



## MARKET SCOPING CHECKLIST

### 1. AGENCY INFORMATION

Name of Procuring Entity	pH/EC METER
End-User/Implementing Unit	DEPARTMENT OF SOIL SCIENCE
Name & Designation of Representative	ANGELICA C. ASOY

### 2. PROJECT OVERVIEW

Project Name	DSS LAB SHARE
Estimated Budget	448,800
Period of Market Scoping [From (mm/yyyy) To (mm/yyyy)]	October 2025
Expected Date of Delivery (mm/yyyy)	June 2026

### 3. MARKET SCOPING ACTIVITY/IES CONDUCTED (Check all that apply)

This confirms that market scoping activities were conducted in accordance with Section 10 of Republic Act No. 12009 and its Implementing Rules and Regulations (IRR), and considered in the Project Procurement Management Plan, consistent with the Principle of Proportionality.

Check (✓)	Activity/ies Conducted	Documentation (as may be applicable)
<input type="checkbox"/>	Consultations with suppliers / contractors / consultants/ professional associations or industry groups	Highlights of consultations or meetings/ Proof of attendance/ Reports / Summaries/ Screenshots / Brochures / Publications/ Price quotations/ Canvass sheets/ Market Analysis Report or similar document/s
<input type="checkbox"/>	Participation in summits, fora, or conferences	Highlights of consultations or meetings/ Proof of Attendance/ Reports
<input type="checkbox"/>	Review of technical, financial, or market/scientific reports	Reports / Summaries/ Screenshots / Brochures / Publications, Market Analysis Report or similar document/ Online Product Reviews

Check (✓)	Activity/ies Conducted	Documentation (as may be applicable)
<input checked="" type="checkbox"/>	Review of product or service brochures, marketing materials, industry journals and publications or related materials	Reports / Summaries/ Screenshots / Brochures / Publications/ Online Product Reviews
<input type="checkbox"/>	Price sourcing for quotations or cost estimates from suppliers, contractors, or consultants	Price quotations/ Canvass sheets/ Online Product Reviews
<input type="checkbox"/>	Use of data from PhilGEPS or agency websites	Reports / Summaries/ Screenshots, Price quotations/ Canvass sheets/ PhilGEPS Postings/ Online Product Reviews
<input type="checkbox"/>	Other analogous market scoping activity/ies undertaken: _____	

**Notes:**

- i. The market scoping activities shall be identified and undertaken at the option of the End-User or Implementing Unit based on its needs and objectives.
- ii. The list of supporting documents in the Documentation column is not exclusive and may include other documents that may be gathered by the End-User or Implementing Unit pertinent to the activity/ies conducted.

**4. MARKET SCOPING RESULTS**

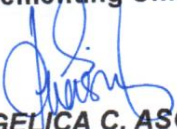
Indicate recommendations in the column provided based on the results of the market scoping activities undertaken. These recommendations shall be considered in the development of a comprehensive and realistic PPMP, taking into account the parameters outlined under Section 10.4 of the IRR of RA 12009, as may be applicable.

Parameters	Considered? (Yes/No/ Not Applicable)	Recommendations based on the Market Scoping (Attach additional documents if necessary)
a. Project Cost Estimate [Does the cost estimate align with current market prices?]	yes	




Parameters	Considered? (Yes/No/ Not Applicable)	Recommendations based on the Market Scoping (Attach additional documents if necessary)
<b>b. Project Design and Specification</b> [Does available supplier/s meet technical and financial requirements?]	Yes	
<b>c. Technical Criteria</b> [Does the market support the proposed technical requirements?]	NA	
<b>d. Delivery Lead Time</b> [Are the timelines for delivery feasible?]	NA	
<b>e. Storage and Warehousing Requirements</b> [Can the storage/ warehousing needs be met considering specific conditions like temperature, humidity, and handling?]	NA	
<b>f. Identified Risk/s</b> [Were there any market risks identified? (e.g., limited suppliers, price volatility)]	NA	

Prepared by:  
**Personnel-in-Charge, End-User or  
Implementing Unit**

  
**ANGELICA C. ASOY**  
Laboratory Technician II  
October 7, 2025

Approved by:  
**Head, End-User or Implementing Unit**

  
**DEEJAY M. LUMANAO**  
Department Head  
October 7, 2025

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**Clarkson HI5521-01**  
 Laboratory Research Grade Benchtop pH/mV and EC/TDS/Salinity/Resistivity Meter  
 Hanna Instruments HI5521-01

The HI5521 is an advanced research grade benchtop pH/mV/EC/TDS/Salinity/Resistivity meter that is completely customizable with a large color LCD, capacitive touch keys, and USB port for computer connectivity. The HI5521 is rich in features including data logging, alarm limits, comprehensive GLP, and many more while retaining simplicity in use with both dedicated key for routine operation and virtual keys that guide the user through setup options. The HI5521 ensures confidence in pH measurements with the exclusive Hanna Instruments CAL Check™ feature that alerts the user to potential problems during calibration including if the buffer is contaminated or the probe needs to be cleaned

pH/EC Meter

Manufacturer: HANNA INSTRUMENTS

PRICE: Approx. Php 65,000

Info source: <https://store.clarksonlab.com/HI5521-01.aspx>

## Details

The HI5521 is an advanced research grade benchtop pH/ORP and EC/TDS/Salinity/Resistivity meter that is completely customizable with a large color LCD, capacitive touch keys, and USB port for computer connectivity.

The HI5521 is a two-channel meter that allows for simultaneous measure of pH or ORP on one channel and EC or related parameters on the other. Channel 1 has a BNC connection for use with the expansive line of pH and ORP electrodes that Hanna Instruments offers. The meter is supplied with the HI1131B glass body, double junction, combination pH electrode that operates over a wide temperature range from 0 to 100 °C. All readings are automatically compensated for temperature variations with the separate HI7662-T temperature probe or from the built in temperature sensor of the conductivity probe on Channel 2. The HI5521 is supplied with the HI76312 four-ring conductivity probe that operates over a wide range from 0.000 µS/cm to 1000.0 mS/cm\*. The meter can be set to auto-ranging in which the meter chooses the appropriate conductivity range from seven ranges or fixed range in which the meter will only display reading in µS/cm or mS/cm. All readings are automatically compensated for temperature variations with a built in temperature sensor. The temperature correction coefficient is adjustable from 0.00 to 10.00 %/°C.

As a pH meter the HI5521 can be calibrated up to five points with a choice of eight pre-programmed buffers or five custom buffers. The HI5521 features Hanna's exclusive CAL Check™ to alert the user of potential problems during the pH calibration process. Indicators displayed during calibration include "Electrode Dirty/Broken" and "Buffer Contaminated." The overall probe condition based on the offset and slope characteristic of the electrode is displayed as a percentage after calibration is complete. The calibration data including date, time, buffers used, offset and slope can be accessed at any time along with the current measurement by selecting the Good Laboratory Practice (GLP) display option.

As an EC/TDS/Salinity/Resistivity meter the HI5521 can be calibrated up to four points with a choice of six pre-programmed conductivity standards or user defined custom standards. Resistivity, TDS, Practical Salinity (PSU) and Natural Seawater Scale are calibrated through conductivity. The % NaCl is calibrated to single point with the HI7037 salinity standard. The calibration data including date, time, and standards used, offset and cell factor can be accessed at any time along with the current measurement by selecting the Good Laboratory Practice (GLP) display option.

For the measurement of high purity water used in pharmaceutical manufacturing, the HI5521 is programmed with the three stages of the USP <645> method. Once a stage is met a report is generated and can be saved. Up to 200 reports can be stored and with the USB port be transferred to a Windows® compatible computer.

Three selectable logging modes are available: automatic, manual and AutoHold logging. Up to 100,000 data points can be recorded in 100 lots with 50,000 records max/lot on each channel and exported to a computer for data review and storage.

Specifications	
pH Specifications	
pH Range	-2.000 to 20.000 pH
pH Resolution	0.1, 0.01, 0.001 pH
pH Accuracy (@25°C/77°F)	±0.1 pH, ±0.01 pH, ±0.002 pH ±1 LSD
pH Calibration	automatic, up to five point calibration, eight standard buffers available (1.68, 3.00, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45) and five custom buffers
pH Temperature Compensation	automatic or manual from -20.0 to 120.0 °C
mV Range	±2000 mV
mV Resolution	0.1 mV
mV Accuracy	±0.2 mV ±1 LSD
Relative mV Offset Range	±2000 mV
EC Specifications	
EC Range	0.000 to 9.999 µS/cm, 10.00 to 99.99 µS/cm, 100.0 to 999.9 µS/cm, 1.000 to 9.999 mS/cm, 10.00 to 99.99 mS/cm, 100.0 to 1000.0 mS/cm actual EC*
EC Resolution	0.001 µS/cm, 0.01 µS/cm, 0.1 µS/cm, 1 µS/cm, 0.001 mS/cm, 0.01 mS/cm, 0.1 mS/cm
EC Accuracy (@25°C/77°F)	±1% of reading (±0.01 µS/cm)
EC Calibration	automatic standard recognition (0.000 µS/cm, 84.00 µS/cm, 1.413 mS/cm, 5.000 mS/cm, 12.88 mS/cm, 80.00 mS/cm, 111.8 mS/cm) or user standard; single point or multi-point calibration
TDS Specifications	
TDS Range	0.000 to 9.999 ppm, 10.00 to 99.99 ppm, 100.0 to 999.9 ppm, 1.000 to 9.999 ppt, 10.00 to 99.99 ppt, 100.0 to 400.0 ppt actual TDS* (with 1.00 factor)
TDS Resolution	0.001 ppm, 0.01 ppm, 0.1 ppm, 1 ppm, 0.001 ppt, 0.01 ppt, 0.1 ppt
TDS Accuracy (@25°C/77°F)	±1% of reading (±0.01 ppm)
Resistivity Specifications	
Resistivity Range	1.0 to 99.9 Ω•cm; 100 to 999 Ω•cm; 1.00 to 9.99 KΩ•cm; 10.0 to 99.9 KΩ•cm; 100 to 999 KΩ•cm; 1.00 to 9.99 MΩ•cm; 10.0 to 100.0 MΩ•cm
Resistivity Resolution	0.1 Ω•cm; 1 Ω•cm; 0.01 KΩ•cm; 0.1 KΩ•cm; 1 KΩ•cm; 0.01 MΩ•cm; 0.1 MΩ•cm*
Resistivity Accuracy	±2% of reading (±1 Ω•cm)
Salinity Specifications	
Salinity Range	practical scale: 0.00 to 42.00 psu; natural seawater scale: 0.00 to 80.00 ppt; percent scale: 0.0 to 400.0%
Salinity Resolution	0.01 for practical scale/natural seawater scale; 0.1% for percent scale
Salinity Accuracy (@25°C/77°F)	±1% of reading
Salinity Calibration	percent scale—one-point (with HI7037 standard)
Temperature Specifications	
Temperature Range	-20.0 to 120.0 °C**; -4.0 to 248.0 °F**; 253.15 to 393.15 K**
Temperature Resolution	0.1 °C, 0.1 °F, 0.1 K
Temperature Accuracy	±0.2 °C; ±0.4 °F; ±0.2 K (without probe)
Temperature Compensation	disabled, linear and non-linear (natural water)
Temperature Coefficient	0.00 to 10.00 %/°C
Reference Temperature	5.0 to 30.0 °C
Additional Specifications	
Cell Constant	0.0500 to 200.00
Cell Type	4 cells
Electrode/Probe	HI1131B glass body pH electrode with BNC connector and 1 m (3.3') cable (included); HI76312 platinum, four-ring EC/TDS probe with and 1 m (3.3') cable (included)
Temperature Probe	HI7662-T stainless steel temperature probe with 1 m (3.3') cable (included)

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Temperature Probe	HI7662-T stainless steel temperature probe with 1 m (3.3') cable (included)
Profiles	up to 10, 5 each channel
USP (645) Compliant	yes
GLP	calibration data including date, time, buffers used, offset and slope for pH. Cell constant, reference temperature, temperature coefficient, calibration points, calibration time stamp, probe offset for conductivity
Logging	record: 100,000 data point storage, up to 100 lots with max. 50,000 records/lot; interval: settable between 1 second and max log time of 180 minutes; type: automatic, manual, AutoHOLD; additional: 200 records USP
Input Channels	1 pH/ORP + 1 EC/TDS/Salinity/Resistivity
Display	color graphic LCD with on-screen help, graphing, and custom color configuration
Connectivity	USB
Environment	0 to 50°C (32 to 122°F; 273 to 323 K), RH max 95% non-condensing
Power Supply	12 VDC adapter (included)
Dimensions	160 x 231 x 94 mm (6.3 x 9.1 x 3.7")
Weight	1.2 kg (2.64 lbs.)
Ordering Information	HI5521 is supplied with HI1131 pH electrode, HI7662-T temperature probe, HI76312 conductivity probe, HI76404W electrode holder, HI70004 pH 4.01 buffer solution sachet, HI70007 pH 7.01 buffer solution sachet, HI700601 electrode cleaning solution sachet (2), HI7082 3.5M KCl electrolyte solution (30 mL), 12 VDC power adapter and instructions.
Warranty	2 years (probe 6 months)
Notes	*Uncompensated conductivity (or TDS) is the conductivity (or TDS) value without temperature compensation. **Reduced to actual probe limits