



AQUADESIGN
MANUFACTURING



**Behavioral Healthcare Facilities
Bathroom Design Guide**

Safety in Design

Understanding the Challenges

At **AquaDesign**, we realize that behavioral health is a priority. As the population ages, the volume of individuals diagnosed with behavioral health disorders is increasing.

There are **three major trends** impacting this increase:

- Population growth
- Population aging
- Increase in chronic conditions.



Our Mission in Mental Health

1

AQUADESIGN offers a unique range of products **designed exclusively** for mental health facilities and rehabilitation centers.

2

AQUADESIGN'S suite of products strive to be the **most effective and failsafe** ligature resistant solutions available worldwide.

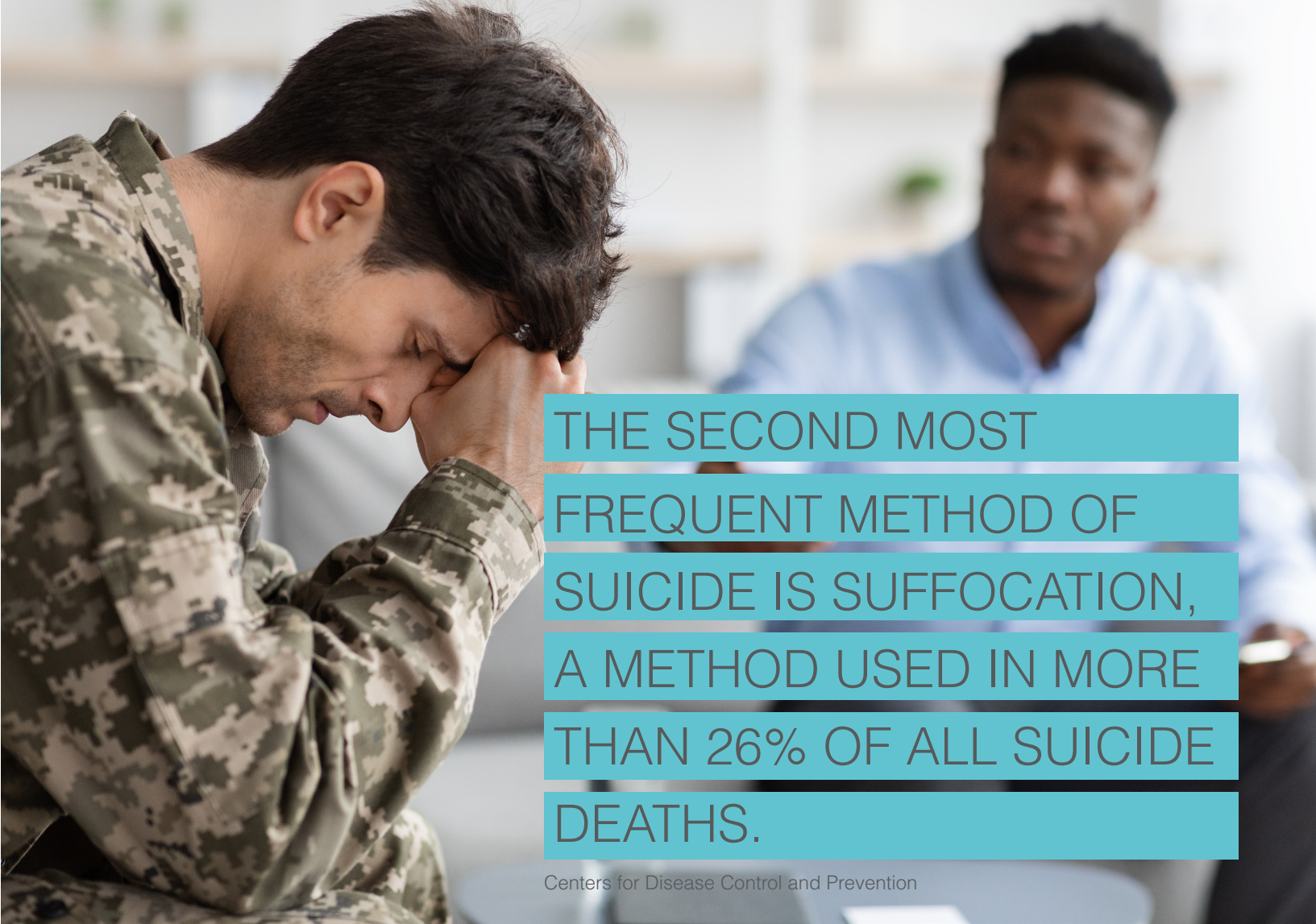
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The design of **AQUADESIGN'S** products reflects a new vision and philosophy for mental health facilities that is rooted in **hope, healing and recovery**.

4

Strong emphasis is placed on designs that incorporate **home like, non-institutional, and patient-centered environments** that imbue healing, familiarity, and a sense of being valued.

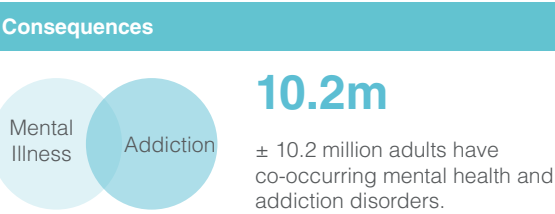
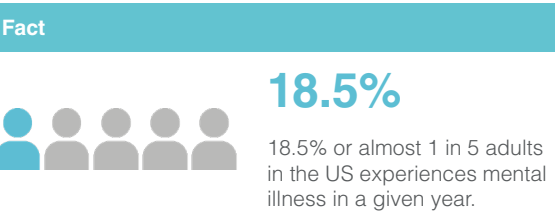
AquaDesign Mfg., a leading producer of commercial plumbing fixtures, has realized these trends and has partnered with two international behavioral health fixture manufacturers, **Galvin Engineering** of Australia and **Wallgate Ltd.** of the United Kingdom.



THE SECOND MOST
FREQUENT METHOD OF
SUICIDE IS SUFFOCATION,
A METHOD USED IN MORE
THAN 26% OF ALL SUICIDE
DEATHS.

Centers for Disease Control and Prevention

What is the impact of mental illness?



Source: National Alliance on Mental Illness



The design of our products reflects a new vision and philosophy for mental health facilities that is rooted in hope, healing and recovery.

Vitreous china fixtures can become weaponized when broken and used for the purpose of cutting and stabbing. This is why AquaDesign Mfg. uses solid surface for its fixtures - a **highly robust material** - which can withstand most any violence.

Mental Healthcare Design Principles

1

Health-care design operates on both an architectural and interior design level

2

Normalizing physical environments can reinforce and encourage appropriate behavior

3

Thoughtful design attributes can decrease patient aggression

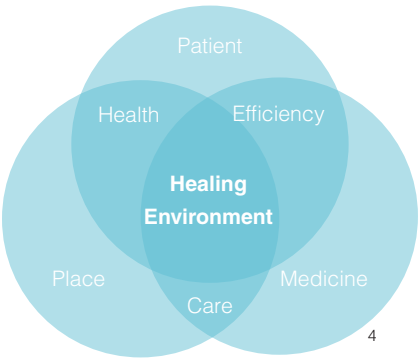
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Mental health facility design has a psychological impact on patients and staff



Normalization

Studies have shown that the **optimal environment for patients of mental health facilities is one that mimics a home environment**. This concept is known as “**normalization**”. Normalization has since become more common than the traditional clinical environments of the past which focused on safety aspects rather than aesthetics and design.



Facilities are encouraged to utilize lavatories and toilets made of **materials other than stainless steel** that support a therapeutic environment.²

More home-like, inviting design can work alongside therapy and medication to heal patients.³

Bedrooms and **bathrooms pose the most prominent risk** for mental health facilities, their patients and the staff. These private areas also **provide ligature points** and the ability for patients to barricade themselves (with or without hostages) away from staff access and assistance.

Behavioral health units and facilities should be designed to appear **comfortable, attractive, and as residential in character as possible**. The focus on patient and staff safety has often pushed the aesthetics of these units toward the appearance of a prison environment. To better meet the needs of patients, the final design must avoid an “institutional look” while meeting the array of applicable codes and regulations and addressing the therapeutic and safety needs of patients and staff. **The challenge is to strike a balance between the safest possible healing environment and a non-institutional appearance.**¹

1. Design Guide for the Built Environment of Behavioral Health Facilities, James M. Hunt and David M. Sine
2. Patient Safety Standards, Materials and System Guidelines, New York State Office of Mental Health
3. Behavioral Health Design: Balancing Safety and Emooathy, Visa Lighting Staff
4. Towards Healing Environment for the Inpatient Unit in Psychiatric Hospital, Dr. Mustafa Galal Ramadan

Low to Medium Risk
Behavioral Healthcare Bathroom

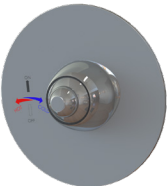


1



42020
Ligature Resistant Quick
Connect Combo Shower Head

2



42030
Ligature Resistant Shower Valve

3



FLO6032-303077XN
60" x 32" Low Threshold Shower Pan
with Ligature Resistant Drain

4



TRH02
Ligature Resistant Toilet Roll
Holder

5



303070XN
Crocodile Roll Resistant Floor
Drain

6



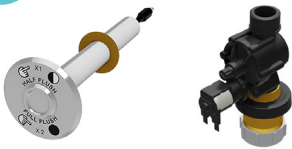
CWC150-AST
Solid Surface Toilet

7



-BB
Back box for CWC150-AST in
solid surface

8



DFKIT03 & PBA051-1-CWC
Chase Mounted Flush Valve with
Dual Flush Control

9



ALM03
Ligature Resistant Mirror with
Solid Surface Frame

10



ALF01
Ligature Resistant Shelf

11



LRHDPZ2L
Anti-Microbial Ligature Resistant
Sensor Activated Lavatory



Medium to High Risk
Behavioral Healthcare Bathroom



ALM03
Ligature Resistant Mirror with
Solid Surface Frame



LRS01 with ADM21
Heavy Duty Ligature Resistant Powder
Coated Stainless Basin with Anti-
Ligature Sensor Faucet



TRH02
Ligature Resistant Toilet Roll
Holder



DFKIT03 & PBA051-1-CWC
Chase Mounted Flush Valve with
Dual Flush Control



CWC150-AST
Solid Surface Toilet



303070XN
Crocodile Roll Resistant Floor
Drain



40707
Mental Health Hand Shower
with Ligature Resistant Wall
Connection



40691US
Ligature Resistant Wall Mounted
Shower Head



50140US
Ligature Resistant Shower
Diverter



WM-TMVPMSUS
In wall Thermostatic Progressive
Shower Mixer with Ligature
Resistant Handle



FLO3636ADA
Anti-microbial ADA Shower Pan



LRSD
Ligature Resistant Shower Drain

Electronically Managed Behavioral Healthcare Bathroom



Why an Electronically Managed Suite?

An electronically controlled suite adds a level of safety for the patient, security to the staff, and provides the hospital with the ability to analyse and audit suite usage as well as perform automated functions to prevent waterborne bacteria such as legionnaires.

In a world where water and electricity conservation are top of mind, this solution addresses those points. The WDC units allow healthcare providers the ability to manage water use, lighting* and power* to a patient room from a separate location. Further, the Wallgate electronic controller incorporates features such as timed flow, hygiene purge cycles, time slots and lock outs.

Finally, the units can be used locally or networked to our front end management system.



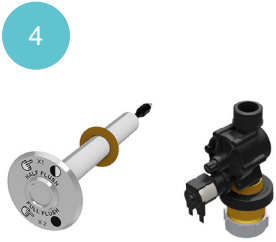
ALM03
Ligature Resistant Mirror with Solid Surface Frame



WHB200ADA
Ligature Resistant Lavatory with Integral Shelf



APK01
Secure Access Panel with Radial Pin Lock



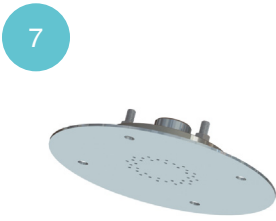
DFKIT03 & PBA051-1-CWC
Chase Mounted Flush Valve with Dual Flush Control



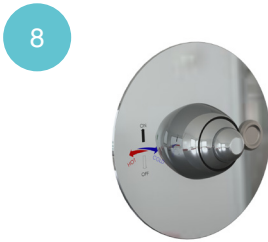
CWC156-AST
Solid Surface Toilet



TRH02
Ligature Resistant Toilet Roll Holder



SNC-01
Ceiling Shower Head



42028US and PBA051-SHWR
Shower Valve with Piezo Touch Activation



LRIWS
Solid Surface Anti-ligature In-wall Shelf



303070XN
Crocodile Roll Resistant Floor Drain



WDC100-NX
Control Box for Single Room



Universal Healthcare Suite



ALM03
Ligature Resistant Mirror with Solid Surface Frame



ALF02-FF
Ligature Resistant Shelf



ADM21
Ligature Resistant Sensor Faucet



SLW01RX
Customizable Ligature Resistant Lavatory



LRSCOM
Wall Mounted Shower Head With Removable Shower Hose



WM-TMVPMSCSUS
In wall Thermostatic Progressive Shower Mixer with Ligature Resistant Handle

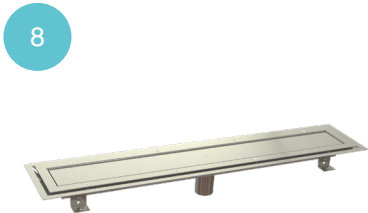
What is a Universal Patient Room?

The concept of a Universal Patient Room allows the healthcare facility to accommodate most patients in most rooms. Rooms are created with multiple types of patients in mind, and staff members are trained in many specialties to facilitate patients' needs - reducing the need for patients to travel throughout the hospital.

Improving patient flow reduces patient safety errors and allows staff members to spend more time with patients, making for a more comfortable patient stay.



TRH02
Ligature Resistant Toilet Roll Holder



303095X
Safe-cell stainless steel linear Floor Drain



CWC156-AST
Solid Surface Toilet



Same suite used for behavioral healthcare

Children's
Behavioral Healthcare Bathroom



1



CFKIT01
Concealed Pneumatic Flush
Valve with Optional Access
Plate

2



CWC156-AST
Solid Surface Toilet

3



TRH02
Ligature Resistant Toilet Roll
Holder

4



303070XN
Crocodile Roll Resistant Floor
Drain

5



ALM03
Ligature Resistant Mirror with
Solid Surface Frame

6



ADM21
Ligature Resistant Sensor
Faucet

7



SLW01RX
Customizable Ligature Resistant Lavatory

8



LRS2
Pre-assembled Shower Panel

9



LRIWS
Solid Surface Anti-ligature
In-wall Shelf

10



FLO3636ADA
Anti-microbial ADA Shower Pan

11



LRSD
Ligature Resistant Shower Drain

Retrofit
Behavioral Healthcare Bathroom



ALM03
Ligature Resistant Mirror with
Solid Surface Frame



ADM21
Ligature Resistant Sensor
Faucet



SLW01RX
Customizable Ligature Resistant Lavatory



LRIWS
Solid Surface Anti-ligature
In-wall Shelf



CWC150-AST
Solid Surface Toilet



GBK36
Anti-ligature Grab Bar



TRH02
Ligature Resistant Toilet Roll
Holder



Lavatories



- LRHD-SEN**
Low Risk, Heavy Duty Ligature Resistant Lavatory with Sensor Activation
- Seamless solid surface bowl and skirt
 - Sensor operated by battery or plug-in transformer
 - Available with anti-microbial agent



- LRHD-Px**
Low Risk, Heavy Duty Ligature Resistant Lavatory with Piezo Touch Button Activation
- Available with red and blue lighted touch buttons
 - Seamless solid surface bowl and skirt
 - Available with anti-microbial agent



- LRS01**
Heavy Duty Stainless Steel Anti-Ligature Basin
- Bariatric weight bearing
 - Available in a brushed stainless steel or white powder coated finish.
 - Front access panel for easy servicing.



- SLW01-LxxRxx**
Ligature Resistant Single User Lavatory
- Available for corner installation
 - Adjustable length from 30" to 60"
 - Large powder coated stainless skirt
 - Ideal for retrofit



- SLW02-LxxRxx**
Ligature Resistant Two User Lavatory
- Adjustable length from 60" to 90"
 - Large powder coated stainless skirt
 - Ideal for communal areas

Faucets



- WHB200-ADA**
Wallgate Medium Risk Ligature Resistant Solid Surface Lavatory
- Separate cold and tempered water outlet
 - Integral shelf
 - Made in one piece without seams



- ALSA180**
Wallgate High Risk Ligature Resistant Solid Surface Resistant Lavatory
- Extremely robust and vandal resistant
 - Made in one piece without seams
 - Separate cold and tempered water outlet



- ADM21**
Sensor Activated Anti-Ligature Faucet
- 4" center installation
 - Standard with both battery and plug-in transformer
 - Laminar or aerated nozzle



- 40677**
GalvinCare Vanity Outlet
- Wall outlet
 - smooth, angled conical shape
 - Swiveling aerator provides extra reach

Shower Fixtures



40707
GalvinCare Mental Health Hand Shower with Ligature Resistant Wall Connection

- Designed for assisted showering
- Quick connect adaptor for easy removal of hand shower
- Automatic shut-off if hand held shower is removed



LRSCOM
Anti-Ligature Combo Shower Head

- Can work as regular shower head
- Converts to hand held shower
- No need for diverter or multiple shower heads



42020
GalvinCare Dual Quick Connect - Wall Mounted Shower Head with Integral Diverter

- Regular shower head with quick disconnect hand held shower hose option
- Integral diverter
- Ideal for retrofits



42030US
GalvinCare Ligature Resistant Shower Valve

- Normalizing design
- Easy operation allows the shower to be activated with your palm or fingers.
- Easy temperature blending and operation ensures comfort and safety for the user.



42028US
GalvinCare Ligature Resistant Shower Valve for Piezo Touch Activation

- Designed for a managed behavioral suite
- To be used with Wallgate control box
- Normalizing look and feel



WM-TMVPMSCSUS
GalvinCare In-wall Thermostatic Progressive Mixing Valve

- Provides state of the art features to comply with healthcare requirements.
- The lever handle operates on/off temperature controls
- Water is mixed closer to the point of discharge, minimizing stagnant warm water
- Smooth internal components and body, reduces scale build-up and bacteria growth.



40691US
GalvinCare Wall Mounted Ligature Resistant Shower Head

- Anti-ligature and vandal resistant
- Normalizing look
- Front or rear installation



SNC01
Wallgate Ceiling Mounted Ligature Resistant Shower Head

- Flush mounted to the ceiling to prevent abuse.
- Stainless steel ceiling mounted shower head with ligature resistant screws.
- Capable of low flow rates down to 1.32 gpm.

REDUCE THREE FIXTURES TO ONE

AquaDesign's and GalvinCare's Quick Connect Combo Shower Heads

- ✓ Reduced material and labor costs
- ✓ Take up less wall space
- ✓ Safe and easy to use for patients and caregivers alike
- ✓ Anti-ligature and vandal resistant design features
- ✓ Easy retrofit by simply replacing the existing shower head. No need for extra water lines, cutting or retiling walls
- ✓ Having fewer fixtures means better infection control



or



LRSCOM



42020



50140
GalvinCare Ligature Resistant Shower Diverter

- Polished stainless steel faceplate and chrome plated paddle handle
- Homelike normalizing design

The Shower Pans that Kill Bacteria

The solid surface used for Aquadesign's shower pans has an exclusive anti-microbial agent that has been proven effective in the reduction of harmful bacteria.

The improved hygiene provided by AquaDesign's integral anti-microbial agent would satisfy the health requirements of even the most stringent of clients and has been registered with the EPA and is approved by the FDA.

Solidguard's anti-microbial characteristics are throughout the solid surface material and is not merely a surface coating. The anti-microbial agent is added during the manufacturing and is thus present on the surface and on the inside of the shower pans. In other words even if the material gets scratched, it will keep its anti-microbial activities.



FLOT3636ADA-303077X

36" x 36" ADA Solid Surface Shower pan with Ligature Resistant Drain



FLOT3636-303077X

36" x 36" Solid Surface Shower pan with Ligature Resistant Drain



FLOT3636RC-303077X

36" x 36" Round Corner Solid Surface Shower pan with Ligature Resistant Drain



FLOT3636NC-303077X

36" x 36" Solid Surface Neo Corner Shower pan with Ligature Resistant Drain



FLOT4242NC-303077X

42" x 42" Solid Surface Neo Corner Shower pan with Ligature Resistant Drain



FLOT4836-303077X

48 x 36" Solid Surface Shower pan with Ligature Resistant Drain



FLOT6030ADA-303077X

63" x 32" ADA Solid Surface Shower pan with Ligature Resistant Drain



FLOT6036-303077X

60" x 36" Solid Surface Shower pan with Ligature Resistant Drain



FLOT6032R-303077X / FLOT6032L-303077X

60" x 32" Low Threshold Solid Surface Shower pan with Ligature Resistant Drain

Floor and Shower Drains



303070XN

GalvinCare Crocodile Roll Resistant (CRR) Floor Drain

- Minimize the risk of self harm and suicide using a technique called the "Crocodile Roll"
- Provide protection against the concealing of contraband.
- Stainless steel construction



303077XN

GalvinCare Crocodile Roll Resistant (CRR) Floor Drain for use with Vinyl Flooring

- Minimize the risk of self harm and suicide using a technique called the "Crocodile Roll"
- Provide protection against the concealing of contraband.
- Stainless steel construction



LRSHD

Ligature Resistant Shower Drain

- Works on tiled showers and on solid surface and acrylic shower pans
- Retrofits to existing shower drains with a clamping nut

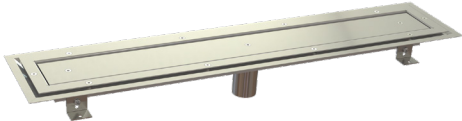
303090X/303095X/303100X

Linear Floor Drain

Ligature resistant linear floor drain made from stainless steel. The drain has a flashing flange and a 2" center outlet.

Available Models:

- 303090X: 24 5/8" (600 mm)
- 303095X: 35 1/2" (900 mm)
- 303100X: 47 1/4" (1200 mm)



Shower Panels

AquaDesign's shower panels are made from solid surface giving the panel a warm feel and look. The panels have a standard dimension of 14 1/2" x 45".

36 combinations of shower heads and activations give the designer maximum flexibility to design their behavioral healthcare suite.

TOP SHOWERHEAD



LRSCOM



42020



40707



40691

BOTTOM SHOWERHEAD



LRSCOM and 50140



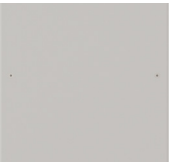
42020 and 50140



40707 and 50140



40691 and 50140



None

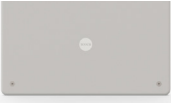
ACTIVATION



42030



WM-TMVPMSCS



PZO



LRS02-91-91-WM-PW

Toilets and Urinals



- CWC150-AST**
Wallgate Ligature Resistant Solid Surface Toilet
- Solid surface WC pan
 - Integral ligature resistant solid surface seat.
 - ADA Compliant
 - One piece, no seams
 - Highly polished finish for ease of cleaning



- CWC156-AST**
Wallgate Ligature Resistant Extended Solid Surface Toilet
- Solid surface WC pan
 - Integral ligature resistant solid surface seat.
 - Shrouded waste, S-trap compatible
 - ADA Compliant
 - One piece, no seams
 - Highly polished finish for ease of cleaning



- CWC270**
Wallgate Ligature Resistant Solid Surface Corner Toilet
- Solid surface WC pan
 - Integral ligature resistant solid surface seat.
 - Shrouded waste, S-trap compatible
 - ADA Compliant
 - One piece, no seams
 - Highly polished finish for ease of cleaning



- CFKIT-01**
Concealed Pneumatic Flush Valve
- Concealed rough brass flush valve
 - Hydraulically activated.
 - 1.6 gpf water consumption.
 - Can be supplied with custom stainless steel access panel.



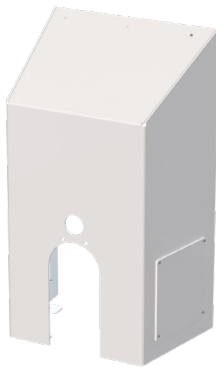
- DFKIT03**
Electronic Flush Valve
- Electronically activated direct flush valve
 - Supplied with a vaccum breaker and a choice of activation.
 - Can be activated by either piezo touch button or sensor
 - To be used with control box



- CWV-01W**
Urinal Divider
- Made from high polished solid surface
 - Manufactured without seams
 - Extremely suitable for healthcare environments.



- BB150-SS**
Back Box For CWC-150 Toilet
- Integral shelf
 - Made from solid surface
 - Ideal for retrofit: conceals existing rough-in
 - Access panels to access flush valve, drain and supplies



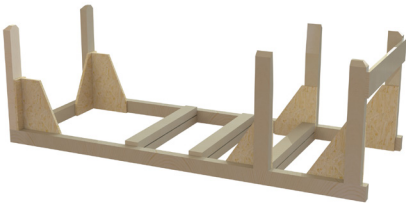
- BB150-AL**
Back Box For CWC-150 Toilet
- Integral shelf
 - Made from heavy gauge powder coated aluminum
 - Ideal for retrofit: conceals existing rough-in
 - 2 to 4 access panels to access flush valve, drain and supplies



- CWU-01**
Solid Surface Urinal
- Made from high polished solid surface
 - Highly vandal resistant
 - Made in one piece without seams for optimal hygiene



- ALB-01**
Wallgate Ligature Resistant Bath Tub with Faucet Head and Control Box
- Ligature resistant & vandal resistant full size bath tub
 - With hot and cold faucet head that is operated by piezo touch buttons.
 - Suitable for use in a secure environment.



- ALB-FRAME-01**
Wallgate Timber Mounting Frame for ALB-01 Bath Tub

Bathing

Accessories



ALM02/ALM02-FF
Ligature Resistant Mirror 9 7/8” x 13 3/4” - Wallgate

- Polycarbonate mirror
- Solid surface frame
- Front or rear fixing



ALM03/ALM03-FF
Ligature Resistant Mirror 19 5/8” x 25 5/8” - Wallgate

- Polycarbonate mirror
- Solid surface frame
- Front or rear fixing



TRH02
Ligature Resistant Toilet Roll Holder - Wallgate

- Made from solid surface
- Single piece construction, no seams



LRIWS
Ligature Resistant Recessed Shelf 20” x 8” x 5”- Front Wall Mount

- Made from solid surface
- Front or rear fixing



ALF01/ALF01-FF
Ligature Resistant Shelf 18 1/2” x 4 7/8” - Wallgate

- Made from solid surface
- Front or rear fixing



ALF02 / ALF02-FF
Ligature Resistant Shelf 9 1/4” x 4 7/8” - Wallgate

- Made from solid surface
- Front or rear fixing



GBK-series
Anti-ligature Grab Bar

- Available in lengths from 18” to 48”
- Supplied with security screws.



APK01
Anti-Ligature Access Panel 17 3/4” x 17 3/4” With Heavy Duty Dead Bolt Lock

Water Control Systems



WDC100-NX
Wallgate Single Room Electronic Controller

- Managing the water to a single room or a maximum of four outlets
- Can be used to operate any mix of inputs and outputs, plus auxiliaries such as room water shutdown switches



WDC200-NX
Wallgate Two Room Electronic Controller

- Managing the water to two rooms or a maximum of eight outlets
- Can be used to operate any mix of inputs and outputs, plus auxiliaries such as room water shutdown switches



WDCWC1-12V
Wallgate Flush Valve Controller

- Manage 1x WC direct flush valve with a separate 12v DC power supply for ease of installation
- Supports both Piezo and Infrared inputs and direct flush valves for both potable and non-potable water supplies

Want to Learn More About Designing a Behavioral Healthcare Bathroom?

AquaDesign offers an AIA and ASPE registered continuing education course about Behavioral Health Design.

The course will help participants get a clear understanding of distinctions between a behavioral healthcare room and a regular healthcare room. The course will further focus on an in depth understanding of the six (6) design considerations to be taken into account when designing a behavioral healthcare bathroom

Contact AquaDesign to schedule a lunch-and-learn at your facility

(800) 999-3101
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AQUADESIGN
MANUFACTURING

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