HORIBA
Scientific

LAQUA

pH	ORP	Ion	Conductivity
Resistivity	Total Dissolved Solids		Salinity

Benchtop Water Quality Instruments

Colour Touchscreen Meters

METERS 2 YEAR WARRANTY

MADE IN JAPAN

www.horiba-laqua.com

LAQUA

Benchtop Water Quality Instruments
Colour Touchscreen Meters

2011

LAQUA Benchtop Water Quality Instruments

2012

LAQUAtwin Pocket Water Quality Meters

2013

LAQUA Handheld Water Quality Instruments

2003

F-50 (desktop) The world's first pH meter with colour LCD display. Navigation panel guides operators on how to use the meter as well as resolve errors.

D-50 (portable) Waterproof, IP67-rated housing and multi-parameter.

1993

F-20 (benchtop) The world's first wireless pH meter. Large graphical display gives user instructions on screen.

1990

B-111 (Pen type) The pen type sensor allows small samples to be tested.

1987

C-1 (card) Development of the world's first flat sensor.

1980

Model F-80 (benchtop) The world's first instrument capable of measuring pH at 0.001 resolution includes an integral computer with automatic calibration and a self-diagnostic function.

L-7 (integrated) Introduction of a small, handheld pH meter with integrated electrode.

1977

Model F-7AD (benchtop) Incorporating an industry-first LCD display, the combination of a glass electrode, a reference electrode and a temperature-compensating electrode, makes testing easier.

1964

M-5 (benchtop) conversion from vacuum tube to semiconductor allows miniaturization and development of fast response meter

1950

HORIBA introduces Japan's first glass electrode pH meter.

History of the HORIBA pH Meter

The humble beginning of HORIBA...

In 1950, Dr. Masao Horiba pioneered and launched Asia's first pH meter in Kyoto, Japan. Since then, HORIBA has been introducing several of the world's firsts such as the first 0.001 resolution pH meter, the first flat sensor featured in the Cardy, the first wireless pH meter, the first colour LCD display, etc.

Touchscreen Precision. The New Benchmark.

- Large touch screen color graphic LCD—5.7 inches (115.2 x 86.4 mm)
- Chemical-resistant, 2mm thick super white glass panel with protection cover
- Easy to clean and elegant round body
- GLP / GMP compliant
- Switchable display—digital, graph, and analog
- Effortless single-touch operations—tap, flick, and drag
- 2-Channel display and simultaneous measurements for F-73 and F-74 models
- Small footprint—170 (W) x 174 (D) x 73 (H) mm
- Data acquisition software in mini USB is included
- 21 CFR Part 11 software complies with U.S. FDA's system requirements for electronic records and signatures (optional)

Protection Cover

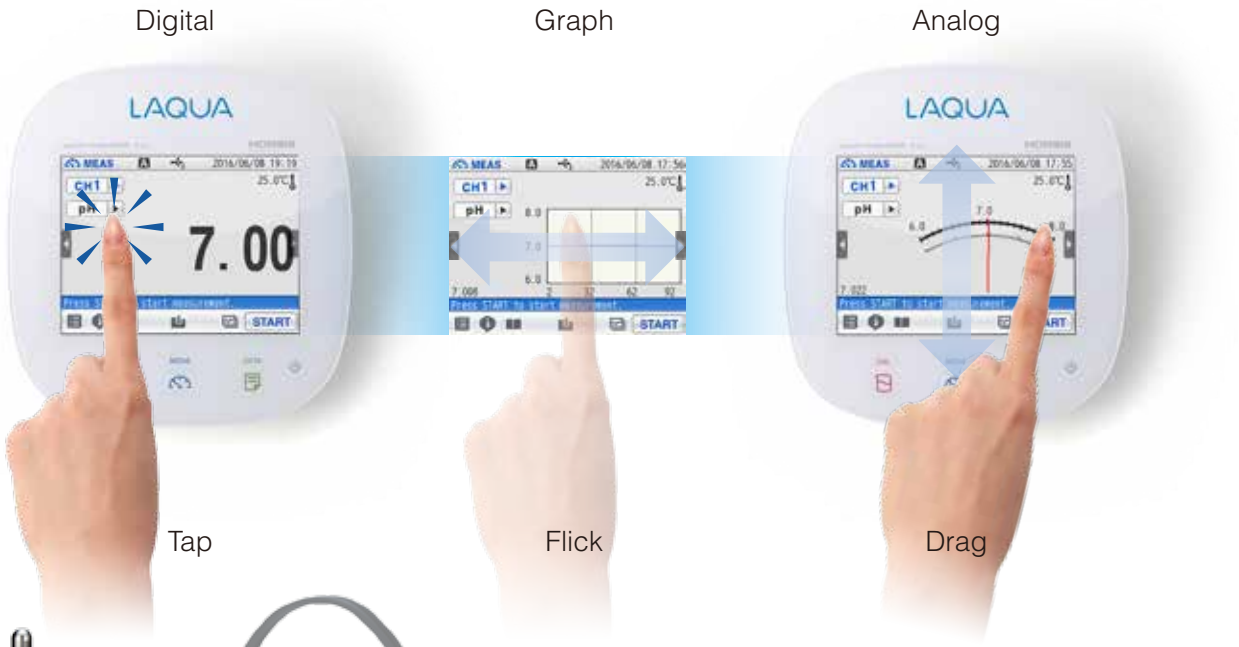
Data Acquisition Software

21 CFR Part 11 Software

LAQUA

Benchtop Water Quality Instruments
Colour Touchscreen Meters

Intuitive Touch-Control Operation



360° Electrode Stand Maneuverability

- Each meter comes with standard (Height: 384mm) electrode stand with arm
- Electrode stand arm holds up to 3 electrodes
- Taller electrode stand (Height: 650mm) with telescopic shaft is also available
- Arm level is adjusted by pressing and holding down the clip end while moving it up or down the shaft
- Stopper controls vertical slide of the electrode stand arm
- Arm rotates 360° so beakers can be conveniently positioned anywhere around the stand

Universal Power Adapter

- Multi-voltage (100-240V)
- 6 types of international standard plugs included (US, UK, EU, Australia / New Zealand, Korea and China)

Data Management

Data Key

- Data key shows settings that allow users to search, view, delete, and copy data from meter to USB flash drive

Sample ID

- Meter internal memory stores up to 2000 data with sample ID for easy reference

Data Storage

- Data can be stored simultaneously on both meter and USB flash drive (if inserted)
- Calibration and measurement data are logged automatically at set time interval

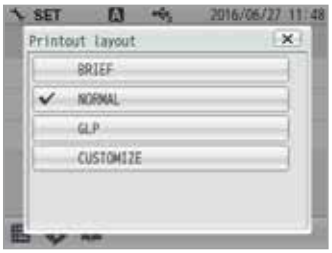
Data Search

- Data search by date, parameter, or sample ID

Meter Connections

- Data output via USB to PC / USB flash drive or via RS232C to PC / printer (cables sold separately)
- Analog output adjustment—voltage output can be acquired from digital multimeter or recorder connected to the analog output connector

Custom Printout



- Auto or manual printing of calibration and measurement values for record keeping
- Printout contents can be customized based on user preference or GMP/GLP requirements—date and time, operator, electrode and meter information, electrode status, and calibration data

Meter Security

- Password setting for security
- Up to 25 administrators or operators can be registered

LAQUA

Benchtop Water Quality Instruments
Colour Touchscreen Meters

Intelligent Assistant

Provides step-by-step guidance on calibration, sample measurement, application methods, maintenance, inspection and troubleshooting

SMART

Calibration Support Function

Enjoy hassle-free calibration with on screen support. The meter will walk you through the steps of calibration.

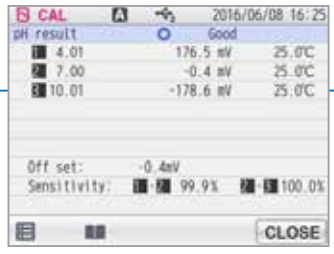
- Auto Buffer Recognition
- Auto Calibration Function

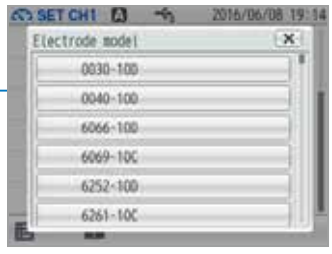
Reading Stability Check

- Perform proper calibration with stable readings
- Determine the stability of reading at a glance in either digital or graph display during pH and ion calibration
- Stability value is a deviation between the maximum and minimum readings in the last 10 seconds

Electrode Status

- Electrode condition and results such as calibrated values, offset, acid and alkaline slopes, are shown at the end of calibration
- Programmable calibration reminder and alarm for measured values exceeding set limits



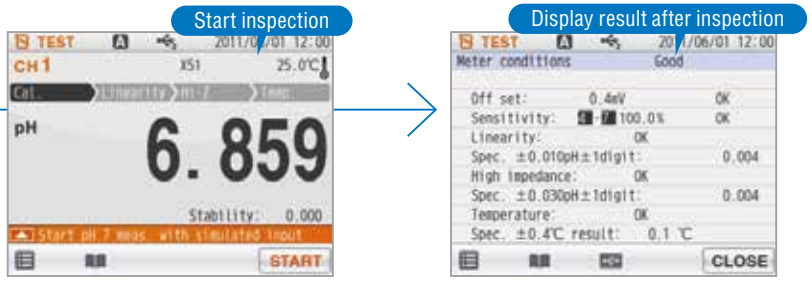


- Temperature indicator appears when a temperature probe or electrode with integrated temperature sensor is connected to the meter
- Temperature sensor calibration function
- Electrode model, either selected from preset list or entered manually, and lot or MFG no. (entered manually) are included in stored data and printouts

Inspection Function

Easy navigation for meter and electrode inspections using a simulator. Various industrial standards (JIS, USP, EP, JP, CP) are also supported.

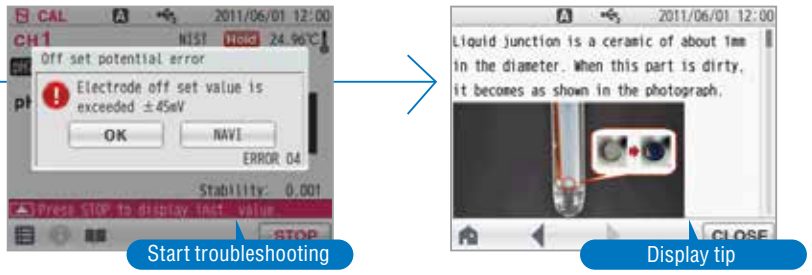
- Convenient for IQ / OQ / PQ validation



NAVIGATION

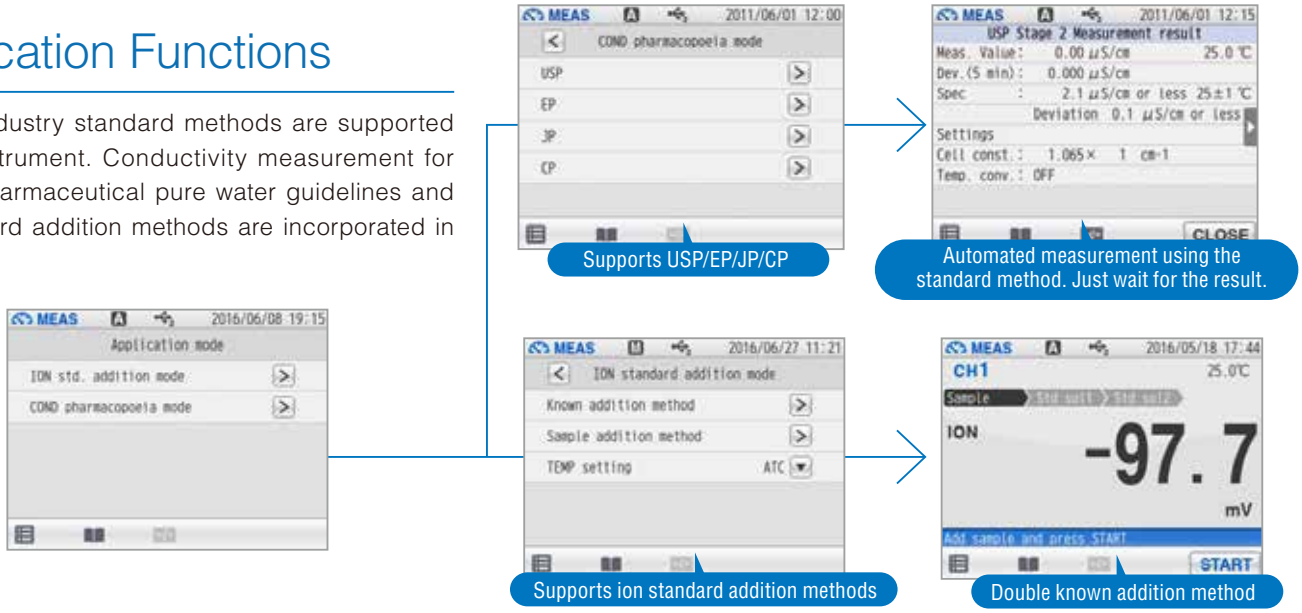
Troubleshooting Function

On-screen support for resolving a problem that occurs during calibration or sample measurements. A user's guide is incorporated in the software to assist with any operational difficulties.



Application Functions

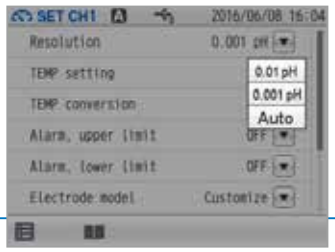
Various industry standard methods are supported by the instrument. Conductivity measurement for several pharmaceutical pure water guidelines and ion standard addition methods are incorporated in the meter.



LAQUA

Benchtop Water Quality Instruments
Colour Touchscreen Meters

pH



- 5 pH buffer groups
  - USA (1.68, 4.01, 7.00, 10.01, 12.45)
  - NIST (1.68, 4.01, 6.86, 9.18, 12.45)
  - NIST2 (1.68, 4.01, 6.86, 10.01, 12.45)
  - China (1.68, 4.01, 6.86, 9.18, 12.46)
  - Custom (any pH buffers)
- Up to 5 calibration points
- 0.01 and 0.001 pH Resolutions
- Auto setting allows the meter to toggle between 0.01 and 0.001 resolution depending on the stability of the reading
- Auto calibration / Auto buffer recognition

mV

- Display absolute potential and relative potential

ADVANCED

ORP

- Capable of 1-point calibration

Ion

- Make your own calibration curve with maximum of 5 points or perform standard addition techniques
- Programmed with standard addition methods—known addition and sample addition (single and double are available for both methods)
- Measurement units - µg/L, mg/L, g/L, mmol/L, mol/L

Conductivity

- Automatic / manual calibration up to 4 points
- Adjustable temperature coefficient and reference temperature for temperature compensated readings
- Selectable cell constants – 0.1, 1.0, 10.0
- Auto ranging S/cm and S/m units, fix mS/cm unit
- Support conductivity standard methods for pharmaceutical water—USP, EP, JP and CP

Total Dissolved Solids (TDS)

- Programmed with 4 predetermined TDS curves for accurate measurement—Linear, EN27888, 442, and NaCl
- Select the TDS curve suitable for your application
- Calibration only in conductivity mode is required

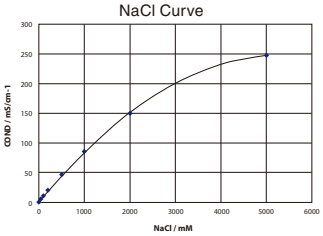
TDS Calibration Curves

Application	Key chemical species	TDS selection
Aquaculture, pickling	NaCl	NaCl
Boiler water, HVAC	Na_2SO_4, $NaHCO_3$, NaCl	442 (Myron)
Environmental	EN standard for environmental water	EN 27888
General application	Not known	KCl (linear factor) Default: 0.5 Selectable: 0.4 to 1.0

Salinity

- Programmed with 2 predetermined salinity curves—NaCl and seawater
- Salinity value is calculated based on measured conductivity value
- 1-point calibration using standard solution
- Measurement units—percentage (%) and parts per thousand (ppt)

NaCl Curve



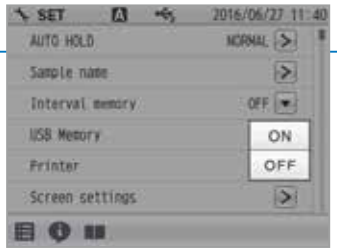
Auto Stable / Auto Hold

- In measurement mode, the meter displays live readings continuously
- Activate auto hold by tapping START
- Auto hold settings—Exact, Normal, Brief, Time, Customize, and Manual

FEATURES

Auto Log Data

- Log data automatically by setting time interval from 1 to 999 seconds

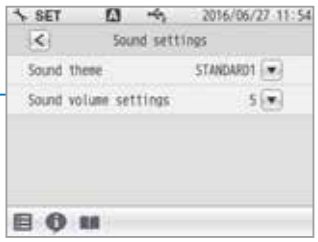


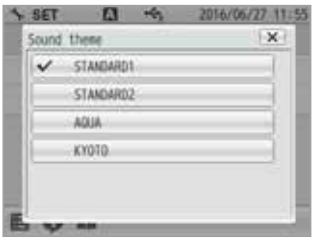
Multi-Language

- Choose a language that you are familiar with—English, Japanese, Chinese, Korean, and Vietnamese

Sound Setting

- Play a click sound every time you tap a key



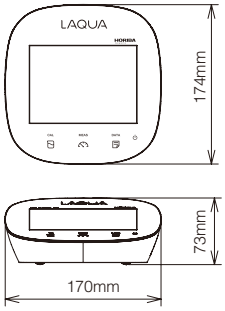


Screen Settings

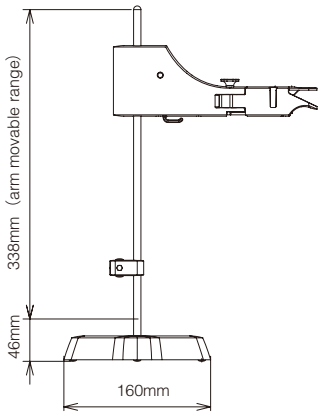
- Set stylish theme on your meter screen—Standard, Cool, Monotone, and Kyoto
- Power saving mode—turns off the backlight to save power

Accessories

Code	Part No.	Description
 LAQUA-SW-21CFR11	3200707161	21 CFR Part 11 Software includes CD with PIN code, USB cable, and manual
 Printer  Printer cable	3014030147 (230v) 3014030146 (120v)	Printer (for GLP/GMP compliance) Cable sold separately, Plain paper
	3014030148	Printer cable (1.5 m)
 Ink ribbon  Printer paper	3014030149	Printer paper (20 rolls)
	3014030150	Ink ribbon (5 pcs/set)
 Universal AC adapter	3200647413	Multi-Voltage (100-240V) with 6 plugs, (US, UK, EU, ANZ, Korea and China) 1.8 m cable
 X-51  X-52	3014028368	Digital simulator X-51 (pH, mV, Ion, DO, temperature simulator)
	3014028370	Digital simulator X-52 (Conductivity, temperature simulator)
 LCD protection sheet  Protection cover	3200382462	LCD protection sheet (2 pcs/pack)
	3200382441	Protection cover (Protects the meter for F-70, DS-70, 1000 series)
 USB cable  Serial cable	3200373941	USB cable (to connect meter and PC.)
	3014030152	Analog cable (Analog (alarm) output cable)
	3014030151	Serial cable (to connect meter and PC (Serial, 9 pins))
FA-70S	3200382557	Adjustable, free-standing electrode stand (Height: 384 mm) *image on the right*
FA-70L	3200382560	Long, free-standing electrode stand (Height: 450-650mm) *image on the right*
	3200373991	Arm for electrode stand FA-70A, FA-70S, & FA-70L
	3200373961	Electrode holders, 2pcs (for mounting electrode with round cap on electrode stand arm)
	3200382477	Electrode protection caps, 3pcs (for 9615S-10D, 9618S-10D, 9681S-10D pH electrode)
	3200043508	Electrode protection caps, 5pcs (for 9621-10D, 9625-10D, 9630-10D, 9631-10D, 9632-10D, 6367-10D, 6377-10D, 6252-10D, 6261-10C, 1066A-10C, 1076-10C, 2060-10T, 9300-10D, 9382-10D, 3552-10D pH electrode)
	3200382482	Electrode protection cap for long electrode (for 9680S-10D, 9480-10C pH Electrode)

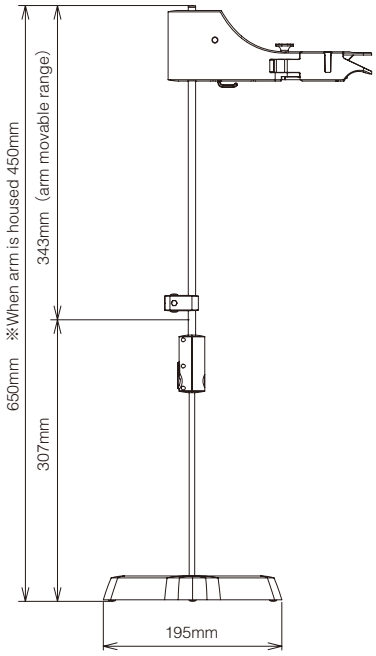


Body • Standard Electrode Stand



Long Type Electrode Stand

※Stretch shaft



Standard Electrode Stand FA-70S (384mm)

Long Type Electrode Stand FA-70L (450~650m m)

Visit HORIBA's website!

Water Quality Analyzers

www.horiba-laqua.com

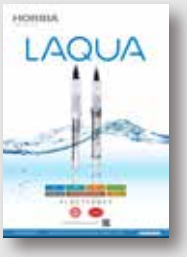
With over 60 years of engineering excellence, HORIBA's diverse range of water quality analyzers and electrodes are ideal for everyday laboratory needs through to the most demanding of applications. Visit our website for a wealth of useful information and water quality measurement tips to help you obtain the best results in your work.

Benchtop Meters

Developed using extensive feedback from users, our new LAQUA meters deliver the best solution for water quality analysis. Our LAQUA website features an online 'Selection Guide' to enable you to find the perfect LAQUA meter and electrode for your need.

Handheld Meters

In the lab, in the field or anywhere you need it. LAQUA Handheld meters are designed for use with one hand and with an IP67 waterproof rating and shock-resistant casing. Meters can be used for long periods, even in dark places, making it ideal for field measurements in rivers and lakes.



Electrodes

Various electrodes to match any application. A wide range of products for both benchtop and portable systems are available, including easy and reliable standard models, application-focused models for small samples or large containers, and special electrodes for specific sample characteristics.

Pocket Meters

Analyzing water quality is simplified when using our LAQUAtwin range of meters. Designed to produce accurate and reliable results. Anyone, anywhere, at any time can measure samples easily with a LAQUAtwin meter. See just how good they are at our website.

Application Notes

LAQUAtwin pocket meters offer quick and convenient alternative to analyze important parameters with high accuracy. Several application notes are available at (http://goo.gl/znwE6j) detailing the use of LAQUAtwin and the results achieved for the respective applications. Additional application notes will be added when available.

RoHS

HORIBA Instruments (Singapore) Pte. Ltd.
83 Science Park Drive, #02-02A,
The Curie, Singapore 118258
Phone: 65 6908-9660
Fax: 65 6745-8155
e-mail: **laqua@horiba.com**
www.horiba-laqua.com

HORIBA UK Limited
Kyoto Close, Moulton Park,
Northampton NN3 6FL
Phone: 44 (0) 1604 542567
Fax: 44 (0) 1604 542699
e-mail: **waterquality@horiba.com**
www.horiba.com/uk

IMS HORIBA Group is operating Integrated Management System ISO9001 ISO14001 OHSAS18001

Brochure HBTC-05-2017B