



# New U-50 Presentation



Explore the future

**HORIBA**

© 2008 HORIBA, Ltd. All rights reserved.

# U-50

Water  
Quality  
Monitor  
on-site

Tough  
&  
Easy



Easy to use and durable

Explore the future

**HORIBA**

© 2008 HORIBA, Ltd. All rights reserved.

CONCEPT ③

Tough  
&  
Water Proof



Impact protection:  
Display surface covered with rubber

Explore the future

**HORIBA**

© 2008 HORIBA, Ltd. All rights reserved.

# New U-50 Line-up

Option: Carrying case  
by PELICAN



Option: GPS unit



Option: PC  
software

Option: USB  
connector for  
PC

## Standard accessories

- Calibration cup
- Standard Solution (pH4 500mL)
- pH Internal solution (250mL)
- DO membrane kit ( 2 cap membranes )
- Instruction manual
- Strap
- Shoulder bag



Calibration cup



Shoulder bag



Option: Flow  
cell

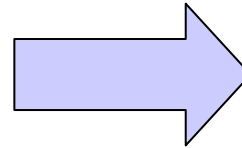
# U-50 Series Measurement Parameters

Parameters	U-51	U-52	U-52G	U-53	U-53G
pH	•	•	•	•	•
ORP	•	•	•	•	•
Dissolved Oxygen	•	•	•	•	•
Conductivity	•	•	•	•	•
Salinity	•	•	•	•	•
TDS	•	•	•	•	•
Seawater SG	•	•	•	•	•
Temperature	•	•	•	•	•
Turbidity (LED 30° Scattering)		•	•		
Turbidity (Tungsten Lamp 90°)				•	•
Depth			•	•	•
GPS			•		•

# Turbidity on Models U-52 and U-53



2 instruments



1 instrument

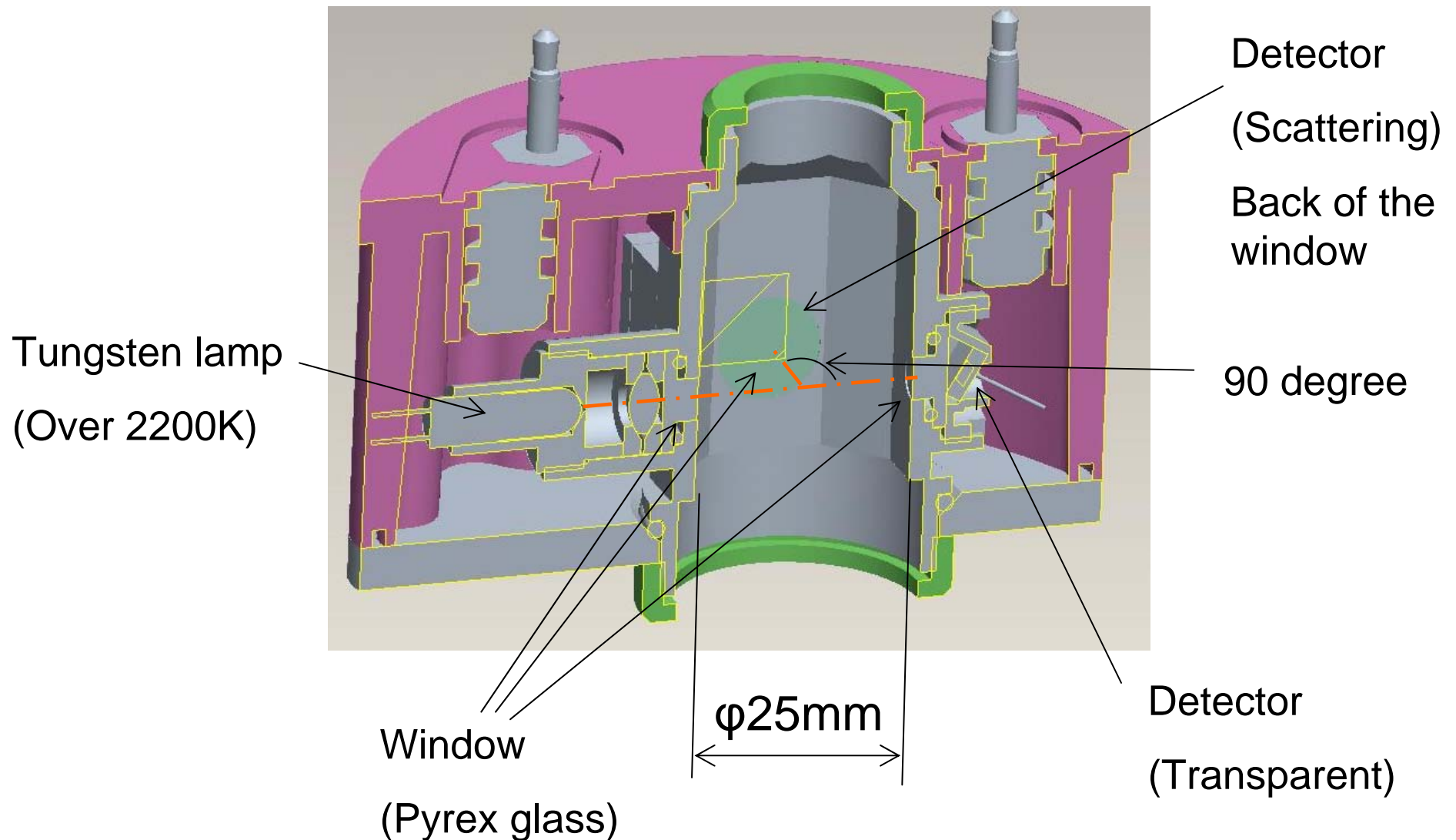


## ■ High Performance U-53 **Turbidity Sensor**

**(In progress: US EPA method approval for non-static applications)**

- Cell length 25mm
  - Tungsten Lamp, 90° transmission light scattering method
  - Good repeatability with wiper system to remove air bubbles and clean the windows.
- Measurement accuracy compares perfectly with HACH 2100P measurements
  - Model U-52 has a less expensive turbidity sensor (U-10 methodology) which does not compromise accuracy.
  - Turbidity sensors can be replaced.

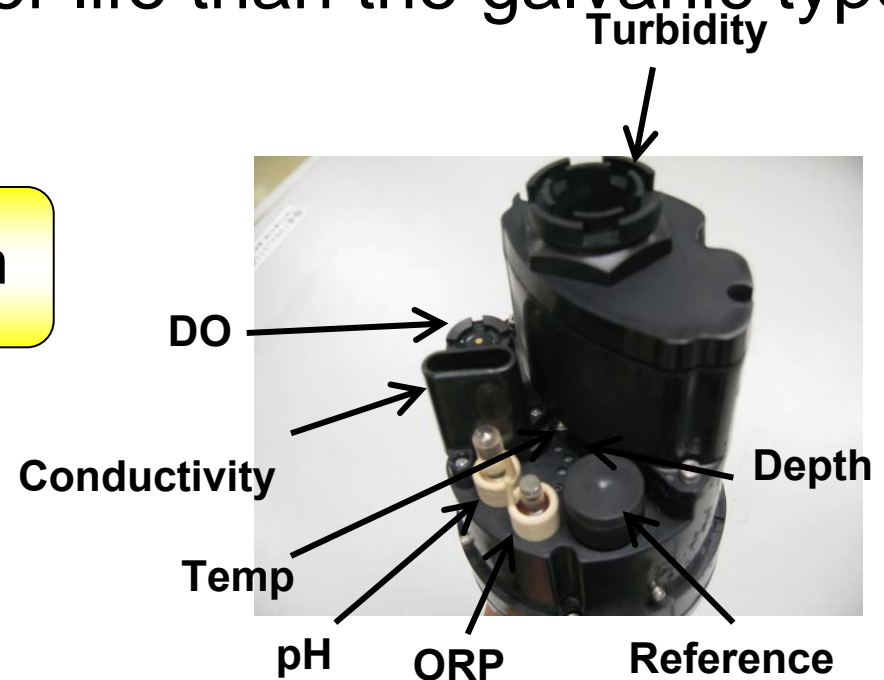
# U-53 Turbidity sensor detail



# New sensor advantages

- Turbidity sensor is replaceable
- pH, ORP, Reference are separate sensors
- DO sensor has a longer life than the galvanic type

**For sensor cost reduction**





# Sensor tip materials are new

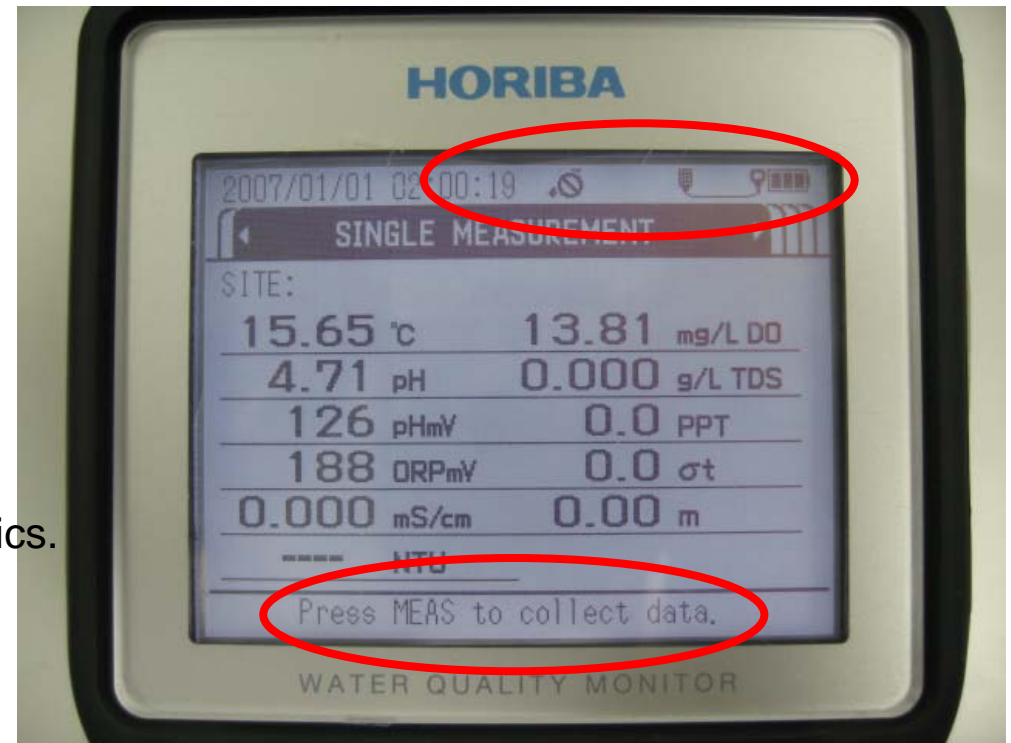
- Better materials for chemical and oil resistance

	U- 20 sensors	U- 50 sensors
parameter	principle materials	principle materials
pH(pH/ ORP)	<b>PSU,POM</b>	<b>PPS</b>
DO	<b>PSU,POM</b>	<b>PPS</b>
COND	<b>Monel</b>	<b>Titanium</b>
TEMP	SUS	PPS
Turb(window)	<b>PC</b>	<b>Glass</b>
ION	PSU,POM	PSU,POM
Probe	<b>PPO</b>	<b>PPS</b>

PSU and PPO are damaged by acetone and aromatic chemicals (ex. Toluene). PPS is chemically resistant.

# The U-50 Series Meter

- Multi-parameter display
- Single or continuous measurement
- Icons for on-screen information (ex. Battery power)
- On-screen message for next action
- USB communication
- Calibration history
- Sampling site identification
- Selectable measurement units
- Sensor selection: turn off unnecessary parameters
- Data Logging: 10000 sets of data
- Backlight
- Battery compartment sealed from electronics.
- Language options: currently English and Japanese with Spanish, French and Portuguese offered in 2009
- Screen enlargement feature
- Display contrast feature

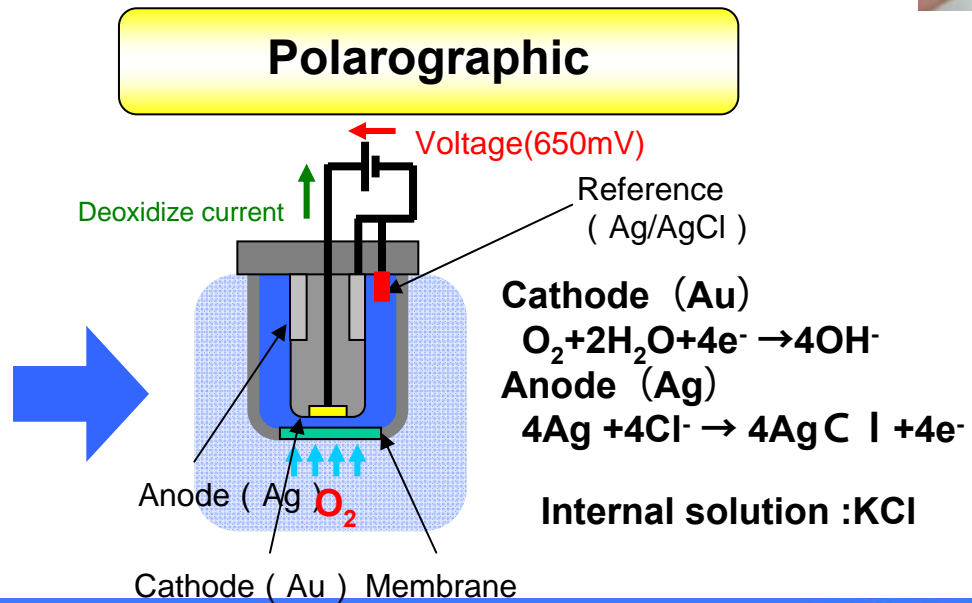
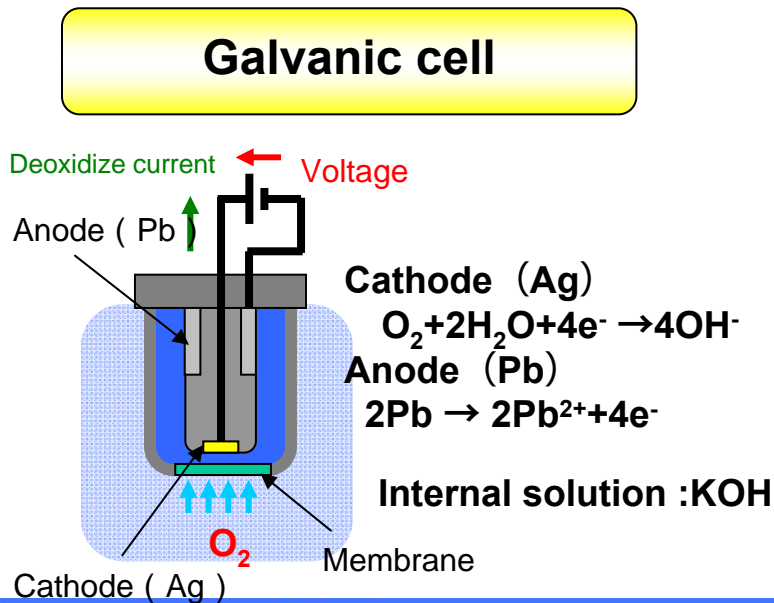


# New DO Sensor

## ■ Polarographic sensor (Clark cell) for U-50

- Anode has a longer life than the galvanic cell anode.
- 3-electrode system (non-drift anode voltage) for long term stable measurement compared to YSI's 2 electrode system.
- Easy to change DO membrane.

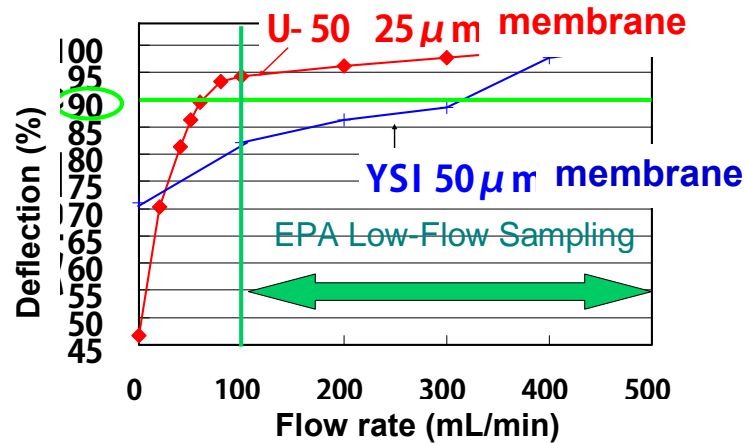
**Membrane + Cap assy (U-50)**



# DO sensor evaluation(1)

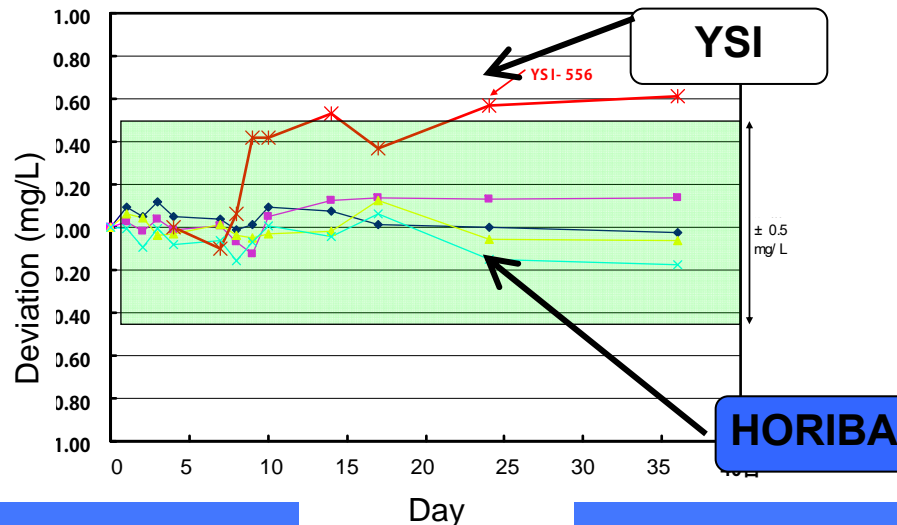
## Flow effect with the flow cell

Better than YSI



## Life time ( Continuous measurement in saturated water )

Good stability



# Battery and Memory

- U-50 battery life is approx. 100hrs (w/turb), 150 hrs (w/o turb).
  - YSI556 and HANNA are approx.150hrs , but they have not turbidity.
  
- 14.5 minute data logging frequency = 9000 data sets over 3 months
  - YSI and HANNA have more memory however it is generally difficult for the user to manage it.
  - U-10 memory: 20 data sets
  - U-20 memory: 2880 data sets
  - U-50 memory: 10000 data sets
  - YSI-556 memory: 50000data sets
  - Hanna memory: 60000 data sets

Measurement data is stored in the hand-held meter, calibration data is stored in the probe. Data is transferred to a PC from the USB port on the meter without the probe attached.

The meter has memory back-up in the event the batteries fail.

# New Flow Cell

---

- Totally disassembles for easy cleaning
- Larger footprint for stability
- 1/4", 3/8" and 1/2" tubing connectors supplied
- Tinted walls for stable turbidity readings
- Small sample volume
- Easy to insert the probe

Photo Unavailable



Thank you