

# Right Angle Scattered Light Turbidimeter TB750G



## TB750G

**EXAxt** *Right Angle Scattered Light Turbidimeter  
to realize highly reliable measurement*

Bulletin 12E01A06-01E

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Envision a plant...

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VigilantPlant excels at bringing out the best in your plant and your people - keeping them fully aware, well informed, and ready to face the next challenge.

**Turbidimeter TB750G** is a core building block of Yokogawa's VigilantPlant solutions that promise to bring operational excellence to visionary plants.

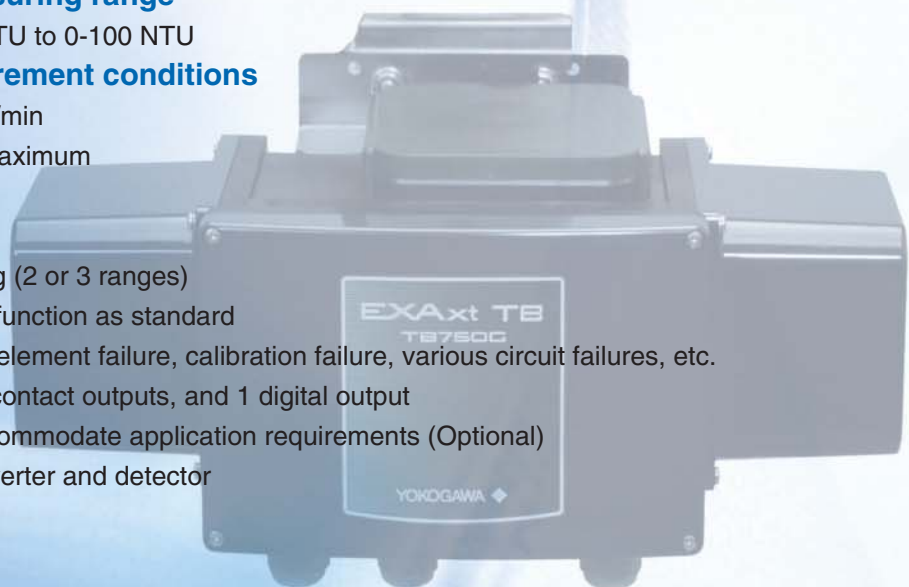
## Yokogawa Next Generation Turbidimeter TB750G

Since their sales began in 1959, Yokogawa's turbidimeters have been continuously developed and improved using various measurement principles suited for various applications. With its many achievements, Yokogawa has earned its customers' confidence.

Developed based on years of experience and applications in process fields, the TB750G Turbidity Measuring System using right angle light scattering method provides highly reliable measurement and improved maintainability which improve upon what previous models could offer. A wide range of options are available to meet users' various needs.

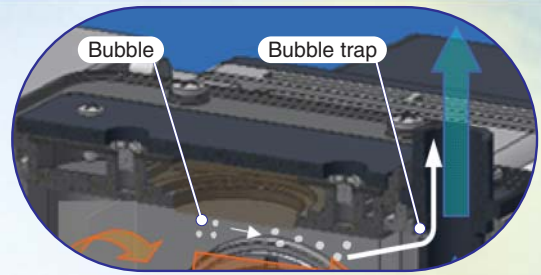
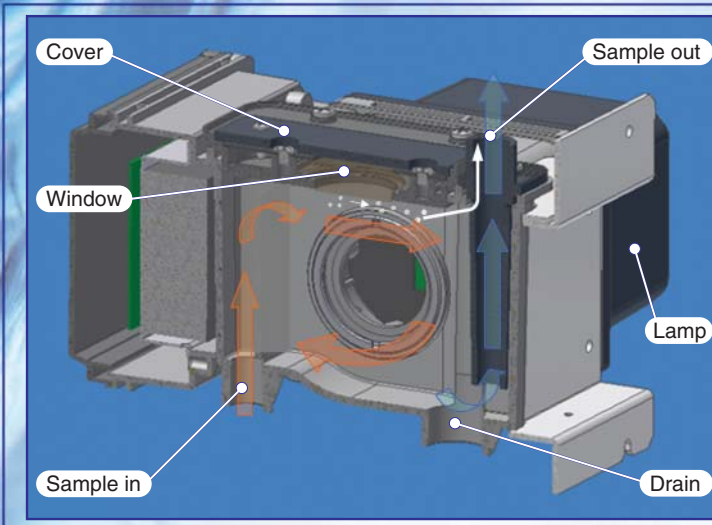
### FEATURES

- **Easy-to-clean cell**
- **Bubble trap structure cell**
- **Ultrasonic cleaning**
  - Ultrasonic transducer and oscillator for ultrasonic cleaning (Optional)
- **In-line connection available**
  - Detector can be also connected for in-line analysis
- **Highly reliable measurement with excellent linearity and repeatability**
  - Linearity:  $\pm 2\%$  of reading or  $\pm 0.01$  NTU, whichever is greater
  - Repeatability:  $\pm 1\%$  of reading or  $\pm 0.002$  NTU, whichever is greater
- **User configurable measuring range**
  - Measuring range: 0-0.2 NTU to 0-100 NTU
- **A wide range of measurement conditions**
  - Low flow rate: 0.05 to 20 l/min
  - High pressure: 500 kPa maximum
  - Temperature: 0 to 50 °C
- **Others**
  - Measuring range switching (2 or 3 ranges)
  - Enhanced self-diagnostic function as standard
    - Light source failure, input element failure, calibration failure, various circuit failures, etc.
  - 2 analog outputs, 3 relay contact outputs, and 1 digital output
  - Various head tanks to accommodate application requirements (Optional)
  - Compact, lightweight converter and detector



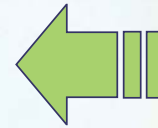
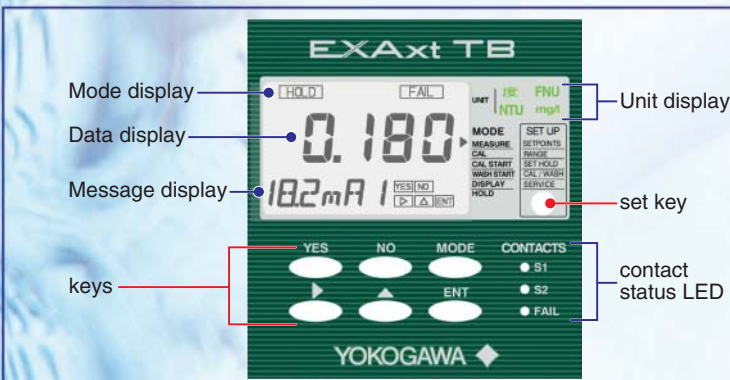


## DETECTOR



- Bubble trap structure installed
- Easy washing
- Easy replacement for lamp

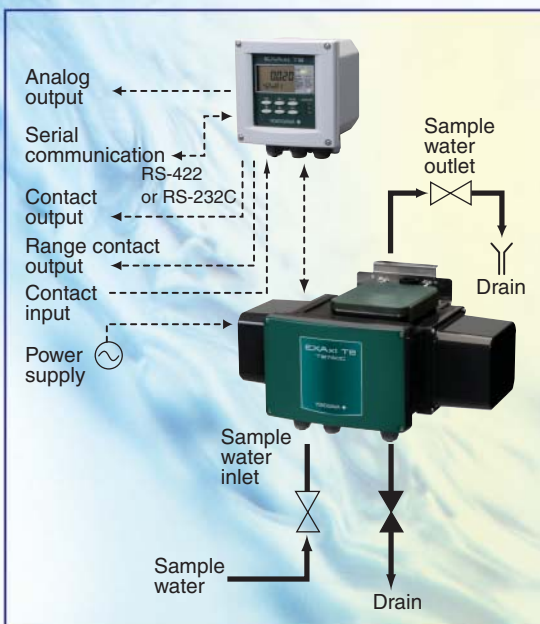
## CONVERTER



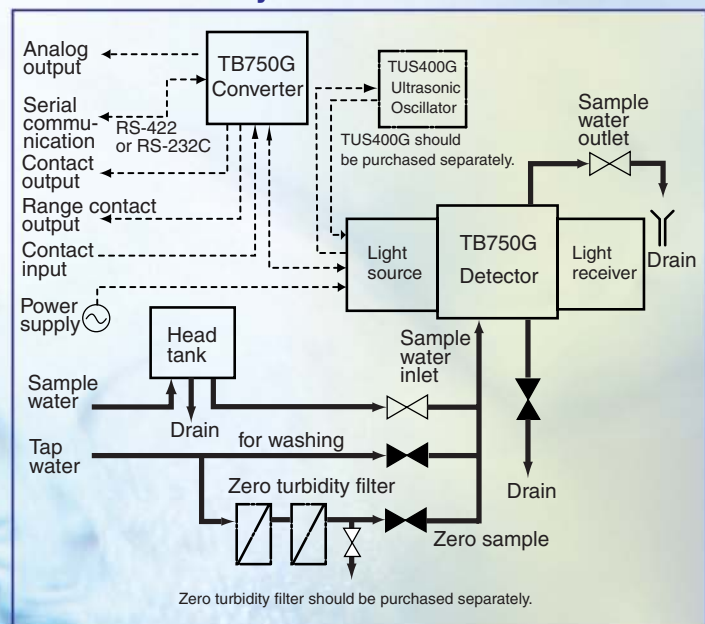
- Easy operation
- Compact case

## SYSTEM CONFIGURATION

### Typical system



### System with ultrasonic oscillator and zero turbidity filter



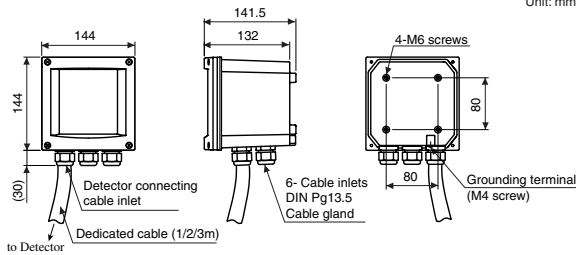
## SPECIFICATIONS

Measurement	Turbidity of finished water and water used in general processes
Measuring range	0.000 to 100.0 NTU
Display resolution	0.001 NTU
Output signal	Analog output 1; 4 to 20 mA DC, isolated Analog output 2; 4 to 20 mA DC or 0 to 20 mA DC selectable, isolated Load resistance; 550Ω max.
Output range	Configurable within the measuring range Minimum range; 0 to 0.2 NTU Maximum range; 0 to 100 NTU Minimum span; 20% or more of upper limit of the range or 0.2 NTU, whichever is greater
Serial communication	RS-422 or RS-232C, isolated
Contact output	3 relay contact outputs
Contact input	2 contacts
Range contact output	3 relay contact outputs
Ambient temperature	-5 to 50 °C (Sample and tap water may need protection against freezing)
Ambient humidity	5 to 95%RH (non-condensing)
Power supply	100 to 240 VAC -15%/+10%, 50/60 Hz
Power consumption	Converter+Detector; 50 VA max.
Sample water conditions	Flow rate: 0.05 to 20 l/min, Pressure: 500 kPa max., Temperature: 0 to 50 °C
Mounting	Pipe, wall, rack or panel mounting
Standard performance	Repeatability: ±1% of reading or ±0.002 NTU, whichever is greater Linearity: ±2% of reading or ±0.01 NTU, whichever is greater Response time: Within 2 minutes (90% response, sample water flow rate 3 l/min)
Weight	Detector; Approx. 5.8 kg, Converter; Approx. 1.5 kg

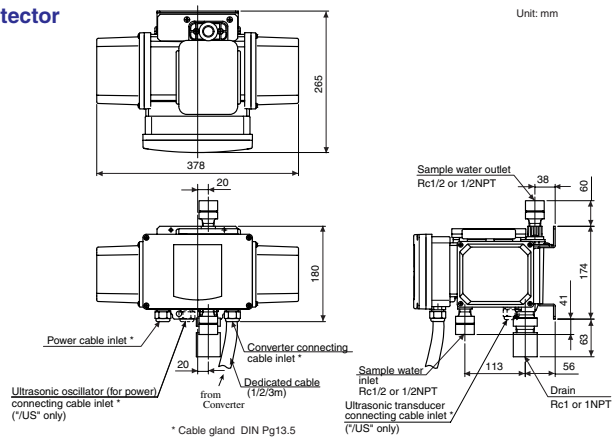
\*Refer to GS 12E01A06-01E for details.

## EXTERNAL DIMENSIONS

### Converter



### Detector



## TB750G Right Angle Scattered Light Turbidimeter

[Style : S1]

Model	Suffix Codes	Option Codes	Description
TB750G	.....	.....	Right angle scattered light turbidimeter
Turbidity standard and measuring range	-NTU	.....	Formazine, 0-0.2 NTU to 0-100 NTU
Application	-ST	.....	Standard
Output	-N1 -N2	.....	4 to 20mA DC, RS-422 4 to 20mA DC, RS-232C
Sampling system	-NN	.....	Without sampling system
Sampling system material and mounting	NN	.....	Without sampling system
Cable length between converter and detector	-1 -2 -3	.....	1m 2m 3m
-	-NN	.....	Always -NN
Option	Detector process connection Mounting hardware  Conduit adapter Head tank  Tag plate Special painting Ultrasonic transducer	/NPT /U /R  /AFTG /ANSI /D1 /D2 /SCT /X1 /US	ANSI standard connection Pipe mounting hardware (SUS) Rack or wall mounting hardware (SUS) Panel mounting hardware (SUS) Mounting hardware for Model 8562 or Model TB500G replacement (SUS) G1/2 1/2NPT Pressurized head tank for low turbidity (recommended for 2.0 NTU or less) Simple head tank Stainless steel tag plate Epoxy painting Transducer for ultrasonic cleaning

Note: When ultrasonic cleaning is continuously used after the Model 8562 Turbidity Transmitter has been replaced with the TB750G Turbidimeter, this "/US" option must be specified.

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WITH AGILITY

VigilantPlant is Yokogawa's automation concept for safe, reliable, and profitable plant operations. VigilantPlant aims to enable an ongoing state of Operational Excellence where plant personnel are watchful and attentive, well-informed, and ready to take actions that optimize plant and business performance.

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