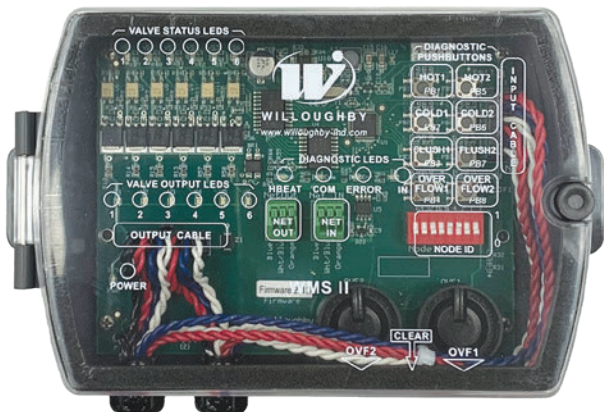


WILLOUGHBY WMSII SYSTEM

WATER CONSERVATION ELECTRONIC PLUMBING CONTROLS

WILLOUGHBY PRODUCTS ARE PROUDLY MADE IN AMERICA



TAKE CONTROL OF INMATE WATER USAGE

The Willoughby WMSII System takes plumbing fixture water control away from inmates and puts it back in the hands of corrections staff while saving time, water, and money.



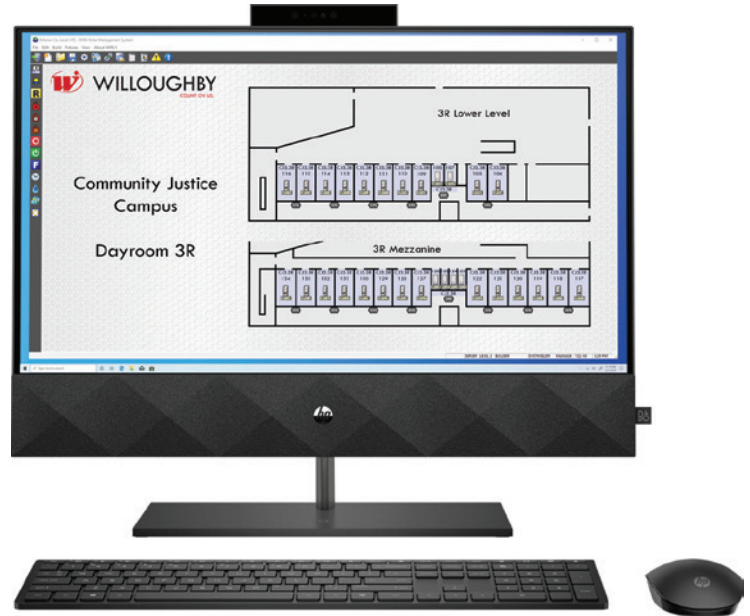
Water-saving device

WILLOUGHBY INDUSTRIES IS A PROUD MEMBER OF THE U.S. GREEN BUILDING COUNCIL





Willoughby Cell Valve Controller (CVC)
in water-resistant enclosure



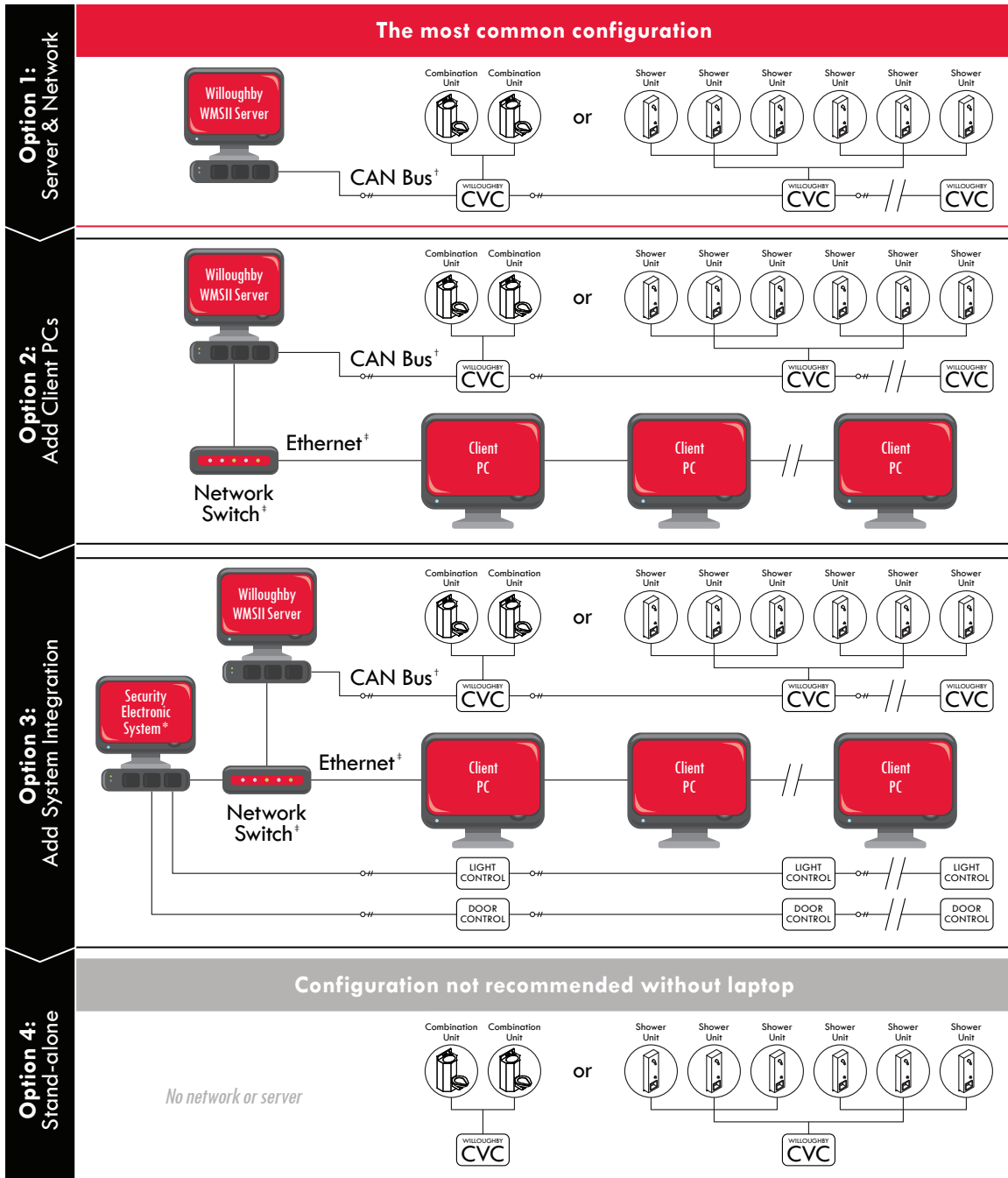
WMSII: STATE-OF-THE-ART, ELECTRONIC WATER MANAGEMENT SYSTEM


The Willoughby WMSII Electronic Water Management System takes plumbing fixture water control from inmates and puts it back in the hands of corrections staff while saving time, water, and money. The WMSII system is the most technologically advanced in the industry today! After research with correctional facility professionals, Willoughby designed the system to:

- » **Reduce water usage** through fixed scheduling, dynamic usage, or cycle timing control
- » **Reduce sewer bills** by reducing water usage
- » **Control overall water usage**, including the ability to lockout toilets, sinks, and showers from a central PC and detect/prevent toilet overflows
- » **Provide valuable fixture usage data** that can be imported into Excel for further analysis
- » **Enable system troubleshooting** from the service chase with no need to enter the cell to actuate the fixture
- » **Be simple to administrate** with an optional graphical floor plan including fixture control icons
- » **Include over-current protection** on all outputs, virtually eliminating potential damage from installation errors
- » **Allow one Cell Valve Controller (CVC) to control several different devices** (one CVC can control up to any combination of six pushbuttons)
- » **Be simple to install**, using common connectors and color-coded wiring
- » **Allow CVC to be installed up to 200'** from associated fixtures and valves (without overflow prevention)
- » **Be less costly to install, use, and maintain**

The WMSII system requires only a standard 110V outlet in the mechanical chase and features an optional operator display with a facility-specific floor plan for simple administration. For new installations or retrofits of existing systems, visit www.willoughby-ind.com for all the details.

THE NET RESULT CAN BE A REDUCTION IN WATER AND SEWER USAGE OF UP TO 50%





Willoughby strongly recommends a complete WMSII System be installed with an emergency backup power source in the event of power loss.

*Security Electronic System monitoring and control GUI by systems integrators. †All CAN Bus communication wiring connecting CVCs are by others. ‡Ethernet network and network switch by the system integrator.

WATER MANAGEMENT SYSTEM

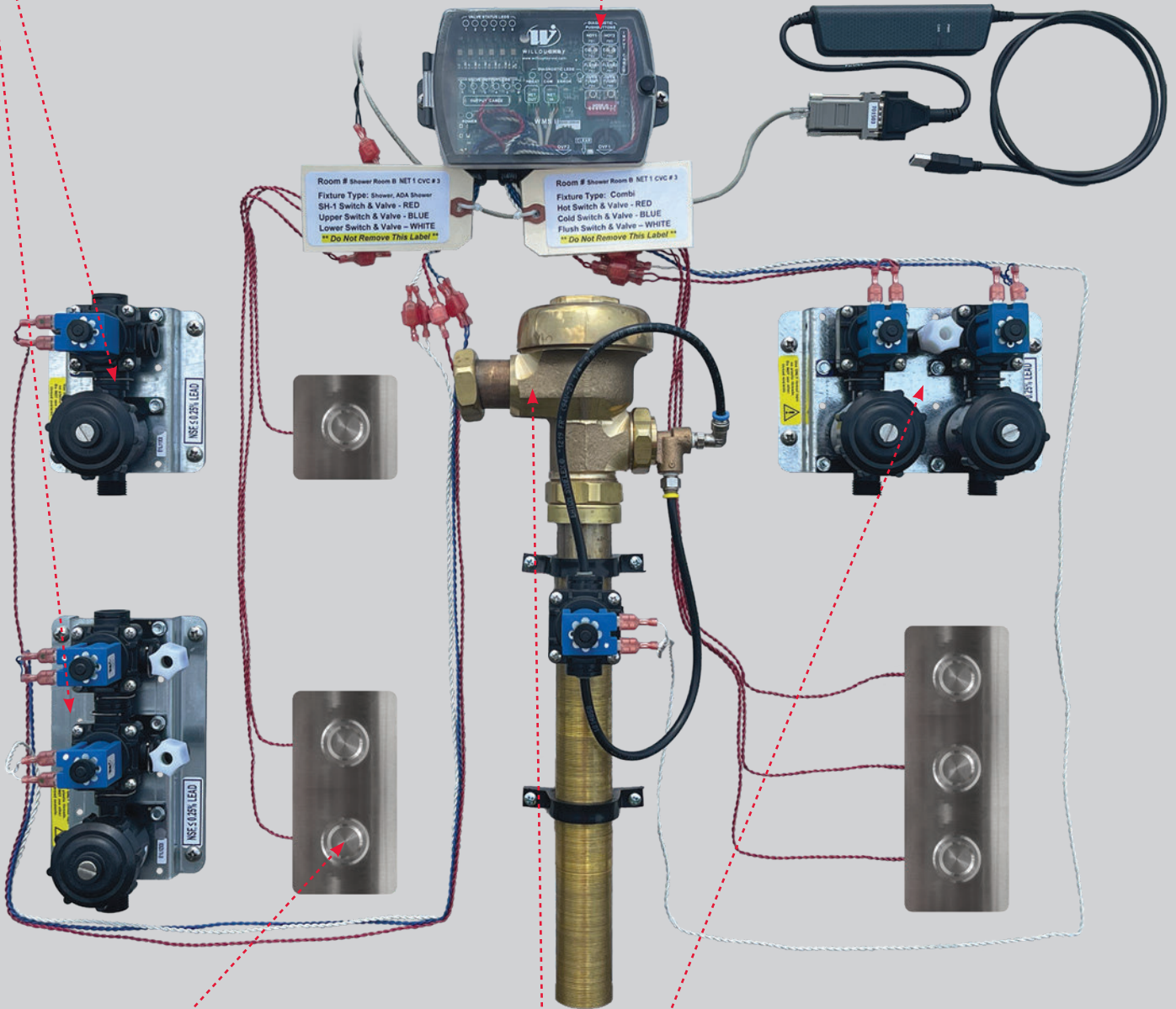
- » Offered in both networked (full control from a central server, options 1 – 3) and stand-alone versions (control pre-programmed into each, individual CVC controller, option 4)
- » Network CAN line can include up to 127 CVCs connected together in series
- » Toilet overflow protection is available with the WMSII system (requires compatible Willoughby toilet/combination unit)
- » Diagnostic lights are provided in the CVC and are easily viewed through the transparent cover
- » Standard touch-screen monitor
- » In the event of a loss of network communications or loss of power, controllers will retain previous system settings in memory
- » Valve run times are adjustable (1 – 60 seconds for lavatory valves, 1 second – 9 minutes and 59 seconds for shower valves)
- » Fixture pushbutton switches require less than 5 lbs. of force to activate (ADA requirement)

SHOWER VALVE ASSEMBLY

Shower valve assembly (actuated by low voltage solenoid) incorporates check stop strainer, flow restrictor, and chase mounting plate, providing quiet, efficient shower water control. Flow rates of 2.5, 2.0, 1.5 GPM are available.

CELL VALVE CONTROLLER (CVC)

CVCs can be networked or stand-alone and are each capable of controlling up to any combination of six, low-voltage valves for full water usage control. Cables are attached before shipment and are 8' in length unless otherwise specified.



ELECTRONIC VALVE PUSHBUTTON

Stainless steel pushbuttons with durable, electronic Piezo switch technology provide vandal-resistant lavatory, shower, and flush valve actuation, eliminating chrome-plated pushbuttons and their associated problems.

LAVATORY VALVE ASSEMBLY

Lavatory valve assembly (actuated by low voltage solenoids) incorporates check stop strainers, 0.5 GPM flow restrictor, and chase mounting plate for consistent delivery of water to fixture bubbler.

ELECTRONIC / HYDRAULIC FLUSH VALVE

Brass-bodied flush valve (actuated by low voltage solenoid valve) with an accurate flush delivery system, quiet performance, and durable components for reliable toilet operation.

THE SYSTEM IS CAPABLE OF:

- » Enabling or disabling an individual fixture—or an entire group of fixtures—from a WMSII control station
- » Controlling the maximum number of simultaneous flushes (adjustable from 1 – 999) that can occur within a given period (adjustable from 1 – 60 seconds) using Flushguard Technology, preventing “Toilet Fires”
- » Automatically flushing a toilet after an adjustable period of non-use has passed to prevent the trap from drying out and water stagnating (automatic cycling feature also provided for all other fixtures)
- » Logging of all valve activity, including all overflow and alarm conditions
- » Allowing for a remote flush from an operator work station (remote actuation provided for all non-flushing fixtures)
- » Allowing for valve timing changes from an operator work station
- » Providing schedule use periods of selected fixtures
- » Providing an interflush or valve cycle delay of any fixture function after a specified number of flushes or time of use
- » Providing overuse control to set the maximum use of any fixture function within a defined period, up to 24 hours (maximum use defined by the number of flushes for flushing fixtures and amount of time for all other fixtures)
- » Providing options of how overuse will be handled:
 - only operator notification
 - fixture function lockout requiring operator intervention
 - auto-lockout of fixture function requiring sufficient time to elapse until fixture comes out of overuse condition
- » Providing an elapse time lock for a fixture to be dynamically locked for a specific period (from 1 minute to 4 hours).
- » Providing an automatic actuation of fixture function at preset intervals (Adjustable from 1 minute to 240 hours. It can be used to remove all control from the fixture user and tie fixture function to regular timed intervals).
- » Providing four levels of operational security with privileges for each level. Each level includes the functions of the previous level.
 1. View Only
 - Move between display screens
 - Observe fixture activity on screens
 - Observe any loss of communications to controllers
 2. Operator
 - Remote valve actuation
 - Fixture lockout/reset
 - Clear alarms (overflow and overuse)
 3. Supervisor
 - Set supervisor password
 - Adjust valve timing
 - Set and adjust scheduled use periods
 - Set overuse parameters & system response to overuse
 - Enable and set parameter of flush guard
 - Turn on activity logging
 - Enable and assign sound effects
 4. System Administrator
 - Create system user accounts with name, password, and security level defined
 - Set and adjust network communication settings
 - Enable and configure remote client connections to the server
 - Configure fixture event log files and user activity log files
 - Set sound files to be used when the sound feature is enabled

TYPICAL SECURITY CHASE LAYOUT



STOP WASTING WATER & MONEY!

LET US COME TOUR YOUR FACILITY AND PROVIDE YOU WITH A CUSTOM COST ANALYSIS.



Note: On-site cost analyses are estimates and final savings may vary depending on the facility, fixtures, etc. Visit requests should be submitted at least two weeks before the preferred date.



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