

HYDROGUARD® HG-302 TurbiPlus®

3-in-1 Colorimetric Analyzer & Multi-Parameter System

Take your pool a step ahead in water quality, health and safety

Free chlorine / Total chlorine / Combined chlorine / Turbidity Measured on one sample for accuracy and reliable monitoring

Customized Multi-Parameter System

HYDROGUARD® HG-302 TurbiPlus® brings lab-test accuracy to online monitoring and control for swimming pools, sea water pools and thermal pools. Free and total chlorine are measured using the proven colorimetric DPD chemistry that is not affected by pH changes or stabilizers. Multi-angle nephelometry white light (90°) turbidity measurement is performed on the same water sample for higher precision and control.

A combination of additional measurements is available in the same system: pH, ORP, temperature, flow.

Reliable Communication

Wireless communication allows for remote alarm monitoring and control, increasing safety and reducing site visits.

HG-302 TurbiPlus® parameters and alarms can be viewed from any Internet connection or mobile phone.

Proven Results: Constantly Clear Water

Based on HYDROGUARD®'s proven platform, the HG-302 is performing successfully in thousands of pools around the world. HG-302 TurbiPlus® provides the best monitoring and control with fast response time. Featuring ready-to-measure operation immediately upon setup or following electrical shutdown.

Reduced Total Cost of Ownership

Minimize maintenance visits: Self-calibration, self-cleaning and long-term stabilization.

HG-302 TurbiPlus® provides efficient control and optimization of filters as well as longer maintenance intervals. Detailed maintenance reminders and alarms provide useful information on events, timing and causes, so that pool personnel can respond effectively.

Automated monitoring and dosing saves chemicals



- ➔ Accurate and reliable measurements
- ➔ Multiple parameters in a single system
- ➔ Free and/or total chlorine: 0-10 ppm
- ➔ Turbidity: 0-20 NTU
- ➔ Configurable measurement interval (2 to 10 minutes)
- ➔ Low reagents (DPD) consumption (~0.03 ml/sample)
- ➔ Automatic zero calibration measurement before each reading, enables "0" reading
- ➔ Reagent mixing, sample de-bubbling and cell cleaning are all performed by one unit
- ➔ Dependable in varying pool environments (swimming pools & spas, sea water, thermal pools)



Your Water Quality Partner



HYDROGUARD® HG-302 TurbiPlus® SPECIFICATIONS

MECHANICAL DATA		TURBIDITY MEASUREMENTS	
Dimensions (controller) (W x H x D)	670 x 330 x 130mm (26.4" x 13" x 5.1")	Sensor	White light nephelometry (90° and 180°)
Dimensions (mounting board)	800 x 550 x 5 mm (31.5" x 21.7" x 0.2")	Measuring range	0 to 20 NTU
Cable fittings	Pg 7 cable glands	Accuracy	2-4% FS
Max. ambient temperature	2°C to 50°C (35.6°F to 122°F)	Resolution	0.01
Weight approx.	11 kg (24 lbs)	Bubble removal	Automated internal mechanism
ELECTRICAL CONNECTION		Cell cleaning	Automated internal mechanism
Power supply	100-115 VAC/1A; 200-230 VAC/0.5A; 50Hz/60Hz	pH MEASUREMENT	
Power consumption	Approx. 60 VA	Measurement Range	4 to 10
Power supply for RTC	3.6V lithium battery	Sensor	Ceramic diaphragm and gel filling
DATA SERIAL OUTPUT / SIGNAL OUTPUT		Input impedance	0.5 . 10 ¹² Ω
RS 485	Standard half-duplex	ORP (REDOX) MEASUREMENT	
RELAYS		Measurement range	0 to 900mv
Chlorine set point 1	250VAC/DC 4A Max	Sensor	Ceramic diaphragm and gel filling
Chlorine set point 2	250VAC/DC 4A Max	TEMPERATURE MEASUREMENT*	
pH	250VAC/DC Max	Sensor	PT-100
Turbidity control	250VAC/DC 4A Max	Measuring range	0°C to 50°C (32°F to 122°F)
General alarm	250VAC/DC 4A Max	MEASURING CELL	
Temperature control	250VAC/DC 4A Max	Working temperature	1°C to 45°C (33.8°F to 113°F)
DISPLAY		FLOW REQUIREMENTS	
Measured value displays	Chlorine, pH, ORP, Temperature, Turbidity, Flow*, Total chlorine*, Combined chlorine*	Measuring cell flow rate	35L/h - 60l/h
Function indicator	Auto, off/on mode for chlorine pH and dosing indication by red and green LEDs	Inlet pressure	0.3 bar (4.4 psi) to 1 bar (14.5 psi)
2 line 24 character LCD with background light		Outlet pressure closed cell	Up to 0.9 bar (13 psi)
For secondary parameters, program alarms and status		Flow switch type	Rotary switch
2 x 7 segment red display 3 digits	For Chlorine and pH	FLOW MEASUREMENT	
CHLORINE MEASUREMENT		Frequency input	via I/O card
Measurement	Free and/or Total chlorine and Combined chlorine	or	
Sensor	Colorimetric sensor	4-20mA input	via NTU card
Cell cleaning	Automatic self-cleaning mechanism (patent)	Measurement range	0-1,000 m3/hour
Mixing technology	Inner solenoid activated active mixer (patent)	pH VALUE CONTROL	
Measurement range	0 to 10ppm	Control function	Proportional or On/Off
Measuring Interval	2 to 10 minutes using the adaptive measurement™ method	Characteristics	Normal / Inverted
Max. inlet Operating Pressure	1 bar (14.5 psi)	Relay function	Pulse length proportional controller Pulse frequency proportional controller
Flow rate colorimetric cell	3 to 12 LPH @ 1bar (0.75 to 36 GPH @ 14.5 psi)	CHLORINE CONTROL #1	
Working Temperature	1°C to 45°C (33.8°F to 113°F)	Control function	Proportional or On/Off
Colorimeter body material	PP	Proportional band	Yes
REAGENTS		Relay function	Pulse length proportional controller Pulse frequency proportional controller
Reagent type	DPD1, DPD3, DPD4	CHLORINE CONTROL #2	
Reagent consumption	Min ~0.033 ml per sample	Control function	On/Off
Shelf life	Unmixed DPD1 & DPD4 3 years, DPD3 15 months Mixed: Recommended 60 days	Proportional band	No
		Integral action time	No
		DATA LOGGER	
		Memory	256 Kbit
		Lines	1000
		Recording interval	1-360 min
		Event logger	Yes
		Total relay on time	Yes
		SECURITY	
		Operation password	Yes
		Technician password	Yes

*Optional Feature



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