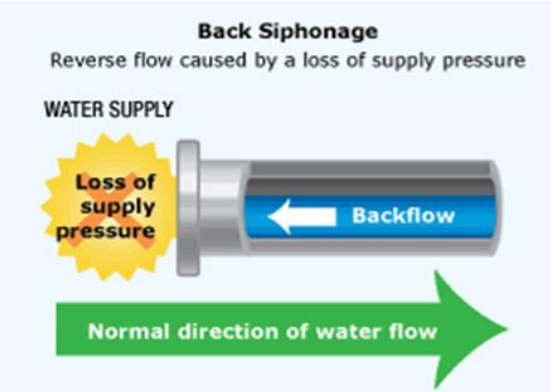
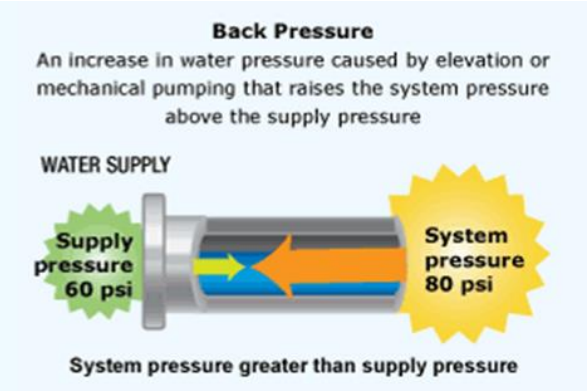
Cross Connection/Backflow Prevention





Presenter - Bio

SCOTT LARGENT, PE
PIPING Senior Project Engineer
608-236-1228
slargent@aeieng.com

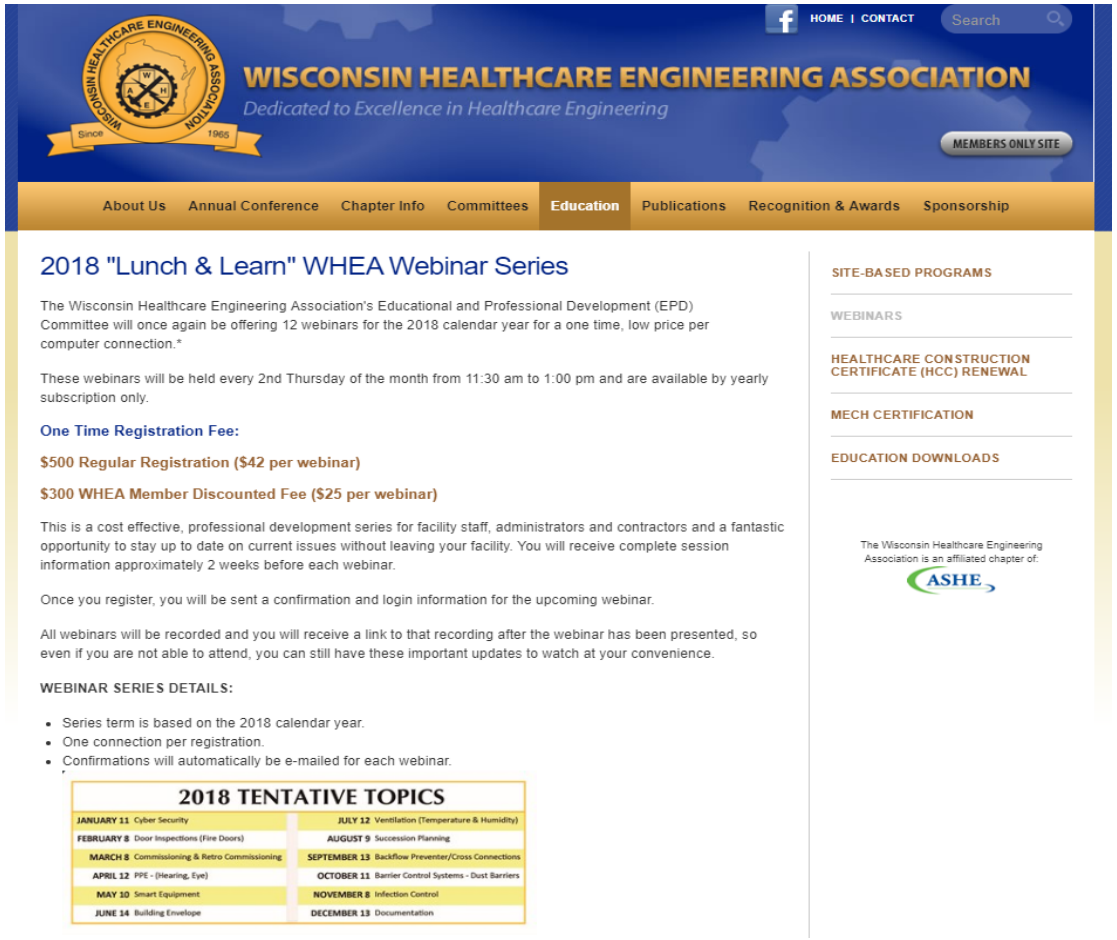
- Affiliated Engineers
- 25 years overall experience
- 15 year healthcare
- Market sectors served: healthcare, higher education, pharma/biotech, and research clients
- Clients: University of Wisconsin Hospital & Clinics, Unity Point Healthcare-Meriter, Aurora Healthcare, Ascension Health Care, Ann & Robert H. Lurie Children's Hospital of Chicago

Wisconsin Healthcare Engineering Association (WHEA)

- https://www.whea.com/

Wisconsin Healthcare Engineering Association (WHEA)

- https://www.whea.com/education/webinars/



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2018 "Lunch & Learn" WHEA Webinar Series

The Wisconsin Healthcare Engineering Association's Educational and Professional Development (EPD) Committee will once again be offering 12 webinars for the 2018 calendar year for a one time, low price per computer connection.*

These webinars will be held every 2nd Thursday of the month from 11:30 am to 1:00 pm and are available by yearly subscription only.

One Time Registration Fee:

$500 Regular Registration ($42 per webinar)

$300 WHEA Member Discounted Fee ($25 per webinar)

This is a cost effective, professional development series for facility staff, administrators and contractors and a fantastic opportunity to stay up to date on current issues without leaving your facility. You will receive complete session information approximately 2 weeks before each webinar.

Once you register, you will be sent a confirmation and login information for the upcoming webinar.

All webinars will be recorded and you will receive a link to that recording after the webinar has been presented, so even if you are not able to attend, you can still have these important updates to watch at your convenience.

WEBINAR SERIES DETAILS:

- Series term is based on the 2018 calendar year.
- One connection per registration.
- Confirmations will automatically be e-mailed for each webinar.

2018 TENTATIVE TOPICS

JANUARY 11	Cyber Security	JULY 12	Ventilation (Temperature & Humidity)
FEBRUARY 8	Door Inspections (Fire Doors)	AUGUST 9	Succession Planning
MARCH 8	Commissioning & Retro Commissioning	SEPTEMBER 13	Backflow Preventer/Cross Connections
APRIL 12	PPE - (Hearing, Eye)	OCTOBER 11	Barrier Control Systems - Dust Barriers
MAY 10	Smart Equipment	NOVEMBER 8	Infection Control
JUNE 14	Building Envelope	DECEMBER 13	Documentation

SITE-BASED PROGRAMS

WEBINARS

HEALTHCARE CONSTRUCTION CERTIFICATE (HCC) RENEWAL

MECH CERTIFICATION

EDUCATION DOWNLOADS

The Wisconsin Healthcare Engineering Association is an affiliated chapter of: ASHE

Wisconsin Healthcare Engineering Association (WHEA)

A WHEA LUNCH & LEARN SERIES WEBINAR

"Backflow Prevention/Cross Connection in Healthcare"

WHEN: Thursday, September 13, 2018
11:30 am to 1:00 pm (Login up to 15 minutes early)

WHERE: From the convenience of your computer!

PROGRAM DESCRIPTION

Safeguarding our potable water system in healthcare facilities for patient safety is a holistic overall process that can be difficult to navigate. One important element in protecting our potable water systems is the use of backflow prevention devices. The design requirements for these criteria in healthcare settings are defined in various codes, standards, and guidelines, and a misunderstanding of these requirements can put your healthcare facility at risk.

This program will provide designers, engineers, and facility staff a better understanding of design, installation, maintenance, and testing of backflow prevention devices. The following topics will be discussed: identification of potential cross connection hazards, code requirements, types of backflow prevention devices, selection of the backflow prevention device, design considerations and best practices, plan review process, installation, maintenance, testing, and registration of backflow prevention devices.

Backflow – Cross Connection

- What is unique to Healthcare?
- Why do we care about backflow prevention?
  - Patient and Personnel Safety
- How do we ensure backflow prevention requirements are being met?
  - Identification of Hazard
  - Code Requirements

Backflow – Cross Connection

- Code
- Backflow Conditions
- Cross Connection Devices
- Design and Device Locations
- Plan Review
- Testing
- Fixtures, Food Service, Equipment
- Q & A / Wrap up

State of Wisconsin: Division of Safety and Professional Services – Wisconsin Plumbing Code

- http://docs.legis.wisconsin.gov/code/admin_code/sps/safety_and_buildings_and_environment/380_387

State of Wisconsin: Division of Safety and Professional Services – Wisconsin Plumbing Code: SPS 382

Chapter SPS 382

DESIGN, CONSTRUCTION, INSTALLATION, SUPERVISION, MAINTENANCE AND INSPECTION OF PLUMBING

SPS 382.41 Cross connection control. (1) SCOPE. The provisions of this section set forth the requirements for the protection of water within water supply systems when and where there is the possibility of contamination due to cross connections or backflow conditions.

Note: The Department of Natural Resources governs the operation and design of community water systems and under s. NR 811.09 requires the supplier of water to develop and implement a comprehensive cross connection control program.

State of Wisconsin: Division of Safety and Professional Services – Wisconsin Plumbing Code: SPS 364

SPS 364.0300 Health care facilities. (1) This is a department rule in addition to the requirements in IMC chapter 3: In addition to the requirements in this code, the heating and ventilation systems for health care facilities only shall conform to the applicable provisions of The Facility Guidelines Institute (FGI) Guidelines for Design and Construction of Health Care Facilities, except as provided in sub. (2).

Note: The Guidelines for Design and Construction of Health Care Facilities are not intended for use in the design or construction of HVAC systems for other types of institutional health care facilities including community–based residential facilities (CBRFs) or residential care apartment complexes (RCACs).

(2) (a) The requirements in parts 1 and 5 of FGI guidelines are not included as part of this chapter.

(b) This is a department rule in addition to the requirements in part 6 of the FGI guidelines: Addenda a, b, d, e and f for ASHRAE 170 are included as part of this chapter, except as provided in sub. 2.

(c) Substitute the following definition for the corresponding definition listed in ASHRAE 170 section 3: "Alteration", has the meaning as given in IEBC section 202.

Note: IEBC section 202 defines "alteration" as "any construction or renovation to an existing structure other than a *repair* or *addition*. Alterations are classified as Level 1, Level 2, and Level 3".

History: CR 06–120: cr. Register February 2008 No. 626, eff. 3–1–08; CR 10–103: renum. to (1), cr. (2) Register August 2011 No. 668, eff. 9–1–11.

- Code Requirements

FGI – Guidelines for Design and Construction of Health Care Facilities

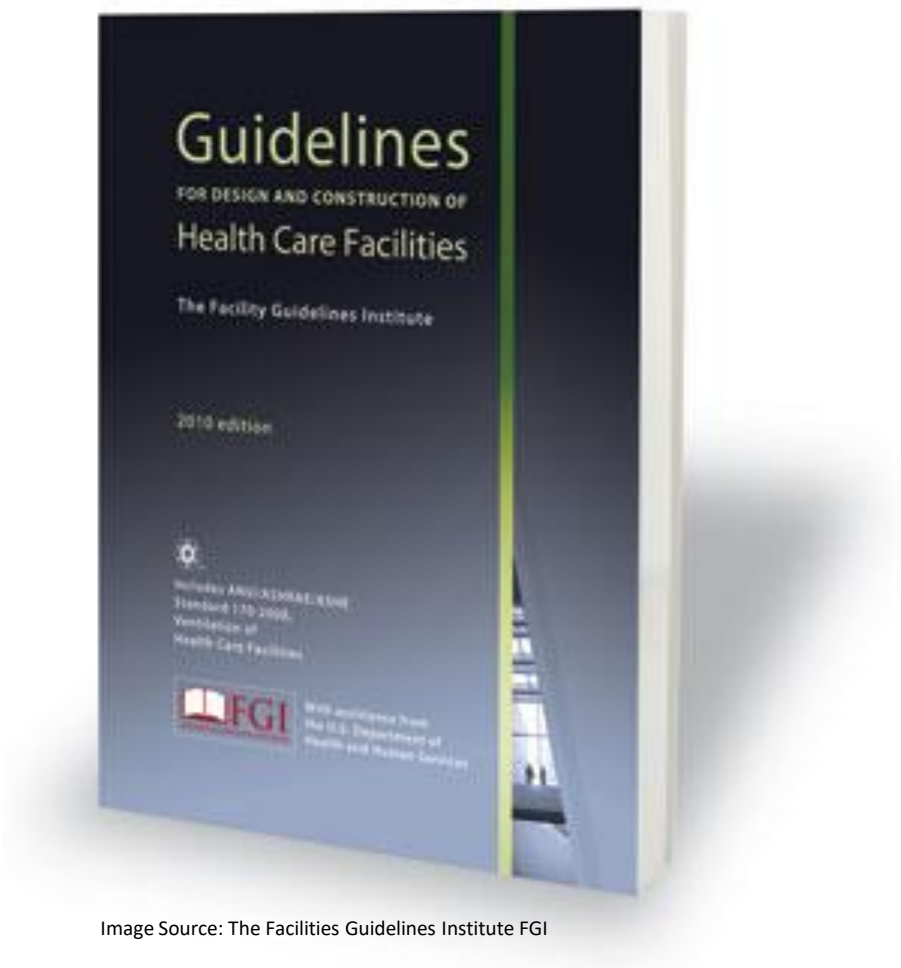


Image Source: The Facilities Guidelines Institute FGI

- Code Requirements

Cross Connection/Backflow Conditions

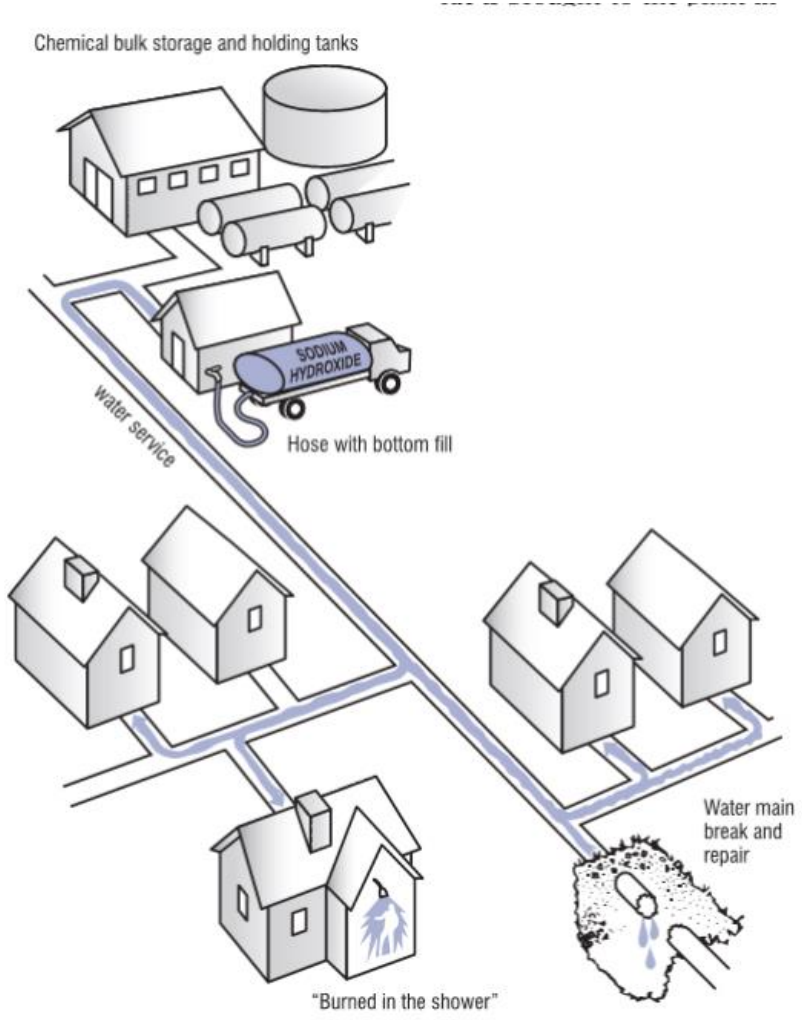


Image Source: US-EPA Cross-Connection Manual

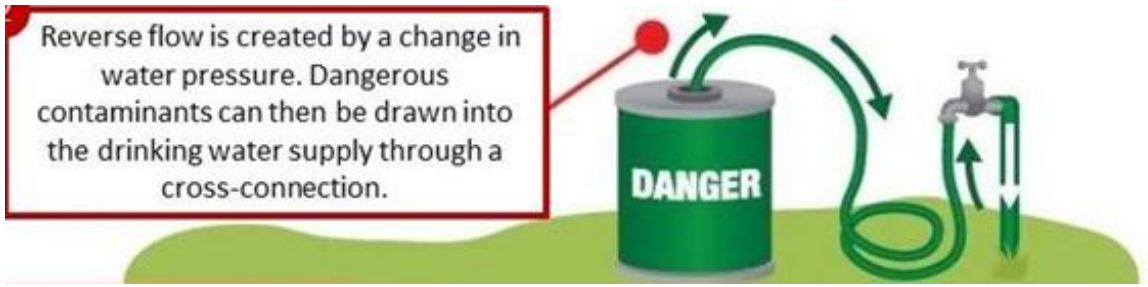
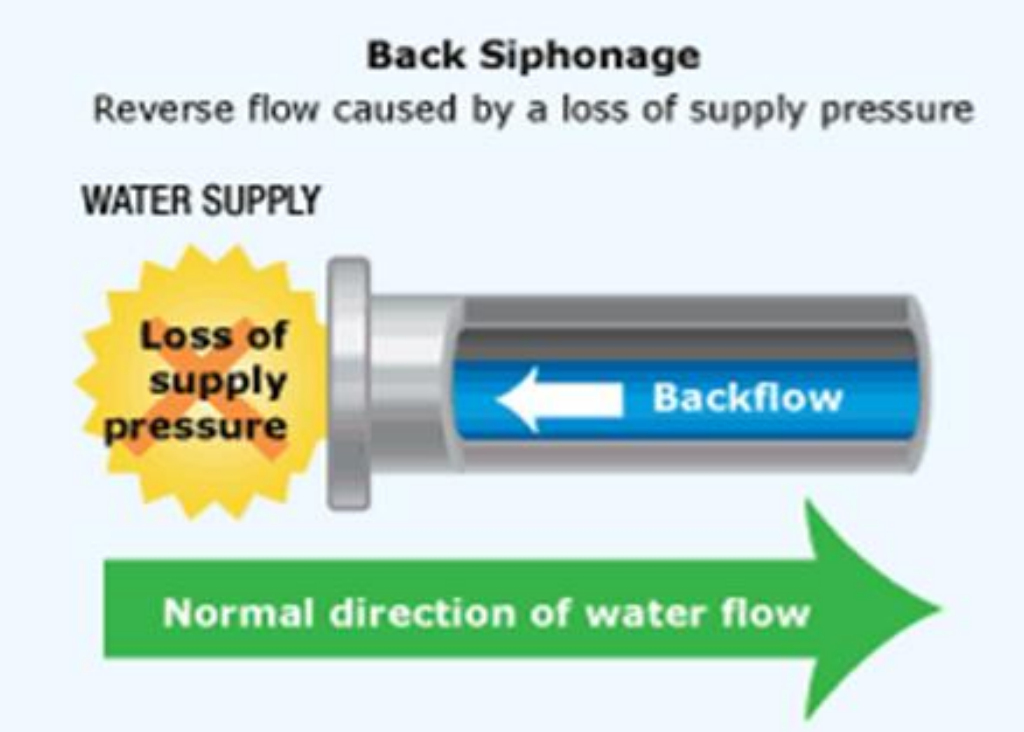


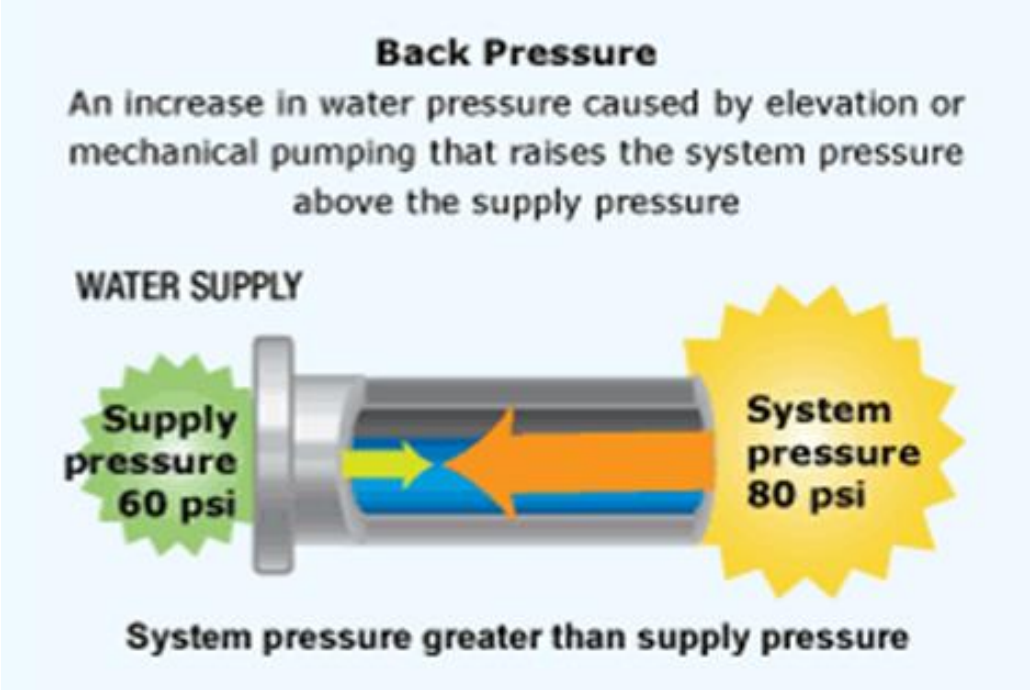
Image Source: XXXXX

Cross Connection/Backflow Conditions



- Backsiphonage
  - Low Hazard
  - High Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Cross Connection/Backflow Conditions

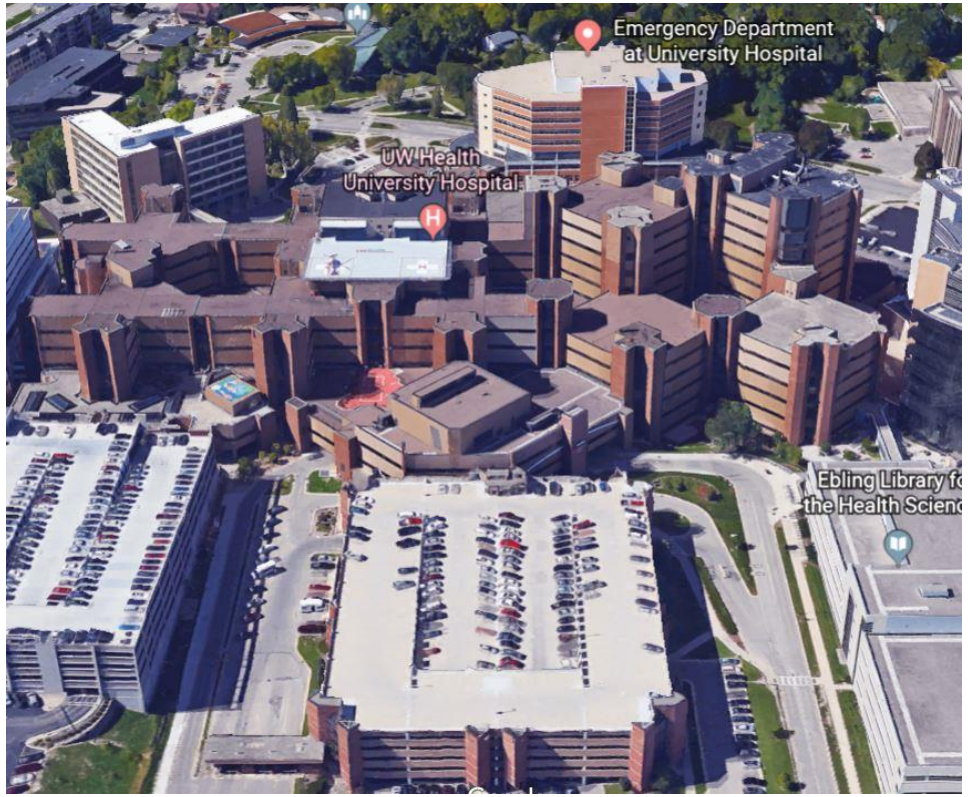


- Backpressure
  - Low Hazard
  - High Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Fun Fact – Number of Registered Devices at UWH-CSC

UW-Health CSC Building
Testable Registered Devices

495



University of Wisconsin – Hospital and Clinics: CSC

Cross Connection Conditions – Healthcare and Long Term Care

- Food service
  Lab
  Sterilization/Reprocessing
  Dialysis-Portable
  Pure Water Systems
  Janitors Sinks-Elev Vac Breaker/In-line Vacuum Breaker
  Janitor's Rooms (EVS/Housekeeping)-chemical dispensers
  Hose Bibbs/Exterior Wall Hydrants
  Coffee makers/ice makers-water dispensers
  Fire Protection

Cross Connection Conditions – Healthcare and Long Term Care

- Sterilizers
- Cart Washers
- Washer/Disinfectors
- Other Medical Equipment

Cross-Connection Devices

Reduced Pressure Backflow Preventer
Double Detector Backflow Preventer
Double Check Backflow Preventer
Pressure Type Vacuum Breaker
Atmospheric Backflow Preventer
In-line Dual Check Valve
Others

Backflow Considerations

- Hazard Consideration
  - Backpressure
  - Backsiphonage
  - Low Hazard
  - High Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Cross-Connection Devices – Hazard/Condition

Table 382.41–1

Acceptable Cross Connection Control Methods, Devices or Assemblies

Methods or Assemblies of Cross Connection Control (Standard)	Situations and Conditions							
	Backpressure				Backsiphonage			
	Low Hazard		High Hazard		Low Hazard		High Hazard	
	Continuous Pressure	Noncontinuous Pressure	Continuous Pressure	Noncontinuous Pressure	Continuous Pressure	Noncontinuous Pressure	Continuous Pressure	Noncontinuous Pressure
Air gap Fittings for use with Plumbing Fixtures, Appliances, and Appurtenances (ASME A112.1.3)					X	X	X	X
Air Gaps (ASME A112.1.2)	X	X	X	X	X	X	X	X
Atmospheric Vacuum Breaker (CAN/CSA B64.1.1)						X		X
Backflow Preventers with Intermediate Atmospheric Vent (ASSE 1012)	X	X			X	X		
Barometric Loops					X	X	X	X
Dual Check Valve Type with Atmospheric Port Backflow Preventer (CAN/CSA B64.3)	X	X			X	X		
Hose Connection Backflow Preventers (ASSE 1052)	X[a]	X	X[a]	X	X[a]	X	X[a]	X
Hose Connection Vacuum Breakers (CAN/CSA B64.2 and B64.2.2)	X[a]	X	X[a]	X	X[a]	X	X[a]	X
Hose Connection Vacuum Breakers (ASSE 1011)	X[a]	X	X[a]	X	X[a]	X	X[a]	X
Pipe Applied Atmospheric Type Vacuum Breakers (ASSE 1001)						X		X
Pressure Vacuum Breaker Assembly (ASSE 1020)					X	X	X	X
Reduced Pressure Principle Backflow Preventers And Reduced Pressure Fire Protection Principle Backflow Preventers (ASSE 1013)	X	X	X	X	X	X	X	X
Reduced Pressure Principle Backflow Preventer (CAN/CSA B64.4)	X	X	X	X	X	X	X	X
Spill Resistant Vacuum Breaker (ASSE 1056 and CAN/CSA B64.1.3)					X	X	X	X
Vacuum Breaker (CAN/CSA B64.1.2)					X	X	X	X

[a] See limitation listed under s. SPS 382.41 (4) (c) 1. a.

Table 382.41–2

Acceptable Cross Connection Control Methods, Devices or Assemblies for Specific Applications

Methods or Assemblies (Standard)	Types of Application or Use
Backflow Preventer for Beverage Dispensing Machines (ASSE 1022)	Beverage dispensers
Chemical Dispensing Systems (ASSE 1055)	Chemical dispensing systems
Double Check Backflow Prevention Assemblies and Double Check Fire Protection Backflow Prevention Assemblies (ASSE 1015)	Automatic fire sprinkler systems and standpipe systems Water–based fire protection system
Double Check Detector Fire Protection Backflow Prevention Assemblies (ASSE 1048)	Automatic fire sprinkler systems and standpipe systems Water–based fire protection system
Double Check Detector Valve Type Backflow Preventer (CAN/CSA B64.5)	Automatic fire sprinkler systems and standpipe systems Water–based fire protection system
Dual Check Backflow Preventer Wall Hydrant — Freeze Resistant Type (ASSE 1053)	Hose threaded outlet connection
Hand Held Showers (ASSE 1014)	Hand held shower assemblies
Laboratory Faucet Type Vacuum Breakers (CAN/CSA B64.7)	Laboratory faucets
Laboratory Faucet Vacuum Breakers (ASSE 1035)	Laboratory faucets
Pressurized Flushing Devices (Flushometers) For Plumbing Fixtures (ASSE 1037)	Flushometer plumbing fixtures
Reduced Pressure Detector Fire Prevention Backflow Prevention Assemblies (ASSE 1047)	Automatic fire sprinkler systems
Trap Seal Primer Valves, Water Supply Fed (ASSE 1018)	Traps for drain systems
Vacuum Breaker Tees [s. SPS 382.41 (5) (j)]	Water treatment devices
Wall Hydrants, Frost Proof Automatic Draining Anti–Backflow Type (ASSE 1019), types A or B	Hose threaded outlet connections
Water Closet Flush Tank Ball Cocks (ASSE 1002)	Gravity water closet flush tanks

Cross-Connection Device: Fire Protection

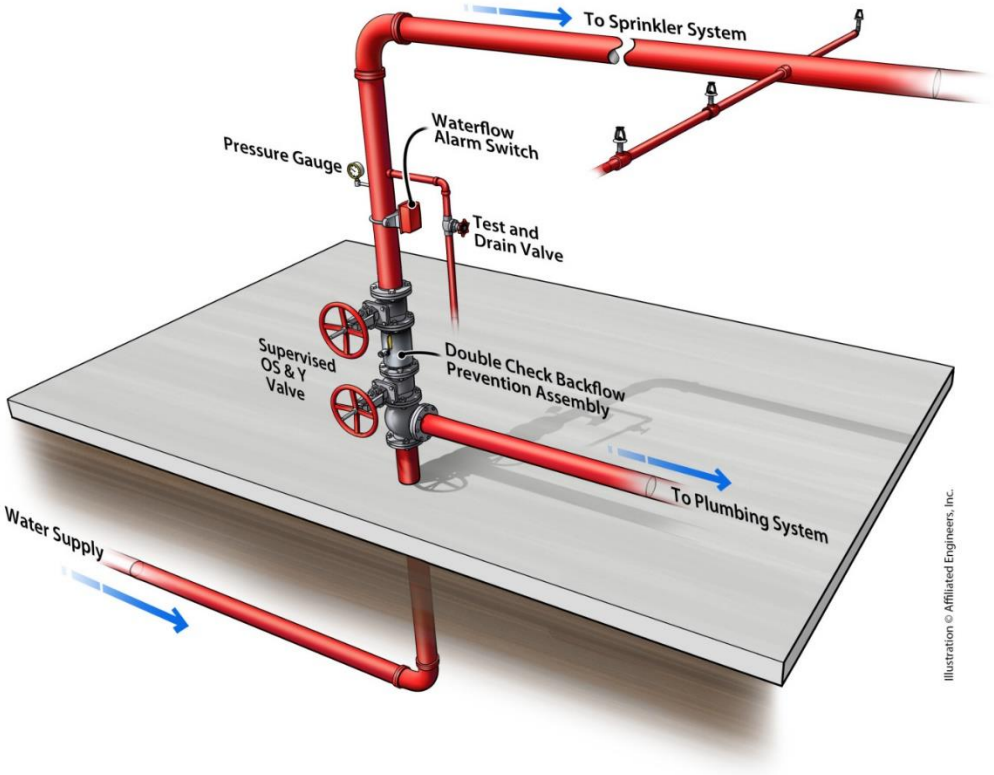


Image Source: Affiliated Engineers

Cross-Connection Devices

Air Gap ASME A112.1.2

- Backpressure
- Backsiphonage
  - Low Hazard
  - High Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Cross-Connection Devices

Air Gap ASME A112.1.3

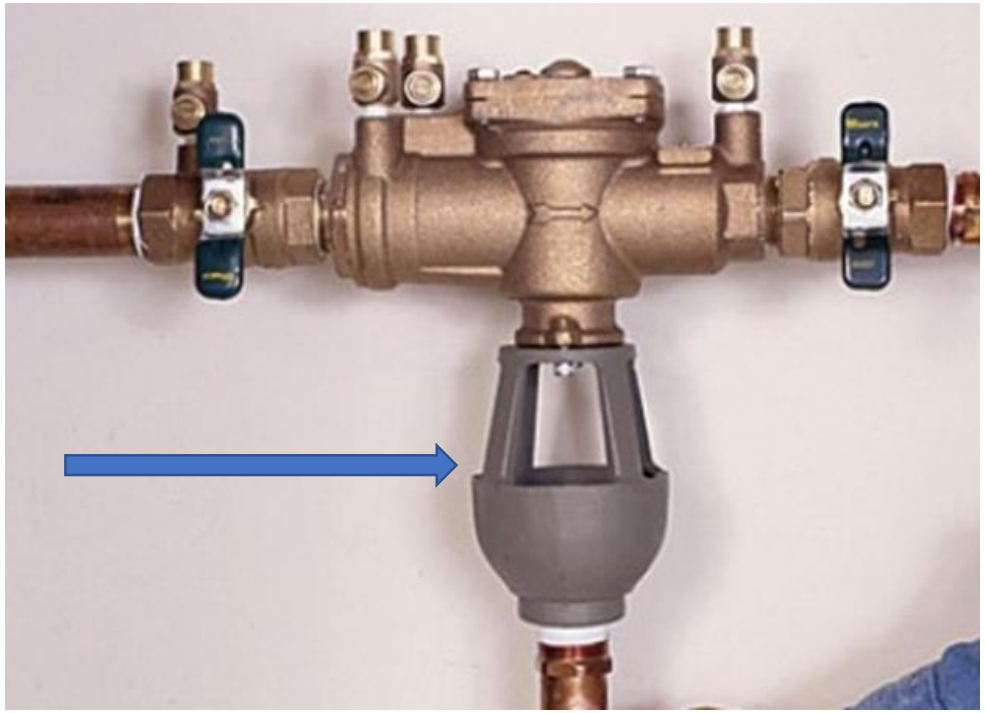


Image Source: Watts Industries

- Backsiphonage
  - Low Hazard
  - High Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Cross-Connection Devices

Atmospheric Vacuum Breaker CSA B64.1.1

Image Source: Watts Industries

- Backsiphonage
  - Low Hazard
  - High Hazard
  - Noncontinuous Pressure

Cross-Connection Devices

Backflow Preventer with Intermediate Atmospheric Vent ASSE 1012

Image Source: Watts Industries

- Backpressure
- Backsiphonage
  - Low Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Cross-Connection Devices – Barometric Loop

Barometric (Hydrostatic) Loop

- Backsiphonage
  - Low Hazard
  - High Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Cross-Connection Devices

Dual Check Valve Type with Atmospheric Port Backflow Preventer ASSE 1022, CSA 64.3

Image Source: Watts Industries

- Backpressure
- Backsiphonage
  - Low Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Cross-Connection Devices

Hose Connection Backflow Preventers ASSE 1052

- Backpressure
- Backsiphonage
  - Low Hazard
  - High Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Cross-Connection Devices

Hose Connection Vacuum Breakers ASSE 1011/CSA B64.2 & 64.2.2

Image Source: Watts Industries

- Backpressure
- Backsiphonage
  - Low Hazard
  - High Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Cross-Connection Devices

Pipe Applied Atmospheric Type Vacuum Breakers ASSE 1001

Image Source: Watts Industries

- Backsiphonage
  - Low Hazard
  - High Hazard
  - Noncontinuous Pressure

Cross-Connection Devices

Pressure Vacuum Breaker Assembly ASSE 1020

Image Source: Watts Industries

- Backsiphonage
  - Low Hazard
  - High Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Cross-Connection Devices

Reduced Pressure Principle Backflow Preventers and Reduced Pressure Fire Protection Principle Backflow Preventers ASSE 1013

Image Source: Watts Industries

- Backpressure
- Backsiphonage
  - Low Hazard
  - High Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Cross-Connection Devices

Double Check Backflow Prevention Assemblies and Double Check Fire Protection Backflow Prevention Assemblies ASSE 1015

Image Source: Watts Industries

- Backpressure
- Backsiphonage
  - Low Hazard
  - High Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Cross-Connection Devices

Double Check Detector Fire Protection Backflow Preventer ASSE 1048

Image Source: Watts Industries

- Backpressure
- Backsiphonage
  - Low Hazard
  - High Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Cross-Connection Devices

Reduced Pressure Principle Backflow Preventer CSA B64.4

Image Source: Watts Industries

- Backpressure
- Backsiphonage
  - Low Hazard
  - High Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Cross-Connection Devices

Spill Resistant Vacuum Breaker ASSE 1056

Image Source: Watts Industries

- Backsiphonage
  - Low Hazard
  - High Hazard
  - Continuous Pressure
  - Noncontinuous Pressure

Design and Location of Devices

- Location of Devices
- Proximity to equipment
- Drainage Requirements

UWH & C – The American Center

Image Source: Univ of Wi – Hospital and Clinics

- Reprocessing
- Multiple types of equipment requiring backflow prevention

UWH & C – The American Center

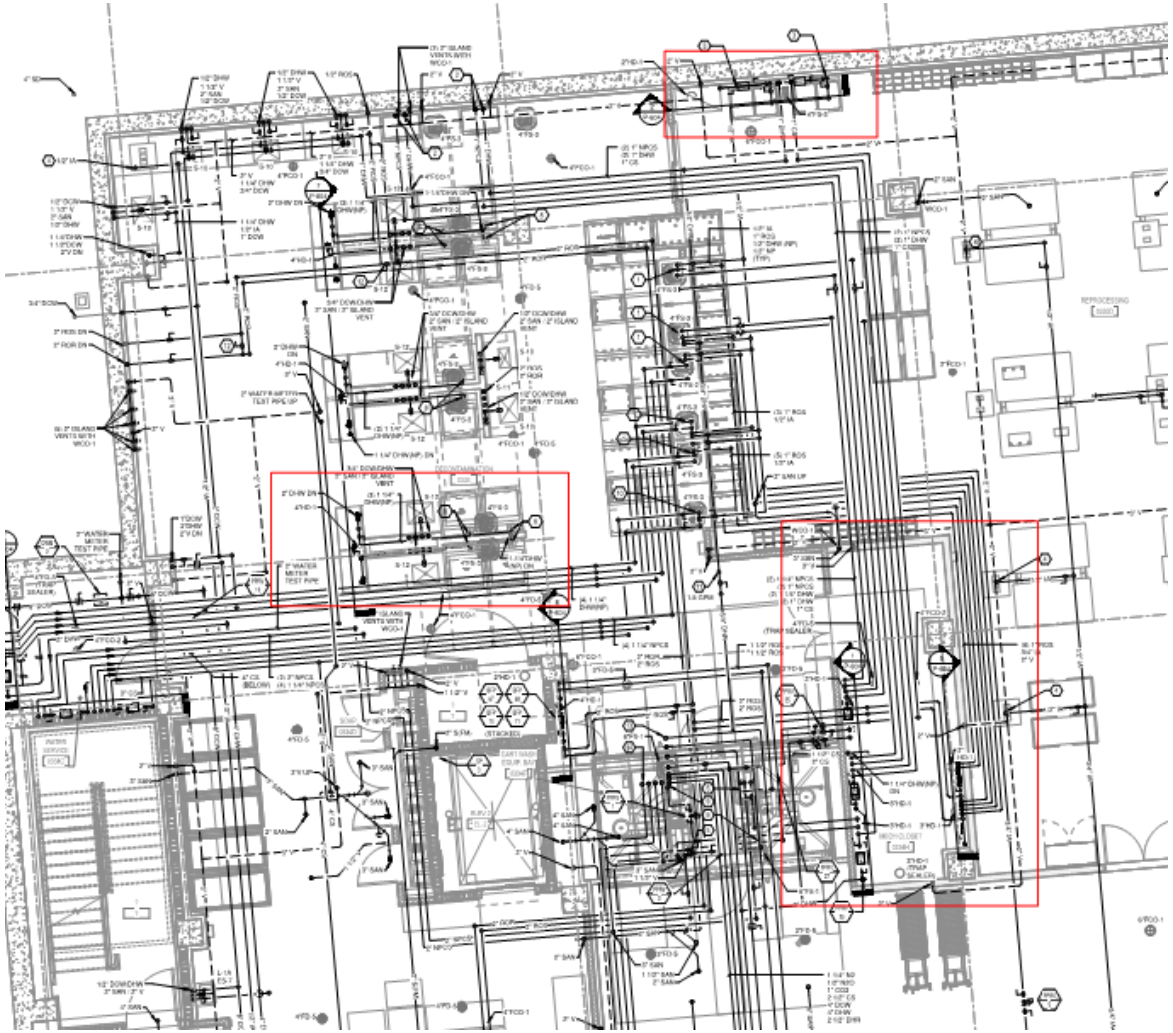


Image Source: Univ of Wi – Hospital and Clinics

- Reprocessing
- Multiple types of equipment requiring backflow prevention

UW – H & C – The American Center

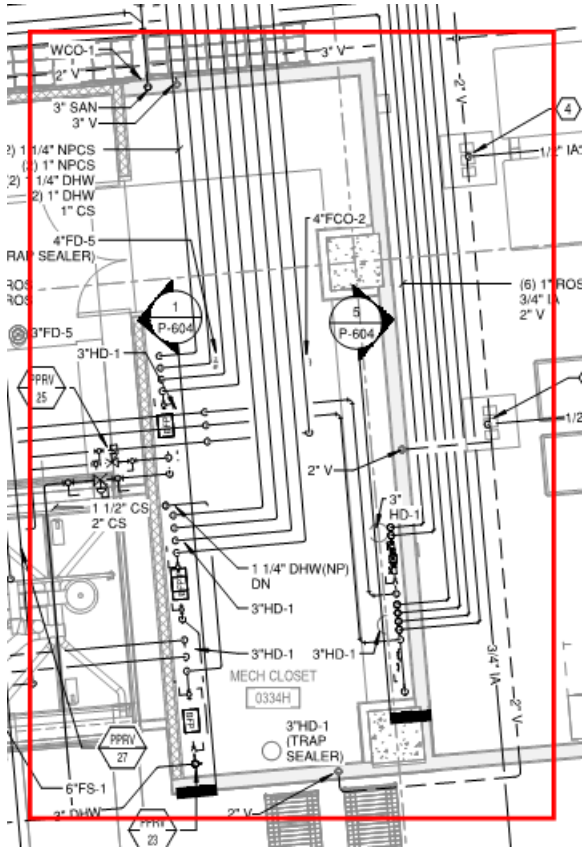
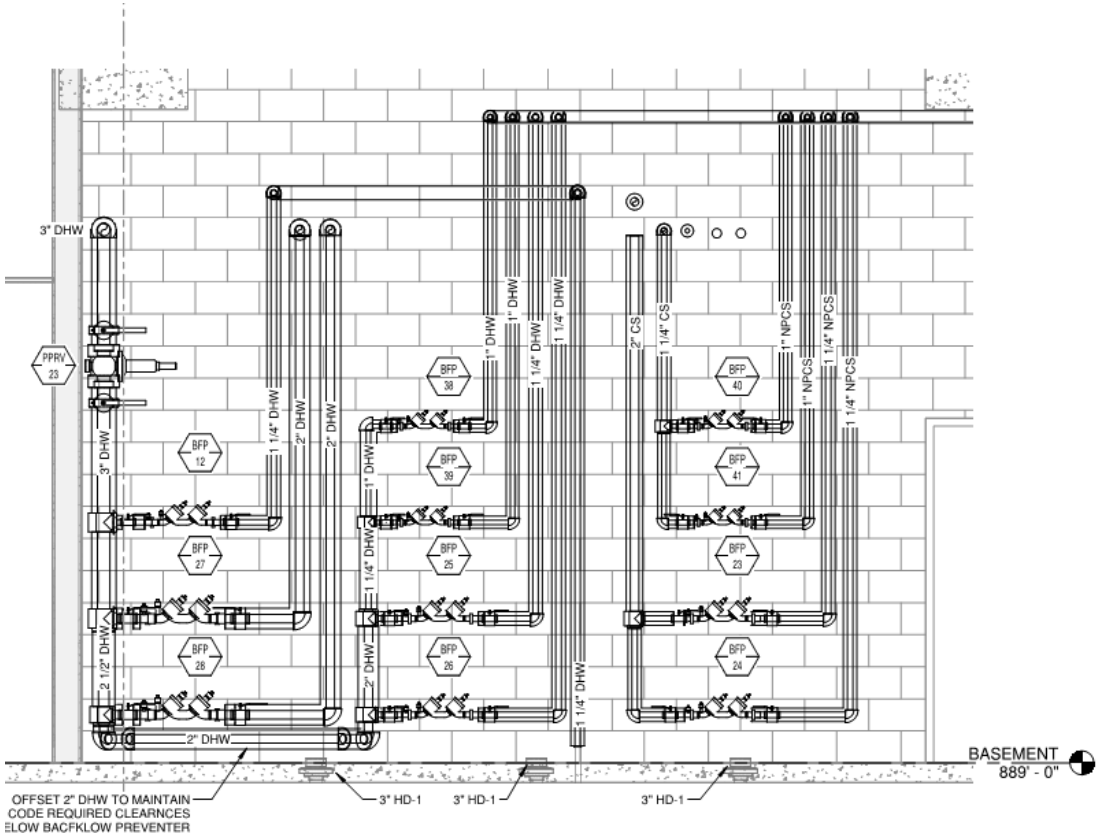
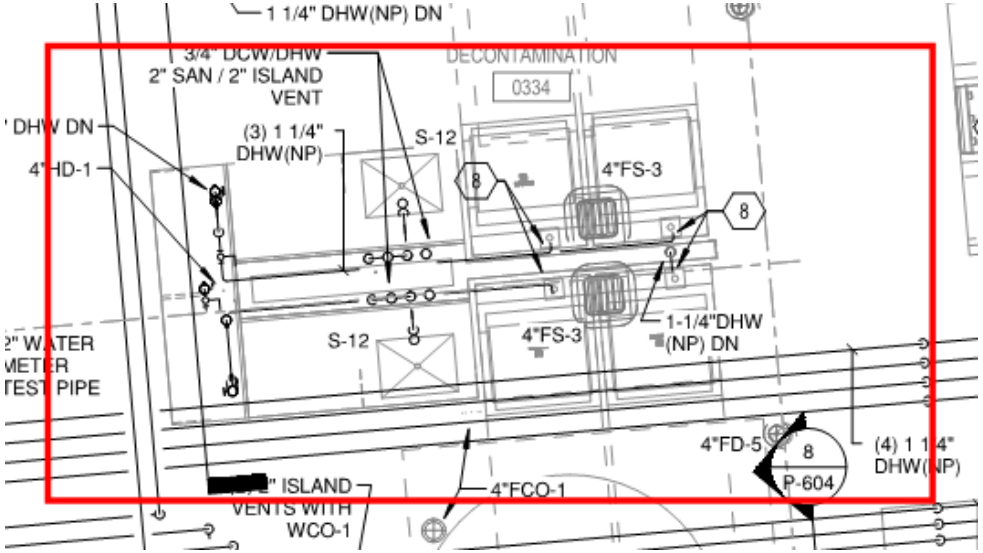


Image Source: Univ of Wi – Hospital and Clinics

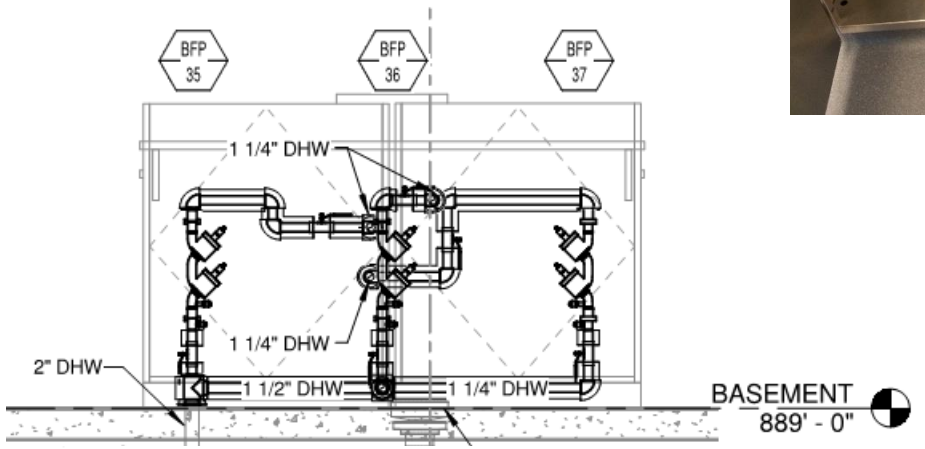


1 WEST ELEVATION AT MECH CLOSET 0334H
1/2" = 1'-0"

UWH & C – The American Center



Images Source: Univ of Wi – Hospital and Clinics



7 EAST ELEVATION OF CABINETS AT DECONTAMINATION
1/2" = 1'-0"

UWH & C – The American Center

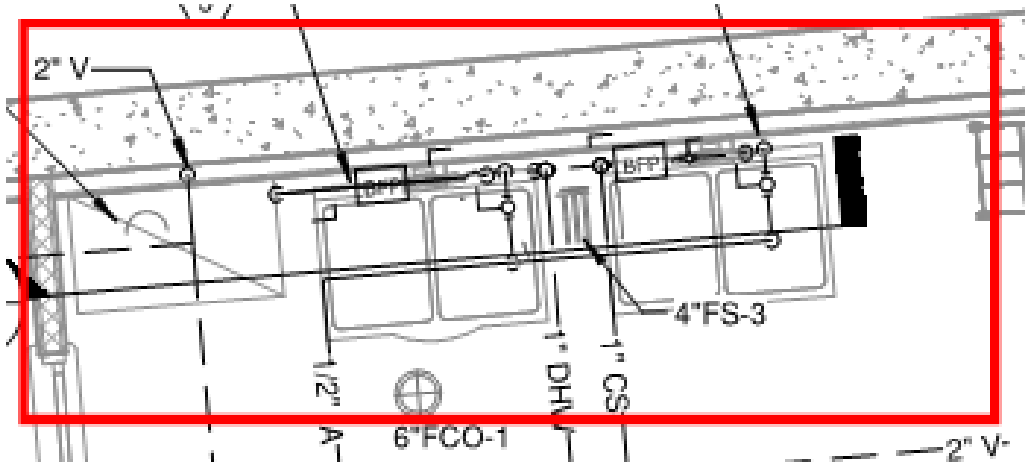
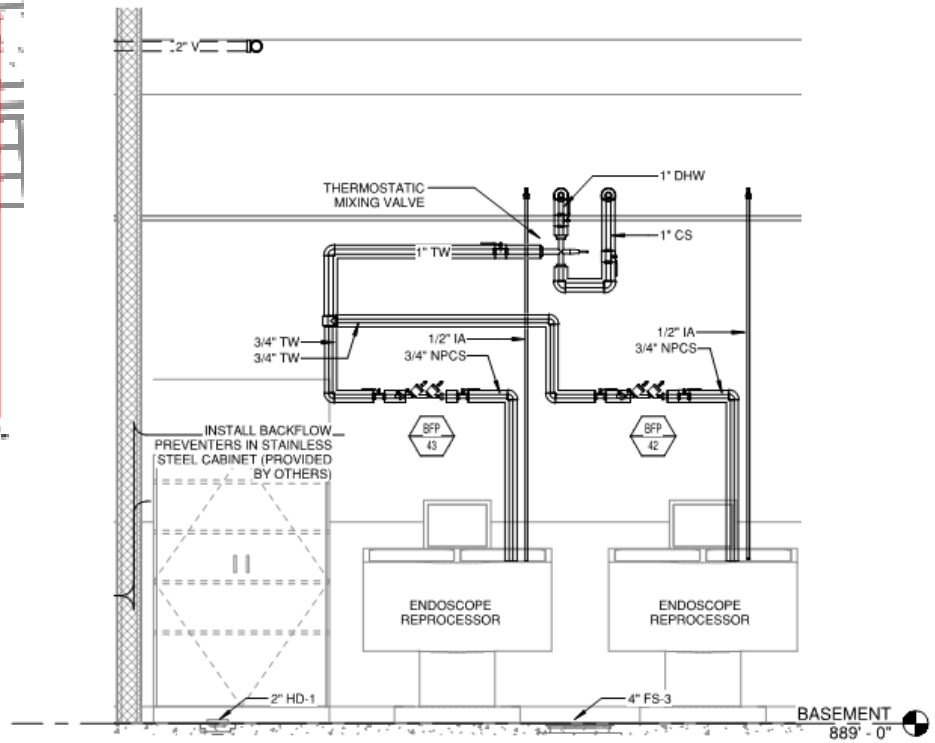


Image Source: Univ of Wi – Hospital and Clinics



2 NORTH ELEVATION AT REPROCESSING 0330D
1/2" = 1'-0"

State of Wisconsin: Division of Safety and Professional Services – Plumbing Plan Review

- Table 382.20-1

Table 382.20–1

Submittals To Department

	Type of Plumbing Installation
1.	All plumbing, new installations, additions and alterations, regardless of the number of plumbing fixtures involved, serving hospitals, nursing homes and ambulatory surgery centers.[a]
2.	Plumbing, new installations, additions and alterations involving 16 or more plumbing fixtures, serving buildings owned by a metropolitan or sanitary sewer district.[b]
3.	Plumbing, new installations, additions and alterations involving 16 or more plumbing fixtures, serving buildings owned by the state.[b]
4.	Alternate and experimental plumbing systems.
5.	Reduced pressure principle backflow preventers, reduced pressure fire protection principle backflow preventers, pressure vacuum breaker assemblies, reduced pressure detector fire protection backflow prevention assemblies, and spill resistant vacuum breakers serving health care and related facilities.
6.	Stormwater and clearwater infiltration plumbing systems serving a public building or facility.[c]
7.	Treatment systems, other than POWTS, designed to treat water for compliance with Table 382.70–1.[c]

[a] The registration of cross connection control devices as required under s. SPS 382.20 (1) (c) is included as a part of plan review and approval.

[b] For the purpose of plan review submittal, water heaters, floor drains, storm inlets, roof drains, multi–purpose piping (mpp) fire sprinklers and hose bibbs are to be included in the count.

c Agent municipalities may perform this review when so authorized by the department.

State of Wisconsin: Division of Safety and Professional Services – Plumbing Plan Review

- Table 382.20-1

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Submittals To Department

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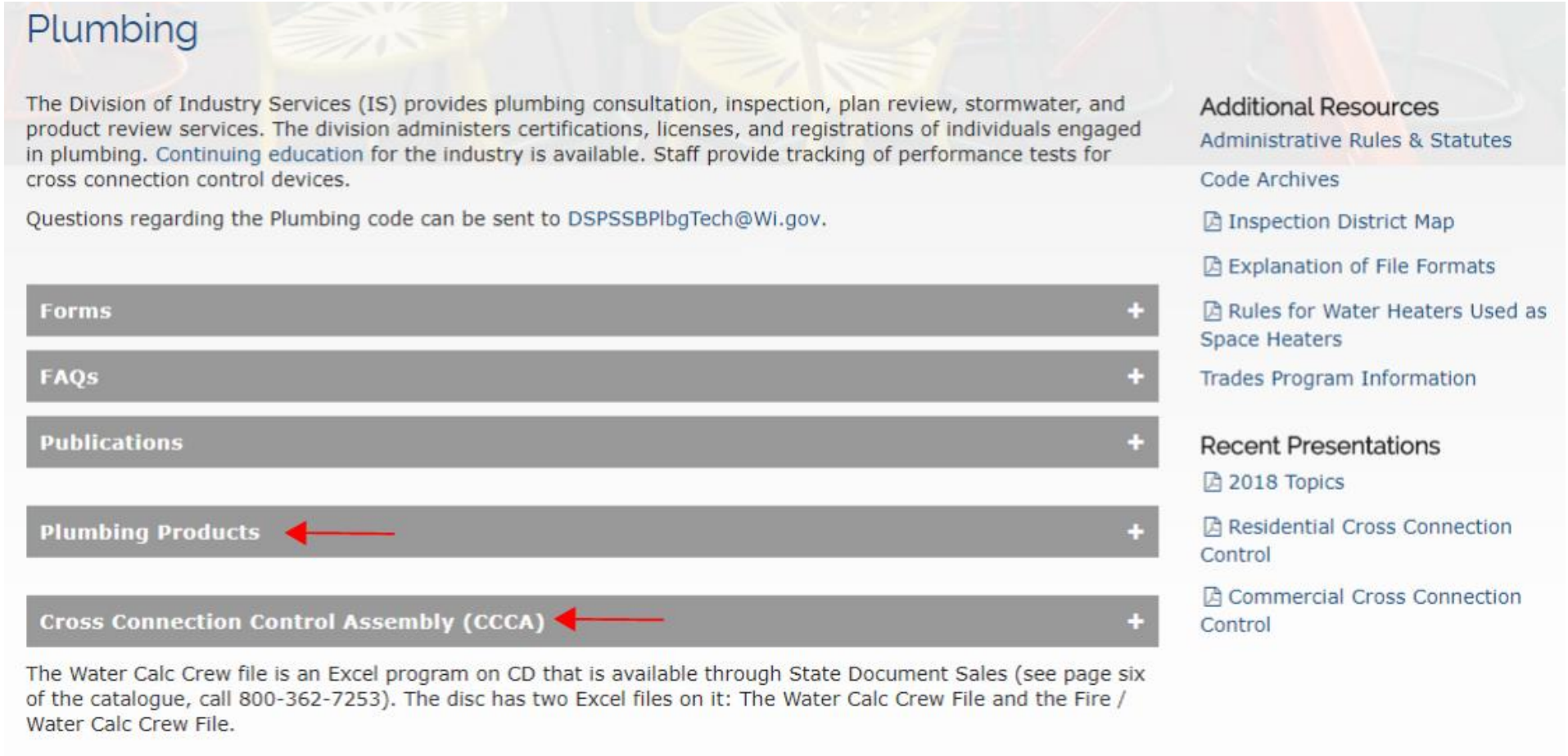
c Agent municipalities may perform this review when so authorized by the department.

State of Wisconsin: Division of Safety and Professional Services – Plumbing Program Home Page

- https://dsps.wi.gov/Pages/Programs/Plumbing/Default.aspx



Plumbing

The Division of Industry Services (IS) provides plumbing consultation, inspection, plan review, stormwater, and product review services. The division administers certifications, licenses, and registrations of individuals engaged in plumbing. Continuing education for the industry is available. Staff provide tracking of performance tests for cross connection control devices.

Questions regarding the Plumbing code can be sent to DSPSSBPlbgTech@Wi.gov.

Forms +

FAQs +

Publications +

Plumbing Products +

Cross Connection Control Assembly (CCCA) +

The Water Calc Crew file is an Excel program on CD that is available through State Document Sales (see page six of the catalogue, call 800-362-7253). The disc has two Excel files on it: The Water Calc Crew File and the Fire / Water Calc Crew File.

Additional Resources

Administrative Rules & Statutes

Code Archives

Inspection District Map

Explanation of File Formats

Rules for Water Heaters Used as Space Heaters

Trades Program Information

Recent Presentations

2018 Topics

Residential Cross Connection Control

Commercial Cross Connection Control

State of Wisconsin: Division of Safety and Professional Services – Plumbing Products

Plumbing

The Division of Industry Services (IS) provides plumbing consultation, inspection, plan review, stormwater, and product review services. The division administers certifications, licenses, and registrations of individuals engaged in plumbing. Continuing education for the industry is available. Staff provide tracking of performance tests for cross connection control devices.

Questions regarding the Plumbing code can be sent to DSPSSBPlbgTech@Wi.gov.

Forms +

FAQs +

Publications +

Plumbing Products –

The Plumbing Product Search databases below contain approvals of plumbing, private onsite wastewater treatment systems, and pools products. Drinking water treatment device approval information is also available.

Plumbing Product Search - Manufacturer

Plumbing Product Search - Products

Plumbing Product Search - Water Treatment

SBD-7966 Plumbing Standard and Product Review Application.

Required information to be submitted for review of water treatment devices.

Required information to be submitted for review of chemical or biochemical septic tank additives.

Required information to be submitted for review of alternate products.

Required information to be submitted for review of chemical injection devices.

Required information to be submitted for review of health care plumbing appliances.

Required information to be submitted for review of prefabricated plumbing systems.

Additional Resources

Administrative Rules & Statutes

Code Archives

Inspection District Map

Explanation of File Formats

Rules for Water Heaters Used as Space Heaters

Trades Program Information

Recent Presentations

2018 Topics

Residential Cross Connection Control

Commercial Cross Connection Control

State of Wisconsin: Division of Safety and Professional Services – Cross Connection Control Assembly

Cross Connection Control Assembly (CCCA) −

Registration and Test Options

Online Registration and Test Reporting

Registration and Test Reporting Instructions

Online Search Tools

Cross Connection Control Assembly Search

Customer ID Number Search (Credential/License)

Cross Connection Control Assembly - Health Care Facilities

CCC assemblies in health care facilities - Plan review is necessary for new assemblies. Plan review will provide for the registration of the assembly and the assigning of a Regulated Object Number. Subsequent tests can be reported online.

The definition of "Health Care facilities:" A hospital, nursing home, community-based residential facility, county home, infirmary, inpatient mental health center, inpatient hospice, ambulatory surgery center, adult daycare center, end stage renal facility, facility for the developmentally disabled, institute for mental disease, urgent care center, clinic or medical office, child caring institution, or school of medicine, surgery or dentistry.

The **fee for plan review** of the following assemblies, when required (SPS Table 302.64-1), is $170 each:
- Reduced pressure principle backflow preventer
- Reduced pressure fire protection principle backflow preventer
- Pressure vacuum breaker assembly
- Back siphonage backflow vacuum breaker
- Reduced pressure detector fire protection backflow preventer

Online scheduler for cross connection control assembly plan review. You must have pop-ups enabled to use the scheduler.

State of Wisconsin: Division of Safety and Professional Services: Registering, Testing, Logging of Result

Annual Testing-What is required to be tested?
Registering Devices
Testing of Devices-Logging in Results

State of Wisconsin: Division of Safety and Professional Services – CCCA Registration and Test Reporting

Cross Connection Control Assembly Registration and Test Reporting - Department of Safety and Professional Services, Industry Services Division

Caution: Do not use your browser's back/forward buttons or arrow buttons when registering assemblies or reporting tests. Your information will not be saved and you will need to start the process over. Use the buttons on each page to proceed or make changes.

To report a test for a previously registered/reviewed cross connection assembly, please enter the Regulated Object Identification Number OR the Serial Number on the assembly. Then click "Search."

A Regulated Object Identification Number would have been assigned from a previous registration or plan review. The ID number should be on the assembly's tag.

To complete a new registration, or a new registration with a successful test report, click "New Registration" button below.

Do not attempt to register a cross connection control assembly that needs plan review because it is in a health care and related facility.

If you register an assembly that serves a health care and related facility, your fees will not be refunded. Definition of health care and related facility.

Enter a Regulated Object ID

OR Enter a Serial No.

Search

State of Wisconsin: Division of Safety and Professional Services: CCCA Testing

- Tests shall be conducted for all assemblies listed in SPS 382 Table 382.22-1
- Tests shall be performed at least:
  - At the time of installation
  - Annually
  - Immediately after repairs or alterations to the assembly have occurred

- What gets tested?
- SPS 382.22(8)

State of Wisconsin: Division of Safety and Professional Services: CCCA Testing

- Table 382.22-1

Table 382.22–1
Testing And Submitting Requirements For Cross Connection Control Assemblies

ASSE Standard Name and Number	CAN/CSA Standard Name and Number	ASSE Test Standard Number and Test Required	Test Results to be Submitted to Department
Double Check Backflow Prevention Assemblies and Double Check Fire Protection Backflow Prevention Assemblies ASSE 1015	Double Check Valve Backflow Preventers CAN/CSA B64.5 and Double Check Valve Backflow Preventers For Fire Protection Systems CAN/CSA–B64.5.1	5015	No
Double Check Detector Fire Protection Backflow Prevention Assemblies ASSE 1048	– – – – – – –	5048	No
Pressure Vacuum Breaker Assembly ASSE 1020	Pressure Vacuum Breakers CAN/CSA–B64.1.2	5020	Yes
Reduced Pressure Principle Backflow Preventers and Reduced Pressure Fire Protection Principle Backflow Preventers ASSE 1013	Reduced Pressure Principle Backflow Preventers CAN/CSA B64.4 and Reduced Pressure Principle Backflow Preventers For Fire Protection Systems CAN/CSA–B64.4.1	5013	Yes
Reduced Pressure Detector Fire Protection Backflow Prevention Assemblies ASSE 1047	– – – – – – –	5047	Yes
Spill Resistant Vacuum Breaker ASSE 1056	Spill Resistant Vacuum Breakers CAN/CSA B64.1.3	5056	Yes

History: CR 08–055: cr. (1) to (8) and Table 82.22–1, (9) renum. from Comm 82.21 (3) Register February 2009 No. 638, eff. 3–1–09; correction to numbering in (3) made under s. 13.92 (4) (b) 1., Stats., Register February 2009 No. 638; CR 09–050: am. (8) (b) 4. a. and Table 82.22–1, r. (9) Register December 2009 No. 648, eff. 1–1–10; correction in (4) (b), (8) (b) 1. (intro.), 2., 3., 4. a., b., 5. made under s. 13.92 (4) (b) 7., Stats., Register December 2011 No. 672.

State of Wisconsin: Division of Safety and Professional Services: Tester

Cross Connection Control Tester

Additional Resources

Other Forms

Statutes and Administrative Code

Trades Renewal Dates and Fees

Related Links

File a Complaint

License Information

Per Wis. Admin. Code § SPS 305.99, pursuant to Wis. Stats. § 145.06(3m), no person may conduct a performance test of a cross connection control assembly as required by Wis. Admin. Code § SPS 382.22(8) unless the person holds a registration issued by the Department as a registered Cross Connection Control Tester.

Pre-Credential Education Information

A person applying for a Cross Connection Control Tester registration shall have completed at least 40 hours in an approved course or courses in the theory of cross connection control, the operation, testing and maintenance of cross connection control assemblies, and the national standards for these cross connection control assemblies.

The course or courses shall include instruction in at least:

- Reduced pressure principle backflow preventers
- Reduced pressure detector fire protection backflow prevention assemblies
- Pressure vacuum breaker assembly
- Double check detector fire protection backflow prevention assemblies
- Double check fire protection backflow prevention assemblies
- Spill resistant vacuum breakers

https://dsps.wi.gov/Pages/Professions/CrossConnectionControlTester/Default.aspx

State of Wisconsin: Division of Safety and Professional Services: Cross Connection Control Tester

- Registration is required by DSPS to become a registered Cross Connection Control Tester
- Registration requirements:
  - 40 Hours in an approved course or courses in the theory of cross connection control assemblies available from various providers across the state
  - Submit application, supporting documentation and fee ($15 application fee and $180 credential fee)
- Renewal of registration is required every 4 years from the date of issuance and requires 6 hours of Continuing Education (CE) and payment of the $180 credential fee

- Cross Connection Control Tester

Product Approval Letter – Backflow Requirements

DIVISION OF INDUSTRY SERVICES
Plumbing Product Review
P.O. Box 2658
Madison, Wisconsin 53701-2658
TTY: Contact Through Relay

Scott Walker, Governor
Dave Ross, Secretary

October 21, 2015

STERIS CORPORATION
SARAH BROWN
5960 HEISLEY ROAD
MENTOR OH 44060-1834

Re: Description: HEALTH CARE PLUMBING APPLIANCE
Manufacturer: STERIS CORPORATION
Product Name: RELIANCE 333 WASHER/DISINFECTOR (trans id 2612669)
Model Number(s): MB0101, MB0102, MB0103, MB0202, MB0203, MB0204, MB0301, MB0302 AND MB0303
Product File No: 20150241

The specifications and/or plans for this plumbing product have been reviewed and determined to be in compliance with chapters SPS 382 through 384, Wisconsin Administrative Code, and Chapters 145 and 160, Wisconsin Statutes.

The Department hereby issues an approval based on the Wisconsin Statutes and the Wisconsin Administrative Code. This approval is valid until the end of October 2020.

This approval is contingent upon compliance with the following stipulation(s):

- The potable water piping serving these devices (i.e. hot, cold and high purity) shall be individually isolated from the building's water supply system by installing a reduced pressure principle backflow preventer (i.e. RPZ). The RPZ shall conform to ASSE Standard 1013.
- The RPZ's shall be installed in accordance with s. SPS 382.41 (5) Wis. Adm. Code.
- The RPZ's shall be registered, maintained and repaired in accordance with s. SPS 382.22 Wis. Adm. Code.
- The wastewater from these devices shall be conveyed to the drain, waste and vent (i.e. DWV) system via an air gap. The air gap shall conform to ASME A112.1.2.
- The DWV piping down stream of these devices shall be properly sized to handle the additional wastewater flow and of a material suitable for the maximum wastewater temperature generated by these devices.

The department is in no way endorsing this product or any advertising, and is not responsible for any situation which may result from its use.

Sincerely,

Glen W. Schlueter
Environmental Engineer - Plumbing Product Reviewer
Depart of Safety and Professional Services
Division of Industry Services
Bureau of Technical Services
(608) 267-1401 Phone
(608) 267-9723 Fax
glen.schlueter@wi.gov E-mail

- Code Requirements

- The potable water piping serving these devices (i.e. hot, cold and high purity) shall be individually isolated from the building's water supply system by installing a reduced pressure principle backflow preventer (i.e. RPZ). The RPZ shall conform to ASSE Standard 1013.
- The RPZ's shall be installed in accordance with s. SPS 382.41 (5) Wis. Adm. Code.
- The RPZ's shall be registered, maintained and repaired in accordance with s. SPS 382.22 Wis. Adm. Code.
- The wastewater from these devices shall be conveyed to the drain, waste and vent (i.e. DWV) system via an air gap. The air gap shall conform to ASME A112.1.2.

Product Approval Letter – Backflow Requirements

DIVISION OF INDUSTRY SERVICES
Plumbing Product Review
P.O. Box 7302
Madison, Wisconsin 53701-2658
TTY: Contact Through Relay

Scott Walker, Governor
Dave Ross, Secretary

January 19, 2017

MIELE, INC.
STEVE POLINSKI
9 INDEPENDENCE WAY
PRINCETON NJ 08540

Re: Description: HEALTH CARE PLUMBING APPLIANCE
Manufacturer: MIELE, INC.
Product Name: (trans id 2877071) MIELE DENTAL WASHER-DISINFECTOR AND WASHERS
Model Number(s): PG 8581, PG 8504, PG 8583, PG 8593, PG 8583 DC, PG8535, PG 8536, PG 8056, PG 8061, G7881, G7883, G7883CD, G7804, G7835, G7836, G7831, G7856 AND G7859
Product File No: 20170007

The specifications and/or plans for this plumbing product have been reviewed and determined to be in compliance with chapters SPS 382 through 384, Wisconsin Administrative Code, and Chapters 145 and 160, Wisconsin Statutes.

The Department hereby issues an approval based on the Wisconsin Statutes and the Wisconsin Administrative Code. This approval is valid until the end of April 2020.

This approval supersedes the approval issued on April 24, 2015 under product file number 20150077.

This approval is contingent upon compliance with the following stipulation(s):

- The discharge from this product must discharge to the sanitary drain system through air-gap or air break into a trapped and vented receptor.
- This product has an acceptable built-in air-gap in the water supply to provide protection of the potable water supply.

The department is in no way endorsing this product or any advertising, and is not responsible for any situation which may result from its use.

Sincerely,

Glen W. Schlueter
Environmental Engineer - Plumbing Product Reviewer
Department of Safety and Professional Services
Division of Industry Services
Bureau of Technical Services
(608) 267-1401 Phone
(608) 267-9723 Fax
glen.schlueter@wi.gov E-mail

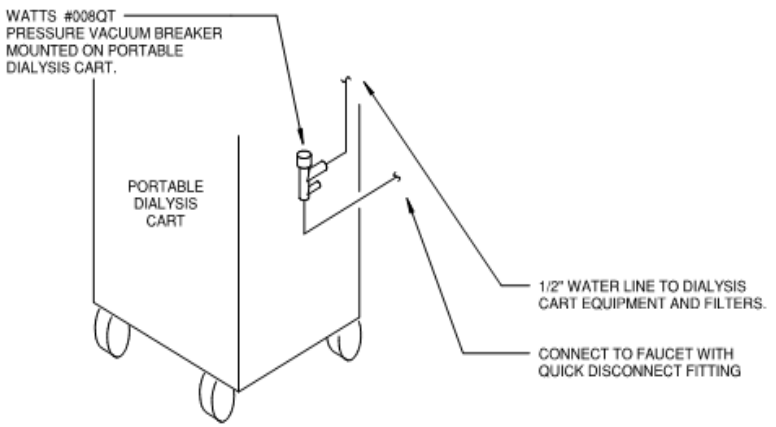
- Code Requirements

This approval is contingent upon compliance with the following stipulation(s):

- The discharge from this product must discharge to the sanitary drain system through air-gap or air break into a trapped and vented receptor.
- This product has an acceptable built-in air-gap in the water supply to provide protection of the potable water supply.

Portable RO Units/Dialysis

Image Source: Univ of Wi – Hospital and Clinics



9 **PORTABLE DIALYSIS CART DETAIL**
SCALE: NOT TO SCALE

Image Source: Willoughby Industries

Plumbing Fixtures

Images Source: Chicago Faucet

- Lab Sink
  - ASSE 1035

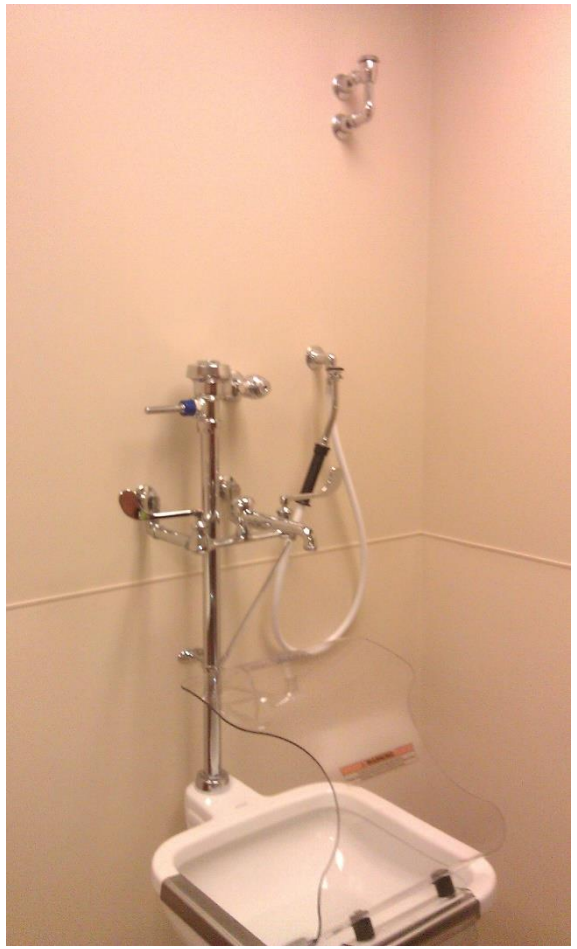
Plumbing Fixtures

Image Source: Univ of WI – Hospital and Clinics

Images Source: Chicago Faucet

- Janitor's Sink (Mop Sink)
- Chemical Dispenser

Plumbing Fixtures

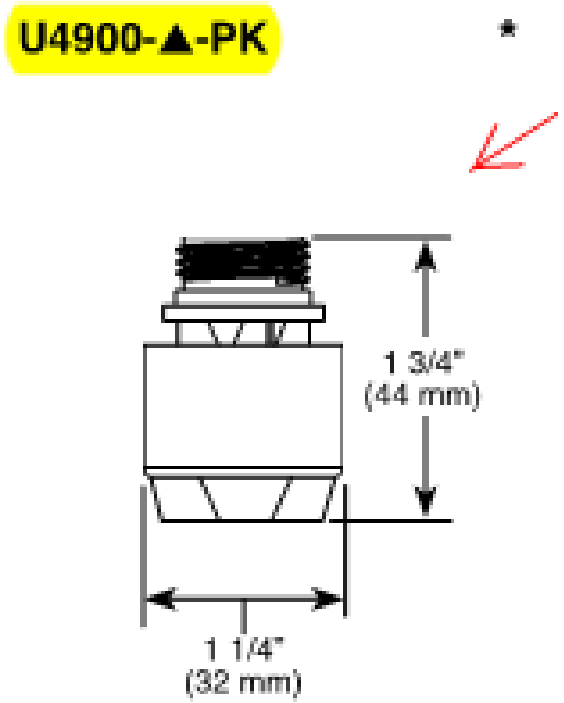


Images Source: Univ of WI – Hospital and Clinics

- Clinical Service Sink

Plumbing Fixtures

- Shower



Images Source: Delta

Food Service Area

Images Source: Univ of WI – Hospital and Clinics

- Various types of conditions and equipment

Questions

Wisconsin Healthcare Engineering Association (WHEA)

- https://www.whea.com/

Wisconsin Healthcare Engineering Association (WHEA)

- https://www.whea.com/education/webinars/

Presenter – Contact Information

- If questions, contact information for use.

SCOTT LARGENT, PE
PIPING - Senior Project Engineer
608-236-1228
slargent@aeieng.com

THE END