

Flow-Q™ Controller

Designed to optimize the performance of Armstrong's Design Envelope equipment through on-board speed and flow controls, connectible to the plant's BMS and Envelope Cloud delivering Active Performance Management.

Why choose Design Envelope Technology?

SENSORLESS CONTROL

Design Envelope enabled products model equipment and system behaviour monitor actual system conditions to dynamically adjust equipment system demand.

MIN AND MAX FLOW CONTROL

Primary loop advanced operation keeps your chiller protected from insufficient flow while maximize energy savings.

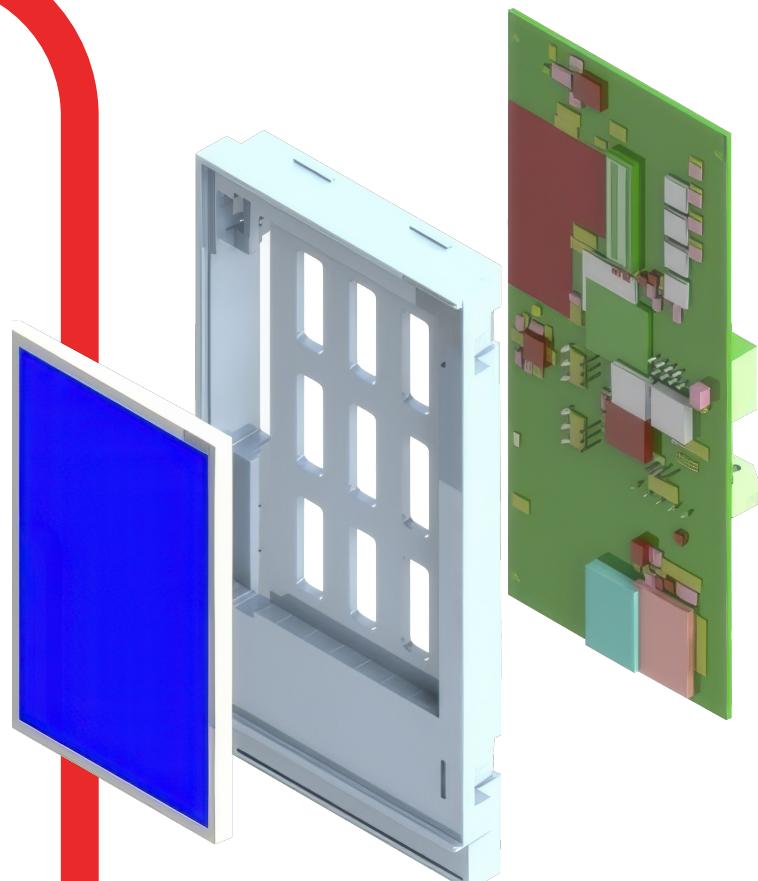
BEST EFFICIENCY STAGING

Design Envelope enabled equipment work together, as a system, to achieve the best efficiency points maximize energy savings.

AUTO FLOW BALANCING

The Flow-Q controller allows Desgin Envelope equipment to reset its head parameter based on system resistance, this allows the asset to learn and adapt based on real operating conditions.

Envelope helps you manage your building's assets from anywhere, anytime and on any device.



DEVICE FEATURES

-  Delivers a standardized integration point list.
-  Commissioning from the palm of your hands via the Wrench Mobile App.
-  Local HMI support for quick access to pump status.
-  IoT native controller ready for Cloud integration helps customers securely keep in touch with their building or portfolio of buildings at anytime.

Flow-Q™ Controller

Technical Specifications

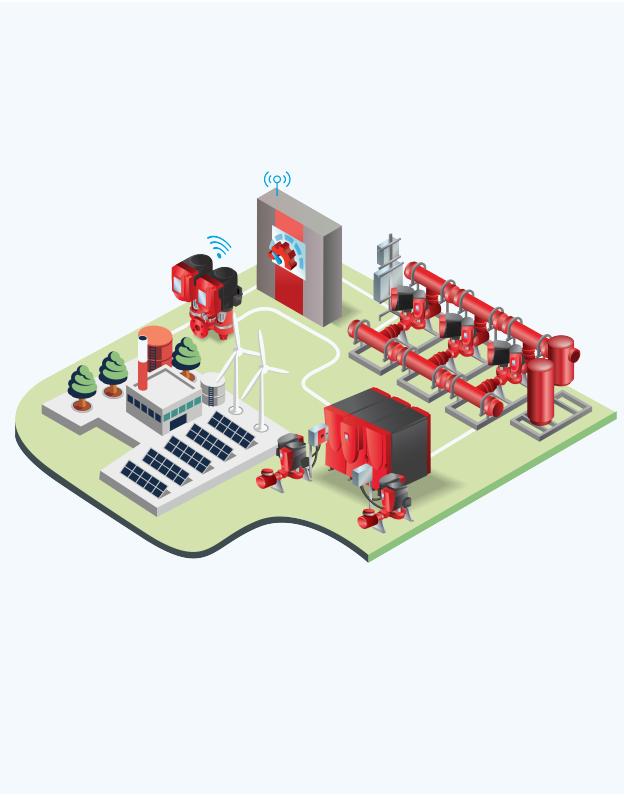
WIRELESS COMMUNICATION	Wi-Fi – IEEE 802.11b, IEEE 802.11g, IEEE 802.11n network standards 2.4 GHz single band frequency
	Bluetooth – BLE v5.1 2.4 GHz frequency
PORTS	RS485 - BMS MSTP RS485 - VDD Dedicated CAN bus - Assets reserved Baud 9,600 - 115,200 Kbps 1 CANbus daisy chain capable (115 Kbps baud rate)
	Ethernet – 10Base-T/100Base-TX IEEE-802.3 compliant
PROTOCOLS	Modbus RTU IP BACnet MSTP IP MQTT TLS 1.3
DISPLAY	LCD screen – 4.3" (diagonal) 480 x 272 resolution UV protection film
REAL TIME CLOCK	3V CR2032 battery backup up to 3 years
INPUT VOLTAGE RANGE	22V ~ 36V DC
MIN. REQUIRED CURRENT	150 mA
MICROPROCESSOR	32-bit ARM Cortex-M4F 120 MHz, 150 DMIPS performance
UNIVERSAL I/O	Capable of integration via Modbus RTU
COMPLIANCE	EN 55014-1 (Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission) EN 55014-2 Part 2: Immunity. ETSI EF 203 367 - complying with FCC and CE Part 15 FCC Antenna Regulations - Colocation test for BLE and Wi-Fi RoHS For Electrical and Electronic Equipment

BACnet Conformance BTL Tested and conforms with
BACnet Advanced Application Controller (B-AAC) rev. 26

Environmental Limits

OPERATING TEMPERATURE RANGE	-20 ° to 70 °C (-4 ° to 158 °F)
STORAGE TEMPERATURE RANGE	-30 ° to 70 °C (-22 ° to 158 °F)
OPERATING LIMIT	Fully operational at 60 °C/90% relative humidity
VIBRATION RATING	Up to 2 g-force

PRODUCT SPECIFICATIONS



WARRANTY

Please visit armstrongfluidtechnology.com
for warranty details in your region of the world.

COMPLIANCE

US FCC  CA  EU CE 

FLOW-Q™ CONTROLLER | 90.206