General Specifications

Model WE440
Phosphate Analyzer

GS 12Y18A04-01EN

■ General

The Yokogawa WE440 Phosphate analyzer is designed to provide fast, accurate and reliable online phosphate detection– optimized for applications that require early detection of dissolved phosphates.

Phosphates are widely found in industrial water treatments, fertilizers, biological treatments, heat exchangers and other applications.

The WE440 Phosphate Analyzer is designed to provide continuous and online measurement of phosphates. Monitoring and control of phosphate levels reduces the formation of scaling, microorganisms and other effects that decrease equipment efficiency.

The optimized design of the WE440 Phosphate Analyzer leads to a reduced reagent consumption and a lower cost of ownership.

■ Features

- Allow for 45 days between reagent changes
- Designed to provide accurate and precise measurements – allowing for fine control of the phosphate dosing process
- Compact size – small footprint supports panel or wall mounting
- Simplified operation – intuitive menu simplifies navigation
- Low operating costs – minimal maintenance with low power consumption
- On-demand mode for non-continuous operation – allows analyzer to be returned to on-line mode rapidly after a plant is started up

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2nd Edition Sep. 30, 2021

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Measurement performance

Measurement range:
0.2-50 ppm auto-ranging
Accuracy: ±5% of reading or ±0.5ppm, whichever is greater, from 0.2 - 50 ppm
Resolution: 0.1 ppm in all ranges
Response time: Less than 10 minutes per analysis
Repeatability: ±3% of reading or ±0.1ppm, whichever is greater, from 0.2 - 50 ppm
Limit of detection: 0.2 ppm
Method: Vanadomolybdate method
Measuring interval: 15, 30, 45 and 60 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 40ºC (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
WE440	·····	·····	Phosphate Analyzer
Range	**-S**	·····	Standard range 0.2 - 50 ppm
Housing	**-N**	·····	Always -N
Type	**-AA**	·····	General purpose
Spare	**-N**	·····	Always -N
Language	**-E**	·····	Always -E

Reagent

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

Thermo Fisher Scientific Model code	Description
229510	10ppm calibration standard, Phosphate, 1 L
229530	30ppm calibration standard, Phosphate, 1 L
229550	50ppm calibration standard, Phosphate, 1 L
2295REC	Reagents 1, Phosphate, 1 liter, 45 day supply

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

Maintenance and service part

Part number	Description
K9705CK	Tubing kit - includes tubing, fittings, bottle caps and tubing case
K9705CL	Sample tubing harness for pump

■ Dimensions

Unit: mm (inch)