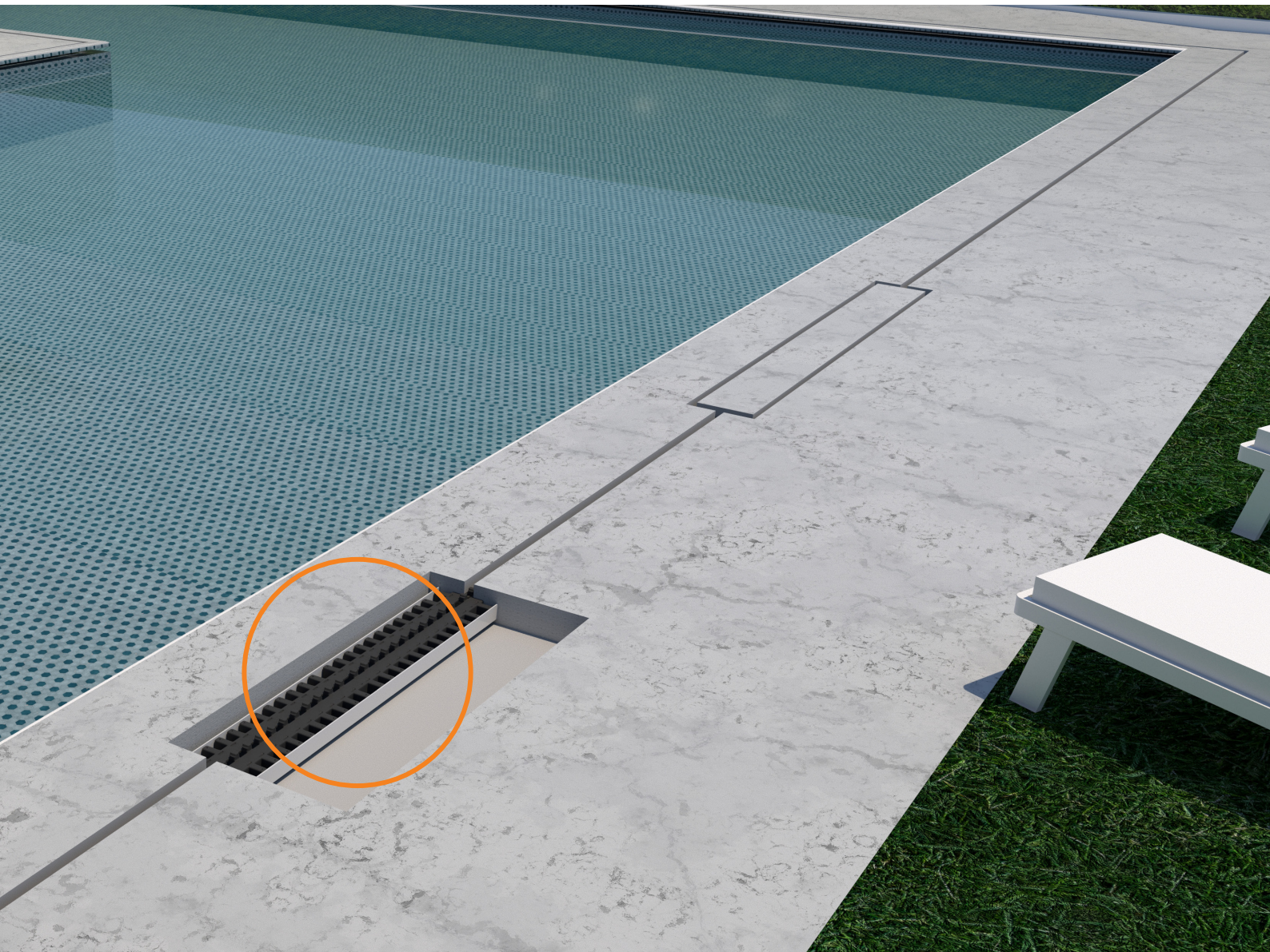
Safety



Style



ECOPVC Sustainability
Piombo Free



Certificates:

Quality standards:

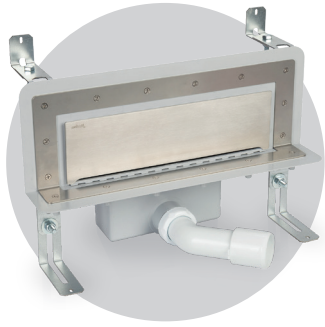
ISO 9001, ISO 14001

Approvals and Quality Marks

CE



SHOWERS



Inspectable wall-mounted shower drain,

for an unobstructed shower area and high drainage



Application

Wall-mounted shower drain

Choosing to place the shower drain on the wall rather than the floor gives excellent freedom of movement and avoids the need for a shower tray.

Linnum Wall is easy to install, fully adjustable and performs well thanks to its high flow rate: 42 l/min, compliant with EN 274.



Linnum Wall design



high drainage



inspectable



zero obstacles

Advantages

- **Innovative design**
The sophisticated design with clean lines fits perfectly within any environment.
- **Freedom of movement**
It avoids having to install a shower tray and solves the associated mobility problems.
The shower becomes an accessible space even for those with mobility problems.
- **Safety**
The stainless steel wall grille does not lose its shape and increases the available walking space.



3 different variants



Brushed stainless steel grille



White ABS grille



Stainless steel, tileable grille



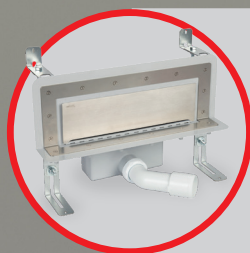
Design



Efficiency



Total accessibility



Linnum Wall

Length: 423 mm

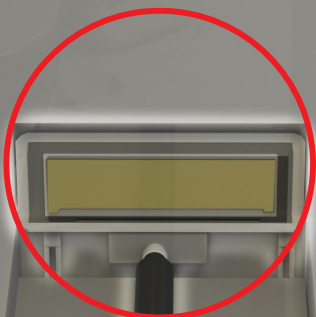
Maximum flow: 0.7 l/s

Siphoning height: 30 mm

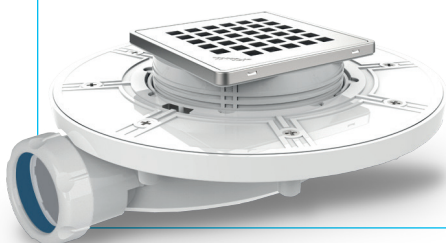
Drain: adjustable, in PP with ring nut and gasket Ø1 1/2, 45° Ø40-50 elbow supplied

Materials: ABS body, AISI 304 stainless steel profile, grilles in stainless steel, ABS, tileable stainless steel.

Other versions of the Linnum floor-standing range available.



Magnetech



Double siphoning:

magnetic siphon + siphoning with 1cm water stop

Tileable:

available with tileable container for designer finishes

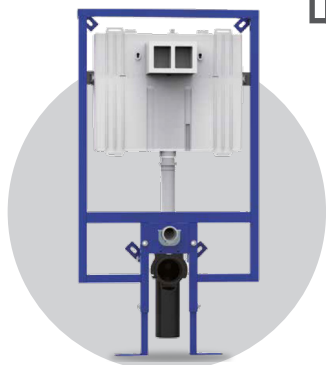
Exceptional flow rate: ensures fast drainage (36l/m) and avoids scale build-up

Stop unpleasant odours:

thanks to the anti-reflux system



TOILETS



INEO 80 cisterns and designer panels

for a wall flush system available in different versions to suit every style

Application

Flush-mounted cisterns with self-supporting, space-saving frame, ideal for thin walls or plasterboard and also quiet in operation. Dual flush for more sustainable water use and a wide choice of panel styles and finishes to suit any environment.

Advantages

Innovation

- Flush system with wire cable activation for better reliability than normal levers.
- New design concept for easy maintenance.
- Transparent body for easy inspection.

Safety

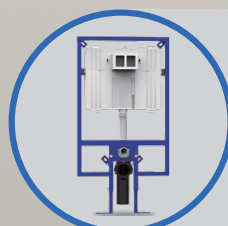
- Insulated structure to prevent direct contact with water and limescale.
- Plastic coated activation cables for durability.
- Anti-bacterial material to prevent the possible formation of deposits and unpleasant odours.

Simplicity

- Easily removable compact body.
- Cable activation system with quick coupling.
- Intuitive adjustment of flush volumes.

5 different designer panel lines

to match any wall, floor and bathroom finish.



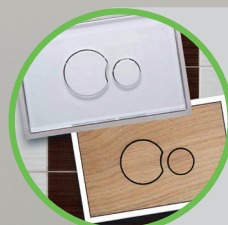
INEO80 Stand

Installation: plasterboard walls and wall-hung WCs, height adjustable

Flush volume: dual flush 6/4 litres large button, 3/2 litres small button

Acoustic classification: Class I

Other versions of the INEO80 range are available for built-in, floor-standing and wall-hung WCs.



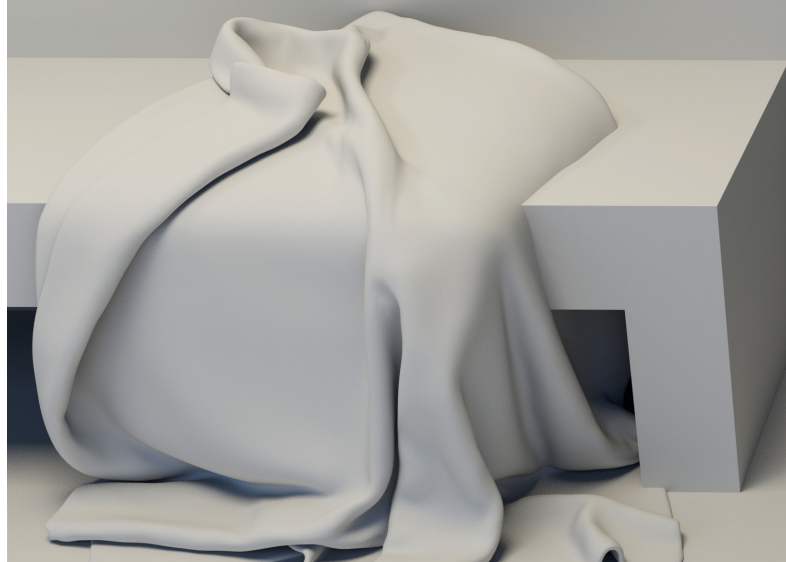
Designer panels

Models: Los, Hela, Linea, Glass, Wood

Dimensions: 181/208mm x 121/145 mm

Materials: plastic, glass, wood

Colours: white, black, chrome, mint, red, grey, anthracite, oak, walnut, teak, wenge



Phonoblack

The sanitary water flush system that guarantees certified soundproofing performance (13dB at 2l/s) thanks to a new PVC compound enriched with





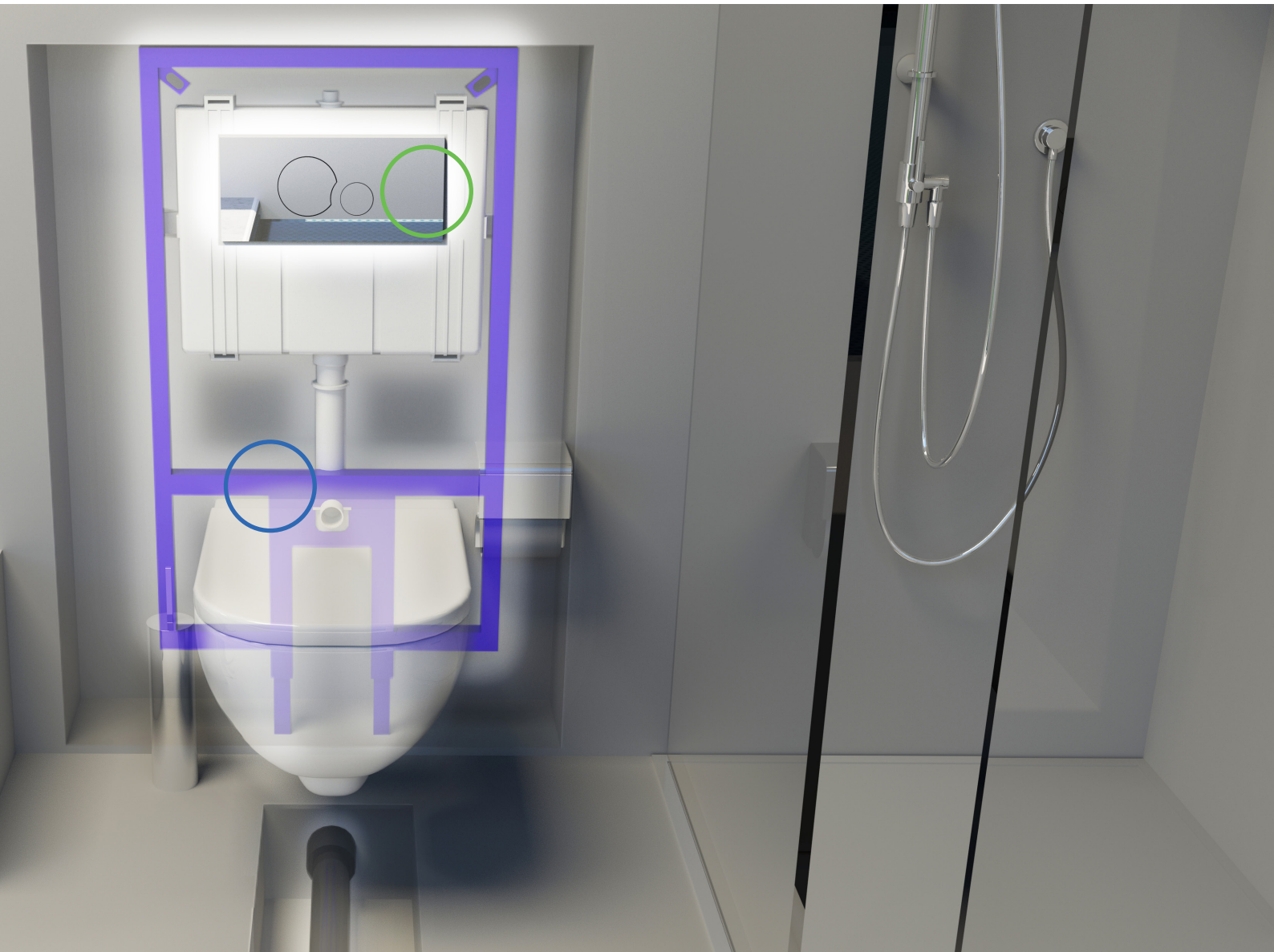
Versatility



Sustainability



Style



specific mineral fillers. The possibility for multiple assembly methods, by insertion and gluing, given by the patented plastic collars makes it an extremely versatile solution; resistance to acid, alkaline, saline and organic agents dissolved in water, as well as fire resistance (Euroclass B-s1-d0), make this a sturdy and durable system.

Certificates:

Quality standards:

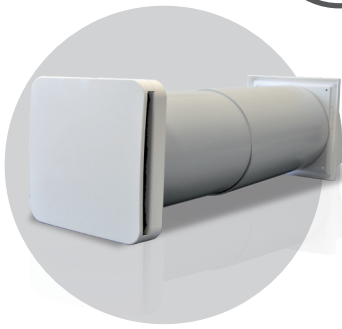
ISO 9001, ISO 14001, ISO 50001

Approvals and Quality Marks

DIN EN 14055 - Kiwa



VENTILATION



Precise Mechanical Ventilation

for continuous air change and hygrometric control with high energy recovery

Application

The quality of the air in the pool environment contributes to the well-being and comfort of bathers. In accordance with UNI 10339, which regulates the exchange of air in aeraulic systems, specific thermo-hygrometric and ventilation requirements are required for indoor swimming pools.

Specifically, the ambient temperature in the swimming and bathing area should not be lower than the temperature of the water in the pool. The relative humidity of the air should not exceed 70% and the air velocity should not exceed 0.1m/s. In addition, air changes should be at least 20 m³/h per square metre of pool.

In the changing rooms, toilets and ancillary areas, the air temperature must not be lower than 20 °C and air changes must be at least 4 volumes/hour. Indoor pools and changing rooms are typical high-humidity environments that promote the formation and concentration of mould, mites, fungi and bacteria, and it is therefore necessary to provide the correct ventilation.

The installation of several HC recovery units is an optimal solution that also complies with EcoDesign regulations (ErP-2016/2018).



Healthy air +



Stop mould and bacteria



+ Indoor comfort

Advantages

Clean air without heat loss

The system provides balanced and continuous low-consumption ventilation with **high energy recovery** (close to 90%), limiting the need to open windows or use inefficient extractors.

Dry and healthy buildings

The ventilation system improves indoor air quality by reducing humidity. A moisture-free building is healthier, reduces maintenance requirements and maintains its value on the real estate market.



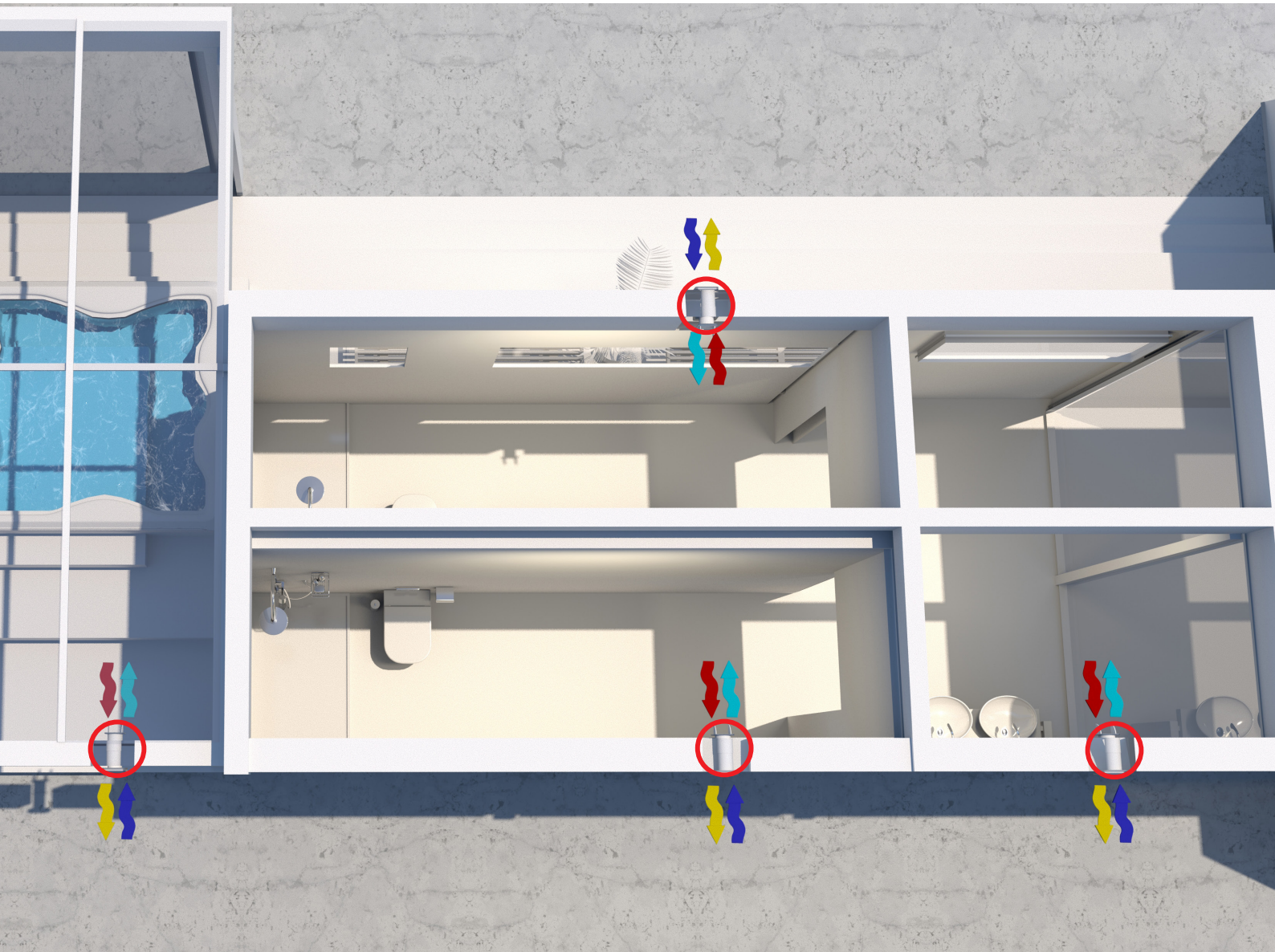
Real estate value



Energy efficiency



Clean air



EcoDesign (ErP-2016/2018)

Regulation (EU) No 1253/2014, implementing Directive 2009/125/EU (ErP) of the European Parliament and Council, covers specifications for the eco-design of ventilation units.

ELD Labelling (Energy Labelling Directive)

requires products to be labelled in accordance with an ascending energy scale ranging from G to A+; the purpose of the label is to give final customers transparency and clarity: real and comparable data to enable informed decisions and the choice of high-efficiency products.



RADIANT SYSTEMS

Heating and cooling

for optimal heating and cooling of rooms



Application

The Nicoll brand radiant system is the low energy solution for heating and cooling closed environments such as changing rooms or wellness areas, offering high living comfort. Thanks its insulating panels, Fluxo multilayer pipes and remote control unit, the radiant system guarantees low consumption and high yield. Nicoll solutions comply with the UNI EN 1264 standard that regulates water-fed radiant systems for heating and cooling built into structures.



Energy efficiency



Humidity control



Home Automation

Advantages

Radiant comfort

Heat transmission takes place mainly through radiation and not convection as in the case of radiators, avoiding the irritating movement of air and dust and spreading the heat more evenly.

Acoustics

The ashlar panels can be replaced with special sound-absorbing panels specially designed to meet the recent acoustic requirements of UNI EN ISO 12354 and UNI EN ISO 717-2.

Radiant system components



Klima 2.0



Touch screen



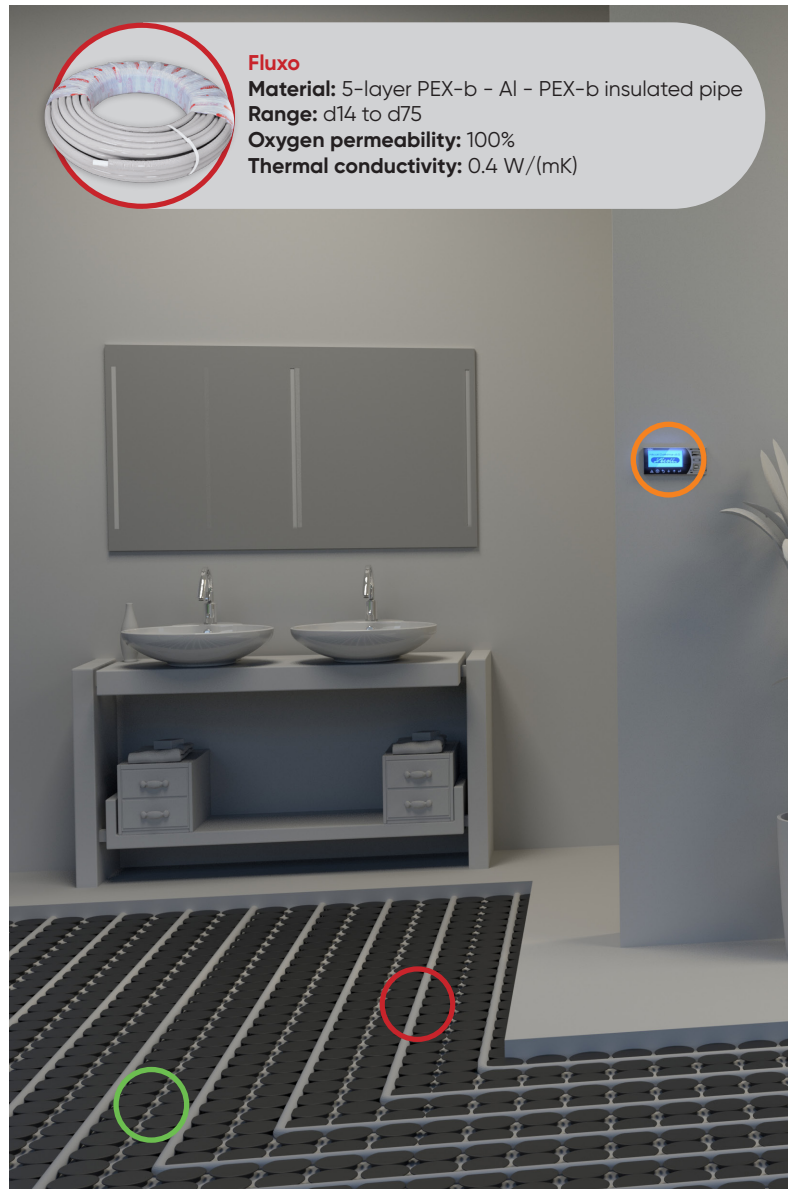
Thermostat and Humidistat



Latest generation collectors



High-yield energy panel



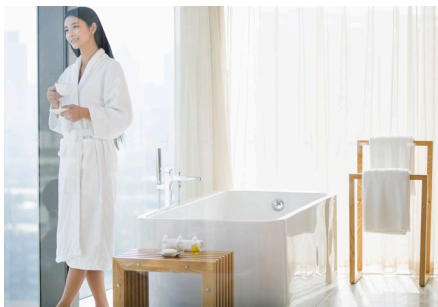
Fluxo

Material: 5-layer PEX-b - Al - PEX-b insulated pipe

Range: d14 to d75

Oxygen permeability: 100%

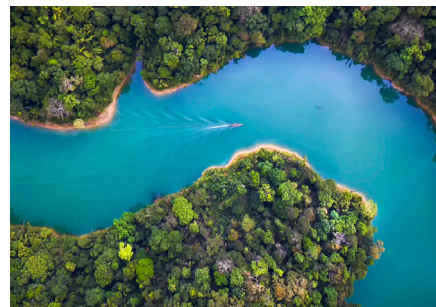
Thermal conductivity: 0.4 W/(mK)



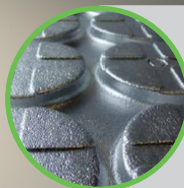
Invisible comfort



Home Automation



Energy efficiency



Nicoll Slim

Dimensions: pre-formed panels 1200x600mm

Thickness: total 28mm, usable 8.5mm

Thermal conductivity: 0.035 W/mK



Klima2.0

Communication protocol: RS485 Modbus for connection to touch screen

Analogue inputs: 0-10 Vdc, 4-20 mA, NTC

Digital inputs: for alarm management and thermostats

Analogue output: 0-10 Vdc for mixing valve

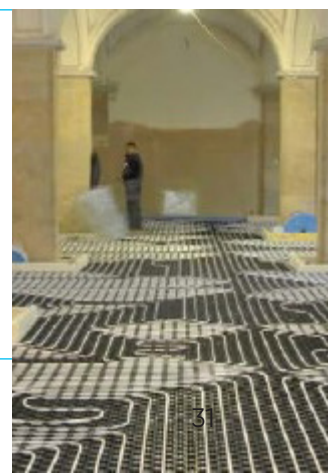


Fluxo

Multilayer system

Thanks to its **low thermal expansion**, **low pressure drop** and **high acoustic comfort**, the Fluxo multilayer system is also the ideal solution for the supply of hot and cold domestic water.

Its **flexibility of installation** also makes it a winning solution in the conservative renovation of prestigious buildings or buildings subject to national heritage protection bodies.





WATER AND HEAT RECOVERY

Recovery systems

grey water and ecoshower heat exchangers



Application

Energy saving and sustainable resource management

With every shower 100 litres of water at 36 °C are discharged into the sewerage system, which is not sustainable in terms of energy and resources. The recovery of waste heat at the outlet can halve the caloric consumption needed to heat domestic water, while the recovery and subsequent reuse of 100 litres of water contributes to a responsible usage of resources as well as significantly reducing consumption.

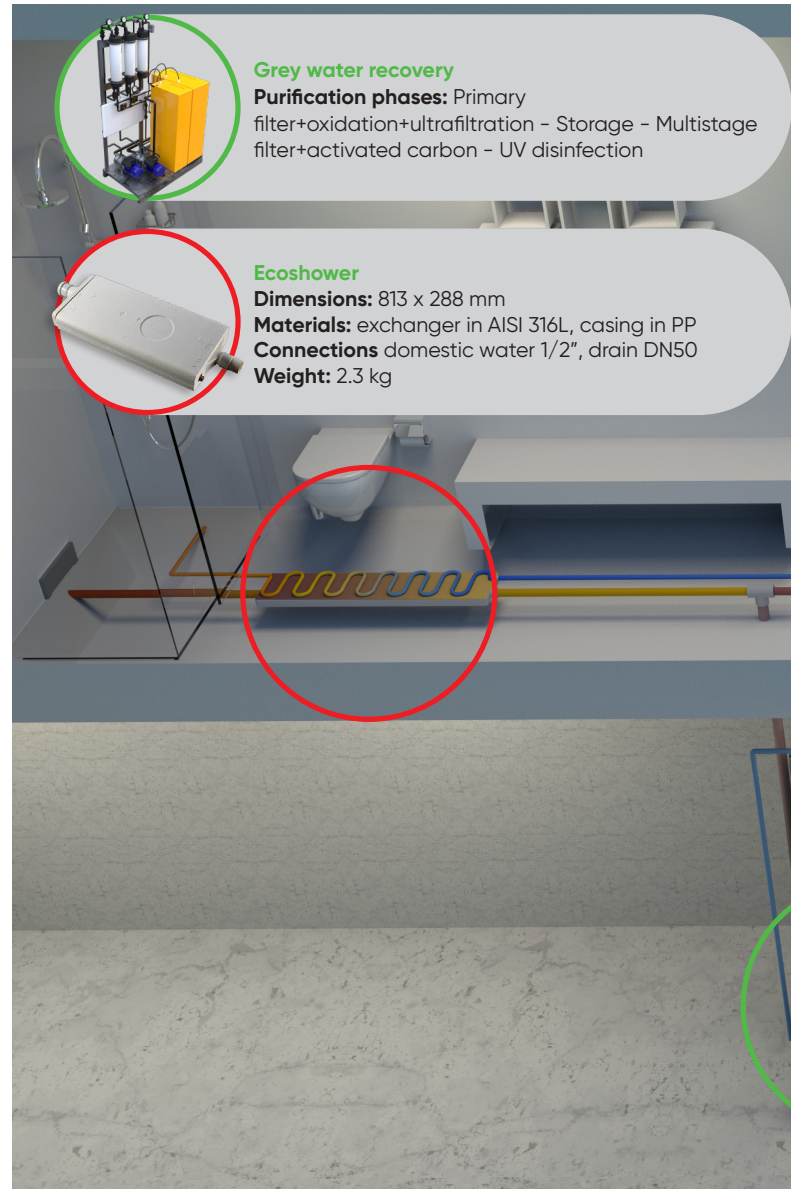
Grey water recovery

THIS IS a grey water recovery system for irrigation or domestic use, pre-assembled and ready for rapid connection during on-site installation. Through the use of high-efficiency membranes there is a very high level of filtration, enabling the removal of bacteria and viruses. The new-generation filters also maintain their high performance over time, lengthening the intervals between servicing.

Only one chemical washing of the membrane is required every 12-18 months, and the automatic backwashing cycle for keeping the membranes clean discharges residues directly into the drainage system. The system, which can be sized according to the number of users, is fully automatic and can be controlled remotely.

Ecoshower

Ecoshower is an innovative solution that recovers and releases up to 40% of heat from grey water, flowing against the current in a coil and supplementing the water supply of both the boiler and the mixer (A) or of the mixer only (B). The water that feeds the boiler, instantaneous water heater or mixer on the "cold" side typically arrives at 10 °C and is heated up to 50 °C, generating a consumption of about 40Kcal/l. By integrating the ecoshower into the system incoming water is preheated to around 24 °C, reducing energy requirements by 35%.



Grey water recovery

Purification phases: Primary filter+oxidation+ultrafiltration - Storage - Multistage filter+activated carbon - UV disinfection

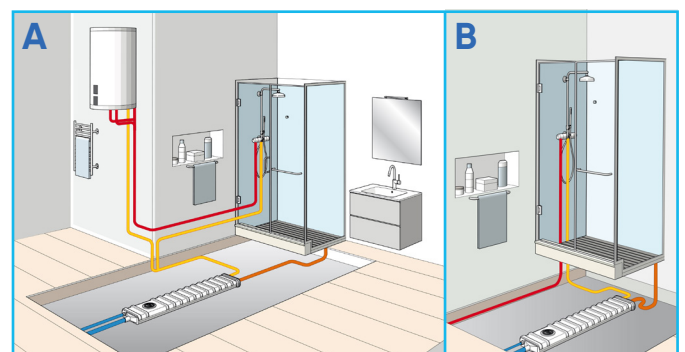
Ecoshower

Dimensions: 813 x 288 mm

Materials: exchanger in AISI 316L, casing in PP

Connections domestic water 1/2", drain DN50

Weight: 2.3 kg





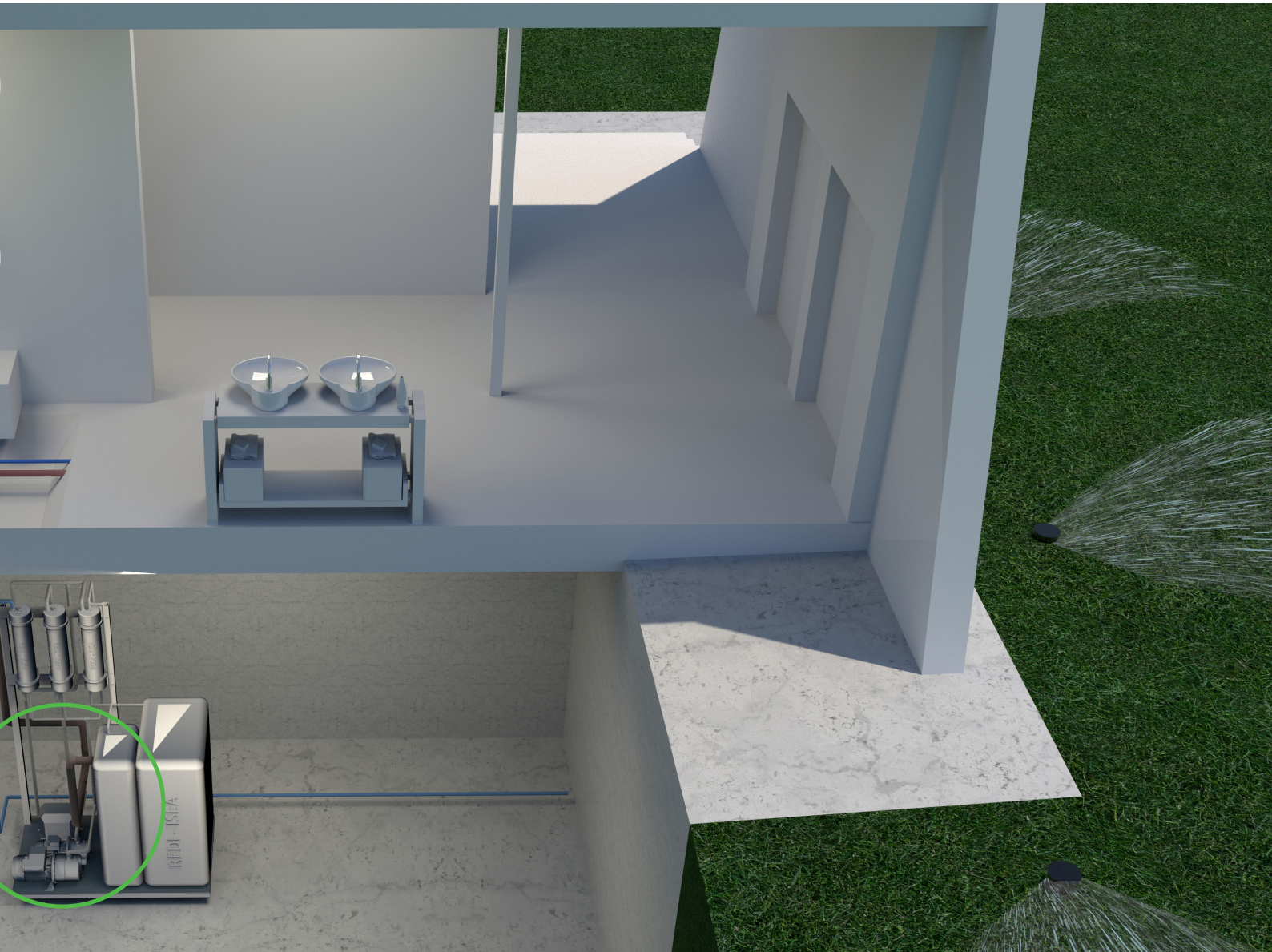
Energy classification



Sustainability



Low operating costs



Advantages

Houses equipped with energy-saving systems and built integrating new technologies achieve a high energy class and thus increase their value. Compact solutions that are quick to install to save space and installation time, modular and scalable to facilitate design criteria.

Their low purchase and installation costs mean that the investment pays for itself quickly. The savings they offer in drinking water use, their low consumption and high efficiency enable the system's energy balance to be optimised with a view to sustainable construction.





References

PUBLIC AND PRIVATE SWIMMING POOLS

Thermalsolbad Salzgitter-Bad
Riccione public swimming pool
Hallenbad Schrobenhausen
Piscine municipale de Nerac
Ypres Aquatic Center

SPORTS CENTRES

XVIII FINA World Championships
XVII FINA World Championships
Rio Olympics
Y40 The Deep Joy
Hanoi Aquatic Center

SPA CENTRES

Terme di Bormio
Terme di Pré Saint Didier
Terme di Oradea
Aquardens Verona
Parco delle Terme di Merano
Les Thermes de Rochefort
Terme di Sirmione
Montecatini Terme

AQUAPARKS

Perth Aqua Park
Dubai Aquarium LEGO Park
Aquapark Riga
Haus des Meeres Aquarium
Aquarena di Bressanone



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