

Call [800.959.0299](tel:800.959.0299) to speak with a sales representative or visit us on the web at www.analyticaltechnology.com



ResidualChlorineMonitor

Q46H / 62-63



Q46H Flowcell Style Sensor

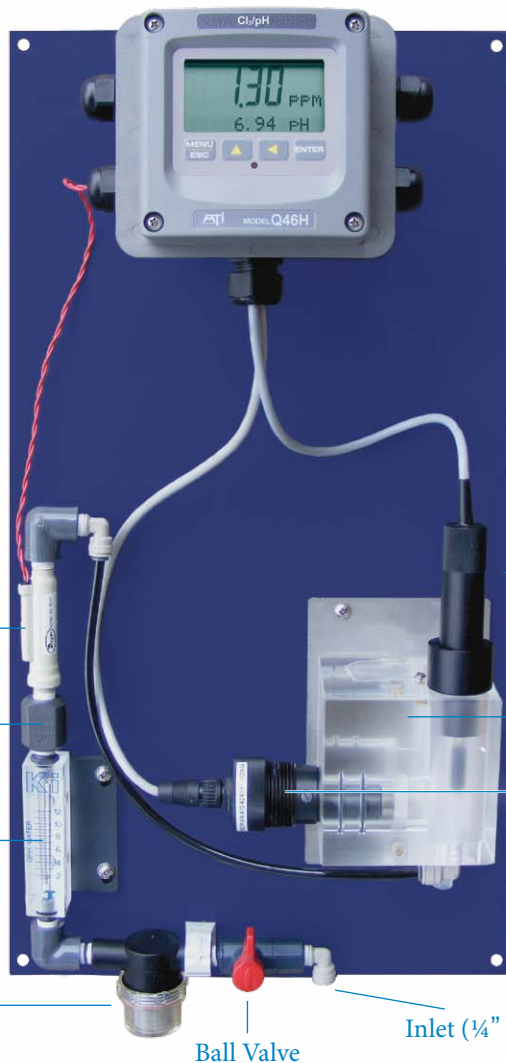
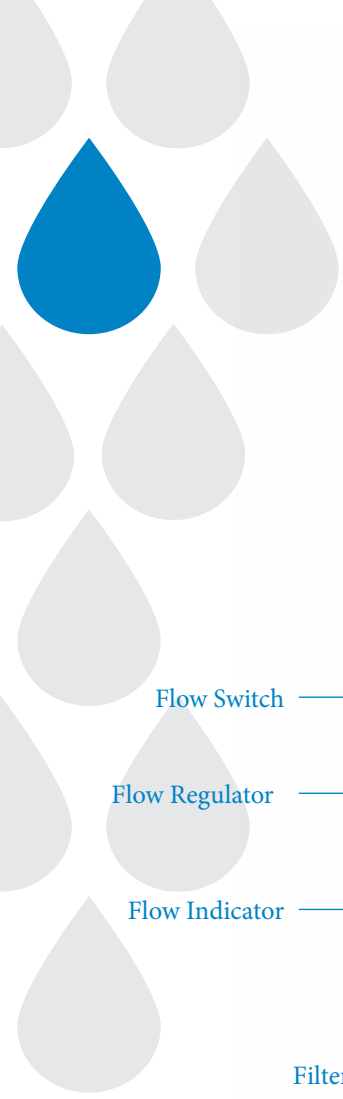
ATI's Model Q46H Chlorine Monitor is an upgraded version of our proven Q45 system for continuous monitoring of free or combined chlorine. Monitor capabilities have been expanded to include options for a 3rd analog output, or for adding additional low power relay outputs. Digital communication options for Profibus, Modbus, or Ethernet have also been added.

The Q46H system uses a polarographic membraned sensor to measure chlorine directly, without the need for chemical reagents. When needed, automatic pH compensation may be added for highest free chlorine measurement accuracy, and systems are available to provide 4-20 mA outputs for chlorine, pH, and temperature to allow easy CT calculations.

Q46H systems are economical to purchase, economical to maintain, and provide long term accuracy and reliability for your chlorine monitoring needs.

MONITOR YOUR CHLORINE ...*Reagent Free*





EASY INSTALL.

Want to simplify installation?

ATI can supply the Q46 complete with sample flow controls mounted to a PVC back plate ready to mount. Connect power, water sample, and analog/relay outputs and your ready to go. Systems are available with or without a flow switch for remote indication of loss of sample.

pH Sensor

Constant-Head Flowcell

Chlorine Sensor

Flow Switch

Flow Regulator

Flow Indicator

Filter

Ball Valve

Inlet (¼" O.D. Tube)

FEATURES.

Free or Combined Chlorine. Q46 Monitors are factory set for either Free or Combined Chlorine measurement, but can easily be converted from one to the other in the field.

Flexible Operating Range. Monitors may be programmed for display ranges of 0-2, 0-20, or 0-200 PPM, and a 0-200 PPB range is available for chlorine breakthrough applications.

Economical Operation. Reagent-less operation and low parts cost makes the Q46 your best choice for chlorine monitoring applications in potable water, wastewater, cooling water, or high purity water systems.

AC or DC Power Options. Units are available for operation from AC power (100-240 VAC) or from low voltage DC supplies (12-24 VDC).

Automatic pH Compensation. For free chlorine monitoring under widely varying pH conditions, automatic pH compensation may be added to maintain the highest measurement accuracy at pH levels up to 9.5.

Dual Chlorine/pH Monitoring. Even when pH correction is not required, adding a pH sensor to the system converts the monitor to a dual analyzer, providing 4-20 mA outputs for both chlorine and pH.

Three Analog Output Options. A third analog output may be added to provide outputs for chlorine, pH, and temperature, ideal for applications where CT calculations are desired.

PID Output. When chlorine control is desired, one 4-20 mA outputs may be configured for PID control of chlorine free equipment.

Relay Outputs. Monitors provide 3 standard SPDT relay outputs. Three additional low-power SPST relays may be added if needed for special applications.

Digital Communications. Q46 monitors are available with digital outputs. Options include Profibus-DP, Modbus, or Ethernet.

SENSOR & FLOWCELL OPTIONS.

Two types of chlorine sensors are available, one designed for flowcell installation and one for submersion applications. Free chlorine monitoring should always be done using a flowcell system. Good control of sample flow and pressure is important for accurate measurement, and the standard constant-head flowcell should be used for most applications. A sealed flowcell and a low-volume flowcell are also available for special applications. Consult your ATI representative for application assistance.

Submersible combined chlorine sensors can sometimes be used for measuring total chlorine in wastewater effluent. Wastewater effluents containing more than 1 PPM of ammonia often result in a chlorine residual that is more than 90% monochloramine. Direct measurement with a submersible sensor can provide a dependable monitor without all the sampling and chemicals associated with total chlorine measurement.



Submersion and Flowcell Sensors



Constant Head Flowcell



Sealed Flowcell

Say *Goodbye*
to Buffers &
DPD Reagents
...Forever!

SENSOR STABILIZATION.

Chlorine sensors, especially free chlorine, require up to 8 hours of stabilization time when first installed or after membrane change. ATI offers a battery powered "polarizer" that can be used to stabilize a spare sensor so it is ready to run within a few minutes of installation. Polarizers simply plug into the sensor connector and require no adjustments.



Sensor Polarizer

SYSTEM OPTIONS.

Standard Q46H Systems are AC powered (100-240 VAC, 50/60 Hz.) but a 12-30 VDC version is also available. The basic system includes 2 Isolated 4-20 mA Outputs and 3 SPDT Alarm Relays.

If pH correction is required, or if pH measurement is also desired, an optional pH sensor is available. With this sensor connected, the second analog output may be configured for pH instead of temperature to provide a dual chlorine/pH monitor system.

Q46H systems may also be supplied with an additional output board. This output board may contain EITHER a third 4-20 mA output OR three additional low power relays. Adding the third analog output is the most common as the system then provides isolated outputs for chlorine, pH, and temperature.

In addition to the analog output options, Q46H monitors may be supplied with digital communications. A Profibus DP interface is currently available, with Modbus and Ethernet options under development.

Q46H/62-63 SPECIFICATIONS

ELECTRONIC MONITOR

Display Range	0-2,000, 0-20.00, or 0-200.0 PPM
Accuracy	± 0.01 PPM
Repeatability	± 0.01 PPM
Zero Drift	< 0.01 PPM/Month
Power	100-240 VAC ± 10%, 50/60 Hz., 10 VA Max. 12-24 VDC, 500 mA Max. Optional
Analog Outputs	Two isolated 4-20 mA, 500 Ω Max. Standard
Relay Output	Three SPDT, 6A @ 250 VAC Standard Three additional SPST low voltage relays optional
Display	4 digit, 0.75" LCD numeric plus 12 digit second line
Enclosure	Nema 4X (IP-66) Polycarbonate
Operating Conditions	0-50° C
Weight	6 lbs. (2.7 Kg) with sensor, flowcell & accessories 15 lbs (6.8 Kg) assembled into panel

SENSOR & FLOWCELL

Chlorine Sensor	Membrane-covered amperometric (polarographic)
Optional pH Sensor	Combination pH sensor, with or without preamplifier
Materials	PVC & 316 Stainless Steel
Response Time	90% in 60 seconds
Temperature Limits	0-50°C
Pressure Limit	0-50 PSIG
Sensor Cable	25 ft. (7.5 m) Standard
Sensor Flowcell	Clear acrylic constant-head overflow standard Sealed acrylic flowcell optional
Sample Flowrate	7-15 GPH (0.5-1.0 LPM)

NOTES:

- 1 - All systems are supplied w/one package of membranes, one 120 cc bottle of electrolyte, & one spare parts kit containing 3 each of all o-rings & special screws.
- 2 - Suffix D, 2, 3, or 4 allow Q46H to supply outputs for both chlorine & pH.
- 3 - Flowcell for Cl₂ / pH Combo systems should be kept within 25 ft of monitor.
- 4 - Buffer packet for pH 4 & 7 supplied with opt. 2, 3 or 4, suffix D.
- 5 - Pipe mount requires two 2" U-bolts (47-0005).

ORDERING INFORMATION

Model Q46H-A-B-C-D-E-F-G Chlorine Monitor

Suffix A - Measurement Type

- 62 - Free Chlorine
- 63 - Combined Chlorine

Suffix B - Power

- 1 - 100-240 VAC, 50/60 Hz
- 2 - 12-24 VDC

Suffix C - Sensor Style

- 1 - Sensor with constant head flowcell and 25' cable
- 2 - Submersible sensor with 25' cable (Combined chlorine only)
- 3 - Sensor with sealed low-volume flowcell
- 4 - Sensor with 1-1/2" Flow "T" (Combined chlorine only)
- 5 - Sensor with sealed flowcell
- 6 - Flow sensor only, no flowcell (consult factory)

Suffix D - pH Sensor Input

- 1 - None
- 2 - Q22 pH Sensor with battery preamp, 25' cable
- 3 - Standard pH sensor with 25 ft. cable & Adapter for overflow cell
- 4 - Standard pH sensor with 25 ft. cable & sealed flowcell

Suffix E - Digital Output

- 1 - None
- 2 - Profibus DP
- 3 - Modbus
- 4 - Ethernet

Suffix F - Optional output (select only one)

- 1 - None
- 2 - One additional 4-20mA output
- 3 - Three additional low power relays (SPST, 0.5A Max)

Suffix G - System Assembly

- 1 - None
- 2 - Panel with flow controls, without flow switch
- 3 - Panel with flow controls, with flow switch

OPTIONS

- 07-0100 NEMA 4X junction box
- 31-0038 Sensor interconnect cable (max. 100 ft.)
- 00-0628 Mounting bracket kit for submersible sensor
- 00-0259 CO2 buffer injection system (for precipitation control)
- 55-0003 Rotameter for CO2 buffer system
- 00-0570 Free Chlorine Sensor polarizer (flow)
- 00-0572 Combined Chlorine Sensor polarizer (flow)
- 00-0573 Combined Chlorine Sensor polarizer (submersion)
- 47-0005 2" U-bolt, 304SS
- 05-0068 Panel mount bracket kit



CSA & UL Approvals Pending.



Visit Us on the Web: www.analyticaltechnology.com

B / Q46H/62-63 (8/11)

Analytical Technology, Inc.

6 Iron Bridge Drive
Collegeville, PA 19462
Phone 610.917.0991
Toll-Free 800.959.0299
Fax 610.917.0992
Email sales@analyticaltechnology.com

Analytical Technology

Unit 1 & 2 - Gatehead Business Park
Delph New Road, Delph
Saddleworth OL3 5DE
Phone 01457 873 318
Fax 014557 874 468
Email sales@atiuk.com

Represented by:

**TRAILBLAZER
CONTROLS
CORP.**

T: 801-955-3900 www.TrailblazerControls.com