



### Quality

- HORIBA legendary quality provides highly reliable measurements and long term durability

### Exclusivity

- LAQUA's large, capacitance colour touch screen provides intuitive operation and navigation

### User Friendly

- Quickly access frequently used functions

### Complete Solution

- Comprehensive range of electrodes to meet almost all your laboratory requirements

- pH**
- Conductivity**
- Ion**
- Resistivity**
- Temperature**
- Salinity**
- ORP**
- TDS**



## HORIBA Laboratory bench top meter

Smart, high performance instruments that are simple to use

# LAQUA



One past, One future, One HORIBA

**HORIBA**

Bridging the past and the future with our gratitude.

# Accurate, versatile and easy to use

We've used that unrivalled experience together with detailed feedback from hundreds of customers to develop LAQUA, our most outstanding range of laboratory meters yet. The HORIBA LAQUA F-70 and DS-70 series marries advanced technology with stylish design. The LAQUA series was developed as a durable range of meters offering long-term reliability for laboratory professionals.



LAQUA series is made up of single and dual channel meters that can measure the most commonly used parameters in electrochemistry such as pH, ORP, Ion, Conductivity, Resistivity, Salinity, TDS and Temperature and up to six parameters simultaneously.

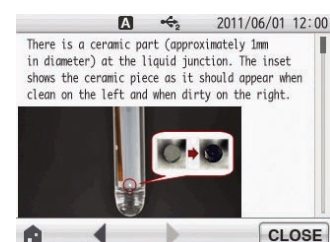
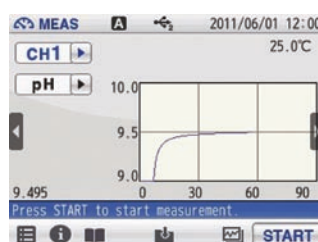
These versatile and easy to use instruments provide high performance measurement with improved accuracy and response time. Coupled with a huge range of high quality and robust electrodes, they provide high precision, reliable analysis for laboratory applications ranging from research analysis to quality control and routine measurement.

The meters' auto diagnostic function allows the user to make sure that the instruments will always give high performance and reliable measurements. Fully GLP/GMP compliant, the LAQUA can be connected to an external printer. To ensure traceability all results are recorded together with sample name, user ID and calibration information. User accounts can be created and can be protected with a pin code.



## LAQUA's large capacitance touch screen panel:

- Display easy to understand value and functions menus
- Switch between digital real time graphs or analogue displays during measurement with just the flick of a finger.
- Full on-screen support on the meter via an electronic user guide with colour pictures that can be called up at any time, featuring a problem solver guide for calibration or measurement.







# Every electrode you'll ever need

With their reputation for accuracy and longevity, you'll find HORIBA electrodes providing the best result across applications ranging from standard measurement with 3 in 1 pH electrode to specific analysis with ISFET electrode or flow through conductivity cell.

Our complete range of more than 60 electrodes enables to measure all keys physicochemical parameters such as pH, conductivity, ion, dissolved oxygen, temperature and ORP. Each user has the possibility to select the appropriate electrode regarding size, measuring range and sample conditions.

For more details, please see our electrode brochure.



**ToughH**



IP 67 (1)



(2)

## pH electrodes

Compact and easy to use for superb results

- Quick response and high sensitivity
- Waterproof
- Environmental friendly construction Pb free (2)
- Improved stability

### pH 3 in 1 electrode

- Three sensors - pH, reference and temperature - in a single electrode

### ToughH

- Now even tougher and faster with responsive glass ten times stronger than industrial standard
- Ruggedness
- Durable against chemical substances

### ISFET electrode (Flat semiconductor sensor)

- Does not Crack or break
- Very small sensor to measure trace sample droplet or solid surface
- Easy maintenance



**ToughH**

**ISFET**

## Conductivity electrodes

With built in thermistor for temperature measurement, HORIBA conductivity electrodes are designed to measure samples at temperature up to 100 °C and to correct the value to the standard temperature of 25 °C.

- Cost competitive plastic waterproof electrode
- Electrode for low conductivity sample (ultra pure water) or high conductivity water from 0.1  $\mu\text{S}$  to 1 S/cm
- Cell constant from 0.1 to 10  $\text{cm}^{-1}$
- Flow type conductivity electrode



## Ion electrodes

Our range of more than 20 ion-selective electrodes for laboratory or field measurement can measure 15 of the most common ions. Our ion electrodes allow to measure sample at a wide range of concentration from  $10^{-7}$  to 10 mol/L.



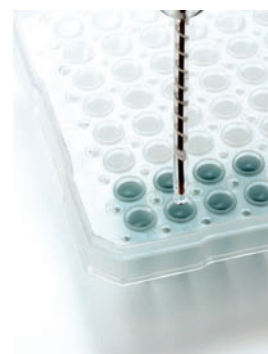
(1) For electrodes models 9615-10D, 9681-10D, 9680-10D, 9618-10D and 9625-10D

(2) For electrodes models 9615-10D, 9681-10D, 9680-10D and 9625-10D

# Applications

HORIBA meters and electrodes are designed to answer most requirements for laboratory and electrochemistry analysis. We offer a comprehensive range of electrodes suitable for traditional routine measurement to very specific applications in extreme conditions as high viscosity or high temperature samples as well as solvent measurement. HORIBA high quality electrodes allow measurement in different types of sample container such as micro tube, ampoule, test tube, beaker, Petri dish as well as direct internal or flat measurement on solid samples.

- **Laboratory:** R&D, quality control, routine measurement
- **Food and beverage:** yogurt, cheese, meat, fruit & veg, wine, beer, seasoning
- **Chemical industry:** organic solvent, reactive solution, surfactant, strong acid
- **Pharmaceutical:** Protein sample, enzyme solution, suspension, agar medium
- **Environmental:** natural water, waste water, discharge water, drinking water
- **Cosmetic:** beauty cream, gel, soap, shampoo



# Specifications

		F-71	F-72	F-73	F-74	F-74BW	DS-71	DS-72
<b>Measurement range</b>	pH				pH 0.000 ~ 14.000	Resolution 0.001 pH		
	mV(ORP)	± 1999.9mV			Resolution 0.1mV		-	-
	Temperature	0.0 ~ 100.0 °C			Resolution 0.1 °C		-	-
	ION	0.00 µg/l ~ 999 g/(mol/l)			Resolution valid number 3 digits		-	-
	Conductivity	-	-	-	Cell constant 1000 m <sup>-1</sup> : 0.00 mS/m ~ 199.9 S/m Cell constant 100 m <sup>-1</sup> : 0.000 mS/m ~ 19.99 S/m Cell constant 10 m <sup>-1</sup> : 0.0 µS/m ~ 1.999 S/m Resolution 0.05% of full scale			
	Salinity	-	-	-	0.00 ~ 80.00 PPT (0.000% ~ 8.000 %) Resolution 0.01 PPT (0.001%)			
	Resistivity	-	-	-	Cell constant 1000 m <sup>-1</sup> : 0.000Ω . m ~ 19.99kΩ . m Cell constant 100 m <sup>-1</sup> : 0.00Ω . m ~ 199.9kΩ . m Cell constant 10 m <sup>-1</sup> : 0.0Ω . m ~ 1.999MΩ . m Resolution 0.05% of full scale			
	TDS	-	-	-	0.01 mg/L ~ 1000 g/l Resolution 0.01 mg/L	0.01 mg/L ~ 100 g/l Resolution 0.01 mg/L	0.01 mg/L ~ 1000 g/l Resolution 0.01 mg/L	
<b>Repeatability</b>	pH	± 0.005 pH ± 1 digit		0.001 pH ± 1 digit		± 0.005 pH ± 1 digit	-	-
	mV(ORP)	± 0.1mV ± 1 digit					-	-
	Temperature	± 0.1 °C ± 1 digit					-	-
	ION	-	± 0.5 % ± 1 digit			-	-	
	Conductivity	-	-	-	± 0.5 % ± 1 digit			
	Resistivity	-	-	-	± 0.5 % ± 1 digit			
<b>Memory</b>	999 sets	2000 sets	2000 sets	2000 sets	999 sets	999 sets	2000 sets	
<b>Interface</b>	USB / RS-232	USB / RS-232 / USB port / analog			USB / RS-232		USB / RS-232 USB port / analog	
<b>Power</b>	AC adaptor 100 ~ 240 V 50/60Hz							
<b>Power consumption</b>	Approx. 0.7VA	Approx. 9.8VA			Approx. 0.7VA		Approx. 9.8VA	
<b>Mass of main unit</b>	Approx 500g	Approx 700g			Approx 500g		Approx 700g	
<b>Accessories included</b>	Electrode stand Manual/AC adapter	Electrode stand/Manual/AC adapter/cover			Electrode stand Manual/AC adapter		Electrode stand Manual/AC adapter	

# Electrode stands

With 360° rotation and a full range of vertical movement, our free arm electrode stand can handle almost any container size or position.

The optional long stand version extends to 650mm for use with large containers, allowing you to move between large containers of buffer solution and small containers of standard solution for calibration without having to detach and reattach electrodes.



## All the support you need

- For technical support [www.horiba.com/wq/support](http://www.horiba.com/wq/support)
- Registered customers also get access to our user support site featuring data collection software, downloads and measurement tips
- HORIBA offers customers a range of services to conform to quality standards and international guidelines, such as GLP, GMP and ISO. We can provide validation support, including traceability certification, IQ/OQ/PQ support, SOP guidance and FAQ.

## Accessories:

Because highly accurate measurements are directly related to reliable buffer solutions HORIBA offer a complete range of standard solutions for pH calibration suitable for all applications from routine to high precision measurement.

User can choose from standard calibration solution, condensed solution and powder. Many pH values available (pH 2, 4, 7, 9 & 10) at standard accuracy ( $\pm 0.02$  pH) or high accuracy ( $\pm 0.003$  pH).

Internal KCl solution for electrode reference and cleaning solution are recommended to maintain the electrode in good condition and ensure the most accurate measurements.



### Contact us:



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