Armitage Shanks

SPHERO

INTELLIGENCE BUILT IN





PART OF THE IDEAL STANDARD GROUP

### SPHERO

INTELLIGENCE BUILT IN

06 08 10 12 14	Intelligence built in Developing a washroom revolution Crafted from experience Engineered for efficiency Shaped to stand out
16 18 26 28 30 34	Key features Enhancing every environment Sculpted for superior hygiene Designed to think ahead Built with the future in mind Engineered for easier maintenance
<b>36</b> 38 40 41	Product portfolio Standard flush Waterless Smart Hybrid flush
46	Accessories

Washroom Architecture



### WASHROOM ARCHITECTURE

#### Every element considered

Our washroom products are designed with architects in mind.

Together, we share an obsessive attention to detail – considering every part of every project, interrogating every element and fixating on every function so we can harmonise all aspects beneath one larger vision.

Our solutions are a response to the lifestyle needs of today and tomorrow, providing our partners with richer opportunities to meet project needs, beautifully.



### INTELLIGENCE BUILT IN

THE STORY OF SPHERO



# DEVELOPING A WASHROOM REVOLUTION

Redefining the urinal, revolutionising the washroom

There has been a renewed focus on the urinal in recent years. Increased concerns about the environment have put sustainability and water consumption in the spotlight, whilst advances in technology have led to functional progress.

Designed in partnership with the award-winning Studio Levien, Sphero combines the latest water-saving innovations with timeless aesthetics. It delivers a smarter urinal range that's fit for the modern world.

"We have taken an item that has historically been primarily about functionality and through a combination of high aesthetic design and great engineering completely reinvented it."

Robin Levien, Designer

### CRAFTED FROM EXPERIENCE

#### A heritage steeped in innovation

In collaboration with world-leading universities, architects and construction firms, we are working together to shape the future of modern living.

From our roots pioneering products like the ceramic disk cartridge, to delivering solutions for pressing global challenges, our mission has always been to make life better for our customers.

1902

One-piece Bathtub

1965

Skid-resistant Bathtub

1969

Ceramic Disc Cartridge

1979 The Rimless Toilet

1990 Top Fix

2000

Click Technology

2007 Markwik

2011 IdealBlue

2015 AquaBlade

2016 FirmaFlow

2017 Ipalyss

2010

Ceramic Disc 50<sup>th</sup> Anniversary

2020

Sphero Urinals



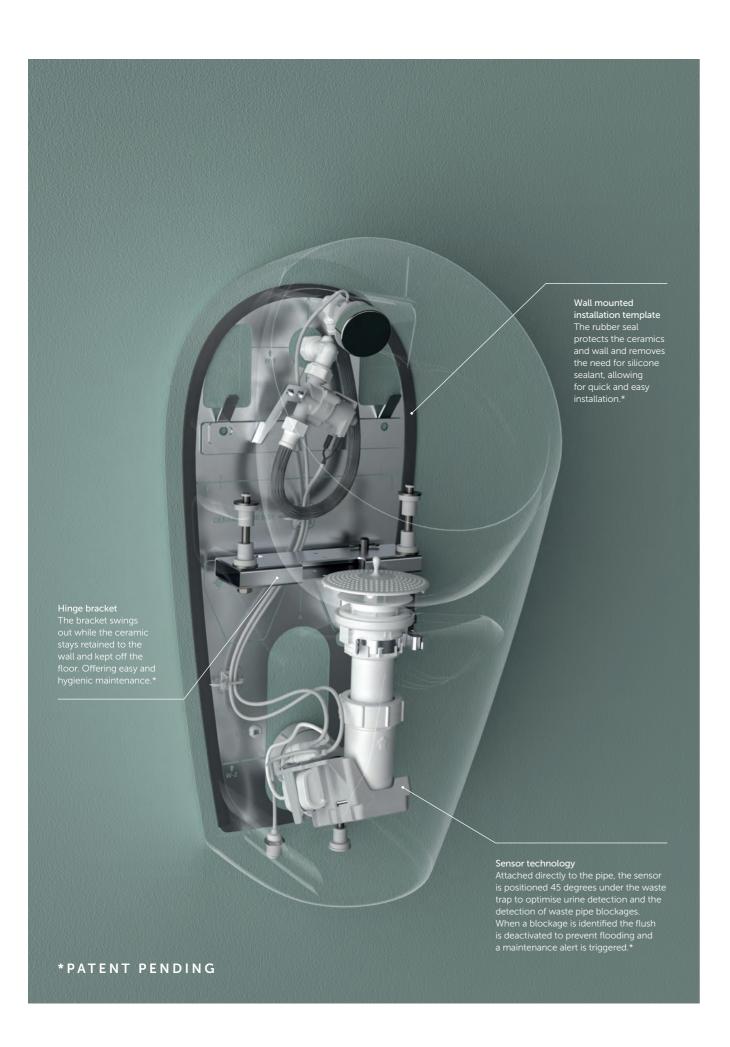
2015 AquaBlade



2019 Ceramic Disc 50<sup>th</sup> Anniversary



2020 Sphero Urinals



## FOR EFFICIENCY

#### Efficient at every level

Sphero has been developed with the future in mind. Our unique technology delivers water-saving benefits and outstanding hygiene, whilst providing ease of installation and maintenance.

The easy fix hanger and installation template make fitting smooth and efficient. A choice of back or top inlet models allow concealed or exposed installation, and the top fixed waste and patented pivot arm enable quick and easy access for on-wall maintenance.

#### The Smart Hybrid

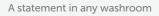
Our Smart Hybrid flush system takes efficiency to new heights. Crafted for economy, it offers the benefits of a Waterless unit with added hygiene.

Available in Midi or Maxi models, the smart sensor technology detects salinity and urinal use, activating flushes and using water only when needed.

This Hybrid revolution can save over 50,000L of water per year in high-traffic environments compared to infrared solutions.

Bluetooth provides the communication to our SPHERO app or through a gateway to the cloud. This access permits full usage and diagnostic information and allows complete control of the urinal mode settings (Hybrid, Waterless, Standard).

### SHAPED TO STAND OUT



Our partnership with Studio Levien has resulted in a product that is smart in every sense of the word.

Sphero's strikingly simple form belies the intelligence within its design. The fine edges not only achieve a modern aesthetic but are highly practical, helping to contain liquids in the bowl. The deep concave bowl has been designed to offer anti-splash geometry and optimum user privacy.

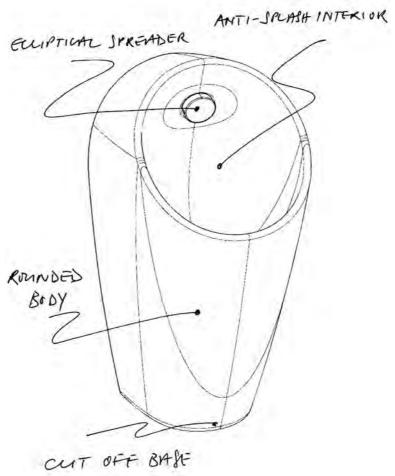
Each model uses the same rounded shape. It's instantly recognisable and a statement in any washroom.

"Together we set about harnessing the latest technologies to deliver easy cleaning, water saving, anti-splash and ease of installation."

Robin Levien, Designer



Robin Levien, Designer



Product development

KEY FEATURES

### ENHANCING EVERY ENVIRONMENT

#### Shaped to suit all spaces

Sphero's considered, sophisticated design elevates and compliments contemporary washrooms.

Available in three sizes, each with multiple models, Sphero delivers an extensive range of simple solutions.











### SCULPTED FOR SUPERIOR HYGIENE

#### Hygienic by design

Sphero's anti-splash geometry prevents splashback onto the floor and clothing. The rimless design makes it easier to clean, as does the nozzle spreader which delivers a more hygienic flush that covers around most of the urinal.

The ceramic edges have been designed to reduce surface cleaning and stop water retention, preventing the spread of bacteria.

#### Fresher spaces

The Waterless options contain an odour block cartridge which eliminates internal pipe odour, keeping the air around the urinal fresh and free from smells.

The cartridge needs changing on average every 2 months. It lasts for a minimum of 5,000 uses. High usage (200 uses per day) requires a monthly change and low usage a change every 3 months.



MIDI







MAXI



### DESIGNED TO THINK AHEAD

### **Sensor technology**Predicting issues, preventing problems

The intelligent sensors inside the Sphero Maxi detect issues and provide feedback to aid maintenance and minimise water consumption.

If the sensor detects a blockage, or a cartridge or battery end of life, the spreader light will provide a distinctive warning alert for corrective maintenance. When a blockage is detected no more flushes will be triggered.

#### LED warning light

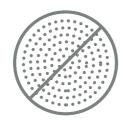
Issue	Blockage**	Cartridge replacement	Battery replacement
LED flashing pattern*	8 times	3 times	5 times
Sleep time	1 hour	2 hours	1 hour

- \* The flashing pattern repeats 15 times and the light only switches off completely once the issue has been resolved.
- \*\* In the event of slow flow the warning light will start flashing but the urinal will continue to flush for hygiene purposes. If there is a complete blockage flushing will be suspended.



#### Blockage / slow flow

Sphero's smart sensors will detect and notify maintenance of any blockages.



#### Low battery

A warning light will signal the battery needs to be replaced when 80% of the power has been used.



#### Flush failure

The smart sensors can also detect flush failure.





### **BUILT WITH** THE FUTURE IN MIND

#### Flush modes Crafted for economy

Sphero Maxi's Autoflush feature lets you switch between three flush modes – Hybrid, Standard, and Waterless.

When switched to Hybrid mode, the smart sensor technology detects salinity and urinal use. When usage is detected a single flush is activated every 30 mins, using just 0.85L water per flush. A hygiene flush will activate on an unused unit every 24 hours.

Default Hybrid mode saves over 50,000L of water per year in high-traffic environments compared to infrared solutions. 250 people using a Standard flush uses on average 212L a day, while in default Hybrid mode the Sphero flushes 48 times a day and uses just 40L.

In Standard mode the urinal continually detects salinity. If used less than once every two minutes a flush is activated 8 seconds after every use (optional settings of 6, 8, and 10 seconds are available). Like in Hybrid mode, if no use is detected a hygiene flush is activated every 24 hours (optional 12 hours).

When usage is higher than twice every minute the urinal automatically switches to a Stadium mode, activating a rinse (at a much reduced quantity of water) on every use.

In Waterless mode the urinal will not flush – offering maximum water savings. There is a cartridge included for this mode in all Smart Hybrid Sphero models.

#### Detection

Sphero detects the urine concentration, not human presence - reducing the frequency of flush.



#### Rinsing

Sphero only rinses the bowl once the level of urine is high enough, saving water and ensuring cleanliness.



#### Stadium mode

When the usage is high, Sphero switches to Stadium mode automatically, increasing flush frequency.

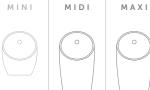
#### Timing

When in Hybrid mode, if the urinal is unused for 24 hours, a flush will be triggered automatically, helping to avoid odours and piping issues.















#### BREEAM rating

BREEAM is an international scheme that assesses the environmental performance of a building. Developed by the Building Research Establishment (BRE), it acts as a third-party certification body, providing trained experts to measure the sustainability of a building, and is now the most widely used method throughout the world. A high BREEAM rating is an assurance of quality and value.

#### LEED rating

Leadership in Energy and Environmental Design (LEED) is a North American rating system for high environmental quality buildings. Since 1998 it has evolved to become a leading certification scheme for American buildings, as well as a reference point for the rest of the world. A high LEED rating offers huge advantages, such as instant recognition for a building, a healthier indoor space and a higher resale value.

### Sphero performance levels for water consumption

Model	Use
Sphero Standard flush	0.85L
Sphero Waterless	OL
Sphero Hybrid flush	Max 1.7L/hr, Min 0.85L/6 hrs

### BREEAM performance levels for water consumption of collective buildings

### LEED performance levels for water consumption of new buildings

Use	Urinal	Urinals (2 or more)
Baseline	10 lpm	7.5 lpm
1 Credit	8 lpm	6 lpm
2 Credits	4 lpm	3 lpm
3 Credits	2 lpm	1.5 lpm
4 Credits	1 lpm	0.75 lpm
5 Credits	0 lpm	0 lpm

Use	Urinal
LEED 20% requirement	3.79 lpm
LEED 30% (2 points)	3.31 lpm
LEED 35% (3 points)	3.07 lpm
LEED 40% (4 points)	2.84 lpm

# Intelligence built in Easier maintenance Hinge bracket Using the Maxi's hinge bracket you can pull the urinal away from the wall without detachi it, allowing you to perform maintenance tasks with ease. Faster fitting Installation template Sphero Maxi has an easy-to-follow template to make installation simple and drilling precise. Its rubber seal protects the ceramic and walls, provides a neater aesthetic, and removes the need for a silicone sealant.

### ENGINEERED FOR EASIER MAINTENANCE

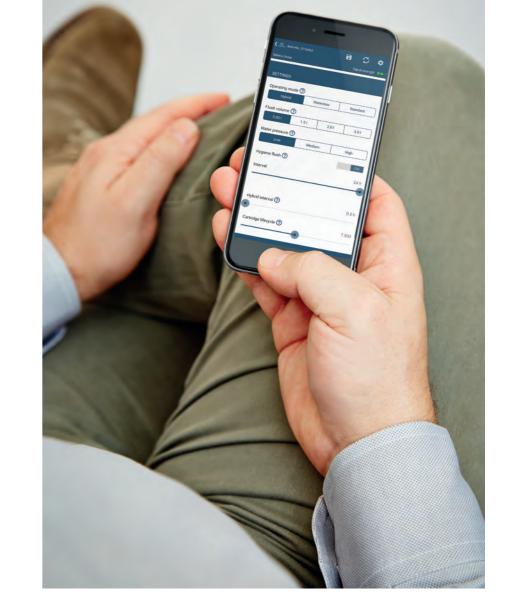
### Mobile app Created for total control

Bluetooth sensors in Sphero Maxi's E-Hybrid model send information on each urinal direct to our easy-to-use app.

Check sensor status, power, flow issues, cartridge life and usage statistics from your phone or tablet.

The app can also apply a profile template to a number of urinals. This allows building owners and facilities managers to apply changes to urinals simultaneously – saving time and resources.

You can also connect to our Gateway for Cloud/WMS – allowing urinals to be monitored continuously and controlled remotely.



MINI

MIDI



MAXI



PRODUCT PORTFOLIO



### STANDARD FLUSH



Sphero Mini Back Inlet Urinal Exposed Trap BI S073401

Sphero Mini Top Inlet Urinal Exposed Trap TI S073501



Sphero Midi Back Inlet Urinal Open Shroud BI S073701

Sphero Midi Top Inlet Urinal Open Shroud TI S073801



Sphero Maxi Urinal Closed Shroud S074001

DESIGN & SPECIFICATION WATER EFFICIENCY & HYGIENE

INSTALLATION

MAINTENANCE

Modern spherical design Enhancement of aesthetic design for the washroom with a contemporary look and excellent space efficiency.

Anti-splash geometry Concave bowl and low outlet position inside the urinal prevents splashback onto the floor and clothing.

Back and top inlet options Easy to specify for concealed or exposed installation.

Top fixed waste Easy and quick access with supplied service key allowing for on-wall maintenance.

Urinal & key components under one SKU Easy to specify and cost effective with additional components designed specifically for different installation types.

Enhanced water coverage Spreader delivers enhanced hygiene with flush covering majority of bowl.

Easy fix hanger Consistent across range and easy, quick install.

Service and spares Replacement parts available to order.

Tamper-proof

Fully closed/shrouded design on the Maxi for added security in public washrooms/high-traffic environments. Anti-vandal brackets are available (E202767).

Rimless bowls

Rubber seal and Eliminates hidden surfaces and installation template<sup>1</sup> build-up of stagnant water. Easy installation and precise drilling. Protection of walls and ceramic. Improved aesthetics,

> Cistern fed Cistern fed installation available,

no need for silicone sealant.

using existing auto cisterns.

#### WATERLESS



Sphero Mini Waterless Urinal Exposed Trap Waterless S073601



Sphero Midi Waterless Urinal Open Shroud Waterless S073901

DESIGN &
SPECIFICATION

WATER EFFICIENCY & HYGIENE INSTALLATION

MAINTENANCE

Modern spherical design Enhancement of aesthetic design for the washroom with a contemporary look and excellent space efficiency. Water saving, reduces odours Waterless option with odour block cartridge. Cartridges only need to be changed every two months (on average). Easy fix hanger Consistent across range and easy, quick install. Top fixed waste Easy and quick access with supplied service key allowing for on-wall maintenance.

Urinal & key components under one SKU
Easy to specify and cost effective with additional components designed specifically for different installation types.

Anti-splash geometry
Concave bowl and low outlet
position inside the urinal
prevents splashback onto the
floor and clothing.

Eliminates hidden surfaces and

further simplifies cleaning.

Tamper-proof

Fully closed/shrouded design on the Maxi for added security in public washrooms/high-traffic environments. Anti-vandal brackets are available (E202767). Rimless bowls

Service and spares Replacement parts available to order.

### SMART HYBRID FLUSH



Sphero Midi Smart Hybrid Urinal Open Shroud – Sensor & Battery Pack S082801



Sphero Maxi Smart E-Hybrid Urinal Closed Shroud – Sensor & Mains Connection S074101

Sphero Maxi Smart Hybrid Urinal Closed Shroud – Sensor & Battery Pack S082901

DESIGN &
SPECIFICATION

WATER EFFICIENCY & HYGIENE INSTALLATION

MAINTENANCE

Modern spherical design Enhancement of aesthetic design for the washroom with a contemporary look and excellent space efficiency. Anti-splash geometry
Concave bowl and low outlet
position inside the urinal
prevents splashback onto
the floor and clothing.

Integrated components
All technical components linked to the ceramic are preinstalled.

Intelligent sensor
Detects flow and waste
blockage issues and warning
light activated. Information
then available through for
problem solving.

Options to suit the installation type

The Maxi urinal has electronic options for mains or battery type installation.

Smart sensor technology<sup>1</sup>
Smart Hybrid sensor technology detects salinity and urinal use.
Single flush activated at default set every 30 mins (at 0.85L per flush). 12 hour hygiene flush if no usage. Maxi model recommended for full control.

Rubber seal and installation template<sup>2</sup>
Easy installation and precise drilling. Protection of walls and ceramic. Improved aesthetics, no need for silicone sealant.

Easy maintenance hinged bracket (Maxi only)
Urinal swings easily off the wall without any need for disconnection for ease of access to traps etc. for improved maintenance regimes.

Tamper-proof

Fully closed/shrouded design on the Maxi for added security in public washrooms/high-traffic environments. Anti-vandal brackets are available (E202767). Smart E-Hybrid sensor technology

Building on Hybrid sensor technology, all settings can be changed. Operated via app. Settings can be applied to all urinals connected to app. Default is Hybrid mode. Can be changed to Standard flush or Waterless. Mobile app<sup>3</sup>

Easy use app for mobile or tablet allowing facilities managers and building owners to access information about the urinal remotely. Provides diagnostic status and option to change settings if necessary. Preset for easy installation. LED warning light

Flashes 8 times when there is a blockage, 5 times when the battery needs to be replaced or 3 times when the cartridge needs replacing.

Rimless bowls

Eliminates hidden surfaces and build-up of stagnant water.

Cistern fed

Cistern fed installation available.

#### Кеу



Rimless bowl



Battery operated



Smart sensor



Easy maintenance



App compatibility



Easy installation



Mains operated



Hybrid mode



Standard mode



Waterless mode



Warning light



24 hour hygiene flush

Sphero Mini Back Inlet Urinal Exposed Trap BI S073401











Rimless urinal bowl

Anti-splash geometry of the inner bowl Back inlet connection pack included with flexible and isolating valve

Branded spreader with check valve and flow regulator Easy maintenance top fixed waste

Easy fixation hanger





Rimless urinal bowl

Anti-splash geometry of the inner bowl

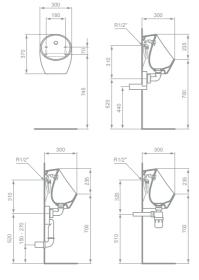
Top inlet connection pack included with flexible

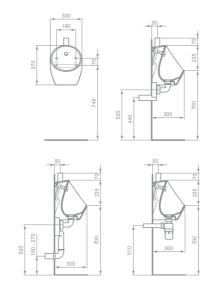
and white cap

Branded spreader with check valve and flow regulator

Easy maintenance top fixed waste

Easy fixation hanger





Sphero Mini Waterless Urinal Exposed Trap Waterless S073601





Sphero Midi Top Inlet Urinal Open Shroud TI S073801



43



Easy fixation hanger





Rimless urinal bowl for Waterless system
Anti-splash geometry of the inner bowl
Branded spreader cap
Easy maintenance top fixed waste
Waterless grate and odour block cartridge
with service key included\*





Rimless urinal bowl

Anti-splash geometry of the inner bowl Back inlet connection pack included with flexible and isolating valve

Branded spreader with check valve and flow regulator
Easy maintenance top fixed waste and grate cap for
reinforced anti-splash and blockage protection
Easy fixation hanger

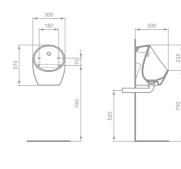


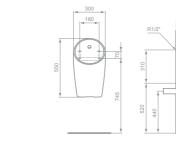
Rimless urinal bowl

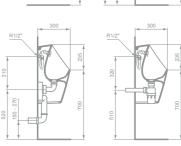
Anti-splash geometry of the inner bowl

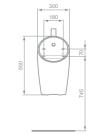
Top inlet connection pack included with flexible and white cap

Branded spreader with check valve and flow regulator
Easy maintenance top fixed waste and grate cap
for reinforced anti-splash and blockage protection
Easy fixation hanger













<sup>\*</sup>As soon as the green key ring is empty, the key valve needs to be replaced. This occurs after approximately 7,500 usages.

Depending on usage, it must be replaced 2 to 3 times per year. Therefore each valve can save 20,000-40,000 litres of water.

45

Sphero Midi Waterless Urinal Open Shroud Waterless S073901

Sphero Midi Smart Hybrid Urinal Open Shroud -Sensor & Battery Pack S082801

Intelligence built in

Sphero Maxi Urinal Closed Shroud S074001









Sphero Maxi Smart Hybrid

Urinal Closed Shroud -

Sensor & Battery Pack

S082901



















Rimless urinal bowl for Waterless system Anti-splash geometry of the inner bowl Branded spreader cap Easy maintenance top fixed waste Waterless grate and odour block cartridge Easy fixation hanger

















#### Rimless urinal bowl

Anti-splash geometry of the inner bowl Branded spreader with check valve and flow regulator Easy maintenance top fixed waste and grate cap for reinforced anti-splash and blockage protection

#### Smart Sensor

The sensor detects the urine concentration not human presence

#### Midi Hybrid (with battery pack)

Default setting: Hybrid mode at 30 min interval upon detection, automatic Stadium mode detection

Predictive maintenance: Visual alert with LED in spreader upon detection of blockage and slow flow, low battery or Hybrid cartridge end of life

A hygiene flush is activated every 24 hours



Anti-splash geometry of the inner bowl

Back inlet connection pack included with flexible and isolating valve

Branded spreader with check valve and flow regulator Easy maintenance top fixed waste and grate cap for reinforced anti-splash and blockage protection



Rimless urinal bowl















Anti-splash geometry of the inner bowl

Easy maintenance bracket with hinged arm to swing out the ceramic for easy access to parts and waste (the ceramic is retained to the wall/kept off the floor)

Branded spreader with check valve and flow regulator Easy maintenance top fixed waste and grate cap for reinforced anti-splash and blockage protection

Urinal Installation Template and Seal for quick installation and with rubber seal to protect the ceramic against the wall as a water seal

#### Smart Sensor

The sensor detects the urine concentration not human presence

#### Maxi Hybrid (with battery pack)

Default setting: Hybrid mode at 30 min interval upon detection, automatic Stadium mode detection

Predictive maintenance: Visual alert with LED in spreader upon detection of blockage and slow flow, low battery or Hybrid cartridge end of life

A hygiene flush is activated every 24 hours







wall as a water seal

Smart Sensor

human presence

Usage data reporting

Error/failure reporting

Multi-connectivity

Power status

Rimless bowl with no hidden surfaces

Anti-splash geometry of the inner bowl

Easy maintenance bracket with hinged arm to swing

(the ceramic is retained to the wall/kept off the floor)

Branded spreader with check valve and flow regulator

Easy maintenance top fixed waste and grate cap for

Urinal Installation Template and Seal for quick installation

and with rubber seal to protect the ceramic against the

reinforced anti-splash and blockage protection

The sensor detects the urine concentration not

Building Management System (BMS) mobile app & smart systems

out the ceramic for easy access to parts and waste











3 flush modes can be selected via the app:

Upon detecting usage, a single flush is activated every 30 mins, using just 0.85L water per flush.

The frequency between flushes can be set to 1, 3, and 6 hour intervals.

When usage is higher than twice a minute the urinal automatically switches to a Stadium mode, activating a rinse on every use.

#### Standard

If used less than once every two minutes a flush is activated 8 seconds after every use (optional settings of 6, 8, and 10 seconds are available).

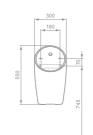
Predictive maintenance: Visual alert with LED in spreader upon detection of blockage and slow flow, low battery or Hybrid cartridge end of life

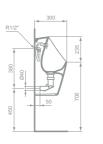
The urinal will not flush, a Hybrid cartridge is included in the waste

Profile settings can be defined and applied to a set of urinals A hygiene flush is actuated every 24 hours

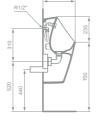


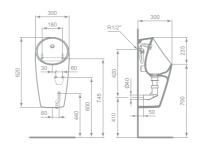


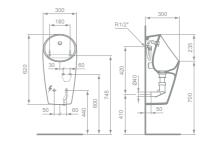












<sup>\*</sup>As soon as the green key ring is empty, the key valve needs to be replaced. This occurs after approximately 7,500 usages. Depending on usage, it must be replaced 2 to 3 times per year. Therefore each valve can save 20,000-40,000 litres of water

### ACCESSORIES

MINI



MIDI

MAXI



Prewall

Grate cap

Inlet connection.

Grate cap

Prewall

Inlet connection.

Protection for blockage, raised to allow water to flow and collects paper debris. Protection for blockage, raised to allow water to flow and collects paper debris.

Siphon vacuum that transfers the

waste water into the waste water

pipe; making a valuable contribution

Grate cap

Prewall

Inlet connection.

Syphonic outlet pipes

to water flushing urinals.

Siphon vacuum that transfers the

waste water into the waste water pipe; making a valuable contribution

Protection for blockage, raised to allow water to flow and collects paper debris.

Syphonic outlet pipes

Urinal toggle bolts

Anti-vandal feature.

Siphon vacuum that transfers the waste water into the waste water pipe; making a valuable contribution to water flushing urinals.

Urinal toggle bolts

Anti-vandal feature.

Syphonic outlet pipes

to water flushing urinals.

Urinal toggle bolts Anti-vandal feature.

Top inlet

Installation

Template, seal and easy maintenance bracket.

Top inlet

Chrome.

Installation

Template, seal and easy maintenance bracket.

Anti-vandal bracket Only available for Hybrid. Easy Maintenance Bracket E202267

IS Service Key 2

E202867



Bottle Trap 11/2" Plastic Bottle



Urinal Install Template & Seal E202667



E202367

FlexiWaste



Grate Cap E202567



ProSys Universal Urinal Frame R016367



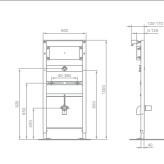
ProSys Urinal Frame R010367



Compatible with all wall-hung urinals For built-in installation into masonry and plasterboard constructed walls

Height adjustable legs from 0 to 300 mm Easy and quick installation with EasyFix™ wall brackets

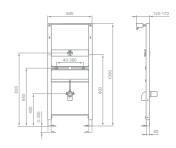
Adjustable depth 120 > 170 Adjustable height attachment bars Top recessed fixing panel for built-in or infrared urinal flush control Frame load tested to 100kg Supplied with all frame fixings Outlet bend 50/50mm Outlet bend seal 50mm 1 angled wall connector ½ F x ½ M



Compatible with all wall-hung urinals For built-in installation into masonry and plasterboard constructed walls Height adjustable legs from 0 to 300 mm Easy and quick installation with EasyFix™

Adjustable depth 120 > 170 Adjustable height attachment bars For exposed manual urinal flush control Frame load tested to 100kg Supplied with all frame fixings Outlet bend 50/50mm Outlet bend seal 50mm

1 angled wall connector ½ F x ½ M



50

Sphero

Intelligence built in

Together we positively impact the future of modern living. Together we think bigger. Together we establish the rules for considered design.
Together we bring emotion to functional perfection.
Together we form enduring partnerships. Together we meet the needs of all generations. Together we shape the future of the category we have defined.

Together for Better.





#### **Armitage Shanks**

Armitage, Rugeley, Staffordshire WS15 4BT Tel: 01543 490253

#### Armitage Shanks Dublin Ltd

3013 Lake Drive, Citywest Business Campus, Dublin 24

Tel: 003531 456 4525

www.idealspec.co.uk

#### Guarantee

#### Lifetime on all ceramic products

Our confidence in the quality and reliability of our product allows us to offer outstanding extended guarantees on all our products – where the product fails within 5/25 years/lifetime we offer a free replacement or replacement part (or nearest equivalent).

Liability is limited to individual products and the guarantee does not cover the consequential loss or damage or installation costs. This guarantee does not affect your statutory rights. Products must be installed, used and cared for in line with our fixing instructions and local water regulations, and room must be adequately ventilated.

Parts (e.g. flushvalves) are guaranteed for five years and will be replaced if found to be faulty. The guarantee does not cover general wear and tear.

Applies to UK and Republic of Ireland only.

Colours printed in this book are as near as possible to the manufactured range of Armitage Shanks products. Our policy is one of continuous improvement and we reserve the right to change specification and design at any time without notice.

All measurements are in millimetres and are approximate.

