SUPERIOR

WG - 702
Water Quality Analyzer

Much more than water treatment. WaterGuard offers water management.

WaterGuard WG-702, using top Colorimetric technology, leads the way by adapting to changing needs for water and wastewater treatment. WG-702 offers monitoring of chlorine residual, pH, ORP (Redox), temperature, flow, turbidity, and conductivity.

Known throughout the world. Working for you. SUPERIOR and WaterGuard.

WaterGuard

The Solution to Water & Wastewater Treatment

SUPERIOR, the trusted name for water and wastewater treatment, brings WaterGuard WG-702. With accurate, automated Colorimetric technology, WaterGuard chlorine residual water quality analyzer is the benchmark for ease of use. Low maintenance. Quality equipment and readings you can count on. WaterGuard allows you to go beyond water treatment. Be in control with WaterGuard WG702.

Automatic sampling, which you can set at two minute to ten minute intervals results in a much more accurate picture of the water treatment process. WaterGuard offers flexibility to meet your need. With more and more requirements for better control of water processing on the horizon, the best way is the best way. WG-702 is accurate and just so easy to use.

WG-702 has quick, simple installation. The unit comes ready to start working for you. Easy to read display gives up to the minute information on your choice of up to eight parameters: FREE Chlorine, Total Chlorine, Flow Rate, Conductivity, Turbidity, pH, ORP (Redox), and Temperature.

The turbidity measurement provides a continuous and automatic validation of the clarity of the process sample. This information can be used to quantify overall process (filtration and chemical treatment) effectiveness as well as individual treatment effectiveness. The turbidity value can be used as a benchmark for process improvements or as an indicator to initiate additional process treatments.

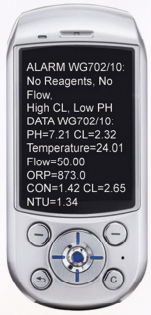
The minimum flow rate of 30l/h and state of the art flow assembly provide optimal operating conditions with low energy usage and cost effective use. Operator and system friendly, made for safety and accuracy, WG-702 also offers simple maintenance and inventory control.

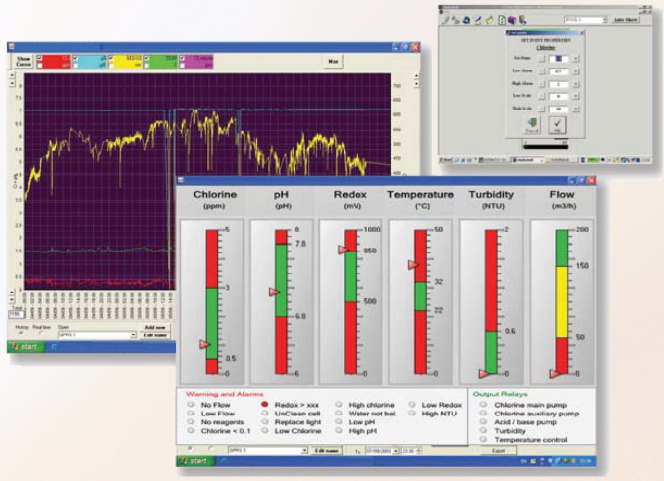
How does WaterGuard WG-702 work? Water at a regulated pressure activates a flow switch then enters the optional measurements chamber and flows continually to drain, ensuring a real time sample at user defined intervals.

A solenoid opens and diverts water through the photometer measurement cell, flushing the cell for a set interval. A piston activates to clean the cell wall and drive out any bubbles within the cell. The solenoid closes and a zero calibration is performed to compensate for turbidity or coloration due to the presence of iron or other impurities.

Precision peristaltic pumps add DPD and buffer solutions to the sample and the piston cycles several times to thoroughly mix the test sample. The sample and reagents are allowed an interval to react, developing a color proportional to the chlorine concentration. The color is read by the photometer and is registered. When measuring free and total chlorine in the same sample, additional DPD reagent is added, and the piston cycles to also mix in this reagent. The photometer reads and registers the sample as for free or total chlorine residual.

WaterGuard WG-702. The entire system, including electrodes, is protected against random water shut off and automatically resumes operation without delay.





The solenoid then opens, flushing the sample with reagent(s) ro a separate drain. The piston cycles to clean out the sample cell. The solenoid closes til the next test interval.

WG-702 Have the best, and have it two ways. Go wired. Go wireless. WG-702 offers you the ability to get your water process results at any time by using the optional wireless feature. See your readings online, or have readings and alarms sent to a cell phone. Be able to print out results in your chosen time ranges. No more relying on memory.

Have real time results right at your fingertips.

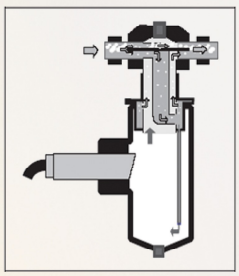
WG-702 Colorimetric Water Quality Analyzer

Turbidity Sensor

High quality turbidity sensor with high resolution covers a wide range of applications, remaining accurate and reliable over the long term.

A 90 degree scattered light with two receptors provides high accuracy. With a sensitivity resolution of 0.01 NTU, the sensor is suitable for monitoring potable water while the wide range is also effective in sewage water with high levels of turbidity.

A unique method of "bubble trapping" and self cleaning enables smooth operation even in difficult water conditions.



Integrated Gas Bubble Elimination

pH Probe

Free Chlorine, Total Chlorine, Flow Rate, Turbidity, Conductivity, pH, ORP, Temperature. Get consistent, accurate readings. (+/- 5%)

Requires very low reagent consumption. (~0.03ml/sample)

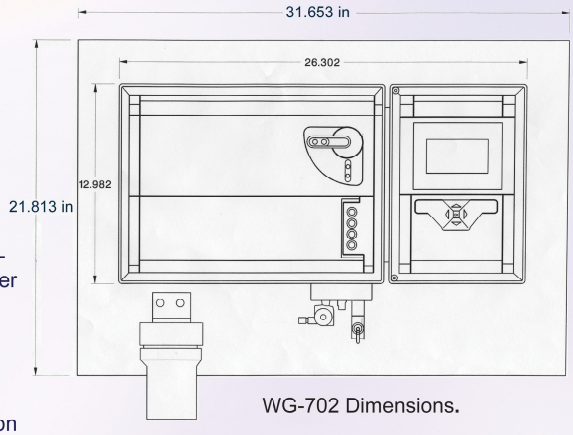
IP: 65 Rated Enclosures. (NEMA 4 Equivalent)

Conductivity Sensor

Compact insert electrodeless conductivity transmitter, implements the inductive measuring principle for high quality measurement over a wide range of applications.

Appropriate for potable water, sewage, and acid concentrations, from 200 µS/cm up to 1,000,000 µS/cm.

Features automatic temperature compensation and low maintenance requirements.



WG-702 Dimensions.

ELECTRICAL CONNECTION	
Power supply	110-115VAC/1A 210-230VAC/0.5A; 50Hz/60Hz
Power supply for RTC Memory	3.6V Lithium Battery

DATA SERIAL OUTPUT SIGNAL OUTPUT	
RS 485	Standard
4-20ma	Standard

RELAYS	
CL (Chlorine) set point 1	110-230V 4A Max
CL (Chlorine) set point 2	110-230V 4A Max
pH	110-230V 4A Max
Turbidity control*	110-230V 4A Max
General Alarm	110-230V 4A Max
Temperature control	110-230V 4A Max

DISPLAY	
Measured 5.5" Large Graphic: Turbidity*	Chlorine, pH* Temperature*,
Monochrome Display Bottom of Display 2 line 24	Conductivity*, Flow* For secondary parameters, program
Character LCD with backlight:	Alarms and status

pH MEASUREMENT	
Display range	4-10
Sensor	Ceramic diaphragm and gel filling
Input impedance	0.5 . 10^{12}ý

TEMPERATURE MEASUREMENT	
Sensor	PT-100
Measuring range	32 to 158ºF (0 to 70ºC)

FLOW MONITORING	
Sensor	Rotating flow switch
Output signal	Dry Contact
Inlet Pressure	1 BAR
Outlet Pressure Close Cell:	0.9 BAR

CHLORINE CONTROL #1	
Control function	PI, or On/Off
Proportional band	yes
Set value function	Pulse Length proportional controller Pulse Frequency proportional controller

CHLORINE CONTROL #1	
Control function	PI, or On/Off
Proportional band	yes
Set value function	Pulse Length proportional controller Pulse Frequency proportional

CHLORINE CONTROL #2	
Control function	On/Off
Proportional band	No
Integral action time	No

DATA LOGGER	
Memory	256K
Lines	1000
Recording interval	1-360 min
Event logger	Yes
Total relay on time	Yes

* Optional Feature

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The Solution to Water & Wastewater Treatment

ENGINEERING SPECIFICATION:
The chlorine analyzer shall be a WaterGuard Model _____ (WG-702-FOT / WG-702-FAT) capable of accurately measuring _____ (FREE OR TOTAL / FREE AND TOTAL) chlorine residual. The WaterGuard chlorine residual analyzer shall employ a DPD Colorimetric measurement using a DPD indicator reagent and a separate buffer solution.

The chlorine residual analyzer shall be capable of measuring either FREE or TOTAL residual chlorine by changing the indicator reagent and buffer solutions (Model WG-702-FOT), OR it shall be capable of measuring and displaying both FREE and TOTAL chlorine at the same time (Model WG-702-FAT). The analyzer shall be capable of displaying Turbidity, Conductivity, and Flow, using input from optional external measurement devices.

Measurement frequency shall be adjustable, from 2 to 10 minute intervals, as required by the user. Measurement range shall be 0-10 ppm (mg/l). The measurement shall self-zero before each reading and the measurement photocell shall employ a self cleaning piston which will maintain the cleanliness of the cell walls regardless of sample impurities, as well as provide complete mixing of reagents and the sample.

All functions and readouts shall be viewed on a backlit LCD screen capable of providing up to 8 different water quality measurement values, and of indicating all programming functions and alarms. All system and set-point alarms shall be in clear, easily understood messages, and shall cause the LCD display back-light to flash ON/OFF as a visual indicator. Use of codes, without easily understood messages, or other indicators requiring separate lists or special knowledge to understand alarms, is prohibited. All program and set-point functions shall be accessible from the front of the unit using a touchpad, with two-level password security for both operator and technician level functions.

System alarms shall indicate low reagent levels as well as any “no reagent” condition, and low sample flow condition. Any major variation in the analyzer performance shall cause an appropriate alarm and message, and the alarm shall shut down the analyzer until corrective action is taken. Six (6) sets of SPDT NO/NC dry contact relays shall be provided for alarms and/or control of external equipment. A built-in PID control function shall allow chlorine residual control and pH control, in closed treatment systems, to a user determined set-point, through contact relays, using chemical metering pumps. In addition to chlorine residual, alarm contacts shall be provided for pH, temperature, Turbidity, and general alarms.

Two (2) 4-20 mA analog outputs for recorders and process controllers, shall be provided. They shall be user selectable by keypad to assign any output for which a measurement is provided. The analyzer shall allow for an optional, four (4) additional 4-20 mA analog outputs, potentially six (6) total. An internal RS-485 Data Serial Output shall allow connection to external computer and information management systems. The analyzer shall contain a built-in data logger with 256K memory, operator adjustable recording interval from 1-360 minutes, allowing the logging of all events and programming changes. Logged Data shall be accesible through the RS-485 output.

The analyzer shall be housed in an IP-65 rated plastic enclosure designed for wall mounting. Power requirements shall be 110-120 VAC/1A, 210-230 VAC/0.5A: 50-60 Hz, 60 VA. A 3.6V lithium battery shall be provided for RTC memory.

WATERGUARD WG-702 ANALYZERS	
WG-702FOT	COLORIMETRIC FREE OR TOTAL DPD ANALYZER
WG-702FAT	COLORIMETRIC FREE AND TOTAL DPD ANALYZER
WG-702 REAGENTS	
DPD-1	FREE CHLORINE REAGENT SET FOR USE WITH WG-702FOT AND WG-702FAT ANALYZERS
DPD-3	TOTAL CHLORINE REAGENT FOR USE WITH DPD-1 IN WG-702FAT ANALYZER ONLY
DPD-4	TOTAL CHLORINE REAGENT SET FOR USE WITH WG-702FOT ANALYZER ONLY
WG-702 ACCESSORIES	
ELECTD-TEMP	WG-702 TEMPERATURE SENSOR
ELECTD-PH	WG-702 PH PROBE (REQUIRES A TEMPERATURE SENSOR)
TURB-KT-STD	WG-702 TURBIDITY STANDARD FLOW ASSEMBLY
TURB-KT-BUB	WG-702 TURBIDITY FLOW ASSEMBLY PLUS BUBBLE TRAP
TURB-KT-WIP	WG-702 TURBIDITY FLOW ASSEMBLY WITH WIPER
TURB-KT-BUB/WIP	WG-702 TURBIDITY FLOW ASSEMBLY PLUS BUBBLE TRAP AND WIPER
ELECTD-O/R	WG-702 ORP/REDOX ELECTRODE
COND/KT	WG-702 CONDUCTIVITY FLOW ASSEMBLY WITH SENSOR

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