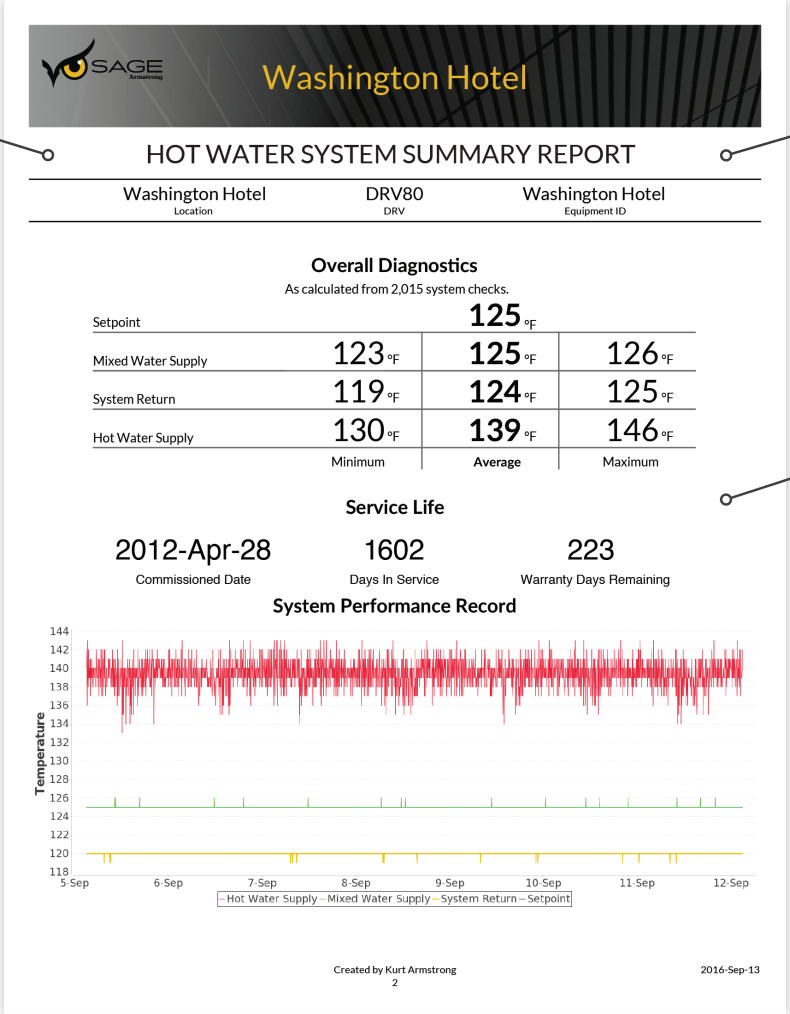
Armstrong®
SMART HOT WATER SYSTEM
MONITORING & DOCUMENTATION
SAGE
by Armstrong

Smart Hot Water System Monitoring & Documentation

DOCUMENTATION & RECORDKEEPING
Establish documentation and maintain records.

ASHRAE Standard 188-2015



Washington Hotel

HOT WATER SYSTEM SUMMARY REPORT

Washington Hotel (Location)	DRV80 (DRV)	Washington Hotel (Equipment ID)

Overall Diagnostics

As calculated from 2,015 system checks.

Setpoint		125 °F	
Mixed Water Supply	123 °F	125 °F	126 °F
System Return	119 °F	124 °F	125 °F
Hot Water Supply	130 °F	139 °F	146 °F
	Minimum	Average	Maximum

Service Life

2012-Apr-28	1602	223
Commissioned Date	Days In Service	Warranty Days Remaining

System Performance Record

Created by Kurt Armstrong
2

2016-Sep-13

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

ASHRAE Standard 188-2015

SAGE™

Simple, effective monitoring, logging and remote alerting of key temperature control components of a hot water system safety risk management plan, for a modest monthly fee.

1. **Dashboard Monitoring** – In real time.
2. **Secure Remote Programming** – You are in control.
3. **Multi-location View** – All properties simultaneously or filtered.
4. **Temperature and System Diagnostic Alerts** – In real time.
5. **Digital Documentation and Recordkeeping** – For as long as you want to retain it.

THE BRAIN® AND SAGE™

SAGE™ works seamlessly with The Brain® as it analyzes data to track behavior and performance as an integral component of a hot water system operation protocol which complies with a Standard of Care.

Armstrong Hot Water Group, 221 Armstrong Blvd., Three Rivers, MI 49093 – USA Phone: 269-279-3602, Fax: 269-279-3130
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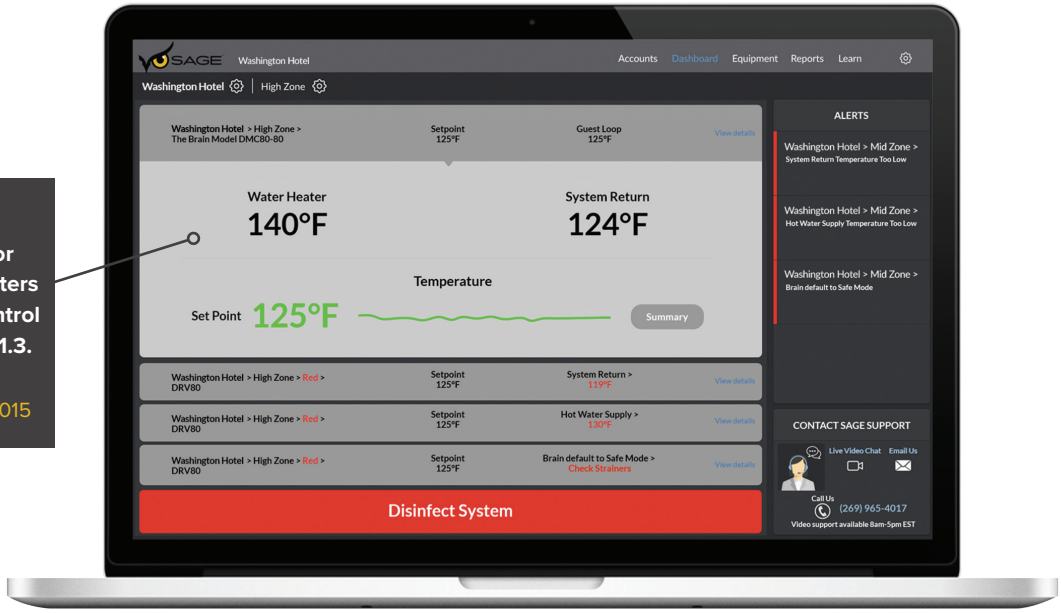
Smart Hot Water System Monitoring & Documentation

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

ASHRAE Standard 188-2015



STANDARDS OF CARE

A Standard of Care is defined as acknowledged applicable laws, standards and guidelines.

OSHA (1998), Joint Commission Environment of Care (2001), ASHRAE Guideline 12-2000, ASHRAE Standard 188-2015 and VA Directive 1061 (2014) are Standards of Care which include critical recommendations for establishing and monitoring hot water system temperature control limits.

REDUCING THE RISK

Following a Standard of Care can minimize the risk of scald injury, Legionella-related illness and the associated litigation.

"Compliance with the new ASHRAE standard likely will be viewed by courts as the standard of care in personal injury lawsuits involving exposure to Legionella. Adopting industry standard practices and complying with applicable law is the best defense. Conversely failure to follow such standards and legal requirements could expose building owners and operators to potentially significant liability" (Law.com July 2016)

"Former guests of the Las Vegas Aria Resort & Casino can't seek punitive damages in a case alleging they contracted Legionnaires' disease from the hotel's water system, because management took adequate water safety steps, a Nevada federal judge ruled Monday." (Law 360 Legal News Service, 2015.)

ASHRAE

Guideline 12-2000

4.1.6 **RECOMMENDED TREATMENT:** Hot water stored above 140°F (60°C), minimum recirculated return 124°F (51°C).

Standard 188-2015 Legionellosis: Risk Management for Building Water Systems

6.1.3 **CONTROL LIMITS:** Establish limits within which a chemical or physical parameter must be monitored and maintained.

6.1.4 **MONITORING:** Establish a system for monitoring the parameters associated with the control limits established in 6.1.3.

6.1.7 **DOCUMENTATION AND RECORDKEEPING:** Establish documentation and maintain records.

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INTELLIGENT SOLUTIONS IN STEAM, AIR AND HOT WATER

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