

Accurate, reliable, and low-maintenance  
multi parameter analyzer for water analysis

**HG-702**  
Chlorine analyzer



HG-702 is the most accurate and reliable analyzer for measuring free or total, or both free and total residual chlorine in water.

HG-702 utilize the proven colorimetric DPD (N, N-diethyl-p-phenylenediamine) chemistry, which is the most accurate and reliable method for measuring chlorine in water.

## Reduced Total Cost of Ownership

### Customized multi-parameter analyzer

Each HG-702 analyzer can measure up to 7 parameters: Free or/and Total chlorine, pH, Temp, ORP, Conductivity and Turbidity, leading to major savings and eliminate the need to purchase separate analyzers.

### Customized cycle time and Low reagent usage

HG-702 low reagent usage (as low as 0.033 ml reagent per sample), together with its customized measurement cycle time (2-10 minutes), allows the analyzer to work unattended for up to 2 months.

### Low Maintenance

HG-702 utilize proprietary automatic mixing, bubble elimination, and self-cleaning mechanism of the colorimetric photo-cell before every reading. Self zero calibration before each reading allows accurate reading at varying water sources. Detailed maintenance reminders and alarms provide useful data on events, timing and causes, to enable efficient and quick response. Manual procedures such as periodic reagent replacement are easy to perform and do not require specialized skills.

## System Highlights and Benefits

- ✓ Outstanding performance and accuracy
- ✓ 0-10 ppm chlorine measurement range
- ✓ Low detection limit (10 ppb)
- ✓ Low reagent use and customized cycle time (up to 2 months at 5 min. cycle time)
- ✓ Self-zero calibration before each reading
- ✓ Self-cleaning and bubble elimination mechanism
- ✓ 6 built-in relays and alarm options
- ✓ Each analyzer can measure up to 7 parameters: Free or/and Total Chlorine, pH, Temp, ORP, EC and Turbidity



Municipal Water

Wastewater treatment

Power Industry

Desalination plants

Food & Beverage

Cooling Towers

Hospitals

MEASURED PARAMETERS	
Colorimetric Cell	FC, TC, FC&TC, Turbidity
Flow Cell	pH, Temp, ORP
External connection	Conductivity, Turbidity
CHLORINE MEASUREMENT	
Type of measurement	Colorimetric DPD Method
Measuring Range (Chlorine)	0-10 ppm
Accuracy	± 5 % or ± 10 ppb whichever is greater
Repeatability	± 0.01 mg/L
Minimum Detection Limit	10 ppb
Cycle Time Free or Total	2 to 10 minutes
Cycle Time Free and Total	2.5 to 10 minutes
Reagent usage	DPD up to 2 months at 5 min. cycle time
Reagent type	DPD1, DPD3, DPD4
Colorimetric cell cleaning	Automatic self-cleaning (Patented)
Reagent mixing	Inner solenoid activated mixer (Patented)
pH MEASUREMENT	
Electrode	Ceramic diaphragm and gel filling
Measurement Range	0 to 14
Input impedance	0.5 x 1.12k $\Omega$
ORP (REDOX) MEASUREMENT	
Sensor	Ceramic diaphragm and gel filling
Measurement range	0 to 2000 mV
TEMPERATURE MEASUREMENT	
Sensor	PT-100
Measurement range	0°C to 100°C (32°F to 212°F)
ANLYZER FLOW MONITORING	
Flow sensor	Inductive proximity switch
FLOW MEASUREMENT (Main line)	
Measurement range	0-1000 Cu.m/h (0-11 Mgp/d)
Frequency input	Via I/O card
Or 4-20 mA input	Via NTU card
ELECTRICAL CONNECTION	
Power supply	100-115 VAC, 50/60 Hz, 1.0 Amp 200-230 VAC, 50/60 Hz, 0.5 Amp
Power consumption	Approx. 60 VA
Power supply for RTC	3.6V Lithium Battery memory (CR2032)
MECHANICAL DATA & DIMENSIONS	
Dimensions (controller) (L x W x D)	670 x 330 x 130 mm (26.4" x 13.0" x 5.1")
Dimensions (Mounting board) (L x W x D)	800 x 550 x 5 mm (31.5" x 21.7" x 0.2")
Weight (approx.)	11 kg (24.3 lbs.)
Display	5.5" graphic monochromatic display
Cable entries	PG 9 cable Glands
Enclosure rating	IP 65 (NEMA 4 equivalent)

\* 8 Amp max apply for new universal I/O card only

OPERATIONAL REQUIREMENTS	
Sample and drain connection	Pressurized sample inlet and gravity drain
Inlet Pressure	0.35-1 bar (5-14.5 psi)
Measuring cell flow rate	35-60 l/h (9-16 gph)
Colorimetric cell flow rate	3-12 l/h (0.75-36 gph)
Ambient temperature	2°C to 50°C (35.6°F to 122°F)
Sample temperature	1°C to 45°C (33.8°F to 113°F)
DATA OUTPUT	
Digital communication	Modbus RS 485
Local I/O	2 Standard 4-20 mA outputs 4 or 6 Optional 4-20 mA outputs
DATA LOGGING	
Memory	256Kbit
Lines	1000
Recording Interval	1-360 min
Event logging	Yes
Total relay on time	Yes
SECURITY	
Operation password	Yes
Technician password	Yes
RELAYS	
Cl (Chlorine) set point 1	250 VAC/DC 8 Amp max*
Cl (Chlorine) set point 2	250 VAC/DC 8 Amp max*
pH1	250 VAC/DC 8 Amp max*
Turbidity control*1	250 VAC/DC 8 Amp max*
Temperature control	250 VAC/DC 8 Amp max*
General Alarm	250 VAC/DC 8 Amp max*
CHLORINE CONTROL #1	
Control function	PI or On/Off or frequency
Proportional band	Yes
Relay function	Pulse length proportional controller Pulse frequency proportional controller
CHLORINE CONTROL #2	
Control function	On/Off
Proportional band	No
Relay function	Pulse length proportional controller Pulse frequency proportional controller
pH VALUE CONTROL	
Control function	P or PI or On/Off or frequency
Characteristics	Normal/ Inverted
Relay function	Pulse length proportional controller Pulse frequency proportional controller
ORP CONTROL	
Control function	High alarm as chlorine override
CERTIFICATIONS	
USEPA Accepted method	Yes
CSA Certified	Yes
CE Certified	Yes