



Armstrong®



ARMSTRONG HOT WATER SYSTEM SOLUTIONS FOR HEALTHCARE

AN INTEGRAL COMPONENT OF CMS COMPLIANCE
AND LEGIONELLA RISK MITIGATION



THE CMS MANDATE

“REQUIREMENT TO REDUCE LEGIONELLA RISK IN HEALTHCARE FACILITY WATER SYSTEMS TO PREVENT CASES AND OUTBREAKS OF LEGIONNAIRES’ DISEASE.”

Effective June, 2017, the U.S. Centers for Medicare & Medicaid Services (CMS) issued a directive requiring healthcare facilities to develop and adhere to policies and procedures that inhibit microbial growth in building water systems in order to reduce the risk of growth and spread of Legionella and other opportunistic pathogens in building water systems.

LEGIONELLA AND LEGIONNAIRES’ DISEASE

Legionella is a type of bacteria that can cause a severe, often lethal form of pneumonia known as Legionnaires’ disease in persons at risk. Within the last decade, Legionnaires’ disease has been reported throughout the world. Outbreaks have been linked to buildings with large or complex water systems that are improperly maintained. The potable water systems of hospitals, nursing homes, and other large or long-term care facilities are major sources of Legionella. It is most often found in hot water tanks and heaters, large plumbing systems, faucets and showers, hot tubs, whirlpool spas, decorative fountains and water features, and cooling towers (air conditioning units).

CREATE A WATER RISK MANAGEMENT PLAN IN 7 STEPS

A water risk management plan enables inpatient, outpatient, long-term care or other healthcare facilities to better comply with CMS requirements and mitigate risk. Turn to Armstrong for the expertise and product solutions required to achieve steps 4, 5, 6 and 7. Our extensive network of experts can also provide assistance as you address steps 1, 2 and 3 of creating your plan.

1. ESTABLISH A DESIGNATED TEAM—Identify persons responsible for program development and implementation.

2. MAP THE WATER SYSTEM—Describe potable and nonpotable water systems within the building and on-site; develop flow diagrams/water system schematics.

3. IDENTIFY RISKS—Evaluate where hazardous conditions may occur within water systems; determine where control measures can be applied.

4. DEVELOP STRATEGIES TO MITIGATE RISKS—Use a risk management approach to identify control locations and limits, such as: water flow rate, water temperature, disinfectant residual, concentration of pathogen, or other identified measurements.

5. MONITOR/CORRECTIVE RESPONSE—Establish procedures for monitoring control limit data; respond to deviations outside of set control limits with appropriate corrective action, such as: disinfectant, heating, cooling, filtering, or flushing water.

6. PERIODIC REVIEW AND CONFIRMATION—Establish procedures to verify that the plan is being implemented as designed; validate that it is effectively controlling hazardous conditions throughout the building water system.

7. DOCUMENTATION—Establish procedures for communication and documentation of all activities of the plan, from the first step through the last; ensure that documentation is maintained and kept current.

See: ANSI/ASHRAE Standard 188-2015, page 5; Developing a Water Management Program to Reduce Legionella Growth & Spread in Buildings (CDC Toolkit), page 6; or ASHE “7 Steps to Creating a Water Management Program.”

BEST PRACTICES FOR CMS COMPLIANCE

STANDARDS OF CARE TO REDUCE RISKS OF LEGIONELLA AND SCALDING

A Standard of Care is defined as acknowledged applicable laws, standards and guidelines. Following the appropriate Standard of Care can minimize the risk of Legionella-related illness, as well as scalding injuries.

In its announcement, CMS calls for implementation of a water management program that considers the ASHRAE industry standard, as well as the CDC toolkit*, which was developed to facilitate its implementation. ASHRAE Guideline 12-2000 and ASHRAE Standard 188-2015 are among Standards of Care that include critical recommendations for reducing the risk of Legionella.

*<https://www.cdc.gov/legionella/downloads/toolkit.pdf>

ASHRAE Guideline 12-2000

4.1.6 **RECOMMENDED TREATMENT**

Hot water stored above 140°F (60°C), minimum recirculated return 124°F (51°C).

ASHRAE Standard 188-2015

6.1.7 **DOCUMENTATION & RECORDKEEPING**

Establish documentation and maintain records.

ASHRAE Standard 188-2015

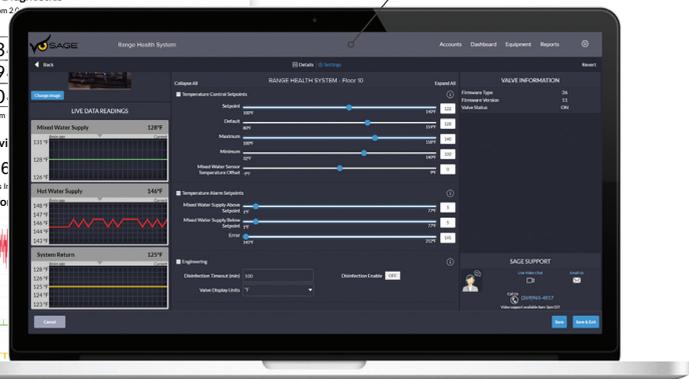
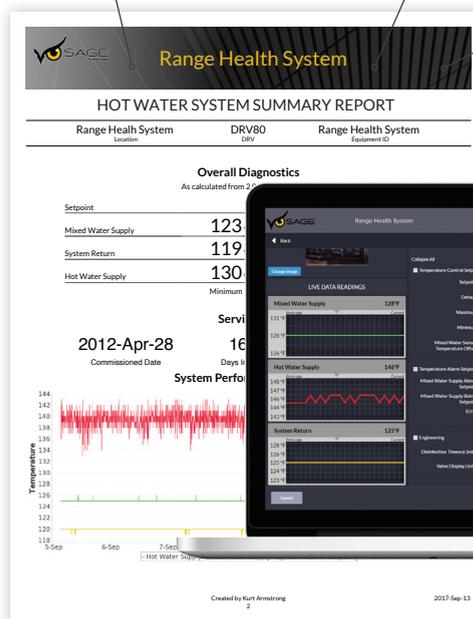
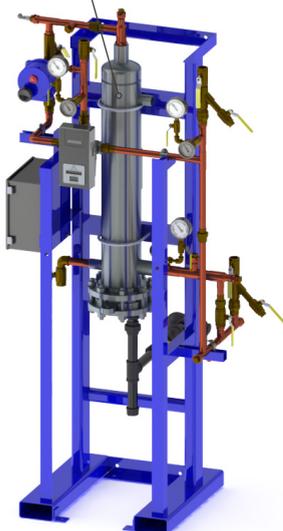
6.1.3 **CONTROL LIMITS**

Establish limits within which a chemical or physical parameter must be monitored and maintained.

ASHRAE Standard 188-2015

6.1.4 **MONITORING**

Establish a system for monitoring the parameters associated with the control limits established in 6.1.3.





ARMSTRONG IS A GLOBAL LEADER IN DOMESTIC HOT WATER GENERATION AND WATER TEMPERATURE CONTROL

Armstrong understands Legionella guidelines and industry standards of care. We're here to make your life easier, with knowledge, expertise and product solutions to help you satisfy the latest CMS requirements. Armstrong's hot water solutions, The Brain® and SAGE®, are the first barriers to Legionella and essential to the prevention of Legionnaires' disease.

INTELLIGENT HOT WATER SYSTEM SOLUTIONS

DESIGNED TO HELP YOU MEET THE ASHRAE INDUSTRY STANDARD AND CMS DIRECTIVE

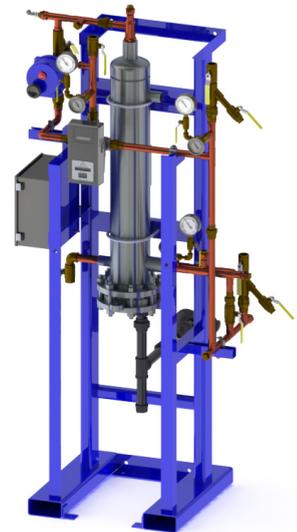
Armstrong's state-of-the-art hot water solutions are engineered for your most difficult healthcare challenges, which includes reducing risks for the growth and spreading of Legionella and other hospital-acquired infections. We offer hardware to guide your CMS compliance, as well as software that enables you to prove it with accurate monitoring and documentation.

The Brain® Digital Recirculating Valve, Digital-Flo® Water Heaters, and SAGE® Smart Hot Water System Monitoring and Reporting are integral components of your institutional hot water system risk management plan.

DIGITAL-FLO® SEMI-INSTANTANEOUS STEAM/WATER HEATER

PRE-PIPED DIGITAL HOT WATER GENERATION AND CONTROL SOLUTIONS

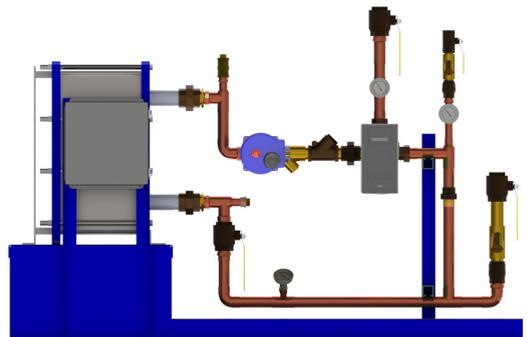
- Features The Brain® ASSE 1017 certified Digital Recirculating Valve
- Compact vertical design—small footprint
- Water temperature raised above Legionella survival levels on every recirculation cycle
- Optional SAGE® building system interface with integral data-logging to support AHSRAE 188 monitoring and reporting compliance



DIGITAL-FLO® INSTANTANEOUS BOILER WATER/WATER PHE

PRE-PIPED DIGITAL HOT WATER GENERATION AND CONTROL SOLUTIONS

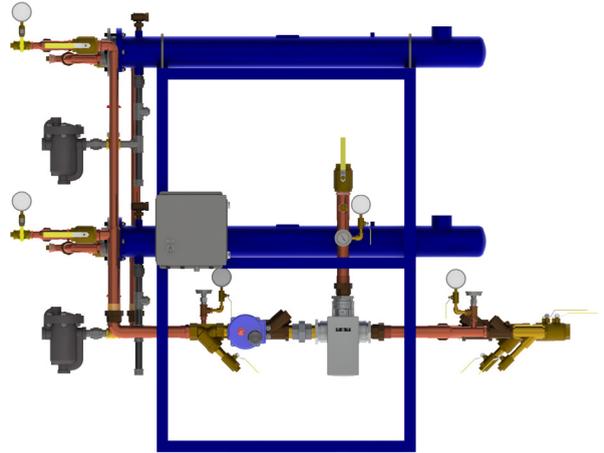
- Features The Brain® ASSE 1017 certified Digital Recirculating Valve
- No need for modulating pump control
- Optional SAGE® building system interface with integral datalogging to support AHSRAE 188 monitoring and reporting compliance



DIGITAL-FLO® INSTANTANEOUS STEAM/ WATER HEATER

PRE-PIPED DIGITAL HOT WATER GENERATION AND CONTROL SOLUTIONS

- Features The Brain® ASSE 1017 certified Digital Recirculating Valve
- Feed Forward design - separate steam control valve not required
- Water temperature raised above Legionella survival levels on every recirculation cycle
- Optional SAGE® building system interface with integral data-logging to support AHSRAE 188 monitoring and reporting compliance



THE BRAIN® DIGITAL RECIRCULATING VALVE (DRV)

Armstrong introduced digital water temperature control to the world with The Brain® DRV. Engineered exclusively for recirculating hot water systems, The Brain® simplifies your hot water system to deliver unparalleled accuracy, stability and safety. It offers programmable temperature alerts and a program to promote compliance with recommended Legionella guidelines.

PERFORMANCE

- +/- 2°F / 1°C control
- 1°F / 1°C minimum system temperature loss

SAFETY

- Over temperature shutoff
- Power failure shutoff
- Emergency mode

FEATURES

- Component self-diagnostics
- Programmable set point and alerts
- Programmable thermal disinfection





SAGE® SMART HOT WATER SYSTEM MONITORING AND REPORTING

This fully integrated software tool brings you the next level in smart hot water system monitoring and reporting. SAGE® works seamlessly with all our real-time monitoring products, including The Brain®, as it analyzes data to track behavior and performance—ensuring full compliance with CMS, ASHRAE, VA and World Health Organization hot water system safety guidelines and requirements. By providing regular updates and real-time alerts, SAGE® keeps you informed, 24 hours a day.

CONNECTIVITY

- Integral Modbus RTU interface (The Brain® Digital Recirculating Valve)
- SAGE® building system interface module
- Web-enabled
- Modbus BACnet™ LonWorks

Consult the Armstrong International website for additional models, sizes and custom solutions, or to find the Armstrong representative nearest you.



INTELLIGENT SOLUTIONS IN STEAM, AIR, AND HOT WATER

Armstrong International

North America • Latin America • India • Europe / Middle East / Africa • China • Pacific Rim

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