# **Element Q**

Complete Domestic Hot Water Solution with Multi-barrier Pathogen Mitigation and Water Quality Treatment





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### **Reimagine Your Mechanical Room**

### A complete domestic hot water solution with high-efficiency water heating, multibarrier pathogen mitigation and water quality treatment in one single-sourced, certified smart appliance...that can be installed through a standard doorway.

Element<sup>®</sup> Q is a sophisticated, engineered hot water wellness solution that provides multiple layers of safety and protection against scalding and waterborne pathogens, like Legionella, while improving water quality in a sustainable, environmentally friendly way without the use of toxic chemicals or byproducts.

Featuring a unique, supervisory controller, the ultra-compact Element Q is a smart, connected solution that provides real-time data reporting through web and mobile apps, enables local and remote control, and automates cumbersome infection control health monitoring and reporting.

### **Key Features and Benefits**

- Sustainably mitigates waterborne pathogens through multiple, system-wide barriers
- Improves energy and water efficiency, and water quality
- Automates infection control monitoring and reporting that helps comply with ASHRAE Standard 188 and other health requirements
- Edge<sup>®</sup> SC supervisory controller with 100+ unique control points
- Real-time data reporting, alerts and remote access via web and mobile app
- Fits through a standard doorway
- Provides 75% footprint savings
- Reduces installation time by up to 65%
- Configurable systems from 600 to 1,000 MBH and up to 30 GPM



#### **Recognized as the Best Available Technology**





### Setting a New Standard

# Developed by world-class scientists with years of industry expertise, Element Q brings the complexity of a full mechanical room into a single, compact unit that is safer, smarter, simpler.

Element Q helps building owners, maintenance staff, and infection control teams confidently control, manage and maintain high regulatory standards in their buildings' domestic hot water that helps keep their occupants safe while offering them a best-in-class, sustainable experience that enriches their daily wellness.

#### Safe

# Sustainably mitigates scalding and waterborne pathogens

Keeping building occupants safe from scalding and waterborne pathogens can be challenging and costly if not done properly: Legionnaires' disease is fatal in 10% of cases and can result in hundreds of millions in lawsuit damages; scalding injuries lead to over 100,000 annual emergency room visits in the U.S. Element Q provides extra layers of protection through multi-barrier scalding and pathogen mitigation without the use of toxic chemicals or byproducts via sustainable methods including high efficiency water heating, UV disinfection, Media Assisted Crystallization anti-scale technology, sediment filtration and digital mixing.

#### Smart

#### Real-time data across devices

The Edge SC supervisory controller and myLync mobile app enable remote access and monitoring so personnel can ensure their system runs smoothly and minimize downtime. Instant alerts and real-time data reporting help infection control teams easily comply with ASHRAE Standard 188 and other essential mandates.

### Simple

#### Simplifies design, installation and operation

With its ultra-compact design, Element Q provides 75% savings in footprint and reduces installation time by up to 65%. It simplifies service with an easy-to-access cabinet and single source of contact for technical assistance and support. Element Q's intuitive supervisory controller provides easy operation across all types of personnel including facility managers, service technicians and infection control.



## **Advanced Controller Provides 100+ Control Points**

# The Edge SC supervisory controller manages all functions within Element Q for simpler installation and operation, reduced maintenance and more efficient infection control.

The advanced controller provides a single point of responsibility for all aspects of the control system, significantly reducing installation and maintenance time as well as risks of application errors. It provides greater control by leveraging over 100 internal control points and refines big data into smart data with actionable recommendations. This eliminates roughly \$30K - \$50K in programming costs to a central controller for Building Automation System integration.

### **Key Features**

- Intuitive UI (user interface)
- · Fast navigation
- Full-system status overview
- Remote access via myLync web or mobile app
- Predictive maintenance alerts
- Life-to-replacement status of all parts and sub-systems
- Hot and mixed supply, return and cold water makeup temperatures are actively monitored
- A record of events for each sub-system with comment option for contextual communication
- Infection control reporting to support ASHRAE 188 compliance

#### Saves Time with Automated Health Mandate Reporting

Element Q automates all monitoring and record keeping, eliminating the need for 'clipboard' health mandate recording of critical control statuses. This internal AI can eliminate over 200 hours per year of manual ASHRAE 188 compliance monitoring freeing burdened maintenance personnel to concentrate on other critical functions. Infection control report includes UV output, thermal sanitation details, and provides a regular account of current and upcoming maintenance activities in support ASHRAE 188 compliance.

The onboard Edge Supervisory Controller connects to building automation systems over Modbus or BACnet and securely to the myLync<sup>®</sup> mobile app. The controls provide the ability to thermally self-disinfect, perform building system disinfection, and return to system temperature setpoints.



### myLync Mobile App Real-time Remote Access

The myLync mobile app and web interface allows you to monitor the activity of multiple systems in real time. Navigate through each subsystem to understand current status, disinfection processes, status of consumables, and predicted & required maintenance. Securely manage different permissions to your staff and service contractors.

#### **Monitor On-Site or Remote**

- Check system performance from anywhere via the secure myLync mobile or web app
- Receive instant alerts, maintenance updates and timely reminders on replacements due
- Service contractors with secure access can monitor units over multiple clients

### Manage Effectively and Securely

- Manage multiple Element Q's in one dashboard and tailor multiple users' access rights
- Provide contractors with specified access to the system for defined purposes
- Log user activity automatically and add commentary for contextual communication

### **Report with Ease and Accuracy**

- Generate infection control reports with key data points to stay compliant with mandates
- Get a record of events by sub-systems and components, including maintenance activity logs
- Connect the controller to the building automation systems over Modbus or BACnet





## Peace of Mind with Greater Return On Investement



#### Save Time and Money

Factory-Assembled System in a Compact Design

- Simplify planning and protect specs with a complete, configurable solution
- Reduce installation and retrofit downtime with just 12 connection points
- Installs through a standard doorway



### Simplify Maintenance and Operation

All-in-One Supervisory Controller with Remote Access

- Manage all system parts from one controller to optimize system operations
- Monitor system remotely and get alerts and predictive maintenance updates
- Get quick support via one point of contact and comprehensive system diagnostics



#### **Increase Return on Investment**

Engineered for Maximum Performance and Longer Lifespan

- Increase savings through energy and water efficiency
- Reduce maintenance and repairs and extend lifespan with built-in features, such as anti-scale, UV disinfection, heater blowdown, and thermal sanitization
- Internal cold water booster pump reduces system pressure losses

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### **Protect and Comply with Confidence**

Effective Pathogen and Scalding Mitigation; Automated Infection Control Reporting

- Mitigate pathogens effectively with a multi-barrier approach
- Help keep occupants safe from scalding with the dual temperature water outlets
- Report with ease and efficiency to stay compliant with ASHRAE 188 and other health mandates
- Includes a factory-guaranteed assembly and a 1st year labor service warranty

## **Specifications**

	Element Q Models				
Maximum Flow	Q 100	Q 80	Q 60		
Cold Water Supply					
Flow Rate GPM (LPM)	30 (113.6)	25 (94.6)	20 (75.5)		
Recirculation Loop					
Flow Rate GPM (LPM)	30 (113.6)	25 (94.6)	20 (75.5)		
Performance					
Input MBH (kW)	999 (293)	800 (234)	600 (176)		
Recovery GPH (LPH) Thermal Efficiency*					
∆ 70 °F (39 °C)	1635 (6189) 95%	1317 (4985) 96%	988 (3740) 96%		
Δ 100 °F (56 °C)	1157 (4380) 97%	932 (3528) 97%	699 (2646) 98%		

Input Requirements		
Natural gas pressure	<ul><li>&gt;3.5in W.C. flowing (872 Pa), ≤14in W.C. static</li><li>(3487 Pa). Convertible to use liquid propane</li></ul>	
Electrical service	120VAC, 30A	
Exhaust venting	Use a Category IV, CPVC or ETL, UL, ULC or CSA listed stainless steel or Centrotherm InnoFlue SW Polypropylene vent. Minimum vent length is 5 eq. feet. See installation manual for specifics.	
Inlet Combus- tion Air Duct	Use PVC or galvanized pipe. 150 eq. ft. using 6" pipe. Longer lengths are ETL listed with larger diameters: see installation manual for specifics.	
Internet connectivity	Wired via Ethernet RJ-45	
Ambient temperature	0 - 130 °F (-17.8 – 54.4 °C)	

Water Inlet Requirements			
Pressure	15 - 145psi (103 - 1000 kPa)		
Temperature	Cold: 40 - 100°F (5 - 38°C) Recirc: ≤ 180°F (≤ 82.2°C)		
рН	6.5 - 8.5		
Hardness	Cold: $\leq$ 30 grains ( $\leq$ 513 ppm CaCO3) Recirc: $\leq$ 7 grains ( $\leq$ 120 ppm CaCO3)		
Free chlorine	≤ 1 ppm		
Iron	≤ 0.3 ppm		
Manganese	≤ 0.05 ppm		
Phosphates	< 3.0 ppm		
Silica	≤ 20 ppm		
Oil and H <sub>2</sub> S	Must be removed		
TDS	500 mg/L		
Copper	< 1.3 ppm		
Chloride	≤ 200 ppm		
Sulfate	≤ 250 ppm		

\*Recoveries and thermal efficiency based on DOE 10 CFR 431 testing per ANSI Z21.10.3 / CSA 4.3 from 70°F ( $21^{\circ}$ C) at inlet to 140°F ( $60^{\circ}$ C)

### Certifications



### System Certifications

ASSE LEC 2012 - Element Q is certified by IAPMO R&T

### **Sub-system Certifications**

ASME BPVC Section IV HLW to 150psi ANSI Z21.10.3 / CSA 4.3 ASSE 1017 NSF 372 NSF 61

## **Complete Engineered System Solutions**

Superior Safety. Maximum Efficiency. Improved Water Quality.



Lync combines advanced technologies and innovative design with industry-leading manufacturing expertise to deliver complete, cost-effective commercial water technology system solutions from a single source.

Our fully assembled, integrated solutions provide your building with maximum efficiency, superior safety and improved water quality while minimizing planning, design and installation time to reduce costs and increase your return on investment.

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**Engineered Solutions**