

# HYDROGUARD

## HG 702 Chlorine Analyzer



Water Intelligence Made Simple

### Accurate, Reliable, and Low-Maintenance Multi-parameter Analyzer for Water Analysis

HG702 is the most accurate and reliable analyzer for measuring free and/or total residual chlorine in water.

HG702 utilizes the proven colorimetric DPD (N, N-diethyl-p-phenylenediamine) chemistry, which is the most accurate and reliable method for measuring chlorine in water.



### System Highlights and Benefits

- ▼ Outstanding performance and accuracy
- ▼ Self-cleaning mechanism of the colorimetric photo-cell
- ▼ 0-10 ppm wide chlorine measurement range
- ▼ Each analyzer can measure up to 6 parameters: Free and/or Total Chlorine, pH, Temp, ORP and Conductivity
- ▼ Low detection limit (10 ppb)
- ▼ Low reagent use and customized cycle time (up to 2 months at 5 min. cycle time)

### Reduced Total Cost of Ownership

#### Customized multi-parameter analyzer

Each HG702 analyzer can measure up to 6 parameters: Free and/or Total chlorine, pH, Temp, ORP and Conductivity, leading to major savings and eliminating the need to purchase separate analyzers.

#### Customized cycle time and low reagent usage

HG702 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

HG702 utilizes proprietary automatic mixing, bubble elimination, and a 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.



# Technical Specification



## MEASURED PARAMETERS

Colorimetric Cell	Free Cl, Total Cl, Free & Total Cl
Flow Cell	pH, Temp, ORP
External connection	Conductivity

## 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 Ω

## 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
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## FLOW MEASUREMENT (Main line)

Measurement range	0-1000 Cu.m/h (0-11 Mgpd)
Frequency input	Via I/O card
Or 4-20 mA input	Via NTU card

## MECHANICAL DATA & DIMENSIONS

Dimensions (controller)	670 x 330 x 130 mm
(L x W x D )	(26.4" x 13.0" x 5.1")
Dimensions (Mounting board)	800 x 550 x 5 mm
(L x W x D )	(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)

\* Verify relays rating for analyzers purchased prior to 2016

## 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 (0.75-3.6 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)

## 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)

## DATA OUTPUT

Digital communication	RS-485 Modbus or Blue I protocol
Local I/O	2 Standard 4-20 mA outputs 4 or 6 Optional 4-20 mA outputs

## 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	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	Programmable P (Proportional) factor
Relay function	Pulse length proportional controller Pulse frequency proportional controller

## CHLORINE CONTROL #2

Control function	On/Off
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## pH VALUE CONTROL

Control function	Programmable P (Proportional) factor
Relay function	Pulse length proportional controller Pulse frequency proportional controller

## ORP CONTROL

Control function	High alarm as chlorine override
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## CERTIFICATIONS

USEPA Accepted method	Yes
CSA Certified	Yes
CE Certified	Yes