

General Specifications

Model WE410 Silica Analyzer

GS 12Y18A01-01EN

■ General

When system efficiency is paramount, silica monitoring is a critical measurement. High silica levels can coat internal process components, leading to decreased efficiency, diminished safety, damage, and costly downtime.

The Yokogawa WE410 Silica Analyzer provides continuous and online measurement of reactive silica to protect mission critical systems. Thanks to the optimized design of the WE410 Silica analyzer, reagent consumption is drastically reduced as compared to other systems, thus reducing the overall cost of ownership.

■ Features

- Low reagent consumption – thanks to a highly optimized, state of the art design.
- Wide range of detection – 0 to 5000 ppb provides a more complete picture of silica intrusion in the process.
- Large, easy to read display – allows for easy viewing in all types of lighting conditions.
- Simple menu navigation – an easy to read and understand menu structure.
- Compact size – smallest total system footprint on the market today, capable of being panel or wall mounted.
- Intelligent Sample Awareness - Intelligent algorithm that senses the sample to keep the analyzer in a ready state, while offline, for up to 30 days.



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■ General Specifications

Measurement performance

- Measurement range:
 - 0 - 5000 ppb auto ranging or user programmable
- Accuracy: $\pm 5\%$ of reading or ± 0.5 ppb, whichever is greater, from 0 to 300 ppb
 $\pm 10\%$ of reading from 300 to 5000 ppb
- Resolution: 0.5 ppb in all ranges
- Response time: Less than 15 minutes per analysis
- Repeatability: $\pm 2\%$ of reading or ± 0.5 ppb, whichever is greater, from 0 to 300 ppb
 $\pm 5\%$ of reading from 300 to 5000 ppb
- Limit of detection: 0.5 ppb
- Method: Heteropoly-molybdeunum blue colorimetric method
- Measuring interval: 15, 20 or 30 minutes (selectable settings and user programmable)

Environmental

- Ambient operating temperature:
 - 5 to 45 °C (41 to 113 °F)
- Storage temperature: -20 to 60 °C (-4 to 140 °F)
- Humidity: 10 to 90% at 40°C (104 °F) (Non-condensing)
- Shock and vibration:
 - Install in a place without vibration and impact

Power

- Power supply rating: 100 - 240 V AC, 110 VA, 50/60 Hz

Outputs

- Analog outputs:
 - Number of analog outputs; 2
 - Output selections; 0/4 - 20 mA - Direct or Reverse Acting (Isolated)
 - Relative accuracy; ± 0.04 mA
 - Maximum load; 900 ohm
- Relay outputs:
 - Number of relay outputs; 4
 - Maximum relay load; 250 V AC/2 A, resistive load only

Sample requirements

- Sample flow: 50 – 1000 ml/min
- Sample pressure: 5 psi max
- Sample supply: Continuous
- Sample temperature range: 5 to 45 °C (41 to 113 °F)
- Suspended solids: Less than 60 microns
- Sample inlet/outlet connections:
 - 1/4 inch OD flexible tubing - Polypropylene or similar material
- Drain tubing: 3/8 inch OD flexible tubing - Polypropylene or similar material
- Sample streams: One

Mechanical and others

- Enclosure integrity:
 - Fluidics cabinet: IP-65 (NEMA 4X);
 - Electronics cabinet: IP-52 (NEMA 12)
 - rated for indoor installation
- Mounting: Indoor wall or panel mount
- Enclosure dimensions (HxWxD):
 - 27.5 inches x 16 inches x 6.4 inches (698 mm x 406 mm x 162 mm)
- Weight: Approx. 18 kg (40 lbs) without reagents
- Maintenance mode:
 - Analyzer has an hourly and daily maintenance mode that will move solutions and purge lines to keep the analyzer ready while offline for up to 30 days
- Display: Graphic LCD 120 mm x 92 mm (4.7 inches x 3.6 inches)

Regulatory Compliance

- Safety:
 - CAN/CSA-C22.2 No. 61010-1
 - CAN/CSA-C22.2 No. 61010-2-081
 - UL Std No. 61010-1
 - UL Std No. 61010-2-081
 - Installation altitude: 2000 m or less
 - Category based on IEC 61010-1: II (Note 1)
 - Pollution degree based on IEC 61010-1: 2 (Note 2)
- Note 1: Installation category, so called overvoltage category, specifies impulse withstanding voltage. Category II is for electrical equipment.
- Note 2: Pollution degree indicates the degree of existence of solid, liquid, gas or other inclusions which may reduce dielectric strength. Degree 2 indicates the normal indoor environment.
- EMC:
 - EN 61326-1 Class A, Table 2
 - EN 61326-2-3
 - EN 61000-3-2
 - EN 61000-3-3
 - RCM: EN 61326-1 Class A, Table 2
 - Korea Electromagnetic Conformity Standard Class A 한국 전자파적합성 기준
- RoHS: EN IEC 63000
- Information of the WEEE Directive
 - This product is purposely designed to be used in a large scale fixed installations only and, therefore, is out of scope of the WEEE Directive. The WEEE Directive does not apply.
 - The WEEE Directive is only valid in the EU.

Model & Suffix Codes

Model	Suffix code	Option code	Description
WE410	.....	.....	Silica Analyzer
Range	-S	.....	Standard range 0 - 5000 ppb
Housing	-N	.....	Always -N
Type	-AA	.....	General purpose
Spare	-N	.....	Always -N
Language	-E	.....	Always -E

Reagent and standard solution

The following reagents should be purchased directly from Thermo Fisher Scientific.inc.

Thermo Fisher Scientific Model code	Description
223002	20 ppb Calibration Standard, Silica
223010	100 ppb Calibration Standard, Silica
223020	200 ppb Calibration Standard, Silica
223030	1000 ppb Calibration Standard, Silica
2230RE	Reagents 1, 2, and 3 for Silica. Boxed separately, 1 liter each, 45 day supply

Please order necessary reagents with the main unit at same time.

Maintenance and service part

Part number	Description
K9705CA	Sample tubing harness for pump
K9705CB	Tubing kit - includes tubing, fittings, bottle caps and tubing case.

Dimensions

