NEW

HORIBA
Process & Environmental

Beyond Water with You

Water Distribution Monitor

TW-150

Turbidity/Color/Free residual chlorine/
Water pressure/pH/Conductivity/
Water temperature

Water Distribution Monitor

TW-150

HORIBA's TW-150 is a process water quality measurement system designed for drinking water and water distribution plants. TW-150 monitors turbidity, color, free residual chlorine, water pressure and pH without any reagent for measurement. This chemical free method reduces operating costs as it requires minimal maintenance and improves process control.

Product website
https://www.horiba.com/tw-150/index.html

Key Features

■ Turbidity Method

Measurement method for turbidity is direct NTU value by 90 degree light scattering method and comply with ISO 7027. Measurement of turbidity and color is performed with a single cell (patent pending).

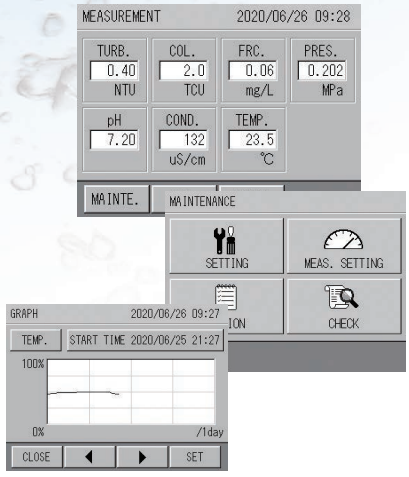
Standard 5 parameters
Turbidity, Color, Free residual chlorine, Water pressure, pH

Option 7 parameters
Turbidity, Color, Free residual chlorine, Water pressure, pH, Conductivity, Water temperature

■ Touch panel operation

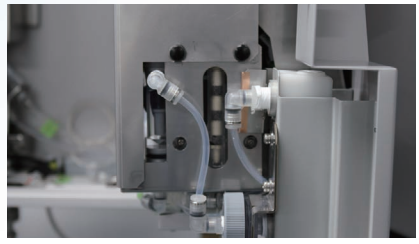
The instrument is operated with a touch screen panel for easy operation and display of measured values.

●Operation panel specifications
320 × 240 dots
Black and white graphic LCD with backlight

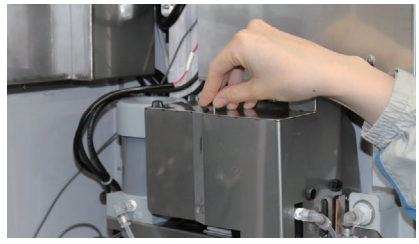


■ User-friendly function

●The adoption of transparent measuring cell enables sample conditions to be easily confirmed.



●The use of thumbscrews makes maintenance easier as special tools are not required.



[Table 1]

■ Standard type

Measurement items	Measurement method	Measurement range	Repeatability	Calibration method
Turbidity	90 degree light scattering method	0 to 2, 0 to 5, 0 to 10 NTU/FTU	±2.5% of full scale	Formazin standard solution
Color	Transmitted light absorption method	0 to 10,0 to 20 TCU	±5.0% of full scale	Standard color solution
Free residual chlorine	Polarographic method	0 to 5 mg/L	±2.5% of full scale	DPD colorimetric method
Water pressure	Semiconductor detection method	0 to 1 MPa, 0 to 10 Bar	±1.0% of full scale	Standard pressure gauge
pH	Glass electrode method	2 to 12 pH	±0.1 pH	pH standard solution

■ Option (each parameter can be added to the standard type)

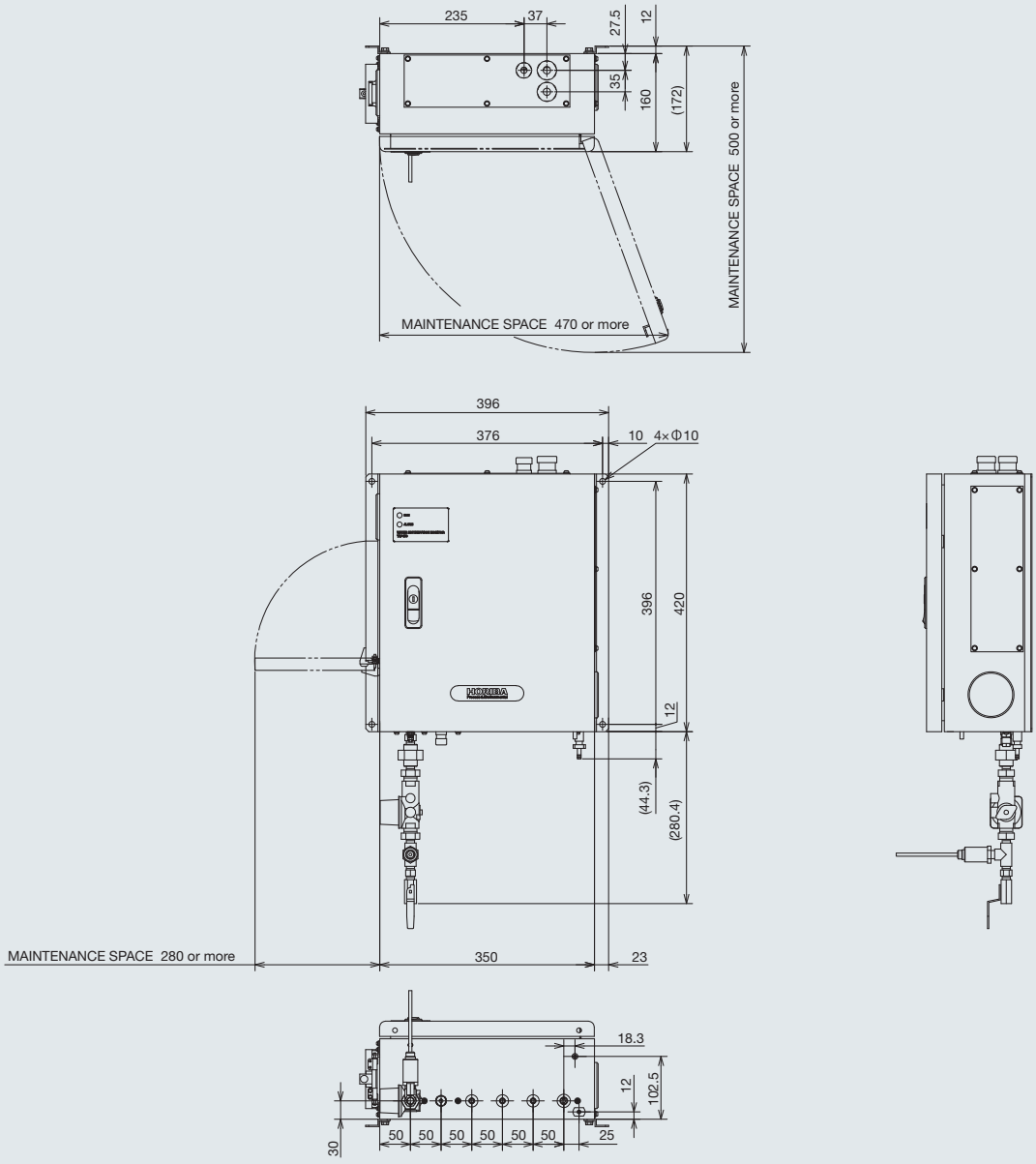
Measurement items	Measurement method	Measurement range	Repeatability	Calibration method
Conductivity	AC 2 pole method	0 to 500, 0 to 1000 µS/cm	±2.0% of full scale	KCl standard solution
Water temperature	Thermistor method	0 to 50°C	±0.5°C	Standard thermometer

Specifications

Product name	Water Distribution Monitor
Type	TW-150
Measurement items	(Standard configuration) turbidity, color, free residual chlorine, water pressure, pH (Optional items) conductivity, water temperature
Measurement Method	See Table 1.
Measurement range	See Table 1.
Repeatability	See Table 1.
Display system	LCD display 320 × 240 dot backlit change to five graphic liquid-crystal display (touch panel type) Up to seven items including five items from standard configuration (turbidity, color, free residual chlorine, water pressure, pH) and optional items (conductivity, water temperature) can be displayed at the same time.
Calibration method	See Table 1.
Automatic zero calibration	(Turbidity, color, free residual chlorine) Calibration method: Filtrate sample water Calibration start: Interior…started by internal timer Exterior…started by external contact input Calibration cycle: 5 hours to 9999 hours (user setting) Calibration time: Approx. 15 minutes
Automatic cleaning	(Turbidity, color) Cleaning method: Cell window cleaning using wiper Cleaning start: Interior...started by internal timer Exterior...started by external contact input Cleaning interval: 5 to 9999 minutes (user setting) (Free residual chlorine) Continuous cleaning by using grinding beads
Automatic draining	Draining start: Interior...started by internal timer Draining interval: 5 to 9999 minutes (user setting)
Sample water condition	Temperature: 0°C to 40°C (do not freeze) Pressure: 0.1 MPa to 0.75 MPa Conductivity: 10 mS/m or higher Analyzing unit input rate (flow rate): 50 mL/mi to 100 mL/min ● In test operation, flush the meter thoroughly before running water. ● Make sure to set up a bypass for piping to the meter. ● If sample water may freeze, take measures to insulate the unit from cold and to retain heat. ● Sample Water measured with this device cannot be distributed.
Ambient temperature, humidity	Ambient temperature: 0°C to 40°C Ambient humidity: 85% or lower
Analog output	Type: Measurement values: Number of outputs corresponds to number of measurement values (up to seven values including five values of the standard configuration) Specifications: 4 mA to 20 mA DC, insulated output (non-insulated between items) Maximum load resistance: 600 Ω
Contact output	Types: Power failure, batch alarm, maintenance Contents: Power failure…occurs when the power is turned off Batch alarm…cell temperature adjustment abnormality, temperature compensation abnormality, cell wiper abnormality internal communication abnormality, leak, battery abnormality, concentration upper limit concentration lower limit,concentration device upper limit, concentration device lower limit, light source abnormality zero calibration, span calibration, analyzer abnormality Maintenance…when the system enters maintenance or calibration mode Specifications: No-voltage contact output, a contact interface Contact rating: 125 V AC 0.3 A, 30 V DC 1 A (at resistance load) Each output is an independent COM interface.
Contact input	Type: Cleaning start, zero calibration start, alarm check setting, abnormal water sampling Contents: Cleaning start…started by closed contact input Zero calibration start…started by closed contact input Alarm check setting…started by closed contact input Abnormal water sampling... started by closed contact input Specifications: No-voltage contact input (open collector connection is possible), insulated input ON resistance: maximum 100 Ω Open voltage: 24 V DC Short-circuit current: maximum 13 mA
Communication	Interface: RS-232C compatible Communication speed: 19200 bps
Function	Integrating function for flow rate used in the system (counting type) Internal leak detecting function
Data memory	Measurement data is stored on system, and can be transferred to a CompactFlash®* (CF Card). Data saving interval: 1 minute or 1 hour Data saving frequency: 1 minute: Saves at every 0 second of the minute 1 hour: Saves at every 0 second of the hour Data memory time: 1 minute interval…for approx. 10 days 1 hour interval…for approx. 1 year The latest data will be stored.
Wiring connector	Wiring inlet Compliant cable: 12.5 mm dia. to 14.5 mm dia. Power source: 4.5 mm to 6 mm
Pipe connector	Sample inlet: Rc1/4 Condensate outlet: Rc1/8 Drain: Rc1/4 Condensate outlet (internal): 6 mm dia. hose nipple Air inlet: Rc1/8 Condensate outlet (for detection): 6 mm dia. hose nipple (Rc1/8) Calibration inlet: Rc1/8
Installation	Designed for indoor installation. * For outdoor installation, a case is required (option).
Power supply	90 V to 264 V AC: 50/60 Hz
Power consumption	100 V to 240 V AC: Maximum 120 VA
Weight	Approx. 18 kg
Dimensions	350 (W) × 160 (D) × 420 (H) (unit: mm)
Paint color	Munsell 5PB 8/1
Installation environment	● Flat and stable location with minimum vibrations or shocks ● No dust, mist or corrosive gas in the air ● Under atmospheric pressure ● No direct sunlight ● Good ventilation ● Altitude 2000 m or lower

* CompactFlash® is a registered trademark or trademark of SanDisc Corporation in the United States and other countries.

■Dimensions (unit: mm)



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We have now integrated Business Continuity Management System ISO22301 in order to provide our products and services in a stable manner, even in emergencies.

Please read the operation manual before using this product to assure safe and proper handling of the product.

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HORIBA Advanced Techno

HORIBA Advanced Techno, Co., Ltd.
Head Office
2 Miyanohigashi-cho, Kisshoin, Minami-ku, Kyoto, 601-8551, Japan
Phone: 81 (75) 321-7184 Fax: 81 (75) 321-7291
https://www.horiba.com/water-liquid/

HORIBA

HORIBA, Ltd.
Group Head Office
2 Miyanohigashi-cho, Kisshoin, Minami-ku, Kyoto, 601-8510, Japan
Phone: 81 (75) 313-8121 Fax: 81 (75) 321-5725
https://www.horiba.com

Worldwide locations of HORIBA
https://www.horiba.com/en_en/contact/worldwide-locations/

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