





REPORT ANNUALE DESCRITTIVO DELLE ATTIVITÀ DI MONITORAGGIO ON-SHORE E OFF-SHORE

Periodo di riferimento: Novembre 2019 ÷ Ottobre 2020

Allegato M

Scheda tecnica sonda multiparametrica

Sito: Raffineria ENI di Taranto

Comm.: ENI S.p.A.

Oggetto: REPORT ANNUALE DESCRITTIVO DELLE ATTIVITÀ DI MONITORAGGIO ON-SHORE E OFF-SHORE

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YSI 6600 VZ Sonde

With 2 or 4 optical ports and new sensor options

Make the most of your environmental monitoring efforts: The 6600 V2 sonde offers the most comprehensive water quality monitoring package available with simultaneous measurement of conductivity (salinity), temperature, depth or level, pH/ORP. The 6600 V2-4 also measures these parameters: dissolved oxygen, turbidity, chlorophyll, and blue-green algae; the V2-2 measures two of the four parameters simultaneously. Additional calculated parameters include total dissolved solids, resistivity, and specific conductance.

Take advantage of YSI's new optical sensor design and anti-fouling wiper control for improved reliability during extended deployments.

- Self-cleaning optical sensors with integrated wipers remove biofouling and maintain high data accuracy
 - Field-replaceable sensors make trips to the field quick
 - Optimal power management and built-in battery compartment extends *in situ* monitoring periods

Take Advantage of YSI's New Optical Sensors

In addition to turbidity, chlorophyll, and rhodamine, YSI now offers these optical sensors:



The YSI 6600 V2-4 Sonde, with 4 optical sensor ports, is the <u>only</u> instrument available to simultaneously measure dissolved oxygen, turbidity, chlorophyll, and blue-green algae!

ROX Reliable Optical Dissolved Oxygen

The ROX sensor uses lifetime luminescence detection technology to offer the most reliable oxygen sensor with the lowest possible maintenance effort. The sensor is insensitive to hydrogen sulfide interference and does not require regular membrane changes.



Blue-Green Algae (BGA)

YSI's fluorescence-based blue-green algae sensors will allow you to monitor blue-green algae populations where their presence is a concern. Whether providing an early warning to an algal bloom, tracking taste and odor-causing species in drinking water supplies, or conducting ecosystem research, YSI BGA sensors will provide sensitive and reliable *in situ* data.

Sensor performance verified*

The 6600 **V2** sonde uses sensor technology that was verified through the US EPA's Environmental Technology Verification Program (ETV). For information on which sensors were performance-verified, turn this sheet over and look for the ETV logo.



6600 Upgrades Available

YSI is committed to offering our customers reliable and cost-effective water monitoring solutions. To this end, we are offering V2 Upgrades for existing 6600s. Upgrades will be available from YSI Authorized Service Centers and will include the new 6600 V2 bulkhead, a ROX Optical Dissolved Oxygen Sensor, and firmware/ software upgrades. In addition, the sonde will be fully tested and calibrated by an experienced YSI service technician.



Upgraded sondes for rugged long-term deployment

www.ysi.com/v2



To order, or for more info, contact YSI Environmental.

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ISO 9001 ISO 14001

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'Sensors with listed with ETV logo were submitted to the ETV program on the YSI 6600EDS. Information on performance characteristics of YSI water quality sensors can be found at www. epa.gov/etv, or call YSI at 800.897-a151 for the ETV verification report. Use of ETV name or logo does not imply approval or certification of this product not does it make any explicit or implied warranties or guarantees as to product performance.

YSI incorporated the Planet?

YSI 6600 VZ Sensor Specifications

	Range	Resolution	Accuracy	
ROX [™] Optical Dissolved Oxygen* % Saturation	0 to 500%	0.1%	0 to 200%: $\pm 1\%$ of reading or 1% air saturation, whichever is greater; 200 to 500%: $\pm 15\%$ of reading	
ROX™ Optical Dissolved Oxygen* mg/L	0 to 50 mg/L	0.01 mg/L	0 to 20 mg/L: \pm 0.1 mg/L or 1% of reading, whichever is greater; 20 to 50 mg/L: \pm 15% of reading	
Dissolved Oxygen ** % Saturation 6562 Rapid Pulse™ Sensor*	0 to 500%	0.1%	0 to 200%: $\pm 2\%$ of reading or 2% air saturation, whichever is greater; 200 to 500%: $\pm 6\%$ of reading	
Dissolved Oxygen" mg/L 6562 Rapid Pulse™ Sensor*	0 to 50 mg/L	0.01 mg/L	0 to 20 mg/L: \pm 0.2 mg/L or 2% of reading, whichever is greater; 20 to 50 mg/L: \pm 6% of reading	
Conductivity*** 6560 Sensor* ETV	0 to 100 mS/cm	0.001 to 0.1 mS/cm (range dependent)	±0.5% of reading + 0.001 mS/cm	
Salinity	0 to 70 ppt	0.01 ppt	$\pm 1\%$ of reading or 0.1 ppt, whichever is greater	
Temperature 6560 Sensor* ETV	-5 to +50°C	0.01°C	±0.15°C	
pH 6561 Sensor* ET	0 to 14 units	0.01 unit	±0.2 unit	
ORP	-999 to +999 mV	0.1 mV	±20 mV	
Depth Deep Medium Shallow Vented Level	0 to 656 ft, 200 m 0 to 200 ft, 61 m 0 to 30 ft, 9.1 m 0 to 30 ft, 9.1 m	0.001 ft, 0.001 m 0.001 ft, 0.001 m 0.001 ft, 0.001 m 0.001 ft, 0.001 m	±1 ft, ±0.3 m ±0.4 ft, ±0.12 m ±0.06 ft, ±0.02 m ±0.01 ft, 0.003 m	
Turbidity* 6136 Sensor* ET	0 to 1,000 NTU	0.1 NTU	±2% of reading or 0.3 NTU, whichever is greater "	
Nitrate/nitrogen****	0 to 200 mg/L-N	0.001 to 1 mg/L-N (range dependent)	±10% of reading or 2 mg/L, whichever is greater	
Ammonium/ammonia/ nitrogen****	0 to 200 mg/L-N	0.001 to 1 mg/L-N (range dependent)	$\pm 10\%$ of reading or 2 mg/L, whichever is greater	
Chloride****	0 to 1000 mg/L	0.001 to 1 mg/L (range dependent)	±15% of reading or 5 mg/L, whichever is greater	
Rhodamine*	0-200 μg/L	0.1 μg/L	±5% reading or 1 μg/L, whichever is greater	

 $\bullet \ \ \text{Maximum depth rating for all optical probes is 200 feet, 61 m. Turbidity and Rhodamine are also available in a Deep$

Depth option (0 to 200 m).

•• Rapid Pulse is only available on 6600 V2-2 (two optical ports version).

••• Report outputs of specific conductance (conductivity corrected to 25° C), resistivity, and total dissolved solids are also provided. These values are automatically calculated from conductivity according to algorithms found in Standard Methods for the Examination of Water and Wastewater (ed 1989).

•••• Freshwater only. Maximum depth rating of 50 feet, 15.2 m. 6600 V2-2 has 3 ISE ports; not available on the 6600V2-4.

**In YSI AMCO-AEPA Polymer Standards.

	Range	Detection Limit	Resolution	Linearity
Blue-Green Algae Phycocyanin*	~0 to 280,000 cells/mL [†] 0 to 100 RFU	~220 cells/mL§	1 cell/mL 0.1 RFU	R ² > 0.9999**
Blue-Green Algae Phycoerythrin*	~0 to 200,000 cells/mL [†] 0 to 100 RFU	~450 cells/mL ^{§§}	1 cell/mL 0.1 RFU	R ² > 0.9999***
Chlorophyll* 6025 Sensor* ET ✓	~0 to 400 μg/L 0 to 100 RFU	~0.1 μg/L ^{§§§}	0.1 μg/L Chl 0.1% RFU	R ² > 0.9999****
Maximum depth rating for all optical probes is 200 feet, 61 m. Also available in a Deep Depth option (0 to 200 m). BELL = Relative Flagrescence Units The Committee of th	† Explanation of Ranges can be found in the 'Principles of Operation' section of the 6-Series	§ Estimated from cultures of <i>Microcystis aeruginosa</i> . §§ Estimated from cultures <i>Synechococcus sp.</i> §§§ Determined from cultures of <i>Isochrysis sp.</i> and chlorophyll of concentration determined from the concentration determined via extractions.		**For serial dilution of Rhodamine WT (0-400 ug/L). ***For serial dilution of Rhodamine WT (0-8 µg/L). ***For serial dilution of Rhodamine WT (0-500 µg/L).

YSI 6600 VZ Sonde Specifications

Medium		Fresh, sea or polluted water	Software		EcoWatch*
Temperature	Operating Storage	-5 to +50°C -10 to +60°C	Dimensions	Diameter Length, no depth Length, with depth Weight	
Communications		RS-232, SDI-12	Power		12 V DC 8 C-size alkaline batteries